



EAST AYRSHIRE COUNCIL

Local Development Plan 2

Environmental Report

2024

State of East Ayrshire’s Environment, Baseline Data and Environmental Issues

SEA legislation requires this report to provide information on the:

- ❖ **Current state of East Ayrshire’s environment**
- ❖ **Likely evolution of the environment without LDP2**
- ❖ **Environmental characterises of the area that will likely be significantly affected**
- ❖ **International and national environmental objectives and how these have been taken into account**
- ❖ **All environmental problems which are relevant to the plan.**

Information on the current environment within East Ayrshire was required in order to develop the SEA objectives and sub-criteria (Appendix 5), and to aid in the environmental assessment process. This section of the Strategic Environmental Assessment Report provides a brief summary of the state of the environment. This section also discusses the Habitat Regulation Appraisal (HRA).

The LDP2 is required to undergo a Habitats Regulation Appraisal (HRA). The purpose of the HRA is to determine if there will be a significant impact on a Special Protection Area (SPA) or a Special Area of Conservation (SAC). These designations are protected by European legislation and collectively are called European sites. These sites are designated to protect rare or vulnerable habitats and species and are designated under two important pieces of European legislation relating to nature conservation, the Habitats Directive and the Birds Directive¹. If the HRA determines that a significant impact is likely on these sites, an “appropriate assessment” will be required to be undertaken.

Baseline Environmental Data

Gathering and collating baseline environmental data is an integral part of the SEA process, providing a snapshot of the environment at that point of time. In so doing, the SEA highlights existing environmental problems which need to be addressed; these are then utilised in order to forecast future environmental impacts of the implementation of LDP2. Baseline environmental data directly informs the development of SEA objectives which LDP2 will be assessed against.

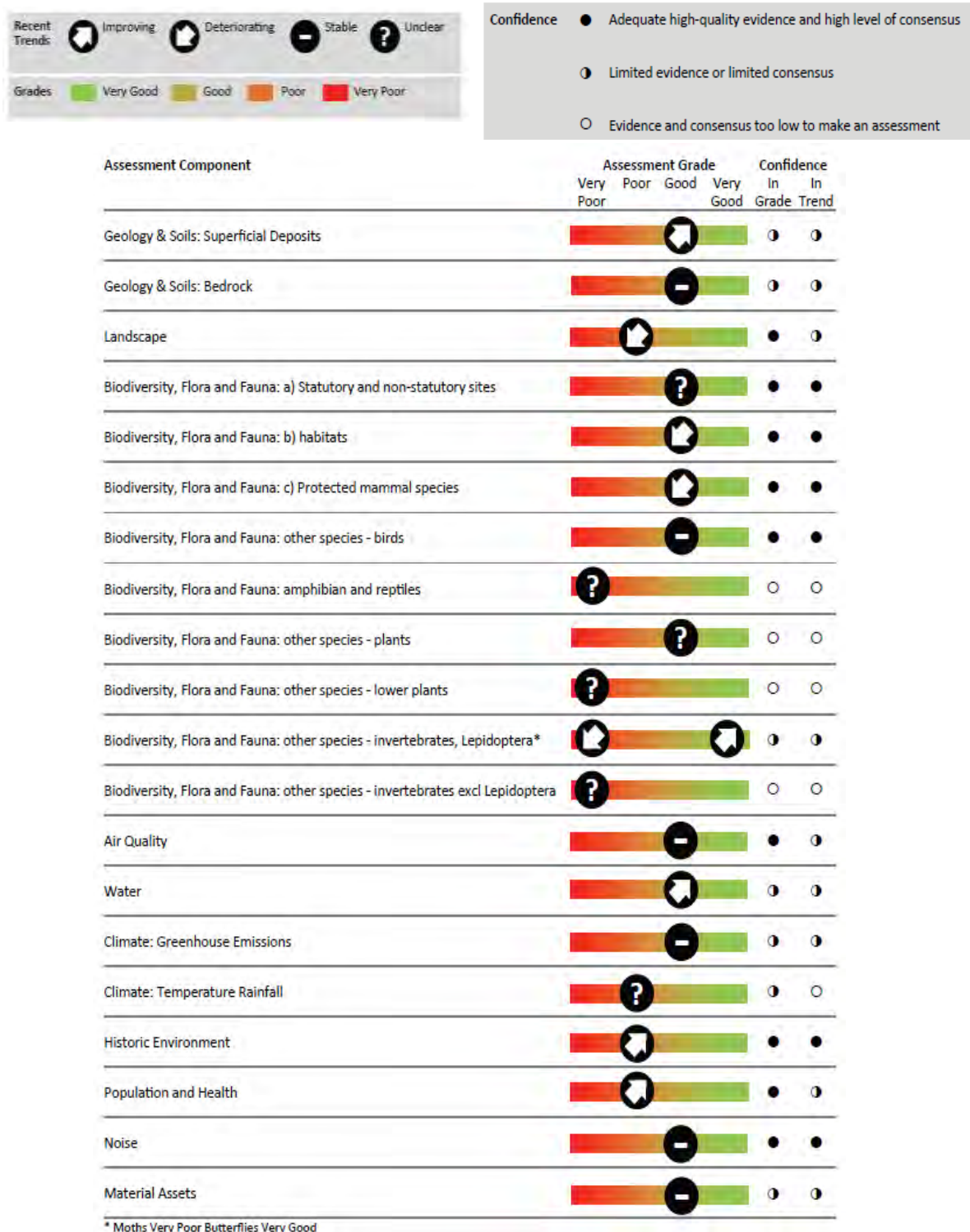
The Environmental Report for the LDP2 produces a full and comprehensive list of baseline environmental data, utilising GIS mapping where possible, to show the geographical location and scale of key environmental designations and utilising the recently updated (2019) State of the Environment Report. Appendix 4 summarises the key baseline environmental information and the environmental implications for the preparation and development of the LDP2.

