The UK Habitat Classification

Version 2.0

UKHab Ltd. is an independent, not-for-profit organisation established to maintain and update the UK Habitat Classification and to support its users through training and other services.

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Section One: Introduction

The UK Habitat Classification (UKHab) is a unified and comprehensive habitat classification system for all terrestrial, freshwater and coastal habitats in the United Kingdom. It has been developed to improve habitat categorisation, recording and geospatial analysis for land use and habitat survey and assessment. It is intended to assist ecologists, environmental managers, landscape architects and other land-based operatives to identify, map and describe habitats in a consistent and unified way. It has been designed to provide outputs that are suitable for ecological impact assessment, habitat metrics and better data integration and sharing between organisations and to provide a more consistent baseline for monitoring land use change.

UKHab Version 2.0

UKHab Version 2.0 is a major update to the classification, building upon consultation with users and other stakeholders within the UKHab community. The main areas of update are:

- Inclusion of additional codes within the Primary Habitat Hierarchy,
- Revision of the Secondary Code numbering system and the habitat features included to:
    - include new codes identified through consultation;
    - facilitate their more consistent use,
    - remove duplicated and synonymous codes from the system,
    - highlight those habitat features that are considered essential for accurate habitat recording, and
    - highlight those ecosystems where specific secondary codes are considered especially relevant.
- Revision and update to habitat definitions, in particular to clarify areas of potential ambiguity highlighted through consultation with users.

UKHab Version 2.0 is initially published as a single pdf document which includes the Primary Habitat Hierarchy, Essential Secondary Codes and Additional Secondary Codes, which collectively comprise the UKHab System.

Coding and Architecture of UKHab 2.0

The UKHab System comprises a five-level Primary Habitat Hierarchy and a list of Secondary Codes, the latter is sub-divided into Essential codes and Additional codes. It is mandatory that each recorded habitat parcel (which can be a point, line or polygon using geospatial vector data terminology) is allocated a single Primary Habitat Code and to record the presence of all Essential Secondary Code features associated with that habitat parcel. Additional Secondary Codes can also be associated with habitat parcels, where it is relevant to the whole parcel. UKHab recommends that up to six Secondary Codes can be allocated to a single habitat parcel.

The complete UKHab system includes all habitat types identified in the UK, irrespective of scale and geographic range, including all UK Biodiversity Action Plan Priority Habitats and all Habitats Directive Annex I habitats recorded in the UK. Where possible, synonyms for UKHab habitats in other major habitat classifications are provided in the definitions. The five-level hierarchy of UKHab Primary Habitats has been subject to updates from UKHab v1.1, as set out in Table 1.1 below.

Table 1.1 – The UK Habitat Classification Primary Habitat Hierarchy – Summary Change Log

Level in Hierarchy	Coding	Description	Changes from UKHab v1.1
Level 1	N/A	Major ecosystem, currently covering terrestrial, freshwater and coastal ecosystems.	No structural changes. Minor updates to definitions: *See individual habitat type definitions*
Level 2	g - grassland w - woodland h - heathland f - wetland c - cropland u - urban s – Sparsely vegetated land r – Rivers and lakes	9 ecosystem types, based upon the Mapping and Assessment of Ecosystems and their Services (MAES) typology and corresponding with major habitat types within the EUNIS classification.	No structural changes. Minor updates to definitions: *See individual habitat type definitions*

Level in Hierarchy	Coding	Description	Changes from UKHab v1.1
	t – Transitional waters		
Level 3	g1, g2, g3 & g4 w1 & w2 h1, h2 & h3 f1 & f2 c1 u1 s1, s2 & s3 r1 & r2 t1 & t2	20 broad habitat types, corresponding directly with UK Biodiversity Action Plan Broad Habitats and closely to EUNIS.	No structural changes. Minor updates to definitions: *See individual habitat type definitions*
Level 4	*see individual ecosystem view in Section 2*	85 habitats, including 46 UK Biodiversity Action Plan Priority Habitats, and further splits of Level 3 habitats.	**Addition of 6 new habitat types** g2c Other calcareous grasslands h3j Willow scrub h3k Juniper scrub u1f Sparsely vegetated urban land r1f Temporary water bodies r1g Other standing water **Deletion of 1 habitat type:** ~~u1a Open mosaic habitats on previously developed land~~ (moved to secondary code 80) **Modification of naming convention:** w1g Other broadleaved woodland h1a Lowland heathland h2a Upland heathland h2a Native hedgerow h2b Non-native and ornamental hedgerow h2c Sea-buckthorn scrub f2c Upland flushes fens and swamps f2f Other wetlands u1d Suburban mosaic of developed and natural surface s2a Maritime cliffs and slopes s3a Sand dunes r1d Aquifer-fed naturally fluctuating water bodies **Updates to definitions:** *See individual habitat type definitions*
Level 5	*see individual ecosystem view in Section 2*	119 habitats, including 72 Habitats Directive Annex I habitats and further splits of Level 4 habitats.	**Addition of 10 new habitat types** g3a6 Other lowland meadows h2a5 Species-rich native hedgerow h2a6 Other native hedgerow c1c8 Arable fields – pollen and nectar c1c9 Arable fields – cultivated for annual flora r1d5 Turlough (H3180) r1d6 Fluctuating meres r1d7 Blow wells r1f5 Mediterranean temporary ponds (H3170) r1f6 Other temporary ponds and scrapes **Deletion of 2 habitat types:** ~~w1g6 Line of trees~~ (moved to secondary code 33) ~~w1g7 Other broadleaved woodland types~~

Level in Hierarchy	Coding	Description	Changes from UKHab v1.1
			Modification of naming convention: h3c5 Dunes with sea-buckthorn (H2160) h3c6 Other sea-buckthorn scrub f2a5 Calcium-rich fen dominated by great fen-sedge (H7210) c1a5 Arable field margins – tussocky c1a6 Arable field margins – pollen and nectar c1a7 Arable field margins – cultivated annually c1a8 Arable field margins – wild bird mix c1c6 Arable fields – wild bird mix **Updates to definitions:** *See individual habitat type definitions*

Full details of the changes to the Primary Habitat Hierarchy are provided in Section 2. Users are encouraged to refer to the full list and definitions in Section 2 as the definitive source.

Secondary Coding System Changes

UKHab v2.0 has a total of 268 Secondary Codes, sub-divided in to 15 major groupings.

Secondary codes are added to habitat parcels to:

- confirm the identity of habitat mosaic and complexes,
- add information about habitat origin and modifications; and
- add information on environmental context, management and land use in a consistent manner.

The UKHab Secondary Coding System has undergone a change in numbering convention and architecture. Secondary codes are no longer split into 8 major groups and although the naming convention has remained largely unaltered, the approach to coding has changed substantially. Essential Secondary Codes replace the 'mandatory' code groups from UKHab v.1.1, which were characterised as:

- **habitat mosaics**, i.e. the presence of specific habitat features that often occur in multiple Primary Habitats. For example, rushes can occur within a mix of grassland and heathland types, being either Scattered rushes (14) or Rushes dominant (15) depending on environmental conditions and/or management.
- **habitat complexes**, i.e. habitats of high conservation value that occur across a range of underlying land uses or are identified at a landscape scale. For example, Wood-pasture and parkland (20) can occur across a range of ecosystem types, including grassland, heathland and shrub, woodland, wetland and some cropland types;
- **Habitat origin** is critical information about certain habitat types, relating to their historical origin or formation and is particularly important for those habitats that can be substantially altered or created by humans. For example, the identification of an Ancient woodland site (28) and Long continuity habitat (60) would confer additional nature conservation value to a woodland or grassland habitat parcel.

Although the groupings have changed, these three descriptor types remain important in UKHab v2.0. The Essential Secondary Codes are readily identified as they are all 2-digit numbers (10 – 90). Additional Secondary Codes (100-853) are all 3-digit numbers and cover features including land management, land use (incorporating green infrastructure), environmental qualifiers, species features and hydrological regime descriptors. UKHab v2.0 sub-divides secondary codes by ecosystems where these features are most likely to be recorded. The groupings are summarised in Table 1.2 below.

Table 1.2 – The UK Habitat Classification v2.0 Secondary Code Groupings

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes	New inclusions and major changes for UKHab v2.0
Secondary Essentials - Grasslands and Heathlands	Habitat mosaic types and complexes that occur in grassland, heathlands, hedgerows and scrub habitat	10 – 19	18 Species-rich grassland
Secondary Essentials - Woodlands and Trees	Habitat complexes, origins and mosaic types that principally occur in woods and associated with trees	25 – 34	25 Temperate rainforest 34 Ecologically valuable line of trees
Secondary Essentials – Freshwater	Habitat complexes and origins that principally occur in freshwater habitats	40 - 51	51 Chalk rivers

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes	New inclusions and major changes for UKHab v2.0
Secondary Essentials – Wetlands	Habitat complexes and environmental qualifiers that principally occur in wetlands	55 - 57	55 Floodplain wetland mosaic
Secondary Essentials – All habitats	Habitat descriptors that can occur on any habitat	60 – 63	60 Long continuity habitat
Secondary Essentials – Coast	Habitat complexes that principally occur on the coast	70 – 77	
Secondary Essentials – Built environment	Habitat complexes, mosaics, land uses and green infrastructure principally associated with the built environment	80 - 90	80 Open mosaic habitats on previously developed land 87 Biodiverse green roof 88 Intensive green roof 89 Other green roof
Additional Secondary Codes - Grasslands and Heathlands	Habitat management, land use, environmental qualifiers and species features principally associated with grassland, heathlands, hedgerows and scrub habitat	100 - 131	107 Mown and collected 110 Silage and haylage 115 Grazing and browsing exclosure 118 Species-rich hedgerow ground flora 123 Water meadow irrigation 130 Waxcap grassland
Additional Secondary Codes - Woodlands and Trees	Habitat management, land use, environmental qualifiers and species features principally associated with woods and trees	200-217	205 Ancient tree 207 Forest brash
Additional Secondary Codes - Freshwater	Habitat management, land use, environmental qualifiers and species features principally associated with freshwater habitats	300-323	300 Lowland rivers with shallow gradients and rich geology 301 Meso-eutrophic rivers on sandstone and hard limestone 302 Mesotrophic and oligo-mesotrophic rivers 303 Acid and nutrient-poor rivers 306 Headwaters 319 Watercourse buffer strip 320 Lakes and ponds buffer 321 Timber sluice 322 Re-meandering 323 Riverbank re-profiling
Additional Secondary Codes - Wetlands	Hydrological regime, habitat management and species features principally associated with wetlands	400-425	425 Beaver-made wetland
Additional Secondary Codes – All habitats	Additional habitat descriptors that can occur on any habitat	500-532	524 Invasive non-native species 525 Invasive species control
Additional Secondary Codes – Farming	Habitat management and land uses principally associated with farmlands	600-618	601 Minimum tillage 603 In-field fallow plot 604 Whole-field fallow 605 Mid-field bund 606 Mid-field swale 607 Beetle bank 608 Under-field drainage 609 Cover crops 610 Catch crops 618 Paludiculture

UKHab v2.0 Secondary Code Grouping	Description	UKHab v2.0 Codes	New inclusions and major changes for UKHab v2.0
Additional Secondary Codes – Coast	Land use and environmental qualifiers principally associated with coastal areas	700 - 703	
Additional Secondary Codes – Built environment	Land uses and green infrastructure descriptors principally associated with the built environment	800 - 853	851 Culvert 852 Water treatment filter bed

NB:

Table 1.2 provides a summary of major changes to Secondary Codes. Users are encouraged to refer to the full list and definitions of Secondary Codes in Sections 3- 6 as the definitive source.

Secondary code group names have been chosen based on the ecosystems where these features are most likely to be recorded. Refer to the full definitions in Sections 3-6 to identify the allowable Primary Code ecosystems (usually identified at UKHab Level 2) for each Secondary Code.

Skip to Section 3: Secondary Codes

Glossary of Terms for Definitions in UKHab Version 2.0

Code – The unique code for each habitat feature. Primary codes are alphanumeric of length 1 (Level 2), 2 (Level 3), 3 (Level 4) and 4 (Level 5), in a letter, number, letter, number sequence. Letters in UKHab codes are always lower case. Secondary codes are between 10 and 99 for essential codes and between 100 and 999 for additional codes.

Name – the name of the habitat type. Some names include 'Priority habitat' to distinguish the habitat type from a habitat of similar name that is not evaluated as a Priority habitat. Names including codes in the form (H0000) refer to Annex 1 habitats (Habitats Directive, 1992).

Category Type – the position of the habitat type within UKHab. For Primary Codes, the level in the hierarchy is stated. For secondary codes, the section of 'Essential' or 'Additional' codes is stated.

Spatial Feature Type – the type of spatial feature that should be used for recording the habitat type in a UKHab survey. This is normally 'Area' or 'Line' or both. If either of these spatial types are absent then that type should only be used to record that habitat in exceptional circumstances which should be explained. 'Point' is stated only for those habitat types where the habitat is frequently recorded as a point because of its nature e.g. individual trees. Amost all habitat types can be recorded as points where required, for example where an important habitat needs to be noted but the feature is too small to be recorded as an Area or Line. However point data carries significantly less information than an area or line feature and points should not be used as a substitute for these spatial feature types.

Status – two types of status are stated. 'Priority Habitat' refers to those identified in the UK Biodiversity Action Plan of 1995 and subsequently revised and updated at UK level. They are now often known by other titles, such as Habitats of Principal Importance in England. 'Annex 1' refers to the habitats listed in Annex 1 of the EU Habitats Directive, 1992.

Allowable Primary Codes – for each Secondary Code, the allowable Primary Codes that can be used in combination with it in the UKHab combined code to record a habitat feature. For brevity these are usually given at Level 2 'Ecosystem' only, followed by the tilde symbol (~). This indicates that any subset code at a more detailed level of the hierarchy within that ecosystem can be used, although there may be exceptions where judgement of the surveyor must be used. The absence of the tilde indicates that the precise primary code should be used. For some habitat types, the allowable primary codes are given at more precise levels of the hierarchy.

Definition – text that provides a succinct definition of the habitat type, often descriptive but in Version 2.0 some include threshold-based criteria. The definition may include further information stated in other paragraphs, such as 'Species'. For Priority Habitats and Annex 1 Habitats the text gives summaries of published resources (see references) and these should be consulted where more detail is critical.

Landscape and Ecological Context – text that adds some contextual detail where helpful to supplement the definition.

Synonyms – habitat or geographical names that the habitat type is also known as. For Annex 1 types, this gives the full name of the habitat as listed on Annex 1 of the Habitats Directive (the UKHab name uses shortened versions). Other than in the case of Annex 1 names, the synonyms may have slightly different scope or definition where used elsewhere.

Inclusions – habitats and other elements that fall within the habitat type and should be recorded as this habitat. This normally only indicates the 'grey areas' around the definition margins and is intended to help surveyors decide on identification between this habitat and similar types.

Exclusions – habitats and other elements that fall outside the habitat type and should not be recorded as this habitat. Reference is normally made to the other habitat type(s) that should be considered instead. This normally only indicates the 'grey areas' around the definition margins.

Species – references to species are used in two distinct ways in UKHab category definitions. In a small number of cases, indicator plant species are used as part of threshold-based definitions. These are mainly used for grasslands. The presence of these species – some of those listed in variable combinations and almost never all of them in one feature – is a good indicator to support the identification of the habitat type and a certain number of them, perhaps at a defined level of cover-abundance, may be required to confirm the identification. These are not indicators in any other sense of the word. The second use of species references is more descriptive and gives examples of a small number of species that are frequently recorded in the habitat type. For most habitat types the second type of refence is used. Vascular plant nomenclature uses Stace (2019) and both Common Names and Scientific Names are included.

NVC Associations – the relationship between UKHab habitat types and NVC communities is complex and often imprecise, with many one-to-many and overlapping correspondences. In this resource only the more helpful associations are given, intended as a guide to those surveyors experienced in NVC assessment. These associations are not definitive in either interpreting the UKHab habitat type from NVC data or vice-versa. Where the association is strong, this is stated in the text. Further detail will be published in forthcoming NVC-UKHab 2.0 correspondence tables.

Section Two:
Primary Habitat Hierarchy and Definitions

Grassland Ecosystem Primary Hierarchy

Level 2 Code	Level 2 Name	Level 3 Code	Level 3 Name	Level 4 Code	Level 4 Name (Priority Habitats in Bold)	Level 5 Code	Level 5 Name (Including Annex 1 Habitats)
g	Grassland	g1	Acid grassland	g1a	**Lowland dry acid grassland**	g1a5	Inland dunes with open grasslands (H2330)
						g1a6	Other lowland dry acid grassland
				g1b	Upland acid grassland	g1b5	Montane acid grasslands (H6150)
						g1b6	Other upland acid grassland
				g1c	Bracken		
				g1d	Other lowland acid grassland		
		g2	Calcareous grassland	g2a	**Lowland calcareous grassland**	g2a5	Dry grasslands and scrub on chalk or limestone; lowland (H6210)
						g2a6	Dry grasslands and scrub on chalk or limestone; important orchid sites (H6210)
				g2b	**Upland calcareous grassland**	g2b5	Alpine and subalpine calcareous grasslands (H6170)
						g2b6	Species-rich grassland with mat-grass in upland areas (H6230)
						g2b7	Dry grasslands and scrub on chalk or limestone; upland (H6210)
				g2c	Other calcareous grassland		
		g3	Neutral grassland	g3a	**Lowland meadows**	g3a5	Lowland hay meadows (H6510)
				g3b	**Upland hay meadows**	g3b5	Mountain hay meadows (H6520)
				g3c	Other neutral grassland	g3c5	Arrhenatherum neutral grassland
						g3c6	Lolium-Cynosurus neutral grassland
						g3c7	Deschampsia neutral grassland
						g3c8	Holcus-Juncus neutral grassland
		g4	Modified grassland				

Woodland Ecosystem Primary Hierarchy

Level 2 Code	Level 2 Name	Level 3 Code	Level 3 Name	Level 4 Code	Level 4 Name	Level 5 Code	Level 5 Name
w	Woodland and forest	w1	Broadleaved and mixed woodland	w1a	**Upland oakwood**	w1a5	Western acidic oak woodland (H91A0)
				w1b	**Upland mixed ashwoods**	w1b5	Lime-maple woodlands of rocky slopes (H9180)
						w1b6	Other upland mixed ashwoods
				w1c	**Lowland beech and yew woodland**	w1c5	Beech forests on acid soils (H9120)
						w1c6	Beech forests on neutral to rich soils (H9130)
						w1c7	Yew-dominated woodland (H91J0)
						w1c8	Natural box scrub (H5110)
				w1d	**Wet woodland**	w1d5	Alder woodland on floodplains (H91E0)
						w1d6	Bog woodland (H91D0)
				w1e	**Upland birchwoods**		
				w1f	**Lowland mixed deciduous woodland**	w1f5	Dry oak-dominated woodland (H9190)
						w1f6	Oak-hornbeam forests (H9160)
						w1f7	Other Lowland mixed deciduous woodland
				w1g	Other broadleaved woodland		
				w1h	Other woodland; mixed	w1h5	Other woodland; mixed; mainly broadleaved
						w1h6	Other woodland; mixed; mainly conifer
		w2	Coniferous woodland	w2a	**Native pine woodlands**	w2a5	Caledonian forest (H91C0)
				w2b	Other Scot's Pine woodland		
				w2c	Other coniferous woodland		

Heathland and Shrub Ecosystem Primary Hierarchy

Level 2 Code	Level 2 Name	Level 3 Code	Level 3 Name	Level 4 Code	Level 4 Name	Level 5 Code	Level 5 Name
h	Heathland and shrub	h1	Dwarf shrub heath	h1a	**Lowland heathland**	h1a5	Dry heaths; lowland (H4030)
						h1a6	Dry coastal heaths with Cornish heath (H4040)
						h1a7	Wet heathland with cross-leaved heath; lowland (H4010)
						h1a8	Wet heathland with Dorset heath and cross-leaved heath (H4020)
				h1b	**Upland heathland**	h1b5	Dry heaths; upland (H4030)
						h1b6	Wet heathland with cross-leaved heath; upland (H4010)
				h1c	**Mountain heaths and willow scrub**	h1c5	Alpine and subalpine heaths (H4060)
						h1c6	Mountain willow scrub (H4080)
		h2	Hedgerows	h2a	**Native hedgerow**	h2a5	Species-rich native hedgerow
						h2a6	Other native hedgerow
				h2b	Non-native and ornamental hedgerow		
		h3	Dense scrub	h3a	Blackthorn scrub	h3a5	West coast blackthorn scrub
						h3a6	Other blackthorn scrub
				h3b	Hazel scrub	h3b5	Atlantic hazel
						h3b6	Other hazel scrub
				h3c	Sea buckthorn scrub	h3c5	Dunes with sea buckthorn (H2160)
						h3c6	Other sea buckthorn scrub
				h3d	Bramble scrub		
				h3e	Gorse scrub		
				h3f	Hawthorn scrub		
				h3g	Rhododendron scrub		
				h3h	Mixed scrub		
				h3j	Willow scrub		
				h3k	Juniper scrub		

Wetland Ecosystem Primary Hierarchy

f	Wetland	f1	Bog	f1a	**Blanket bog**	f1a5	Blanket bog (H7130)
						f1a6	Degraded blanket bog
				f1b	**Lowland raised bog**	f1b5	Active raised bogs (H7110)
						f1b6	Degraded raised bog (H7120)
						f1b7	Other degraded raised bog
		f2	Fen marsh and swamp	f2a	**Lowland fens**	f2a5	Calcium-rich fen dominated by great fen sedge (H7210)
						f2a6	Hard-water springs depositing lime; lowland (H7220)
						f2a7	Calcium-rich springwater-fed fens; lowland (H7230)
						f2a8	Transition mires and quaking bogs; lowland (H7140)
				f2b	**Purple moor-grass and rush pastures**	f2b5	Purple moor-grass meadows (H6410)
				f2c	**Upland flushes, fens and swamps**	f2c5	Alpine pioneer formations (H7240)
						f2c6	Hard-water springs depositing lime; upland (H7220)
						f2c7	Calcium-rich springwater-fed fens; upland (H7230)
						f2c8	Transition mires and quaking bogs; upland (H7140)
				f2d	Aquatic marginal vegetation		
				f2e	**Reedbeds**		
				f2f	Other wetlands		

Cropland Ecosystem Primary Hierarchy

Level 2 code	Level 2 Label	Level 3 code	Level 3 Name	Level 4 code	Level 4 Name (Priority Habitats in Bold)	Level 5 code	Level 5 Name (Including Annex 1 Habitats)
c	Cropland	c1	Arable and horticulture	c1a	**Arable field margins**	c1a5	Arable field margins tussocky
						c1a6	Arable field margins pollen and nectar
						c1a7	Arable field margins cultivated annually
						c1a8	Arable field margins wild bird mix
				c1b	Temporary grass and clover leys	c1b5	Rye-grass and clover ley
						c1b6	Legume-rich ley
						c1b7	Herb-rich ley
				c1c	Cereal crops	c1c5	Winter stubble
						c1c6	Arable fields with wild bird mix
						c1c7	Other cereal crops
						c1c8	Arable fields pollen and nectar
						c1c9	Arable fields cultivated for annual flora
				c1d	Non-cereal crops	c1d5	Miscanthus
						c1d6	Short-rotation coppice
						c1d7	Vineyards
						c1d8	Other non-cereal crops
				c1e	Intensive orchards		
				c1f	Horticulture	c1f5	Annuals horticulture
						c1f6	Perennials horticulture
						c1f7	Polyculture

Urban Ecosystem Primary Hierarchy

Level 2 code	Level 2 Label	Level 3 code	Level 3 Name	Level 4 code	Level 4 Name (Priority Habitats in Bold)	Level 5 code	Level 5 Name (Including Annex 1 Habitats)
u	Urban	u1	Built-up areas and gardens	u1b	Developed land; sealed surface	u1b5	Buildings
						u1b6	Other developed land
				u1c	Artificial unvegetated, unsealed surface		
				u1d	Suburban mosaic of developed and natural surface		
				u1e	Built linear features		
				u1f	Sparsely vegetated urban land		

Sparsely Vegetated Land Ecosystem Primary Hierarchy

Level 2 code	Level 2 Label	Level 3 code	Level 3 Name	Level 4 code	Level 4 Name (Priority Habitats in Bold)	Level 5 code	Level 5 Name (Including Annex 1 Habitats)
s	Sparsely vegetated land	s1	Inland rock	s1a	**Inland rock outcrop and scree habitats**	s1a5	Acidic scree (H8110)
						s1a6	Base-rich scree (H8120)
						s1a7	Plants in crevices in base-rich rocks (H8210)
						s1a8	Plants in crevices in acid rocks (H8220)
						sla9	Tall herb communities (H6430)
				s1b	**Limestone pavement**	s1b5	Limestone pavements (H8240)
				s1c	**Calaminarian grasslands**	s1c5	Grasslands on soils rich in heavy metals (H6130)
				s1d	Other inland rock		
		s2	Supralittoral Rock	s2a	**Maritime cliff and slopes**	s2a5	Vegetated sea cliffs (H1230)
						s2a6	Soft rock sea cliffs
		s3	Supralittoral Sediment	s3a	**Sand dunes**	s3a3	Humid dune slacks (H2190)
						s3a4	Dunes with juniper thickets (H2550)
						s3a5	Embryonic shifting dunes (H2110)
						s3a6	Shifting dunes with marram (H2120)
						s3a7	Dune grassland (H2130)
						s3a8	Lime-deficient dune heathland with crowberry (H2140)
						s3a9	Coastal dune heathland (H2150)
				s3b	**Coastal vegetated shingle**	s3b5	Perennial vegetation on coastal shingle (H1220)
						s3b6	Annual vegetation of drift lines (H1210)

Rivers and Lakes Ecosystem Primary Hierarchy

Level 2 code	Level 2 Label	Level 3 code	Level 3 Name	Level 4 code	Level 4 Name (Priority Habitats in Bold)	Level 5 code	Level 5 Name (Including Annex 1 Habitats)
r	Rivers and lakes	r1	Standing open water and canals	r1a	**Eutrophic standing waters**	r1a5	Naturally nutrient-rich lakes or lochs (H3150)
						r1a6	Other eutrophic standing waters
				r1b	**Mesotrophic lakes**	r1b5	Calcium-rich nutrient-poor lakes lochs and pools (H3140)
				r1c	**Oligotrophic and dystrophic lakes**	r1c5	Clear-water lakes or lochs with aquatic vegetation (H3130)
						r1c6	Nutrient-poor shallow waters with aquatic vegetation on sand (H3110)
						r1c7	Acid peat-stained lakes and ponds (H3160)
				r1d	**Aquifer-fed naturally fluctuating water bodies**	r1d5	Turlough (H3180)
						r1d6	Fluctuating meres
						r1d7	Blow wells
				r1e	Canals		
				r1f	Temporary water bodies	r1f5	Mediterranean temporary ponds (H3170)
						r1f6	Other temporary ponds and scrapes
				r1g	Other standing water		
		r2	Rivers and streams	r2a	**Rivers (priority habitat)**	r2a5	Rivers with floating vegetation (H3260)
						r2a6	Other priority habitat rivers
				r2b	Other rivers and streams		

Marine inlets and transitional waters Ecosystem Primary Hierarchy

Level 2 code	Level 2 Label	Level 3 code	Level 3 Name	Level 4 code	Level 4 Name (Priority Habitats in Bold)	Level 5 code	Level 5 Name (Including Annex 1 Habitats)
t	Marine inlets and transitional waters	t1	Littoral Rock	t1a	**Intertidal chalk**		
				t1b	**Sabellaria alveolata reefs**		
				t1c	**Intertidal underboulder communities**		
				t1d	**Estuarine rocky habitats**		
				t1e	**Splash zone with lichens**		
				t1f	Other littoral rock		
		t2	Littoral Sediment	t2a	**Coastal saltmarsh**	t2a5	Glasswort and other annuals colonising mud and sand (H1310)
						t2a6	Cord-grass swards (H1320)
						t2a7	Atlantic salt meadows (H1330)
						t2a8	Mediterranean saltmarsh scrub (H1420)
				t2b	**Blue mussel beds on sediment**		
				t2c	**Seagrass beds [Zostera noltii]**		
				t2d	**Intertidal mudflats**	t2d5	Intertidal mudflats and sandflats (H1140)
				t2e	**Sheltered muddy gravels**		
				t2f	**Peat and clay exposures with piddocks**		
				t2g	**Saline lagoons**	t2g5	Saline lagoons (H1150)
				t2h	Beach		

Grassland Definitions

Code and Name

g Grassland

Category Type

Primary Level 2

Spatial Feature Type

Area

Definition

Total vegetation cover variable from 25–100% – not on waterlogged soils. Vegetation is ≥75% herbaceous (grasses, sedges, rushes, ferns and forbs) rather than woody, with halophytic species absent or occasional.

Inclusions

Pastures and (semi-)natural grasslands that are not on waterlogged soils.

Vegetation dominated by Bracken *Pteridium aquilinum (see g1c)*.

Scattered scrub (see 10) in herbaceous vegetation with scrub (not trees or dwarf shrubs) <75%.

Exclusions

Crops (see c~).

Reedbeds (see f2e).

Calaminarian grasslands (see s1c).

Vegetation dominated by a combination of Molinia and Juncus species on waterlogged soils.

Back to Grassland Ecosystem

Code and Name

g1 Acid grassland

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Vegetation dominated by grasses and herbs on a range of lime-deficient soils that 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 <5.5.

Landscape and ecological context

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 that are typically found on gleys and shallow peats.

Synonyms

Calcifugous swards.

Inclusions

Montane types.

Vegetation with Bracken *Pteridium aquilinum*, except where the grassland type is clearly not acidic (use g~ and 'scattered bracken' - see 12).

Exclusions

Acid grassland types on shingle habitats.

Species

The plant species assemblages that develop on acid soils are different from those that develop on neutral soils (neutral or mesotrophic grassland) and calcareous soils (calcareous or calcicolous grassland) and are characterised by the presence of a combination of calcifuge species.

Back to Grassland Ecosystem

Code and Name

g1a Lowland dry acid grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

A grassland that meets at least two of these three criteria:

1. >12 species per m² (including grasses and excluding bryophytes);
2. >30% cover of broadleaved herbs and sedges (excluding White Clover Trifolium repens, Creeping Buttercup Ranunculus repens and injurious weeds);
3. <10% cover of rye grasses and White Clover Trifolium repens.

AND ≥4 of these indicators are classed as 'present' on the DAFOR scale.

AND ≥1 of these indicators are classed as 'frequent' on the DAFOR scale.

AND ≥3 of these indicators are classed as 'occasional' on the DAFOR scale.

g1a Indicator species list

Common name	Scientific Name
Bell heather	*Erica cinerea*
Betony	*Betonica officinalis*
Bilberry	*Vaccinium myrtillus*
Bird's foot trefoil	*Lotus corniculatus*
Biting stonecrop	*Sedum acre*
Bitter-vetch	*Lathyrus linifolius*
Buck's-horn plantain	*Plantago coronopus*
Common centaury	*Centaurium erythraea*
Common dog-violet	*Viola riviniana*
Common stork's-bill	*Erodium cicutarium*
Devil's-bit scabious	*Succisa pratensis*
Harebell	*Campanula rotundifolia*
Heath bedstraw	*Galium saxatile*
Heath dog-violet	*Viola canina*
Heath milkwort	*Polygala serpyllifolia*
Heath speedwell	*Veronica officinalis*
Heather	*Calluna vulgaris*
Lady's bedstraw	*Galium verum*
Lesser hawkbit	*Leontodon saxatilis*
Lichens	*Various*
Lousewort	*Pedicularis sylvatica*
Maiden pink	*Dianthus deltoides*
Mouse-ear hawkweed	*Pilosella officinarum*
Pale dog-violet	*Viola lactea*
Parsley-piert	*Aphanes arvensis*
Pignut	*Conopodium majus*
Saw-wort	*Serratula tinctoria*
Sheep's sorrel	*Rumex acetosella*
Sheep's-bit	*Jasione montana*
Shepherd's-cress	*Teesdalia nudicaulis*
Slender parsley-piert	*Aphanes australis*
Tormentil	*Potentilla erecta*
Wild thyme	*Thymus drucei*

g1a Lowland dry acid grassland (continued)

Landscape and ecological context

Typically occurs on nutrient-poor, generally free-draining sandy soils with a pH of 4–5.5 and that is overlying acid rocks or superficial deposits such as sands and gravels. It often occurs as an integral part of lowland heath landscapes, in parklands and locally on coastal cliffs. It is often found on commons at low altitudes, up to 300 m altitude on the moors of southwest England.

Inclusions

All acid grassland meeting the qualifying thresholds that is managed in functional enclosures.

Acid grassland meeting the qualifying thresholds on road verges (see 801).

Dry calcareous grasslands of the Breckland, north to the Norfolk coast, where *Vulpia ciliata ssp. ambigua* is a key component.

Exclusions

Acidic grassland 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).

Acidic grassland in functional enclosures that do not meet the qualifying thresholds (see g1d).

Species

As well as the indicator species listed in the core definition, typical grasses include Red Fescue *Festuca rubra*, Sand Sedge *Carex arenaria*, Bristle Bent *Agrostis curtisii*, Soft Brome *Bromus hordeaceus*, Bearded Fescue *Vulpia ciliata*, Early Hair-grass *Aira praecox* and Wavy Hair-grass *Avenella flexuosa*. These do not contribute to the indicator score. The habitat can have a high cover of bryophytes, and parched acid grassland can be rich in lichens. It is very variable in terms of species richness and stands can range from relatively species-poor (<5 species per 4 m^2) to species-rich (>25 species per 4 $m2^2$). The habitat often forms a mosaic with dwarf shrub heath (see h1a).

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: U1-U4 (U5).

Back to Grassland Ecosystem

Code and Name

g1a5 Inland dunes with open grasslands (H2330)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Open formations found on inland dunes with dry siliceous soils. They are often species-poor and with a strong representation of annuals.

Landscape and ecological context

There is only one place in the UK where this habitat is found: Wangford Warren in Suffolk.

Synonyms

Annex 1: H2330 Inland dunes with open Corynephorus and Agrostis grasslands.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: Inland SD11, SD12.

Back to Grassland Ecosystem

Code and Name

g1a6 Other lowland dry acid grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

Lowland acid grassland that does not meet the definition of g1a5 but is mesic or dry, i.e. not seasonally wet or wetter.

Back to Grassland Ecosystem

Code and Name

g1b Upland acid grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Acid grassland on uneclosed land in the uplands, normally above approximately 300 m in altitude.

Inclusions

Montane acid grassland.

Acid grassland in old and non-functional enclosures in the upland fringes, that are managed as free-range rough grazing in association with unenclosed tracts of upland.

Species

The typical constituents of this habitat are Mat-grass *Nardus stricta*, Wavy Hair-grass *Avenella flexuosa*, Common Bent *Agrostis capillaris*, Sweet Vernal Grass *Anthoxanthum odoratum*, Common Wood-rush *Luzula multiflora*, Heath Bedstraw *Galium saxatile*, Tormentil *Potentilla erecta* and the mosses Springy Turf-moss *Rhytidiadelphus squarrosus* and Broom Moss *Dicranum scoparium*. The actual grassland type is defined by the dominant species. The abundant 'white moors' of the uplands are dominated by Mat-grass *Nardus stricta*. On wetter ground, Heath Rush *Juncus squarrosus* is the dominant species, although Hard Rush *Juncus inflexus* and Soft Rush *Juncus effusus* are also common.

Back to Grassland Ecosystem

Code and Name

g1b5 Montane acid grasslands (H6150)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1

Definition

High montane heath habitats (moss, sedge and rush heaths) and snow bed communities, which are dominated by prostrate Willows *Salix spp.*, Three-leaved Rush *Juncus trifidus*, Stiff Sedge *Carex bigelowii*, *Racomitrium* spp. and dwarf forb communities of Alpine Lady's-mantle *Alchemilla alpina*, and *Saxifraga* spp..

Synonyms

Annex 1: H6150 Siliceous Alpine and Boreal grassland.

Inclusions

Moss- and lichen-dominated heath of mountain summits.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: U7-U12, U14.

Back to Grassland Ecosystem

Code and Name

g1b6 Other upland acid grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Acid grassland in the uplands that does not include montane heath (see g1b5).

Exclusions

Moss- and lichen-dominated heath of mountain summits (see g1b5).

Back to Grassland Ecosystem

Code and Name

g1c Bracken

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Land with Bracken *Pteridium aquilinum* at >95% canopy cover at the height of the growing season.

Exclusions

Scattered patches of Bracken or Bracken patches of <0.04 ha, which are included in the broad habitat type with which they are associated (see 12).

Bracken under forest or woodland canopy, which are included in w1 or w2 (see 12).

Species

Bracken *Pteridium aquilinum* is always dominant. Heath Bedstraw *Galium saxatile*, Common Bent *Agrostis capillaris*, Sweet Vernal-grass *Anthoxanthum odoratum*, Bilberry *Vaccinium myrtillus* and the bryophytes *Dicranum scoparium*, *Pleurozium schreberi*, *Pseudoscleropodium purum* and *Rhytidiadelphus squarrosus* may also be frequent under the bracken.

Back to Grassland Ecosystem

Code and Name

g1d Other lowland acid grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Lowland acid grassland that does not meet the definitions of g1a, g1b or g1c.

Inclusions

Lowland acid grassland that meets the criteria for waxcap grassland (see 130).

Species

Rushes *Juncus* spp. may be abundant or dominant (see 15) in wet (but not waterlogged) situations.

Back to Grassland Ecosystem

Code and Name

g2 Calcareous grassland

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Vegetation dominated by grasses and herbs on shallow, well-drained soils that are rich in bases (principally calcium carbonate) formed by the weathering of chalk and other types of limestone or base-rich rock.

Landscape and ecological context

Although the base-status of such soils is usually high, with a pH of ≥6, it may also be more moderate, and calcareous grassland communities can occur on soils with a pH as low as 5.

Synonyms

Calcicolous grasslands.

Chalk grasslands.

Limestone grasslands.

Species

On dry ground examples include: Lady's Bedstraw *Galium verum*, Quaking Grass *Briza media*, Carline Thistle *Carlina vulgaris*, Stemless Thistle *Cirsium acaule*, Salad Burnet *Poterium sanguisorba*, Blue Moor-grass *Sesleria caerulea*, Rock-rose *Helianthemum nummularium*, Meadow Thistle *Cirsium dissectum*, Flea Sedge *Carex pulicaris*, Glaucous Sedge Carex *flacca*, Carnation Sedge Carex *panicea*, Broad-leaved Cottongrass *Eriophorum latifolium*, Fragrant Orchid *Gymnadenia conopsea*. On wetter ground Bottle Sedge *Carex rostrata*, Dioecious Sedge Carex *dioica*, Black Bog Rush *Schoenus nigricans* may be present. In montane areas Mountain Avens *Dryas octopetala* is typical.

Back to Grassland Ecosystem

Code and Name

g2a Lowland calcareous grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

A grassland that meets at least two of these three criteria:

1. >15 species per m² (including grasses and excluding bryophytes);
2. >30% cover of broadleaved herbs and sedges (excluding White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens* and injurious weeds);
3. <10% cover of rye grasses and White Clover *Trifolium repens*.

AND ≥2 of these indicators are classed as 'frequent' on the DAFOR scale.

