

LANDMAP methodology: classifications and definitions

The Welsh approach to describing and evaluating landscape character through the Geological Landscape, Landscape Habitats, Visual and Sensory, Historic Landscape and Cultural Landscape Services spatial datasets.

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What is this document about?

This document is a supplementary part of the LANDMAP methodology guidance for the Geological Landscape, Landscape Habitats, Visual and Sensory, Historic Landscape and Cultural Landscape Services. It replaces all 2016 LANDMAP methodology guidance.

This supplementary document sets out, and defines, the range of LANDMAP classifications.

The complete set of LANDMAP Methodology guidance includes:

GN007a	LANDMAP Methodology Overview
GN007b	LANDMAP Methodology Datasets
GN007c	LANDMAP Methodology Classifications and Definitions
GN007d	LANDMAP Methodology Survey Questions and Definitions
GN007e	LANDMAP Methodology Quality Assurance

You can download the LANDMAP Methodology Guidance Note from the LANDMAP webpage page: [Natural Resources Wales / LANDMAP - the Welsh landscape baseline](#)

Who is this document for?

This guidance is aimed at all users of LANDMAP who need to understand how LANDMAP information is derived, the definitions of terms, classifications and evaluations.

Key users will be local authority and National Park landscape and planning officers, consultants engaged in landscape assessments, woodland planners, land management decision makers and those using landscape information as an opportunity.

The guidance is also aimed at those preparing new, or updating existing, LANDMAP datasets ensuring it is consistent and robust evidence.

Contact for queries and feedback

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Contents

LANDMAP classification	3
Geological Landscape classification.....	4
Landscape Habitats classification	25
Visual and Sensory classification	28
Historic Landscape classification	36
Cultural Landscape Services.....	43
LANDMAP LMP09 classification	44
LANDMAP LMP14 classification	44
Table 1: LANDMAP classification levels and scales for the typologies.....	3
Table 2: Geological Landscape level 1, 2 and 3 typologies	7
Table 3: Landscape Habitats level 1, 2 and 3 typologies.....	25
Table 4: Visual and Sensory level 1, 2 and 3 typologies.....	30
Table 5: Historic Landscape level 1, 2, 3 and 4 typologies	37
Table 6: LANDMAP LMP09 typologies	44
Table 7: LANDMAP LMP14 typologies	45

LANDMAP classification

Landscape typologies enable the identification and classification of areas with a similar landscape character. In LANDMAP the typologies associated with a dataset are nested in a hierarchical classification of landscape types. The LANDMAP classifications and their associated typologies are unique to each dataset. The exception being Cultural Landscape Services, which adopts the Visual & Sensory classifications.

The landscape scale of the typologies is represented using levels. Level 1 represents the largest scale, becoming more detailed to level 3. LANDMAP areas must be mapped, classified, and surveyed to at least level 3. Level 4 is an optional level of classification when needed, usually for more detailed projects or plans. Definitions for the classification types and levels ensures compatibility between adjacent surveys and consistency across Wales.

Table 1 presents an overview of the LANDMAP hierarchical classification levels, and the scale each level represents in the context of that dataset.

Table 1: LANDMAP classification levels and scales for the typologies

LANDMAP dataset	Level 1	Level 2	Level 3	Level 4
Geological Landscape	General landscape character	Large-scale terrain or topography	Medium-scale typifying terrain or topography	Small-scale landform

LANDMAP dataset	Level 1	Level 2	Level 3	Level 4
Landscape Habitats	Broad ecosystems	Secondary habitats	Primary habitats	e.g., Phase 1 Habitat Survey, EUNIS
Visual and Sensory	Broad landform and land cover	Landform	Land cover	Detail
Historic Landscape	Dominant context	Dominant land use	Dominant landscape pattern	Detail

The Visual & Sensory dataset includes two adapted landscape classifications, LMP09 and LMP14 (questions 54 and 55). Tables 5 and 6 set out the 9 and 14 landscape types.

Geological Landscape classification

The physical (geological) landscape consists of a rock substrate (solid or bedrock geology) modified by past and present processes with varying amounts of relatively recent surface deposits (superficial or drift geology). This classification is inevitably a hybrid, a blend of elements of bedrock expression and surface processes.

The Geological Landscapes classification is a guide to mapping the expression of geology in the landscape, not the rock types beneath or the processes on them over time. Selecting the most appropriate Level 3 classification is a process, identifying those elements that significantly contribute to the character of the landscape as preserved today, whilst identifying generations of ‘overprinting’ by other modifying processes.

Geological Landscape level 1 typologies and definitions

Coastal

Regions affected by coastal processes within the most recent geological past, mainly the Pleistocene and Holocene epochs of the Quaternary Period (essentially the last 1.8 million years), but locally may include older Pliocene Epoch (topmost Neogene Period) features representing significantly higher sea-levels than at present (dating back to around 5 million years ago). Coastal regions show the effects of comparatively recent climate and sea-level change, as well as current coastal processes, including erosion and deposition.

Lowland hills and valleys

Distinguishing “lowland” from “upland” areas is highly relevant to physical geology. In the latter case the nature of the landscape present can be quite different, with colder and wetter, upland areas having developed, for instance, a range of distinctive landforms related to the past presence of ice or the erosive power of relatively juvenile drainage systems with their steep valleys and fast flowing channels. Low-lying lowland topography, however, is typically dominated by more mature rounded landforms and relatively slow-

flowing mature river systems – often with well-developed flood plains and meander systems – are typical features of lowland areas. Lowland areas are typically cultivated and include most of the larger settlements - the consequences being that many natural features and landforms may have been significantly modified and may now be difficult to recognise. Distinguishing lowland and upland areas therefore becomes as much an issue of contemporary land use patterns as it does altitude, a distinctive upland character is not usually developed below around 250m above present sea level.

Mountain and upland valley

The transition from 'lowland' to 'upland' commonly takes place between 250 and 300m in altitude, as 'rough' grassland and moorland take over from enclosed agricultural land. Although these land use changes are not primary features of the natural landscape, they do coincide with changes in the nature of the topography, such as steepening slopes, increased presence of rock exposure and surface rock scatter and changes in drainage systems including the development of peat bogs in higher wetter areas. Crucially, however, the limited human interference means that geomorphological features may be relatively well preserved as they have not been removed by agricultural improvements.

Mass Movement

The processes involved occur across all landscape regions, from coast to mountain and at all scales (from major landslip systems to small-scale mudflows and cambering). Mapping of areas of Mass Movement would be carried out at Level 3, through the recognition of mass movement systems that were sufficiently large enough to significantly affect the character of a landscape. In practice few systems have operated at this scale, and most mass movement features have therefore been recorded at Level 4.

Karst

Karstic landscapes typically develop over outcrops of major limestone units and as they are consequently substrate rather than altitude controlled, they can be found at all levels from coastal to mountain, - and hence they were recognised at Level 1 by the June 2003 Geological Landscapes methodology. Karst, however, is a system rather than purely a landscape feature, and includes both characteristic surface landforms and sub-surface structures and processes, such as caves. The former, however, are typically formed due an inter-reaction with the latter as the continual, slow dissolution of the relatively soluble limestone very slowly lowers the overall landscape causing it to cut into or breach underground passages and shafts. Characteristic features of such landscapes, therefore, are depressions representing dolines or sink holes, rock pavements and other natural outcrops (including gorges) and an absence of surface water, meaning that valleys are typically dry (at least for most of the year, as most of the drainage is via underground joint and cave systems). In addition, as limestone is a valuable economic commodity and many Carboniferous limestone areas in Wales include metalliferous mineral deposits, quarries and, more locally, old mine workings are also very characteristic.