Appendix 5 also sets out the suggested detailed SEA objectives for assessment purposes. These have been developed taking into account the summary baseline information collated and the environmental implications for the LDP2. The SEA objectives will be used to assess these documents and provide the basis for the development of sub-criteria/questions in Appendix 5.

Current State of East Ayrshire’s Environment

This part of the Interim Environmental Report provides a summary of the current state of East Ayrshire’s environment. Figure 1 illustrates the findings of the State of the Environment Report (2019).

Figure 1: State of the Environment Trends



Natural Environment

Landscape

Baseline Information

East Ayrshire’s landscape is diverse and varied with 18 separate and distinct rural landscape types. The landscape character of East Ayrshire has a high proportion of upland and upland fringe landscapes, located in the east and south of the authority. These grade into lowland farmland towards the west and north. The landscape has seen several areas of change over the years but is most significantly affected by surface coal mining and windfarms. The most significant landscape effects are experienced in the *Foothills with Forest, Plateau Moorland with Forest, Upper River Valley and Southern Upland landscape character types*.

East Ayrshire hosts the following: 3 locally designated landscape areas: Sensitive Landscape Character Areas (SLCA’s); 7 Gardens and Designed landscapes; as well as areas of relative wildness which correspond with upland areas to the south and east of the authority. These designations are illustrated in Map 1 and Map 2.

According to the State of the Environment Report (2016), the landscape and visual’s assessment grade is “poor”, with recent trends indicate that this is “deteriorating”.