AND ≥3 of these indicators are classed as 'occasional' on the DAFOR scale.

g2a Indicator species list

Common name	Scientific name
Agrimony	*Agrimonia eupatoria*
Betony	*Betonica officinalis*
Bird's-foot-trefoil	*Lotus corniculatus*
Burnet saxifrage	*Pimpinella saxifraga*
Carline thistle	*Carlina vulgaris*
Clustered bellflower	*Campanula glomerata*
Common rock-rose	*Helianthemum nummularium*
Common knapweed	*Centaurea nigra*
Cowslip	*Primula veris*

g2a Indicator species list (cont)

Common name	Scientific name
Dropwort	*Filipendula vulgaris*
Devil's-bit scabious	*Succisa pratensis*
Eyebright	*Euphrasia officinalis*
Fairy flax	*Linum catharticum*
Field scabious	*Knautia arvensis*
Spring gentian	*Gentiana verna*
Autumn gentian	*Gentianella amarella*
Chlitern gentian	*Gentianella germanica*
Greater knapweed	*Centaurea scabiosa*
Hairy violet	*Viola hirta*
Harebell	*Campanula rotundifolia*
Hoary plantain	*Plantago media*
Hoary rock-rose	*Helianthemum oelandicum*
Horseshoe vetch	*Hippocrepis comosa*
Kidney vetch	*Anthyllis vulneraria*
Lady's bedstraw	*Galium verum*
Wild marjoram	*Origanum vulgare*
Common milkwort	*Polygala vulgaris*
Chalk milkwort	*Polygala calcarea*
Dwarf milkwort	*Polygala amarella*
Mouse-ear hawkweed	*Pilosella officinarum*
Orchids	*Various*
Ox-eye daisy	*Leucanthemum vulgare*
Purple milk-vetch	*Astragalus danicus*
Common restharrow	*Ononis repens*
Rough hawkbit	*Leontodon hispidus*
Lesser hawkbit	*Leontodon saxatilis*
Salad burnet	*Poterium sanguisorba subsp. minor*
Saw-wort	*Serratula tinctoria*
Small scabious	*Scabiosa columbaria*
Squinancywort	*Asperula cynanchica*
Dwarf thistle	*Cirsium acaule*
Thyme-leaved sandwort	*Arenaria serpyllifolia*
Wild basil	*Clinopodium vulgare*
Wild thyme	*Thymus drucei*
Yellow-wort	*Blackstonia perfoliata*

g2a Lowland calcareous grassland (continued)

Landscape and ecological context

Found on calcareous soils over chalk and limestone in the lowlands and upland fringe, generally <300 m in altitude. They are largely restricted to the warmer and drier climates of the southern and eastern areas of the UK.

Inclusions

Calcareous grassland that meets the qualifying thresholds around Morecambe Bay in Cumbria or on roadside verges.

Exclusions

Calcareous grassland in functional enclosures that do not meet the qualifying thresholds (see g2c).

Calcareous grassland in the unenclosed uplands (see g2b).

Calcareous grassland on the Pennines (see g2b).

Heath false-brome *Brachypodium pinnatum* dominated grassland is unlikely to meet the criteria above unless there has been a long history of heavy grazing.

Species

As well as the indicator species listed in the core definition, typical grasses include Common Bent *Agrostis capillaris*, Crested Hair-grass *Koeleria macrantha*, Blue Moor-grass *Sesleria caerulea*, Hairy Oat-grass *Avenula pubescens*, Quaking-grass *Briza media*, Sheep's Fescue *Festuca ovina*, Cock's Foot *Dactylis glomerata*, Upright Brome *Bromopsis erecta*, Tor-grass *Brachypodium pinnatum* and Yellow Oat-grass *Trisetum flavescens*. These do not contribute to the indicator score.

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: CG1-CG8 (CG9 in Scotland) although CG4 communities are unlikely to meet the core definition criteria (see g2c).

Back to Grassland Ecosystem

Code and Name

g2a5 Dry grasslands and scrub on chalk or limestone – lowland (H6210)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Lowland semi-natural grasslands on calcareous soils.

Synonyms

Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates [Festuco-Brometalia][lowland].

Species

Calcicoles are well represented, including Meadow Oat-grass *Helictochloa pratensis*, Quaking-grass *Briza media*, Common Rock-rose *Helianthemum nummularium*, Salad Burnet *Poterium sanguisorba* and Small Scabious *Scabiosa columbaria*.

Calcareous grasslands on shallow, sharply-draining soils comprise open swards characterised by the frequency of Mouse-ear Hawkweed *Pilosella officinarum*, Wild Thyme *Thymus drucei* and annual or biennial species such as Yellow-wort *Blackstonia perfoliata* and Thyme-leaved Sandwort *Arenaria serpyllifolia*.

Where grazing levels are reduced, swards typically become dominated by coarse grasses, in particular Downy Oat-grass *Avenula pubescens*, Tor-grass *Brachypodium pinnatum* and Upright Brome *Bromopsis erecta*.

A large number of rare plants are associated with this habitat, including Purple Milk-vetch *Astragalus danicus*, Dwarf Sedge *Carex humilis*, Spotted Cat's-ear *Hypochaeris maculata*, Spring Cinquefoil *Potentilla verna*, Pasqueflower *Pulsatilla vulgaris*, Bastard-toadflax *Thesium humifusum* and Early Gentian *Gentianella amarella ssp. anglica*, as are various bryophytes and lichens. The invertebrate fauna is also noteworthy and includes rarities such as the Adonis Blue *Lysandra bellargus* and Silver-spotted Skipper *Hesperia comma*.

Back to Grassland Ecosystem

Code and Name

g2a6 Dry grasslands and scrub on chalk or limestone – important orchid sites (H6210)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Lowland semi-natural grasslands on calcareous soils with populations of specific rare and scarce orchids.

Landscape and ecological context

Restricted in the UK to parts of England.

Synonyms

Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates [Festuco-Brometalia] [important orchid sites].

Species

The specific rare or scarce orchids are Man Orchid *Orchis anthropophora*, Musk Orchid *Herminium monorchis*, Lizard Orchid *Himantoglossum hircinum*, Late Spider-orchid *Ophrys fuciflora*, Early Spider-orchid *Ophrys sphegodes*, Military Orchid *Orchis militaris*, Lady Orchid *Orchis purpurea*, Monkey Orchid *Orchis simia* and Burnt Orchid *Neotinea ustulata*.

Back to Grassland Ecosystem

Code and Name

g2b Upland calcareous grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

A grassland that meets at least two of these three criteria:

1. >15 species per m² (including grasses and excluding bryophytes);
2. >30% cover of broadleaved herbs and sedges (excluding White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens* and injurious weeds);
3. <10% cover of rye grasses and White Clover *Trifolium repens*.

AND ≥1 of these indicators are classed as at least 'frequent' on the DAFOR scale.

AND ≥3 of these indicators are classed as at least 'occasional' on the DAFOR scale.

Landscape and ecological context

Mostly occur 250–300 m in altitude, but the habitat is also found within unenclosed moorland at lower elevations, and descends to sea level in northwest Scotland. Typically occur as components of habitat mosaics (including both calcicoles and acidophiles).

Species

Often species poor. Characteristic constants are Blue Moor-grass *Sesleria caerulea*, Sheep's Fescue *Festuca ovina*, Wild Thyme *Thymus drucei*, Limestone Bedstraw *Galium sterneri* and Common Bent *Agrostis capillaris*.

g2b Indicator species list

Common name	Scientific Name
Autumn gentian	*Gentianella amarella*
Bird's-eye primrose	*Primula farinosa*
Bird's-foot-trefoil	*Lotus corniculatus*
Carline thistle	*Carlina vulgaris*
Carnation sedge	*Carex panicea*
Common butterwort	*Pinguicula vulgaris*
Common rock-rose	*Helianthemum nummularium*
Devil's-bit scabious	*Succisa pratensis*
Dropwort	*Filipendula vulgaris*
Eyebright	*Euphrasia officinalis*
Fairy flax	*Linum catharticum*
Flea sedge	*Carex pulicaris*
Glaucous sedge	*Carex flacca*
Grass of Parnassus	*Parnassia palustris*
Harebell	*Campanula rotundifolia*
Hoary rock-rose	*Helianthemum oelandicum*
Hoary whitlowgrass	*Draba incana*
Horseshoe vetch	*Hippocrepis comosa*
Lesser club-moss	*Selaginella selaginoides*
Mossy saxifrage	*Saxifraga hypnoides*
Mountain everlasting	*Antennaria dioica*
Mouse-ear hawkweed	*Pilosella officinarum*
Rough hawkbit	*Leontodon hispidus*
Salad burnet	*Poterium sanguisorba subsp. minor*
Small scabious	*Scabiosa columbaria*
Spring gentian	*Gentiana verna*
Spring-sedge	*Carex caryophyllea*
Squinancywort	*Asperula cynanchica*
Wild thyme	*Thymus drucei*
Yellow saxifrage	*Saxifraga aizoides*

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: CG1, CG2, CG9-CG14 (above level of enclosure).

Back to Grassland Ecosystem

Code and Name

g2b5 Alpine and subalpine calcareous grasslands (H6170)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Occurs on lime-rich soils and consists of short, species-rich mixtures of Mountain Avens *Dryas octopetala*, arctic-alpine cushion herbs such as Alpine Lady's-mantle *Alchemilla alpina*, Alpine Bistort *Bistorta vivipara* and Moss Campion *Silene acaulis*, grasses and sedges.

Landscape and ecological context

In the UK, this habitat occurs close to sea level, as well as at high altitude.

Synonyms

Annex 1: H6170 Alpine and subalpine calcareous grasslands.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: CG1, CG2, CG9-CG14 (above level of enclosure).

Back to Grassland Ecosystem

Code and Name

g2b6 Species-rich grassland with mat-grass in upland areas (H6230)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Dry, herb-rich grassland in the uplands with Mat-grass *Nardus stricta*.

Landscape and ecological context

Tends to develop where there is flushing through base-rich strata on siliceous bedrock. Underlying rocks may include moderately base-rich metamorphic and igneous rocks. The soils may have an acidic pH, but pH can be variable. The grassland is typically heavily grazed.

Synonyms

Annex 1: H6230 Species-rich Nardus grassland on siliceous substrates in mountain areas.

Species-rich Mat-grass *Nardus stricta* grassland on limestone.

Species

Mat-grass *Nardus stricta*, Common Bent *Agrostis capillaris*, Sheep's Fescue *Festuca ovina*, Red Fescue *Festuca rubra*, Sweet Vernal Grass *Anthoxanthum odoratum*, Heath Grass *Danthonia decumbens*. Heath Bedstraw *Galium saxatile* and Tormentil *Potentilla erecta* will be prominent.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: CG10-CG11.

Back to Grassland Ecosystem

Code and Name

g2b7 Dry grasslands and scrub on chalk or limestone – upland (H6210)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Upland semi-natural grasslands on calcareous soils.

Synonyms

Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates [Festuco-Brometalia][upland].

Species

Key species are Blue Moor-grass *Sesleria caerulea*, Sheep's Fescue *Festuca ovina*, Limestone Bedstraw *Galium sterneri* and Common Rock-rose *Helianthemum nummularium.*

Back to Grassland Ecosystem

Code and Name

g2c Other calcareous grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

A grassland with ≥2 indicators of calcareous grassland that does not meet the definition of either g2a or g2b AND that meets at least two of these three criteria:

1. 9–15 species per m² (including grasses and excluding bryophytes);
2. >20% cover of broadleaved herbs and sedges (excluding White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens* and injurious weeds);
3. <30% cover of rye grasses and White Clover *Trifolium repens*.

Separately from the criteria above, a grassland with ≥2 indicators of calcareous grassland and that meets the criteria for waxcap grassland (see 130).

Landscape and ecological context

This habitat may be derived from lowland calcareous grassland (see g2a) or upland calcareous grassland (see g2b) following agricultural or other modification, or be in transition from modified grassland (see g4) or arable reversion (see 131) towards more species-rich calcareous grassland.

Species

The indicators referred to in the definition are those listed in the definition of g2a and g2b.

Typical grasses include Common Bent *Agrostis capillaris*, Crested Hair-grass *Koeleria macrantha*, Blue Moor-grass *Sesleria caerulea*, Hairy Oat-grass *Avenula pubescens*, Quaking-grass *Briza media*, Sheep's Fescue *Festuca ovina*, Cock's Foot *Dactylis glomerata*, Upright Brome *Bromopsis erecta*, Tor-grass *Brachypodium pinnatum* and Yellow Oat-grass *Trisetum flavescens*. These are not counted as indicators.

Back to Grassland Ecosystem

Code and Name

g3 Neutral grassland

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Vegetation dominated by grasses and herbs on a range of neutral soils, usually with a pH of 4.5 – 6.5.

Landscape and ecological context

This habitat includes enclosed mesic hay meadows and pastures, together with a range of grasslands that are periodically inundated with water or permanently moist.

Synonyms

Mesotrophic grasslands.

Species

These communities have few diagnostic indicator species but lack strong calcicoles or calcifuges that are characteristic of base-rich and acid soils, respectively. They differ from modified grassland (see g4) by having a less lush sward, a greater range and higher cover of herbs, and usually <25% cover of Perennial Rye-grass *Lolium perenne*.

Back to Grassland Ecosystem

Code and Name

g3a Lowland meadows

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

A neutral grassland that meets at least two of these three criteria:

1. >15 species m² (including grasses and excluding bryophytes);
2. >30% cover of broadleaved herbs and sedges (excluding White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens* and injurious weeds);
3. <10% cover of rye grasses and White Clover *Trifolium repens*.

AND EITHER ≥4 of these indicators at least 'present' on the DAFOR scale.

OR ≥3 of these indicators at least 'occasional' on the DAFOR scale (but not limited to field corners or edges).

g3a Indicator species list

Common name	Scientific name
Agrimony	*Agrimonia eupatoria*
Autumn hawkbit	*Scorzoneroides autumnalis*
Betony	*Betonica officinalis*
Bird's foot trefoil	*Lotus corniculatus*
Bitter vetch	*Lathyrus linifolius*
Black knapweed	*Centaurea nigra*
Bugle	*Ajuga reptans*
Burnet saxifrage	*Pimpinella saxifraga*
Carnation sedge	*Carex panicea*
Chalk milkwort	*Polygala calcarea*
Common bistort	*Bistorta officinalis*

g3a Indicator species list (cont)

Common name	Scientific name
Common milkwort	*Polygala vulgaris*
Common meadow-rue	*Thalictrum flavum*
Common sedge	*Carex nigra*
Cowslip	*Primula veris*
Devil's bit scabious	*Succisa pratensis*
Dropwort	*Filipendula vulgaris*
Dyer's greenweed	*Genista tinctoria*
Eyebright	*Euphrasia officinalis*
Fen bedstraw	*Galium uliginosum*
Field scabious	*Knautia arvensis*
Glaucous sedge	*Carex flacca*
Goat's beard	*Tragopogon pratensis*
Great burnet	*Sanguisorba officinalis*
Greater bird's foot trefoil	*Lotus pedunculatus*
Lady's bedstraw	*Galium verum*
Lady's mantles	*Alchemilla spp.*
Marsh bedstraw	*Galium palustre*
Marsh marigold	*Caltha palustris*
Marsh valerian	*Valeriana dioica*
Meadow vetchling	*Lathyrus pratensis*
Meadowsweet	*Filipendula ulmaria*
Heath milkwort	*Polygala serpyllifolia*
Narrow-leaved water dropwort	*Oenanthe silaifolia*
Orchids	*(Various)*
Ox-eye daisy	*Leucanthemum vulgare*
Pepper saxifrage	*Silaum silaus*
Pignut	*Conopodium majus*
Ragged robin	*Silene flos-cuculi*
Rough hawkbit	*Leontodon hispidus*
Salad burnet	*Poterium sanguisorba*
Saw-wort	*Serratula tinctoria*
Sneezewort	*Achillea ptarmica*
Tormentil	*Potentilla erecta*
Water avens	*Geum rivale*
Water mint	*Mentha aquatica*
Wood anemone	*Anemone nemorosa*
Yellow rattle	*Rhinanthus minor*

g3a Lowland meadows (continued)

Landscape and ecological context

Occur throughout the enclosed lowland landscapes of the UK, often on shallow slopes or level ground with relatively deep soils that is neither strongly acidic nor lime-rich. On many farms, the 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.

Inclusions

On floodplains, may overlap with the Priority Habitat coastal floodplain and grazing marsh (see 19)

Exclusions

Maritime grassland communities confined to coastal habitats (see s2a, 70).

Anthoxanthum odoratum – Geranium sylvaticum grasslands (see g3b) and Molinia – Juncus pastures on waterlogged soils (see f2b).

Species

As well as the indicator species listed in the core definition, typical grassesinclude Sweet Vernal Grass *Anthoxanthum oderatum*, Crested Dog's-tail *Cynosurus cristatus*, Red Fescue *Festuca rubra*, Common Bent *Agrostis capillaris*, Cock's Foot *Dactylis glomerata*, Yorkshire Fog *Holcus lanatus*, Yellow Oat-grass *Tristeum flavescens* and Meadow Fescue *Schedonorus pratensis*.

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: MG4, MG5, MG8 (MG1c-e, MG2, MG7c).

Back to Grassland Ecosystem

Code and Name

g3a5 Lowland hay meadows (H6510)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Species-rich hay meadows on moderately fertile soils of river and tributary floodplains.

Landscape and ecological context

Seasonal flooding maintains an input of nutrients.

Synonyms

Annex 1: H6510 Lowland hay meadows [Alopecurus pratensis, Sanguisorba officinalis].

Species

Characteristic species are Meadow Foxtail *Alopecurus pratensis*, Greater Burnet *Sanguisorba officinalis*, Marsh-marigold *Caltha palustris* and Meadowsweet *Filipendula ulmaria*.

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: MG4.

Back to Grassland Ecosystem

Code and Name

g3a6 Other lowland meadows

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

Neutral grassland that qualifies under the criteria specified for lowland meadows (g3a) but is not the floodplain Alopecurus pratensis - Sanguisorba officinalis vegetation community (see g3a5).

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: MG5, MG8 (MG1c-e, MG2, MG7c).

Back to Grassland Ecosystem

Code and Name

g3b Upland hay meadows

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Record as mountain hay meadows (H6520)' (see g3b5).

Landscape and ecological context

Confined to areas where non-intensive hay-meadow treatment has been applied in a sub-montane climate. They are most characteristic of brown earth soils on level to moderately sloping sites, 200–400 m in altitude. Typically found in isolated fields or groups of fields, but they are also recorded from river banks and road verges, and in woodland clearings. For the most part, they are in upland valleys in the north of England, with outliers in Scotland.

Species

No single grass species is consistently dominant. The most striking feature of the vegetation is generally the variety and abundance of dicotyledons, including Wood Crane's-bill *Geranium sylvaticum*, Pignut *Conopodium majus*, Great Burnet *Sanguisorba officinalis* and Lady's Mantles *Alchemilla spp.*.

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: MG3 (upland MG8). MG3 can often be found alongside MG8, U4, M26 or M10 (Stroh et al., 2019).

Back to Grassland Ecosystem

Code and Name

g3b5 Mountain hay meadows (H6520)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Species-rich mesophile hay meadows of the montane and sub-alpine levels, mostly >600 m in altitude.

Landscape and ecological context

Confined to areas where non-intensive hay-meadow treatment has been applied in a sub-montane climate. They are most characteristic of brown earth soils on level to moderately sloping sites, 200–400 m in altitude. Typically found in isolated fields or groups of fields, but they are also recorded from river banks and road verges, and in woodland clearings. For the most part, they are in upland valleys in the north of England, with outliers in Scotland.

Synonyms

Annex 1: H6520 Mountain hay meadows.

Species

Characterised by a dense growth of grasses and herbaceous dicotyledons, 60–80 cm high. No single grass species is consistently dominant, and the most striking feature of the vegetation is generally the variety and abundance of dicotyledons, including Wood Crane's-bill *Geranium sylvaticum*, Pignut *Conopodium majus*, Great Burnet *Sanguisorba officinalis* and Lady's Mantles *Alchemilla spp.*.

NVC Associations

Close correspondence with the following NVC communities is a prerequisite for this habitat type: MG3 (upland MG8). MG3 can often be found alongside MG8, U4, M26 or M10 (Stroh et al., 2019).

Back to Grassland Ecosystem

Code and Name

g3c Other neutral grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

A neutral grassland that does not meet the definition of either g3a or g3b AND that meets at least three of these four criteria:

1. >20% cover of broadleaved herbs and sedges;
2. >8 species per m² (including forbs, grasses, sedges and rushes, and excluding bryophytes);
3. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses *Lolium spp.*, Timothy *Phleum pratense*, Cock's-foot *Dactylis glomerata*, Meadow fescue *Festuca pratensis*) is at least abundant;
4. Cover of Rye-grasses *Lolium spp.* and White Clover *Trifolium repens, where present, is* <30%.

Separately from the criteria above, a neutral grassland that meets the criteria for waxcap grassland (see 130).

Landscape and ecological context

This is a widespread and commonly encountered grassland of the lowlands that occurs on farmland and in built-up areas. Low input pastures, many verges of roads, paths, tracks, rivers and railways, and the edges of fields are likely to be this grassland. Land that is not farmed but is cut or mown annually often becomes this habitat.

Inclusions

Many of the more species-rich swards that in previous classifications were included within 'semi-improved neutral grassland'. Species-rich swards can be characterised using 18 – Species-rich grassland).

Unmanaged swards on neutral soils, where species richness may be lower.

Surveyors may wish to add detail to this category. (e.g. 60 - long-continuity habitat, 519 – 'abandoned', 521 – 'unmanaged', 501 – 'mesic', 502 – 'seasonally wet', 503 – 'wet', 128 – 'sward type mosaic', 129 – 'tall or tussocky sward').

Exclusions

Species-poor swards that in previous classifications were included within 'semi-improved neutral grassland' (see g4).

Grasslands <2 years old on land formerly cropped (see c~).

Species

Grasses may include Common Bent *Agrostis capillaris*, False Oat-grass *Arrhenatherum elatius*, Yorkshire-fog *Holcus lanatus*, Perennial Rye-grass *Lolium perenne*, Common Bent *Agrostis capillaris*, Crested Dog's-tail *Cynosurus cristatus*, Rough Meadow-grass *Poa trivialis* and Cock's-foot *Dactylis glomerata*. On wetter sites, Velvet Bent *Agrostis canina,* Creeping Bent *Agrostis stolonifera* and Marsh Foxtail *Alopecurus geniculatus* may be frequent, and rushes such as Soft Rush *Juncus effusus* and Hard Rush *Juncus inflexus* are likely to be present.

Herbs commonly found include Yarrow *Achillea millefolium*, Ribwort Plantain *Plantago lanceolata*, Creeping Thistle *Cirsium arvense*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Meadow Buttercup *Ranunculus acris*, Creeping Buttercup *Ranunculus repens*, Common Nettle *Urtica dioica*, Hogweed *Heracleum sphondylium* and Daisy *Bellis perennis*. On wetter sites, herbs commonly found including Silverweed *Potentilla anserina*, Wild Angelica *Angelica sylvestris* and Fleabane *Pulicaria dysenterica*.

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Code and Name

g3c5 Arrhenatherum neutral grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

False Oat-grass *Arrhenatherum elatius* at least abundant but other tussocky grass species such as Tall fescue *Schedonorus arundinaceus*, Couch *Elymus repens*, Cocksfoot *Dactylis glomerata*, Wood Small-reed *Calamagrostis epigejos* may be frequent to dominant. Total grass cover is usually 50-75%. Forbs <50% cover and associated with less fertile soil.

Landscape and ecological context

Lightly managed or unmanaged fields or road verges in lowland areas. The habitat is often associated with formerly disturbed sites.

Species

In addition to the grass species in the definition, Ribwort Plantain *Plantago lanceolata*, Sorrel *Rumex acetosa*, Meadow Buttercup *Ranunculus acris*, Self-heal *Prunella vulgaris* and Yarrow *Achillea millefolium* are characteristic.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: MG1.

Back to Grassland Ecosystem

Code and Name

g3c6 Lolium-Cynosurus neutral grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Neutral grassland with a mixture of grass species, including palatable grasses such as Perennial Rye-grass *Lolium perenne* and other grasses such as Crested Dog's-tail *Cynosurus cristatus* and Sweet Vernal-grass *Anthoxanthum odoratum*.

Landscape and ecological context

One of the neutral grassland types typical of well-drained permanent pastures and meadows in lowland areas.

Species

Palatable grasses predominate, usually Rye Grasses *Lolium spp.*, White Clover *Trifolium repens* and Timothy *Phleum pratense* collectively ≤40% cover and other grasses more prominent such as Crested Dog's- tail *Cynosurus cristatus*, Common Bent *Agrostis capillaris*, Yellow Oat-grass *Trisetum flavescens*, Soft-brome *Bromus hordeaceus* and Sweet Vernal Grass *Anthoxanthum odoratum*. White Clover *Trifolium repens* and Common Mouse-ear *Cerastium fontanum* are constant forbs.

Wetter situations may support abundant Soft Rush *Juncus effusus* or Hard Rush *Juncus inflexus*, Floating Sweet Grass *Glyceria fluitans*, Creeping Bent *Agrostis stolonifera* and Rough Meadow Grass *Poa trivialis*. Total grass cover of usually 50–75%.

Forbs up to 50% cover and associated with less fertile soil eg. Ribwort Plantain *Plantago lanceolata*, Sorrel *Rumex acetosa*, Meadow Buttercup *Ranunculus acris*, Creeping Buttercup *Ranunculus repens*, Self-heal *Prunella vulgaris*, Yarrow *Achillea millefolium*, Silverweed *Potentilla anserina*, Marsh Thistle *Cirsium palustre* and Lady's-smock *Cardamine pratensis*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: MG6.

Back to Grassland Ecosystem

Code and Name

g3c7 Deschampsia neutral grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Neutral grassland with Yorkshire Fog *Holcus lanatus* and Tufted Hair-grass *Deschampsia cespitosa* the dominant grass species.

Landscape and ecological context

One of the neutral grassland types typical of poorly-drained permanent pastures in lowland areas.

Species

Tufted Hair-grass *Deschampsia cespitosa* and Yorkshire Fog *Holcus lanatus* abundant. Rough Meadow-grass *Poa trivialis* and False Oat-grass *Arrhenatherum elatius* may also be frequent.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: MG9.

Back to Grassland Ecosystem

Code and Name

g3c8 Holcus-Juncus neutral grassland

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Neutral grassland with Yorkshire Fog *Holcus lanatus* and Rushes *Juncus spp.* dominant.

Landscape and ecological context

One of the neutral grassland types typical of poorly-drained permanent pastures in lowland areas.

Exclusions

Purple moor-grass and rush pastures (see f2b).

Species

Frequent to dominant cover of Rushes *Juncus spp.*, often with Yorkshire Fog *Holcus lanatus*. Creeping Bent *Agrostis stolonifera* and Creeping Buttercup *Ranunculus repens* are also constant species.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: MG10.

Back to Grassland Ecosystem

Code and Name

g4 Modified grassland

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Species-poor vegetation (<9 species per m²) dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grasses *Lolium spp.* and White Clover *Trifolium repens*. Most broadleaved species present will be associated with high fertility.

Landscape and ecological context

This habitat is found in pastures that are used for intensive agricultural production. It is also found in amenity grassland in public parks, on sports pitches and on intensively managed verges. The vegetation normally covers almost 100% of the ground, but in over-grazed or poached pastures bare ground can occur, followed by more abundant broadleaf species such as Creeping Thistle *Cirsium arvense* and Dock *Rumex spp.*.

Inclusions

Hard-wearing mixtures of grasses on sports pitches and golf courses.

Species-poor grasslands that have occurred through natural succession, where cover of rye-grasses *Lolium spp.* is less than 'abundant' on the DAFOR scale (see g3c).

Species

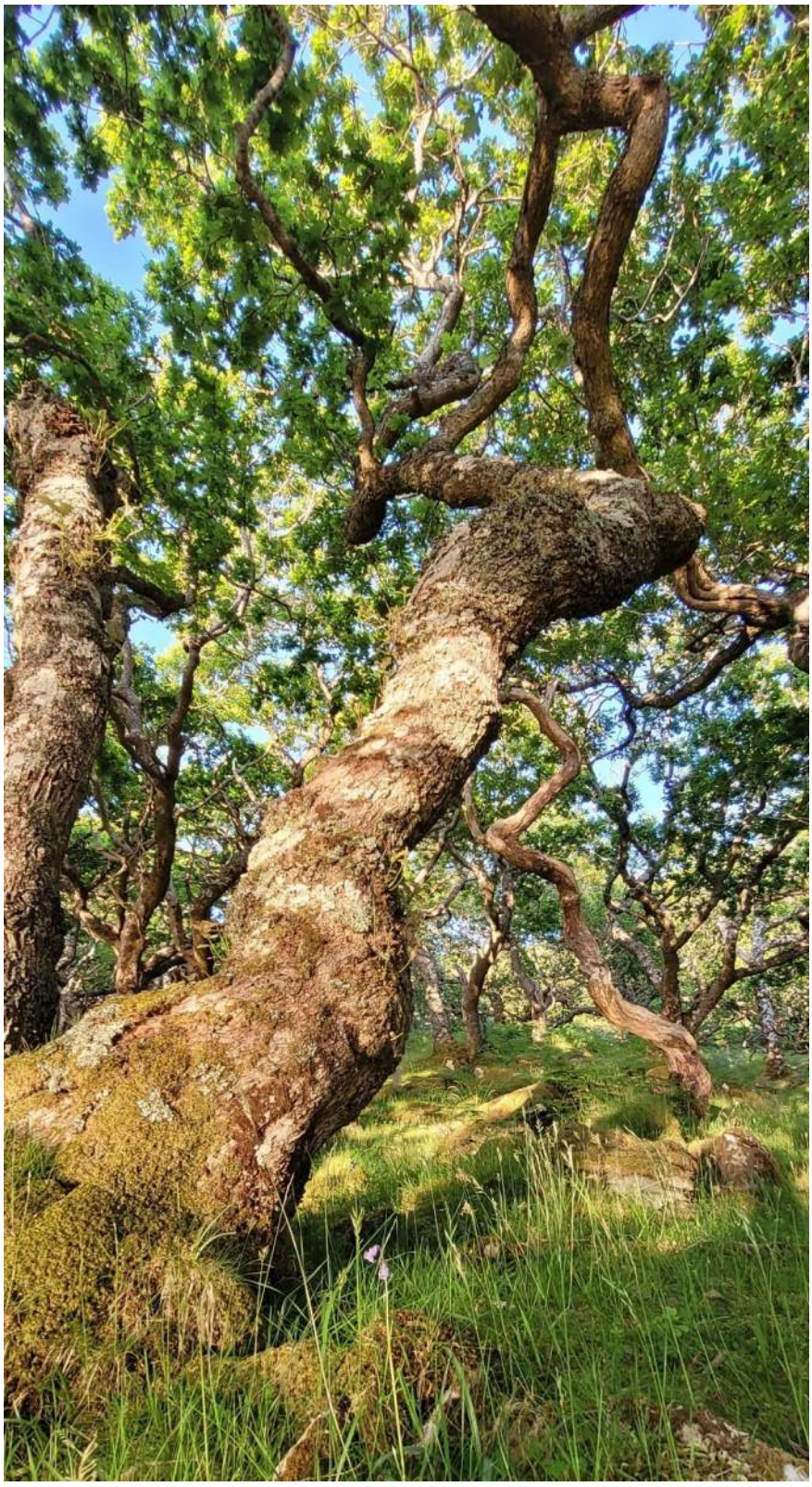
Palatable, productive grasses dominate, mainly Rye-grasses *Lolium spp.*, Timothy *Phleum pratense*, Cock's-foot *Dactylis glomerata*, Crested Dog's-tail *Cynosurus cristatus* and Yorkshire Fog *Holcus lanatus*.

Grass cover is usually >75%.

Broadleaved species are restricted mainly to White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens*, Greater Plantain *Plantago major*, Dandelion *Taraxacum officinale agg.*, Broad-leaved Dock *Rumex obtusifolius* and Chickweed *Stellaria media*.

Fertile but wetter situations may support occasional Soft Rush *Juncus effusus* or Hard Rush *Juncus inflexus*, Floating Sweet Grass *Glyceria fluitans*, Creeping Bent *Agrostis stolonifera* and Rough Meadow-grass *Poa trivialis.*

Back to Grassland Ecosystem



Woodland and Forest

Code and Name

w Woodland and forest

Category Type

Primary Level 2

Spatial Feature Type

Area Line

Definition

Land with ≥25% cover of trees that are ≥5 m in height.

Inclusions

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.

Exclusions

Hedgerows (see h2~).

Scrub (see h3~ or 10).

Clear-felled forestry plantations (see w2~), unless replanted.

Back to Woodland Ecosystem

Code and Name

w1 Broadleaved and mixed woodland

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Vegetation dominated by trees that are >5 m high when mature, which form a distinct, although sometimes open, canopy with a canopy cover of >25%. It includes stands of both native and non-native broadleaved tree species and Yew *Taxus baccata* where the percentage cover of these trees in the stand is >20% of the total cover of the trees present.

Inclusions

Ancient or recent woodland.

Semi-natural or planted woodland.

Recently felled Broadleaved and mixed woodland where there is a clear indication that it will return to woodland.

Carr (woody vegetation on fens and bog margins).

Yew *Taxus baccata,* a native coniferous species, is treated by convention as a broadleaved species for the purposes of habitat classification.

Exclusions

Hedgerows (see h2~).

Scrub (see h3~ or 10).

Woodlands that are dominated by conifer trees with <20% of the total cover provided by broadleaved or Yew *Taxus baccata* trees (see w2~).

Back to Woodland Ecosystem

Code and Name

w1a Upland oakwood

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Acidophilous Sessile Oak *Quercus petraea* woods, with low-branched trees and many ferns, mosses, lichens and evergreen bushes.

Record as 'western acidic oak woodland (H91A0)' (see w1a5).

Landscape and ecological context

Found throughout the north and west of the UK, with major concentrations in Argyll and Lochaber, Cumbria, Gwynedd, Somerset, Devon and Cornwall.

Synonyms

Atlantic oakwoods.

Western acidic oak woodland

Inclusions

Consider potential use of Temperate rainforest (see 25) as part of a combined code.

Species

Ash *Fraxinus excelsior* does not predominate (see w1b~).

The amount of Birch *Betula spp.* in the woods tends to increase in northwest Scotland.

The range of plants found in the ground layer varies according to the underlying soil type and degree of grazing, from bluebell-bramble-fern communities through grass- and bracken-dominated ones to heathy moss-dominated areas.

Most oakwoods also contain areas of more alkaline soils, often along streams or towards the base of slopes, where much richer communities occur, with Ash *Fraxinus excelsior* and Elm *Ulmus spp.* in the canopy, more Hazel *Corylus avellana* in the understorey and ground plants such as Dog's Mercury *Mercurialis perennis*, False Brome *Brachypodium sylvaticum*, Ramsons *Allium ursinum*, Enchanter's Nightshade *Circaea lutetiana* and Tufted Hair-grass *Deschampsia cespitosa*.

Elsewhere, small Alder *Alnus glutinosa* stands may occur or peaty hollows covered by Bog-mosseses *Sphagnum spp.*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W10e, W11, W16b, W17.

Back to Woodland Ecosystem

Code and Name

w1a5 Western acidic oak woodland (H91A0)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Acidophilous Sessile Oak *Quercus petraea* woods, with low-branched trees and many ferns, mosses, lichens and evergreen bushes.

Landscape and ecological context

See w1a.

Synonyms

Annex 1: H91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles.

Inclusions

Consider potential use of Temperate rainforest (see 25) as part of a combined code.

Species

See w1a.

Back to Woodland Ecosystem

Code and Name

w1b Upland mixed ashwoods

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Woods on base-rich soils in the north and west, in most of which Ash *Fraxinus excelsior* is a major species, although locally Oak *Quercus spp.*, Birch *Betula spp.*, Elm *Ulmus spp.*, Small-leaved Lime *Tilia cordata* and even Hazel *Corylus avellana* may be the most abundant species.

Landscape and ecological context

'Upland' in the name reflects the abundance of this type of woodland on base-rich soils in upland regions, rather than to the altitude at which individual sites occur. Some are only just above sea level.

Exclusions

Ash *Fraxinus excelsior* woodlands on limestone pavements (see s1b~).

Species

Yew *Taxus baccata* may form small groves in intimate mosaics with the other major tree species, and Alder *Alnus glutinosa* may occur where there are transitions to wet woodland. Despite variations in canopy composition, the ground flora remains broadly similar.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W8d-g, W9, W13 (W7c, W8a-c in mosaic with others listed).

Back to Woodland Ecosystem

Code and Name

w1b5 Lime-maple woodlands of rocky slopes (H9180)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Mixed forests on coarse scree, abrupt rocky slopes or coarse colluvions of slopes, particularly on calcareous, but also on siliceous, substrates.

Synonyms

Annex 1: H9180 Tilio-Acerion forests of slopes, screes and ravines.

Species

Typical dominants are Ash *Fraxinus excelsior*, Wych Elm *Ulmus glabra*, Small-leaved Lime *Tilia cordata* and Sycamore *Acer pseudoplatanus*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W8d-g, W9.

Back to Woodland Ecosystem

Code and Name

w1b6 Other upland mixed ashwoods

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

Upland mixed ashwoods that do not meet the definition of w1b5.

Back to Woodland Ecosystem

Code and Name

w1c Lowland beech and yew woodland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Woodland dominated by Beech *Fagus sylvatica* in the lowlands. Spans a variety of distinctive vegetation types, reflecting differences in soil and topographical conditions. Beech can grow on both acidic and calcareous soils, although its association with Yew *Taxus baccata* tends to be most abundant on the calcareous sites. These woods are often found as intricate mosaics with other woodland communities. Promotion of high quality Beech for silviculture has often led to an artificial dominance of Beech.

Landscape and ecological context

Common in (but not confined to) the High and Low Weald, the Chilterns plateau, the New Forest, the Cotswolds and the Wye Valley.

Species

The canopy can include mixtures of Beech *Fagus sylvatica*, Ash *Fraxinus excelsior*, Sycamore *Acer pseudoplatanus*, Oak *Quercus spp.*, Yew *Taxus baccata* and Whitebeam *Sorbus spp.*. Bramble *Rubus fruticosus* forms a characteristic ground layer on neutral to slightly-acidic soils. Holly *Ilex aquifolium* and sometimes Yew *Taxus baccata* are the main understorey species on acidic soils. *Rhododendron ponticum* now forms extensive stands under Beech woods on acidic soils. Distinctive communities can be seen in Beech and Yew woodlands on calcareous, acidic and neutral to slightly-acidic soils.

Back to Woodland Ecosystem

Code and Name

w1c5 Beech forests on acid soils (H9120)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Beech *Fagus sylvatica* forests with Holly *Ilex aquifolium*, growing on acid soils under a humid Atlantic climate.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W14, W15.

Back to Woodland Ecosystem

Code and Name

w1c6 Beech forests on neutral to rich soils (H9130)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Beech *Fagus sylvatica* forests developed on neutral or near-neutral soils.

Synonyms

Annex 1: H9130 Asperulo-Fagetum beech forests.

Inclusions

Beech *Fagus sylvatica* hangers.

Species

As slopes become steeper, there is a shift from relatively deep, moist and moderately base-rich soils to thin, dry and strongly base-rich profiles. There is an associated floristic gradient in the woodland understorey, with dense cover of Bramble *Rubus fruticosus* on the shallowest slopes gradually being replaced by frequent Dog's Mercury *Mercurialis perennis* as the gradient increases, and then by Sanicle *Sanicula europaea*, Wall Lettuce *Mycelis muralis* and Wood Melick *Melica uniflora*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W12 (W14 calcareous soils).

Back to Woodland Ecosystem

Code and Name

w1c7 Yew-dominated woodland (H91J0)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Yew *Taxus baccata* woods with Whitebeam *Sorbus spp.* or Dog's Mercury *Mercurialis perennis* of dry valleys and scarps of the chalk of southeast England and very locally of the Durham Magnesium limestone, Morecambe Bay and elsewhere.

Synonyms

Annex 1: H91J0 Taxus baccata woods of the British Isles.

Species

Differ from other upland mixed woodlands in their impoverished understory, resulting from the intense shade cast by Yew *Taxus baccata*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W13.

Back to Woodland Ecosystem

Code and Name

w1c8 Natural box scrub (H5110)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Box *Buxus sempervirens* woods on dry calcareous slopes.

