

## Chapter 3

# Formative Influences

**3.1** This chapter summarises the main physical and cultural influences that have shaped the landscape of Herefordshire. The detailed description of different LCTs, that appear in Chapter 7 of this report, highlight the key characteristics (both positive and negative) and valued attributes that are of most significance to the particular landscape concerned.

**3.2** The landscape of the county has evolved through the interaction of the natural environment and human activities, through the combination of physical and cultural influences. Physical influences such as geology and landform, together with the pattern of settlement and land use are key determinants of landscape character.

## Physical influences

**3.3** The physical components of the landscape have the most tangible and fundamental influences upon its character, being the most permanent and least changeable aspect of its appearance. The underlying geology creates the 'backbone' of the landscape. The actions of weathering, erosion and deposition alter the landform, consequently influencing hydrological patterns and affecting the nature of soil conditions. This affects how humans have used and continue to exploit the landscape for agriculture, settlement, and industry and, consequently, influences the nature of the vegetation and fauna that the landscape can support.

## Geology

**3.4** The topography of Herefordshire is shaped by the underlying diversity of its bedrocks, which are distinctly older than almost all of the rocks of central England, and range from the Precambrian (4,600 million – 541 million year ago) and Palaeozoic eras (541-252 million years ago).

**3.5** The county has a central plain developed on the lowest rocks of the 'Old Red Sandstone'. Herefordshire was submerged for most of the Silurian period. As sea levels fluctuated, the rocks alternated between limestone (formed of shells and skeletons of sea creatures) and sedimentary sandstones. Over time sea levels fell, and the land became a vast alluvial plain. Oxidising conditions turned the iron in sediment red, which formed the 'Old Red Sandstone' rocks that underlie the majority of Herefordshire today. Called the 'Herefordshire stone' it gives a distinctive red colour to many soils and building stones, including the cathedral in the centre of Hereford city.

**3.6** Around the low central plain are areas of rocks which are more resistant to erosion. These make up the higher hills and plateaux which lie on all sides of the county boundary.

- In the south west of the county and extending into Wales are the Black Mountains. This steep-sided plateau is formed from more resistant rocks from the Lower Devonian period, mostly sandstones. A series of north-west to south-east oriented ridges enclosing narrow valleys, follows the line of the initial erosion of the uplifted and tilted plateau surface.
- In the north are rounded upland hills formed during the Silurian period, mostly limestones and siltstones, which run diagonally south-west to Kington along the Church Stretton Fault.
- In the north east of the county, and extending into Worcestershire, the rolling plateau around Bromyard is capped by Lower Devonian sandstones (St Maughans Formation) with a steep limestone scarp edge.
- Running along the eastern border of the county are the Malvern Hills which share a similar geology to the Woolhope Dome which extends into

Gloucestershire. In the late Carboniferous period a dramatic event along the Malverns tectonic fault caused the Precambrian limestones to uplift, fold and fault over the younger Silurian sandstones. The harder limestones are less susceptible to erosion, and form the distinctive ridges seen today.

- The southern part of Herefordshire is characterised by the Carboniferous limestones of the Wye Gorge and hills which extend into Forest of Dean plateau.
- Small areas of higher land within the central Herefordshire plain and made up of more resistant beds of siltstones and sandstones, known as the 'cornstone' hills.

**3.7** The bedrock geology of Herefordshire is shown on **Figure 3.1**

**3.8** Superficial geology, formed in the last Ice Age and covering the bedrock, is shown on **Figure 3.2**. The geology includes alluvium along the main river corridors, and glacial till, ice age ponds and moraine in the centre and west of the county.