Environmental Issues

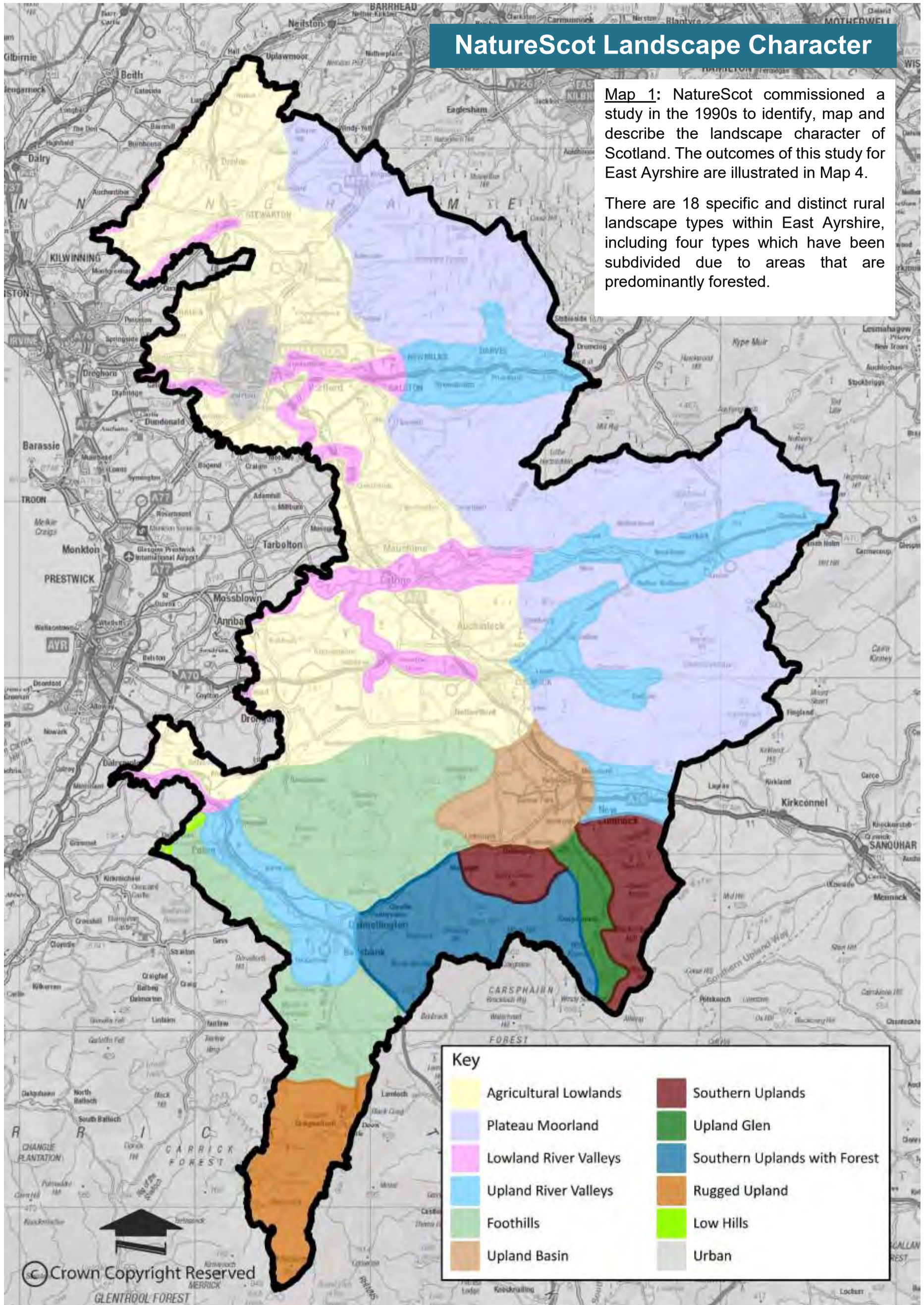
Environmental issues and changes in landscape include commercial afforestation; expansions of settlements into rural areas; the decline of former mining settlements; construction of electricity transmission lines as well as the development of major roads such as the M77. The most significant environmental issues are those relating to the supply of energy: surface coal mining and windfarms. These developments are concentrated predominately in upland landscape character areas to the south and east. There is a need for the control and management of developments which place pressure on the landscape through the LDP2.

Future trends indicate a gradual reduction in surface coaling and work has started by East Ayrshire Council to manage/restore some of these sites. This will place environmental pressures on these landscapes.