Tectonically controlled topography

Occasionally, evidence of ancient tectonic processes are displayed in the landscape in such a way as to create topographic features which can be usefully distinguished at Level 3 within a more generalised landscape style. Such features include fault scarps, fault-delimited valleys and gorges, isolated massifs of 'exotic' rock types emplaced along major fault systems and landscapes with multiple parallel ridges, - the latter often associated with fault lines and exhumed folds, their shape picked out by erosion.

Man-made

This category covers only the most significant modifications of the natural landscape, such as dams, quarries and urban and industrially developed areas, where its natural structure and character has been significantly changed. If the scale of the change, which is significant, developed or engineered areas less than 1 km in length would not normally be mapped separately from a surrounding, more natural landscape.

Table 2: Geological Landscape level 1, 2 and 3 typologies

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Coastal	Erosional coastline	Rock-cliff and shore	Cliffs exposing bedrock geology and linked rocky foreshore characteristic.
Coastal	Erosional coastline	Soft-sediment cliff and shore	Cliffs developed in superficial deposits (i.e., Quaternary soft sediments), including glacial clays, sands and gravels. Foreshore areas often include typical beach deposits, especially sands and gravels, although local areas of exposure of superficial deposits or even bedrock may be present.
Coastal	Erosional coastline	Island	Category reserved for areas of small to medium size, which are permanently or periodically isolated (e.g., by high tides) from a mainland. In practice features recorded at Level 3 in this category are likely to be larger than 500m in length but smaller than 2km, as any smaller islands would be considered to be Level 4 features and any larger could be meaningfully separated into more than one Level 3.
Coastal	Depositional coastline	Sand dune	Areas of active or stabilised coastal sand dune without significant and permanent modification by human activity (such as by engineering works). N.B. Areas of artificially stabilised sand dune can be included here only if the Aspect Area has not been extensively landscaped, and the restoration of natural processes is hypothetically possible.
Coastal	Depositional coastline	Spits, bars and ridges	Coastal depositional features, typically comprising shingle ridges or occasionally sand dominated features. Can include both natural, unmodified features or features constrained, for instance, by coastal defence works (but

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
			providing that the morphology of the landform has not been significant changed by such work).
Coastal	Depositional coastline	Saltmarsh	Typically, high intertidal or supra-tidal areas of mud deposition, the latter only flooded during the highest tides of the year, which develop a succession of characteristic plant communities. Highly sinuous, branching channel systems typical. Can include both areas of current deposition and degraded areas where erosion is now taking place. Excludes saltmarsh areas developed within estuary systems.
Coastal	Depositional coastline	Soft sediment foreshore	Extensive areas of sand or mud dominated foreshore, for instance adjacent to sand dune systems or saltmarsh.
Coastal	Estuary	Estuary	Typically applied to smaller estuary systems where separation of, for instance, cliff and saltmarsh areas would be more appropriate at Level 4, or to parts of an overall estuary system where similar marginal features, are best considered at the latter level.
Coastal	Estuary	Saltmarsh	High intertidal or supra-tidal areas of mud deposition, the latter only flooded during the highest tides of the year, which develop a succession of characteristic plant communities. Highly sinuous, branching channel systems typical. Can included both areas of current deposition and degraded areas where erosion is now taking place. Includes only those areas of saltmarsh developed within estuary systems.

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Coastal	Estuary	Reclaimed saltmarsh/mudflat	Areas of former saltmarsh reclaimed for primarily agricultural purposes and therefore not extensively modified, excepting through drainage. Traces of former channel systems often remain. Many such areas could hypothetically, therefore, be restored as active saltmarsh following removal or breach of coastal defence works.
Coastal	Estuary	Ria	River valley system 'drowned' by sea level rise after the end of the last Ice Age. Rias typically include a range of geomorphological processes characteristic of an estuary system, including saltmarsh and cliffs which may be classified separately at Level 3 if the ria is large enough. This Level 3 category is, therefore, typically applied to smaller systems in their entirety and to areas below mean high water or mean low water in larger systems (depending on whether marginal features such as saltmarsh and cliff can be meaningfully separated at the same level).
Coastal	Estuary	Creek/inlet	Relatively smaller scale features associated with estuaries and especially rias. Category typically used for marginal, tributary valleys areas with mudflat and/or saltmarsh development where the main channel of the system is separated within a different Level 3 feature. Usually includes only areas below mean high water mark.
Coastal	Ancient coastline	Coastal slope	Coastal areas with a seaward slope clearly related to the development of the present coastline, and formed, for instance, due to ice-age periglacial, slope processes, including the degradation of a former, raised, interglacial cliff line. (e.g., includes 'slope-over-wall' coastlines).

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Coastal	Ancient coastline	Coastal flat	Extensive areas of flat, low-lying coastal land underlain by Holocene deposits, typically formed due to sea-level fall from a post-glacial maximum. Some areas included within this category may also, at least in part, have been reclaimed by human activities but are not otherwise significantly modified, for instance by engineering works. Typically, however, this category would exclude areas of reclaimed saltmarsh, for instance within estuary systems.
Coastal	Ancient coastline	Coastal platform	Relatively high-level platforms, sometimes several 10s of metres above modern sea-level, developed adjacent to coastal areas and clearly related to marine erosion during periods of high sea-level stand (e.g., interglacial or pre-Quaternary).
Coastal	Ancient coastline	Submerged forest	Intertidal features representing former coastal marsh and woodland, now preserved below mean high water due to post-glacial sea-level rise. Most such areas are normally recorded at Level 4, although locally they may be extensive enough to warrant recognition at Level 3.
Lowland hills and valleys	Lowland river and drainage systems	Active lowland river-flood plain system	Includes typical contemporary lowland river systems, including the active channel and floodplain. The development of a wide floodplain is typical in many, with extensive alluvial deposits and well-developed meander belts and, commonly, traces of former channels, occasionally preserved as 'ox-bow lakes' within the floodplain. Typically, lowland rivers occupy relatively wide valleys, with less steep sides than those of upland areas. Sections of some, however, where they pass through bedrock massifs can assume a more upland character as the valley narrows and steepens and a floodplain is virtually lost. Under such circumstances classification at Level 3 as an Active upland river or stream channel system may be more appropriate.

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
			<p>The Aspect Area, however, is typically mapped to include only level floodplain areas and the active river channel or channels; valley sides above being included within adjacent Aspect Areas. Due to the resolution of the various survey methods employed, however, mapped floodplains are also likely to include the lowest river terraces developed, as these may be less than 1m above active areas and difficult to distinguish using aerial photographs, even where stereo pairs or imaging is available. In addition, the development of flood plains along smaller river and stream systems may be discontinuous and several Aspect Areas may, therefore, be necessary to represent the disjunctive sections of active floodplain of a single system.</p>
Lowland hills and valleys	Lowland river and drainage systems	Ancient lowland river-flood plain system	<p>As river systems evolve and valleys deepen, they leave behind former floodplain areas as terraces. Where extensive these can be recognised at Level 3. The boundaries of the Aspect Area will typically be the base of any valley side above and the base of the terrace feature below, where it rises above the modern, active river-flood plain system. Terrace systems have, by definition, been dissected by later fluvial erosion and several Aspect Areas may therefore be required to describe now separated sections of a single river terrace system.</p>
Lowland hills and valleys	Lowland river and drainage systems	Lowland river gorge	<p>Very steep to sub-vertical sided sections of lowland river, for instance crossing ridges of hard geological units such as limestones, may have a gorge-like character and can be classified as such where sufficiently extensive. In such cases the boundaries of the Aspect Area will correspond to the top of the steep valleys sides and may, therefore, also include the river channel and any associated narrow floodplain. Alternatively, the steep valley sides on either side of the river or stream may be classified as</p>