Landscape and ecological context

Box scrub forms a stable natural or near-natural community at only one UK site, Box Hill in Surrey. It is developed here on steep, chalk slopes where other tree species are unable to grow to mature size. At the other two sites, in Gloucestershire and Buckinghamshire, box occurs as seral scrub gradually reverting to woodland, where unmanaged, and so does not represent a stable formation.

Synonyms

Annex 1: H5110 Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.).

Back to Woodland Ecosystem

Code and Name

w1d Wet woodland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Occurs on poorly drained or seasonally wet soils, usually with Alder *Alnus glutinosa*, Birch *Betula spp.* and Willows *Salix spp.* as the predominant tree species, but sometimes including Ash *Fraxinus excelsior*, Oak *Quercus spp.*, Scots Pine *Pinus sylvestris* and Beech *Fagus sylvatica* on the drier riparian areas.

Synonyms

Carr

Landscape and ecological context

Found on floodplains, as successional habitat on fens, mires and bogs, along streams and hillside flushes, in peaty hollows, along lake edges and in 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 they may 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 (eg. w1a, w1b) and with open habitats such as fens – see f2~).

Species

Dominant trees are Alder *Alnus glutinosa* or Willow *Salix spp.*, often with Birch *Betula spp.*.

The field layer is likely to include some of the following species: Soft-rush *Juncus effusus*, Water Mint *Mentha aquatica*, Meadowsweet *Filipendula ulmaria*, Cuckooflower *Cardamine pratensis*, Marsh Marigold *Caltha palustris*, Water Horsetail *Equisetum fluviatile*, Marsh Horsetail *Equisetum palustre*, Common Valerian *Valeriana officinalis*, Marsh Cinquefoil *Comarum palustre*, Greater Tussock-sedge *Carex paniculata*, Nettle *Urtica dioica* and Yellow Pimpernel *Lysimachia nemorum*.

On fertile soils a very dense understorey of grasses, such as Cocksfoot *Dactylis glomerata,* can form.

Back to Woodland Ecosystem

Code and Name

w1d5 Alder woodland on floodplains (H91E0)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Woodland dominated by Alder *Alnus glutinosa* and Willow *Salix spp.* on base-rich soils on floodplains.

Landscape and ecological context

Found in a range of situations, from islands in river channels to low-lying wetlands alongside the channels. Also occur in the transition to drier woodland.

Synonyms

Annex 1: H91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).

Exclusions

Narrow strips of riparian trees outside of woodland.

Back to Woodland Ecosystem

Code and Name

w1d6 Bog woodland (H91D0)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Coniferous and broadleaved forests on a humid-to-wet peaty substrate, with the water level permanently high and even higher than the surrounding water table. Canopy cover may only just reach 25%.

Landscape and ecological context

The water is always very poor in nutrients. Bog woodlands are found mainly in Scotland, and more rarely in the New Forest and Dorset.

Synonyms

Annex 1: H91D0 Bog woodland.

Species

Generally dominated by Downy Birch *Betula pubescens*, Alder Buckthorn *Frangula alnus* and Scot's Pine *Pinus sylvestris*, with species specific to bogland or, more generally, to oligotrophic environments, such as Bilberry *Vaccinium spp.*, Bog-mosses *Sphagnum spp.*, Sedges *Carex spp.* and Bog Myrtle *Myrica gale*. Woody species often have a rich epiphytic flora.

Back to Woodland Ecosystem

Code and Name

w1e Upland birchwoods

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Woodlands with abundant Birch *Betula spp.*, with constituents such as Rowan *Sorbus aucuparia*, Willow *Salix spp.*, Juniper *Juniperus spp.* and Aspen *Populus tremula*. These woodlands differ from successional Birch stands found within oakwoods and Dwarf Birch scrub.

Landscape and ecological context

Found in Scotland, Wales, the Lake District and Dartmoor. Boundaries are often diffuse and liable to change as woodlands expand and contract in response to fires and changes in grazing pressure. Refuges, such as those occurring on cliffs or rocky patches, may develop permanent tree cover that can contain richer, less mobile species.

Species

On more acidic soils, Rowan *Sorbus aucuparia* is a prominent component, and Juniper *Juniperus communis* can form the underwood in the eastern Highlands.

Aspen *Populus tremula* grows on a variety of site types where mineral soil is present and occurs frequently within upland birchwoods as small groups and rarely as extensive stands. Only 12 stands of Aspen >5 ha are known to exist within Scotland.

On all but the most acidic sites, Birch *Betula spp.* influences the soil to allow development of a grass-herb flora on sites previously dominated by dwarf shrub heath.

Back to Woodland Ecosystem

Code and Name

w1f Lowland mixed deciduous woodland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Includes woodland growing on the full range of soil conditions, from very acidic to base-rich. It occurs largely within enclosed landscapes, usually on sites with well-defined boundaries, at relatively low altitudes, although altitude is not a defining feature.

Landscape and ecological context

Includes most established semi-natural woodland in southern and eastern England, and in parts of lowland Wales and Scotland. Many are ancient woods, including classic examples of ancient woodland in East Anglia and the East Midlands.

Inclusions

Monospecific stands of native species such as Elm *Ulmus spp*., Field maple *Acer campestre,* Ash *Fraxinus excelsior* or Hazel *Corylus avellana* in the drier non-Atlantic lowlands.

Exclusions

Mixed woodland, as in 'a mixture of broadleaved and coniferous species' (see w1h~).

Species

There is great variety in the species composition of the canopy layer and the ground flora. Pedunculate Oak *Quercus robur* is generally the more frequent oak (although Sessile Oak *Quercus petraea* may be abundant locally), and it may occur with virtually all combinations of other locally native tree species.

Back to Woodland Ecosystem

Code and Name

w1f5 Dry oak-dominated woodland (H9190)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Ancient lowland Oak *Quercus robur* woodland on acidic, sandy or gravelly substrates in the south and east of Britain.

Synonyms

Annex 1: H9190 Old acidophilous oak woods with Quercus robur on sandy plains.

Species

The ground flora is generally species-poor and comprises calcifuge sub-shrubs such as Bilberry *Vaccinium myrtillus* and Heather *Calluna vulgaris*, Wavy Hair-grass *Avenella flexuosa* and other grasses and herbs of acid soils (sometimes including Purple Moor-grass *Molinia caerulea*). It is often invaded by Bracken *Pteridium aquilinum*.

Back to Woodland Ecosystem

Code and Name

w1f6 Oak-hornbeam forests (H9160)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Forests of Pedunculate Oak *Quercus robur* (sometimes with Sessile Oak *Quercus petraea*), with some Hornbeam *Carpinus betulus*, on hydromorphic soils or soils with a high water table (such as the bottoms of valleys, depressions or in the vicinity of riparian forests).

Landscape and ecological context

Restricted in the UK to southeast England.

Synonyms

Annex 1: H9160 Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli.

Species

Bluebell *Hyacinthoides non-scripta*, which is most abundant in Atlantic parts of Europe, including the UK, is unusually rare in this Habitats Directive Annex 1 type. Typical species include Great Wood-rush *Luzula sylvatica*, Hairy Wood-rush *Luzula pilosa* and, locally, Southern Wood-rush *Luzula forsteri*, Greater Stitchwort *Stellaria holostea*, Ivy *Hedera helix* and Honeysuckle *Lonicera periclymenum*.

Back to Woodland Ecosystem

Code and Name

w1f7 Other Lowland mixed deciduous woodland

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

Lowland mixed deciduous woodland that does not meet the definition of w1f5 or w1f6.

Exclusions

Mixed woodland, as in ‘a mixture of broadleaved and coniferous species’ (see w1h~).

Back to Woodland Ecosystem

Code and Name

w1g Other broadleaved woodland

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Broadleaved and mixed woodland (see w1) that does not meet the definition of w1a–w1f.

Inclusions

Stands of non-native broadleaved tree species.

Woodlands of non-native species or Sycamore *Acer pseudoplatanus* that have developed through recent succession, typically on verges or alongside railway lines.

Back to Woodland Ecosystem

Code and Name

w1h Other woodland – mixed

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

A mixture of broadleaved and coniferous trees in which neither make up >80% of the tree cover.

Landscape and ecological context

Likely to include woodland that is self-sown and-or recently established in either urban or rural situations.

Synonyms

Mixed woodland.

Inclusions

Yew *Taxus baccata,* a native coniferous species, is treated as a broadleaved species in habitat classification by convention.

Back to Woodland Ecosystem

Code and Name

w1h5 Other woodland – mixed – mainly broadleaved

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Definition

A mixture of broadleaved and coniferous trees in which broadleaf species make up 50–80% of the tree cover.

Back to Woodland Ecosystem

Code and Name

w1h6 Other woodland – mixed – mainly conifer

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Definition

A mixture of broadleaved and coniferous trees in which coniferous species make up 50–80% of the tree cover.

Back to Woodland Ecosystem

Code and Name

w2 Coniferous woodland

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Vegetation dominated by trees that are >5 m high when mature, which form a distinct, although sometimes open, canopy that has a cover of >25%. It includes stands of both native and non-native coniferous trees species (with the exception of Yew *Taxus baccata*) where the percentage cover of these trees in the stand is >80% of the total cover of the trees present.

Landscape and ecological context

Scots Pine *Pinus sylvestris* is the only pine that is native to the UK, and forms native woodland only in Scotland (see w2a~). The majority of coniferous woodlands in the UK are plantations (see 29) of species that are either not native to the UK (see w2c) or to the sites on which they occur (see w2b~).

Inclusions

Recently felled coniferous woodland where there is a clear indication that it will return to woodland.

Exclusions

Woodlands with <80% of the total cover provided by coniferous trees (excluding Yew *Taxus baccata*).

Back to Woodland Ecosystem

Code and Name

w2a Native pine woodlands

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Relict indigenous forests, dominated by self-sown Scots Pine *Pinus sylvestris*.

Landscape and ecological context

Occur throughout the central and northeastern Grampians and in the northern and western Highlands of Scotland. An important western representative of the European boreal forests, in which structure and succession was probably determined naturally by storms and natural fires caused by lightning. This habitat occurs on infertile, strongly leached, podsolic soils.

Synonyms

Native pinewoods.

Inclusions

Some Birch *Betula spp.* and Juniper *Juniperus spp.* woodlands of northern character within and adjoining the relict, indigenous pine forests.

Species

This habitat does not support a large diversity of flora and fauna compared with some, more fertile, habitats. However, there is a characteristic plant and animal community that includes many rare and uncommon species.

The main tree species is Scots pine *Pinus sylvestris*, although Birches *Betula spp.*, Rowan *Sorbus aucuparia*, Alder *Alnus glutinosa*, Willows *Salix spp.* and Bird Cherry *Prunus padus* are also found. Sessile Oak *Quercus petraea* also occurs infrequently, mainly in the northeast of Scotland.

A shrub understorey, where browsing levels are low, includes Juniper *Juniperus communis*, Aspen *Populus tremula*, Holly *Ilex aquifolium* and Hazel *Corylus avellana*. Old or dead trees and rotting wood supports significant beetle and bryophyte communities.

The field layer is characterised by acid-tolerant plants such as Bell Heather *Erica cinerea*, Bilberry *Vaccinium myrtillus* and Crowberry *Empetrum nigrum*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W18 (W17, W19).

Back to Woodland Ecosystem

Code and Name

w2a5 Caledonian forest (H91C0)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Relict, indigenous pine forests of Scots Pine *Pinus sylvestris var. scotica*, endemic in the central and north eastern Grampians and the northern and western Highlands of Scotland.

Synonyms

Annex 1: H91C0 Caledonian forest.

Inclusions

Some Birch *Betula spp.* and Juniper *Juniperus spp.* woodlands of northern character within and adjoining the relict, indigenous pine forests.

Species

Mostly open, with a ground layer rich in ericaceous species such as Heather *Calluna vulgaris*, Bilberry *Vaccinium myrtillus* and Cowberry *Vaccinium vitis-idaea*, and bryophytes, in particular *Hylocomium splendens* – and often harbouring abundant Wavy Hair-grass *Avenella flexuosa*.

Associated species include Creeping Lady's-tresses *Goodyera repens*, Lesser Twayblade *Neottia cordata*, Coralroot Orchid *Corallorhiza trifida*, Twinflower *Linnaea borealis*, Chickweed-wintergreen *Lysimachia europaea*, Common Wintergreen *Pyrola minor*, One-flowered Wintergreen *Moneses uniflora* and Serrated Wintergreen *Orthilia secunda*.

Tree species accompanying Scots Pine *Pinus sylvestris* are: Rowan *Sorbus aucuparia*, Downy Birch *Betula pubescens*, Silver Birch *Betula pendula*, Juniper *Juniperus communis*, Holly *Ilex aquifolium* and Aspen *Populus tremula*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: W18 (W17, W19).

Back to Woodland Ecosystem

Code and Name

w2b Other Scot's Pine woodland

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Scot's Pine *Pinus sylvestris* woodland that does not meet the definition of w2a.

Back to Woodland Ecosystem

Code and Name

w2c Other coniferous woodland

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Coniferous woodland that does not meet the definition of w2a or w2b, i.e. it is not dominated by Scots Pine *Pinus sylvestris*.

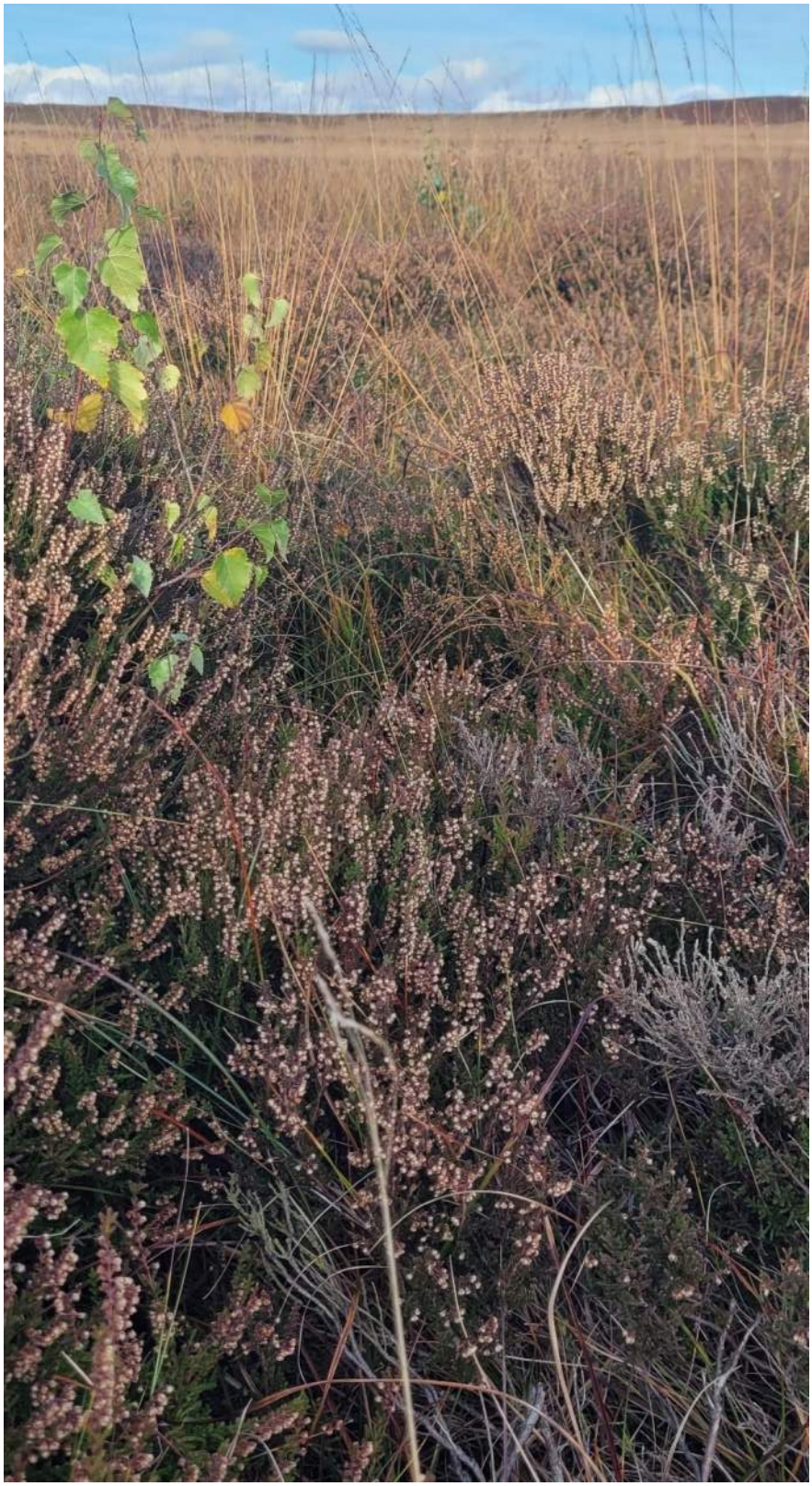
Inclusions

Includes plantations and self-sown conifers, such as those on heathland.

Exclusions

Christmas tree nurseries (see c1f6).

Back to Woodland Ecosystem



Heathland and Shrub

Code and Name

h Heathland and shrub

Category Type

Primary Level 2

Spatial Feature Type

Area Line

Definition

Vegetation with a >25% cover of dwarf shrub species that are <1.5 m high or woody species ≤5 m high.

Inclusions

Hedgerows (see h2~) of any height.

Exclusions

Lines of trees (see 33, 34).

Scattered scrub (see 10).

Back to Heathland and Shrub Ecosystem

Code and Name

h1 Dwarf shrub heath

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Vegetation that has a >25% cover of plant species from the heath family (ericoids), Dwarf Gorse *Ulex minor* or Western Gorse *Ulex gallii*.

Landscape and ecological context

Generally occurs on well-drained, nutrient-poor, acid soils. Heaths do occur on more basic soils, but these are more limited in extent and can be recognised by the presence of herbs characteristic of calcareous grassland (see g2~). This habitat occurs in both the lowlands and the uplands.

Inclusions

Both dry and wet heath types.

Dwarf-shrub-dominated vegetation in the montane zone.

Exclusions

Dwarf-shrub-dominated vegetation in which species characteristic of peat-forming vegetation, such as Cotton-grass *Eriophorum spp.*, and peat-building Bog-mosses *Sphagnum spp.* are abundant, AND that occurs on deep peat (see f1~).

Species

Ericoids include Heather *Calluna vulgaris*, Bell Heather *Erica cinerea* and Cross-leaved Heath *Erica tetralix*.

Includes Dwarf Gorse *Ulex minor*, Western Gorse *Ulex gallii*, Bilberry *Vaccinium spp.*, Crowberry *Empetrum spp.* and Bearberry *Arctostaphylos spp.*.

Back to Heathland and Shrub Ecosystem

Code and Name

h1a Lowland Heathland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

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 *Empetrum nigrum* and grass species such as Bristle Bent *Agrostis curtisii* and Sheep's Fescue *Festuca ovina*.

Landscape and ecological context

Generally found <300 m in altitude in the UK, but in more northerly latitudes the altitudinal limit is often lower. It can develop on drift soils and weathered flint beds over calcareous soils where it forms limestone or chalk heath. This is a dynamic habitat that undergoes significant changes in different successional stages, from bare ground (e.g. after burning or tree clearing) and grassy stages, to mature, dense heath.

Inclusions

Small scale mosaic of patches dominated by dwarf shrubs and patches dominated by acid grassland (use 13 in combination with h1a or g1).

Exclusions

Grass-dominated areas with <25% dwarf shrub cover (see g1~).

Species

Areas in good condition should consist of an ericaceous layer of varying heights and structures, plus some or all of the following additional features, depending on environmental and-or management conditions: scattered and clumped trees and scrub; Bracken *Pteridium aquilinum*; areas of bare ground; areas of acid grassland; lichens; Gorse *Ulex spp.*; wet heaths, bogs and open waters. These elements often co-occur on a site. The presence and numbers of characteristic vascular plants, bryophytes and lichens are important indicators of habitat quality.

Back to Heathland and Shrub Ecosystem

Code and Name

h1a5 Dry heaths – lowland (H4030)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Typically occur on freely-draining, acidic to circumneutral soils with generally low nutrient content. Ericaceous dwarf shrubs (*Calluna vulgaris*, *Erica* spp. and *Ulex spp.*) dominate the vegetation. Dry heaths vary widely in flora according to their location and are present across much of the UK. They may be differentiated from upland types (see h1b5) by species composition and from wet heath (see , h1a8, h1b6) by lack of Cross-leaved Heath *Erica tetralix*.

Synonyms

Annex 1: H4030 European dry heaths [lowland].

Species

Heather *Calluna vulgaris*, Bell Heather *Erica cinerea* and Gorse *Ulex spp.* dominate the vegetation.

Cross-leaved Heath *Erica tetralix* absent.

Back to Heathland and Shrub Ecosystem

Code and Name

h1a6 Dry coastal heaths with Cornish heath (H4040)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Coastal heaths of temperate areas with Cornish Heath *Erica vagans* and Gorse *Ulex europaeus* on well-drained soil.

Landscape and ecological context

Found in the UK only on the Lizard peninsula, on soils derived from serpentine.

Synonyms

Annex 1: H4040 Dry Atlantic coastal heaths with Erica vagans.

Species

The vegetation is typically dominated by mixtures of Cornish heath *Erica vagans* and gorse *Ulex europaeus*, with smaller amounts of western gorse *Ulex gallii* and bell heather *Erica cinerea*. Associated species include mesophytic herbs, such as glaucous sedge *Carex flacca*, common milkwort *Polygala vulgaris*, betony *Betonica officinalis* and common dog-violet *Viola riviniana*.

Back to Heathland and Shrub Ecosystem

Code and Name

h1a7 Wet heathland with cross-leaved heath – lowland (H4010)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Heathland on lowland sites with impeded drainage. Often in transitional communities between other heath and bog habitats.

Synonyms

Annex 1: H4010 Northern Atlantic wet heaths with Erica tetralix [lowland].

Species

Includes Cross-leaved Heath *Erica tetralix*, Deergrass *Trichophorum cespitosum* and Bog-mosses *Sphagnum spp*.. Impoverished swards may be dominated by Purple Moor-grass *Molinia caerulea*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: H5, M14-M16.

Back to Heathland and Shrub Ecosystem

Code and Name

h1a8 Wet heathland with Dorset heath and cross-leaved heath (H4020)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Hygrophilous heaths of areas with a temperate oceanic climate, on semi-peaty or dried-out soils, with surface minerals in the case of peaty soils (hydromor).

Landscape and ecological context

Found only in six sites in the UK – all in Dorset and Cornwall.

Synonyms

Annex 1: H4020 Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix.

Species

Contains Heather *Calluna vulgaris* and Bell Heather *Erica cinerea*, as well as Dorset Heath *Erica ciliaris* and Cross-leaved Heath *Erica tetralix*.

Back to Heathland and Shrub Ecosystem

Code and Name

h1b Upland Heathland

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Heathland vegetation that occurs widely on mineral soils and thin peats throughout the uplands and moorlands of the UK. It is characterised by the presence of dwarf shrubs at a cover of ≥25%. Defined as lying below the alpine or montane zone (at about 600–750 m) and usually above the upper edge of enclosed agricultural land (generally at around 250–400 m, but descending to near sea level in northern Scotland).

Inclusions

Thin peat is defined as <30 cm in depth in England.

Exclusions

Dwarf-shrub vegetation >25% cover on deep peat (see f1a~).

Heathland below the limit of agricultural enclosure (see h1a~).

Species

Ericoid species, with either Bilberry *Vaccinium myrtillus* and Crowberry *Empetrum spp.* (see h1b5) or Cross-leaved Heath *Erica tetralix*, Deergrass *Trichophorum cespitosum* and Bog-mosses *Sphagnum spp*. (see h1b6).

Back to Heathland and Shrub Ecosystem

Code and Name

h1b5 Dry heaths – upland (H4030)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

European dry heaths typically occur on freely-draining, acidic to circumneutral soils with generally low nutrient content.

Synonyms

Annex 1: H4030 European dry heaths [upland].

Species

Ericaceous dwarf shrubs (Heather *Calluna vulgaris*, Heaths *Erica spp.* and Gorse *Ulex spp.*) dominate the vegetation. This habitat also contains Bilberry *Vaccinium spp.* and Crowberry *Empetrum nigrum*.

Back to Heathland and Shrub Ecosystem

Code and Name

h1b6 Wet heathland with cross-leaved heath – upland (H4010)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Heathland on upland sites with impeded drainage, often in transitional communities between other heath and bog habitats.

Synonyms

Annex 1: H4010 Northern Atlantic wet heaths with Erica tetralix [upland].

Exclusions

Dwarf-shrub vegetation >25% cover on deep peat (see f1a~).

Heathland below the limit of agricultural enclosure (see h1a~).

Species

Include Cross-leaved Heath *Erica tetralix*, Deergrass *Trichophorum cespitosum* and Bog-mosses *Sphagnum spp*..

Impoverished swards may be dominated by Purple Moor-grass *Molinia caerulea*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: H5, M14-M16.

Back to Heathland and Shrub Ecosystem

Code and Name

h1c Mountain heaths and willow scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Encompasses a range of natural or near-natural vegetation that occurrs in the montane zone, above the natural treeline.

Landscape and ecological context

Found mostly >600 m in altitude, but in the northwest Highlands and Scottish islands they occur down to 300 m or, in places, even lower. Some of the types are characteristic of exposed ridges and summits; others are restricted to sheltered situations where snow lies late. They are typically maintained by cool, windy conditions, low temperatures, extreme wind exposure, prolonged snow cover, freeze-thaw and/or nutrient-poor (acid or calcareous) thin soils.

Inclusions

Dwarf shrub heaths, grass heaths, dwarf herb communities, willow scrub and snow bed communities.

Back to Heathland and Shrub Ecosystem

Code and Name

h1c5 Alpine and subalpine heaths (H4060)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Small, dwarf or prostrate shrub formations of the alpine and sub-alpine zones that are dominated by ericaceous species and others such as Mountain Avens *Dryas octopetala*, Dwarf Junipers *Juniperus spp.*, Brooms *Cytisus spp.* or Greenweeds *Genista spp.*.

Synonyms

Annex 1: H4060 Alpine and boreal heaths. Dryas heaths of the British Isles and Scandinavia.

Back to Heathland and Shrub Ecosystem

Code and Name

h1c6 Mountain willow scrub (H4080)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Sub-Arctic and boreo-alpine Willow *Salix spp.* formations of the Scottish Highlands, found on moist base-rich soils on rocky mountains.

Landscape and ecological context

The largest continuous stand of this very local habitat type is about 0.5 ha in extent, and most stands are very much smaller.

Synonyms

Annex 1: H4080 Sub-Arctic Salix spp. scrub.

Species

Include Downy Willow *Salix lapponum*, Whortle-leaved Willow *Salix myrsinites*, Mountain Willow *Salix arbuscula* and Woolly Willow *Salix lanata*.

Back to Heathland and Shrub Ecosystem

Code and Name

h2 Hedgerows

Category Type

Primary Level 3

Spatial Feature Type

Line

Definition

Lines of shrubs that have the base of their leafy canopies ≤2 m in height from the ground, so that the woody linear feature as a whole appears as a 'shrubby' hedgerow, even though some of the woody species in it are capable of growing into trees. Hedges in good condition have the base of their leafy canopies ≤0.5 m from the ground.

Landscape and ecological context

In rural areas, hedgerows were primarily used as stock-proof boundaries around fields, although many now also have wire fencing. In urban areas, hedgerows mainly perform a landscaping or garden boundary function.

Inclusions

An earth bank or wall, only where such a feature occurs in association with the hedgerow.

Any bank, wall, ditch, tree or herbaceaous vegetation that is <2 m from the hedgerow centre.

Gaps between trees and shrubs that are <20 m.

Tall lines of connected shrubs that remain in a management cycle and allowed to grow tall before being laid.

Exclusions

Shrubby components that are >5 m wide at the base (see h3~).

Woody linear features comprising trees without a shrub layer, even where showing signs of historic management (see 33 or 34).

Habitat features of trees that are collectively >5 m wide at the base (see w~).

Species

Range from those dominated by two or three woody species through to rich mixtures of shrubs, trees and ground flora of ancient hedgerows.

Back to Heathland and Shrub Ecosystem

Code and Name

h2a Native hedgerow

Category Type

Primary Level 4

Spatial Feature Type

Line

Status

Priority Habitat

Definition

A hedgerow with >80% canopy cover of UK native or archaeophyte woody species.

Inclusions

Archaeophytes are species that have been recorded as naturalised in the wild before 1500 CE. The status of Sycamore *Acer pseudoplatanus* is unclear, but it should be treated as an archaeophyte.

Roses *Rosa spp.* are included as woody species.

Exclusions

Climbers such as Honeysuckle *Lonicera periclymenum* and Bramble *Rubus fruticosus agg.* are recognised as integral to many hedgerows; however they require other woody plants to be present to form a distinct woody boundary feature, and as such they are not included in the definition of woody species.

Species

Often a mix of shrub and tree species such as Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Hazel *Corylus avellana*, Field Maple *Acer campestre*, Elm *Ulmus spp.*, Ash *Fraxinus excelsior* and Oak *Quercus spp.*, interwoven with climbers like Traveller's-joy *Clematis vitalba* and Honeysuckle *Lonicera periclymenum*.

The ground flora is often very similar to local woodlands.

Back to Heathland and Shrub Ecosystem

Code and Name

h2a5 Species-rich native hedgerow

Category Type

Primary Level 5

Spatial Feature Type

Line

Status

Subset of Priority Habitat

Definition

Native hedgerows with ≥5 (or ≥4 in northern and eastern England, upland Wales and Scotland) UK-native or archaeophyte woody species in a 30 m section.

Inclusions

Archaeophytes are species that have been recorded as naturalised in the wild before 1500 CE. The status of Sycamore *Acer pseudoplatanus* is unclear, but it should be treated as an archaeophyte.

Northern and eastern England is defined as in Schedule 1 of the Hedgerow Regulations 1997 i.e. in the county (as constituted on 1st April 1997) of the City of Kingston upon Hull, Cumbria, Darlington, Durham, East Riding of Yorkshire, Hartlepool, Lancashire, Middlesbrough, North East Lincolnshire, North Lincolnshire, Northumberland, North Yorkshire, Redcar and Cleveland, Stockton-on-Tees, Tyne and Wear, West Yorkshire or York. Upland Wales is defined as above 300m. Scotland is the country of Scotland.

Back to Heathland and Shrub Ecosystem

Code and Name

h2a6 Other native hedgerow

Category Type

Primary Level 5

Spatial Feature Type

Line

Status

Subset of Priority Habitat

Definition

Native hedgerows with ≤4 (or ≤3 in northern and eastern England, upland Wales and Scotland) UK-native or archaeophyte woody species in a 30 m section.

Inclusions

Archaeophytes are species that have been recorded as naturalised in the wild before 1500 CE. The status of Sycamore *Acer pseudoplatanus* is unclear, but it should be treated as an archaeophyte.

For definition of northern and eastern England, see h2a5.

Back to Heathland and Shrub Ecosystem

Code and Name

h2b Non-native and ornamental hedgerow

Category Type

Primary Level 5

Spatial Feature Type

Line

Definition

A hedgerow with >20% canopy cover of UK non-native woody species.

Inclusions

Ornamental beech hedgerows.

Recently introduced species or 'neophytes' are species that have been introduced to the UK after 1500 CE.

Garden varieties of ornamental native species, such as Yew *Taxus baccata*, Box *Buxus sempervirens* and Privet *Ligustrum sp.*.

Back to Heathland and Shrub Ecosystem

Code and Name

h3 Dense scrub

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Patches of shrubs that are <5 m in height with continuous (>75%) cover.

Inclusions

Patches with occasional trees that are >5 m in height (see 32).

Tree species that are <5 m in height.

Coastal scrub.

Scattered Sea-buckthorn *Hippophae rhamnoides* scrub on dunes (see h3c~).

Exclusions

Patches with shrub cover <75% (see 10).

Hedgerows (see h2~).

Coppice (see 210).

Coppice-with-standards (see 211).

Recently felled woodland (see 206).

Natural box scrub (see w1c8).

Carr (see w1d).

Mountain Willow *Salix spp.* scrub (see h1c6).

See also 17, s3a4 and t2a8.

Species

Relevant shrubs include amongst others Blackthorn *Prunus spinosa*, Hazel *Corylus avellana*, Sea-buckthorn *Hippophae rhamnoides*, Bramble *Rubus fruticosus agg.*, Gorse *Ulex spp.*, Hawthorn *Crataegus monogyna*, Willow *Salix spp.* and Rhododendron *Rhododendron spp.*.

Back to Heathland and Shrub Ecosystem

Code and Name

h3a Blackthorn scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub with Blackthorn *Prunus spinosa* dominant.

Back to Heathland and Shrub Ecosystem

Code and Name

h3a5 West coast blackthorn scrub

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Dense scrub with Blackthorn *Prunus spinosa* dominant, on the west coast and exposed upland areas.

Landscape and ecological context

Often forms very dense, windswept patches in exposed situations. The bushes often take the growth form of 'flags'.

Back to Heathland and Shrub Ecosystem

Code and Name

h3a6 Other blackthorn scrub

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Dense scrub with Blackthorn *Prunus spinosa* dominant in unexposed areas.

Landscape and ecological context

Often found on derelict or unmanaged land, such as railway embankments and cuttings, or in hollows on downland.

Back to Heathland and Shrub Ecosystem

Code and Name

h3b Hazel scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Back to Heathland and Shrub Ecosystem

Definition

Dense scrub with Hazel *Corylus avellana* dominant.

Code and Name

h3b5 Atlantic hazel

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Hazel- *Corylus avellana* dominated temperate rainforest that occurs on the hyperoceanic western fringe of Europe, in particular on the west coasts of Scotland and Ireland. It is considered to be a type of climax scrub.

Inclusions

Use 25 ('Temperate rainforest') as part of a combined code.

Species

Atlantic hazelwoods are home to some of the richest assemblages of oceanic mosses, liverworts and lichens found in the whole of Europe.

Back to Heathland and Shrub Ecosystem

Code and Name

h3b6 Other hazel scrub

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Dense scrub with Hazel *Corylus avellana* dominant.

Exclusions

Hazel on the west coast of the UK (see h3b5).

Back to Heathland and Shrub Ecosystem

Code and Name

h3c Sea-buckthorn scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Back to Heathland and Shrub Ecosystem

Definition

Dense scrub with Sea-buckthorn *Hippophae rhamnoides* dominant.

Code and Name

h3c5 Dunes with sea-buckthorn (H2160)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1

Definition

Dense scrub on sand dunes, with Sea-buckthorn *Hippophae rhamnoides* dominant.

Landscape and ecological context

Restricted to a few sites in North Norfolk, Lincolnshire and Lancashire.

Synonyms

Annex 1: H2160 Dunes with Hippophae rhamnoides.

Back to Heathland and Shrub Ecosystem

Code and Name

h3c6 Other sea-buckthorn scrub

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Coastal banks with Sea-buckthorn *Hippophae rhamnoides*. The species is also widely planted inland.

Back to Heathland and Shrub Ecosystem

Code and Name

h3d Bramble scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Back to Heathland and Shrub Ecosystem

Definition

Dense scrub with Bramble *Rubus fruticosus agg.* dominant.

Code and Name

h3e Gorse scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub with European Gorse *Ulex europaeus* dominant.

Exclusions

Stands of Dwarf Gorse *Ulex minor* or Western Gorse *Ulex gallii.*

Back to Heathland and Shrub Ecosystem

Code and Name

h3f Hawthorn scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Back to Heathland and Shrub Ecosystem

Definition

Dense scrub with Hawthorn *Crataegus monogyna* dominant.

Code and Name

h3g Rhododendron scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub with Rhododendron *Rhododendron ponticum* dominant as the canopy layer, but not in the understorey.

Inclusions

Dense stands of Cherry Laurel *Prunus laurocerasus.*

Back to Heathland and Shrub Ecosystem

Code and Name

h3h Mixed scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub comprising a mixture of species without a single species dominant or stands with a dominant species not listed in h3a-h3k.

Back to Heathland and Shrub Ecosystem

Code and Name

h3j Willow scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub with Willow *Salix spp.* dominant.

Back to Heathland and Shrub Ecosystem

Code and Name

h3k Juniper scrub

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Dense scrub with Juniper *Juniperus communis* dominant.

Inclusions

Juniper *Juniperus communis* stands that could be regarded as woodland, based on height.

Exclusions

Juniper *Juniperus communis* on sand dunes (see s3a4).

Back to Heathland and Shrub Ecosystem

Wetland

Code and Name

f Wetland

Category Type

Primary Level 2

Spatial Feature Type

Area

Definition

A vegetated habitat that is waterlogged (see 504) or inundated (see 505).

Exclusions

Wet woodland (see w1d~).

Wet habitats where the water table is always within 40 cm of the surface and the soil contains 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 (see 502).

504 Waterlogged

Definition

Water table at the surface with standing water for 50-70% of the year or with the soil completely saturated. Only small patches remain 'wet' in mid-summer.

505 Inundation vegetation

Definition

Frequently inundated vegetation, the water table distinctly above the level of the substrate for most of the year.

Back to Wetland Ecosystem

Code and Name

f1 Bog

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Rain-fed (ombrotrophic) inundated or waterlogged habitats where peat has formed.

Inclusions

Peat bogs that have been cut.

Exclusions

Minerotrophic (groundwater-fed) wetlands (see f2~).

Peatlands drained for agriculture, such as large parts of the Fens and Somerset Levels and Moors.

Species

Key indicators for this habitat include peat-forming Bog-mosses (*Sphagnum papillosum* and *Sphagnum magellanicum*).

Back to Wetland Ecosystem

Code and Name

f1a Blanket bog

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Blanket bogs are characterised by the presence of a deep peat deposit, formed from Bog-mosses *Sphagnum spp.* 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.

Landscape and ecological context

Blanket bogs are rain-fed (ombrotrophic) and broadly convex, meaning that surface flow lines diverge downslope from the crown of the bog unit.

Inclusions

In England, deep peat is defined as >30 cm, i.e. with the measured peat depth greater than an average of 30 cm.

Intermediate habitats around the margins of the blanket bog, where the major part of the bog morphology is determined by the underlying mineral terrain.

Exclusions

May be part of a habitat mosaic that includes upland flushes, fens and swamps (see f2c), which are fed by groundwater (minerotrophic).

Intermediate habitats around the margins where the raised dome(s) of the system predominates (see f1b).

Species

Typically include the important peat-forming species, such as Bog-mosses *Sphagnum spp.* and Cottongrasses *Eriophorum spp.*, or Purple Moor-grass *Molinia caerulea* in certain circumstances, together with Heather *Calluna vulgaris* and other ericaceous species, such as Cross-leaved Heath *Erica tetralix*. Deergrass *Trichophorum cespitosum* may be prominent.

Back to Wetland Ecosystem

Code and Name

f1a5 Blanket bog (H7130)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

As f1a, where peat-forming species – notably *Sphagnum papillosum*, *Sphagnum magellanicum*, *Sphagnum tenellum* and *Sphagnum capillifolium*, Hare's-tail Cottongrass *Eriophorum vaginatum* – are still dominant or abundant.

Synonyms

Annex 1: H7310 Blanket Bog.

Exclusions

Bogs that have been significantly damaged by drainage, overgrazing or other impacts (see f1a6).

Species

Typically include the important peat-forming species, such as Bog-mosses *Sphagnum spp.* and Cottongrasses *Eriophorum spp.*, or Purple Moor-grass *Molinia caerulea* in certain circumstances, together with Heather *Calluna vulgaris* and other ericaceous species, such as Cross-leaved Heath *Erica tetralix*. Deergrass *Trichophorum cespitosum* may be prominent.