## Landform and hydrology

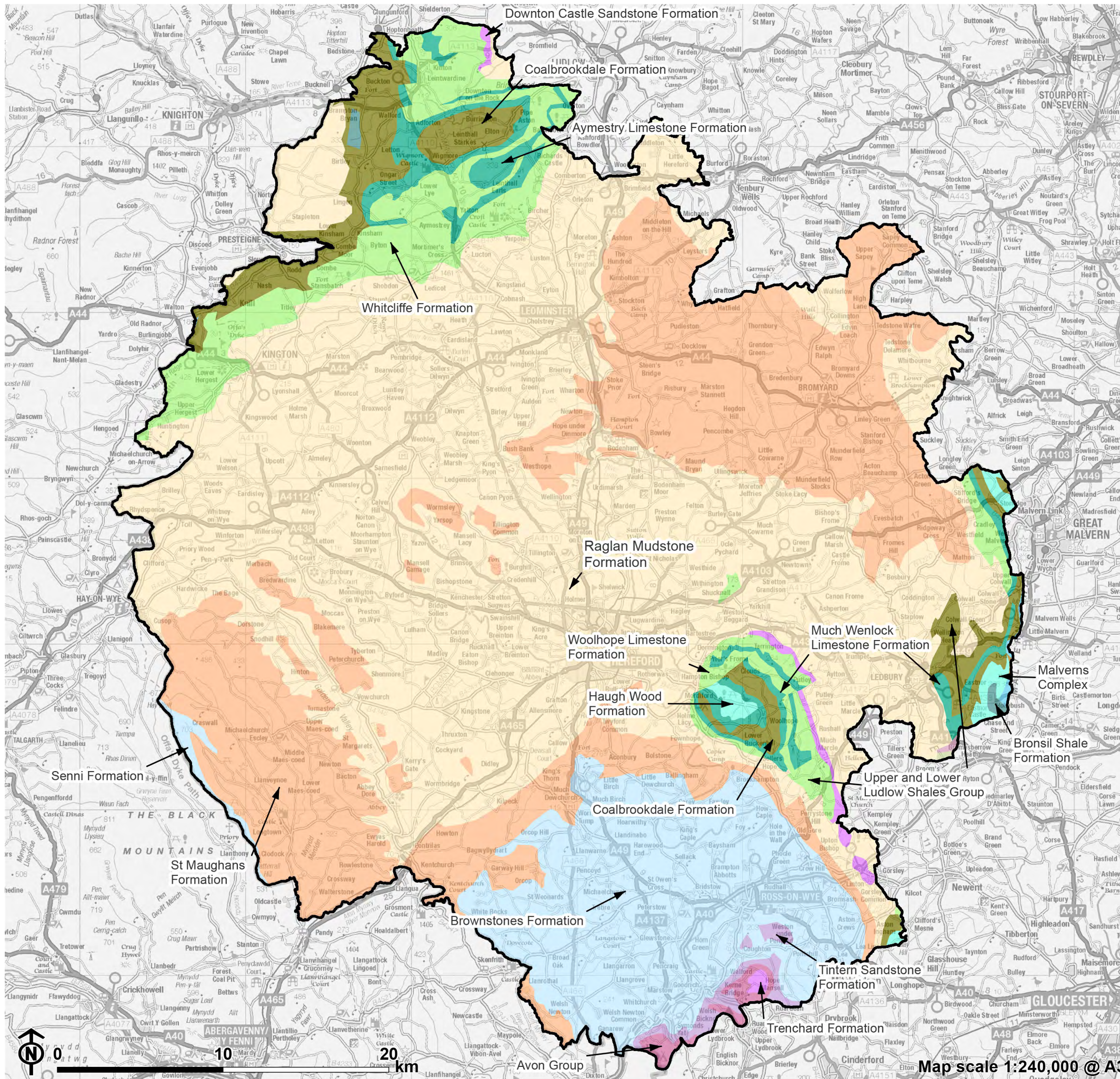
**3.9** Herefordshire consists of a substantial central plain, with upland areas on the margins. The highest points in Herefordshire are in the south-west and south-east. The Black Mountains are probably Herefordshire's most prominent landscape feature. Rising to an elevation of 703 metres this long ridge marks the border with Wales to the south west. To the east, the dramatic ridge of the Malvern Hills rises to 425 metres and mark the border with Worcestershire. There are long views across Herefordshire between these two high points. The limestone hills in the north also rise above the rest of the county, reaching a height of 370 metres in Mortimer Forest and even greater in the north west on Hergest Ridge and Bradnor Hills. These hills continue into Shropshire and Wales.

**3.10** Between these high points the topography is generally lower, although there is a distinctive plateau to the north east around Bromyard, and smaller wooded hills rising above the plains, such as the rounded ‘cornstone’ hills, and the Woolhope Dome.