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			separate Aspects Areas with a section of an Active lowland river-flood plain system Aspect Area separating them. Gorge sides typically include extensive areas of natural rock exposure, which distinguishes them from incised river/ stream valley/ ravine features.
Lowland hills and valleys	Lowland river and drainage systems	Incised river / stream valley / ravine	Steep sided and often narrow stream or river valleys, typically with a sharp break of slope at the top of their sides. Many of these features relate to rapid, fluvial downcutting through soft glacial deposits during the Holocene and are typical of stream valleys developed on relatively steep slopes with a blanket of glacial clays and gravels. Boundaries of the feature usually correspond to the top of the steep valley sides and include the stream or river channel itself. Where significant areas of floodplain alluvium are present, however, these may be places in an Active lowland river-flood plain system Aspect Area, thereby separating the two sides of the valley feature. Can also include steep valley sides and river-cliff features associated with large river systems where they cut through more extensive terraces of glacial deposits. Bedrock exposure in the bed of the river or stream is also frequent.
Lowland hills and valleys	Lowland river and drainage systems	Alluvial basin / former lake	Includes a range of alluvium-dominated depositional basins or depressions, many of which are likely to have been late-glacial or post-glacial lakes.
Lowland hills and valleys	Lowland river and drainage systems	Lowland vale	Wide valley-like features with broad, level to gently undulating floors, often with a number of stream systems rather than a single major river channel. Typically developed in areas of outcrop of relatively soft geological units such as mudrocks and within extensive areas of superficial deposits, including glacial deposits and/ or alluvium.

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Lowland hills and valleys	Lowland river and drainage systems	Lake/wetland	Natural freshwater lakes and wetland areas – the latter often represent partially silted up developments of the former or marginal areas to natural water bodies.
Lowland hills and valleys	Undulating lowland hill terrain	Undulating lowland hill terrain	Lowland terrain comprising hills and valleys and typically with mature rounded slopes and no well-developed grain, distinctive platforms, plateaux or escarpments. Such areas will contain drainage systems, including streams, all significant river-flood plain systems are excluded and placed in the Level 3 category for Active lowland river-flood plain system systems.
Lowland hills and valleys	Undulating lowland hill terrain	Lowland ridge	Elongated hill or ridge, with lowland character and altitude and without well-developed scarp and dip slope morphology.
Lowland hills and valleys	Undulating lowland hill terrain	Lowland hill / knoll	Isolated hill or knoll or a small, distinctive group of adjacent hills – all with a lowland character and altitude.
Lowland hills and valleys	Undulating lowland hill terrain	Rock platform / outcrop	Significant areas of natural rock outcrop in a lowland context. Usually excludes limestone pavement and other outcrops, which are classified as Karst at levels 1 and 2.
Lowland hills and valleys	Lowland scarp and dip-slope dominated terrain	Lowland escarpment	Typically represents the steep escarpment developed where a dipping geological unit of relatively hard rock (limestone, sandstone, volcanic deposits, etc) outcrops.

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Lowland hills and valleys	Lowland scarp and dip-slope dominated terrain	Lowland dip slope	Usually represents the gentler sloping counterpart of an escarpment. The inclination of the surface is equivalent to the natural inclination, or dip' of the geological unit forming the feature.
Lowland hills and valleys	Dissected lowland plateau	Lowland plateau	Flat-topped hills, typically representing part of a larger dissected plateau feature. Surrounding escarpments or valley slopes are frequently included, although may be separately mapped if sufficient prominent.
Lowland hills and valleys	Dissected lowland plateau	Lowland valley slope/ escarpment	Typically used for major valley slopes only, where the slope is more distinctive in the survey area than the plateau feature alone.
Lowland hills and valleys	Lowland glacial and fluvioglacial terrain	Lowland glacial outwash plain/ field	Typically dominated by fluvioglacial sands and gravels and form broad, level to irregularly surfaced terrace like features. Where least disturbed, characteristic landforms such as kettle holes may be preserved – now represented by depressions with small lakes or peat deposits.
Lowland hills and valleys	Lowland glacial and fluvioglacial terrain	Lowland till plain /field	Dominated by glacial clay (or 'till') deposits, often low-lying with gently undulating surfaces and boggy or wet grassland areas and including small ponds and rhos pasture. In some areas 'drumlins' may be preserved – low rounded mounds of glacial clay which formed beneath an ice sheet as it melted.
Lowland hills and valleys	Lowland glacial and fluvioglacial terrain	Glacio-depositional	Where glacial clay covers are thinner, they may be draped over a pre-existing topography, features of which, such as slopes and escarpments, can still be identified in the modern landscape. In such areas, the typical

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		topography/ vener	surface deposit is glacial clay, however, although small areas of bedrock exposure may locally emerge through this cover.
Lowland hills and valleys	Lowland glacial and fluvioglacial terrain	Glacial/ fluvioglacial valley deposits	Melting ice in river valleys, including from valley glaciers, typically deposited a range of glacial deposits, including clays (till) and sands and gravels. Although typically dissected by post-glacial river systems, these older deposits commonly remain as marginal aprons and sloping terrace like features along valley sides. This dissection often means that several Aspect Areas in a valley complex may represent sections of a once contiguous feature, now isolated by recent fluvial erosion.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Undulating upland terrain	Undulating areas of upland hill terrain, without distinctive escarpments or flat plateau features. Such areas typically include a range of stream systems which are too small to separate as Aspect Areas within the Level 3 category Active upland river or stream channel system.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland escarpment	Distinct escarpment feature in an upland context, often mapped to include an associated dip slope area.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland valley slope	Typically used for major valley slopes only, where the slope is more distinctive in the survey area than any associated hill or mountain features.

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Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland plateau	Flat-topped hills in upland areas can represent part of a larger dissected plateau feature related to relatively flat lying and resistant geological units. Surrounding escarpments or valley slopes are frequently included with the Aspect Area, although may be separately mapped if sufficient prominent (see above). Dissected plateau morphologies can also form where the bedrock comprises steeply dipping and folded slaty mudrocks and sandstones. In such circumstances, the plateau feature could have several possible origins, including as a result of pre-Quaternary peneplanation. In both cases, the high-level plateau has been subsequently dissected by river and glacial valleys.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland hill/ mountain	Discrete upland-character hill or mountain, separated from other similar features (including by valley systems).
Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland dip slope	Typically, only used where the associated upland escarpment is not well developed or is largely absent in the Survey area.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Upland ridge	Elongated ridge within an upland area or of upland character. Often virtually symmetrical and without a well-developed escarpment/ dip-slope morphology.
Mountain and upland valley	Undulating upland terrain and dissected plateau	Periglacial uplands and slopes	Undulating upland areas or ridges and associated slopes with well-developed periglacial features, including tors, block fields and stone-stripes. Although most upland areas in Wales are likely to have late glacial periglacial features modifying earlier glacial landforms and deposits, only

