

West Lothian LDP2 Evidence Report	
Schedule	5. Natural Places and Soils
<p>Information required by the Act and NPF4 regarding the issue addressed in this section</p>	<p>Town and Country Planning (Scotland) (Act) 1997, as amended:</p> <ul style="list-style-type: none"> • section 15(5)(a) ‘the principal physical, cultural, economic, social, built heritage and environmental characteristics of the district’ <p>Other statutory requirements relating to this schedule:</p> <ul style="list-style-type: none"> • SEA (Environmental Report) • Habitats Regulation Appraisal (HRA) • Forest and Woodland Strategy <p>National Planning Policy 4 (adopted 13 February 2023)</p> <ul style="list-style-type: none"> • Policy 4 – Natural Places - LDPs will identify and protect locally, regionally, nationally and internationally important natural assets, on land and along coasts. The spatial strategy should safeguard them and take into account the objectives and level of their protected status in allocating land for development. Spatial strategies should also better connect nature rich areas by establishing and growing nature networks to help protect and restore the biodiversity, ecosystems and natural processes in their area. • Policy 5 – Soils - LDPs should protect locally, regionally, nationally and internationally valued soils, including land of lesser quality that is culturally or locally important for primary use. <p>This schedule aims not to repeat the content of other topics covered by the LDP2 Evidence Report. Other schedules which should be read alongside this schedule on Natural Places and Soils include:</p> <ul style="list-style-type: none"> • 1 - Climate Change • 2 - Biodiversity • 3 - The Water Environment and Flooding • 4 - Blue and Green Infrastructure • 6 - Forestry, woodland and trees • 8 - Green belts • 9 - Health and Wellbeing
<p><u>Links to Evidence</u></p>	<ul style="list-style-type: none"> • NatureScot, <u>European Habitats Directive</u> • Scottish Government, <u>Nature Conservation (Scotland) Act 2004: Biodiversity Duty on all responsible authorities</u> • Ramsar, <u>Convention on Wetlands of International Importance: Ramsar sites</u>

- Scottish Government, Wildlife and Countryside Act 1981, as amended: Sites of Special Scientific Interest
- Scottish Government, Marine (Scotland) Act 2010: Marine Protection Areas
- Scottish Government, Countryside (Scotland) Act 1967 as amended: Country and Regional Parks
- Local Nature Conservation Sites datasets Local Nature Conservation Sites - Scotland - Local Nature Conservation Sites - Spatial Hub Scotland
- West Lothian Council, Open Space Plan 2020-24
- West Lothian Council, Draft Open Space Plan and map West Lothian Map.
- Greenspace Scotland, Scotland's GreenSpace map
- Scottish Government, Scotland's Soils
- West Lothian Council, West Lothian Soil Sustainability Report (2004) Soil Report
- James Hutton Institute, land use classification map
- West Lothian Council, PG - Planning Guidance : Soil Management & After Use of Soils on Development Sites (Adopted April 2021)
- West Lothian Council, PG - Planning Guidance : Planning for Nature : Development Management and Wildlife (Adopted April, 2020)
- West Lothian Council, West Lothian Geodiversity report 2006
- NatureScot, Lothians Landscape Character Assessment, (1998)
- West Lothian Council, Local Landscape Designation Review (2013)

Summary of Evidence

Purpose, scope and structure of this schedule

This schedule focuses on natural places and soils in West Lothian. This schedule and its evidence are set out in the following sections:

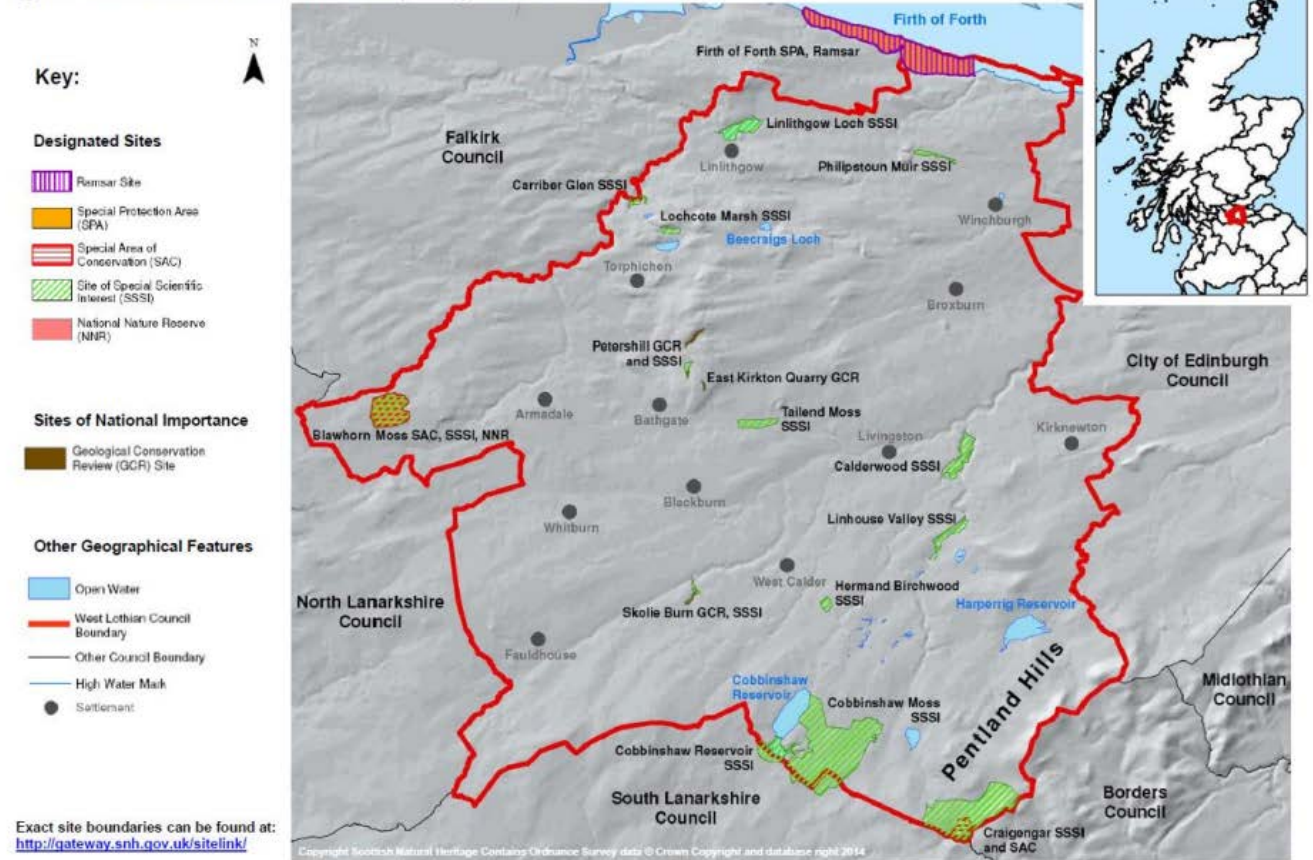
1. Natural Places in West Lothian
2. Countryside and landscape designations in West Lothian
3. Soils in West Lothian
4. Soil Carbon Sequestration

Part 1 – Natural Places in West Lothian

Designated Sites

- 1.1 NPF4 policy 4 requires LDPs to identify and protect locally, regionally, nationally and internationally important natural assets, on land and along coasts. The spatial strategy should safeguard them and take into account the objectives and level of their protected status in allocating land for development.
- 1.2 There are a number of designated sites within West Lothian that carry statutory protection at the European, National (UK and Scottish) and West Lothian levels. These sites are referred to as international, national and local sites, and set out below. Protected areas account for 16% of the land coverage of West Lothian. West Lothian Council landholdings comprise 51% protected land.

Figure 1: International and National Natural Heritage Designations in West Lothian



1.3 **Internationally designated** sites have protection under European law and are commonly known as European sites. They comprise:

- Ramsar Sites – are classified under the Convention on Wetlands of International Importance. There is one Ramsar Site within West Lothian, part of the Firth of Forth RAMSAR;
- Special Areas of Conservation (SAC) – designated for their habitats and species under the EC Habitats Directive (92/43/EEC). In West Lothian there is Blawhorn Moss SAC north of Blackridge and Craigenar Moss SAC in the southwest Pentlands; and,
- Special Protection Areas (SPA) – designated for their birds under the EC Wild Birds Directive (2009/147/EC) - part of the Firth of Forth SPA is in West Lothian.

1.4 **Nationally designated** sites in West Lothian include Sites of Special Scientific Interest (SSSIs) which are notified for the special interest of their habitats, flora, fauna, geology or geomorphology. SSSIs are designated by NatureScot under the Nature Conservation (Scotland) Act 2004, in order to protect the special interest of the site from damage or deterioration. It is an offence for anyone to intentionally or recklessly damage the protected natural features of an SSSI.