Back to Wetland Ecosystem

Code and Name

f1a6 Degraded blanket bog

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

As f1a, but where peat-forming Bog-mosses *Sphagnum spp.* 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 *Molinia caerulea* and sometimes by the dominance of Heather *Calluna vulgaris*.

Inclusions

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 such areas as upland heathland (see h1b~).

Back to Wetland Ecosystem

Code and Name

f1b Lowland raised bog

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Characterised by the formation of a gently-curving dome, which forms above groundwater level, hence making it a 'raised' bog (reliant upon rainfall). The bog surface may show fine-scale variation with drier hummocks and wetter hollows. The thickness of the peat mantle varies considerably but can be >12 m.

Landscape and ecological context

This habitat develops in areas of lowland wetland vegetation established within a shallow basin, sometimes at the head of estuaries or along floodplains. It may also be found along the edges of blanket bogs.

Exclusions

In areas where peatlands may have developed as raised bog but then been swallowed up in the continuous expanse of blanket bog, they should be classed as units of blanket bog (see f1a~).

Species

The vegetation is dominated by Sphagnum species, including *Sphagnum balticum* and *Sphagnum skyense*, Cottongrass *Eriophorum spp.* such as Hare's-tail *Eriophorum vaginatum*, Heather *Calluna vulgaris* and, more rarely, Great Sundew *Drosera anglica* and Cranberry *Vaccinium oxycoccos*.

Back to Wetland Ecosystem

Code and Name

f1b5 Active raised bogs (H7110)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

As f1b, where peat-forming species are still present and hydromorphological features are intact, including a lagg fen surrounding the dome.

Landscape and ecological context

Peat depth (>1 m) is often the defining feature of the habitat, requiring a 'step-up' onto the rain-fed (ombrotrophic) dome.

Now a rare habitat due to exploitation of the peat resource.

Synonyms

Annex 1: H7110 Active raised bogs.

Species

Includes plants such as the Bog-mosses *Sphagnum spp.*, Cottongrasses *Eriophorum spp.*, Heather *Calluna vulgaris* and other ericaceous plants, and the carnivorous Sundews *Drosera spp.*.

Under some circumstances, Purple Moor-grass *Molinia caerulea* is also peat-forming.

Back to Wetland Ecosystem

Code and Name

f1b6 Degraded raised bog (H7120)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Occur where there has been widespread disruption, usually by humans, to the structure and/or function of the peat body, so that the bogs are not actively peat-forming. Degraded raised bogs that are 'capable of natural regeneration' include those where the hydrology can be repaired and where, with appropriate rehabilitation management, there is a reasonable expectation of re-establishing vegetation with peat-forming capability within 30 years.

Landscape and ecological context

Degradation can involve changes to the hydrology, vegetation and physical structure of the bog, leading to desiccation, oxidation and loss of species or changes in the balance of the species composition. Causes of degradation include fire, drainage, peat cutting, herbicide and fertiliser drift, pollution, tree planting, footfall and grazing pressure.

Synonyms

Annex 1: H7120 Degraded raised bogs still capable of natural regeneration.

Inclusions

Provided they are capable of natural regeneration, the following land-cover types are considered to fall within the definition of degraded raised bogs: conifer plantations, improved pasture; scrub woodland (usually Birch *Betula spp.*); bare peat; impoverished vegetation dominated by species including Purple moor-grass *Molinia caerulea*, Hare's-tail cottongrass *Eriophorum vaginatum* and Heather *Calluna vulgaris*, and lacking significant cover of Bog-mosses, *Sphagnum spp*..

Species

The relative abundance and distribution of individual species, particularly the dominance of peat-forming species, including Sphagnum, differs from that of active raised bogs (see f1b5).

Back to Wetland Ecosystem

Code and Name

f1b7 Other degraded raised bog

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Subset of Priority Habitat

Definition

As f1b6, but where natural regeneration is not possible within 30 years because of a complete loss of hydrological function (i.e. no longer dependent on rainfall only, or raised above the water table) or species composition (i.e. no Sphagnum present).

Inclusions

May include land cover types as described in f1b6.

Exclusions

Agricultural fields that were formerly parts of bogs are not included in this definition, although technically they could be listed as 'archaic bogs'.

Back to Wetland Ecosystem

Code and Name

f2 Fen marsh and swamp

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Characterised by a variety of vegetation types that are found on minerotrophic (groundwater-fed), permanently, seasonally or periodically waterlogged peat, peaty soils or mineral soils. Fens are peatlands which receive water and nutrients from groundwater and surface run-off, as well as from rainfall. Flushes are associated with lateral water movement, and springs with localised upwelling of water. Marsh is a general term usually used to imply waterlogged soil; it is used more specifically here to refer to fen meadows and rush-pasture communities on mineral soils and shallow peats. Swamps are characterised by tall emergent vegetation. Reedbeds (i.e. swamps dominated by stands of Common Reed *Phragmites australis*) are also included.

Landscape and ecological context

Often associated with valleys or hollows and include a wide range of vegetation types from tall broadleaved wetland herb formations, vegetation dominated by small sedge fens, tall wetland sedge or herb or grass fens; fen meadows and rush-dominated vegetation; acid-poor fens and reedbeds to bryophyte springs and flushes.

Inclusions

Re-created wetlands with water fed from rivers and streams (use f2~ 61)

Exclusions

Ombrotrophic (rainfall-fed) wetlands (see f1~).

Wet and seasonally wet grasslands (see g~, 503, 502).

Waterlogged woodland (see w1d~).

'The Fens' of East Anglia and Lincolnshire refer to a geographic area rather than a habitat category.

Species

A wide range of wetland species depend on this type of wetland. They include Common Reed *Phragmites australis*, Bulrush *Typha latifolia*, Purple Moor-grass *Molinia caerulea*, Great Fen-sedge *Cladium mariscus*, other sedges *Carex spp.*, rushes *Juncus spp.*, Marsh Bedstraw *Galium palustre*, Meadowsweet *Filipendula ulmaria* and Wild Angelica *Angelica sylvestris*.

Back to Wetland Ecosystem

Code and Name

f2a Lowland fens

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Fens are wetlands that receive water and nutrients from the soil, rock and groundwater, as well as from rainfall. Fens are also often associated with the accumulation of undecomposed, waterlogged plant litter in the form of peat, but not all fens form peat as vegetative matter may be decomposed.

Landscape and ecological context

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 floodplain 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.

Rich fens are associated with water derived from base-rich 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.

Inclusions

Re-created lowland fens with water fed from rivers and streams (use f2a 61)

Back to Wetland Ecosystem

Code and Name

f2a5 Calcium-rich fen dominated by great fen-sedge (H7210)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Comprises the more species-rich examples of Great Fen-sedge *Cladium mariscus* fen, particularly those stands enriched with elements of small-sedge fen with open low-growing sedge vegetation.

Landscape and ecological context

Occurs in the following situations: (a) sites with a mixture of closed, species-poor *Cladium* beds, which at their margins have transitions to species-rich small-sedge mire vegetation; (b) sites where *Cladium* beds retain their species-richness owing to management; and (c) situations where *Cladium* fen is inherently species-rich, possibly owing to the fact that conditions do not allow the *Cladium* to grow vigorously and dominate the vegetation. Davall's Sedge *Carex davalliana,* referred to in the full Habitats Directive Annex 1 habitat name, is extinct in the UK.

Synonyms

Annex 1: H7210 Calcareous fens with Cladium mariscus and species of the Carex davallianae.

Species-poor Great Fen-sedge *Cladium mariscus* dominated vegetation.

Species

Complex mosaics with other fen types often occur, and in most cases the species-rich stands are less extensive than species-poor *Cladium* vegetation.

Back to Wetland Ecosystem

Code and Name

f2a6 Hard-water springs depositing lime – lowland (H7220)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

Tufa-forming spring-heads are characterised by obvious mounds of tufa, partly covered by hummocks of 'curly-wurly' brownish or yellow-orange mats of the mosses *Cratoneuron commutatum* and *Cratoneuron filicinum*. Lowland.

Landscape and ecological context

Tufa formation occurs where groundwater that is rich in calcium bicarbonate comes to the surface. It is likely to be found in association with calcareous grassland and/or where limestone and chalk outcrops occur with springs.

Synonyms

Annex 1: H7220 Petrifying springs with tufa formation [Cratoneurion] [Lowland].

Species

Tufa-forming spring-heads are characterised by the swelling yellow-orange mats of the mosses *Cratoneuron commutatum* and *Cratoneuron filicinum*. Many rare, lime-loving (calcicole) species live in the moss carpet, particularly arctic-alpine species such as Bird's-eye Primrose *Primula farinosa*, Scottish Asphodel *Tofieldia pusilla*, Alpine Bartsia *Bartsia alpina* and False Sedge *Carex simpliciuscula*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M37.

Back to Wetland Ecosystem

Code and Name

f2a7 Calcium-rich springwater-fed fens – lowland (H7230)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

Consist of a complex assemblage of vegetation types that are characteristic of both lowland and upland sites where there is tufa (see f2a6) and/or peat formation with a high water table and a calcareous base-rich water supply. The core vegetation is mire with low-growing sedge vegetation, and the habitat is usually identifiable as tussocks of Black Bog-rush *Schoenus nigricans* between wet, peaty runnels with 'brown mosses', often visible bits of tufa as well as water coming from visible seepages.

Landscape and ecological context

May occur with various types of swamp (such as species-poor stands of Great Fen-sedge *Cladium mariscus*), wet grasslands (particularly various types of Purple Moor-grass *Molinia caerulea* grassland) and areas rich in Juncus species, as well as fen carr and, especially in the uplands, wet heath and acid bogs. There is considerable variation between sites in the associated communities, and the transitions that may occur depend on the geomorphological situation in which the fen occurs. This may include: floodplain mire, valley mire, basin mire, hydroseral fen (i.e. as zones around open waterbodies) and spring fen.

Synonyms

Annex 1: H7230 Alkaline fens [Lowland].

Species

An important source of ecological variation is altitude, with significant differences between lowland fens, which are rich in southern and continental species, and upland fens, which are rich in northern species. Jointed Rush *Juncus subnodulosus* may be co-dominant with Black Bog-rush *Schoenus nigricans*. Sedges such as Bottle Sedge *Carex rostrata* and Dioecious Sedge *Carex dioica* may be frequent.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M9, M10, M13.

Back to Wetland Ecosystem

Code and Name

f2a8 Transition mires and quaking bogs – lowland (H7140)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

The term 'transition mire' relates to vegetation that, in floristic composition and general ecological characteristics, is transitional between acid bog and alkaline fens, and 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.

Landscape and ecological context

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 also be described as 'quaking bogs'.

Transition mires and quaking bogs can occur in a variety of situations, related to different geomorphological processes: in floodplain 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).

Synonyms

Annex 1: H7140 Transition mires and quaking bogs [lowland].

Back to Wetland Ecosystem

Code and Name

f2b Purple moor-grass and rush pastures

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

The vegetation has a distinct character and consists of various species-rich types of fen meadow and rush pasture. It is dominated by Rush *Juncus spp.* and-or Purple Moor-grass *Molinia caerulea*, usually on peaty-gley soils, with Sharp-flowered Rush *Juncus acutiflorus* or Soft Rush *Juncus effusus* abundant to dominant.

Landscape and ecological context

Occur on both poorly drained, usually acidic, soils in lowland areas of high rainfall in western Europe and on more base-rich soils. In the UK, they are found in southwest England (particularly in Devon), southern Wales, southwest Scotland (perhaps extending as far north as northern Argyll) and Northern Ireland (especially Fermanagh). Nationally, these agriculturally unimproved pastures are associated with saturated valley-sides and spring 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.

Synonyms

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 south west England. Grasslands of northern Devon and north east Cornwall, especially across the Culm Measures, are also referred to as 'culm grasslands'.

Exclusions

Species-poor Purple Moor-grass *Molinia caerulea* pastures that lack any of the indicator herb species.

Species

Purple Moor-grass *Molinia caerulea* and rushes, especially Sharp-flowered Rush *Juncus acutiflorus*, are usually abundant.

More basic examples of the habitat may include herbs such as Marsh Bedstraw *Galium palustre*, Marsh Thistle *Cirsium palustre*, Meadowsweet *Filipendula ulmaria* and Wild Angelica *Angelica sylvestris*.

Acidic examples include Tormentil *Potentilla erecta*, Marsh Violet *Viola palustris*, Devil's-bit Scabious *Succisa pratensis* and Cross-leaved Heath *Erica tetralix*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M9, M10, M13.

Back to Wetland Ecosystem

Code and Name

f2b5 Purple moor-grass meadows (H6410)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Base-rich fen meadows (see f2b) dominated by Purple Moor-grass *Molinia caerulea* but include either Meadow Thistle *Cirsium dissectum* or Marsh Hawk's-beard *Crepis paludosa*.

Landscape and ecological context

Meadow Thistle *Cirsium dissectum* meadows are found mainly in south Wales, southwest England and Northern Ireland. A form with tall herbs are found in the fen systems of East Anglia, and a more widespread 'typical' form are widely but locally distributed in southern Britain.

Marsh Hawk's-beard *Crepis paludosa* types are found locally in wet grasslands and fens in uplands and upland margins of northern England and north Wales, and as small scattered stands throughout Scotland, as far north as Moray.

Synonyms

Annex 1: H6410 Molinia meadows on calcareous; peaty or clayey-silt-laden soils [Molinia caeruleae].

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M24, M26.

Back to Wetland Ecosystem

Code and Name

f2c Upland flushes fens and swamps

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Status

Priority Habitat

Definition

Includes a number of wetland communities in the uplands, from swamp vegetation at the margins of lochs or in the waters of sluggish streams, through tall fens with mixtures of herbs and rushes, to sedge-dominated mires and bryophyte springs.

Landscape and ecological context

All these types of vegetation rely on a wet but not stagnant habitat where water flows laterally over or through the ground. Since all are more common where the climate is cool and wet, they are most widespread in the uplands.

All of these communities are common throughout the uplands, though the montane flushes and springs are confined to the upper slopes of the higher hills. Swamps, fens and sedge mires can be found a few metres above sea level as well as on montane plateaux and hill tops.

Species

In the tall fens and swamps the dominant plants are large sedges *Carex spp*., rushes *Juncus spp.* and, on neutral soils, herbs. On more acid soils, mosses and herbs are more common. The sedge mires can consist of any of many species either alone or in combination. Small herbs are common in these mires, depending on the base-status of the water. Bryophyte springs vary from the almost pure mats of a few specific mosses to intricate, brightly-coloured mixtures of species, dotted with small herbs.

Horsetails *Equisetum spp*. can be abundant or dominant in swamp communities at the edges of lakes, lochs and lochans.

Wetland communities of all types are host to large numbers of invertebrates, especially flies and spiders, and so are valuable feeding grounds for many insectivorous birds, including waders.

Back to Wetland Ecosystem

Code and Name

f2c5 Alpine pioneer formations (H7240)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

A type of high-altitude flush mire. The characteristic plant communities colonise open substrates that are constantly flushed by surface seepage of cold, base-rich water.

Landscape and ecological context

Small (often 'point') features that are amongst the few remaining natural plant communities in the UK and are maintained by harsh climatic and soil conditions. There is variation in this habitat because of differences in altitude, geographic location, length of snow-lie, nature of the substrate and the amount of water flushing the communities.

Synonyms

Annex 1: H7240 Alpine pioneer formations of Caricion bicoloris- atrofuscae.

Species

Characterised by the presence of a number of rare species. These include Scorched Alpine-sedge *Carex atrofusca*, Bristle Sedge *Carex microglochin*, Alpine Rush *Juncus alpinoarticulatus*, Chestnut Rush *Juncus castaneus*, Two-flowered Rush *Juncus biglumis*, Three-flowered Rush *Juncus triglumis*, False Sedge *Carex simpliciuscula* and Scottish Asphodel *Tofieldia pusilla*.

More common species that are also characteristic of the habitat include: Yellow Sedges *Carex demissa*, *Carex lepidocarpa* and *Carex viridula*, Carnation Sedge *Carex panicea*, Flea Sedge *Carex pulicaris*, Russet Sedge *Carex saxatilis*, Jointed Rush *Juncus articulatus*, Common Butterwort *Pinguicula vulgaris*, Yellow Mountain Saxifrage *Saxifraga aizoides*, Alpine Bistort *Bistorta vivipara*, Alpine Meadow-rue *Thalictrum alpinum* and the moss *Blindia acuta*.

Back to Wetland Ecosystem

Code and Name

f2c6 Hard-water springs depositing lime – upland (H7220)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

Tufa-forming spring-heads are characterised by the obvious mounds of tufa, partly covered by hummocks of 'curly-wurly' brownish or yellow-orange mats of the mosses *Cratoneuron commutatum* and *Cratoneuron filicinum*. Upland.

Landscape and ecological context

Tufa formation occurs where groundwater that is rich in calcium bicarbonate comes to the surface. It is likely to be found in association with calcareous grassland and/or where limestone and chalk outcrops occur with springs, particularly in the uplands of northern England and the Scottish Highlands.

Synonyms

Annex 1: H7220 Petrifying springs with tufa formation [Cratoneurion] [Upland].

Species

Many rare, lime-loving (calcicole) species live in the moss carpet, particularly arctic-alpine species such as Bird's-eye Primrose *Primula farinosa*, Scottish Asphodel *Tofieldia pusilla*, Alpine Bartsia *Bartsia alpina* and False Sedge *Carex simpliciuscula*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M37, M38.

Back to Wetland Ecosystem

Code and Name

f2c7 Calcium-rich springwater-fed fens – upland (H7230)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

May occur with various types of swamp (such as species-poor stands of Great Fen-sedge *Cladium mariscus*), wet grasslands (particularly various types of Purple Moor-grass *Molinia caerulea* grassland) and areas rich in Juncus species, as well as fen carr and, especially in the uplands, wet heath and acid bogs. There is considerable variation between sites in the associated communities, and the transitions that may occur depend on the geomorphological situation in which the fen occurs. This may include: floodplain mire, valley mire, basin mire, hydroseral fen (i.e. as zones around open waterbodies) and spring fen. Another important source of ecological variation is altitude, with significant differences between lowland fens, which are rich in southern and continental species, and upland fens, which are rich in northern species.

Synonyms

Annex 1: H7230 Alkaline fens.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: M9, M10, M13.

Back to Wetland Ecosystem

Code and Name

f2c8 Transition mires and quaking bogs – upland (H7140)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

The term 'transition mire' relates to vegetation that, in floristic composition and general ecological characteristics, is transitional between acid bog and alkaline fens, and 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.

Landscape and ecological context

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 also be described as 'quaking bogs'. Transition mires and quaking bogs can occur in a variety of situations, related to different geomorphological processes: in floodplain 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).

Synonyms

Annex 1: H7140 Transition mires and quaking bogs [upland].

Back to Wetland Ecosystem

Code and Name

f2d Aquatic marginal vegetation

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Vegetation fringing open water that is often developed as a narrow (<0.5 m wide or <0.25 ha in extent) part of a hydrosere between standing water and upslope vegetation.

Inclusions

Inundated, vegetation-filled ditches (see 50) with little or no open water. Common Reed *Phragmites australis* is often dominant.

Species

Include Valerian *Valeriana officinalis*, Great Willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria*, Hemlock Water Dropwort *Oenanthe crocata*, Marsh Woundwort *Stachys palustris* and Purple Loosestrife *Lythrum salicaria*.

Back to Wetland Ecosystem

Code and Name

f2e Reedbeds

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Wetlands that are dominated by >5 m wide stands of the Common Reed *Phragmites australis* and where the water table is at or above ground level for most of the year.

Landscape and ecological context

Reedbeds tend to incorporate areas of open water and ditches. Small areas of wet grassland and carr woodland may also be associated with them.

Inclusions

Parcels that meet the size threshold in the definition and that include both a reed-filled ditch and reed-dominated vegetation extending onto dry land.

Parcels where Common Club-rush *Schoenoplectus lacustris* and Reed Canary-grass *Phalaris arundinacea are prominent.*

Reedbeds with a saline influence (see 702) that include saline-tolerant species such as *Atriplex spp.*.

Exclusions

Parcels of Common Reed *Phragmites australis* that are <5 m wide (see f2d, f2f).

Common Reedmace *Typha latifolia* swamp (see f2d, f2f).

Back to Wetland Ecosystem

Code and Name

f2f Other wetlands

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Wetlands that are not included in f2a, f2b, f2c, f2d or f2e, including swamps other than reedbeds (see f2e).

Exclusions

Parcels dominated by Common Reed *Phragmites australis* where no part is inundated for most of the year (see g3~ 16).

Species

Reed Canary-grass *Phalaris arundinacea* is likely to be constant, as is Great Willowherb *Epilobium hirsutum*, Nettle *Urtica dioica*, Common Couch *Elymus repens* and Yorkshire Fog *Holcus lanatus*.

Back to Wetland Ecosystem

Cropland

Code and Name

c Cropland

Category Type

Primary Level 2

Spatial Feature Type

Area Line

Definition

Agricultural or horticultural land that has been cultivated or cropped within the current or previous year or left as fallow as part of an active arable rotation.

Inclusions

Ploughed land.

Intensive orchards.

Short rotation coppice

Christmas tree and other tree nurseries

Back to Cropland Ecosystem

Code and Name

c1 Arable and horticulture

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

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, leys, rotational set-aside and fallow.

Inclusions

Cereal field margins.

Temporary grass and clover leys.

Exclusions

Permanent agricultural grassland (see g~).

Domestic gardens (see u1, 831, 832, 833).

Vertical crop production in buildings (see u1~).

Cropped green roofs (see u1).

Back to Cropland Ecosystem

Code and Name

c1a Arable field margins

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation that includes an arable crop, even if in certain years the field is in temporary grass, set-aside or fallow.

Landscape and ecological context

Arable field margins are usually sited on the outer 2–12 m margin of the arable field, although when planted as blocks they occasionally extend further into the field centre.

Exclusions

Whole field applications of similar treatments (see c1c~).

Species

Grasses are likely to include Sweet Vernal Grass *Anthoxanthum odoratum*, Smooth Meadow Grass *Poa pratensis*, Red Fescue *Festuca rubra*, Crested Dog's-tail *Cynosurus cristatus* and Yellow Oat-grass *Trisetum flavescens*, but some sites may have a high cover of sown mixtures of legumes such as Red Clover *Trifolium pratense*, Alsike Clover *Trifolium hybridum* and Bird's-foot Trefoil *Lotus corniculatus*.

Back to Cropland Ecosystem

Code and Name

c1a5 Arable field margins – tussocky

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Definition

Grass margins around arable fields, sown with tussocky grasses, such as Cocksfoot *Dactylis glomerata* and Timothy *Phleum pratense*, that are of particular value for ground-nesting birds and over-wintering insects.

Species

Grasses are likely to also include Sweet Vernal Grass *Anthoxanthum odoratum*, Smooth Meadow Grass *Poa pratensis*, Red Fescue *Festuca rubra*, Crested Dog's-tail *Cynosurus cristatus* and Yellow Oat-grass *Trisetum flavescens*.

Back to Cropland Ecosystem

Code and Name

c1a6 Arable field margins – pollen and nectar

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Definition

Grass margins around arable fields, sown with wildflowers that are of particular value for nectar-feeding insects.

Species

Grasses are likely to include Sweet Vernal Grass *Anthoxanthum odoratum*, Smooth Meadow Grass *Poa pratensis*, Red Fescue *Festuca rubra*, Crested Dog's-tail *Cynosurus cristatus* and Yellow Oat Grass *Trisetum flavescens*, but with high cover of sown mixtures of legumes such as Red Clover *Trifolium pratense*, Alsike Clover *Trifolium hybridum* and Bird's-foot Trefoil *Lotus corniculatus*.

Back to Cropland Ecosystem

Code and Name

c1a7 Arable field margins – cultivated annually

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Back to Cropland Ecosystem

Definition

Margins around arable fields on sandy or chalky soils, cultivated annually to conserve rare flora.

Code and Name

c1a8 Arable field margins – wild bird mix

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Definition

Wild bird cover crops, planted in blocks, corners or strips and left unharvested for seed to benefit farmland birds.

Back to Cropland Ecosystem

Code and Name

c1b Temporary grass and clover leys

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Temporary grass or legumes in rotation with grain or tilled crops, usually as a soil conservation measure.

Inclusions

Short-term leys.

Medium-term leys.

Exclusions

Long-term leys (see g4).

Species

Likely dominants include Perennial Rye-grass *Lolium perenne*, White Clover *Trifolium repens* and Red Clover *Trifolium pratense*.

Back to Cropland Ecosystem

Code and Name

c1b5 Rye-grass and clover ley

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Temporary grass with rye-grasses dominant, often with low % cover of clover species.

Species

Likely dominants include Perennial Rye-grass *Lolium perenne* and Italian Rye-grass *Lolium multiflorum*.

Back to Cropland Ecosystem

Code and Name

c1b6 Legume-rich ley

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Land put down to a mixture containing ≥30% clover or other legumes.

Species

White Clover *Trifolium repens*, Red Clover *Trifolium pratense* and other legumes, such as Trefoils, Vetches and Lucerne, in a mix with grass species.

Back to Cropland Ecosystem

Code and Name

c1b7 Herb-rich ley

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Complex seed mixture of grasses, legumes and herbs, which bring a range of benefits to forage, livestock health and soil fertility.

Species

Can often include a mixture of up to 17 species, depending on the aims of the ley, location and soil type.

Back to Cropland Ecosystem

Code and Name

c1c Cereal crops

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Crops in the cereal group of domesticated grasses: wheat, barley, oats, maize.

Species

Flora other than the cereal crop is dependent on the herbicide applied, but it may include Common Field-speedwell *Veronica persica*, Knotgrass *Polygonum aviculare*, Night-flowering Catchfly *Silene noctiflora*, Common Poppy *Papaver rhoeas*, Fat-hen *Chenopodium album*, Grey Field-speedwell *Veronica polita*, Creeping Bent *Agrostis stolonifera* and Cleavers *Galium aparine*.

Ruderal grass species are likely to include Black-grass *Alopecurus myosuroides,* Sterile Brome *Anisantha sterilis and* Common Couch *Elymus repens*.

Back to Cropland Ecosystem

Code and Name

c1c5 Winter stubble

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Arable crops left in the ground over winter after harvesting.

Back to Cropland Ecosystem

Code and Name

c1c6 Arable fields – wild bird mix

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Whole fields planted with game bird mix seeds.

Code and Name

c1c7 Other cereal crops

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Cereal crops that do not meet the definition of c1c5 or c1c6.

Inclusions

Wheat, Barley, Oats, Rye, Maize, Linseed, Oilseed Rape.

Exclusions

Sugar-beet, onions, field beans, root crops (see c1d8).

Field vegetables such as broccoli and cauliflower (see c1f~).

Back to Cropland Ecosystem

Code and Name

c1c8 Arable fields – pollen and nectar

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Whole arable fields sown with wildflowers that are of particular value for nectar-feeding insects.

Code and Name

c1c9 Arable fields – cultivated for annual flora

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Whole arable fields that are cultivated annually to conserve rare flora.

Code and Name

c1d Non-cereal crops

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Back to Cropland Ecosystem

Crops other than those defined in c1c.

Code and Name

c1d5 Miscanthus

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Elephant Grass *Miscanthus giganteus* fields, often grown for biofuel.

Code and Name

c1d6 Short-rotation copppice

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Land planted with fast-growing broadleaves, such as Willow *Salix spp.* and Ash *Fraxinus excelsior*, for biofuel harvesting on a short rotation – normally <10 years.

Code and Name

c1d7 Vineyards

Category Type

Primary Level 5

Spatial Feature Type

Area

Back to Cropland Ecosystem

Definition

Land planted with grape vines.

Code and Name

c1d8 Other non-cereal crops

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Non-cereal crops that do not meet the definition of c1d5, c1d6 or c1d7.

Exclusions

Soft-fruit nurseries (see c1f~).

Back to Cropland Ecosystem

Code and Name

c1e Intensive orchards

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Orchards with a ground cover that is intensively managed (treated with herbicide and heavily mown) – usually Modified grassland (see g4), and often with young tree stock and dwarf varieties.

Inclusions

The number of trees is ≥5.

Nut and Hop plantations.

Exclusions

Traditonal orchards (see 27).

Species

Between the bare ground strips controlled by herbicides, species typically include Perennial Rye-grass *Lolium perenne*, Dandelion *Taraxacum spp.*, Buttercup *Ranunculus spp.*, Nettle *Urtica dioica*, Cut-leaved Crane's-bill *Geranium dissectum*, Field Forget-me-not *Myosotis arvensis*, Germander Speedwell *Veronica chamaedrys* and Lesser Burdock *Arctium minus*.

Back to Cropland Ecosystem

Code and Name

c1f Horticulture

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Commercial horticultural land such as nurseries, soft-fruit, vegetable plots and flower beds.

Inclusions

Field vegetables, such as leeks, broccoli and cabbage.

Back to Cropland Ecosystem

Code and Name

c1f5 Annuals horticulture

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Horticulture in which the plants grown are predominantly annuals, completing their life cycle within a single growing season.

Inclusions

Food and ornamental crops.

Back to Cropland Ecosystem

Code and Name

c1f6 Perennials horticulture

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Horticulture in which the plants grown are predominantly perennials.

Inclusions

Soft-fruit bushes, such as raspberries, gooseberries, currants.

Christmas tree nurseries.

Back to Cropland Ecosystem

Code and Name

c1f7 Polyculture

Category Type

Primary Level 5

Spatial Feature Type

Area

Definition

Horticulture in which >1 species is grown at the same time and place, in imitation of the diversity of natural ecosystems. Polyculture is the opposite of monoculture, in which only members of one plant or animal species are cultivated together.

Inclusions

Allotments (see 616).

Mixed nurseries where fuit bushes grow in an intimate mix.

Back to Cropland Ecosystem

Urban

Code and Name

u Urban

Category Type

Primary Level 2

Spatial Feature Type

Area Line Point

Definition

Constructed, industrial and other artificial habitats.

Inclusions

Constructed, industrial and other artificial features in rural areas.

Exclusions

Other ecosystems within cities, towns and villages, including grasslands, woodlands, heathlands, wetlands, rivers, lakes, sparsely vegetated land and urban common land.

Back to Urban Ecosystem

Code and Name

u1 Built-up areas and gardens

Category Type

Primary Level 3

Spatial Feature Type

Area Line Point

Definition

Urban and rural settlements, farm buildings, caravan parks and other human-made built structures such as industrial estates, retail parks, waste and derelict ground, urban parkland and urban transport infrastructure.

Inclusions

Allotments (see 616).

Most gardens (see 827, 828, 829, 830).

Vertical crop production in buildings.

Cropped green roofs .

Exclusions

Mappable patches of other ecosystems that fall within built-up areas.

Back to Urban Ecosystem

Code and Name

u1b Developed land – sealed surface

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Definition

Soil surface sealed with impervious materials as a result of urban development and infrastructure construction.

Inclusions

Sealed surfaces with vegetation cover of <10% or any cover in the case of green roofs.

Back to Urban Ecosystem

Code and Name

u1b5 Buildings

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Definition

A relatively permanent enclosed construction over a plot of land. It has a roof, usually windows and often more than one level, and it is used for any of a wide variety of activities, such as living, entertaining or manufacturing.

Inclusions

Buildings with green roofs.

Back to Urban Ecosystem

Code and Name

u1b6 Other developed land

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Definition

Developed land that does not meet the definition of u1b5.

Inclusions

Roads (see 800).

Back to Urban Ecosystem

Code and Name

u1c Artificial unvegetated – unsealed surface

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Definition

Land that has no or very low (<10%) cover of vegetation through direct or indirect human activity, and the soil surface is not sealed with impervious materials.

Inclusions

Unsealed surfaces with vegetation cover <10%.

Tracks (see 839) that are mappable as area features with vegetation cover <10%.

Back to Urban Ecosystem

Code and Name

u1d Suburban mosaic of developed and natural surface

Category Type

Primary Level 4

Back to Urban Ecosystem

Spatial Feature Type

Area

Definition

Small-scale mosaic of developed and natural surfaces, as in housing and gardens in suburban areas.

Code and Name

u1e Built linear features

Category Type

Primary Level 4

Spatial Feature Type

Line

Definition

Walls, fences and surfaced paths.

Inclusions

Narrow railways, tracks or roads that are mappable as linear features because minimum mappable area is relatively large.

Back to Urban Ecosystem

Code and Name

u1f Sparsely vegetated urban land

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Definition

Urban land with vegetation cover 10–50%.

Inclusions

Abandoned or derelict land, usually constructed permeable but can be impermeable where succession is taking place.

Open Mosaic Habitats of Previously Developed Land (see 80) will normally have some areas of this habitat.

Back to Urban Ecosystem

Sparsely Vegetated Land

Code and Name

s Sparsely vegetated land

Category Type

Primary Level 2

Spatial Feature Type

Area Line

Definition

Unvegetated, disturbed (regularly or drastically periodically) or sparsely vegetated habitats (permanently or periodically naturally unvegetated areas) that are inhabited by stress-tolerating vegetation with cover <50%.

Inclusions

Sparsely vegetated natural or extracted rock or soil surfaces. Includes inland rock, supralittoral rock (sea-cliffs) supralittoral sediment (mud, sand and shingle) and coastal habitats (including dunes).

Exclusions

Sparsely vegetated constructed surfaces (see u1f).

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1 Inland rock

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Natural and artificial exposed rock surfaces that are mappable, such as inland cliffs, caves,screes and limestone pavements, as well as various forms of excavations and waste tips, such as quarries and quarry waste.

Inclusions

Plant communities that colonise the cracks and fissures of rock faces.

Certain types of tall herb and fern vegetation that, as a result of grazing, are much reduced in extent and confined to areas inaccessible to grazing, such as cliff faces and ledges.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a Inland rock outcrop and scree habitats

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Natural cliffs and screes on a wide range of rock types, varying from acidic to highly calcareous.

Landscape and ecological context

Occurs throughout the uplands and is particularly characteristic of high altitudes, but it is also found at low altitudes, notably in northern Scotland.

Inclusions

Mountain summit boulder fields (see 513).

Exclusions

Coastal cliff and ledge habitats (see s2a).

Active and disused quarries (see 85, 836, 837, 838).

Species

Natural rock exposures support a wide range of communities. Screes are typically dominated by Parsley Fern *Cryptogramma crispa* and other ferns, lichens and bryophytes. On cliff ledges, tall herbs such as Roseroot *Rhodiola rosea* and Wild Angelica *Angelica sylvestris* are generally abundant. Chasmophytic vegetation (in rock crevices) is usually dominated by ferns such as Green Spleenwort *Asplenium viride* and small herbs such as Wild Thyme *Thymus drucei* and Saxifrages *Saxifraga spp.*. Bryophytes and lichens also occur in crevices but are able to flourish on the open rock surfaces where there is a lack of competition from vascular plants.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a5 Acidic scree (H8110)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Scree habitats consist of rock fragments that cover the frost-shattered summits of mountains or accumulate on the slopes below cliffs. Acidic screes are made up of siliceous rocks such as quartzite, granite and sandstone.

Synonyms

Annex 1: H8110 Siliceous scree of the montane to snow levels.

Species

Typically include Sheep's Fescue *Festuca ovina*, Fir Clubmoss *Huperzia selago* and Bilberry *Vaccinium myrtillus* around habitat fringes. Woolly Fringe Moss *Racometrium lanuginosum* is extensive in the northwest Highlands.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: U18, U21.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a6 Base-rich scree (H8120)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Scree habitats consist of rock fragments that cover the frost-shattered summits of mountains or accumulate on slopes below cliffs. Calcareous and calcshist screes consist of base-rich rocks, including limestone, calcareous-schists and the more basic igneous rocks.

Synonyms

Annex 1: H8120 Calcareous and calcschist screes of the montane to alpine levels.

Species

Typically include Purple Saxifrage *Saxifraga oppositifolia*, Holly-fern *Polystichum lonchitis* and Alpine Meadow-grass *Poa alpina*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a7 Plants in crevices in base-rich rocks (H8210)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

Vegetation of limestone cliff fissures.

Synonyms

Annex 1: H8210 Calcareous rocky slopes and crevices (with chasmophytic vegetation).

Species

Characterised by bryophytes such as *Tortella tortuosa*, *Anoectangium aestivum* and *Ctenidium molluscum*. Associated vascular plants include Brittle Bladder-fern *Cystopteris fragilis*, Green Spleenwort *Asplenium viride* and Glaucous Meadow-grass *Poa glauca*. Flora also includes arctic alpines such as Alpine Woodsia *Woodsia alpina* and Tufted Saxifrage *Saxifraga cespitosa*, and Birdsfoot Sedge *Carex ornithopoda* in northern England.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a8 Plants in crevices in acid rocks (H8220)

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Annex 1 Subset of Priority Habitat

Definition

Chasmophytic vegetation consists of plant communities that colonise the cracks and fissures of rock faces. The type of plant community that develops is largely determined by the base-status of the rock face. Siliceous communities develop on acid rocks and are more common than s1a7 communities.

Synonyms

Annex 1: H8220 Siliceous rocky slopes with chasmophytic vegetation.

Species

Typically comprises mixtures of bryophytes such as *Amphidium mougeotii* and *Racomitrium spp.*, and vascular plants such as Wavy Hair-grass *Avenella flexuosa* and Fir Clubmoss *Huperzia selago*. Locations in northern Scotland also include Alpine Speedwell *Veronica alpina* and Highland Cudweed *Omalotheca norvegica*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1a9 Tall herb communities (H6430)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Wet and nitrophilous tall-herb edge-communities, along watercoursesand woodland borders in montane areas where they are mainly found on ungrazed mountain ledges, extending out in very lightly grazed situations.

Landscape and ecological context

Restricted to base-rich substrates and somewhat sheltered situations. This is one of the few near-natural habitats remaining in Britain and frequently occurs in intimate mosaics with other Habitats Directive Annex 1 habitat types (e.g. g3b5 Mountain hay meadows and h1c6 Mountain willow scrub) in these ungrazed, or very lightly grazed, situations. It provides a refuge for rare, grazing-sensitive, montane plants.

Synonyms

Annex 1: H6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels.

Exclusions

Closely related vegetation types, such as the hay meadows of the Pennines (see g3b5).

Species

Characteristically include Meadowsweet *Filipendula ulmaria*, Roseroot *Rhodiola rosea*, Wood Cranesbill *Geranium sylvaticum*, Great Woodrush *Luzula sylvatica*, Water Avens *Geum rivale* and Globe-flower *Trollius europaeus*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: U17.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1b Limestone pavement

Category Type

Primary Level 4

Spatial Feature Type

Area Point

Status

Priority Habitat

Definition

Outcrops of rock that are 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 'Limestone pavements (H8240)' (see s1b5).

Landscape and ecological context

A scarce and non-renewable resource. Limestone pavements were exposed by the scouring action of ice sheets during the ice age that ended some 10,000 years ago. Limestone pavements are of both geological and biological importance. The vegetation is rich in vascular plants, bryophytes and lichens, and it varies 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.

Species

Complex and rich vegetation mosaic of different communities. The fissures contain shade-tolerant vascular plants such as Herb Robert *Geranium robertianum* and Rustyback *Ceterach officinarum* as well as herbaceous species typical of calcareous woodland such as Hart's Tongue *Asplenium scolopendrium*. The small pockets of soil are occupied by grassland or heath and shrub vegetation.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1b5 Limestone pavements (H8240)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Outcrops of limestone rock that are 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.

Landscape and ecological context

See s1b.

Synonyms

Annex 1: H8240 Limestone pavement.

Species

See s1b.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1c Calaminarian grasslands

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

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.

Landscape and ecological context

Associated with outcrops of serpentine and river gravels that are 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.