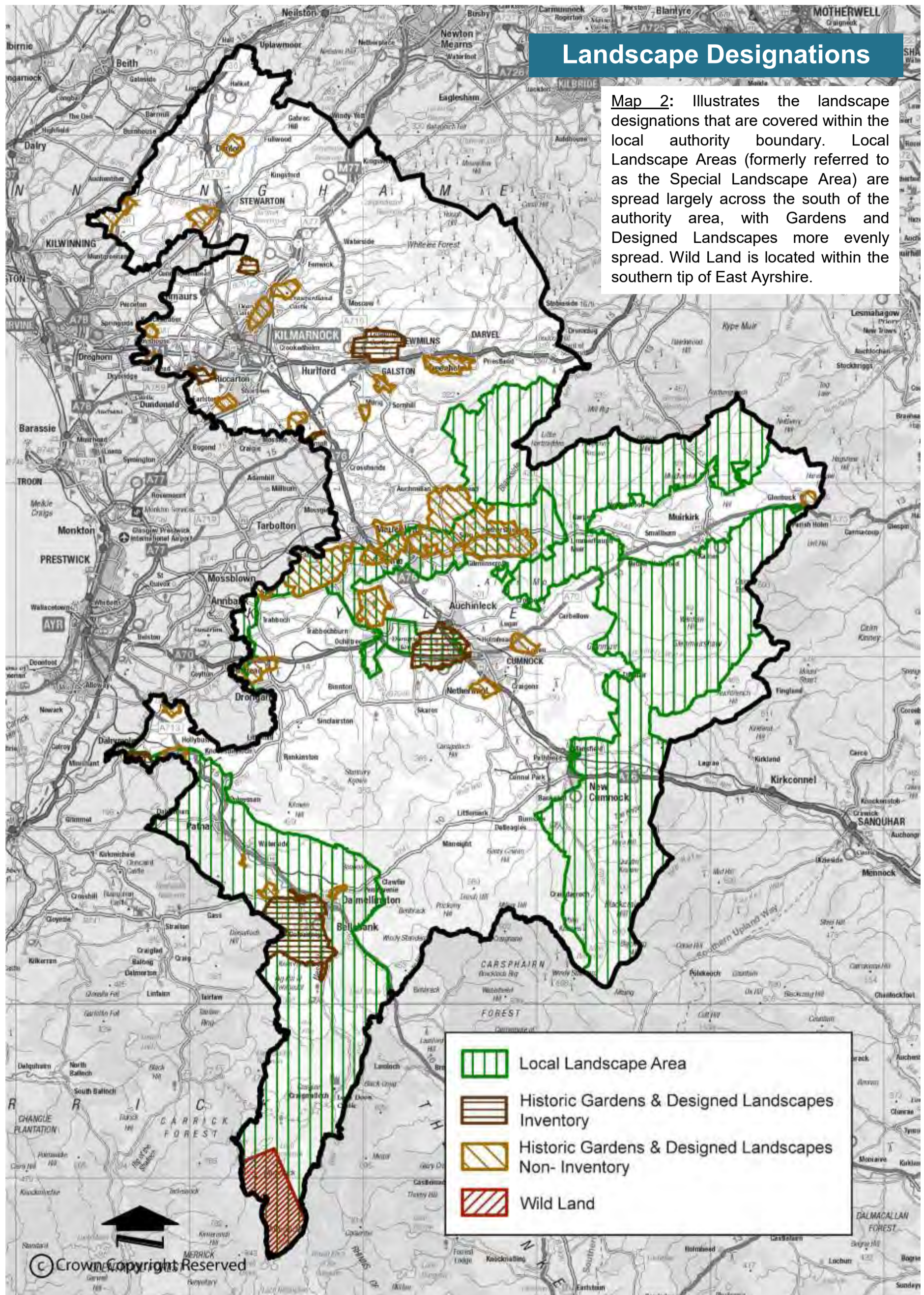
Wind energy is likely to be the driver of change within the landscape within the next few years. Whilst the Council has policies and supplementary Planning guidance covering this issue, the number and scale of existing, consented and proposed developments requires that a planned and focused Council-wide approach to the management of this change should be adopted.



Map 1 – Landscape Character Areas



Map 2 – Landscape Designations



Biodiversity, Flora and Fauna

Special Areas of Conservation

East Ayrshire’s hosts a range of site designations which are considered to be areas of interest for nature conservation. There are relatively wide spread and incorporates a range of habitats. There are four internationally important designated nature conservation sites are present in East Ayrshire, namely, Airds Moss, Merrick Kells Special Areas of Conservation and the Muirkirk and North Lowther Uplands Special Protection Area. The total area of land covered by these European designations is 18,042.56 ha (14.2% of East Ayrshire) protecting 17 qualifying habitats and species. Nine are in favourable condition whilst 8 remain unfavourable. In the latter, biological features are most highly represented.

Sites of Special Scientific Interest (SSSI)

There are 20 sites of Special Scientific Interest (SSSI). Geological features are clearly an important notifying feature with 14 in total including geology and 10 of which have geology as the sole feature. Bog types are notifying feature of five SSSI’s.

Local Nature Reserve

There is one Local Nature Reserve: Catrine Voes and Woodlands which includes a series of reservoirs, broad leaved woodland and scrubland as well as archaeological and cultural interest.



Local Nature Conservation Sites (LNCS)

Local Nature Conservation Sites (LNCS) are a non-statutory designation identifying locally important areas for nature and landscapes, primarily for the purpose of alerting