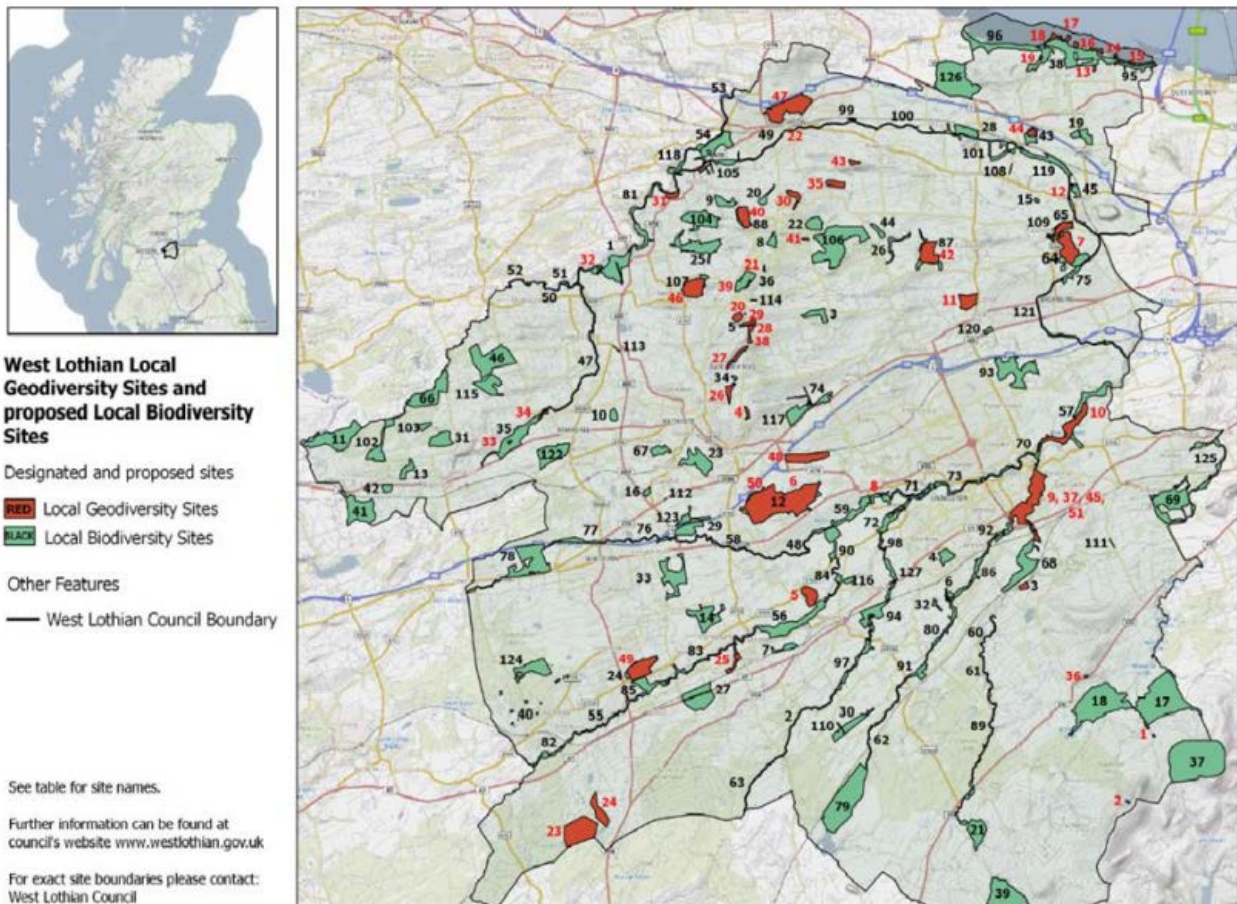
1.5 There are 16 SSSIs in West Lothian. There is also one National Nature Reserve (NNR) (Blawhorn Moss) which has habitats and species that are internationally important.

Name	Location	Special Features
Blawhorn Moss	Blackridge	Raised bog
Calder Wood	Mid Calder	Upland Oak woodland and valley fen

Carribber Glen	nr. Linlithgow	Upland mixed Ash woodland
Cobbinshaw Moss	nr. Harburn	Intermediate bog (blanket)
Cobbinshaw Reservoir	nr. Harburn	Open water transition fen
Craigengar	Pentland Hills	Blanket bog; Subalpine dry heath; Spring head, rill and flush; and rare marsh saxifrage
East Kirkton Quarry	Bathgate	Geology (limestones)
Firth of Forth	Blackness/ Hopetoun coast	Geology / landscape / habitats / species (esp. birds); in this location species rich coastal and semi-improved grassland
Hermand Birchwood	West Calder	Upland birch woodland
Linhouse Valley	Murieston	Habitat patchwork: lowland acid and neutral grasslands, species rich valley fen and upland mixed ash woodland
Linlithgow Loch	Linlithgow	Largest natural freshwater loch in the Lothian area and lowland eutrophic loch
Lochcote Marsh	Torphichen	Basin fen and only known West Lothian site for rare mud snail
Petershill	Bathgate	Limestones, Lowland neutral grassland and Lowland calcareous grassland
Philpstoun Muir	Philpstoun	Upland mixed ash woodland
Skolie Burn	Loganlea	Geology (limestones) and Lowland neutral grassland
Tailend Moss	between Livingston/ Bathgate	Raised bog

1.6 There are three types of sites of **local significance** in West Lothian: Local Nature Reserves, Local Geodiversity Sites and Local Biodiversity Sites.