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			very locally are typical periglacial landforms well developed (mainly in upland areas of south Wales which were not glaciated during the last, or Devensian glaciation, hence allowing sufficient time for such landforms to fully develop).
Mountain and upland valley	Undulating upland terrain and dissected plateau	Rock platform/ outcrop	Extensive areas of horizontal to gently dipping natural rock exposure or other major outcrop features.
Mountain and upland valley	Upland and mountain river and stream	Active upland river or stream channel system	Active upland river or stream channel system: In the larger upland valleys, stream and river systems with significant and continuous areas of floodplain and lowest terrace can be mapped separately at Level 3 within this category. As for all other Aspect Areas, however, the size of the features is relevant and in practice, floodplain systems less than 1km in length are unlikely to be mapped separately from the surrounding terrain. In addition, as areas of significant floodplain development may not be continuous, more than one Aspect Area may represent segments of the same river system. Many modern upland stream systems are also 'misfit', being considerably smaller than would be required to create the valley they now occupy. In most cases this is due to the valley shape having had a significant glacial input in its evolution, having either been deepened and widened by ice flow during glaciation or cut during times of high-volume flow by glacial meltwaters as ice sheets melted. Occasionally a river system may alternate between lowland and upland-style reaches as it passes from lowland-style areas through hard ridges of solid geology, with upland-style landscapes and back to a lowland hinterland again. These different sections can be mapped separately, as the river changes from a more typically lowland style (with relatively broader floodplain-terrace systems, well developed

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			meanders and less steep or lower valley side above), to a more upland style with a much narrower and often straighter, steep sided valley and very limited floodplain-terrace development. In the latter areas the bed of the river also commonly shows bedrock exposure, sometimes manifesting itself as reefs and low waterfalls/ rapids. As for lowland river systems, the lateral boundary of the Aspect Area is usually drawn at the edge of a flat floodplain-low terrace feature, with the valley sides above being included with adjacent Aspect Areas.
Mountain and upland valley	Upland and mountain river and stream	Ancient upland river/stream systems	The evolution of an upland river system may involve phases of down-cutting leading to the abandonment of earlier floodplains as river terrace features. Although the general narrowness of upland rivers means that such features are typically relatively small, occasionally they are large enough to be mapped separately at Level 3. Similarly, terrace systems have, by definition, been dissected by later fluvial erosion and several Aspect Areas may therefore be required to describe now separated sections of a single upland river terrace system.
Mountain and upland valley	Upland and mountain river and stream	Upland gorge	Where downcutting of a valley has been particularly rapid or pronounced, steep to sub-vertical sided gorge features may be developed. In upland areas rock cliffs and significant areas of scree are often typical. Gorges are typically mapped from the top of their sides to include the river or stream course below. Occasionally, however, the latter may be separated with the Active upland river or stream channel system Level 3 category and opposite sides of the same gorge feature may be included within two or more separate Aspect Areas.

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Mountain and upland valley	Upland and mountain river and stream	Incised river/ stream valley/ ravine	Steep sided and often narrow stream or river valleys, typically with a sharp break of slope at the top of their sides. Many of these features relate to rapid, fluvial down cutting through soft glacial deposits during the Holocene and are typical of stream valleys developed on relatively steep slopes with a blanket of glacial clays and gravels. They may also, however, have cut down into bedrock geology. Boundaries of the feature usually correspond to the top of the steep valley sides and include the stream or river channel itself. In upland areas significant areas of floodplain alluvium are rarely present in these narrow valleys, although Aspect Areas grouped within this category can also include steep valley sides and river-cliff features associated marginal to larger upland valleys with active floodplain systems. Bedrock exposure in the bed of the river or stream is typical.
Mountain and upland valley	Upland and mountain river and stream	Upland wetland or other depositional basin	Broad valley features, depressions and low-angle slopes between higher upland ridges and mountains often developing areas of mire and blanket bog with extensive peat deposition. Such features are commonly associated with extensive areas of glacial clay deposition, which has created the poor drainage necessary to create the characteristic habitat, often leading to peat formation. Some level floored depressions, however, are clearly evidence of the former presence of lakes, now largely or entirely filled with alluvium and / or peat. Aspect Areas included within this Level 3 feature are mapped to include only the depression or lower lying area itself, as indicated by a marginal break or change of slope at the base of the surrounding slopes.
Mountain and upland valley	Upland and mountain river and stream	Lake / wetland	Natural lakes of medium to large size, both occupying valley floors and higher-level depressions in upland areas can be mapped within this category. Smaller features, less than 1km in length, are recorded only at

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			Level 4, however, and included as part of a broader upland Level 3 category.
Mountain and upland valley	Upland and mountain river and stream	Upland vale	Wide valley-like features with broad, level to gently undulating floors, and typically developed in areas of outcrop of relatively soft geological units such as slaty mud rocks can be included within this Level 3 category. Commonly, however, such areas have an extensive cover of glacial deposits, and the presence of numerous streams can create mires and lead to peat deposition in upland areas. These areas may be more appropriate grouped with the Upland wetland or other depositional basin Level 3 category and the Upland vale category hence restricted to less wet but still broad upland valleys.
Mountain and upland valley	Glaciated mountain terrain	Mountain glacial erosion terrain	High mountain areas, typically dominated by rocky peaks and cliffs with well-developed cirques, arêtes and scree slopes.
Mountain and upland valley	Glaciated mountain terrain	Glacial mountain valley	Broad valleys with a classic glacier-produced U-shaped cross-section. Also, a glacial erosion feature, but typically with smoother lower slopes and only with rock exposure and screes towards the top of the steepening upwards sides. Glacial deposits are typical of the lower parts of these slopes, however, and valley floors may include extensive areas of glacial clay (till), sand and gravel, sometimes including moraine, formed during the final stages of retreat at the end of the last ice age.

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Mountain and upland valley	Glaciated mountain terrain	Rock platform/ outcrop	Extensive areas of rock exposure can be mapped separately at Level 3. Such areas are commonly smoothed by the passage of ice and may locally possess striations. Excludes most cliff-like areas of rock exposure which would normally be included within either Mountain glacial erosion terrain or Glacial Mountain valley at level 3.
Mountain and upland valley	Upland glacial and fluvioglacial depositional terrain	Upland glacial outwash plain/ field	Larger valleys which dissect upland areas, significant areas of deposition of glacial and fluvioglacial sand and gravel may be present and can be mapped at Level 3. Normally, however, such deposits have been dissected by later fluvial erosion and, therefore, are best mapped within the Glacial/fluvioglacial valley deposits category, below, as they do not have the extensive sheet or terrace-like form characteristic of lowland areas.
Mountain and upland valley	Upland glacial and fluvioglacial depositional terrain	Upland till plain/ field	Level to undulating areas of thick glacial clay (or till) deposition in upland areas are generally not so extensive. In some upland depressions and large glacial valleys, however, some developments may be sufficiently extensive to be mapped at Level 3, Glacio-depositional topography/ veneer or Glacial/fluvioglacial valley deposits categories may be more appropriate.
Mountain and upland valley	Upland glacial and fluvioglacial depositional terrain	Glacio- depositional topography/ veneer	Where glacial clay cover is relatively thin, it forms no more than a veneer across a pre-existing topography, and features such as slopes and escarpments can still be identified in the modern landscape. Such a phenomenon is frequent in undulating upland areas and can be mapped separately at Level 3. The typical surface deposit is glacial clay (till), small areas of bedrock exposure may locally emerge through this cover.