**Wooded hills rise abruptly from the Herefordshire plain**



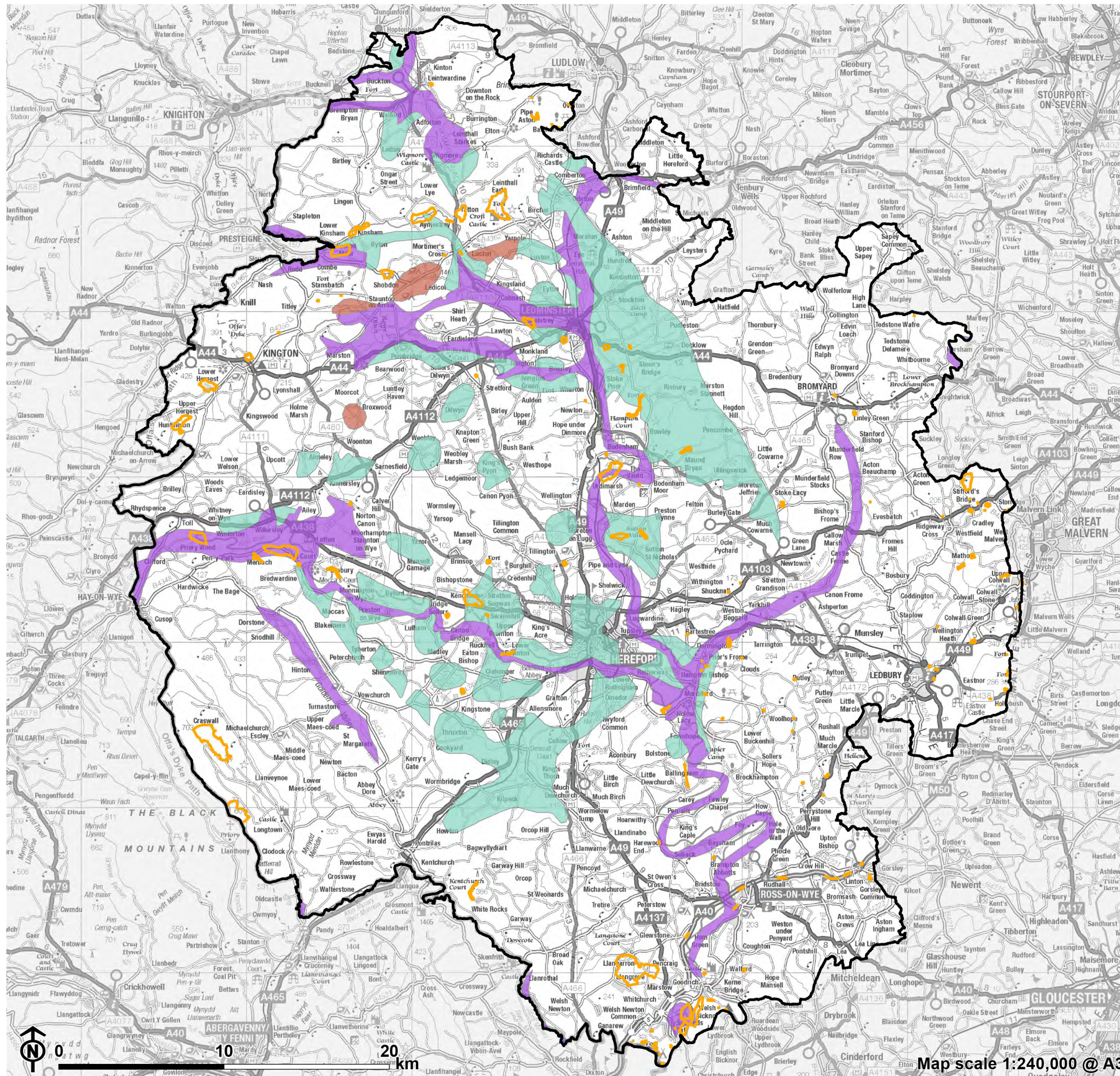
Figure 3.1: Bedrock geology



- Herefordshire boundary
- Dinantian Rocks - Limestone With Subordinate Sandstone And Argillaceous Rocks
- Llandovery Rocks - Mudstone, Siltstone And Sandstone
- Lower Devonian Rocks - Mudstone, Siltstone And Sandstone
- Lower Devonian Rocks - Sandstone And Conglomerate, Interbedded
- Ludlow Rocks - Mudstone, Siltstone And Sandstone
- Permian Rocks - Sandstone And Conglomerate, Interbedded
- Pridoli Rocks - Mudstone, Siltstone And Sandstone
- Pridoli Rocks - Sandstone And Conglomerate, Interbedded
- Silurian Rocks - Limestone, Mudstone And Calcareous Mudstone
- South Wales Upper Coal Measures Formation - Mudstone, Siltstone, Sandstone, Coal, Ironstone And Ferr
- Tremadoc Rocks - Mudstone, Siltstone And Sandstone
- Triassic Rocks - Mudstone, Siltstone And Sandstone
- Unnamed Extrusive Rocks, Neoproterozoic - Mafic Lava And Mafic Tuff
- Unnamed Igneous Intrusion, Neoproterozoic -Felsic-Rock
- Unnamed Igneous Intrusion, Neoproterozoic - Mafic Igneous-Rock
- Upper Devonian Rocks -Sandstone And Conglomerate, Interbedded
- Warwickshire Group - Mudstone, Siltstone, Sandstone, Coal, Ironstone And Ferricrete
- Wenlock Rocks - Mudstone, Siltstone And Sandstone