Figure 2: Local Natural Heritage Designations in West Lothian



- 1.7 **Local Nature Reserves** are protected from development through the Local Development Plan. There are two Local Nature Reserve – Easter Inch Moss and Harperrig Reservoir – located in West Lothian.
- 1.8 Easter Inch Moss is an area of lowland peat bog plus former oil shale bing (Seafield Law) that was designated as Local Nature Reserve (LNR) in 2007. The reserve is located between Blackburn and Seafield and, as well as being a valuable green space for local residents the moss is also home to over 140 different plant species, with 11 being recognised as rare in West Lothian. Like many peat bogs in the UK, Easter Inch Moss has been damaged by poor management over the years. Restoration has begun through NatureScot's Peatland Restoration Fund.
- 1.9 Harperrig Reservoir lies to the north of the Pentland Hills within the West Lothian boundary and within the boundary of the Pentland Hills Regional Park. It is owned by City of Edinburgh Council and managed as part of the Water of Leith flood prevention scheme.
- 1.10 **Local Geodiversity Sites** are sites with geological features of great value considered worthy of interpretation and conservation and those with features of some value that may be worthy of interpretation and conservation. Local Geodiversity Sites are split into two categories based on a geodiversity review of West Lothian carried out by the British Geological Survey. There are 51 Geodiversity Sites in West Lothian. Further information about all aspects of West Lothian's geodiversity can be found in the **West Lothian Geodiversity report 2006**.

1.11 **Local Biodiversity Sites** aim to ensure the conservation, maintenance and enhancement of species and habitats of fundamental nature conservation value. They are not legally protected, but local planning policies may be used to protect them from inappropriate development. There are 121 LBSs throughout West Lothian. LBS were designated by the Local Biodiversity Site group using strict criteria, including habitat, species present, abundance, size, and surrounding landscape.

1.12 The LBS group is responsible for managing the LBS system, overseeing selection criteria, selection of sites, review and monitoring of sites and development of projects to ensure the conservation of sites. The West Lothian group currently includes representatives from West Lothian Council (WLC), The Wildlife Information Centre (TWIC), Butterfly Conservation, Royal Society for the Protection of Birds (RSPB) and Scottish Wildlife Trust (SWT).

1.13 Information on Biodiversity and the proposed West Lothian Nature Network is set out in the Schedule 2 on Biodiversity.

Part 2 - Countryside and landscape designations in West Lothian

2.1 West Lothian has no National Scenic Areas; however, landscape quality is nonetheless important to the setting of settlements, and to the area's image and identity of local communities. Local landscape designations were reviewed in advance of LDP1 and are shown as Special Landscape Areas (SLAs) on the **West Lothian LDP1 Proposals Map**.

Map 1 : The countryside of West Lothian



- 2.2 Landscape character assessments covering all of Scotland were carried out in the 1990s by Scottish Natural Heritage. West Lothian was included in the **Lothians Landscape Character Assessment, (1998)**. The council's landscape character assessment was updated in 2011, and the boundaries supersede those in the 1998 assessment but the original descriptions and supporting information still provide relevant context.
- 2.3 The council undertook a '**Local Landscape Designation Review**' (LLDR) in 2013 which identified 'Candidate' Special Landscape Character Areas (cSLA's). These were adopted through LDP1.
- 2.4 **Countryside Belts** are spatial designations in the West Lothian Local Development Plan 1, and critical planning tools somewhat like statutory greenbelts around Scotland's cities, for the purposes of controlling urban spread into the countryside. A key purpose is to maintain the identity of towns by avoiding coalescence. Protecting the setting of settlements is another important purpose of countryside belts.

2.5 Evidence on Countryside/Greenbelts and the proposed West Lothian Green Belt is set out in the Schedule 7 on Greenbelts.

Part 3 – Soils in West Lothian

3.1 West Lothian's soil assets, including peatland and carbon-rich soils can play a critical role in helping to achieve the net zero emissions target by 2045, contribute toward climate adaptation through the control of flooding and increased resilience to drought, and are a source of food and other crops, supporting West Lothian's rural economy.

3.2 NPF4 policy 5 (a) states that development proposals will only be supported if they are designed and constructed in accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; in a manner that protects soil from damage including from compaction and erosion, and that minimises soil sealing.

3.3 Guidance on this is set out in West Lothian Council's planning guidance on **Soil Management & After Use of Soils on Development Sites (2021)**. The guidance aims to:

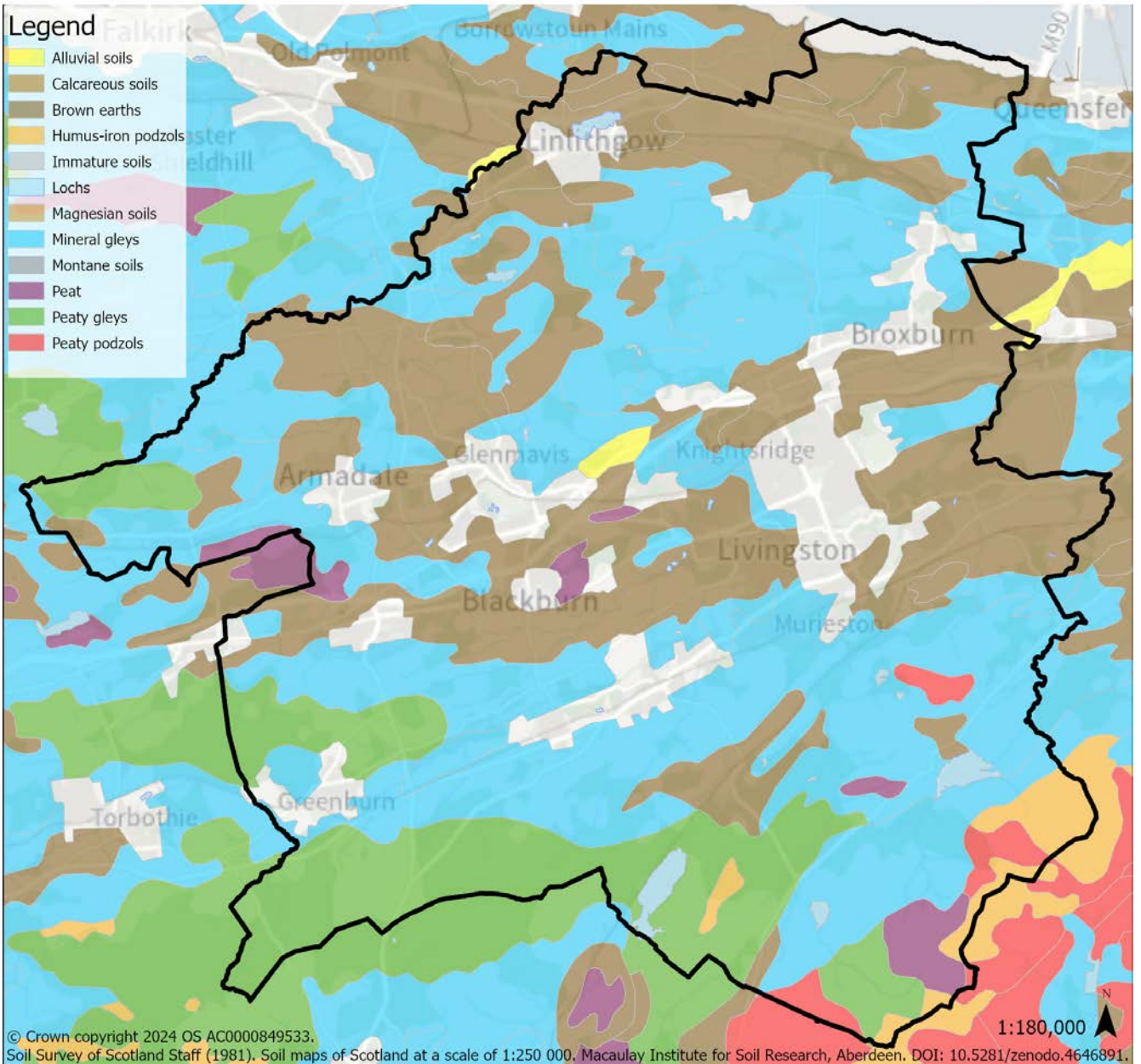
- ensure that restoration of site landforms are not too steep and provide appropriate drainage for the placement of soils suitable for a range of land uses, including landscaping, habitat creation and open spaces;
- conserve prime quality soils, as an irreplaceable natural resource where greenfield sites are being developed; and
- minimise problems, like flooding, for development sites and adjacent land uses, where soil has been poorly managed during construction.

3.4 NPP4 policy 5 (b) states that development proposals on prime agricultural land, or land of lesser quality that is culturally or locally important for primary use, or on peatland, carbon rich soils and priority peatland, or priority peatland habitat, as identified by the LDP, will only be supported in certain circumstances. There are two main sources of soils evidence and datasets, **Scotland's Soils** and **The National Soil Map of Scotland**. Datasets available include:

- 1:250,000 National Soil Map
- 1:25,000 Soil Map (partial cover)
- Soil Thematic Maps including partial risk maps for topsoil and from water i.e. compactions, leaching, runoff and erosion which are useful in the consideration of the impact development on soils and water systems.
- National Soils Inventory, point data on parent material, lead and zinc concentrations in topsoil.

3.5 The **West Lothian Soil Sustainability Report (2004)** indicates that the majority of soils in West Lothian have a soil texture ranging from clay to sandy clay loam. This high clay and glacial till soils content often results in poor drainage conditions.