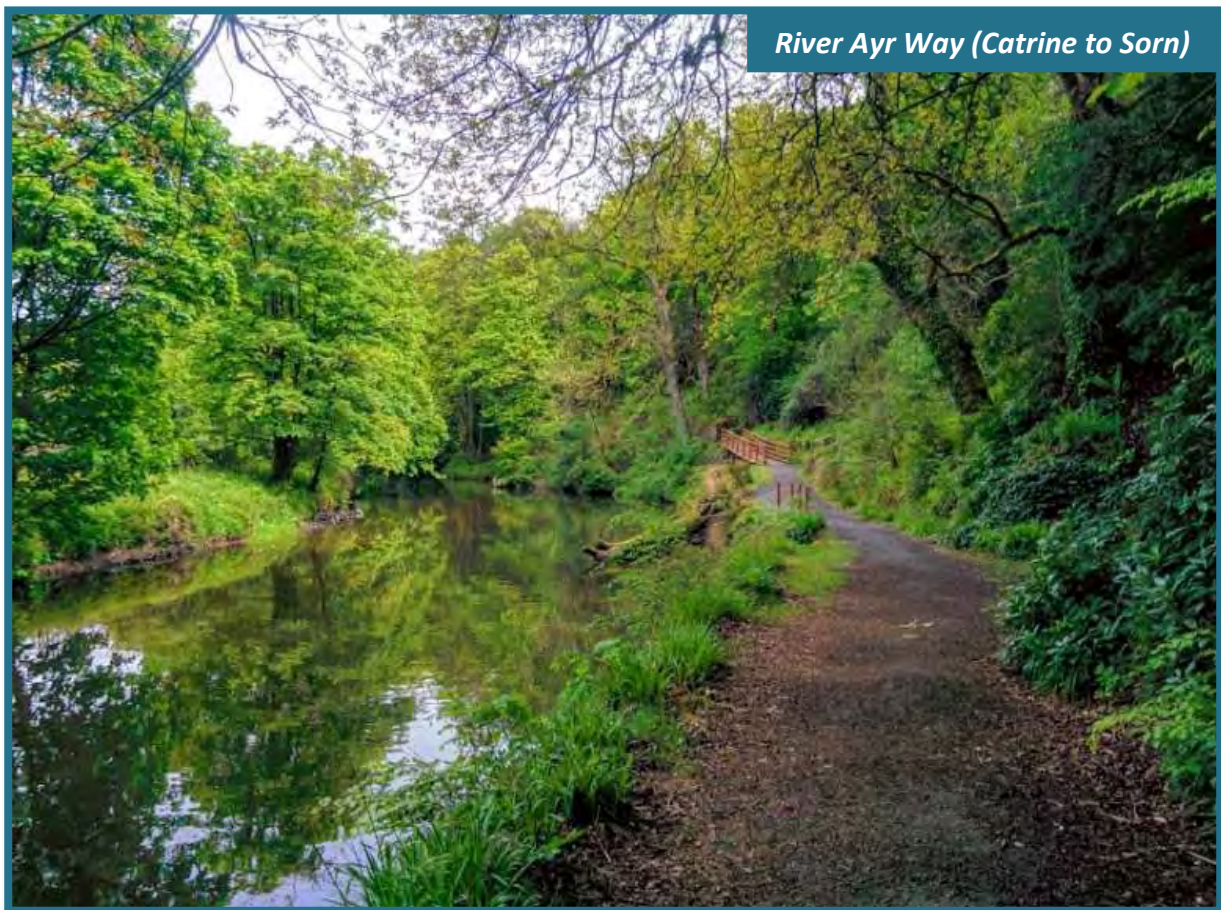
Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

planners and developers. East Ayrshire Council have identified 128 individual sites in their key planning documents whilst Scottish Wildlife in their listing, as a primary source, holds 123 sites.

A review of all LNCS within the East Ayrshire boundary has been undertaken by Land Use Consultants on behalf of the Council. The review involved an assessment of the merit, boundary and condition of every existing LNCS in East Ayrshire, and where deemed necessary, it sets out recommendations for the inclusion of new sites.