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Mountain and upland valley	Upland glacial and fluvioglacial depositional terrain	Glacial/ fluvioglacial valley deposits	Melting ice in river valleys, including from valley glaciers, typically deposited a range of glacial deposits, including clays (till) and sands and gravels. Although now dissected by post-glacial river systems, these older deposits commonly remain as marginal aprons and sloping terrace-like features along valley sides. This dissection often means that several Aspect Areas in a valley complex may represent sections of a once contiguous feature, now isolated by recent fluvial erosion. This category is very similar to that used for glacial deposits in lowland valley systems, although in an upland context, the valley sides above are typically higher and steeper. In addition, due to the general absence of large plains or depressions in hilly or mountainous upland areas within which such deposits can accumulate, this is a major Level 3 category within which most glacial and fluvioglacial deposits of upland areas can be grouped.
Mass movement	Mass movement	Mass movement	The nature of the mass movement process or landform can be recorded at Level 4 on the form. Where such processes can be meaningfully mapped at Level 3, the Aspect Area boundary would correspond to the limits of the disturbed on active area. Where smaller systems exist, they are included within a more general Level 3 category and recorded only at Level 4.
Karst	Karst	Lowland karst	Lowland karst is commonly extensively cultivated or wooded. Occasionally surface features may be discernible, however, including gorges and other natural rock outcrops including cliffs and occasional dolines. Due to human activity, however, the latter have commonly been infilled or may be obscured by woodland. In addition, some areas of lowland karst have been extensively removed by quarrying and small quarries, commonly for building stone or lime production are always characteristic of limestone outcrops. An absence of surface water, including streams in valleys is also typical,

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
			<p>however. In some areas, rather than forming the escarpments that might be expected for relative resistant rock units, outcrops occupy flat to very gently dipping depressions. Such areas are probably related to fluctuating ground water levels, leading to intensive corrosion and the dissolution of most such irregularities. Such processes are typical of poljes where seasonal fluctuations in the water table create seasonal flooding of the depression. Limestone gorges are typically separated as Lowland River gorge at Level 3</p>
Karst	Karst	Upland karst	<p>Upland karst commonly displays a greater density of typical surface features, such as cliffs and crags, dolines / sink holes and limestone pavement, than do lowland areas (largely due to a general absence of obscuring vegetation and much more limited human interference). Some quarries may be present, however, but they tend to be less extensive than in lowland areas, in part due to greater distances from markets. Upland limestone gorges are typically separated as Upland gorge at Level 3.</p>
Tectonically controlled topography	Tectonically controlled topography	Tectonically controlled valleys	<p>Some valley systems show a distinct orientation related to regional tectonic 'grain' and have been eroded along geological weakness such as faults or relatively soft geological units. Such features are often remarkably straight and may deflect their contained river from its general overall course. Although occasionally mapped at Level 3 within this category, many such valleys may be included as part of general fluvial Aspect Area categories (e.g., Active lowland river-flood plain system or Active upland river or stream channel system) and should therefore be recorded in as either a subsidiary Level 3 feature, or at Level 4 or in a text description.</p>

Level 1: general landscape character	Level 2: large-scale terrain or topography	Level 3: medium scale typifying terrain	Level 3: definition
Tectonically controlled topography	Tectonically controlled topography	Tectonically controlled hills and escarpments	Although potentially recordable as 'hills', 'mountains', 'escarpments' or 'ridges' within lowland and upland Level 3 categories, some landscape features are sufficiently distinctive or unusual to warrant inclusion in this category. Examples include isolated knolls of ancient Precambrian rocks emplaced along major fault zones, areas of multiple parallel ridges also developed along such zones and sharply curved or V-shaped ridges representing the outcrop of folded geological units. Other tectonic influences such as surface striations, may be more appropriate at Level 4.
Man-made	Man-made	Mineral workings	Includes all significant areas of mineral working including quarries, mines and their associated waste tips and processing areas.
Man-made	Man-made	Artificial water bodies and channels	A broad category to include all medium to large sized reservoirs and artificial lakes, typically with marginal flood banks.
Man-made	Man-made	Artificial channel/ canal	A broad category to include significant stretches of canalised river courses, typically with marginal flood banks.
Man-made	Man-made	Engineered features and reclaimed/infilled land	Wide range of features, from urban, purely residential settlements to large-scale industrial developments, dockyards and significant areas of engineered topography or 'made ground'.

Landscape Habitats classification

This typology classifies the landscape into areas of similar habitat character at a landscape scale. Terminology is akin to the Phase 1 Habitat Survey, if an existing classification does not fit, a request can be made to create a new more suitable option.

When 75 % or more of a landscape aspect area (greater than 10 hectares) is a level 2 or 3 habitat type then these habitat types are recorded as determining the aspect areas broad character. This decision rule is known as the LANDMAP dominance rule.

When no single level 2 or 3 habitat type is dominant, the LANDMAP dominance rule cannot be applied. An aspect area will be defined as a mosaic, the composition of the mosaic will be recorded in the survey. Mosaics of habitat are of key importance for biodiversity, often enabling a great diversity of species to exist in a relatively small geographical area. For example, an Upland Mosaic at level 3 will have 75% semi-natural habitats, but no one habitat is dominant as there is a mix of heathlands, grasslands and bogs or mires. A Mosaic at level 2 can be a mix of two habitat types at level 2, for example woodland and scrub plus heath.

Dry terrestrial, Mosaic, Upland Mosaic will be recorded where the landcover is comprised of a mixture of upland semi-natural habitat types such as marshy grassland bog and heath. This separation distinguishes those areas of native semi-natural habitats with high biodiversity value, from those areas with a mix of agricultural improved land and habitats which have a different biodiversity value and characteristic.

Table 3: Landscape Habitats level 1, 2 and 3 typologies

Level 1: broad ecosystem	Level 2: secondary habitats	Level 3: primary habitats
Dry (relatively) terrestrial habitats	Mosaic	Mosaic (agriculturally improved and habitat mix, no single habitat >75%)
Dry (relatively) terrestrial habitats	Mosaic	Upland Mosaic (>75% semi-natural habitats, no single dominant habitat)
Dry (relatively) terrestrial habitats	Woodland and scrub	Broadleaved woodland
Dry (relatively) terrestrial habitats	Woodland and scrub	Coniferous woodland
Dry (relatively) terrestrial habitats	Woodland and scrub	Mixed woodland
Dry (relatively) terrestrial habitats	Woodland and scrub	Scrub

Level 1: broad ecosystem	Level 2: secondary habitats	Level 3: primary habitats
Dry (relatively) terrestrial habitats	Woodland and scrub	Parkland and scattered trees
Dry (relatively) terrestrial habitats	Woodland and scrub	Recently felled woodland
Dry (relatively) terrestrial habitats	Grassland and marsh	Acid grassland
Dry (relatively) terrestrial habitats	Grassland and marsh	Neutral grassland
Dry (relatively) terrestrial habitats	Grassland and marsh	Calcareous grassland
Dry (relatively) terrestrial habitats	Grassland and marsh	Improved grassland
Dry (relatively) terrestrial habitats	Grassland and marsh	Marsh/marshy grassland
Dry (relatively) terrestrial habitats	Tall herb and fern	Bracken
Dry (relatively) terrestrial habitats	Tall herb and fern	Other
Dry (relatively) terrestrial habitats	Heathland	Dwarf shrub heath
Dry (relatively) terrestrial habitats	Heathland	Montane/lichen/bryophyte heath
Dry (relatively) terrestrial habitats	Rock exposure and waste	Natural inland cliff
Dry (relatively) terrestrial habitats	Rock exposure and waste	Natural scree
Dry (relatively) terrestrial habitats	Rock exposure and waste	Limestone pavement