1:250,000 Soil Map

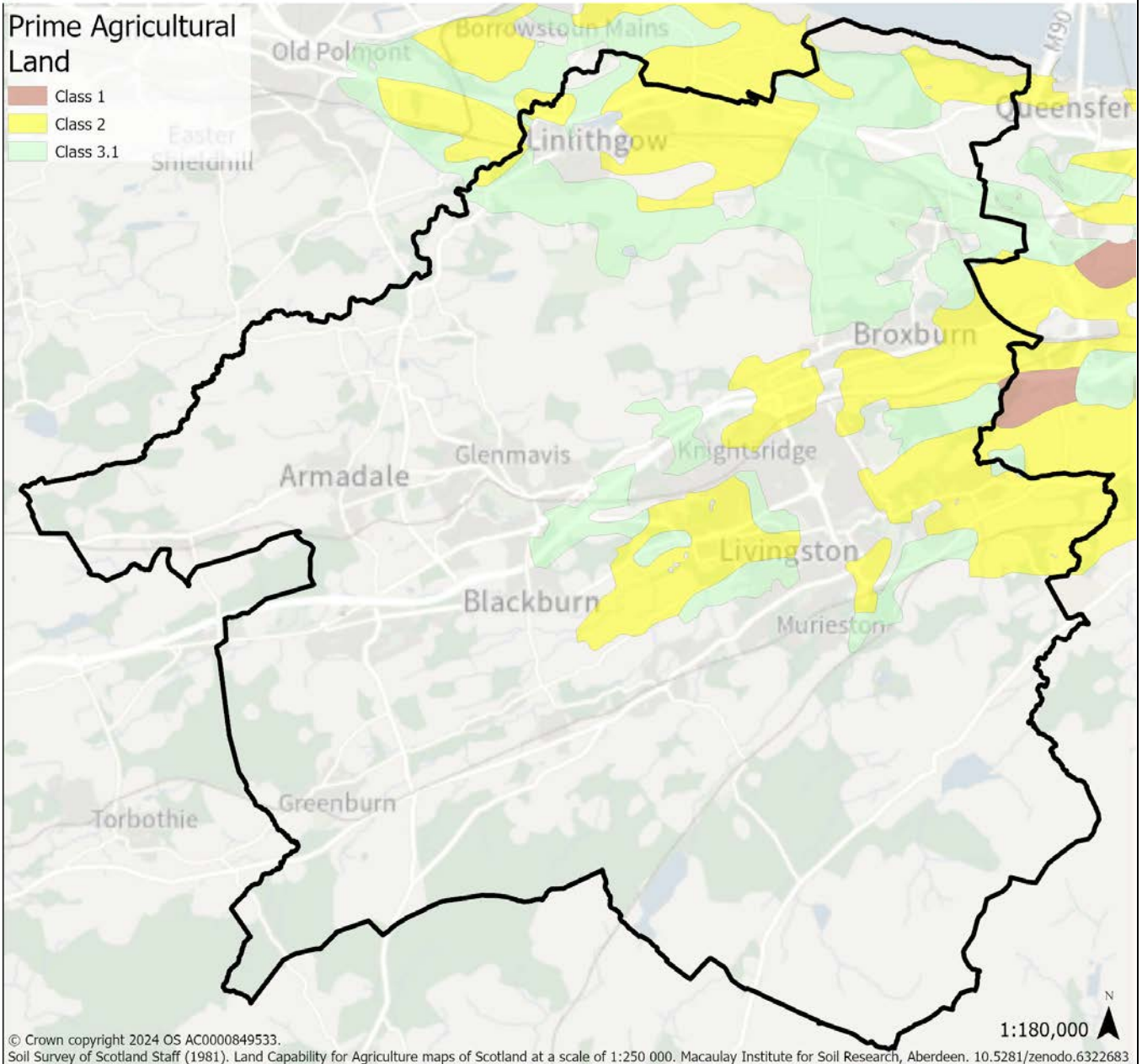


3.6 The **National-Scale Land Capability for Agriculture Prime Agricultural Land** provides information on the types of crops that may be grown in different areas dependent on environmental and soil characteristics. More detailed mapping is available in the Land capability for agriculture (partial cover).

3.7 Prime land is defined by the following classes:

- Class 1 - Land capable of producing a very wide range of crops
- Class 2 - Land capable of producing a wide range of crops
- Class 3.1 - Land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range. Short grass leys are common