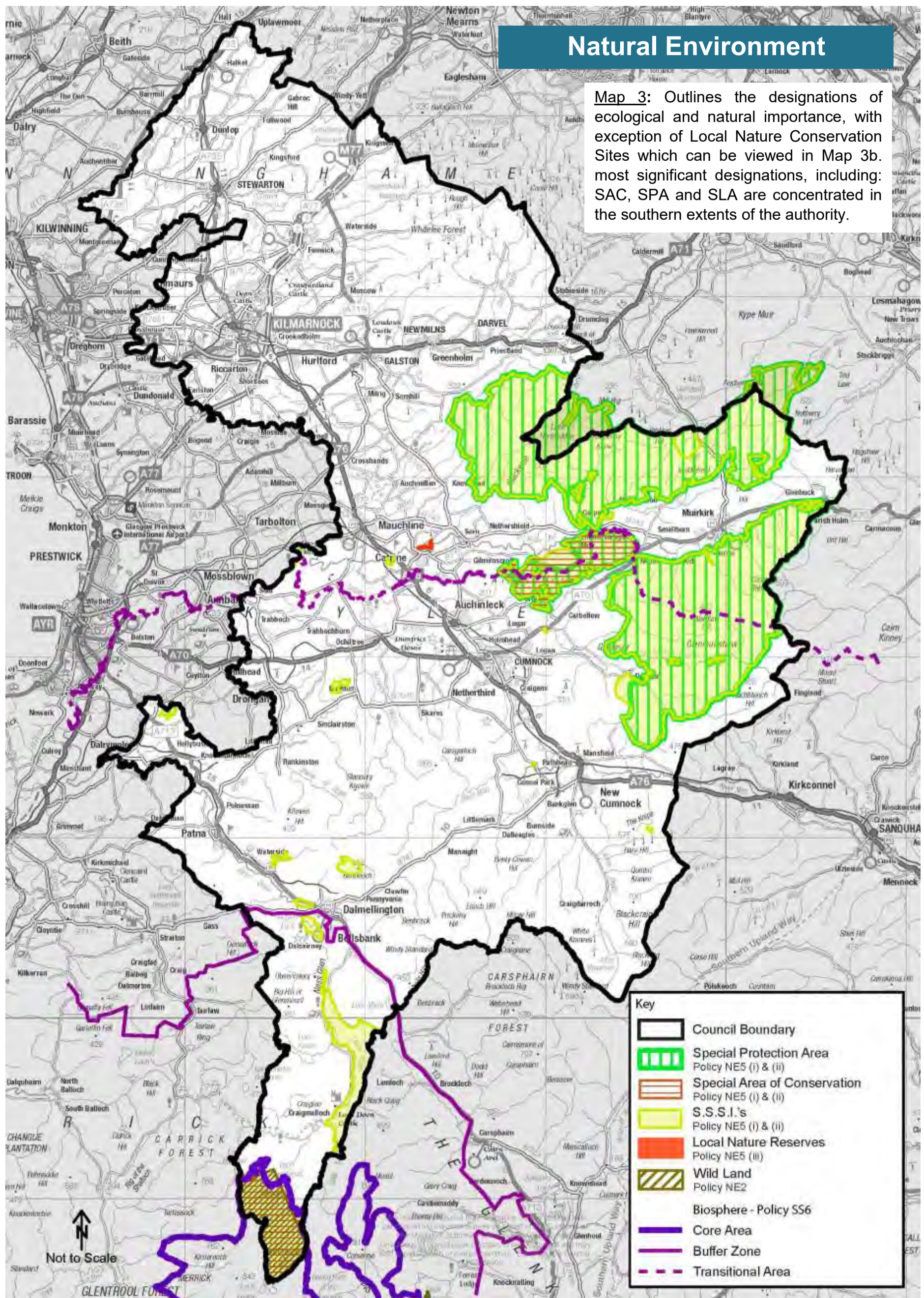
Ancient woodland

Ancient Woodland Inventory (AWI) sites are well represented with 458 listed covering a total of 2,674 ha, whilst Scottish Native and Ancient Woodland Inventory (SNAWI) lists 221 sites, some of which overlap with AWI.