Source: British Geological Society, Ordnance Survey

Figure 3.2: Superficial geology



- Herefordshire boundary
- Alluvium
- Glacial sand and gravel
- Till
- Local Geological Site

Source: British Geological Society,  
Herefordshire Council, Ordnance Survey

**3.11** Herefordshire is crossed by numerous rivers and streams. There are two major river systems that bisect the county – the Teme and the Wye. The Teme flows east and runs across the northern boundary of the county, eventually joining the River Severn at Worcester. The River Wye provides the main system of drainage for the majority of the county – a system that can be broadly divided into three main sections:

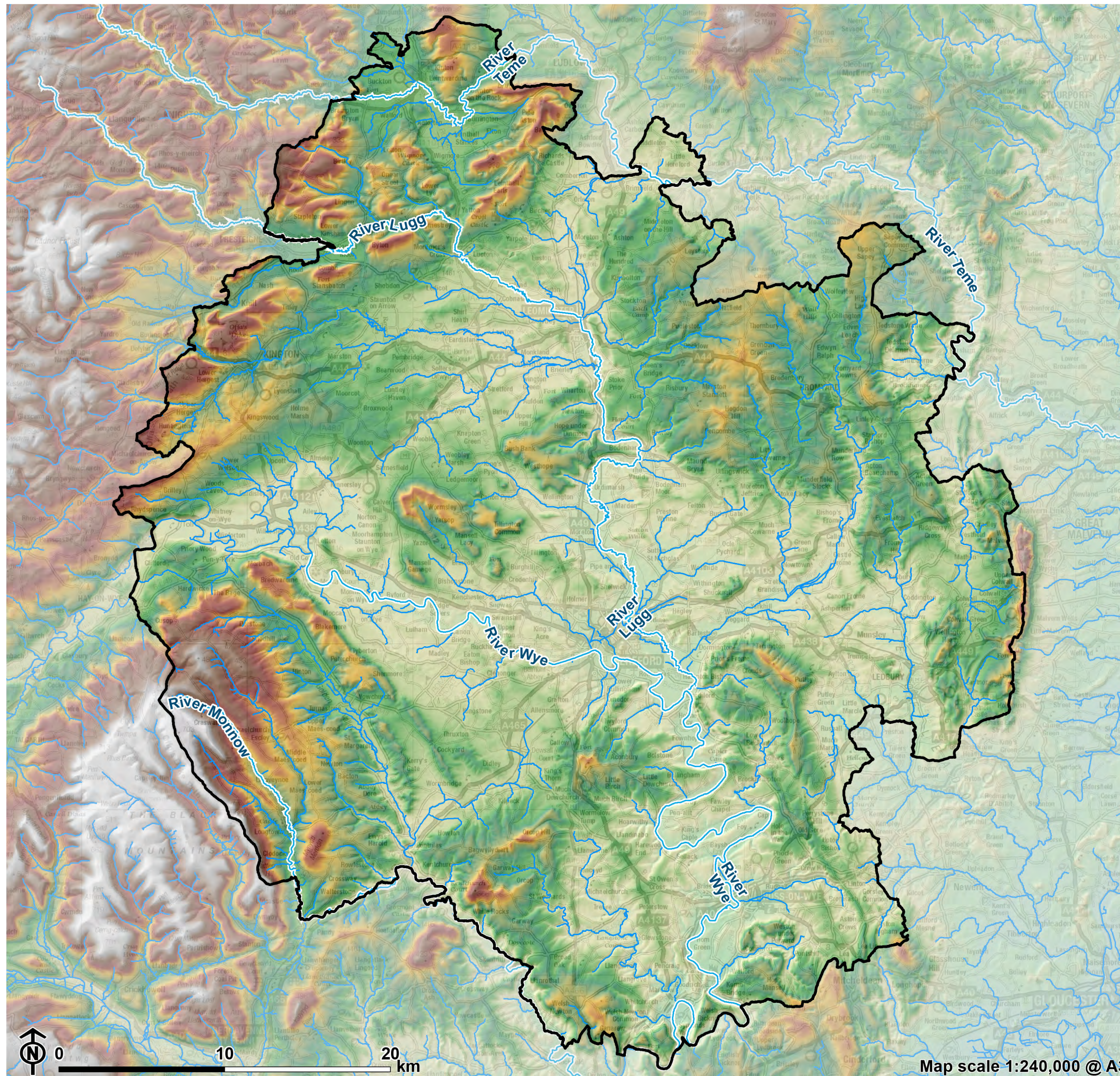
- In the north, the Lugg with its tributaries the Arrow and the Frome. The Lugg joins the Wye to the east of Hereford at Mordiford.
- The Wye runs into the county from the west to Hereford before its characteristic meanders turn to the south, running through Ross-on-Wye and the Wye Gorge before it passes out of the county on its way to the Bristol Channel.
- In the south the Morrow and its tributaries (such as the Dore) flow south east from the Black Mountains. The river marks the border with Monmouthshire, before eventually joining the Wye at Monmouth in Wales.