Species

Open-structured ruderal or metallophyte species of lichens, bryophytes and vascular plants, such as Spring Sandwort *Sabulina verna*, Alpine Pennycress *Thlaspi arvense* and genetically adapted races of species such as Thrift *Armeria maritima* and Bladder Campion *Silene vulgaris*. Notable species include Forked Spleenwort *Asplenium septentrionale*, *Ditrichum cornubicum*, *Marsupella profunda*, *Cephaloziella nicholsonii* and *Ditrichum plumbicola*. In northern parts of the UK, there are local populations of boreal species that characterise these habitat conditions in Scandinavia, such as Scottish Sandwort *Arenaria norvegica* and the endemic Shetland Mouse-ear *Cerastium nigrescens*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1c5 Grasslands on soils rich in heavy metals (H6130)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Generally open natural or semi-natural grassland that is:

1. on natural rock outcrops, rich in heavy metals (e.g. zinc, lead);

2. on river gravels and shingles; or

3. on old terrils or spoil heaps around mines.

Synonyms

Annex 1: H6130 Calaminarian grasslands of the Violetalia Calaminariae.

Species

These open grasslands are characterised by a highly specialised flora, with subspecies and ecotypes adapted to tolerate high concentrations of heavy metals in soils. The vegetation is typically species-poor but contains a number of species principally found in this habitat, most notably Spring Sandwort *Sabulina verna* and Alpine Penny-cress *Noccaea caerulescens*. There is a genetically-adapted range of other species, such as Sheep's Fescue *Festuca ovina*, Bladder Campion *Silene vulgaris*, Sea Campion *Silene uniflora* and Thrift *Armeria maritima*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s1d Other inland rock and scree

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Definition

Inland rock habitats not meeting the definition of s1a, s1b or s1c, such as active or disused quarries and mineral extraction sites with low vegetation cover.

Exclusions

Unsealed surfaces, disturbed by humans or machines, with no or very low (<10%) vegetation cover (see u1c, u1e).

Sparsely vegetated constructed surfaces such as concrete or ballast (see u1f).

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Code and Name

s2 Supralittoral Rock

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

The region of rocky shore, including cliffs and slopes, that is immediately above the highest water level and subject to wetting by spray or wave splash (also called the 'splash zone'). Features that may be present include vertical rock, boulders, gullies, ledges and pools, depending on the wave exposure of the site and its geology.

Landscape and ecological context

Widespread around the UK coastline.

Species

The habitat supports salt-tolerant species, characterised by green algae *Enteromorpha spp*. and *Cladophora* spp., yellow and grey lichens. e.g. *Caloplaca marina*, *Xanthoria parietina* and *Lecanora spp*, littorinid molluscs and acarid mites.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s2a Maritime cliffs and slopes

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

The junction between land and sea where a break in slope is formed by slippage or erosion by the sea. On the seaward side, the habitat extends to the limit of the supralittoral zone and so includes the splash zone lichens. On the landward side, the habitat extends to the limit of saltspray influence.

Landscape and ecological context

Hard cliffs are widely distributed around the more exposed coasts of the UK, occurring principally in south-west and south-east England, in northwest and south-west Wales, in western and northern Scotland and on the north coast of Northern Ireland. Soft cliffs are more restricted, occurring mainly on the east and central south coasts of England and in Cardigan Bay and north-west Wales. There are also examples on the coasts of Fife and Skye in Scotland and Antrim in Northern Ireland.

Inclusions

Dense scrub within the maritime cliffs and slopes zone.

Exclusions

Heathland on maritime cliffs and slopes (see 71).

Soft cliff slopes that erode quickly, such as many coastline stretches between the Thames and Humber estuaries.

Species

Exposure to wind and salt spray is a key determinant of vegetation type, as is the geology of the cliff or slope.

Vegetated cliff species include Sea Campion *Silene uniflora*, Thrift *Armeria maritima*, Rock Samphire *Crithmum maritimum*, Buck's Horn Plantain *Plantago maritima*, a high frequency of Red Fescue *Festuca rubra ssp. pruinosa* (the densely salt-tolerant ecotype), and Creeping Bent *Agrostis stolonifera* – perhaps also Maidenhair Fern *Adiantum capillus-veneris*.

Lichen-dominated cliffs support yellow and grey lichens. The habitat also provides an important breeding ground for a range of seabirds.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s2a5 Vegetated sea cliffs (H1230)

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Annex 1 Subset of Priority Habitat

Definition

Vegetated sea cliffs are steep slopes fringing hard or soft coasts. They were created by past or present marine erosion and support a wide diversity of vegetation types with variable maritime influence.

Landscape and ecological context

Exposure to the sea is a key determinant of sea cliff vegetation type. In the UK, exposure is greatest on the southwest and northern coasts. The long fetch associated with these coasts generates high waves and swell, and the prevailing winds help deliver salt spray to the cliff face and clifftops. However, the degree to which this affects the salinity of clifftop vegetation also depends on the amount of rainfall, with high rainfall areas, such as northwest Scotland, being less saline or maritime than drier areas, such as southeast England. Exposure is another important factor.

The most exposed areas support maritime vegetation dominated by a range of salt-tolerant plants. More sheltered cliffs support communities closely related to those found on similar substrates inland, such as grassland and heath, with only a minor maritime element in the flora. In northern Scotland, species may include Scottish Primrose *Primula scotica*, whereas in southern areas, heath species such as Heather *Calluna vulgaris* and Spring Squill *Scilla verna* may be more prevalent.

Synonyms

Annex 1: H1230 Vegetated sea cliffs of the Atlantic coast.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s2a6 Soft rock sea cliffs

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Definition

Sea cliffs of rocks that are relatively easily eroded and characterised by slumped cliff faces that gradually become vegetated. They may include a range of habitat types, including grasslands, scrub and reedbed.

Species

Typically tend to be early successional but often include shrubs which rarely have time to develop into trees.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3 Supralittoral Sediment

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Sand and shingle coastal habitats that are above the highest water level and subject to wetting by regular or occasional spray or wave splash.

Inclusions

Shingles.

Pebbles.

Sand dunes.

Species

Salt-tolerant species are the characteristic colonisers of this habitat, and the species present are strongly influenced by sediment size as well as the shore's degree of wave exposure.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a Sand dunes

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Sand covered shorelines created by the action of wind and often colonised and stabilised by communities of coarse maritime grasses.

Synonyms

Coastal sand dunes.

Exclusions

Inland dunes (see g1a5).

Species

Marram *Ammophila arenaria* is the characteristic maritime grass. Characteristic vascular plants include Sea Sandwort *Honckenya peploides*, Saltwort *Salsola kali* and Sea Beet *Beta vulgaris*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a3 Humid dune slacks (H2190)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Humid depressions of dune systems.

Landscape and ecological context

Occur on calcareous sand, where the slack vegetation is similar to that of small sedge mires (mires with low-growing sedges), or on acidic dunes where the vegetation may have affinities to wet heath. Vegetation is very variable and is dependent on the characteristics of the particular dune system.

Synonyms

Annex 1: H2190 Humid dune slacks.

Species

May include Creeping Willow *Salix repens*, *Calliergon cuspidata*, *Campyllium stellatum* and Yorkshire Fog *Holcus lanatus*. Rarer species include Petalwort *Petalophyllum ralfsii*, Fen Orchid *Liparis loeselii* and Round-leaved Wintergreen *Pyrola rotundifolia*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a4 Dunes with juniper thickets (H2550)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Stands are usually very small and are intimately mixed with other Habitats Directive Annex 1 habitat types, including dune grassland and heath. There is complete range from discrete stands to more scattered and occasional individuals, which occur within habitat types defined as fixed dunes.

Synonyms

Annex 1: H2550 Coastal dunes with Juniperus spp

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a5 Embryonic shifting dunes (H2110)

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Annex 1 Subset of Priority Habitat

Definition

Coastal formations that represent the first stages of dune construction. Constituted by ripples or raised sand surfaces of the upper beach, or by a seaward fringe at the foot of the tall dunes.

Synonyms

Annex 1: H2110 Embryonic shifting dunes.

Species

Typically include Sea Rocket *Cakile maritima*, Lyme Grass *Leymus arenarius* and Sand Couch *Elymus junceiformis*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SD2, SD4, SD5.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a6 Shifting dunes with marram (H2120)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Shifting dunes along the shoreline with Marram *Ammophila arenaria* ('white dunes'), encompassing most of the vegetation of unstable dunes where there is active sand movement. Under these conditions, sand-binding Marram *Ammophila arenaria* is always a prominent feature.

Synonyms

Annex 1: H2120 Shifting dunes along the shoreline with Ammophila arenaria ['white dunes'].

Species

Where sand accretion is extremely rapid, the vegetation may consist only of Marram *Ammophila arenaria*. As rates of sand deposition decline, the marram is joined by more species, first by other specialised dune plants, then by less specialised grasses, drought-tolerant annuals and a restricted number of specialised bryophytes, such as the moss *Tortula ruralis ssp. ruraliformis*. Towards the seaward edge, salt-tolerant plants such as Sea Sandwort *Honckenya peploides* may be prominent, along with the sand-binding Sand Couch *Elymus junceiformis*.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SD6.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a7 Dune grassland (H2130)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Fixed dunes, stabilised and colonised by more or less closed perennial grasslands and abundant carpets of lichens and mosses.

Landscape and ecological context

Occurs mainly on the largest dune systems that are wide enough to allow for its development. It typically occurs inland of the shifting dunes with marram (H2120) zone (see s3a6).

Synonyms

Annex 1: H2130 Fixed coastal dunes with herbaceous vegetation 'grey dunes'.

Inclusions

Links golf courses and caravan parks with a high percentage of species that are salt tolerant where sand is the substrate.

Exclusions

Grassland on former dune systems that have been reseeded and-or soil replaces sand as the substrate to some degree (see g1a5 or g4)

Species

The herbaceous vegetation exhibits considerable variation. The most widespread type is Atlantic dune grassland, consisting of a short sward characterised by Red Fescue *Festuca rubra* and Lady's Bedstraw *Galium verum* and typically rich in calcareous substrate species. In northern Scotland, Scottish Primrose *Primula scotica* can occur. In the south, several orchid species are found, including Pyramidal Orchid *Anacamptis pyramidalis*, and a rich variety of other species. In southwest England and in Wales, Wild Thyme *Thymus drucei* often dominates this type of vegetation. A taller type of dune grassland vegetation, in which Bloody Crane's-bill *Geranium sanguineum* is prominent, is particularly characteristic of northeast England. In areas with a drier and more continental climate, such as Norfolk, and where the substrate is more acidic, the fixed dune vegetation is rich in lichens.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SD7, SD8, Sd9b, SD11, SD12 (SD9a).

[Back to Sparsely Vegetated Land Ecosystem]

Code and Name

s3a8 Lime-deficient dune heathland with crowberry (H2140)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Decalcified fixed dunes with Crowberry *Empetrum nigrum* represent the later, more mature, stages of the well-marked successional sequence characteristic of sand dunes.

Landscape and ecological context

Found only in northeast Scotland in wet, base-poor conditions, where they occur within mosaics and may be particularly hard to differentiate from s3a9, which is also a type of dune heath.

Synonyms

Annex 1: H2140 Decalcified fixed dunes with Empetrum nigrum.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: H11b.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3a9 Coastal dune heathland (H2150)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Like s3a8, this habitat type occurs on mature, stable dunes where the initial calcium carbonate content of the dune sand is low, so the dunes become quite acidic.

Landscape and ecological context

More widespread than s3a8 as it is found at a few sites around the coast of the UK, but where found with s3a8, it may form part of a continuous mosaic of dune heath habitats.

Synonyms

Annex 1: H2150 Atlantic decalcified fixed dunes.

Species

Characteristically include Heather *Calluna vulgaris* and Sand Sedge *Carex arenaria* in the east and Bell Heather *Erica cinerea* in the west.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: H11d, H11a, H11c.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3b Coastal vegetated shingle

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Vegetated shingle beaches above the reach of storm waves.

Landscape and ecological context

Shingle is defined as sediment with particle sizes in the range of 2–200 mm. It is a globally restricted coastal sediment type with few occurrences outside northwest Europe, Japan and New Zealand. Shingle beaches are widely distributed round the coast of the UK, where they develop in high energy environments. In England and Wales, it is estimated that 30% of the coastline is fringed by shingle. However, most of this length consists of simple fringing beaches, within the reach of storm waves, where the shingle remains mobile and vegetation is restricted to temporary and mobile strandline communities.

Species

Halophytes and species tolerant of maritime exposure, as well as other more wide-ranging species, such as Curled Dock *Rumex crispus*, Sea-kale *Crambe maritima*, Sea-poppy *Glaucium flavum*, Sea-campion *Silene uniflora*, Sea-beet *Beta vulgaris*, Sea-pea *Lathyrus japonicus* and Bristly Ox-tongue *Helminthotheca echioides*.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3b5 Perennial vegetation on coastal shingle (H1220)

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Annex 1 Subset of Priority Habitat

Definition

Perennial vegetation of the upper beaches of great shingle banks, formed by Sea-kale *Crambe maritima*, Sea Sandwort *Honckenya peploides* and other perennial species.

Landscape and ecological context

A wide range of vegetation types may be found on large shingle structures inland of the upper beach. On more mature, stable shingle forms of grassland, heath and scrub vegetation may develop. Some areas of unusual vegetation dominated by lichens and bryophytes are found on more mature shingle.

Synonyms

Annex 1: H1220 Perennial vegetation of shingle banks.

Back to Sparsely Vegetated Land Ecosystem

Code and Name

s3b6 Annual vegetation of drift lines (H1210)

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Annex 1 Subset of Priority Habitat

Definition

Formations of annuals, or representatives of annuals and perennials, that occupy accumulations of drift material and gravel and are rich in nitrogenous organic matter.

Synonyms

Annex 1: H1210 Annual vegetation of drift lines.

Back to Sparsely Vegetated Land Ecosystem

Rivers and Lakes

Code and Name

r Rivers and lakes

Category Type

Primary Level 2

Spatial Feature Type

Area Line

Back to Rivers and Lakes Ecosystem

Definition

Inland surface waters (freshwater ecosystems).

Code and Name

r1 Standing open water and canals

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Natural systems such as lakes, meres and pools, as well as human-made waters such as reservoirs, canals, drainage ditches, ponds and gravel pits.

Landscape and ecological context

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: oligotrophic (nutrient-poor), eutrophic (nutrient-rich) and mesotrophic (intermediate). These types exist along an environmental gradient and intermediate types occur. Other types of standing water include dystrophic (highly acidic, peat-stained water), marl lakes, brackish-water lakes, turloughs and other temporary water bodies.

Inclusions

The open water zone (which may contain submerged, free-floating or floating-leaved vegetation).

Water-fringe inundation vegetation.

Ditches with open water for at least the majority of the year with limited flow, often with water control structures such as sluices.

Exclusions

Coastal saline lagoons (see t2g5).

Marginal emergent vegetation that is >5 m wide.

Mappable adjacent wetland or wet woodland habitat.

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Code and Name

r1a Eutrophic standing waters

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Water bodies ≥2 ha that are highly productive because plant nutrients are plentiful, either naturally or as a result of artificial enrichment. They are characterised by algal blooms and dark anaerobic mud and are rich in organic matter.

Landscape and ecological context

Most typical in hard water areas of the lowlands of southern and eastern Britain, but they also occur in the north and west, especially near the coast.

Inclusions

Natural and artificial lakes (see 43).

Reservoirs (see 45).

Flooded gravel pits.

Exclusions

Ponds (see 40, 41, 42).

Brackish waters.

Species

In naturally enriched water bodies, typically include Common Reed *Phragmites australis* or Bulrush *Typha spp.*, and beds of floating-leaved species such as Yellow Water-lily *Nuphar lutea*. Submerged species may include Fennel-leaved Pondweed *Potamogeton pectinatus* and Spiked Water-milfoil *Myriophyllum spicatum*. Plants indicative of artificially enriched eutrophic habitats include species of Pondweeds *Potamogeton spp.* (e.g. *Potamogeton crispus*), *Stoneworts Chara spp.*, Duckweeds *Lemna spp.* and Water Starworts *Callitriche spp.*. In their natural state, eutrophic waters have high biodiversity. Planktonic algae and zooplankton are abundant in the water column, submerged vegetation is diverse and numerous species of invertebrate and fish are present. Plant assemblages differ according to geographical area and nutrient concentration, but Fennel-leaved Pondweed *Potamogeton pectinatus* and Spiked Water-milfoil *Myriophyllum spicatum* are characteristic throughout the UK.

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Code and Name

r1a5 Naturally nutrient-rich lakes or lochs (H3150)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Lakes with mostly dirty grey to blue-green, more or less turbid, waters that are particularly rich in dissolved bases (pH usually >7).

Landscape and ecological context

Have moderately high background nutrient levels, resulting in higher natural productivity than other lakes, and they are typically species-rich. They are typically found within catchments with sedimentary rocks in unglaciated south and east lowlands, such as the Norfolk and Suffolk Broads, as well as the Shropshire and Cheshire meres. However, there are scattered sites across England, Wales, Scotland and Northern Ireland.

Synonyms

Annex 1: H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation.

Species

Typically include Pondweeds *Potamogeton spp.*, Spiked Water-milfoil *Myriophyllum spicatum*, Yellow Water-lily *Nuphar lutea* and occasionally associations of Stoneworts *Chara spp*.

Back to Rivers and Lakes Ecosystem

Code and Name

r1a6 Other eutrophic standing waters

Category Type

Primary Level 5

Spatial Feature Type

Area Line Point

Status

Subset of Priority Habitat

Definition

Eutrophic standing waters >2ha that meet the definition of r1a but do not meet the definition of r1a5.

Inclusions

Ornamental lakes.

Flooded gravel pits.

Back to Rivers and Lakes Ecosystem

Code and Name

r1b Mesotrophic lakes

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Lakes in the middle of the trophic range that are characterised by having a narrow range of nutrients, the main indicative ones being inorganic nitrogen (N) and total phosphorus (P).

Landscape and ecological context

Relatively infrequent in the UK and largely confined to the margins of upland areas in the north and west. Typically, mesotrophic lakes have nutrient levels of 0.3–0.65 mgNl-1 and 0.01–0.03 mgPl-1.

While such levels simplify the complex interaction between plant nutrients and the hydrological and physical characteristics of individual lakes (for instance, virtually all available nutrients are 'locked up' in algae during the growing season), they serve to show the sensitivity of the trophic state to artificially increased levels of nitrogen and phosphorus. Thus, this is an increasingly rare type of lake.

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Code and Name

r1b5 Calcium-rich nutrient-poor lakes lochs and pools (H3140)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Hard-water, low-nutrient systems whose ecology is driven by dense lawns of Stoneworts *Chara spp.* that usually cover muddy marl (calcium carbonate) deposits. They are characterised by a high pH and very clear water.

Synonyms

Chara Lakes.

Annex 1: H3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.

Back to Rivers and Lakes Ecosystem

Code and Name

r1c Oligotrophic and dystrophic lakes

Category Type

Primary Level 4

Spatial Feature Type

Area Point

Status

Priority Habitat

Definition

Water bodies that are mainly >2 ha in size and characterised by their low nutrient levels and low productivity.

Landscape and ecological context

Their catchments usually occur on hard acid rocks, most often in the uplands. This habitat type encompasses a wide range of sizes and depths, and includes the largest and deepest water bodies in the UK. Oligotrophic lakes usually have very clear water, while some examples with dystrophic characteristics have peat-stained waters. Good examples may support some of the least disturbed aquatic assemblages in the UK.

Species

Characteristic plankton, zoobenthos, macrophyte and fish communities occur, including several restricted species and species of economic importance. Fish communities, generally dominated by salmonids, may include Arctic Charr *Salvelinus alpinus* and Salmon *Coregonus spp.*. A number of benthic and planktonic invertebrates, found only in oligotrophic lakes, are possibly glacial relicts. Macrophytes are typically sparse, with species such as Shoreweed *Littorella uniflora* and Quillwort *Isoetes spp.* Shores are typically stony, and emergent vegetation is generally restricted to sheltered bays, where species such as Bottle Sedge *Carex rostrata* and Common Club-rush *Schoenoplectus lacustris* may be found.

Back to Rivers and Lakes Ecosystem

Code and Name

r1c5 Clear-water lakes or lochs with aquatic vegetation (H3130)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Aquatic to amphibious short perennial vegetation, oligotrophic to mesotrophic, of lake, pond and pool banks and water–land interfaces.

Synonyms

Annex 1: H3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or the Isoeto-Nanojuncetea.

Species

The clear soft water that characterises this habitat type contains low to moderate levels of plant nutrients and supports a characteristic assemblage of plant species.

The vegetation community is characterised by amphibious, short, perennial vegetation, with Shoreweed *Littorella uniflora* considered the defining component. This species often occurs in association with Water Lobelia *Lobelia dortmanna*, Bog Pondweed *Potamogeton polygonifolius*, Quillwort *Isoetes lacustris*, Bulbous Rush *Juncus bulbosus*, Needle Spike-rush *Eleocharis acicularis*, Alternate Water Milfoil *Myriophyllum alterniflorum* and Floating Water Bur-reed *Sparganium angustifolium*.

Yellow Water-lily *Nuphar lutea*, Amphibious Bistort *Persicaria amphibia*, Stoneworts *Chara spp.*, Least Bur-reed *Sparganium natans* and other Pondweeds *Potamogeton spp.* may be present in more mesotrophic conditions.

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Code and Name

r1c6 Nutrient-poor shallow waters with aquatic vegetation on sand (H3110)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Shallow oligotrophic, base-poor waters with few minerals, with an aquatic to amphibious low perennial vegetation, on oligotrophic and sometimes peaty soils of lake and pond banks.

Synonyms

Annex 1: H3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletea uniflorae).

Species

This vegetation consists of one or more zones, dominated by Shoreweed *Littorella uniflora*, Water Lobelia *Lobelia dortmanna* or Quillworts *Isoetes spp.*.

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Code and Name

r1c7 Acid peat-stained lakes and ponds (H3160)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

May include isolated seasonal pools, random collections of irregularly-shaped more-or-less permanent waters, and ordered linear or concentric arrays of pools and small lochs. These water bodies are very acidic and poor in plant nutrients. Their water has a high humic acid content and is usually stained dark brown through exposure to peat. Most examples are small (<5 ha in extent), shallow and contain a limited range of flora and fauna.

Synonyms

Annex 1: H3160 Natural dystrophic lakes and ponds Dubh lochans (northern Scotland).

Inclusions

Sites on blanket bogs.

Back to Rivers and Lakes Ecosystem

Code and Name

r1d Aquifer-fed naturally fluctuating water bodies

Category Type

Primary Level 4

Spatial Feature Type

Area Point

Status

Priority Habitat

Definition

Natural water bodies that have an intrinsic regime of extreme fluctuation in water level, with periods of complete or almost-complete drying out as part of the natural cycle. They have no inflow or outflow streams at the surface, except at times of very high water level, when temporary out-flows may develop. Instead, they are directly connected to the underlying groundwater system, and periodically empty and are recharged via swallow holes or smaller openings in their beds.

Landscape and ecological context

There are two known variants of the habitat in the UK: turloughs, found over Carboniferous limestone in Northern Ireland and Wales, and fluctuating meres, which occur over chalk in the Norfolk Breckland.

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Code and Name

r1d5 Turlough (H3180)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Turloughs are seasonally-flooded lakes in karstic limestone areas. They are principally filled by subterranean waters via ephemeral springs or estavelles and drain back into the groundwater table via swallets or estavelles – they have no natural surface outlet.

Landscape and ecological context

Most examples flood in autumn and then drain between April and July, leaving a dry floor (apart from residual pools). However, some may flood at any time of year after rainfall and drain again in a few days.

Their maximum water depth is ≥0.5 m, up to several metres. The water is calcium-rich and the nutrient status ranges from ultra-oligotrophic to eutrophic.

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Code and Name

r1d6 Fluctuating meres

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Subset of Priority Habitat

Definition

Natural water bodies over chalk with an intrinsic regime of extreme fluctuation in water level.

Landscape and ecological context

Occur over chalk in the Norfolk Breckland. They do not have a regular annual rhythm of emptying and recharge. Instead, there is a complex pattern of drying out and refilling, sometimes with a stretch of several years.

During this time a mere may remain dry, followed by a prolonged period when water is constantly present, although its depth may vary from a few centimetres to 6 metres. The response to groundwater fluctuations in meres is highly lagged, with each mere having an individual periodicity.

Synonyms

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Code and Name

r1d7 Blow wells

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Subset of Priority Habitat

Definition

Natural water bodies formed by artesian springs on coastal plains.

Landscape and ecological context

Found on the Lincolnshire marshes, where groundwater arising from the chalk aquifer of the Lincolnshire Wolds rises through the overlying clays.

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Code and Name

r1e Canals

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

An artificial watercourse for inland navigation or irrigation.

Exclusions

Towpaths.

Other land between the canalside and the nearest field boundary.

Species

Pondweeds *Potamogeton spp.*, Unbranched Bur-reed *Sparganium emersum*, Arrowhead *Sagittaria sagittifolia*, Canadian Waterweed *Elodea canadensis*, Nutall's Waterweed *Elodea nuttallii*, Rigid Hornwort *Ceratophyllum demersum*, Common Duckweed *Lemna minor* and Ivy-leaved Duckweed *Lemna trisulca* are all widespread.

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Code and Name

r1f Temporary water bodies

Category Type

Primary Level 4

Spatial Feature Type

Area Point

Definition

Water bodies containing water normally for <6 months each year.

Exclusions

Aquifer-fed, naturally fluctuating water bodies (see r1d~).

Ditches (see r1g, 50).

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Code and Name

r1f5 Mediterranean temporary ponds (H3170)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Very shallow ponds (a few centimetres deep) that are isolated from permanent water bodies, undergo a periodic cycle of flooding and drought, and have a characteristic flora and fauna adapted to this alternation.

Landscape and ecological context

Restricted in the UK to the Lizard peninsula in Cornwall.

Species

Most species characteristic of this habitat across Europe are not part of the UK flora.

Back to Rivers and Lakes Ecosystem

Code and Name

r1f6 Other temporary ponds and scrapes

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Definition

Water bodies containing water normally for <6 months each year that are not Mediterranean temporary ponds (see r1f5).

Inclusions

Scrapes artificially created for biodiversity enhancement.

Deep rutted tracks that have predictable temporary water in them e.g. tank tracks on Salisbury Plain.

Exclusions

Aquifer-fed, naturally fluctuating water bodies (see r1d~).

Ditches (see r1g, 50).

Back to Rivers and Lakes Ecosystem

Code and Name

r1g Other standing water

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Definition

Standing water that is not r1a, r1b, r1c, r1d, r1e or r1f. See Inclusions and Exclusions sections for details.

Inclusions

Lakes (see 43, 44) that are not Priority Habitat (see r1a, r1b, r1c).

Most ponds (see 40, 41, 42) that may or may not be Priority Habitat.

Drainage ditches that are likely to retain water for >4 months a year in fenland or on levels (see 50).

Exclusions

Water bodies <2 ha that are therefore technically ponds, rather than lakes, but otherwise fit the definition of mesotrophic lakes (see r1b) or oligotrophic and dystrophic lakes (see r1c).

Dry ditches (see 50).

Ditches that are part of the structure of a hedgerow or line of trees and within 2 m of it (see 50).

Back to Rivers and Lakes Ecosystem

Code and Name

r2 Rivers and streams

Category Type

Primary Level 3

Spatial Feature Type

Area Line

Definition

Rivers and streams from bank top to bank top. Where there are no distinctive banks or banks are never overtopped, it includes the extent of the mean annual flood.

Inclusions

The open channel (which may contain submerged, free-floating or floating-leaved vegetation).

Inundated water fringe vegetation.

Exposed sediments and shingle banks.

Exclusions

Adjacent wetland habitats.

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Code and Name

r2a Rivers (priority habitat)

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat Annex 1

Definition

To qualify as a Priority Habitat River, one or more of these criteria must be met (Maddock et al., 2011):

1. Riverine water bodies of high hydromorphological or ecological status.
2. Headwaters (see 306). A watercourse within 2.5 km of its furthest source, as marked with a blue line on Ordnance Survey (OS) maps at a scale of 1:50,000. Note that each tributary of a river will have its own headwater, so there will be >1 per catchment. Headwaters that have been significantly altered from their natural state are, however, not included.
3. Occurrence of rivers with floating vegetation (H3260) (see r2a5). The definition will include, but not be confined to, all river Special Areas of Conservation (SACs) designated for the feature.
4. Chalk rivers (see 51).
5. Active shingle rivers (see 308).
6. A/SSSIs (Areas/Sites of Special Scientific Interest) designated for river species, riverine features or fluvial geomorphology.
7. Contains species including:
   i. Habitats Directive Annex 2 species;
   ii. Biodiversity Action Plan (BAP) priority species;
   iii. Invertebrate species that are strongly indicative of river shingle.

Inclusions

In England, the statutory agencies (Mainstone, Hall and Diack, 2016) have defined naturally functioning freshwater habitats as those with:

1. water chemistry that is not impacted by pollution;
2. natural morphology and dynamic physical processes shaping habitat mosaics;
3. a natural hydrological regime not impacted by abstraction, diversion, effluent discharge, drainage and impoundments;
4. natural biological assemblages with a lack of invasive non-native species or other direct biological manipulations such as fish species removals and stocking.

The relationship between online England Priority Habitat Rivers maps, including some evaluated on this basis and those of chalk rivers, and the definition of Priority Habitat Rivers (Maddock et al, 2011) is currently unclear.

In Scotland, the statutory agency approach remains based on the original Priority Habitat Rivers definition (Maddock et al, 2011).

Exclusions

- Headwaters that have been significantly altered from their natural state.
- Canals.
- Drainage rivers (see r2b) and ditches (see 50).

Species

Presence of one or more of the following vascular plant species confirms the river as a Priority Habitat River: Coral-necklace *Illecebrum verticillatum*, Floating Water-plantain *Luronium natans*, Grass-wrack Pondweed *Potamogeton compressus* and Triangular Club-rush *Schoenoplectus triqueter*. Twelve bryophytes and four lichens also each act as individual qualifying species. Presence of Tubular Water-dropwort *Oenanthe fistulosa*, Greater Water Parsnip *Sium latifolium* and Marsh Stitchwort *Stellaria palustris* can contribute to a mixed flora and fauna score. The full list of qualifying species for criterion 7 can be found in Maddock et al. (2011).

Back to Rivers and Lakes Ecosystem

Code and Name

r2a5 Rivers with floating vegetation (H3260)

Category Type

Primary Level 5

Spatial Feature Type

Area Line

Status

Annex 1 Subset of Priority Habitat

Definition

Characterised by the abundance of Water-crowfoots *Ranunculus spp.*, subgenus *Batrachium* (River Water-crowfoot *Ranunculus fluitans*, Stream Water-crowfoot *Ranunculus penicillatus ssp. penicillatus*, *Ranunculus penicillatus ssp. pseudofluitans,* and Pond Water-crowfoot *Ranunculus peltatus* and its hybrids). Floating mats of these white-flowered species are characteristic of river channels in early to mid-summer.

Synonyms

Annex 1: H3260 Mesotrophic vegetation of slow-flowing rivers.

Species

There are several variants of this habitat in the UK, depending on geology and river type. In each, Ranunculus species are associated with a different assemblage of other aquatic plants, such as Water-cress *Nasturtium officinale*, Water-starworts *Callitriche spp.*, Water-parsnips *Sium latifolium* and *Berula erecta*, Water-milfoils *Myriophyllum spp.* and Water Forget-me-not *Myosotis scorpioides*. In some rivers, the coverage of these other species may exceed that of *Ranunculus* species.

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Code and Name

r2a6 Other priority habitat rivers

Category Type

Primary Level 5

Back to Rivers and Lakes Ecosystem

Spatial Feature Type

Area Line

Status

Subset of Priority Habitat

Definition

Priority Habitat Rivers without floating vegetation (i.e. that do not meet the definition of r2a5).

Code and Name

r2b Other rivers and streams

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Back to Rivers and Lakes Ecosystem

Definition

Rivers and streams that do not meet the criteria for r2a.

Marine Inlets and Transitional Waters

Code and Name

t Marine inlets and transitional waters

Category Type

Primary Level 2

Spatial Feature Type

Area Line Point

Definition

Intertidal habitats on various substrates and with water of variable salinity between Mean High Water Mark and Mean Low Water Mark around the UK coast.

Exclusions

The sublittoral. The EUNIS category 'Marine inlets and transitional waters' extends into the sublittoral but UKHab V2.0 does not.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1 Littoral Rock

Category Type

Primary Level 3

Spatial Feature Type

Area Line Point

Definition

The geology and wave exposure of the shore influence the form, which can be as varied as vertical rock, shore platforms, boulder shores or rocky reefs surrounded by areas of sediment. These two factors are also major influences on the associated marine communities. Relatively soft rock, such as chalk and limestone, can support boring species whereas colonisation of basalt and granite is limited to the rock surfaces. In all cases, there is a distinct zonation of species down the shore, which principally reflects the degree of immersion and emersion by the tide.

Species

The littoral fringe is encrusted with the lichen *Verrucaria maura*, the red alga *Porphyra umbilicalis* or by sparsely distributed barnacles. If there are pools present, these are likely to be colonised by coralline crusts and the red alga *Corallina officinalis*. The eulittoral (mid-shore) zone is usually dominated by mussels *Mytilus edulis* and barnacles, while the lower shore may have a dense red algal turf. Deep pools in this zone can contain fucoids and kelps. At the sublittoral fringe, where conditions can be severe, a typical coloniser is the kelp *Alaria esculenta*, amongst a dense band of small mussels.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1a Intertidal chalk

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

The erosion of chalk exposures on the coast has resulted in the formation of vertical cliffs and gently-sloping intertidal platforms with a range of microhabitats of biological importance.

Landscape and ecological context

Coastal exposures of chalk are rare in Europe, with those occurring on the southern and eastern coasts of England accounting for the greatest proportion (57%).

Species

Supralittoral and littoral fringe chalk cliffs and sea caves support various algal communities that are unique to this soft rock type. Orange, brownish or blackish gelatinous bands of algae, composed of an assemblage of *Haptophyceae* species such as *Apistonema spp.*, *Pleurochrysis carterae* and the orange *Chrysotila lamellosa*, but other genera and species of *Chrysophyceae*, *Haptophyceae* and *Prasinophyceae* are likely to be present as well. The lower littoral fringe may be characterised by a dense mat of green algae *Enteromorpha spp.* and Sea Lettuce *Ulva lactuca*. Lower down the shore, in the eulittoral, the generally soft nature of the chalk results in the presence of characteristic flora and fauna, notably 'rock-boring' invertebrates such as piddocks, overlain by mostly algal-dominated communities (fucoids and red algal turfs).

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1b Sabellaria alveolata reefs

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Definition

Formed by the Honeycomb Worm *Sabellaria alveolata*, a polychaete that constructs tubes in tightly-packed masses with a distinctive honeycomb-like appearance. These reefs can be up to 30 cm – or even 50 cm – thick and take the form of hummocks, sheets or more massive formations.

Landscape and ecological context

Reefs are mainly found on the bottom third of the shore, but may reach mean high-water level of neap tides and extend into the shallow subtidal in places. They do not seem to penetrate far into low-salinity areas. Reefs form on a variety of hard substrata, from pebbles to bedrock, in areas with a good supply of suspended sand grains, from which the animals form their tubes. They include areas of sediment when an attachment has been established. The Honeycomb Worm *Sabellaria alveolata* larvae are strongly stimulated to settle by the presence of existing colonies or their dead remains. *Sabellaria alveolata* has a very variable recruitment, and the cover in any one area may vary greatly over a number of years, although in the long term reefs tend mainly to be found on the same shores.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1c Intertidal underboulder communities

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Status

Priority Habitat

Definition

Areas of intertidal boulders (>256 mm in diameter) that support a diverse underboulder community.

Landscape and ecological context

Found from the mid-shore down to the extreme-lower-shore. The underboulder habitat, along with fissures, crevices and any interstitial spaces between adjacent boulders, form a series of microhabitats that add greatly to the biodiversity of a shore. The presence of boulders on a shore may also lead to local modification to wave exposure, current strength and levels of trapped organic matter in the surrounding area. Altering the physical environment in this way results in an enhancement to the immediate biodiversity beyond the boulders themselves.

This habitat can occur on a variety of substrata (including bedrock, mixed rock, and sediment or mud), but there needs to be a sufficient gap on the underside of the boulder to support an underboulder community. The richest underboulder communities are often found where there is running seawater (for instance, from pools or lagoons emptying after the tide has fallen).

Exclusions

Boulders with a limited underboulder community (as may occur, for example, where boulders are embedded in sediment, in low salinity conditions, or where boulders experience high levels of mobility and scour).

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1d Estuarine rocky habitats

Category Type

Primary Level 4

Spatial Feature Type

Area Line Point

Status

Priority Habitat

Definition

Encompasses rocky habitats in estuaries, extending from supralittoral lichens down to the subtidal circalittoral. Estuarine rocky habitats incorporate substrata types such as bedrock and stable boulders. Generally rias, fjords and fjards are the most relevant types of inlet for rocky estuarine habitats.

Species

Depending on the extent and heterogeneity of the substrate, there can be a wide variety of community types associated with this type of habitat. The extent of rocky habitat in estuaries can range from a narrow strip restricted to the top of the shore to littoral reef structures extending to the subtidal, particularly in rias. Similarly, the topography of estuarine rocky shores varies from flat and gently sloping to rugged reefs and large boulders with many microhabitats.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t1e Splash zone with lichens

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Status

Priority Habitat

Back to Marine and Transitional Waters Ecosystem

Definition

Cliffs and rocks of the supralittoral spray zone, mostly occupied by lichens such as *Caloplaca spp.* and *Verrucaria spp.*

Code and Name

t1f Other littoral rock

Category Type

Primary Level 4

Spatial Feature Type

Area Line

Back to Marine and Transitional Waters Ecosystem

Definition

Littoral rock that does not meet the definition of t1a, t1b, t1c, t1d or t1e.

Code and Name

t2 Littoral Sediment

Category Type

Primary Level 3

Spatial Feature Type

Area

Definition

Areas of littoral sediment are widespread around the UK, forming features such as beaches, sand banks and intertidal mudflats. A large proportion of this habitat occurs in estuaries and inlets, where it can cover extensive areas. Significant but smaller areas of littoral sediment also occur at the head of inlets and sea lochs. Beaches, which tend to be composed of sandier material, develop in more exposed situations and are also widely distributed. Sandflats are more common in northern and westerns parts of the country, and finer-grained flats are more common in southern and eastern areas. Muddy sediments usually occur in sheltered areas, especially estuaries.

Landscape and ecological context

The marine communities found in these areas vary depending on the sediment type, sediment mobility and salinity of the overlying water. Mobile gravels and sands, for example, tend to be highly impoverished, whereas sheltered areas with mixed sediments can support very rich communities. There is also zonation of species down the shore, which principally reflects the degree of immersion and emersion by the tide. In general, tidal flats are low in species diversity, but they often support very dense populations of invertebrates, so the overall biomass of the area can be extremely high.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2a Coastal saltmarsh

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Comprise the upper, vegetated portions of intertidal mudflats, lying approximately between mean high-water neap tides and mean high-water spring tides. The lower saltmarsh limit is defined as the lower limit of pioneer saltmarsh vegetation (but excluding Sea-grass *Zostera* beds) and the upper limit as 1 m above the level of highest astronomical tides, to take in transitional zones.

Synonyms

Also known as 'merse' in Scotland.

Species

Vegetation consists of a limited number of halophytic (salt-tolerant) species that are adapted to regular immersion by the tides. A natural saltmarsh system shows a clear zonation, according to the frequency of inundation. At the lowest level, the pioneer Glassworts *Salicornia spp.* can withstand immersion by as many as 600 tides per year, while transitional species of the upper marsh can only withstand occasional inundation. The communities of stabilised saltmarsh can be divided into species-poor low-mid marsh, and the more diverse communities of the mid-upper marsh. On traditionally grazed sites, saltmarsh vegetation is shorter and dominated by grasses. At the upper-tidal limits, true saltmarsh communities are replaced by driftline, swamp or transitional communities, which can only withstand occasional inundation.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2a5 Glasswort and other annuals colonising mud and sand (H1310)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Formations composed mostly or predominantly of annuals, in particular *Chenopodiaceae* of the genus *Salicornia* (Glassworts) or grasses, colonising periodically inundated muds and sands of marine or interior salt marshes. Covered by almost every high tide.