Land Capability for Agriculture



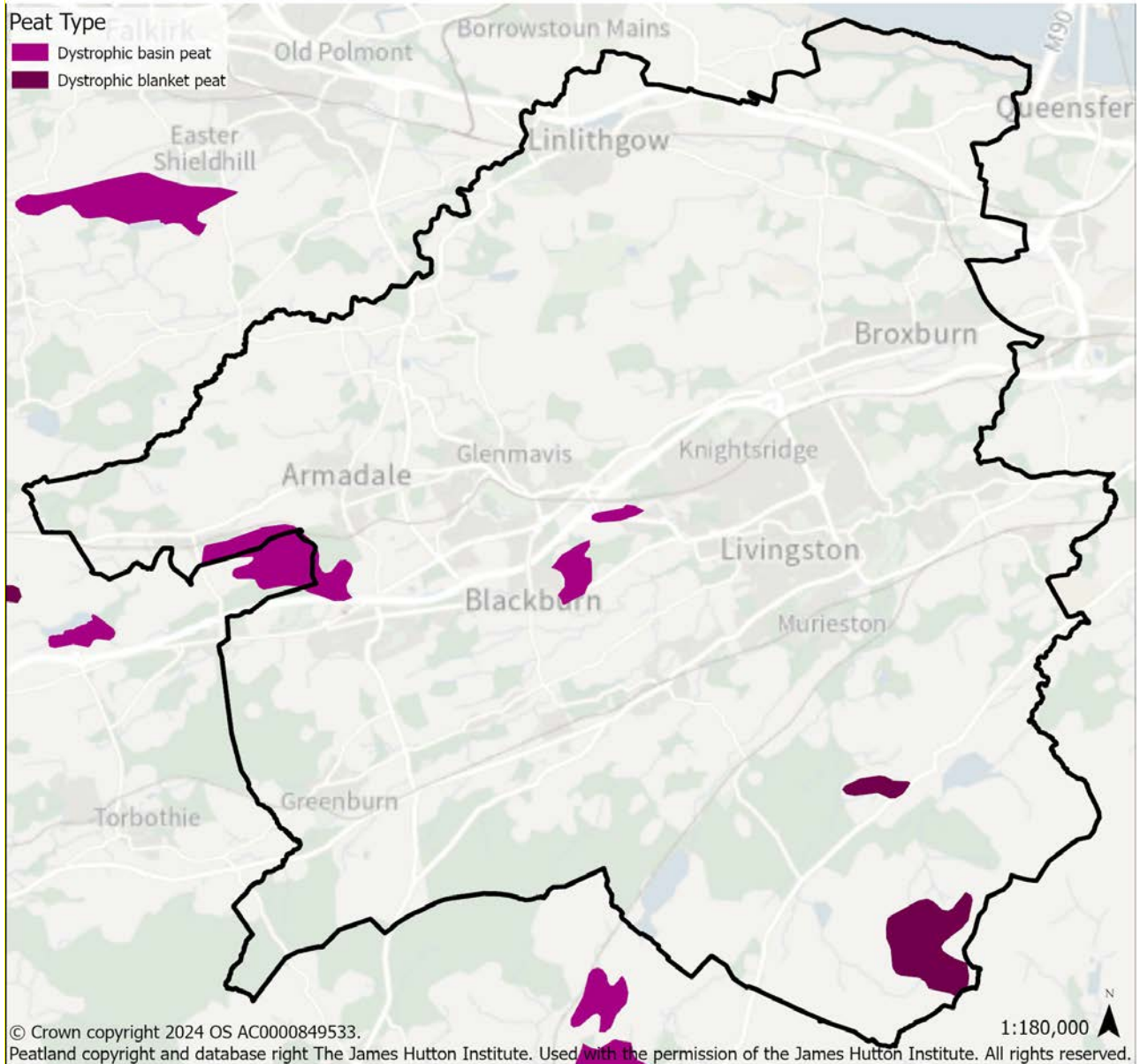
3.8 In West Lothian, the prime agricultural land is found in the north, east and more settled areas.

3.9 Peat is a specific issue for soils due its prevalence in Scotland, high level of carbon sequestration and general risks to this soil/ habitat type which is also a qualifying priority habitat active blanket bog/ active raised bog/ bog woodland. The main data sources are:

- **Carbon and peatland 2016 map** (Scotland's Soils) which includes clear and useful categories
- **Scottish bare peat viewer** - pixelated data from Sentinel 2 satellite captured in summer 2018 mapping larger extents of bare peat
- Scottish Natural Heritage: Phase 1 Habitat Survey 1993: Mire and Bog.

3.10 Blawhorn Moss in West Lothian has been designated a National Nature Reserve (NNR) as it is a rare survivor of the raised and blanket bogs that once covered much of central Scotland.