**3.12** In addition, to the east is the south-flowing River Leadon, which passes through Ledbury. The Clun in the north and Wye are internationally designated as Special Areas of Conservation. **Figure 3.3** illustrates the topography and watercourses of Herefordshire.

### Natural meanders of the River Monnow



Figure 3.3: Topography and watercourses



□ Herefordshire boundary  
— Watercourse  
**Elevation (m)**  
High : 900  
Low : 0

Source: Environment Agency, Ordnance Survey



## Land cover and ecological character

**3.13** Herefordshire is primarily an agricultural county, with around 80% of the land in farming use (nearly 180,000ha). Agricultural land use in Herefordshire is strongly influenced by topography and soils, with livestock farming dominating the uplands, and arable cultivation, horticulture and commercial orchards and mixed pasture on the central lowland plain. The Natural England Living England mapping indicates the dominant agricultural landcover across Herefordshire is arable and horticultural (29.5%), and improved grassland (9.6%). The DEFRA June Survey of Agriculture and Horticulture 2022 indicates that by area the largest agricultural types are general cropping, grazing livestock (lowland), mixed and cereals.

**3.14** Soils vary across the county, however in general the county's soils are highly fertile. As shown in **Figure 3.4**, the Agricultural Land Classification shows the soils are generally Grades 2 and 3 and small areas of Grade 1 (excellent quality), with Grade 4 on higher ground.

**3.15** Herefordshire supports a wide range of habitats; the Habitat and Species Mapping (LUC, 2023) indicates that woodland, wood pasture and parkland, grassland habitats (including meadows) and traditional orchards are the most common habitats across the county. Many of these habitats are of international, national or local importance, and are recognised through designation, with Herefordshire supporting four SACs, 118 SSSIs and three NNR. These designations are shown in **Figure 3.5**.

**3.16** Woodlands are one of the most extensive semi-natural habitat types in Herefordshire, and approximately 12.7% of the county is covered by woodland. This is greater than the national average of 10% woodland cover in England. Roughly half of the woodlands within Herefordshire are recorded as ancient. Woodlands are concentrated outside the central plain, in upland areas and on steeper slopes. The extent of woodland coverage is shown in **Figure 3.6**.

### Parkland trees with conifer plantations on hills



**3.17** Wood pasture and parkland represents some of the largest continuous areas of any priority habitat in the county, and covers 8914 ha (4.1%). Although most commonly associated with large country houses and estates such as Croft Castle and Berrington Hall, smaller and remnant areas also occur, including at Moccas NNR and Downton Gorge SAC and NNR.

**3.18** Herefordshire, along with neighbouring Worcestershire and Gloucestershire is famous for its apple orchards and associated products, particularly cider. Herefordshire produces half the UK's cider. Priority habitat traditional orchards remain a locally significant habitat, covering 2636 ha (1.2%) across Herefordshire, and are important in defining local distinctiveness. Traditional orchards are often small and isolated, with the main concentration in the centre of the county, particularly surrounding Hereford and Leominster. Many traditional orchards have been lost, or replaced by commercial bush orchards. The extent of orchards is shown in **Figure 3.6**.

**3.19** The county is rich in diverse hedgerows, often containing substantial trees. Hedgerow trees are often veteran oaks, which are important landscape features and can be visually dominant. Species within hedgerows vary across the county. Most hedgerows are species rich, often including hawthorn, blackthorn and hazel, while in some areas planned single species hedgerows are dominant, such as holly and damson.

**3.20** The Herefordshire hedges are often old, as the county was well-hedged by the 18<sup>th</sup> century and probably earlier. The Parliamentary Enclosure Acts in the 18<sup>th</sup> and 19<sup>th</sup> centuries made a modest increase to the number of hedgerows. In some areas the hedgerows create planned medium-sized fields, while in others the prominent hedgerow boundaries create a complex matrix of pastoral fields and narrow lanes. In the border areas the thick, species rich hedges with scattered hedgerow trees create a field pattern that is one of the most ancient in the county. Hedgerow management varies across the county, creating different character and visual effects where they have been over-trimmed, rejuvenated, dense and well managed or tall and overgrown.