Level 1: broad ecosystem	Level 2: secondary habitats	Level 3: primary habitats
Dry (relatively) terrestrial habitats	Rock exposure and waste	Artificial exposures and waste tips
Dry (relatively) terrestrial habitats	Cultivated/disturbed land	Arable
Dry (relatively) terrestrial habitats	Cultivated/disturbed land	Amenity grassland
Dry (relatively) terrestrial habitats	Cultivated/disturbed land	Horticultural
Dry (relatively) terrestrial habitats	Built up areas	Industrial
Dry (relatively) terrestrial habitats	Built up areas	Residential/green space
Wet terrestrial habitats	Mosaic (with habitats defined)	Mosaic (with habitats defined)
Wet terrestrial habitats	Mire/Swamp, marginal and inundation	Bog/bare peat/flush/spring
Wet terrestrial habitats	Mire/Swamp, marginal and inundation	Fen/swamp/marginal/inundation
Wet terrestrial habitats	Open water	Reservoirs and lakes and margins
Wet terrestrial habitats	Open water	Canal corridors
Wet terrestrial habitats	Open water	River corridors
Coastal and marine habitats	Mosaic (with habitats defined)	Mosaic (with habitats defined)
Coastal and marine habitats	Coastland	Intertidal, muds/sands, saltmarsh, shingle/gravel and boulders/rocks
Coastal and marine habitats	Coastland	Sand dune

Level 1: broad ecosystem	Level 2: secondary habitats	Level 3: primary habitats
Coastal and marine habitats	Coastland	Maritime cliff and slope
Coastal and marine habitats	Marine	Offshore shallow waters
Coastal and marine habitats	Marine	Offshore deep waters

Visual and Sensory classification

Terms and measurements such as area, size, slope or density are intended as guidance.

Visual and Sensory level 1 typologies and definitions

Upland

Areas predominantly, but not exclusively, rising to over 300m AOD (excluding Development and Water classes); also includes the lower slopes of higher areas rising from around 150m AOD. 150m AOD is treated as a broad distinction rather than used as a hard differentiation between Upland and Lowland. The upland qualities of an area take precedence over the altitude of an area. Upland areas may extend below 150m AOD in some instances, they are more widespread above this altitude. See also the definition of Level 2 class Hills, lower plateau and scarp slopes which is considered in some cases as the intermediate class between Upland and Lowland. Further guidance is gained from looking at land use patterns in the area. Upland land use tends to be marginal grazing, with more diverse land use in Lowland areas.

Lowland

Areas predominantly below 100m AOD (excluding Development and Water classes); also includes the higher slopes of lower areas rising to around 150m AOD. 150m AOD is treated as a broad distinction rather than used as a hard differentiation between Upland and Lowland. The lowland qualities of an area take precedence over the altitude of an area. Lowland areas may extend above 150m AOD in some instances. See also the definition of Level 2 class Hills, lower plateau and scarp slopes which can be seen in special cases as the intermediate class between Upland and Lowland. Further guidance is gained from looking at land use patterns in the area. Upland land use tends to be marginal grazing, with more diverse land use in Lowland areas.

Development

Predominantly built or developed areas and open areas primarily associated with these both visually and in land use terms (>10Ha). Over-rides other classes, so a coastal town will be Development and not Coastal.

Water

Areas of water (>10Ha) including open sea, lakes or flowing water (> 20m across).

Visual and Sensory level 2 typologies and definitions

Exposed upland/plateau

Predominantly exposed; exposed does not necessarily equate to a lack of tree cover; exposed relates more to landform than land cover in this instance, in that it excludes upland areas which are sheltered by landform such as valleys.

Upland valleys

Predominantly (>50%) valleyed (with a valley floor to ridge height >50m approx.)

Hills, lower plateau and scarp slopes

The intermediate landform between Lowland and Upland, often forming an intermediate band between the two. This class is defined by the presence of lower landform than other Upland classes and will rarely extend much lower than about 100m AOD or much higher than about 300m AOD. It may also be defined by having more Upland-type land use patterns, yet at a relatively low altitude. It can either be a relatively level landform such as a plateau or gentle hills at a lower level than the exposed upland plateaux (Hills and lower plateau) or form the sloping sides of hills or scarps (Hillsides and scarp slopes). A scarp slope is defined as a slope linking lowland with a plateau, and having no significant or equivalent facing slope, although it may form one side of a broad valley.

Lowland valleys

Lowland areas that are predominantly (<50%) valleyed (floor to ridge height >50m).

Rolling lowland

Lowland areas which are predominantly, rhythmically, gently sloped (3-10° slope), although less so than Lowland valleys. Rolling lowland generally differs from Hills, lower plateau and scarp slopes in that there is rarely a significant change in land use.

Flat lowland / levels

Lowland areas that are predominantly flat (<3° slope), coastal and riverine levels, but also broad vales and valley bottoms.

Coastal

Lowland areas absolutely associated with the coast (excludes open water and Flat lowland/levels)

Built land

Development areas which are predominantly (>50%) covered in manmade structures or hard standing

Developed unbuilt land

Development areas which are not Built land

Coastal waters

Predominantly saltwater areas covering the sea and river mouths.

Inland water (including associated edge)

Large expanses of generally freshwater with their edges/riparian strips.

Table 4: Visual and Sensory level 1, 2 and 3 typologies

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Upland	Exposed upland/plateau	Barren/rocky upland	Significantly (>25%) uncovered rock and scree
Upland	Exposed upland/plateau	Upland moorland	Predominantly moorland (>50%)
Upland	Exposed upland/plateau	Upland grazing	Predominantly grazed grassland (>50%)

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Upland	Exposed upland/plateau	Wooded upland and plateaux	Significant woodland (>20% tree cover)
Upland	Exposed upland/plateau	Mosaic upland and plateaux	Display a patchwork of small (<10ha) pockets of woodland (20-50% density)
Upland	Upland valleys	Open upland valleys	High valley areas that are predominantly unwooded (<20%)
Upland	Upland valleys	Open/wooded mosaic upland valleys	High valley areas that display a patchwork of small (<10ha) pockets of woodland (20-50% density)
Upland	Upland valleys	Wooded upland valleys	High valley areas that are significantly wooded (>20%)
Upland	Hills, lower plateau and scarp slopes	Hillside and scarp slopes moorland	Significantly sloped (>10°slope), insignificantly wooded (<20%), and predominantly (<50%) covered with open moorland
Upland	Hills, lower plateau and scarp slopes	Hillside and scarp slopes grazing	Significantly sloped (>10°slope), insignificantly wooded (<20%), and which is predominantly grazed grassland (>50%)
Upland	Hills, lower plateau and scarp slopes	Wooded hillside and scarp slopes	Significantly sloped (>10°slope) and predominantly wooded (>50%)
Upland	Hills, lower plateau and scarp slopes	Hillside and scarp slopes mosaic	Significantly sloped (>10°slope) and display a patchwork of woodland (20-50% density)

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Upland	Hills, lower plateau and scarp slopes	Open hillside and scarp slopes	Significantly sloped (>10°slope) and predominantly unwooded
Upland	Hills, lower plateau and scarp slopes	Hill and lower plateau moorland	Insignificantly wooded (<20%), and predominantly (<50%) covered with open moorland
Upland	Hills, lower plateau and scarp slopes	Hill and lower plateau grazing	Insignificantly wooded (<20%), and which is predominantly grazed grassland (>50%)
Upland	Hills, lower plateau and scarp slopes	Wooded hill and lower plateau	Insignificantly sloped (<10°slope) and predominantly wooded (>50%)
Upland	Hills, lower plateau and scarp slopes	Hill and lower plateau mosaic	Insignificantly sloped (<10°slope) and display a patchwork of woodland (20-50% density)
Upland	Hills, lower plateau and scarp slopes	Open hill and lower plateau	Insignificantly sloped (<10°slope) and predominantly unwooded.
Lowland	Lowland valleys	Open lowland valleys	Insignificantly wooded (<20%) with a lack of hedgerow trees.
Lowland	Lowland valleys	Mosaic lowland valleys	Patchwork of small woodland (20-50% density) amongst farmland, may also have a high number of hedgerow trees. Pockets of other land uses such as small villages, excavations, leisure-related developments may also form part of the mosaic.
Lowland	Lowland valleys	Wooded lowland valleys	Predominantly wooded (>50%).