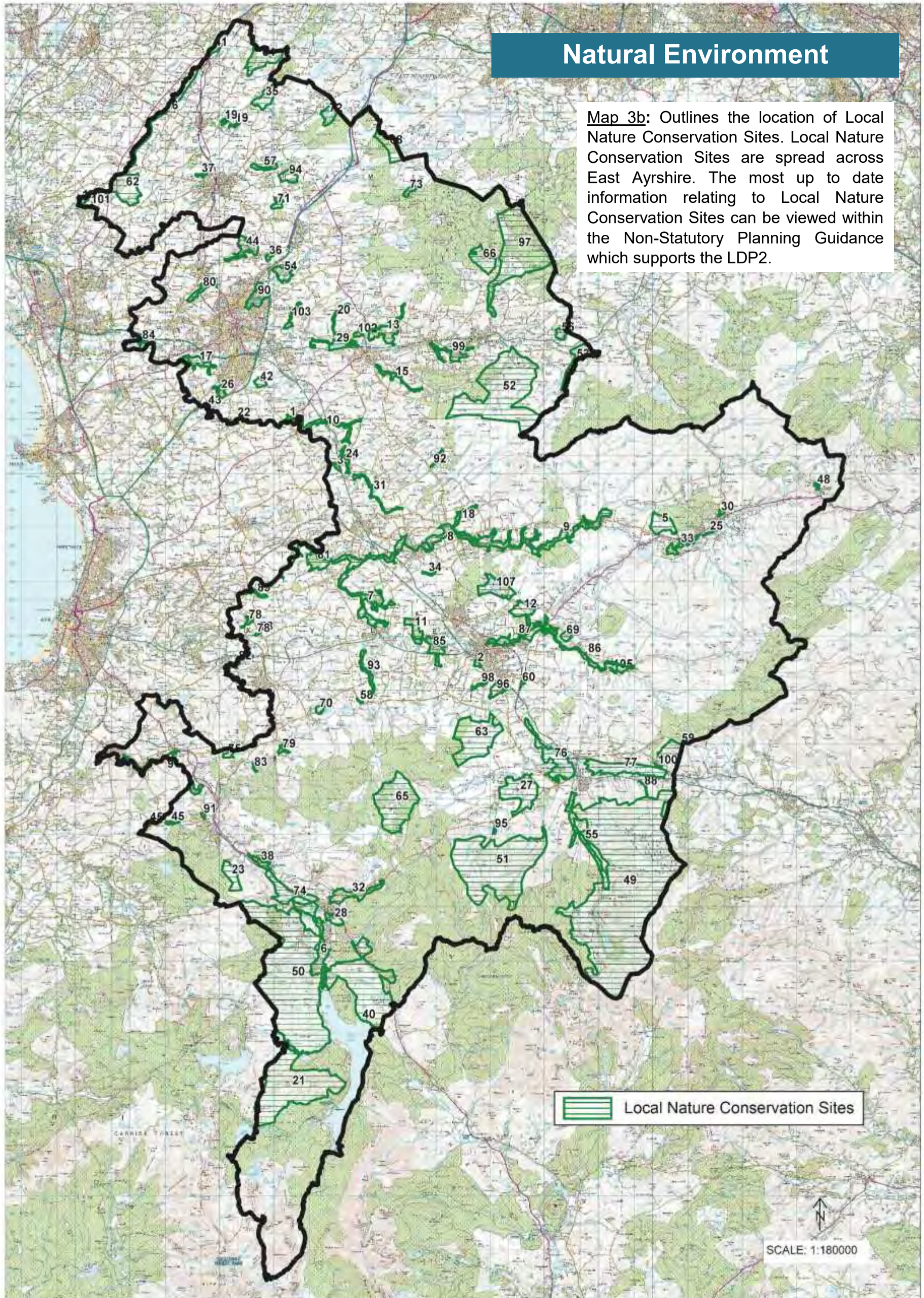


Map 3 illustrates the Environmental Baseline Data relating to Biodiversity, Flora and Fauna, with the exception of Local Nature Conservation Sites which are shown on map 3b).

Map 3a: Ecology and Nature Conservation Designations (1)



Map 3b: Ecology and Nature Conservation Designations (2)



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Habitats and Species

- ❖ 33.40% of land is improve pasture, with significant contributions by planter coniferous woodland (18.40%) and planted broad-leaved woodland (11.04%).
- ❖ Upland habitats also make a substantial contribution with dry and wet heaths (2.53%), bogs (18.08%) and acid grassland (12.81%) cumulatively representing 33.55%.
- ❖ There are 234 Tree Preservation Orders (TPOs) protecting trees of particular amenity, cultural and/or heritage interest.
- ❖ In terms of bats, Common Bat and Soprano pipistrelles are the most abundant, followed by Brown Long-eared, Daubenton’s and Natterer’s Bats. New Lesiler breeding colonies have been located at Culzean Castle and as such may be present in East Ayrshire. Noctules were also recently discovered roosting in bat box at Dean Castle Country Park, Kilmarnock.
- ❖ Strathclyde and Ayrshire are reported to have a low level of positive Otter evidence (83.10%).
- ❖ East Ayrshire has a moderate population of Badgers (100 social groups)
- ❖ Red squirrels have a significant presence in East Ayrshire. It is estimated that there is only a population of 120,000 in Scotland.
- ❖ Water Vole - A re-introduction programme is being implemented by the Ayrshire Rivers Trust.
- ❖ The Muirkirk and North Lowther Uplands SPA is the most important site for the conservation of endangered breeding and wintering bird species
- ❖ Birds - key European and UK protected species and Red List Species of Conservation Concern species for East Ayrshire includes: black grouse, common bullfinch, common starling, corncrake, corn bunting, Cuckoo, Eurasian curlew, Eurasian tree sparrow, Grey partridge, Hedge accentor, hen harrier, herring gull, house sparrow, lesser redpoll, lesser whitethroat, northern lapwing, red grouse, reed bunting, ring ouzel, sky lark, song thrush, spotted flycatcher, yellowhammer and wood warbler.
- ❖ Great crested newt - The national survey for the great crested newt (GCN) in 1997 did not identify any breeding sites with great crested newt. There is no obvious reason why new GCN metapopulations may not be confirmed in East Ayrshire with special survey effort. However, on the basis of the available information it may have always been absent, or have become locally extinct.
- ❖ Fish - Loch Doon holds the last naturally occurring population of Arctic Charr in south west Scotland, which are now thought to be genetically distinct from their nearest neighbours in Argyll and Cumbria.
- ❖ Butterflies and Moths - In the south west of Scotland 32 species of butterfly are regularly recorded and 26 are likely to be found in Ayrshire.
- ❖ Invertebrates of Ayrshire have been the subject of limited study and records are sparse. Freshwater pearl mussel (*Maragaritifera maragaritifera*) along