**3.21** Hedgerows are important features in linking woodland blocks and integrating them with areas of farmland, as well as providing valuable, complex wildlife habitat. Hedgerows also line most rural lanes, and alongside the species-rich verges and hedgebanks can be diverse reservoirs of native wildflowers.

**3.22** There is relatively little recorded wetland habitat in Herefordshire. The main areas of wetlands are man-made sites reclaimed after extraction works (including Bodenham Lake, Brockhall Gravel Pits and Hartleton Lakes) except for blanket bog in upland areas. Open water habitat in rivers and streams are found across the county, and small ponds are regular farmland features.

### Rolling fields bound by hedgerows with hedgerow trees



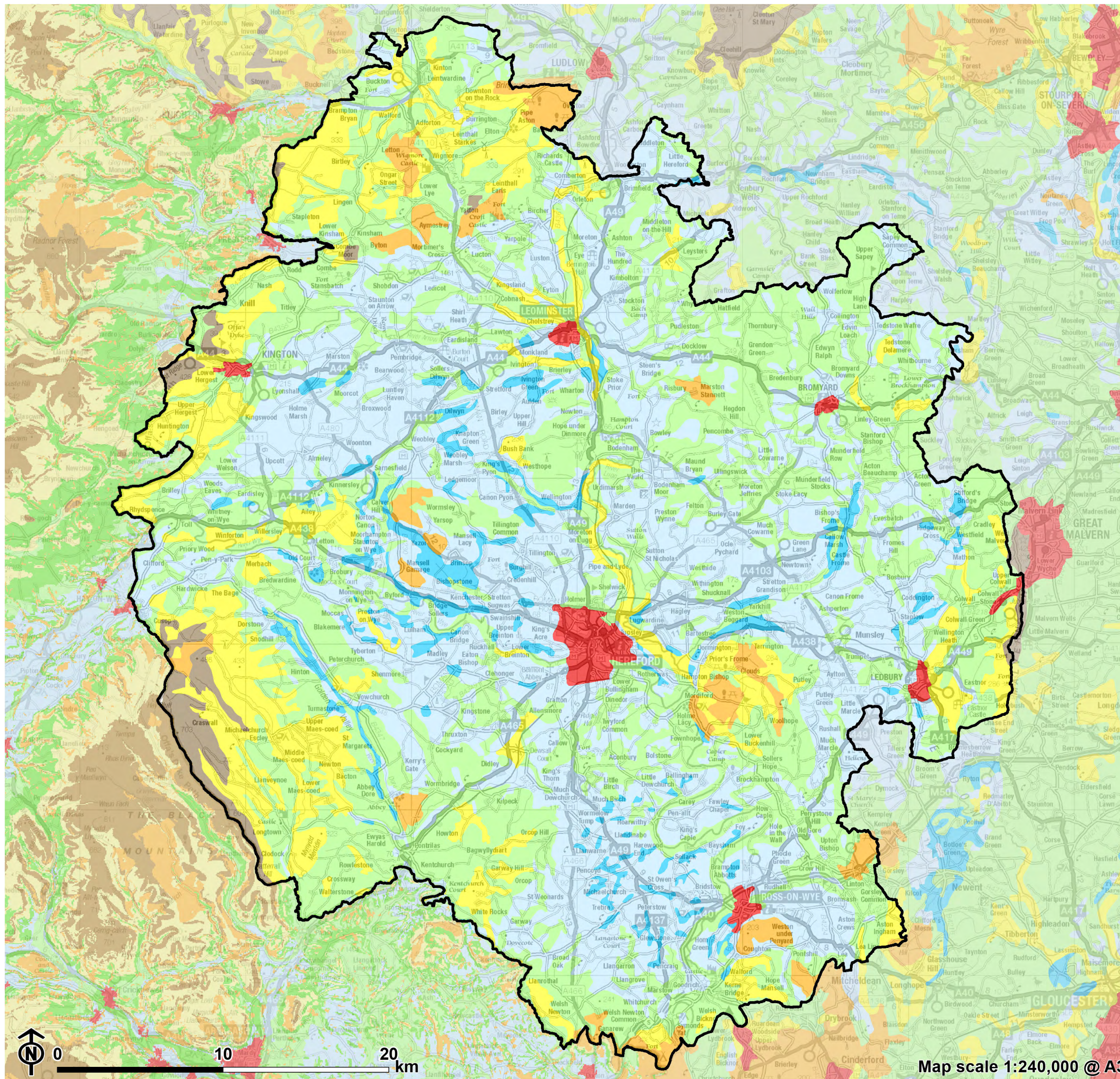
**3.23** Upland heath and grass moorland is found in mosaic with blanket bog, scrub and woodland in uplands areas along the Black Mountains, and on the Welsh border to the west of Kington, and south of Kentchurch. Upland heath covers 776 ha within the county (0.4%). Upland habitats have suffered from excessive scrub encroachment, drainage and overgrazing.