Synonyms

Annex 1: H1310 Salicornia and other annuals colonising mud and sand.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SM7-SM9, SM27.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2a6 Cord-grass swards (H1320)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Native and naturalised non-native Cord-grass species *Spartina spp.* on mudflats and sandflats.

Synonyms

Annex 1: H1320 Spartina swards [Spartinion maritimae].

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SM4-SM6.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2a7 Atlantic salt meadows (H1330)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Develop when halophytic vegetation colonises soft intertidal sediments of mud and sand in areas protected from strong wave action. This vegetation forms the middle and upper reaches of saltmarshes, where tidal inundation still occurs. Often cut by deep creeks.

Synonyms

Annex 1: H1330 Atlantic salt meadows [Glauco-Puccinellietalia maritimae].

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SM10-SM20.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2a8 Mediterranean saltmarsh scrub (H1420)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Scrubby, halophilous vegetation develops in the uppermost levels of saltmarshes, often where there is a transition from saltmarsh to dunes, or in some cases where dunes overlie shingle. The form that most closely resembles the scrub vegetation of the Mediterranean is restricted to the south and southeast of England and is formed predominantly of bushes of Shrubby Sea-blite *Suaeda vera* and Sea Purslane *Atriplex portulacoides*.

Synonyms

Annex 1: H1420 Mediterranean saltmarsh scrub.

NVC Associations

This habitat type is often, but not exclusively, associated with the following NVC communities: SM25 .

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2b Blue mussel beds on sediment

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Includes intertidal and subtidal beds of Blue Mussel *Mytilus edulis* on a variety of sediment types and in a range of conditions, from open coasts to estuaries, marine inlets and deeper offshore habitats.

Landscape and ecological context

Plays an important part of a healthy, functioning marine ecosystem. This habitat has a role in coastal sediment dynamics, acts as a food source for over-wintering waders and provides an enhanced area of biodiversity in an otherwise sediment-dominated environment.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2c Seagrass beds [Zostera noltei]

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Mid- and upper-shore, wave-sheltered, muddy fine sand or sandy mud, with Dwarf Eelgrass *Zostera noltei* at an abundance of frequent or above.

Exclusions

Seagrass beds in the sublittoral that are usually dominated by Eelgrass *Zostera marina*.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2d Intertidal mudflats

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Sedimentary intertidal habitats created by deposition in low-energy coastal environments, particularly estuaries and other sheltered areas.

Landscape and ecological context

Their sediment consists mostly of silts and clays with a high organic content. Towards the mouths of estuaries, where salinity and wave energy are higher, the proportion of sand increases. Mudflats are intimately linked by physical processes to, and may be dependent on, other coastal habitats such as soft cliffs and saltmarshes. They commonly appear in the natural sequence of habitats between subtidal channels and vegetated saltmarshes. In large estuaries, they may be several kilometres wide and commonly form the largest part of the intertidal area of estuaries. However, in many places they have been much reduced by land claim.

Species

The surface of the sediment is often apparently devoid of vegetation, although mats of benthic microalgae diatoms and euglenoids are common. Under nutrient-rich conditions, there may be mats of the macroalgae *Enteromorpha spp.* or *Ulva spp.* In areas of lowered salinity, characteristic macroinvertebrate fauna species are Common Cockle *Cerastoderma edule*, Sand-hopper *Corophium volutator*, Laver Spire Shell *Hydrobia ulvae*, Ragworm *Hediste diversicolor* and large numbers of oligochaete annelids, principally *Tubificoides spp.* With a slight increase in the proportion of sand, the polychaetes Catworm *Nephtys hombergii* and Lugworm *Arenicola marina* occur. In slightly coarser areas, Seagrass *Zostera spp.* beds may develop. Where stones and shells provide an initial attachment for byssus threads, beds of Blue Mussel *Mytilus edulis* occur and accrete material through faecal deposition. Occasional stones or shells may also provide suitable attachment for stands of fucoid macroalgae such as *Fucus vesiculosus* or *Fucus spiralis*.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2d5 Intertidal mudflats and sandflats (H1140)

Category Type

Primary Level 5

Spatial Feature Type

Area

Status

Annex 1 Subset of Priority Habitat

Definition

Sands and muds of ocean coasts, their connected seas and associated lagoons that are not covered by seawater at low tide.

Synonyms

Annex 1: H1140 Mudflats and sandflats not covered by seawater at low tide.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2e Sheltered muddy gravels

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Occur principally in estuaries, rias and sea lochs in areas protected from wave action and strong tidal streams.

Species

In fully marine conditions on the lower shore, this habitat can be extremely species-rich because the complex nature of the substratum supports a high diversity of both infauna and epifauna. However, good quality examples of this habitat are very scarce. Polychaetes and bivalve molluscs are normally dominant and the most varied, but representatives of most marine phyla can be present. The fauna is often characterised by a large range in body size. As one moves into an estuary, with a consequent reduction in salinity, there is a marked reduction in species richness. Low salinity (mid- to upper-estuarine) muddy gravels have a lower, but distinctive, species diversity.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2f Peat and clay exposures with piddocks

Category Type

Primary Level 4

Spatial Feature Type

Area

Status

Priority Habitat

Definition

Littoral or sublittoral peat and/or clay exposures that are soft enough to be bored by a variety of piddocks, particularly *Pholas dactylus*, *Barnea candida* and *Barnea parva*.

Landscape and ecological context

Peat and clay exposures with either existing or historical evidence of piddock activity are unusual communities of limited extent, adding to the biodiversity interest where they occur.

These unique and fragile habitats are irreplaceable as they arise from former lake bed sediments and ancient forested peatland (or 'submerged forests'). Depending on erosion at the site, clay and peat can occur together or independently of each other.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2g Saline lagoons

Category Type

Primary Level 4

Spatial Feature Type

Area Point

Status

Priority Habitat

Definition

Record as 'coastal saline lagoons (H1150)' (see t2g5).

Landscape and ecological context

The largest saline lagoon in the UK (Loch of Stenness) is >800 ha, although the rest are much smaller and some may be <1 ha. Saline lagoons can contain a variety of substrata, often soft sediments that in turn may support tasselweeds and stoneworts as well as filamentous green and brown algae. In addition, saline lagoons contain invertebrates rarely found elsewhere. They also provide important habitat for waterfowl, marshland birds and seabirds.

Species

The flora and invertebrate fauna present can be divided into three main components: those that are essentially freshwater in origin, those that are marine/brackish species and those that are more specialist lagoonal species. The presence of certain indigenous and specialist plants and animals make this habitat important to the UK's overall biodiversity.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2g5 Saline lagoons (H1150)

Category Type

Primary Level 5

Spatial Feature Type

Area Point

Status

Annex 1 Subset of Priority Habitat

Definition

Lagoons in the UK are essentially bodies, natural or artificial, of saline water that are partially separated from the adjacent sea. They retain a proportion of their seawater at low tide and may develop as brackish, full-saline or hyper-saline water bodies.

Landscape and ecological context

The largest saline lagoon in the UK (Loch of Stenness) is >800 ha, although the rest are much smaller and some may be <1 ha. Saline lagoons can contain a variety of substrata, often soft sediments that in turn may support tasselweeds and stoneworts as well as filamentous green and brown algae. In addition, saline lagoons contain invertebrates rarely found elsewhere. They also provide important habitat for waterfowl, marshland birds and seabirds.

Synonyms

Annex 1: H1150 Coastal lagoons.

Tidal lagoons.

Species

The flora and invertebrate fauna present can be divided into three main components: those that are essentially freshwater in origin, those that are marine/brackish species and those that are more specialist lagoonal species.

The presence of certain indigenous and specialist plants and animals make this habitat important to the UK's overall biodiversity.

Back to Marine and Transitional Waters Ecosystem

Code and Name

t2h Beach

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

Sand or pebble intertidal sediment.

Landscape and ecological context

Typically flat or gently sloping coastal sediments occuring between the mean high and mean low water marks. Sediment size can vary from fine sand to cobble-sized sediments using the Wentworth (1922) scale.

Sediment type may also vary and includes shells and shell fragments.

Exclusions

Boulder beaches, where individual rocks are typically >256mm in size and are not moved by regular tidal flows should be classified as littoral rock (see t1~).

Beaches comprising silt, clay and mud-sized particles, (see t2d and t2e).

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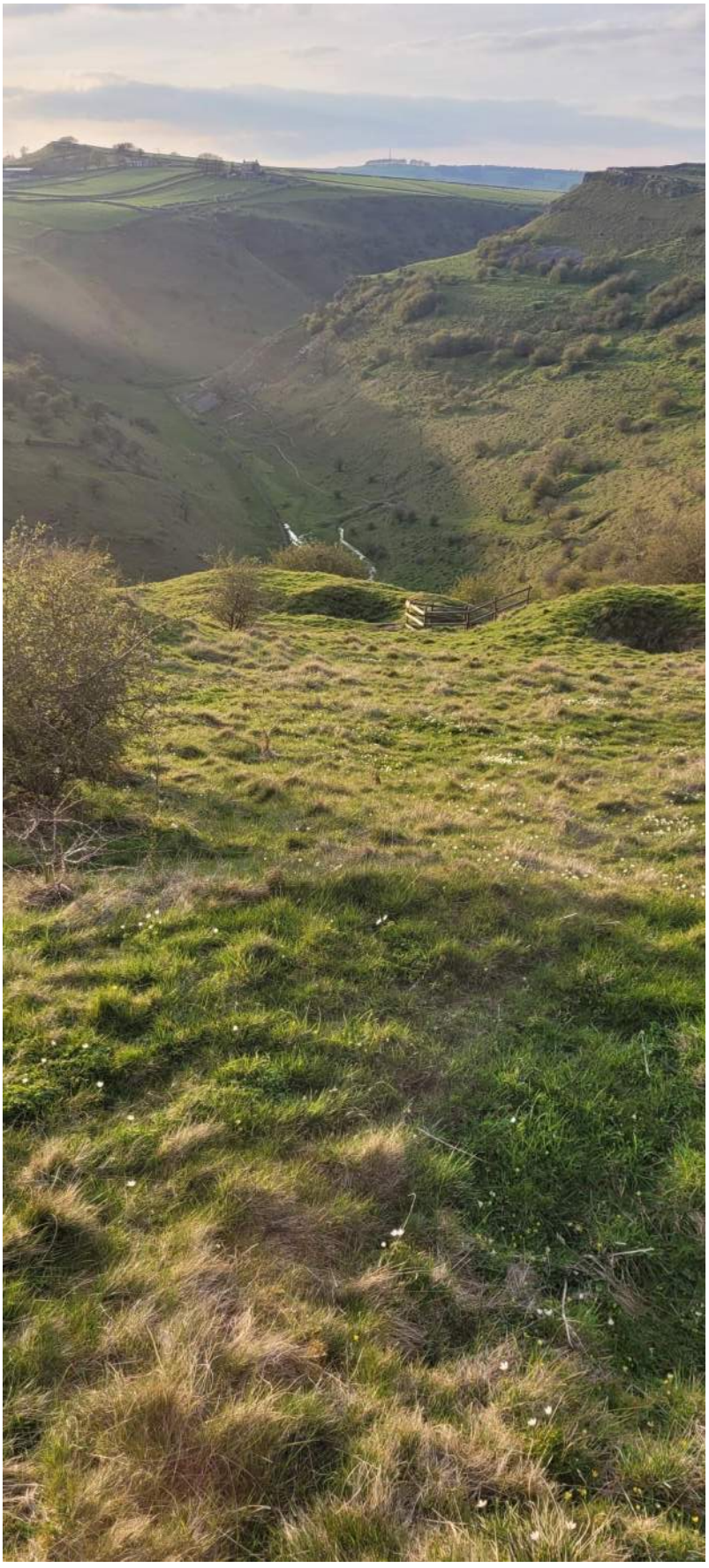

Section Three:
Essential Secondary Codes

All UK Habitat Classification Essential Secondary Codes are listed in the following section.
Essential Secondary Codes must be recorded where they are present.
Refer to Section Five for definitions for all Essential Secondary Codes.
Priority Habitats are in Bold. Annex 1 habitats are in italics and identified by Hxxxx Code

Category Type	V2.0 code	Habitat Name
Grasslands and Heathlands Essentials	10	Scattered scrub
	11	Hedgerow with trees
	12	Scattered bracken
	13	Scattered dwarf shrubs
	14	Scattered rushes
	15	Rushes dominant
	16	Tall forbs
	17	*Juniper on heaths or calcareous grasslands (H5130)*
	18	Species-rich grassland
	19	**Coastal and floodplain grazing marsh**
Woodlands and Trees Essentials	25	Temperate rainforest
	26	**Wood-pasture and parkland**
	27	**Traditional orchards**
	28	Ancient woodland site
	29	Plantation
	30	Semi-natural woodland
	31	Secondary woodland
	32	Scattered trees
	33	Line of trees
	34	Ecologically valuable line of trees
Freshwater Essentials	40	**Ponds (priority habitat)**
	41	Pond (non-priority)
	42	Pond
	43	Lake
	44	Lake (non-priority)
	45	Reservoir
	46	Ornamental lakes or ponds
	47	Freshwater – natural
	48	Freshwater – heavily modified
	49	Freshwater – artificial
	50	Ditch
	51	Chalk rivers

Category Type	V2.0 code	Habitat Name
Wetlands Essentials	55	Floodplain wetland mosaic
	56	*Depressions on peat substrates (H7150)*
	57	Peat
All habitats Essentials	60	Long continuity habitat
	61	Re-created habitat
	62	Biodiversity offset
	63	*Caves not open to the public (H8310)*
Coast Essentials	70	*Machair (H21A0)*
	71	Heathland on maritime cliffs and slopes
	72	*Dunes with creeping willow (H2170)*
	73	*Inland saltmarshes (H1340)*
	74	*Estuaries (H1130)*
	75	*Large shallow inlets and bays (H1160)*
	76	*Reefs (H1170)*
	77	*Sea caves (H8330)*
Built Environment Essentials	80	**Open mosaic habitats on previously developed land**
	81	Ruderal or ephemeral
	82	Vacant or derelict land
	83	Solar panel array
	84	Wind farm
	85	Active sand pit or quarry or open cast mine
	86	Green roof
	87	Biodiverse green roof
	88	Intensive green roof
	89	Other green roof
	90	Cemeteries and churchyards

Section Four:
Additional Secondary Codes

Refer to Section Six for definitions for all Additional Secondary Codes.

Category Type	V2.0 code	Habitat Name
Grasslands and Heathlands	100	Grazed
	101	Cattle grazed
	102	Sheep grazed
	103	Horse grazed
	104	Other grazed
	105	Burnt
	106	Mown
	107	Mown and collected
	108	Frequently mown
	109	Hay
	110	Silage and haylage
	111	Hedgebank
	112	Earthbank
	113	Stone-faced bank
	114	Dry stone wall
	115	Grazing and browsing exclosure
	116	Flailed hedgerow
	117	Laid hedgerow
	118	Species-rich hedgerow ground flora
	119	Green lane
	120	Grouse moor
	121	Calcareous-acidic mosaic
	122	Ridge and furrow
	123	Water meadow irrigation
	124	Anthills
	125	Flower forage abundant
	126	Seed forage abundant
	127	Sward type mosaic
	128	Tall or tussocky sward
	129	Wet moss lawns
	130	Waxcap grassland
	131	Arable reversion grassland
Woodlands and Trees	200	Tree
	201	Young trees – planted
	202	Young trees – self-set
	203	Mature tree
	204	Veteran Tree
	205	Ancient tree
	206	Felled
	207	Forest brash

Category Type	V2.0 code	Habitat Name
	208	Ground prepared for planting
	209	Avenue
	210	Coppice
	211	Coppice with standards
	212	High forest
	213	Complex woody structure
	214	Fallen dead wood abundant
	215	Standing dead wood abundant
	216	Large hollows or cavities
	217	Woodland open space
Freshwater	300	Lowland rivers with shallow gradients and rich geology
	301	Meso-eutrophic rivers on sandstone and hard limestone
	302	Mesotrophic and oligo-mesotrophic rivers
	303	Acid and nutrient-poor rivers
	304	Unobstructed river system
	305	Spring
	306	Headwaters
	307	Waterfall
	308	Active shingle rivers
	309	Riffles
	310	Gravel beds
	311	Coarse woody debris in-channel
	312	Base-rich water
	313	Backwaters
	314	Mudbanks
	315	Exposed riverine sediments
	316	Shallow pools
	317	Tidal river
	318	Canalside
	319	Watercourse buffer strip
	320	Lakes and ponds buffer
	321	Timber sluice
	322	Re-meandering
	323	Riverbank re-profiling
Wetlands	400	Topogenous
	401	Soligenous
	402	Rich fen
	403	Poor fen
	404	Fertile fen
	405	Infertile fen
	406	Swamp
	407	Tall fen
	408	Small-sedge fen
	409	Bryophyte-dominated
	410	Open water fen
	411	Transition fen
	412	Basin fen

Category Type	V2.0 code	Habitat Name
	413	Floodplain fen
	414	Basin raised bog lagg fen
	415	Floodplain raised bog lagg fen
	416	Spring fen
	417	Surface flow spring fen
	418	Percolation spring fen
	419	Surface flush or rill or soakaway
	420	Valley fen
	421	Ladder fen
	422	Cutover peat
	423	Grip
	424	Grip blocking
	425	Beaver-made wetland
All Habitats	500	Dry
	501	Mesic
	502	Seasonally wet
	503	Wet
	504	Waterlogged
	505	Inundation vegetation
	506	Nutrient-poor substrate
	507	Nutrient-enriched substrate
	508	Base-rich substrate
	509	Acidic substrate
	510	Bare ground
	511	Compacted substrate
	512	Landslips
	513	Rock outcrop
	514	Snow patch
	515	High humidity levels
	516	Active Management
	517	Recent Management
	518	Neglected
	519	Abandoned
	520	Ancient management
	521	Unmanaged
	522	Native
	523	Non-native
	524	Invasive non-native species
	525	Invasive species control
	526	Accessible natural greenspace
	527	Nature reserve
	528	Walking or cycling route
	529	Golf course
	530	Ecotone
	531	Cave open to the public
	532	Scattered grass
Farming	600	Ploughed

Category Type	V2.0 code	Habitat Name
	601	Minimum tillage
	602	No tillage
	603	In-field fallow plot
	604	Whole-field fallow
	605	Mid-field bund
	606	Mid-field swale
	607	Beetle bank
	608	Under-field drainage
	609	Cover crops
	610	Catch crops
	611	Soil erosion
	612	Fence
	613	Fish farm
	614	Permanent agricultural grassland
	615	City farm
	616	Allotments
	617	Agroforestry
	618	Paludiculture
Coast	700	Port or marina
	701	Sea wall
	702	Saline influence
	703	Shelter from wave action
Built environment	800	Road
	801	Road verge or island
	802	Railway
	803	Railside
	804	Car Park
	805	Development site
	806	Urban park
	807	Pocket park
	808	Neighbourhood park
	809	Community park
	810	District park
	811	Regional park
	812	Country park
	813	Educational building
	814	Educational premises open space
	815	Commercial building
	816	Commercial premises open space
	817	Industrial building
	818	Residential building
	819	Residential premises open space
	820	Natural sports pitches
	821	Artificial sports pitches
	822	Recreation ground
	823	Children’s Play Space
	824	Adventure playground

Category Type	V2.0 code	Habitat Name
	825	Ruined building
	826	Castle or historic building or monument
	827	Garden
	828	Vegetated garden
	829	Unvegetated garden
	830	Community garden
	831	Landfill
	832	Airport
	833	Barn
	834	Oil or gas drilling or extraction
	835	Mine
	836	Quarry – hard rock
	837	Quarry – sand and gravel
	838	Disused quarry
	839	Track
	840	Caravan park or permanent campsite
	841	Green wall
	842	Ground-based green wall
	843	Façade-bound green wall
	844	Balcony green
	845	Ground level planters
	846	Flower bed
	847	Introduced shrub
	848	Sustainable drainage system
	849	Bioswale
	850	Rain garden
	851	Culvert
	852	Water treatment filter bed
	853	Mortared wall

Table of Contents – Essential Secondary Codes

Table of Contents – Additional Secondary Codes

Section Five

Essential Secondary Codes - Definitions

Code and Name

10 Scattered scrub

Category Type

Essential Secondary Codes - Grasslands and heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~ c~ u~ s~

Definition

Non-woodland habitats with an overall scrub cover of ≥5% and <75% and that include ≥3 individual bushes per 0.4 ha or patches of scrub, each ≤0.04 ha.

Exclusions

Scrub patches ≥0.04 ha (see h3~).

Back to Essential Secondary Code List

Code and Name

11 Hedgerow with trees

Category Type

Essential Secondary Codes - Grasslands and heathlands

Spatial Feature Type

Line

Allowable Primary Codes

h2~

Definition

A linear feature ≥20 m long with a woody component <5 m wide at its base, a shrub layer present and with ≥2 prominent trees taking their natural shape that are <20 m apart over most of its length.

Exclusions

Hedgerow lengths with only one prominent tree taking its natural shape (omit this code).

Linear features with trees but with shrub layer absent (see 33, 34).

Back to Essential Secondary Code List

Code and Name

12 Scattered bracken

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

Habitats with Bracken *Pteridium aquilinum* at ≥5% and <95% canopy cover at the height of the growing season.

Back to Essential Secondary Code List

Code and Name

13 Scattered dwarf shrubs

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~

Definition

Dwarf shrubs present at <25% cover in any feature that reaches minimum mappable area. There should be ≥3 shrubs.

Species

Dwarf shrubs include woody plants <1.5 m in height that are Heather *Calluna vulgaris* or species in the genera *Erica*, *Vaccinium*, *Arctostaphylos* and *Ulex* (but excluding *Ulex europaeus*).

Back to Essential Secondary Code List

Code and Name

14 Scattered rushes

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

Rushes *Juncus spp.* occasional to abundant (6–50%) in the habitat parcel.

Back to Essential Secondary Code List

Code and Name

15 Rushes dominant

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~

Definition

Rushes *Juncus spp.* dominant (≥50%) in the habitat parcel.

Back to Essential Secondary Code List

Code and Name

16 Tall forbs

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~

Definition

Stands of tall perennial or biennial dicotyledons, such as Rosebay Willowherb *Chamerion angustifolium*, Common nettle *Urtica dioica*, Hogweed *Heracleum sphondylium* and Alexanders *Smyrnium olusatrum.*

Inclusions

Includes non-wooded stands of species, such as Lemon-scented Fern *Oreopteris limbosperma*, Lady-Fern *Athyrium filix-femina*, *Dryopteris spp.* or Great Wood-rush *Luzula sylvatica*.

Exclusions

Excludes upland species-rich ledges (see s1a9).

Back to Essential Secondary Code List

Code and Name

17 Juniper on heaths or calcareous grasslands (H5130)

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~

Status

Annex 1 Subset of Priority Habitat

Definition

The relationship between Juniper *Juniperus communis* stands and other types of vegetation is complex. In some cases, the stands have no characteristics to separate them from typical examples of heath or calcareous grassland vegetation, except for the abundance of Juniper. These are often relatively recent stands. However, at some sites, particularly where the juniper has been present for a longer period, a more distinctive assemblage of species occurs. Here, the Juniper is associated with other shrubs, shade-tolerant herbs, grazing-sensitive tall herbs, bryophytes and ferns.

Landscape and ecological context

The main ecological variation occurs between stands on calcareous substrates (principally chalk and limestone, but sometimes calcareous drift) and those found on acid substrates. Calcareous types are mainly found in the southern part of the UK, while acid types are mainly found in northern areas. However, both calcareous and acid types can be found on the same sites in northern England and Scotland.

Synonyms

Annex 1: H5130 Juniperus communis formations on heaths or calcareous grasslands.

Exclusions

Dense stands of Juniper >0.04ha (use h3k).

Species

In northern England and Scotland, this vegetation is typically dominated by Juniper *Juniperus communis*, with Downy Birch *Betula pubescens* and Rowan *Sorbus aucuparia* often scattered throughout. The understorey is rich in acidophilous species, such as Bilberry *Vaccinium myrtillus*, Wood-sorrel *Oxalis acetosella*, Heath Bedstraw *Galium saxatile* and Hairy Wood-rush *Luzula pilosa*. Species with a northern distribution, including Chickweed Wintergreen *Lysimachia europaea*, Twinflower *Linnaea borealis* and Lesser Twayblade *Neottia cordata*, occur locally.

In southern England, on thin calcareous soils where Juniper is not dominant, the scrub contains a rich assemblage of other shrubs, mainly of the Rosaceae family.

Back to Essential Secondary Code List

Code and Name

18 Species-rich grassland

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g1~ g2~ g3~

Definition

A grassland that meets at least two of these three criteria:

1. >30% cover of broadleaved herbs and sedges (excluding certain species – see Species section);

2. >15 species per m² (including grasses and excluding bryophytes);

3. <10% cover of Rye Grasses *Lolium spp.* and White Clover *Trifolium repens*.

Inclusions

This code may be used in combination with g1~, g2~ or g3~ primary codes, but not g4.

It is not necessary to use this code in combination with the Priority Habitat grasslands – g1a, g2a, g2b, g3a, g3b – as these will always be species-rich, by definition.

This code may be used for created (see 61, 62) and restored grasslands, as well as grasslands of long continuity (see 60).

Species

The species excluded from criterion 1 in the Definition are: Creeping Thistle *Cirsium arvense*, Spear Thistle *Cirsium vulgare*, Curled Dock *Rumex crispus*, Broad-leaved Dock *Rumex obtusifoliusm*, Common Nettle *Urtica dioica*, Creeping Buttercup *Ranunculus repens*, Greater Plantain *Plantago major*, White Clover *Trifolium repens* and Cow Parsley *Anthriscus sylvestris*.

Back to Essential Secondary Code List

Code and Name

19 Coastal and floodplain grazing marsh

Category Type

Essential Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~ r~

Status

Priority Habitat

Definition

Periodically inundated pasture, or meadow with ditches that maintain the water levels, containing standing, brackish or fresh water.

Landscape and ecological context

The habitat can occur on the floodplains of rivers and also on reclaimed land behind sea walls. It may contain areas of Lowland meadow, Modified grassland and Other neutral grasslands. There may also be small areas of tall fen type habitats and-or scrub.

Synonyms

Inclusions

Floodplain wetland mosaic (see 55) is likely to be a spatial sub-set of Coastal and floodplain grazing marsh.

Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities.

Exclusions

Extensive areas of tall fen species, such as reeds.

Species

The ditches may be especially rich in plants and invertebrates.

Back to Essential Secondary Code List

Code and Name

25 Temperate rainforest

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w1~ h3~

Definition

Woodlands and scrub in hyperoceanic lowlands bioclimatic zones near the Atlantic coasts with characteristic, rich communities of oceanic mosses, liverworts and lichens.

Landscape and ecological context

Largely confined to western areas on or near the Atlantic coast, from northwest Scotland to southwest England, with pockets in Northern Ireland.

Hyperoceanic lowlands bioclimatic zones (Carey et al, 1995; Hossell et al. 2003) are derived from analyses based on a combination of climate and species distributions. A global temperate rainforest climate zone has been defined by annual precipitation >140 cm and monthly mean temperatures within the 2–16°C range (Alaback, 1991).

Inclusions

Atlantic Hazel (see h3b5) and Upland Oakwood (see w1a) will normally meet the criteria for this habitat, but other Priority Habitat woodlands may also do so.

Exclusions

Woodlands and scrub in the temperate rainforest climate zone that lack the characteristic rich communities of mosses, liverworts and lichens.

Species

Seven criteria that use plant and lichen species and communities have been suggested for identifying temperate rainforest habitat in British and Irish woodland (Averis, 2023). These include: (1) presence of one or more of the strongest rainforest indicator species; and (2) species-rich examples of the *Lobarion* lichen community. Further research and evaluation is required to refine these criteria.

Back to Essential Secondary Code List

Code and Name

26 Wood-pasture and parkland

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~

Status

Priority Habitat

Definition

Mosaic habitats valued for their trees, especially veteran and ancient trees, and the flora and fauna that they support. This habitat displays at least some of the following characteristics (see Landscape and Ecological Context section 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 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.

Landscape and ecological context

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 predominates amongst the oldest trees, but there may be non-native trees that 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.

Exclusions

Urban parks, unless they were created from old parklands or are associated with ancient buildings. Sheep-grazed upland oakwoods (see w1a~ 102).

Species

Specialised and varied habitats within wood-pasture and parkland provide a home for a wide range of species, many of which occur only in these habitats – particularly insects, lichens and fungi, which depend on dead and decaying wood. Individual trees, some of which may be of great size and age, are key elements of the habitat, and many sites are also important historic landscapes.

Back to Essential Secondary Code List

Code and Name

27 Traditional orchards

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~

Status

Priority Habitat

Definition

Open-grown fruit trees within herbaceous vegetation. The defining feature is habitat structure, rather than vegetation type, topography or soils. Traditional orchards are structurally and ecologically similar to wood-pasture and parkland (see 26), with open-grown trees set in herbaceous vegetation, but they are generally distinguished from these Priority Habitat complexes by the following characteristics: the species composition of the trees, these being primarily in the Rosaceae family; the usually denser arrangement of the trees; the small scale of individual habitat patches; and the wider dispersion and greater frequency of occurrence of habitat patches in the countryside.

Inclusions

The minimum number of trees is 5.

Nut trees, such as hazel nuts, cobnuts and walnuts.

Community orchards.

Abandoned, overgrown orchards that retain their fruit trees.

Exclusions

Intensive orchards (see c1e).

Species

Species in the orchard field layer vary with soil type, current management and management history. Most frequently, the field layer will be neutral grassland, on the spectrum of species-richness from lowland meadows (see g3a) to modified grassland (see g4). Localised areas of species associated with past disturbance and nutrient enrichment are typical. Traditional orchards on acid grassland (see g1~) and calcareous grassland (see g2~) are less common.

Back to Essential Secondary Code List

Code and Name

28 Ancient woodland site

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

England and Wales definition: Land that is currently wooded and has been continually wooded since at least 1600 CE.

Scotland definition: Land that is currently wooded and has been continually wooded since at least 1750 CE.

Northern Ireland definition: 'Long-established woodland' – land that has been continuously wooded since the first comprehensive maps of Ireland were produced in 1830–44 CE.

Landscape and ecological context

Can include: (a) fragments of woodland in inaccessible areas (e.g. cliffs, gorges); (b) ancient high forest (mainly Pine *Pinus sylvestris* and Birch *Betula spp.* in Scotland); (c) relicts of wood-pasture (unenclosed woodland in former medieval forests, old deer parks and wooded commons); (d) ancient coppice woods.

Inclusions

Woodland that has been periodically felled or coppiced, provided that the woodland has been allowed to naturally regenerate. The tree and shrub layer is composed of species that are native to the site and derived from natural regeneration or coppice regrowth from individuals that were themselves derived from natural regeneration (use codes 28 and 30).

If a site has been replanted, use codes 28 and 29 — Plantation on Ancient Woodland Site, or 'PAWS'.

Exclusions

Land that was an ancient woodland site in the recent past but has now been cultivated or converted to agricultural use, burned intentionally or otherwise altered to prevent natural regeneration of woodland habitat.

Species

A number of ancient woodland indicator plant species lists have been published. These may be regionally specific within the UK. The presence of several indicator species may help to identify an ancient woodland site.

The following species are the most frequently used indicators: Wood Anemone *Anemone nemorosa*, Ramsons *Allium ursinum*, Wood Spurge *Euphorbia amygdaloides*, Wood Sorrel *Oxalis acetosella*, Wild Service *Sorbus torminalis*, Small-leaved Lime *Tilia cordata* and Guelder Rose *Viburnum opulus*.

Back to Essential Secondary Code List

Code and Name

29 Plantation

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~

Definition

Obviously planted trees that are predominantly even-aged, of uniform density and similar forms, normally occurring in rows.

Landscape and ecological context

Planted woods of native species may often acquire some of the characteristics of semi-natural woodland (see 30), especially where they are on ancient woodland sites (see 28), where plants and animals have survived from the former semi-natural wood. The development of a varied structure and composition, including diverse native tree, shrub and field layer vegetation and the use of locally native species and genotypes for planted trees, can also increase the naturalness of native plantations. Where planted native woods have developed a high conservation value in these ways, management should be similar to that for semi-natural woods.

New native woodlands, which are designed and managed from the start to develop a natural character, can help to offset some of the past losses of native woodland and will in time acquire a high environmental value, although they should not be seen as substitutes for any remaining semi-natural woodland.

Inclusions

Wooded ornamental gardens and arboretum collections.

Back to Essential Secondary Code List

Code and Name

30 Semi-natural woodland

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Derived from natural regeneration or coppicing and composed of trees that are usually uneven-aged, of mixed density and forms, and that occur in natural groupings.

Back to Essential Secondary Code List

Code and Name

31 Secondary woodland

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

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.

Inclusions

Woodland on rewilding sites where grazing pressure is deliberately managed to allow woodland to develop on former open habitats.

Exclusions

Plantations.

Back to Essential Secondary Code List

Code and Name

32 Scattered trees

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ f~ c~ u~ s~

Definition

Non-woodland habitats that have trees at low density. Overall canopy cover is <25%, but there are ≥5 trees and ≥5 trees per ha.

Back to Essential Secondary Code List

Code and Name

33 Line of trees

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Line

Allowable Primary Codes

w~

Definition

A line of trees that is ≥20 m long and <5 m wide at the base. The canopy base is >2 m in height and there is open habitat on each side.

Inclusions

Linear tree features with a shrub layer that is <20 m long.

Exclusions

Linear tree features with a shrub layer that is >20 m long (see 11).

Back to Essential Secondary Code List

Code and Name

34 Ecologically valuable line of trees

Category Type

Essential Secondary Codes - Woodlands and Trees

Spatial Feature Type

Line

Allowable Primary Codes

w~

Definition

A line of trees (see 33) that has ≥1 mature (see 203), veteran (see 204) or ancient tree (see 205) per 30 m length.

Back to Essential Secondary Code List

Code and Name

40 Ponds (priority habitat)

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Point

Allowable Primary Codes

r1~

Status

Priority Habitat

Definition

Permanent and seasonal standing water bodies that are <2 ha in extent AND that meet one or more of the following criteria:

(1) Habitats of international importance: Ponds that meet criteria under Annex 1 of the Habitats Directive.

(2) Support species of high conservation importance: Red Data Book species; UK BAP species; species fully protected under the Wildlife and Countryside Act – Schedules 5 and 8; Habitats Directive Annex 2 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. 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.

Synonyms

If they meet the specified criteria:

Pools.

Lochans (Scotland).

Loughs (Ireland).

Lyn (Wales).

Tarns (northern England).

Back to Essential Secondary Code List

Code and Name

41 Pond (non-priority)

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Point

Allowable Primary Codes

r1~

Definition

Standing water bodies that are <2 ha and that do not meet the criteria for Priority Habitat ponds (see 40).

Synonyms

If they meet the specified criteria:

Pools.

Lochans (Scotland).

Loughs (Ireland).

Lyn (Wales).

Tarns (northern England).

Back to Essential Secondary Code List

Code and Name

42 Pond

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Point

Allowable Primary Codes

r1~

Definition

Standing water bodies that are <2 ha. and Priority Habitat status cannot be determined.

Synonyms

Pools.

Lochans (Scotland).

Loughs (Ireland).

Lyn (Wales).

Tarns (northern England).

Back to Essential Secondary Code List

Code and Name

43 Lake

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area

Allowable Primary Codes

r1~

Synonyms

Lochs (Scotland, where freshwater).

Loughs (Ireland).

Lyn (Wales).

Definition

Standing water bodies that are ≥2 ha. and Priority Habitat status cannot be determined.

Back to Essential Secondary Code List

Code and Name

44 Lake (non-priority)

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area

Allowable Primary Codes

r1~

Definition

Standing water bodies that are >2 ha and that do not meet the criteria for Priority Habitat lakes (see r1a, r1b, r1c).

Back to Essential Secondary Code List

Code and Name

45 Reservoir

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area

Allowable Primary Codes

r1~

Definition

An artificial water body created by a dam for public water supply or irrigation purposes.

Inclusions

Drawdown zones.

Exclusions

The dam.

Fishing lakes.

Industrial lagoons.

Gravel pits.

Quarry pools.

Ornamental lakes

Back to Essential Secondary Code List

Code and Name

46 Ornamental lakes or ponds

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Point

Allowable Primary Codes

r1~

Definition

Artificial standing water bodies designed and managed primarily for ornamental purposes.

Back to Essential Secondary Code List

Code and Name

47 Freshwater – natural

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r~

Definition

Freshwater bodies of natural origin.

Inclusions

Ponds

Lakes.

Streams

Rivers.

Minor modifications, such as moorings on lakes.

Back to Essential Secondary Code List

Code and Name

48 Freshwater – heavily modified

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

A watercourse modified in situ by re-grading, re-sectioning/re-profiling (including dams, weirs and fords), alteration of its longitudinal profile, open culverting, bank reinforcement or protection (e.g. revetment, piling, gabions, rip-rap), canalisation, embankment or by other river-engineering work that permanently or quasi-permanently alters the profile of the channel. These modifications affect the cross-sectional and longitudinal profile of the channel but do not significantly affect the plan-view profile of the channel.

Inclusions

Modification to the 'old courses' of rivers in low lying areas such as the Fens that make them appear to be constructed drains.

Exclusions

Standing water bodies, such as ponds or lakes (use 46 or 48).

Back to Essential Secondary Code List

Code and Name

49 Freshwater – artificial

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Line Point

Allowable Primary Codes

r~

Definition

Freshwater bodies that have been dug by humans.

Inclusions

Artificial ponds, fishing lake sand water-filled sand and gravel pits.

Ornamental lakes, fen drains and ditches (especially in coastal and floodplain grazing marsh – see 19).

The larger rivers and drains created in low lying regions such as the Fens and Somerset Levels.

Exclusions

Reservoirs (see 45).

Canals (see r1e).

Back to Essential Secondary Code List

Code and Name

50 Ditch

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Line

Allowable Primary Codes

g~ w~ h~ r~

Definition

An artificial standing-water or dry ditch linear feature that is <5 m wide and that is ≥20 times longer than its width.

Inclusions

Drainage ditches in fenland or on levels (use r1).

Ditches that are part of the structure of a hedgerow and within 2 m of it should be recorded as part of the hedgerow linear feature (use h2~).

Ditches that are part of the structure of a line of trees and within 2 m of it should be recorded as part of the line of trees linear feature (use w~ and 33 or 34).

Back to Essential Secondary Code List

Code and Name

51 Chalk rivers

Category Type

Essential Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Status

Subset of Priority Habitat

Definition

Chalk rivers are fed from groundwater aquifers, producing clear waters and a generally stable flow and temperature regime. Most chalk rivers have 'winterbourne' stretches in their headwaters. These often run dry, or partially dry, in late summer because of lack of rainfall recharging the aquifer.

Landscape and ecological context

There are approximately 35 chalk rivers and major tributaries, ranging from 20 km to 90 km in length. They are located in south and east England – from the River Frome in Dorset to the River Hull in Humberside.

Synonyms

Chalk streams.

Inclusions

Mill races and old urban river stages in southern villages, towns and cities that are on the course of chalk rivers and that have the appropriate bed and floating vegetation.

Species

Chalk rivers have a characteristic plant community, often dominated in mid-channel by River Water Crowfoot *Ranunculus penicillatus var. pseudofluitans,* Blunt-fruited Water-starwort *Callitriche obtusangula*, Various-leaved Water-starwort *Callitriche platycarpa*, and along the edges by Watercress *Nasturtium officinale* and Lesser Water-parsnip *Berula erecta*. They have low banks, which support a range of water-loving plants.

Chalk rivers support high invertebrate diversity.