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Lowland	Rolling lowland	Open rolling lowland	Insignificantly wooded (<20%) with few individual or hedgerow trees.
Lowland	Rolling lowland	Mosaic rolling lowland	Patchwork of small or scattered woodland (20-50% density); may also have high presence of hedgerow trees. Pockets of other land uses such as small villages, excavations, leisure-related developments may also form part of the mosaic.
Lowland	Rolling lowland	Wooded rolling lowland	Predominantly wooded (>50%)
Lowland	Flat lowland/ levels	Flat open lowland farmland	Insignificantly wooded (<20%) farmland
Lowland	Flat lowland/ levels	Flat wooded lowland	Predominantly wooded (>50%)
Lowland	Flat lowland/ levels	Flat lowland mosaic	Display a patchwork of woodland (20-50% density). Pockets of other land uses such as small villages, excavations, leisure-related developments may also form part of the mosaic.
Lowland	Flat lowland/ levels	Lowland wetland	Predominantly wetland (>50%)
Lowland	Coastal	Intertidal	Areas which are found between low and high-water lines on OS maps and their associated elements, such as beaches, mud and rocks.
Lowland	Coastal	Dunes and dune slack	Areas which face open sea and are predominantly dunes or dune slacks.

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Lowland	Coastal	Cliffs and cliff tops	Predominantly steep (>70° slope) rocky or sandy cliffs (>10m), also includes associated cliff-top rough grazing, scrub, or woodland
Lowland	Coastal	Other coastal wild land	Areas which are predominantly low rocky or sandy cliffs (<10m), also includes associated rough grazing, scrub, or woodland or rough or wild land not included in the categories above.
Lowland	Coastal	Small island	An island distinctly separated from the coast at low tide less than 20ha which can be treated as one unit and not subdivided into the component parts above.
Development	Built land	Village	Predominantly consist of rural communities and their associated elements, e.g., shops, small-scale workplaces, churches, schools, gardens, roads etc. The types of villages include linear, nucleated around a focus such as village green or square, or with a looser structure. An upper size limit being defined by the presence of only a handful of commercial properties e.g., <5. A lower size limit being the presence of no commercial properties, church or school. It is unlikely to be less than 0.25 sq.km. in size.
Development	Built land	Dispersed settlement	Predominantly consist of rural communities which are spread out over a wide area such as squatter's settlements, interspersed with other land uses. These may or may not include shops, small scale workplaces, churches or schools. A lower size limit being 15 houses.

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Development	Built land	Urban	Predominantly consists of larger, urban communities and their associated elements, e.g., extensive residential estates and streets, commercial, large-scale workplaces, institutions, gardens, open spaces, roads etc. A lower size limit being defined by the presence of only a handful of commercial properties e.g., >5.
Development	Developed unbuilt land	Amenity land	Other developed land which is open space associated with the service of Built and developed Areas (>10Ha), such as formal parks, golf courses and playing fields
Development	Developed unbuilt land	Informal open space	Overwhelming visual evidence of use as informal open space (>100Ha) within a developed or built land context, such as urban river corridors, urban woodland
Development	Developed unbuilt land	Excavation	Overwhelming visual evidence of severe surface disruption (>100Ha), such as working quarries, mines and landfill and associated developments.
Development	Developed unbuilt land	Derelict/ waste ground	Overwhelming visual evidence of neglect or disuse (>100Ha), such as disused industrial sites, mines and quarries, tips. This also includes restored post-industrial land awaiting development.
Development	Developed unbuilt land	Road corridor	Major road corridor, significant in the landscape, usually a dual carriageway and larger with associated land managed with the road such as embankments and cuttings and junctions.

Level 1: broad landform and land cover	Level 2: landform	Level 3: land cover	Level 3: definition
Water	Coastal waters	Sea	Open Water areas that are predominantly open sea beyond the OS map low water line.
Water	Coastal waters	Estuary	Open water areas, beyond the OS map low water line that is predominantly river mouths. They may be defined as running from open sea, such as a sand bar at the river mouth, up the river. The cut-off with the latter being the lowest traditional bridge or comparable crossing point.
Water	Inland water (including associated edge)	River	Inland Water areas that are a large river approximately >20m across in total, including where the centre of the river forms the study area/county boundary.
Water	Inland water (including associated edge)	Lake	Inland Water areas that are predominantly a large lake or reservoir (>50ha)
Water	Inland water (including associated edge)	Ria	Inland Water areas that are predominantly a large inland extension to an estuary with tidal characteristics including mud flats and edges. (>50ha)

Historic Landscape classification

LANDMAP requires a capture of the landscape's historic dimension and dominant historic character. It may be easiest to start with those areas which are most easily definable (settlements, quarries, woodland), and then work out those which require more detailed study and analysis. Patterns may be obvious and apparent from features such as field sizes or shapes (enclosure), or from particular land uses (woodland or settlement), or from relict elements of former uses and patterns (residual areas of medieval strip fields), or any other dominant pattern. They may be more diffuse where many combinations of patterns and elements may be present. Aspect areas must be sufficiently different from adjacent aspect areas to allow the definition of justifiable boundaries. The definition of fieldscapes may rely on the identification of subtle and often incomplete patterns of form, size and boundary type and frequently lack hard edges, professional judgement is important.

Table 5: Historic Landscape level 1, 2, 3 and 4 typologies

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Rural environment	Agricultural	Irregular fieldscape	Relict
Rural environment	Agricultural	Irregular fieldscape	Evolved/mixed
Rural environment	Agricultural	Irregular fieldscape	Intake
Rural environment	Agricultural	Regular fieldscape	Pre-medieval
Rural environment	Agricultural	Regular fieldscape	Strip fields - medieval
Rural environment	Agricultural	Regular fieldscape	Ridge and furrow systems
Rural environment	Agricultural	Regular fieldscape	Water meadows
Rural environment	Agricultural	Regular fieldscape	Large fields (mainly post medieval)
Rural environment	Agricultural	Regular fieldscape	Medium fields (mainly post medieval)
Rural environment	Agricultural	Regular fieldscape	Small fields (mainly post medieval)
Rural environment	Agricultural	Regular fieldscape	Enclosed upland
Rural environment	Agricultural	Regular fieldscape	Amalgamated – 20 th century
Rural environment	Agricultural	Other fieldscape	Other fieldscape (specify)