**3.24** There is a wide diversity of flower-rich grassland habitats across the county, including lowland meadows, lowland dry acid grassland, and lowland calcareous grassland which are found on the open commons on upland areas. Wetter grassland habitats including floodplain grazing marsh, and purple moor grass and rush pastures are also found across the county. Lugg and Hampton Meadows SSSI, located within the Lugg valley to the east of Hereford, consists of lowland wet meadows which have previously supported large numbers of breeding curlew.

Lowland meadow at Stockings Meadow



Figure 3.4: Agricultural Land Classification



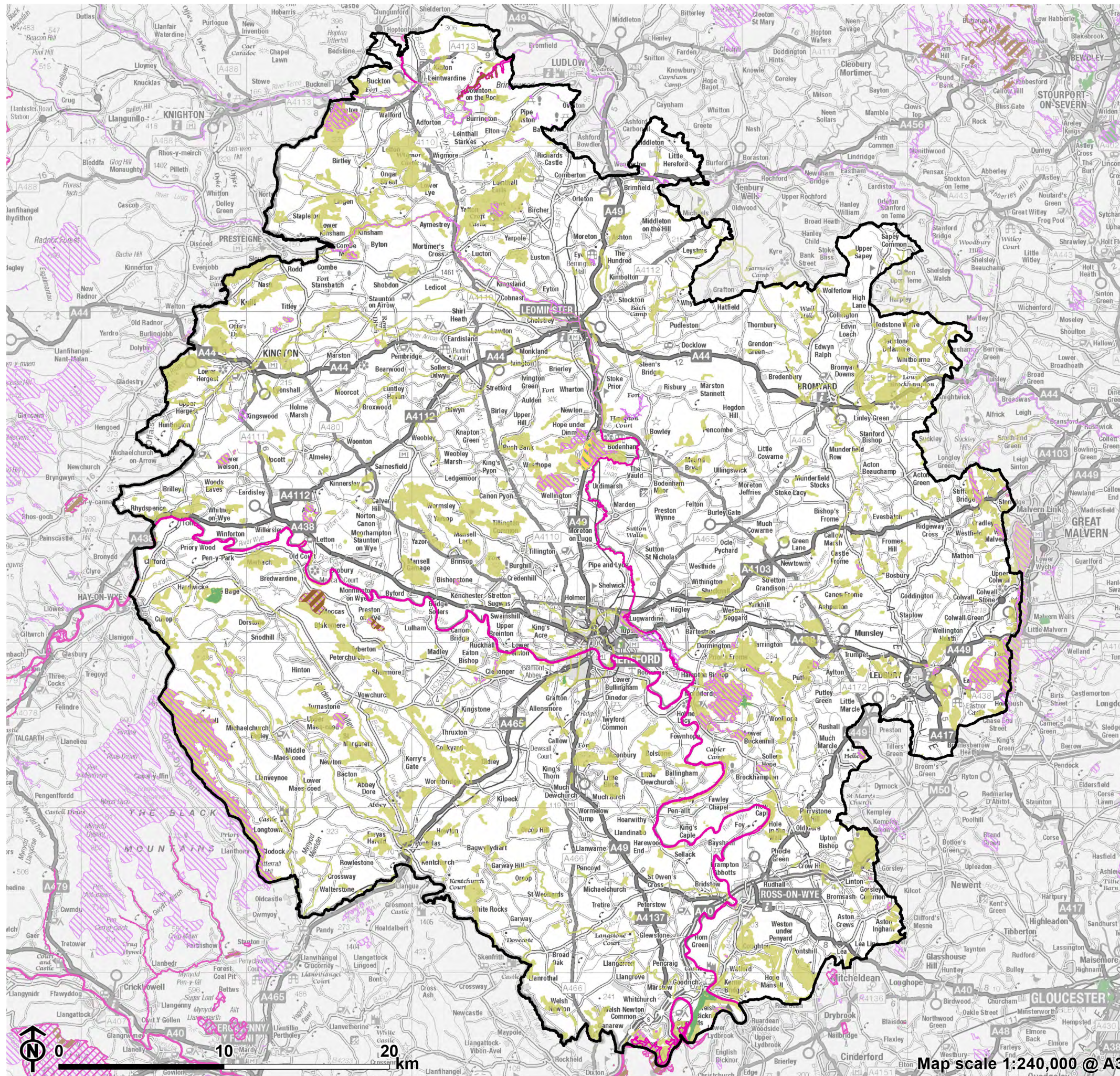
Herefordshire boundary