Habitats Directive Annex 2 species that are supported by chalk streams include Brook Lamprey *Lampetra planeri*, Salmon *Salmo salar*, Crayfish *Austropotamobius pallipes* and Otter *Lutra lutra*.

Back to Essential Secondary Code List

Code and Name

55 Floodplain wetland mosaic

Category Type

Essential Secondary Codes - Wetlands

Spatial Feature Type

Area Line

Allowable Primary Codes

f1b~ f2~ g~ h1~ r~ w1d

Status

(England only - tbd)

Definition

Currently to be applied only in England.

Areas of floodplain that are either:

1) Naturally functioning mosaics of wetland habitats with natural or near-natural hydrological function and-or good water quality.

   Naturally functioning floodplains will not be drained or contain water level control structures and will not have artificial barriers between the water body and the floodplain. The water quality will be good with no evidence of nutrient enrichment. Naturally functioning floodplains will contain a mosaic of wet (see 502-505) habitats potentially including fens, bogs, grasslands, woodlands and open water.

2) Areas of modified floodplain, but only if they provide important refuges for wetland species whose natural habitats have been lost (see Species for example groups).

   Modified floodplains are typically areas of periodically inundated pasture or meadow with water control measures and ditches to maintain the water levels. Sites may contain standing brackish or fresh water including permanent and-or seasonal ponds with some emergent swamp communities.

Landscape and ecological context

Floodplain wetland mosaics may be situated anywhere within the floodplains of both coastal and freshwater water bodies. The floodplain extends from the water body to the outer limits of the floodplain extent. This includes land that would regularly be flooded under natural conditions and the transitional zone on the floodplain margins. The transitional zone is included due to ecohydrological connection to the floodplain, principally through groundwater or rainwater flooding and the potential for seasonal ponding and saturation of floodplain soils that support a range of important wetland habitats.

In natural floodplains, the plant communities in the wet, more nutrient-rich conditions closest to the water body are generally species-poor but highly productive, with tall vigorous grasses such as Common reed *Phragmites australis* and Reed sweet-grass *Phalaris arundinacea*. Further from the water body, conditions become gradually less nutrient-rich and the characteristic fen vegetation supports a wider range of tall-herb species, for example Common meadow-rue *Thalictrum flavium* and Meadowsweet *Filipendula ulmaria*. If cut annually, vegetation resembling floodplain meadow can develop.

At the base of valley slopes, low-nutrient groundwater emerges as springs and seepages. In calcareous situations the vegetation can be very species-rich characterised by a diversity of low-growing sedges growing in a carpet of 'brown mosses', accompanied by a rich variety of broadleaved plants, including Grass-of-Parnassus *Parnassia palustris*, Marsh valerian *Valeriana dioica* and Common butterwort *Pinguicula vulgaris*. In more acidic situation a less diverse but still distinctive community of plants and animals may occur.

In modified floodplains the relict wetland species are concentrated in the remaining wet areas, often just the ditches. Seasonally flooded modified floodplains may also support a range of wetland birds.

55 Floodplain wetland mosaic (Continued)

Exclusions

Modified grassland (see g4), unless qualifying on species grounds (see Species).

Arable and horticulture (see c1~).

Species

Modified floodplains may provide important refuges for wetland species. The presence of the following examples would indicate the site was an important refuge:

- Sites supporting at least one pair of curlew, redshank or snipe or two pairs of lapwing or oystercatchers or 1 of each
- Ditches containing >10 plant species per 20m stretch, including submerged, floating and emergent species,. This number is reduced to > 6 species per 20 m stretch in brackish ditches. This should be an average across the site. A manual for evaluating plant and invertebrate assemblages of ditches is available (Palmer, Drake and Stewart, 2013).

Back to Essential Secondary Code List

Code and Name

56 Depressions on peat substrates (H7150)

Category Type

Essential Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ f~ s~

Status

Annex 1

Definition

Depressions on peat substrates occur in complex mosaics with lowland wet heath and valley mire vegetation, in transition mires, on the margins of bog pools and hollows in both raised and blanket bogs and in artificially disturbed areas, such as along footpaths and trackways and in old peat-cuttings and abandoned ditches. This habitat will often be smaller than the minimum mappable area and should be mapped as a point in these cases.

Synonyms

Annex 1: H7150 Depressions on peat substrates of the Rhynchosporion.

Species

The vegetation is typically very open. It is usually characterised by an abundance of White Beak-sedge *Rhynchospora alba*, often with well-developed algal mats, the bog-moss *Sphagnum denticulatum*, Round-leaved Sundew *Drosera rotundifolia* and, in relatively base-rich sites, brown mosses such as *Drepanocladus revolvens* and *Scorpidium scorpioides*. The Nationally Scarce species Brown Beak-sedge *Rhynchospora fusca* and Marsh Clubmoss *Lycopodiella inundata* also occur.

Back to Essential Secondary Code List

Code and Name

57 Peat

Category Type

Essential Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ s~

Definition

Land with any depth of surface peat, bare or vegetated.

Back to Essential Secondary Code List

Code and Name

60 Long continuity habitat

Category Type

Essential Secondary Codes - All habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ s~

Definition

Habitat that is known to have been, or very likely to have been, continuous as the primary habitat now recorded at this location for at least the period specified for the particular habitat.

Woodlands – since 1893 (Keepers of Time, 2022).

Grasslands – since 1936 (Stamp, 1936).

Thresholds for other ecosystems will be published later.

Landscape and ecological context

It is widely recognised that habitats that have been continuous for many decades, without significant change in their principal characteristics, have some key biodiversity attributes that are lacking in more recent features. Indicator species and species assemblages are known for some of these habitats.

Synonyms

Long established woodland (use with w~).

Old meadows, ancient grassland (use with g~).

Inclusions

Long continuity habitat is for use with reference to the current precise primary code at the hierarchical level to which it is recorded. For example, 'g3a 60' is to be interpreted as: the habitat is known or very likely to have been Lowland meadow Priority Habitat continuously since 1936.

Exclusions

Habitats that are likely to have been another primary habitat from the code recorded for at least a year at some time since the threshold year for the habitat.

Species

These plant species have been identified as probable indicators of long continuity of traditional grassland management (Natural England, 2015): Betony *Betonica officinalis*, Devil's-bit Scabious *Succisa pratensis*, Dyer's Greenweed *Genista tinctoria*, Saw-wort *Serratula tinctoria*, Wood Anemone *Anemone nemorosa*, Pignut *Conopodium majus*, Bitter-vetch *Lathyrus linifolius*, Meadow Saxifrage *Saxifraga granulata*, Burnet-saxifrage *Pimpinella saxifraga*, Pepper-saxifrage *Silaum silaus*, Spring-sedge *Carex caryophyllea* and Great Burnet *Sanguisorba officinalis*.

Back to Essential Secondary Code List

Code and Name

61 Re-created habitat

Category Type

Essential Secondary Codes - All habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Habitat such as heathland, wetland, wildlife grassland and others that has been deliberately established on land not occupied by that habitat category at the time when re-creation occurs.

Landscape and ecological context

Rec-created habitats may replace a habitat that has been recently lost or one that has not been present at that site for many years, if ever.

Inclusions

Created and re-created habitats.

Back to Essential Secondary Code List

Code and Name

62 Biodiversity offset

Category Type

Essential Secondary Codes - All habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Habitat created or restored to compensate for unavoidable residual impacts on habitats or species arising from development, following appropriate adherence to the mitigation hierarchy.

Inclusions

Registered Habitat Banks.

Habitats designed for the benefit of species.

Schemes delivered by landowners, local authorities, developers and NGOs.

Exclusions

Mitigation measures delivered 'on-site' within development sites.

Back to Essential Secondary Code List

Code and Name

63 Caves not open to the public (H8310)

Category Type

Essential Secondary Codes - All habitats

Spatial Feature Type

Point

Allowable Primary Codes

g~ w~ h~ s~

Status

Annex 1

Definition

Caves – including their water bodies and streams – that are not open to the public and that host specialised or high-endemic species, or that are of paramount importance for the conservation of Habitats Directive Annex 2 species (e.g. bats and amphibians).

Synonyms

Annex 1: H8310 Caves not open to the public.

Species

Caves lack natural illumination and therefore support species that are adapted to living in the dark. Microclimatic conditions vary widely within and between caves, and this determines the composition of the fauna and flora. Many species feed on detritus derived from the surface; others are carnivorous.

Cave-dwelling species (cavernicoles) in the UK include bacteria, algae, fungi and various groups of invertebrates (e.g. insects, spiders and crustaceans). Characteristic troglobites and troglophiles include *Porrhoma rosenhaueri* (a blind cave-spider), *Trechus micros* (a ground beetle), *Niphargus glennei* (an amphipod, only known in the UK to be in Devon), and *Arrhopalites pygmaeus* (a springtail).

Some caves are important hibernation sites for bat species.

Back to Essential Secondary Code List

Code and Name

70 Machair (H21A0)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Status

Annex 1

Definition

A distinctive type of coastal grassland found in the north and west of Scotland, and in western Ireland. It is associated with calcareous sand blown inland by very strong prevailing winds from beaches and mobile dunes.

Landscape and ecological context

In its strict sense, 'machair' refers to a relatively flat and low-lying sand plain formed by dry and wet (seasonally waterlogged) short-turf grasslands above impermeable bedrock – a habitat termed 'machair grassland'. However, machair can also cover the beach zone, mobile and semi-fixed foredunes, dune slacks, fens, swamps, lochs (some of them brackish), saltmarsh, and sand blanketing adjacent hillslopes, together forming the 'machair system'. It is also often associated with an inland transition to heath and mire termed 'blackland', which can include sand-affected peatland.

Synonyms

Annex 1: H21A0 Machairs.

The Gaelic word 'machair' is the only name for this major habitat type in the UK.

Inclusions

Small-scale cropping carried out by crofting communities.

Species

Traditional agriculture sustains a rich and varied dune and arable-weed flora. Some of the arable-weed species are now largely restricted in the UK to these traditionally managed areas. The habitat type also supports large breeding bird populations and is particularly important for waders and Corncrake *Crex crex*.

Back to Essential Secondary Code List

Code and Name

71 Heathland on maritime cliffs and slopes

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

h~ s~

Status

Subset of Priority Habitat

Definition

Habitat that meets definitions of both dwarf shrub heath (h1) and maritime cliffs and slopes (s2a).

Inclusions

Use h1~, this code (71) and 702.

Species

Dwarf shrubs include woody plants <1.5 m in height that are Heather *Calluna vulgaris* or species in the genera *Erica*, *Vaccinium*, *Arctostaphylos* and *Ulex* (but excluding *Ulex europaeus*).

Back to Essential Secondary Code List

Code and Name

72 Dunes with creeping willow (H2170)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

h~ s~

Status

Annex 1

Definition

Comprises dunes or parts of dunes where Creeping Willow *Salix repens ssp. argentea* is dominant, forming prominent, low scrubby growth.

Landscape and ecological context

Creeping Willow *Salix repens ssp. argentea* is found on dunes throughout the UK. It grows predominantly in and around dune slacks, though on some sites it may spread up the drier ridges.

Synonyms

Annex 1: 2170 Dunes with Salix repens ssp. argentea [Salicion arenariae].

Back to Essential Secondary Code List

Code and Name

73 Inland saltmarshes (H1340)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~ s~

Status

Annex 1

Definition

Non-coastal sites that support saltmarsh vegetation.

Landscape and ecological context

The Habitats Directive Annex 1 type comprises anthropogenic stands found, for example, in former salt-working sites, as well as natural or near-natural forms. Inland saltmarshes are a rare habitat type, having declined dramatically in the past 50 years in all areas where they occur. The destruction of much of the natural habitat can be traced back to early salt-production activities.

Synonyms

Annex 1: 1340 Inland Salt Meadow.

NVC Associations

In the UK, this extremely rare vegetation corresponds to NVC communities SM16 and SM23.

Back to Essential Secondary Code List

Code and Name

74 Estuaries (H1130)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

r~ t~

Status

Annex 1

Definition

The downstream part of a river valley that is subject to the tide, extending from the limit of brackish waters. River estuaries are coastal inlets where, unlike large shallow inlets and bays (see 75), there is generally a substantial freshwater influence. The mixing of freshwater and seawater and the reduced current-flows in the shelter of the estuary lead to the deposition of fine sediments, which often form extensive intertidal sand and mud flats. Where the tidal currents are faster than flood tides, most sediments deposit to form a delta at the mouth of the estuary.

Synonyms

Annex 1: H1130 Estuaries.

Back to Essential Secondary Code List

Code and Name

75 Large shallow inlets and bays (H1160)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

t~ (+marine)

Status

Annex 1

Synonyms

Annex 1: H1160 Large shallow inlets and bays.

In Scotland, the Ria sub-type is called a ‘voe’.

Definition

Large indentations of the coast, generally more sheltered from wave action than the open coast. They are relatively shallow (with water <30 m over most of the area) and, in contrast to estuaries (see 74), generally have much lower freshwater influence.

In the UK, three main sub-types can be identified that meet the Habitats Directive Annex 1 definition:

(1) Embayment – A type of marine inlet where the line of the coast typically follows a concave sweep between rocky headlands, sometimes with only a narrow entrance to the embayment.
(2) Fjardic sea loch – A series of shallow basins connected to the sea via shallow, sometimes intertidal, sills. Fjards are found in areas of low-lying ground that have been subject to glacial scouring. They have a highly irregular outline, no main channel and lack the high relief and U-shaped cross-section of fjordic sea lochs.
(3) Ria – A drowned river valley in an area of high relief; most have resulted from the post-glacial rise in relative sea level.

Back to Essential Secondary Code List

Code and Name

76 Reefs (H1170)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area Line

Allowable Primary Codes

t~ (+marine)

Status

Annex 1

Definition

Rocky marine habitats or biological concretions that rise from the seabed. They are generally subtidal but may extend as an unbroken transition into the intertidal zone, where they are exposed to the air at low tide. Intertidal areas are only included within this Habitats Directive Annex 1 type where they are connected to subtidal reefs. Reefs are very variable in form and in the communities that they support.

Two main types of reef can be recognised: those where animal and plant communities develop on rock or stable boulders and cobbles, and those where structure is created by the animals themselves (biogenic reefs).

Synonyms

Annex 1: H1170 Reefs.

Back to Essential Secondary Code List

Code and Name

77 Sea caves (H8330)

Category Type

Essential Secondary Codes - Coast

Spatial Feature Type

Area Point

Allowable Primary Codes

t~

Status

Annex 1

Definition

Coastal caves that may be completely or partially submerged and only exposed to the sea at high tide. Sea caves vary in size, from only a few metres to more extensive systems, which may extend hundreds of metres into the rock. There may be tunnels or caverns with one or more entrances, in which vertical and overhanging rock faces provide the principal marine habitat.

Back to Essential Secondary Code List

Code and Name

80 Open mosaic habitats on previously developed land

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Status

Priority Habitat

Definition

Each of the following five criteria must be met:

1. Open mosaic habitat ≥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 one of the following: (a) annuals, (b) mosses/liverworts, (c) lichens, (d) ruderals, (e) inundation species, (f) open grassland, (g) flower-rich grassland, (h) heathland.
4. Contains unvegetated, loose bare substrate, and pools may be present.
5. The site shows spatial variation within 0.25 ha., forming a mosaic of ≥1 early successional communities (see criterion 3, (a)–(h), above) plus bare substrate.

Species

Typical species of the main communities include the following:

(a) Annual communities – Thyme-leaved Sandwort *Arenaria serpyllifolia ssp. serpyllifolia*, Common Centaury *Centaurium erythraea*, Fairy Flax *Linum catharticum* or Hare's-foot Clover *Trifolium arvense*.

(b) Moss/liverwort communities – *Brachythecium rutabulum*, *Dicranum scoparium* or *Hypnum cupressiforme*, *Lophocolea heterophylla* or *Ptilidium ciliare*. Succulent vascular plants, such as Stonecrops *Sedum spp.*, are often associated with the bryophyte communities.

(c) Lichen communities – Lichen communities are likely to occur in extensive patches or interspersed with other communities such as open grassland or heathland. Species with a range of growth forms might be present, for example foliose (leaf-like), crustose (crust) or fruticose (shrubby and branched).

(d) Ruderal communities – Wild Carrot *Daucus carota*, Common Toadflax *Linaria vulgaris*, Black Medick *Medicago lupulina* or Weld *Reseda luteola*.

(e) Inundation communities – Marsh Foxtail *Alopecurus geniculatus*, Toad Rush *Juncus bufonius*, Redshank *Persicaria maculosa* or Lesser Spearwort *Ranunculus flammula*.

(f) Open grassland communities – Sheep's Fescue *Festuca ovina*, Cat's-ear *Hypochaeris radicata* or Sheep's Sorrel *Rumex acetosella*.

(g) Flower-rich grassland – Common Knapweed *Centaurea nigra*, Common Bird's-foot Trefoil *Lotus corniculatus*, Meadow Buttercup *Ranunculus acris* or Red Clover *Trifolium pratense*.

(h) Heathland communities – Heather *Calluna vulgaris*, Wavy Hair-grass *Avenella flexuosa*, or Sheep's Fescue *Festuca ovina*.

Back to Essential Secondary Code List

Code and Name

81 Ruderal or ephemeral

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

Short patchy plant associations of ruderal or ephemeral species with ≥5% cover and perennial grass species <75% cover.

Landscape and ecological context

Typical of unmanaged areas in the arable landscape, derelict urban sites, roadsides, newly developed sites, quarries and railway ballast.

Species

The vegetation usually lacks a clear dominant species, but consists of a mixture of low-growing (usually <25 cm) plants such as Greater Plantain *Plantago major*, Creeping Buttercup *Ranunculus repens*, White Clover *Trifolium repens*, Black Medick *Medicago lupulina*, Colt's-foot *Tussilago farfara*, Oxeye Daisy *Leucanthemum vulgare* and groundsels/ragworts *Senecio spp.*, or of taller species such as Hedge Mustard *Sisymbrium officinale* or Melilot *Melilotus* sps., and can include a low abundance of Nettle *Urtica dioica*, Creeping Thistle *Cirsium arvense*, Spear Thistle *Cirsium vulgare* and Hogweed *Heracleum sphondylium*.

Back to Essential Secondary Code List

Code and Name

82 Vacant or derelict land

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ s~ u~

Definition

Areas that have been disturbed by previous development or land use on constructed sites but are now abandoned. They will contain an open mosaic of habitats in the early stages of natural succession which may or may not fulfil the requirements of 'Open mosaic habitats on previously developed land' (see 80).

Back to Essential Secondary Code List

Code and Name

83 Solar panel array

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ c~ u~ s~

Definition

An arrangement of ground-mounted or 'floating' solar photovoltaic panels designed for renewable electricity generation. Record the strips of panels as u1b6 and the strips of vegetation in between the rows separately.

Exclusions

Solar panels mounted on the roofs of buildings.

Back to Essential Secondary Code List

Code and Name

84 Wind farm

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ f~ c~ u~ s~

Definition

A cluster of onshore or offshore wind turbines designed for renewable electricity generation. The code should be applied to the land area covered by the turbines themselves and the area in between them. The pad on which the turbines sit should be coded as u1b6, with the rest of the land coded as its own primary habitat, e.g. c1c.

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Code and Name

85 Active sand pit or quarry or open cast mine

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

h~ u~ s~

Definition

Actively worked sites used for resource extraction, with topsoil and vegetation removed.

Exclusions

Disused sites.

Back to Essential Secondary Code List

Code and Name

86 Green roof

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1b5

Definition

A roof or deck onto which vegetation is intentionally grown or habitats for wildlife are established.

Synonyms

Living roof.

Back to Essential Secondary Code List

Code and Name

87 Biodiverse green roof

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1b5

Definition

Extensive green roof designed specifically for biodiversity that:

1. has a depth of substrate (not including a blanket or turf) that varies between 80 and 150 mm, with at least 30% of the roof at 150 mm deep; and

2. is planted and seeded with a wide range of dry grassland wildflowers and Sedum species.

Species

A biodiverse green roof should have a ratio of 60:40 between wildflower and sedum species, with the species richness of dry grassland species including ≥25 wildflower species.

A biodiverse green roof should include other habitat features (for example, bricks for solitary nesting bees or logs).

Back to Essential Secondary Code List

Code and Name

88 Intensive green roof

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1b5

Definition

A high-maintenance green roof that is designed as a park or garden and includes shrubs, trees, perennials and grasses. It also meets all three of the following criteria:

1. ≥50% native and ≥30% non-native species of pollinator interest (≥80% overall);

2. ≥70% of the surface is soil and vegetation (including water features); and

3. ≤30% is hard standing (such as paving or firebreaks).

Inclusions

Water features.

Back to Essential Secondary Code List

Code and Name

89 Other green roof

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1b5

Definition

Green roofs, including wildflower turfs and Sedum blankets, that are neither biodiverse nor intensive.

Landscape and ecological context

Wildflower turfs support a range of wildflower species but lack the topography and diversity of biodiverse green roofs. They may need regular irrigation.

Sedum blanket systems should be a minimum depth of 80mm.

Back to Essential Secondary Code List

Code and Name

90 Cemeteries and churchyards

Category Type

Essential Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ u~ s~ r~

Definition

Areas of open space associated with religious institutions that are at least partly vegetated.

Inclusions

Crematoria

Back to Essential Secondary Code List

Additional Secondary Codes

Code and Name

100 Grazed

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ s~

Definition

Managed by farm livestock grazing, including exotic species.

Exclusions

Habitat exclusively grazed by wild animals.

Back to Additional Secondary Code List

Code and Name

101 Cattle grazed

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

Managed by cattle grazing – direct evidence of animals or their signs.

Back to Additional Secondary Code List

Code and Name

102 Sheep grazed

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ s~

Definition

Managed by sheep grazing – direct evidence of animals or their signs.

Back to Additional Secondary Code List

Code and Name

103 Horse grazed

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

Managed by horse grazing – direct evidence of animals or their signs.

Back to Additional Secondary Code List

Code and Name

104 Other grazed

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ s~

Definition

Managed using livestock other than cattle, sheep or horses – e.g. goats, pigs, donkeys, farmed deer or exotic animals such as llamas or alpacas.

Back to Additional Secondary Code List

Code and Name

105 Burnt

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~ c~ u~

Definition

Evidence of deliberate or accidental burning of vegetation (e.g. dwarf-shrubs, grass, Bracken *Pteridium aquilinum*, Gorse *Ulex spp*.) that has consumed within the current year or season all or most of the above-ground biomass.

Exclusions

Burnt areas from previous years.

Back to Additional Secondary Code List

Code and Name

106 Mown

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~ s~

Definition

Mechanised cutting of grass, Bracken *Pteridium aquilinum*, tall-herbs or dwarf-shrubs, including flailing, strimming, on intervals from 6 months (grass) to several years (heathland).

Back to Additional Secondary Code List

Code and Name

107 Mown and collected

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~ s~

Definition

Open habitat that is mown or cut with the arisings collected and removed, usually for biodiversity enhancement reasons.

Exclusions

Grasslands cut for hay (see 109).

Grasslands cut for silage or haylage (see 110).

Lawn mowing in gardens.

Back to Additional Secondary Code List

Code and Name

108 Frequently mown

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ s~ u~

Definition

Frequent (>2 times per year) mechanised cutting of grass, as in garden lawns, golf course fairways and urban parks managed as short grassland. It is assumed the cuttings are collected or mulched by the mower.

Back to Additional Secondary Code List

Code and Name

109 Hay

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ s~

Definition

Mechanised cutting or scything of grassland followed by sun-drying and collection of the cut material.

Back to Additional Secondary Code List

Code and Name

110 Silage and haylage

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

Grassland used as grass or other green fodder that is compacted and stored in airtight conditions, without first being fully dried, and used as animal feed in the winter.

Back to Additional Secondary Code List

Code and Name

111 Hedgebank

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

h~ w~

Definition

Earthbank with height ≥0.5m from its base with a more or less continuous hedgerow or line of trees along its top.

.

Landscape and ecological context

Banks associated with hedgerows are common landscape features of Devon and Cornwall but may be found elsewhere.

Exclusions

Earthbank with a gappy hedgerow or only herbaceous species, Bracken *Pteridium aquilinum* or Bramble *Rubus fruticosus agg.* along its top (see 112).

Stone-faced bank (see 113).

Back to Additional Secondary Code List

112 Earthbank

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

A bank with height ≥0.5m from its base that at one time may have had a hedge along the top but where the hedge is now absent. The bank has a slope on both sides.

Exclusions

Archaeological features such as strip lynchets.

Stone-faced bank (see 113).

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Code and Name

113 Stone-faced bank

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

A stone-faced bank with height ≥0.5m from its base with or without a hedge along its top.

Back to Additional Secondary Code List

Code and Name

114 Dry stone wall

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

u1e

Definition

A wall consisting of stones without mortar or cement, with or without a top-wire.

Inclusions

Dry stone walls with a mortared top line of cap or coping stones

Back to Additional Secondary Code List

Code and Name

115 Grazing and browsing exclosure

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

g~ h~

Definition

An area of open habitat that has been fenced to exclude livestock or deer in order to promote vegetation or wildlife features.

Back to Additional Secondary Code List

Code and Name

116 Flailed hedgerow

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

h2~

Definition

Hedgerow managed by mechanical flail in the last 3 years.

Back to Additional Secondary Code List

Code and Name

117 Laid hedgerow

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

h2~

Definition

Hedgerow managed by traditional laying (layering).

Inclusions

Outgrown, formerly laid hedgerow >5m tall that has clearly been left to grow for future laying.

Exclusions

Woody feature >5m tall that is not clearly left to grow for future laying (see 33, 34).

Back to Additional Secondary Code List

Code and Name

118 Species-rich hedgerow ground flora

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Line

Allowable Primary Codes

h2~

Definition

Hedgerows (see h2~) with a rich herbaceous ground flora.

Inclusions

Species-rich native hedgerows (see h2a5) are defined exclusively through woody species. Hedgerows with species-rich hedgerow ground flora may or may not be species-rich native hedgerows (see h2a5, h2a6).

Species

There is currently no standard UK definition of species-rich hedgerow ground flora. Criteria may be set locally.

Back to Additional Secondary Code List

Code and Name

119 Green lane

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ u~

Definition

An unsurfaced track vegetated underfoot, often enclosed by hedges or dry stone walls. May or may not be a public right of way. They are normally of great age.

Exclusions

Unsurfaced unvegetated tracks bounded only by walls.

Back to Additional Secondary Code List

Code and Name

120 Grouse moor

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ f~

Definition

Moorland managed primarily for the purposes of grouse rearing and shooting.

Back to Additional Secondary Code List

Code and Name

121 Calcareous-acidic mosaic

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~

Definition

A small-scale mosaic of vegetation types with predominance of calcicole and calcifugous species.

Back to Additional Secondary Code List

Code and Name

122 Ridge and furrow

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~

Definition

An archaeological pattern of ridges and troughs created by a system of ploughing used in Europe during the Middle Ages, typical of the open field system.

Landscape and ecological context

This land-use is closely linked with Lowland meadows (see g3a~).

Synonyms

Rig (or rigg) and furrow (mostly in Scotland and the northeast of England).

Back to Additional Secondary Code List

Code and Name

123 Water meadow irrigation

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~

Definition

Controlled flooding through ditches and runnels to create temporary shallow water across fields in spring.

Landscape and ecological context

A traditional management method used for centuries on some floodplains to increase soil fertility and promote early grass growth.

Back to Additional Secondary Code List

Code and Name

124 Anthills

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~

Definition

Mounds of soil created by ants, usually at least part-vegetated in grassland and unvegetated in woodlands.

Back to Additional Secondary Code List

Code and Name

125 Flower forage abundant

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

Wildflower rich brownfields in urban areas or open habitats in agricultural landscapes providing important forage for bees, bumblebees or other invertebrates.

Inclusions

Successful pollen and nectar mixes (see c1a6 or c1c8).

Back to Additional Secondary Code List

Code and Name

126 Seed forage abundant

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

c~ g~ u~ s~

Definition

Seed-rich brownfields in urban areas or open habitats in agricultural landscapes providing important forage for birds and other fauna.

Inclusions

Areas or strips sown on agricultural land for the purpose of feeding birds (wild or reared). The code can be used with c1a or c1c6 in this context.

Back to Additional Secondary Code List

Code and Name

127 Sward type mosaic

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

A grassland site with a mosaic of sward types such as short grazed or mown, tall flower-rich or tussocky.

Exclusions

Large-scale mosaics of sward types or management units that merit management as separate features.

Back to Additional Secondary Code List

Code and Name

128 Tall or tussocky sward

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

Tall swards, with or without tussocks, providing nectar, pollen, foodplants, seeds, dead seedheads and prey items for invertebrates and certain bird species.

Back to Additional Secondary Code List

Code and Name

129 Wet moss lawns

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~

Definition

Areas where moss is the dominant ground cover (>95%).

Inclusions

Ground flora of damp woodlands that are particularly found in the north and west of the UK.

Disused concrete areas in urban sites that become covered with moss and stonecrops *Sedum spp.*.

Green roofs (see 86, 87, 88, 89) with dominant moss.

Exclusions

Areas that do not have >95% moss cover.

Wetland habitats with bryophytes dominant (see 409).

Back to Additional Secondary Code List

Code and Name

130 Waxcap grassland

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

Grasslands with rich assemblages of Waxcap and other fungi of high conservation importance.

Landscape and ecological context

Grassland fungi are typically associated with grasslands of low fertility; these include meadows and pastures both in the lowlands and uplands of the UK, but also ancient lawns, cemeteries, old mineral workings and reservoir embankments. These fungi show a strong preference for grassland that is regularly grazed or mown, and without any significant applications of artificial fertiliser or other chemical treatments (Griffith & Roderick, 2008).

Inclusions

Although Waxcaps, the genus *Hygrocybe sensu lato*, tend to form the most conspicuous and recognisable constituent of these grasslands, other fungi can be of equal, or greater, conservation importance. Some mycologically rich grasslands appear to support a relatively low diversity of vascular plants.

Five groups of grassland fungi – the CHEGD groups – have traditionally been assessed (Bosanquet et al., 2018). The five broad CHEGD groups comprise the following currently accepted genera:

C (Clavarioid fungi): *Clavaria*, *Clavulinopsis*, *Ramariopsis*;

H (*Hygrocybe* s.*l.*): *Cuphophyllus*, *Gliophorus*, *Gloioxanthomyces*, *Hygrocybe* s. *str.*, *Neohygrocybe*, *Porpolomopsis*;

E (*Entoloma*): *Entoloma* s.l.;

G (Geoglossoid fungi): *Geoglossum*, *Glutinoglossum*, *Microglossum*, *Sabuloglossum*, *Trichoglossum*;

D (*Dermoloma* etc.): *Dermoloma*, *Porpoloma* (*Pseudotricholoma metapodium*), *Camarophyllopsis*, *Hodophilus*.

Back to Additional Secondary Code List

Code and Name

131 Arable reversion grassland

Category Type

Additional Secondary Codes - Grasslands and Heathlands

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

Grassland that has its origins on reverted arable land, primarily through agri-environment scheme incentives in the late 20th and early 21st century. Targets, in terms of improved or species-rich, and methods – re-seeding or encouraging natural regeneration through long term set-aside – have varied according to context. All types are included here.

Back to Additional Secondary Code List

Code and Name

200 Tree

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Forest phanerophyte at any stage of growth, e.g. Oak *Quercus spp*. or Ash *Fraxinus excelsior* but not Hawthorn *Crataegus monogyna* or Hazel *Corylus avellana*.

Back to Additional Secondary Code List

Code and Name

201 Young trees – planted

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Areas where planting is clearly visible. Guards to protect trees may still be visible.

Inclusions

Trees planted along the side of a road, usually located on the pavement edge in tree pits.

Exclusions

Agro-forestry (see 617).

Back to Additional Secondary Code List

Code and Name

202 Young trees – self-set

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Tree seedlings or saplings of natural regeneration origin. Can be in woodland, scrub or in open habitats.

Back to Additional Secondary Code List

Code and Name

203 Mature tree

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

An individual mature tree at least two-thirds of its expected fully mature height for the species.

Inclusions

Trees planted along the side of a road, usually located on the pavement edge in tree pits.

Back to Additional Secondary Code List

Code and Name

204 Veteran tree

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

A tree, usually in the second or mature stage of its life, with important wildlife and habitat features, including; hollowing or associated decay fungi, holes, wounds and large dead branches. It will generally include old trees but also younger, middle-aged trees where premature aging characteristics are present.

Inclusions

A more precise definition is likely to be published in the course of 2023. For more information see the Keepers of Time publication (DEFRA, 2022).

Exclusions

Veteran trees may or may not be ancient trees (see 205).

Back to Additional Secondary Code List

Code and Name

205 Ancient tree

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Point

Allowable Primary Codes

g~ h~ f~ c~ u~ s~ r~

Definition

Attributes can include great age in comparison with other trees of the same species and great size in terms of trunk girth.

Inclusions

A more precise definition is likely to be published in the course of 2023. For more information see the Keepers of Time publication (DEFRA, 2022).

All ancient trees should also be recorded as veteran trees (see 204).

Back to Additional Secondary Code List

Code and Name

206 Felled

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ s~

Definition

Woodland areas that have been felled or stands where the stocking has been reduced to <25% and where it is expected that these areas will be replanted.

Back to Additional Secondary Code List

Code and Name

207 Forest brash

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

In a felled woodland area, brash consists of the tops and small-diameter branchwood left lying on the ground after the merchantable wood has been extracted.

Inclusions

Whole trees in windblown areas.

Back to Additional Secondary Code List

Code and Name

208 Ground prepared for planting

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ s~

Definition

Land recently converted from some other land-use to woodland and showing plough furrows or mounding but the new planting, if present, cannot yet be discerned. Often used with ‘bare ground’ (see 510).

Back to Additional Secondary Code List

Code and Name

209 Avenue

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

A collection of trees planted along both sides of roads or paths or, as a landscape feature, two (very rarely three or four) rows of trees in parkland.

Inclusions

Native and non-native trees.

Back to Additional Secondary Code List

Code and Name

210 Coppice

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Crops of broadleaved species that have ≥2 stems per stool and are either being worked or are capable of being worked on rotation. With the exception of Hazel *Corylus avellana* coppice, more than half the stems should be capable of producing 1m timber lengths of good form.

Landscape and ecological context

A woodland management method most frequently used for biodiversity enhancement rather than commercial production in recent decades.

Back to Additional Secondary Code List

Code and Name

211 Coppice with standards

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Two-storey woodland stands where the overstorey consists of ≥25 stems per ha that are older than the understorey of worked coppice by ≥1 coppice rotation.

Back to Additional Secondary Code List

Code and Name

212 High forest

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

All woodland except stands managed as coppice (see 210) or coppice-with-standards (see 211). Some stands have the potential to produce sawlogs.

Back to Additional Secondary Code List

Code and Name

213 Complex woody structure

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Woodland habitat with a wide range of structural types such as shrubs, understorey, mature and senescent trees.

Landscape and ecological context

This code describes variety and can be used with other woodland secondary codes to describe woodland structure.

Back to Additional Secondary Code List

Code and Name

214 Fallen dead wood abundant

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

w~

Definition

Fallen dead wood in woodland ≥40m³ per ha.

Back to Additional Secondary Code List

Code and Name

215 Standing dead wood abundant

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

>20 standing dead trees (snags) per ha, some of which are ≥40 cm in diameter.

Back to Additional Secondary Code List

Code and Name

216 Large hollows or cavities

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

Semi-enclosed cavities which have naturally formed in the trunk or branch of a tree. Predominantly found in old trees, living or dead.

Exclusions

Hollows in the ground.

Back to Additional Secondary Code List

Code and Name

217 Woodland open space

Category Type

Additional Secondary Codes - Woodlands and Trees

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

Rides, glades, power line routes and fire breaks that are completely surrounded by woodland or, in the case of linear features, have woodland on both sides.

Exclusions

Rides and glades that have >25% tree canopy cover.

Unvegetated forestry tracks (see 839).

Back to Additional Secondary Code List

Code and Name

300 Lowland rivers with shallow gradients and rich geology

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

Group A in the River Groups classification (Holmes, 1983) which represents an environmental gradient from lowland eutrophic rivers, to those that are essentially upland, torrential and oligotrophic. Lowland rivers with shallow gradients and rich geology include Lowland, low-gradient rivers (Type I), Lowland, clay dominated rivers (Type II), Chalk rivers (see 51) and other base-rich rivers with stable flows (Type III) and Impoverished lowland rivers (Type IV).

Back to Additional Secondary Code List

Code and Name

301 Meso-eutrophic rivers on sandstone and hard limestone

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

Group B in the River Groups classification (Holmes, 1983) which represents an environmental gradient from lowland eutrophic rivers, to those that are essentially upland, torrential and oligotrophic. Meso-eutrophic rivers on sandstone and hard limestone include sandstone, mudstone and hard limestone rivers of England and Wales (Type V) and sandstone, mudstone and hard limestone rivers of Scotland and northern England (Type VI).

Back to Additional Secondary Code List

Code and Name

302 Mesotrophic and oligo-mesotrophic rivers

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

Group C in the River Groups classification (Holmes, 1983) which represents an environmental gradient from lowland eutrophic rivers, to those that are essentially upland, torrential and oligotrophic. Mesotrophic and oligo-mesotrophic rivers include Mesotrophic rivers dominated by gravels, pebbles and cobbles (Type VII) and Oligo-mesotrophic rivers (Type VIII).

Back to Additional Secondary Code List

Code and Name

303 Acid and nutrient-poor rivers

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

Group D in the River Groups classification (Holmes, 1983) which represents an environmental gradient from lowland eutrophic rivers, to those that are essentially upland, torrential and oligotrophic. Acid and nutrient-poor rivers include Oligotrophic low-altitude rivers (Type IX) and Ultra-oligotrophic rivers (Type X).

Back to Additional Secondary Code List

Code and Name

304 Unobstructed river system

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

River systems allowing completely free movement of fish from source to mouth with no artificial obstructions such as dams and weirs.

Back to Additional Secondary Code List

Code and Name

305 Spring

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ s~ r~

Definition

Gushing or trickling springs and the vegetation associated with them.

Inclusions

Springs arising from a point source which seep at or over the surface and are not immediately channelised.

Back to Additional Secondary Code List

Code and Name

306 Headwaters

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

A watercourse within 2.5km of its furthest source as marked with a blue line on Ordnance Survey (OS) maps at a scale of 1:50,000. Note that each tributary of a river will have its own headwater, so there will be >1 per catchment.

Back to Additional Secondary Code List

Code and Name

307 Waterfall

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Line Point

Allowable Primary Codes

r2 s~

Definition

A cascade of water falling from a height, formed when a river or stream flows over a precipice or steep incline.

Back to Additional Secondary Code List

Code and Name

308 Active shingle rivers

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

This habitat comprises those rivers which have significant reaches composed of a gravel or pebble bed material (with grain sizes in the range 2–256 mm), sometimes with discrete sandy reaches or deposits (0.064–2 mm diameter) in areas of lower slope and having characteristic suites of features generated by the processes of erosion, sediment transport, deposition, and storage. Their headwaters are usually in upland areas which generate high-energy discharges, resulting in intermittent sediment movement. Average bed sediment size usually declines downstream (with the downstream reduction in underlying gradient and stream power) generating a commensurate change in habitat.

Back to Additional Secondary Code List

Code and Name

309 Riffles

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

An area of river or stream characterised by shallow depths with fast, turbulent water.

Back to Additional Secondary Code List

Code and Name

310 Gravel beds

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

A river bed comprising clastic material of at least 2mm in diameter, including pebbles and cobbles. Characteristic of montane and upland valleys.

Back to Additional Secondary Code List

Code and Name

311 Coarse woody debris in-channel

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Line Point

Allowable Primary Codes

r~

Definition

Entire trees, branches or root plates that have fallen into watercourses. Often spans the entire width of smaller streams to accumulate into 'debris dams', whilst in main rivers wood collects in backwaters, shallows or wooded margins.