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Rural environment	Non-Agricultural	Horticulture	Allotments / gardens
Rural environment	Non-Agricultural	Horticulture	Nurseries
Rural environment	Non-Agricultural	Horticulture	Orchards
Rural environment	Non-Agricultural	Horticulture	Other horticulture (specify)
Rural environment	Non-Agricultural	Woodland	Ancient/semi natural woodland
Rural environment	Non-Agricultural	Woodland	Non-ancient woodland
Rural environment	Non-Agricultural	Woodland	Managed woodland (e.g., Coppice)
Rural environment	Non-Agricultural	Woodland	Plantation (not modern forestry)
Rural environment	Non-Agricultural	Woodland	Forestry (modern)
Rural environment	Non-Agricultural	Woodland	Other woodland
Rural environment	Non-Agricultural	Marginal land	Mountain
Rural environment	Non-Agricultural	Marginal land	Unenclosed land
Rural environment	Non-Agricultural	Marginal land	Cliff top

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Rural environment	Non-Agricultural	Marginal land	Dune/foreshore
Rural environment	Non-Agricultural	Marginal land	Other marginal land
Rural environment	Non-Agricultural	Reclaimed land	Brownfield sites
Rural environment	Non-Agricultural	Reclaimed land	Reclaimed wetland
Rural environment	Non-Agricultural	Reclaimed land	Other reclaimed land
Rural environment	Non-Agricultural	Water and wetland	Natural lakes and watercourses
Rural environment	Non-Agricultural	Water and wetland	Reservoirs/artificial lakes
Rural environment	Non-Agricultural	Water and wetland	Estuary
Rural environment	Non-Agricultural	Water and wetland	Coastal wetlands/salt marsh
Rural environment	Non-Agricultural	Water and wetland	Bog
Rural environment	Non-Agricultural	Water and wetland	Other wetland
Built environment	Settlement	Nucleated settlement	Planned settlement – medieval
Built environment	Settlement	Nucleated settlement	Non-planned settlement – medieval

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Built environment	Settlement	Nucleated settlement	Planned settlement – 19 th /20 th century
Built environment	Settlement	Nucleated settlement	Clustered settlement – 19 th /20 th century
Built environment	Settlement	Nucleated settlement	Ribbon development – 19 th /20 th century
Built environment	Settlement	Non-nucleated	Dense scattered settlement – pre 19 th century
Built environment	Settlement	Non-nucleated	Dense scattered settlement – 19 th /20 th century
Built environment	Settlement	Non-nucleated	Piecemeal encroachment
Built environment	Settlement	Other settlement	Other settlement (specify)
Built environment	Industrial	Extractive	Slate quarrying/mining
Built environment	Industrial	Extractive	Sand/gravel extraction
Built environment	Industrial	Extractive	Other stone quarrying/mining
Built environment	Industrial	Extractive	Coal mining
Built environment	Industrial	Extractive	Metal mining
Built environment	Industrial	Extractive	Peat extraction (industrial)

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Built environment	Industrial	Extractive	Other extractive (specify)
Built environment	Industrial	Processing/ manufacturing	Power generation
Built environment	Industrial	Processing/ manufacturing	Water industry
Built environment	Industrial	Processing / manufacturing	Chemical industry
Built environment	Industrial	Processing/ manufacturing	Metal processing
Built environment	Industrial	Processing/ manufacturing	Mill complexes
Built environment	Industrial	Processing/ manufacturing	Factory
Built environment	Industrial	Processing/ manufacturing	Distribution/retail services
Built environment	Industrial	Processing/ manufacturing	Other processing (specify)
Built environment	Infrastructure	Communications	Pre-modern road/track
Built environment	Infrastructure	Communications	Turnpike road (including infrastructure)
Built environment	Infrastructure	Communications	Modern road (including infrastructure)
Built environment	Infrastructure	Communications	Passenger railway (including infrastructure)

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Built environment	Infrastructure	Communications	Industrial railway (including infrastructure)
Built environment	Infrastructure	Communications	Canal (including infrastructure)
Built environment	Infrastructure	Communications	Airfield (including infrastructure)
Built environment	Infrastructure	Communications	Harbour / port / dock
Built environment	Infrastructure	Communications	Other communications
Built environment	Infrastructure	Military	Prehistoric military
Built environment	Infrastructure	Military	Roman military
Built environment	Infrastructure	Military	Medieval military
Built environment	Infrastructure	Military	Post medieval military
Built environment	Infrastructure	Military	18 th /19 th century military
Built environment	Infrastructure	Military	20 th century military
Built environment	Infrastructure	Military	Other military
Built environment	Infrastructure	Designed	Medieval forest/park

Level 1: dominant context	Level 2: dominant land use	Level 3: dominant landscape pattern	Level 4: historic landscape detail
Built environment	Infrastructure	Designed	Designed parkland/garden
Built environment	Infrastructure	Designed	Hunting estate (modern)
Built environment	Infrastructure	Designed	Cemetery (not churchyard)
Built environment	Infrastructure	Designed	Urban Park/public space
Built environment	Infrastructure	Designed	Other designed landscape
Built environment	Infrastructure	Recreational	Sports facilities
Built environment	Infrastructure	Recreational	Golf course/links
Built environment	Infrastructure	Recreational	Racecourse
Built environment	Infrastructure	Recreational	Caravan/chalet park
Built environment	Infrastructure	Recreational	Marina
Built environment	Infrastructure	Recreational	Country Park
Built environment	Infrastructure	Recreational	Other recreational (specify)

Cultural Landscape Services

The Visual and Sensory boundaries and classifications are used for this dataset.

LANDMAP LMP09 classification

A classification developed for reporting the potential impacts of climate change on landscape types. The 9 landscape types are adapted from the 45 Visual and Sensory classifications.

If 6 landscape types are preferred, developed and amenity may be merged together, and inland water considered as an integral part of the remaining classifications.

Table 6: LANDMAP LMP09 typologies

Landscape type	Definition
Upland Moorland	Upland plateau, hillsides and scarp slopes, rock, 20-50% moorland.
Upland Wooded	Upland hillsides, scarp slopes and plateau, agricultural fields, 50% woodland.
Upland Open	Upland valleys, hillsides, lower plateau and scarps, 50% open grazing.
Lowland Wooded	Valleys, river valleys and farmland mosaic, hedgerows and small woods.
Lowland Open	Valleys, river valleys and farmland mosaic, hedgerows and small woods.
Inland water	Inland water.
Coast	Coastal edge, cliffs and islands.
Developed	Urban communities, villages, settlements and quarries.
Amenity	Amenity and informal space. (May be merged with Developed).

LANDMAP LMP14 classification

A classification developed for reporting the potential impacts of climate change on landscape types. The 14 landscape types are adapted from the 45 Visual and Sensory classifications.

Table 7: LANDMAP LMP14 typologies

Landscape type	Definition
Upland (wooded hills)	Upland hills, lower plateau and scarp slopes, wooded >50%
Upland (wooded)	Upland, exposed plateau, valleys, hillsides and scarp slopes, wooded 20-50%
Upland (moorland)	Upland plateau, hillsides and scarp slopes, moorland 20-50%+
Upland (grassland)	Upland valleys, hillsides, lower plateau and scarps, grassland >50%, open, predominantly unwooded
Upland (rock)	Upland rock scree
Lowland (wooded and wetland)	Valleys, rolling and flat lowland, wooded >50%
Lowland (hedgerow)	Valleys and rolling lowland, mosaic 20-50% wooded, hedgerow character
Lowland valleys (open)	Valleys, rolling and flat lowland. Grassland >50%, open, <20% wooded, lacking hedgerow trees
Coastal edge	Coastal edge, cliffs and islands
Coastal waters	Coastal waters
Inland water	Inland water
Developed (communities)	Built land - communities
Developed (industry)	Industry and infrastructure
Developed (amenity)	Amenity and informal space