**Agricultural Land Classification**

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non agricultural
- Urban

Source: Natural England, Natural Resources Wales, Ordnance Survey

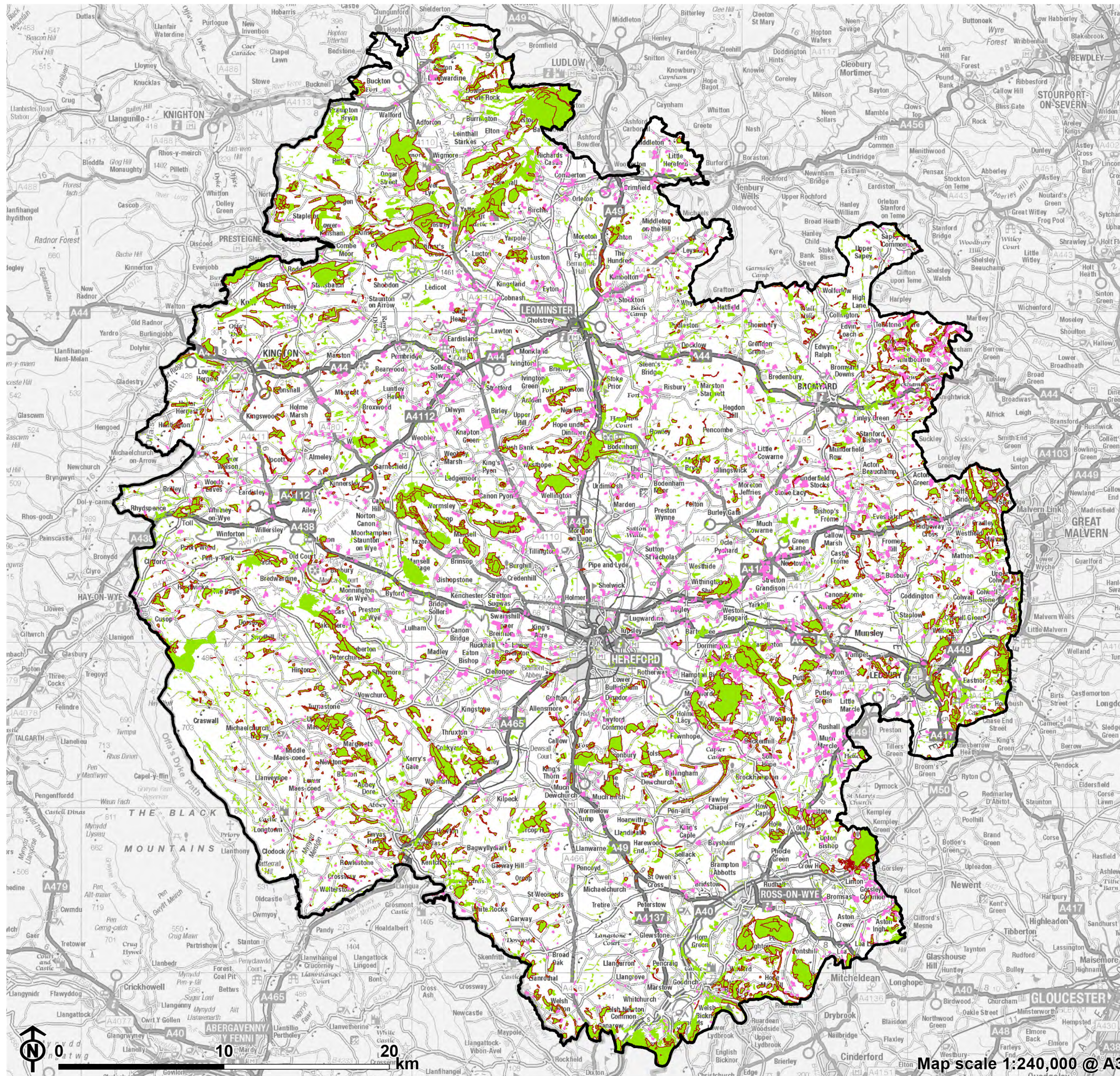
Figure 3.5: Nature conservation



- Herefordshire boundary
- Special Area of Conservation
- Site of Special Scientific Interest
- National Nature Reserve
- Local Nature Reserve
- Local Wildlife Site
- Country park

Source: Natural England, Natural Resources Wales, Ordnance Survey

Figure 3.6: Woodland



- Herefordshire boundary
- National Forest Inventory
- Traditional orchard
- Ancient woodland

Source: Forestry Commission, Natural England,  
Ordnance Survey