Peatland



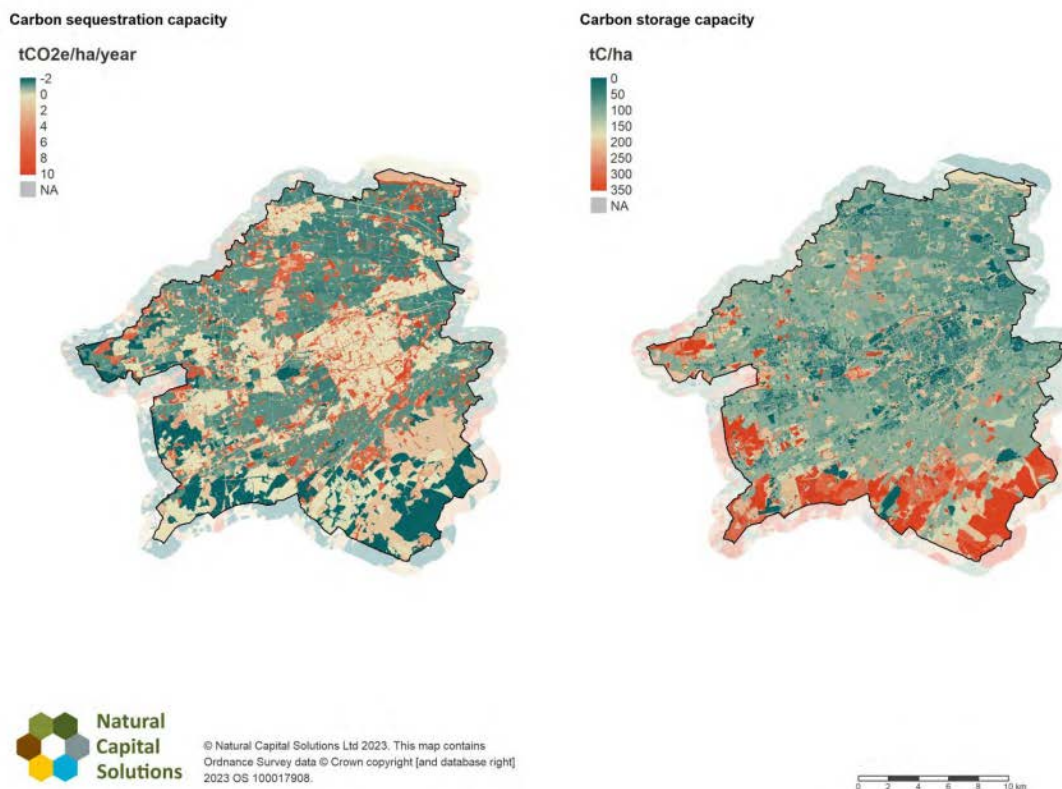
Part 4 - Soil Carbon Sequestration

- 4.1 Carbon storage and sequestration are seen as increasingly important as we move towards a low carbon future. Carbon storage capacity indicates the amount of carbon stored naturally in soil and vegetation and is the stock of carbon in the natural environment, whereas carbon sequestration (Section 4.2) indicates the annual physical flow of carbon captured by growing plants or emitted by agricultural activities and measures its annual flow.
- 4.2 The council has carried out a **Natural Capital Assessment (2023) (WLC10)** to quantify the benefits that each habitat in West Lothian provides in terms of carbon storage and sequestration. Alongside mapping of prime agricultural land set out above, this assessment will support the council to define 'land of lesser quality that is culturally or locally important for

primary use (i.e. for example food production, flood management, water catchment management and carbon storage).

4.3 For every ecosystem service, the current capacity of the natural environment to deliver that service was mapped. These 'heat maps' show broadly which habitats/areas are currently giving the most benefit for each function e.g. which areas best regulate water flow, have the ability to store the most carbon (over the long term), to sequester the most carbon (year on year), etc. In terms of soils,

- West Lothian land is identified, on average, to be a *source* of yearly carbon emissions at a rate of $-0.33 \text{ tCO}_2\text{e/ha/yr}$. This is mainly due to emissions associated with agriculture and degraded bog habitats, which are not currently offset by the presence of good condition semi-natural habitats. This is a good reason to improve the condition of habitats across the area.
- The land owned by WLC, in comparison, sequesters (takes in) carbon across the whole landholding with an average of $2.4 \text{ tCO}_2\text{e/ha/yr}$; this is because woodland is common on WLC ground and emissions from farming and degraded peat habitats are much less common on council land.
- For West Lothian as a whole, the presence of large areas of deep peat in blanket and raised bogs in the south and west mean there is significant capacity for long-term carbon storage within the soil of West Lothian.
- For carbon storage, the highest values ($>800 \text{ tC/ha}$, red on Map 5 below) are found in areas of blanket bog to the south of the region, associated with Craigengar SSSI and SAC, and Cobbinshaw Moss SSSI; and to the northwest, associated with Blawhorn Moss SSSI and SAC. Areas of raised bog also score highly, such as Tailend Moss SSSI close to Livingston. There is an additional area of raised bog identified to the south of Longridge which also shows high values of carbon storage.
- For carbon sequestration, the greatest areas of carbon sequestration (in dark red, typically $9 \text{ tCO}_2\text{e/ha/year}$) are broadleaved woodland habitats on mineral soil found spread across the county, with areas in WLC landholdings such as Beecraigs Country Park and Almondell and Calderwood Country Park demonstrating high capacity (Map 5b).



Map 5a: Carbon sequestration capacity for West Lothian (left) shown in tCO₂e/ha/yr and carbon storage for West Lothian (right) shown in tC/ha.

Summary of Stakeholder Engagement

This will summarise the steps taken by the planning authority to seek the views of all relevant stakeholders. This will also summarise the views expressed, and explain how they have been taken account of in the Evidence Report. (hyperlinks to records of engagement may be added where appropriate)

Statements of Agreement / Dispute

This will include statements from stakeholders highlighting their agreement or the areas they dispute.

Summary of Implications for the Proposed Plan

This will cover what the evidence means for the plan, e.g. the spatial strategy, the Delivery Programme or plan preparation.

Based on the evidence the proposed plan will be required to:

1. Identify and protect locally, regionally, nationally and internationally important natural assets, on land and along coasts. The spatial strategy should safeguard them and take into account the objectives and level of their protected status in allocating land for development.
2. Protect West Lothian's soil assets, including peatland and carbon-rich soils which can play a critical role in helping to achieve the net zero emissions target by 2045, contribute toward climate adaptation through the control of flooding and increased resilience to drought, and, are a source of food and other crops, supporting West Lothian's rural economy. The proposed plan should support the protection of carbon rich soils and prime agricultural land.

3. Support the management of West Lothian's land for carbon capture which can support the mitigation of climate change. LDP2 will protect carbon rich environments including areas important for carbon sequestration including tree planting and peatland restoration.
4. Require that development proposals will only be supported if they are designed and constructed in accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land, in a manner that protects soil from damage including from compaction and erosion, and that minimises soil sealing.