Back to Additional Secondary Code List

Code and Name

312 Base-rich water

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

f~ r~

Definition

Water with relatively high levels of dissolved calcium and magnesium.

Back to Additional Secondary Code List

Code and Name

313 Backwaters

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r~

Definition

An area of water that is connected to a river but is not affected by its current.

Inclusions

Former meanders and-or pools with a slow turnover of water.

Back to Additional Secondary Code List

Code and Name

314 Mudbanks

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r~ s~ t~

Definition

A submerged or partly submerged bank of mud along a shore or in a river. These are particularly common on tidal rivers.

Back to Additional Secondary Code List

Code and Name

315 Exposed riverine sediments

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

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.

Back to Additional Secondary Code List

Code and Name

316 Shallow pools

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line Point

Allowable Primary Codes

r2~

Definition

An area of slow current within or to the side of a faster current of freshwater, of modest depth.

Back to Additional Secondary Code List

Code and Name

317 Tidal river

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

A river whose flow and level are influenced by tides and vegetation is affected by saltwater. Tidal rivers can be found using OS Open Rivers maps.

Exclusions

Estuaries (see 74).

Back to Additional Secondary Code List

Code and Name

318 Canalside

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~

Definition

Land, typically including a towpath, between the aquatic habitat of the canal and the boundary of the canal corridor.

Back to Additional Secondary Code List

Code and Name

319 Watercourse buffer strip

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~

Definition

A strip of vegetation beside a watercourse that intercepts and slows runoff water to reduce the risk of potential pollutants, such as sediment, pesticides and nutrients reaching the watercourse.

Back to Additional Secondary Code List

Code and Name

320 Lakes and ponds buffer

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ h~ f~

Definition

Vegetation created around a lake or pond that intercepts and slows runoff water to reduce the risk of potential pollutants, such as sediment, pesticides and nutrients reaching the water body.

Back to Additional Secondary Code List

Code and Name

321 Timber sluice

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Point

Allowable Primary Codes

r~

Definition

A timber sluice installed to provide a mechanism for water level control, supporting raised water levels for maintaining, restoring or creating habitats.

Back to Additional Secondary Code List

Code and Name

322 Re-meandering

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Area Line

Allowable Primary Codes

r2~

Definition

Creation of a new meandering course or reconnecting cut-off meanders in a river, slowing river flow.

Back to Additional Secondary Code List

Code and Name

323 Riverbank re-profiling

Category Type

Additional Secondary Codes - Freshwater

Spatial Feature Type

Line

Allowable Primary Codes

r2~

Definition

Riverbank re-profiling seeks to restore or recreate the natural cross-sectional profile of a river, usually to enhance biodiversity.

Back to Additional Secondary Code List

Code and Name

400 Topogenous

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

High water tables are maintained principally by the topography of the site, with mainly vertical water movement through peat and soil.

Back to Additional Secondary Code List

Code and Name

401 Soligenous

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

High water tables are maintained principally by lateral water movement.

Back to Additional Secondary Code List

Code and Name

402 Rich fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands fed by mineral-enriched calcareous waters (pH ≥5).

Back to Additional Secondary Code List

Code and Name

403 Poor fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands fed by water derived from base-poor rock such as sandstones and granites.

Back to Additional Secondary Code List

Code and Name

404 Fertile fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area Line

Allowable Primary Codes

f~

Definition

Nutrient enriched fen that is dominated by species of eutrophic conditions.

Back to Additional Secondary Code List

Code and Name

405 Infertile fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area Line

Allowable Primary Codes

f~

Definition

Fen with no signs of eutrophication and with species not associated with high fertility.

Back to Additional Secondary Code List

Code and Name

406 Swamp

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Species-poor wetland vegetation types, each dominated by often tall or bulky monocotyledons and with a usually ill-defined understorey element or none.

Back to Additional Secondary Code List

Code and Name

407 Tall fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands consisting largely of Common Reed *Phragmites australis* or Great Fen-sedge *Cladium mariscus* stands mixed with herbaceous dicotyledons such as Milk Parsley *Peucedanum palustre*, Hemp-agrimony *Eupatorium cannabinum* or Common Nettle *Urtica dioica*; some examples are maintained by mowing and thus the phyiognomy can be highly variable.

Back to Additional Secondary Code List

Code and Name

408 Small-sedge fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands with the smaller sedges such as Dioecious Sedge *Carex dioica*, Tawny Sedge *Carex hostiana*, Common Sedge *Carex nigra*, Long-stalked Yellow-sedge *Carex viridula subsp. brachyrrhyncha* and Carnation Sedge *Carex panicea*, and maybe sedge allies such as Few-flowered Spike-rush *Eleocharis quinqueflora* and Flat-sedge *Blysmus compressus*, usually in association with extensive bryophyte cover, and formed in areas of lower fertility.

Back to Additional Secondary Code List

Code and Name

409 Bryophyte-dominated

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands in which a wide range of bryophytes may form continuous carpets, the species assemblages being determined by the base-status, rather than fertility of the water supplying the fen, which is typically very low.

Inclusions

Can be used on moss covered concrete or green roofs.

Exclusions

Bryophyte-dominated ground flora in woodland.

Species

Characteristically consists either of 'brown-moss' carpets comprising species such as *Palustriella commutata*, *Campylium stellatum*, *Scorpidium revolvens* and *Scorpidium scorpioides* in base-enriched conditions or Bog-moss *Sphagnum spp*. swards in more acidic conditions.

Back to Additional Secondary Code List

Code and Name

410 Open water fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~ r~

Definition

Fens formed by rafts of vegetation colonising open water and then sinking to form a layer of peat.

Landscape and ecological context

Dangerous to survey.

Back to Additional Secondary Code List

Code and Name

411 Transition fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~ r~

Definition

Transition fens develop around a body of open water. The proportion of open water is large. The fen may consist of an encroaching stand of reeds and sedges, or it may develop as an expanding floating raft of vegetation.

Back to Additional Secondary Code List

Code and Name

412 Basin fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Wetlands that have developed in a flooded basin with a limited through-flow of water. The lake may infill by gradual successional encroachment by open-water transition fen, or it may become enclosed first by a 'Schwingmoor' layer and then infill with detritus sinking downwards from the 'Schwingmoor' layer.

Back to Additional Secondary Code List

Code and Name

413 Floodplain fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Develops on the waterlogged, periodically-inundated floodplain of a river system. Although the river channel and leveés contain the river for most of the time, flood events allow the river to spread across the floodplain, leaving much standing water, waterlogged ground and riverine deposits as it recedes back into its channel.

Back to Additional Secondary Code List

Code and Name

414 Basin raised bog lagg fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Basin raised bog lagg fen represents the minerotrophic transition zone surrounding a basin-raised bog, where bog waters and groundwater mix.

Back to Additional Secondary Code List

Code and Name

415 Floodplain raised bog lagg fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

This type represents the minerotrophic transition zone surrounding a floodplain raised bog, where bog waters and groundwater mix.

Back to Additional Secondary Code List

Code and Name

416 Spring fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

Spring fen often represents a rather small feature of some tens of metres in length, where groundwater emerges and often gives rise to a moss-dominated mound of vegetation.

Back to Additional Secondary Code List

Code and Name

417 Surface flow spring fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

A surface flow spring fen often represents a much larger feature than a simple spring fen (which may still form a relatively small mound at the head of this system). The emerging spring water flows across the ground surface downslope, sometimes for considerable distances, giving rise to fen peat formation which is usually highly linear in plan view, forming pale bands or fingers running downslope.

Back to Additional Secondary Code List

Code and Name

418 Percolation spring fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

This type of fen develops when the water emerging from a simple spring becomes engulfed in extensive growth of bryophytes – either Sphagnum or 'brown mosses' – leaving no trace of moving water on the surface because it all now percolates downslope through the mass of bryophyte litter and peat which has accumulated.

Back to Additional Secondary Code List

Code and Name

419 Surface flush or rill or soakaway

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area Line

Allowable Primary Codes

f~

Definition

This represents a relatively narrow zone of water collection and transport, often representing the upper reaches of what will eventually become small streamlines.

Back to Additional Secondary Code List

Code and Name

420 Valley fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

A valley fen in some ways is a diminished version of a floodplain fen (see 413), in that the central watercourse is not a river but a small stream or seepage-line, and it rarely if ever floods across the shallow valley system. Consequently, the vegetation zone a little set back from the watercourse is often base-poor and somewhat stagnant, leading to development of habitat very similar to bog, but still minerotrophic.

Back to Additional Secondary Code List

Code and Name

421 Ladder fen

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

f~

Definition

A ladder fen is a particular form of valley fen, but one in which shallow bog-pool patterns run across the line of water seepage rather than parallel with it, as is the case with a typical valley fen.

Back to Additional Secondary Code List

Code and Name

422 Cutover peat

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ f~ r~

Definition

Areas of bog where peat has been ‘mined’ leaving bare peat and-or pools, often with a ≥20cm face marking where digging ceased.

Inclusions

Commercial peat mining and ‘traditional’ peat cutting around crofting communities.

Back to Additional Secondary Code List

Code and Name

423 Grip

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Line

Allowable Primary Codes

g~ h~ f~

Definition

Small drainage channels across moorland or flood meadows that help remove surface water but not affecting soil water. These can be seasonally wet, especially on flood meadows.

Exclusions

Structures designed to supply water meadows with water seasonally (see 123). These can be known as carriers with panes and drains forming “bedworks”. Code as a ditch (see 50).

Back to Additional Secondary Code List

Code and Name

424 Grip blocking

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Point

Allowable Primary Codes

g~ h~ f~

Definition

The blocking of drainage ditches, or grips, on blanket bog and wet heathland to restore habitats.

Landscape and ecological context

Moorland gripping is the practice of digging ditches to drain wet areas of heath and blanket bog. Gripping was a practice particularly widespread in the northern uplands and on Exmoor and Dartmoor. Changes to the hydrological management of upland habitats can be detrimental to the characteristic vegetation and species of the uplands, as well as increasing the risk of soil erosion and flash flooding.

Grip blocking can help to restore natural drainage patterns, encourage re-vegetation, reduce erosion, and minimise the knock-on effect of hydrological change downstream.

Exclusions

Sluices.

Water-gates.

Back to Additional Secondary Code List

Code and Name

425 Beaver-made wetland

Category Type

Additional Secondary Codes - Wetlands

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~

Definition

Wetlands created or significantly modified by the activities of the Eurasian beaver *Castor fiber,* such as the felling of trees and construction of dams across watercourses.

Landscape and ecological context

The native Eurasian beaver *Castor fiber* became extinct in the UK in the sixteenth century and has been successfully reintroduced into parts of the UK in the early twenty-first century. It is the only native animal that merits the term 'habitat architect' at the scale used in habitat classification and mapping. Beavers offer a nature-based solution to improving the health and function of river catchments. Beaver-created wetlands can act as sponges, resulting in more constant flows and retaining water during droughts. A series of leaky beaver dams can reduce the speed of flow and help reduce the chance of flash flooding. Beaver dams can capture organic sediments, reducing the effects of agricultural runoff and harmful chemicals such as pesticides, helping to improve water quality downstream.

Inclusions

Wetlands, standing water, running water and woodlands where the habitat has been created or significantly modified by Beaver activity.

Exclusions

Other areas of habitat that may be used by Beaver but the habitat is not significantly modified by the activities of the species.

Species

Wetlands created or modified by Beaver are valuable for many other species, such as Otter *Lutra lutra*, Water vole *Arvicola amphibius*, Common frog *Rana temporaria,* Toad *Bufo bufo*, Water shrew *Neomys* fodiens and Eurasian woodcock *Scolopax rusticola*. Craneflies, water beetles and dragonflies in turn support breeding fish and insect-eating birds. Woodpeckers, bats and invertebrates use the standing dead wood created by the gnawing of trees.

Back to Additional Secondary Code List

Code and Name

500 Dry

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

Water table <100 cm of the surface, water available only during some periods. NB there are very few areas in the east and southeast of England that meet this definition.

Back to Additional Secondary Code List

Code and Name

501 Mesic

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

Water table 40–100 cm below the surface, available water during most of the non-summer period, may dry out during the mid-summer period.

Back to Additional Secondary Code List

Code and Name

502 Seasonally wet

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ c~ u~ s~

Definition

Water table variable at the surface and waterlogged for the winter months or spring flooding season, becoming mesic during the summer period.

Back to Additional Secondary Code List

Code and Name

503 Wet

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

Water table within 40 cm of the surface and soil containing free water for most of the year.

Back to Additional Secondary Code List

Code and Name

504 Waterlogged

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

w~ f~ c~ u~ s~

Definition

Water table at the surface with standing water for 50-70% of the year or with the soil completely saturated. Only small patches remain ‘wet’ in mid-summer.

Back to Additional Secondary Code List

Code and Name

505 Inundation vegetation

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~ s~ r~

Definition

Frequently inundated vegetation, the water table distinctly above the level of the substrate for most of the year.

Back to Additional Secondary Code List

Code and Name

506 Nutrient-poor substrate

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Terrestrial or aquatic habitat with markedly low levels of macronutrients – nitrogen, phosphorus and potassium. Plant species with low Ellenberg 'N' values will be common.

Back to Additional Secondary Code List

Code and Name

507 Nutrient-enriched substrate

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

A surface, such as stream bottom, former manure heaps, middens, soil, tree bark or rock, with locally higher levels of nutrients, such as nitrates.

Inclusions

Formerly nutrient poor soils that have become enriched due to nitrogen deposition or other pollution incidents, such as lowland heath by roads.

Back to Additional Secondary Code List

Code and Name

508 Base-rich substrate

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Soil, water, tree bark or rock with high levels of calcium or magnesium ions often with a specialised flora.

Landscape and ecological context

Many semi-natural habitats that are present on these soils do not require this secondary code as the primary code is sufficient. These codes (508, 509) are particularly useful in urban development sites where vegetation is not semi-natural.

Back to Additional Secondary Code List

Code and Name

509 Acidic substrate

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Soil, water, tree bark or rock with high levels of hydrogen ions.

Landscape and ecological context

Many semi-natural habitats that are present on these soils do not require this secondary code as the primary code is sufficient. These codes (508, 509) are particularly useful in urban development sites where vegetation is not semi-natural.

Back to Additional Secondary Code List

Code and Name

510 Bare ground

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

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.

Inclusions

Seasonally wet bare patches in fields and areas poached by livestock.

Exclusions

Bare ground defined by its unvegetated state, such as intertidal mud.

Back to Additional Secondary Code List

Code and Name

511 Compacted substrate

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Soils with increased bulk density and lower porosity, in farmed or urban environments, usually caused by use of heavy machinery or development. The surface may become almost impermeable but never totally so.

Back to Additional Secondary Code List

Code and Name

512 Landslips

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

An area of active or recent soil movement down a slope.

Inclusions

Recent cliff slumping.

Exclusions

Rockfalls.

Back to Additional Secondary Code List

Code and Name

513 Rock outcrop

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ w~ h~ f~ s~

Definition

Rock outcrops or large boulders ≥ 3m wide or high.

Inclusions

Boulder fields where frequent rock outcrops or boulders of various sizes make up >20% of the ground.

Exclusions

Limestone pavements (see s1b5).

Cliffs or scree (see s1~).

Features larger than the minimum mappable area.

Back to Additional Secondary Code List

Code and Name

514 Snow patch

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Point

Allowable Primary Codes

g~ h~ f~ s~

Definition

Perennial snow patches, or seasonal snow patches lying into late spring or early summer where the surrounding snow field has melted away.

Back to Additional Secondary Code List

Code and Name

515 High humidity levels

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

Areas with a microclimate of permanently high humidity, as in a constricted valley around a watercourse, likely to be conducive to invertebrate and epiphytic species.

Back to Additional Secondary Code List

Code and Name

516 Active Management

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Back to Additional Secondary Code List

Definition

The habitat is being actively managed now. Record the management with a secondary code, preceding this code in the combined code order.

Code and Name

517 Recent Management

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

The habitat is not being actively managed now but there is evidence of recent management within the last 3 years. Record the management with a secondary code, preceding this code in the combined code order.

Back to Additional Secondary Code List

Code and Name

518 Neglected

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

The habitat is not being actively managed now and is likely to have been unmanaged for 3 to 10 years. Record the previous management with a secondary code if possible, preceding this code in the combined code order.

Back to Additional Secondary Code List

Code and Name

519 Abandoned

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

The habitat is not being actively managed now and is likely to have been unmanaged for at least 10 years.

Back to Additional Secondary Code List

Code and Name

520 Ancient management

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

There is evidence of former use, at least 50 years ago.

Inclusions

Strip lynchetts, woodbanks, park pales, earthworks, relic field bounadaries.

Exclusions

Ridge and Furrow (see 122).

Back to Additional Secondary Code List

Code and Name

521 Unmanaged

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

There is no evidence of any management at any time.

Back to Additional Secondary Code List

Code and Name

522 Native

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Predominantly species which are within their natural past or present distribution.

Inclusions

All archaeophytes.

Exclusions

All neophytes (see 523).

Back to Additional Secondary Code List

Code and Name

523 Non-native

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Predominantly species which have been introduced post 1559 by human action outside their past or present distribution.

Inclusions

All neophytes.

Exclusions

All archaeophytes (see 522).

Back to Additional Secondary Code List

Code and Name

524 Invasive non-native species

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Species that are introduced, intentionally or unintentionally, outside of their natural geographic range, causing environmental, social and-or economic impacts.

Species

Any type of organism can be an Invasive non-native species ('INNS') – including plants, animals, and microorganisms. >2,000 non-native species are established (reproducing in the wild) in the UK and some may provide economic, cultural or environmental benefits. However, an estimated 10–15% of these non-native species have negative impacts and are designated as INNS.

The following INNS plant species are listed as of special concern and are widespread in England and Wales:

American Skunk Cabbage *Lysichiton americanus*, Chilean Rhubarb *Gunnera tinctoria*, Curly Waterweed *Lagarosiphon major*, Floating Pennywort *Hydrocotyle ranunculoides*, Giant Hogweed *Heracleum mantegazzianum*, Himalayan Balsam *Impatiens glandulifera*, Nuttall's Waterweed *Elodea nuttallii* and Parrot's Feather *Myriophyllum aquaticum*.

Japanese Knotweed *Reynoutria japonica* and New Zealand Pygmyweed *Crassula helmsii* are also widespread and have severe adverse impacts.

A further 27 INNS plants are listed as of special concern but are not widespread in England and Wales.

Further regional lists that include INNS fauna are available online.

Back to Additional Secondary Code List

Code and Name

525 Invasive species control

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Site management activities undertaken specifically to control invasive, non-native species (see 524).

Back to Additional Secondary Code List

Code and Name

526 Accessible natural greenspace

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

Greenspace, natural and semi-natural, including rivers and lakes, that is accessible to the public at all times.

Inclusions

'Greenspace' includes habitats g~ (except g4), h~ (except h2), w~, f~, s~ and t~, including these habitats within an urban landscape. Urban habitats are only included if they also have appropriate secondary codes. 'Accessible' means places that are available for the general public to use free of charge and without time restrictions, although some sites may be closed to the public overnight and there may be fees for parking a vehicle.

Exclusions

Intensive farmland.

The built environment.

Back to Additional Secondary Code List

Code and Name

527 Nature reserve

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Statutory and non-statutory nature reserves designated or managed by government agencies, local authorities or NGOs.

Exclusions

Private nature reserves where management responsibility lies with a private landowner.

Back to Additional Secondary Code List

Code and Name

528 Walking or cycling route

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ u~ s~

Definition

Accessible open space, such as footpaths, cycle paths, cycleways, multi-use paths and accessible routes, such as those along disused railway lines.

Back to Additional Secondary Code List

Code and Name

529 Golf course

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~

Definition

Land enclosed and used for golf.

Inclusions

All land, including semi-natural habitats, within the golf course boundary.

Golf ranges.

Exclusions

Novelty courses based on golf.

Back to Additional Secondary Code List

Code and Name

530 Ecotone

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

Transitional area between two different ecosystems, such as bracken and a grassland, with species characteristic of each and often some restricted to the zone.

Back to Additional Secondary Code List

Code and Name

531 Cave open to the public

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Point

Allowable Primary Codes

g~ h~ s~ u~

Definition

The surface expression of caves, coastal or inland that can be accessible either as a tourist attraction or not.

Exclusions

'Caves not open to the public' Habitats Directive Annex 1 habitat (see 63).

Back to Additional Secondary Code List

Code and Name

532 Scattered grass

Category Type

Additional Secondary Codes - All Habitats

Spatial Feature Type

Area Line

Allowable Primary Codes

f~ h~ s~ t~ u~ w~

Definition

A non-grassland habitat with notable patches of grasses.

Inclusions

Grass cover can be up to 75% in sparse woodland or dwarf shrub heath.

Back to Additional Secondary Code List

Code and Name

600 Ploughed

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

Agricultural land that has been cultivated and has not yet re-vegetated.

Back to Additional Secondary Code List

Code and Name

601 Minimum tillage

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

Cultivation of land using mechanical methods other than ploughing, to reduce soil disturbance.

Back to Additional Secondary Code List

Code and Name

602 No tillage

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

No cultivation, beyond surface-hoeing or hand-weeding, either with machinery or hand tools, where the crop is sown directly into soil. Follows principle of avoiding inverting or disturbing soil, to reduce breakdown of organic matter and exposure of weed seed to light.

Back to Additional Secondary Code List

Code and Name

603 In-field fallow plot

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area Point

Allowable Primary Codes

c~

Definition

Uncropped fallow plot established within a field, particularly to support nesting bird species.

Landscape and ecological context

A size range of 1–5 hectares is recommended to target lapwing and curlew nesting.

Back to Additional Secondary Code List

Code and Name

604 Whole-field fallow

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

An entire field left fallow, with no crop present at the time of survey.

Back to Additional Secondary Code List

Code and Name

605 Mid-field bund

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ c~

Definition

A raised bank with sloping sides across pasture fields, designed to intercept overland flows and hold water during storms.

Back to Additional Secondary Code List

Code and Name

606 Mid-field swale

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ c~

Definition

An elongated depression with sloping sides across pasture fields, designed to intercept overland flows and hold water during storms.

Back to Additional Secondary Code List

Code and Name

607 Beetle bank

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ c~

Definition

Grass mounds, usually around 2 m wide and running through large arable fields, that are designed to boost predatory insect numbers to help pest control.

Back to Additional Secondary Code List

Code and Name

608 Under-field drainage

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ c~

Definition

Artificial drainage installed under the field surface for the purpose of raising agricultural production or forestry yield.

Exclusions

Ditches (see 50).

Back to Additional Secondary Code List

Code and Name

609 Cover crops

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

Close-growing crops that provide soil protection, seeding protection, and soil improvement between periods of normal crop production.

Back to Additional Secondary Code List

Code and Name

610 Catch crops

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

Establishment of quick-growing crops that are planted between two regular crops grown in consecutive seasons or between two rows of regular crops in the same season.

Back to Additional Secondary Code List

Code and Name

611 Soil erosion

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Point

Allowable Primary Codes

g~ w~ h~ c~ f~ s~

Definition

The displacement of a field's topsoil by the natural physical forces of water and wind, or vehicles, horses or pedestrians, or through forces associated with farming activities such as tillage.

Inclusions

Both natural erosion and that caused by humans.

Peat erosion.

Back to Additional Secondary Code List

Code and Name

612 Fence

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Line

Allowable Primary Codes

u1e

Definition

A linear barrier usually comprising wire with wooden or metal posts.

Inclusions

Post and rail fences.

Gates in fence lines.

Water gates.

Panelled wooden fences.

Metal fences, often associated with churchyards or parkland.

Exclusions

Walls with fence on top or with top-wire.

Back to Additional Secondary Code List

Code and Name

613 Fish farm

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~ c~ u~ s~ r~ t~

Definition

Places devoted to the operation of fish hatcheries and fish farms in inshore and freshwater areas.

Exclusions

Shellfish production.

Intensive angling lakes and intensive netting in estuaries.

Back to Additional Secondary Code List

Code and Name

614 Permanent agricultural grassland

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

g~

Definition

Grassland used for agriculture that has not been ploughed and re-seeded for ≥5 years.

Back to Additional Secondary Code List

Code and Name

615 City farm

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

g~ c~ u~

Definition

Areas that are generally managed and maintained as a small farm by the local population. They contain livestock and planting and are normally restricted in their access.

Exclusions

Allotments (see 616).

Community gardens (see 830).

Back to Additional Secondary Code List

Code and Name

616 Allotments

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

Land used for the cultivation of fruit and vegetables with numerous plots rented to local people.

Exclusions

City farms (see 615).

Back to Additional Secondary Code List

Code and Name

617 Agroforestry

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ w~ c~

Definition

A land management approach that combines trees and shrubs with crop and livestock farming systems.

Landscape and ecological context

The intentional combination of agriculture and forestry on the same land has multiple benefits, such as enhanced crop yields, increased biodiversity, improved soil structure and health, reduced erosion and higher carbon sequestration. Agroforestry may play an important role in regenerative agriculture.

Inclusions

Silvopasture.

Silvoarable.

Alley cropping.

Strip cropping.

Forest gardens.

Exclusions

Orchards (see c1e or 27). While orchards can be technically regarded as agroforestry, there is no need to use this code.

Back to Additional Secondary Code List

Code and Name

618 Paludiculture

Category Type

Additional Secondary Codes - Farming

Spatial Feature Type

Area

Allowable Primary Codes

g~ f~ c~

Definition

A system of farming on rewetted peat for the profitable production of wetland crops under conditions that support the competitive advantage of these crops. In the context of lowland peat soils, it is most usually achieved through raising of the water table to achieve wetland conditions.

Landscape and ecological context

A key benefit is protection of the carbon content of peat soils and reduction of greenhouse gas emissions from drained agricultural peatlands.

Back to Additional Secondary Code List

Code and Name

700 Port or marina

Category Type

Additional Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

r~ t~

Definition

A harbour, on the coast or tidal river, sheltering naval, fishing, container or recreational boats or ships.

Exclusions

Water sports facilities not involving boats.

Back to Additional Secondary Code List

Code and Name

701 Sea wall

Category Type

Additional Secondary Codes - Coast

Spatial Feature Type

Area Line

Allowable Primary Codes

u1b6

Definition

Stone structures on the coast designed for sea defence.

Inclusions

Large boulders where placed for sea defence.

Exclusions

Wooden groynes.

Back to Additional Secondary Code List

Code and Name

702 Saline influence

Category Type

Additional Secondary Codes - Coast

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

A habitat close to the sea showing some effects of saltwater or spray, with vegetation including halophytic species and-or species with a high Ellenberg salt value.

Landscape and ecological context

This secondary code is particularly important to add when demarcating the 'maritime cliff and slope' habitats coastal grassland and coastal heath and also where dune grassland fades into other grassland types (the former having this secondary code and the latter not).

Back to Additional Secondary Code List

Code and Name

703 Shelter from wave action

Category Type

Additional Secondary Codes - Coast

Spatial Feature Type

Area Line

Allowable Primary Codes

t~

Definition

A section of shore facing away from the open sea and protected from heavy wave action.

Back to Additional Secondary Code List

Code and Name

800 Road

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

u1b6

Definition

Transport route with a metalled tarmac or concrete surface.

Inclusions

Private estate roads.

Sealed surface roadside land.

Exclusions

RUPPs (Roads Used as A Public Path) and BOATs (Byways Open to All Traffic) if unsurfaced (see 119).

Cycleways where separate from a highway (see 528).

The 'soft estate' – verges and other vegetated roadside land (see 801).

Back to Additional Secondary Code List

Code and Name

801 Road verge or island

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Land alongside roads and in the middle of roundabouts. Will usually be managed by the local authority or highways authority.

Back to Additional Secondary Code List

Code and Name

802 Railway

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

u~

Definition

The rail track of an active railway, rail infrastructure and buildings.

Exclusions

Station car parks (see 804).

Vegetated areas between the rail track and railway fence (see 803).

Back to Additional Secondary Code List

Code and Name

803 Railside

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ u~ s~

Definition

Land including embankments and cuttings between the rail track and the boundary of the rail corridor.

Exclusions

The rail track, rail infrastructure and buildings (see 802).

Back to Additional Secondary Code List

Code and Name

804 Car Park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Permeable or impermeable surface used predominantly for parking of vehicles.

Back to Additional Secondary Code List

Code and Name

805 Development site

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Land where site works have started in preparation for development, but the construction phase of the development project is not yet complete.

Back to Additional Secondary Code List

Code and Name

806 Urban park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Traditional public open space laid out formally for leisure and recreation. Often, but not exclusively, owned by the local authority.

Back to Additional Secondary Code List

Code and Name

807 Pocket park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Small, < 1ha, urban park. Few, if any, facilities – typically just play equipment and maybe benches. Few natural features – just a small grassed area with a few shade trees.

Landscape and ecological context

Often found in housing estates.

Back to Additional Secondary Code List

Code and Name

808 Neighbourhood park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

1–5 ha urban park. Limited number of sports facilities. Play equipment, picnic sites, barbeque facilities and greenspace set aside for organised sport. Larger (than 807) areas of lawn, a field or two for organised sports and plantings of ornamental vegetation with shade trees. Some areas of impermeable surface.

Back to Additional Secondary Code List

Code and Name

809 Community park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

5–10 ha urban park. Some active recreation or organised sports facilities. May include community centre. Large areas of managed landscape, abundant lawn, shade trees and ornamental vegetation. Larger (than 808) areas of impermeable surface.

Back to Additional Secondary Code List

Code and Name

810 District park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

10–15 ha urban park. Many sports facilities, including sports fields for football, soccer basketball courts, tennis courts. Generous areas of managed landscape abundant lawn, shade trees and ornamental vegetation. Several areas of impermeable surface.

Back to Additional Secondary Code List

Code and Name

811 Regional park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

>25 ha urban park. Range of facilities e.g. large scale recreational activities – field sports, archery, canoeing, nature trails. Abundant natural features, mixture of managed landscapes and endemic vegetation. Much lower percentage of park is comprised of impermeable surfaces.

Back to Additional Secondary Code List

Code and Name

812 Country park

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Large areas set aside for informal countryside recreation near or within towns or cities. Few managed features and few, if any, facilities.

Back to Additional Secondary Code List

Code and Name

813 Educational building

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Buildings where education is the primary land-use.

Inclusions

Nurseries.

Schools.

Colleges.

Universities.

Field study centres used for education.

Exclusions

Greenspace around buildings, such as playing fields (see 814, 820, 821).

Educational nature reserves.

Back to Additional Secondary Code List

Code and Name

814 Educational premises open space

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

School, college or university grounds and field study centres where education is the primary function.

Back to Additional Secondary Code List

Code and Name

815 Commercial building

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Any part of a city or town in which the primary land use is commercial activities (e.g. shops, offices, theatres, restaurants).

Back to Additional Secondary Code List

Code and Name

816 Commercial premises open space

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Green space associated with commercial and industrial premises.

Back to Additional Secondary Code List

Code and Name

817 Industrial building

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Buildings used for heavy or light industry.

Back to Additional Secondary Code List

Code and Name

818 Residential building

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u1b5

Definition

Buildings used permanently or intermittently for human living.

Inclusions

Hotels.

Guesthouses.

Holiday chalets.

Back to Additional Secondary Code List

Code and Name

819 Residential premises open space

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Communal amenity space around housing estates and community centres.

Back to Additional Secondary Code List

Code and Name

820 Natural sports pitches

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ u~ s~

Definition

Flat areas of grassland used for a range of outdoor sports such as football, rugby, hockey and cricket, often with changing rooms and pavilions.

Inclusions

Sports pitches on educational premises (also use 814).

Back to Additional Secondary Code List

Code and Name

821 Artificial sports pitches

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u1~

Definition

Sports pitches where the pitch surfaces are artificial: they are constructed with a variety of human-made materials, such as timber boards, synthetic or bituminous products.

Inclusions

Sports pitches on educational premises (also use 814).

Athletics tracks.

Back to Additional Secondary Code List

Code and Name

822 Recreation ground

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ u~

Definition

An area of mown grass used primarily for informal ball games and similar activities, including dog walking.

Back to Additional Secondary Code List

Code and Name

823 Children's Play Space

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ u~

Definition

A site set aside mainly for children containing the usual paraphernalia of swings, slides and roundabouts.

Back to Additional Secondary Code List

Code and Name

824 Adventure playground

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ w~ s~ r~ u~

Definition

A play area for children or adults in a supervised environment. Boundaries and entrances are secure.

Inclusions

Aerial assault courses.

Skate parks.

Constructed cycle parks.

Back to Additional Secondary Code List

Code and Name

825 Ruined building

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ w~ h~ u~ s~

Definition

A building that is no longer used for its previous purpose because of physical damage or decay.

Back to Additional Secondary Code List

Code and Name

826 Castle or historic building or monument

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ u~ c~

Definition

Unoccupied castles, monuments, follies, heritage properties and historical ruins.

Inclusions

Historic landscape features that affect the habitat, such as iron-age forts.

Exclusions

Occupied castles or historic buildings that are considered to be residential or business premises.

Back to Additional Secondary Code List

Code and Name

827 Garden

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Land within the curtilage of a residential property, managed for leisure, visual amenity, wildlife or food production, or unmanaged.

Inclusions

Detached garages, greenhouses, polytunnels, sheds, communal amenity areas, pathways, drives and small or large patches of regularly mown grass.

Exclusions

The food production or grazed parts of smallholdings and crofts.

Mappable habitat patches of habitats other than 'regularly mown grass' within gardens.

Rain gardens (see 850).

Back to Additional Secondary Code List

Code and Name

828 Vegetated garden

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ u~ s~ r~

Definition

Garden that is principally vegetated, for example with large areas of grass and flower beds.

Back to Additional Secondary Code List

Code and Name

829 Unvegetated garden

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u1~

Definition

Garden that is principally unvegetated, for example with large areas of paving or decking.

Back to Additional Secondary Code List

Code and Name

830 Community garden

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

c~

Definition

An area that is generally managed and maintained by the local population, primarily for food growing. They are usually restricted in their access. May be temporary in nature.

Back to Additional Secondary Code List

Code and Name

831 Landfill

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ u~ s~

Definition

Areas where domestic and industrial waste are buried with interspersed layers of soil or clay.

Inclusions

Working landfill sites.

Closed landfill sites, often with a soil cap and covering grassland (also use 61).

Back to Additional Secondary Code List

Code and Name

832 Airport

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

u~

Definition

Used for take-off and landing of planes, including the associated site infrastructure for passengers and freight.

Exclusions

Associated industry (see 817).

Back to Additional Secondary Code List

Code and Name

833 Barn

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u~

Definition

A building of wood, stone or brick construction, or other traditional building materials, currently or formerly used in connection with farming, not used as a residence or other human living space.

Inclusions

Disused or derelict barns, if used with 830.

Exclusions

Modern agricultural buildings of steel construction (use u1b6).

Barn conversions (use u1b6).

All other farm buildings (use u1b6).

Farmyards (use u1b5 if impermeable, u1c if permeable).

Back to Additional Secondary Code List

Code and Name

834 Oil or gas drilling or extraction

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~ r~ t~

Definition

Exploration or extraction site for onshore or off-shore oil or gas.

Back to Additional Secondary Code List

Code and Name

835 Mine

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ c~ u~ s~ r~ t~

Definition

Mineral extraction, such as coal, mined underground.

Inclusions

The surface expression of mining infrastructure and spoil heaps.

Back to Additional Secondary Code List

Code and Name

836 Quarry – hard rock

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

A large, deep pit, from which stone has been extracted.

Exclusions

Clay, sand, gravel and marl pits.

Back to Additional Secondary Code List

Code and Name

837 Quarry – sand and gravel

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ w~ h~ f~ s~ r~

Definition

Open mining for materials occurring as small grain sizes, such as clay, sand and gravel.

Back to Additional Secondary Code List

Code and Name

838 Disused quarry

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ s~ u~

Definition

Areas that remain after quarrying ceases. May be water-filled.

Inclusions

Disused quarries that have become vegetated.

Back to Additional Secondary Code List

Code and Name

839 Track

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line

Allowable Primary Codes

g~ w~ h~ f~ c~ u~ s~

Definition

An unsurfaced route, more or less defined and approximately of vehicle width, used as transport by vehicle, on foot, cycle or horseback.

Inclusions

Track verges that are too narrow to be mapped as separate features.

Exclusions

Vegetated rides in forest or woodland (see 217).

Surfaced cycleways (see 528).

Back to Additional Secondary Code List

Code and Name

840 Caravan park or permanent campsite

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area

Allowable Primary Codes

g~ h~ u~

Definition

A site used for permanent or touring caravans, tent pitches or mobile homes at least for the summer months.

Exclusions

Sites with temporary caravans or tents exempted from local authority licencing.

Travellers' sites – use u1b.

Back to Additional Secondary Code List

Code and Name

841 Green wall

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Line

Allowable Primary Codes

u1b5

Definition

A partially or fully vegetated wall with its own growing medium, usually designed as new greenspace in an urban area.

Synonyms

Also known as a green facade or vertical garden.

Exclusions

Green façades in which vegetation such as Ivy *Hedera helix* is rooted in the ground.

Back to Additional Secondary Code List

Code and Name

842 Ground-based green wall

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Line

Allowable Primary Codes

u1b5

Definition

Ground-based climbing plants intended for ornamental and sometimes food production purposes.

Back to Additional Secondary Code List

Code and Name

843 Façade-bound green wall

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Line

Allowable Primary Codes

u1b5

Definition

Plants growing in façade-bound substrate such as containers or textile systems.

Back to Additional Secondary Code List

Code and Name

844 Balcony green

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Point

Allowable Primary Codes

u1b5

Definition

Plants on balconies and terraces, planted mostly in pots.

Back to Additional Secondary Code List

Code and Name

845 Ground level planters

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1~

Definition

Plants in pots or other planters at ground level.

Back to Additional Secondary Code List

Code and Name

846 Flower bed

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1~

Definition

Area periodically managed and planted with garden plants. Weeded and often with areas of bare soil, compost or mulch.

Back to Additional Secondary Code List

Code and Name

847 Introduced shrub

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1~

Definition

Non-native tall phanerophytes, mid phanerophytes or low phanerophytes planted in a garden or park setting.

Back to Additional Secondary Code List

Code and Name

848 Sustainable drainage system

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ f~ s~

Definition

Elements designed to manage surface water to aid in reducing flooding and increasing water quality.

Back to Additional Secondary Code List

Code and Name

849 Bioswale

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Line Point

Allowable Primary Codes

g~ f~ s~

Definition

Vegetated and gently sloped feature designed to manage water runoff, filter pollutants and increase rainwater infiltration.

Inclusions

Balancing ponds (also use 41, 48).

Back to Additional Secondary Code List

Code and Name

850 Rain garden

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

g~ f~ s~

Definition

Shallow depression planted with deep-rooted native plants and grasses, located near a runoff source like a downspout, driveway or sump pump to capture rainwater runoff and stop the water from reaching the sewer system.

Back to Additional Secondary Code List

Code and Name

851 Culvert

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Point

Allowable Primary Codes

u1~

Definition

A structure that channels water past an obstacle or to a subterranean waterway.

An artificially buried watercourse.

Back to Additional Secondary Code List

Code and Name

852 Water treatment filter bed

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Area Point

Allowable Primary Codes

u1~

Exclusions

Sustainable drainage systems (see 848)

Definition

A biological trickling filter system in which wastewater is passed through a porous material, normally housed in large, open, circular tanks.

Back to Additional Secondary Code List

Code and Name

853 Mortared wall

Category Type

Additional Secondary Codes - Built environment

Spatial Feature Type

Line

Allowable Primary Codes

u1e

Definition

An upright construction of stone, bricks or masonry with mortar.

Exclusions

Walls within urban (see u1~) primary habitats that are mapped as area features.

Back to Additional Secondary Code List

The UK Habitat Classification

Version 2.0

UKHab Ltd. is an independent, not-for-profit organisation established to maintain and update the UK Habitat Classification and to support its users through training and other services.