Environmental Issues

Trends in key species of flora and fauna are broadly negative, excepting bats, otter, a few species of bird and several common butterflies e.g. peacock and orange-tip. There have been some gains such as Buzzard, Raven and Nuthatch. The extent and quality of natural bird resources for breeding and wintering has decreased in extent over the last 25 years in East Ayrshire. Some bird species do buck the national trends e.g. yellowhammer, but, overall the picture is one of diminishing populations and alarmingly two woodland bird specialists, the pied flycatcher and wood warbler, may follow corn bunting, corncrake and water vole as local breeding extinctions. Hen harrier and black grouse are two upland species with locally fragile populations.



Figure 2: East Ayrshire Species

Climatic Factors

Climate change is defined as a world-wide, long-term change in weather patterns and/or average temperatures of the planet caused by human activity. Climate change as a result of human activity and climate change adaptation are potentially the most important challenges for the population at global level. International agreements have been made in order to reduce emissions of greenhouse gases.

Emissions targets have been introduced Scotland-wide in order to reduce greenhouse gas emissions.

Current emissions of greenhouse gases per head of population in East Ayrshire are lower than the national average for Scotland. Emissions have dropped substantially since 1990 but the rate of decrease has flattened out in recent years. Future reductions are required in order to meet the Scottish Government’s international obligations which will rely on the continued growth of the renewables sector at national level. Land use changes, particularly afforestation are also likely to make an important contribution to reducing net carbon emissions.

- ❖ Total emissions of CO₂ in 2012 from East Ayrshire were 722 ktonnes compared with 39800 ktonnes for Scotland as a whole
- ❖ Total greenhouse gas emissions for Scotland, including international aviation and shipping, were estimated to be 52.9 million tonnes of CO₂ equivalent (MtCO₂e) implying that CO₂ emissions account for about 75% of total greenhouse gas emission as CO₂ equivalents.
- ❖ Within East Ayrshire, road transport is the biggest source of CO₂ emissions and there is only one significant point source of CO₂ emissions – the Egger Barony chipboard plant in Auchinleck. Emissions from Egger Barony reduced from 598 tonnes in 2008 to 285 tonnes in 2012.
- ❖ Entries in the Scottish Pollutant Release Inventory (SPRI) indicate that surface coaling has historically been an important source of emissions of CO₂ and methane. During the period 2010-2014, emissions from surface coaling contributed to >20% total greenhouse gas emissions from East Ayrshire. East Ayrshire has about 2.3% of Scotland’s population but only accounts for about 1.3% of total CO₂ emissions which probably reflects the low level of industrialisation, extensive carbon sinks in the form of forestry and other land uses and the absence of an international airport.

There appears to be a relatively high level of certainty that the climate will become warmer during the remainder of the 21st Century but much less certainty about the predicted changes in rainfall. It is also likely that there will be an increased frequency of severe weather events.

Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

East Ayrshire will experience climate change regardless of its own future greenhouse gas emissions. Climate change will have wide ranging implications for the economy, the built and natural environment and people’s lives and whilst it is important to reduce Scotland’s contribution to the causes of global warming it is also necessary to prepare to adapt to the changes.

East Ayrshire Council hosts a number of renewable energy developments including the UK’s largest windfarm at Whitelee and is therefore contributing to overall targets for renewable energy generation set by the Scottish Government. Energy generated by renewables in East Ayrshire is expected to increase when recently consented windfarm schemes become operational.



Natural Resources

Geology & Soil

Baseline Information

East Ayrshire specifically contains a variety of soils and rock types. During the Quaternary Ice Age the superficial deposits of Scotland were transformed, this is reflected in the fact that 57% of East Ayrshire is covered by Glacial Till, with a further 22% made up of peat deposited in this time. The bedrock geology comprises a mixture of sedimentary rock, interspersed with igneous intrusions. Parts of this bedrock comprised the Scottish Coal Measures and as such East Ayrshire has seen large scale coal mining, in addition to other mineral mining. The Midland Valley of Scotland, identified as a potential unconventional gas resource, also lies beneath the council area.

Historically large areas of upland bogs and lowland raised bog were destroyed to make room for forestry and agriculture. Coal extraction has historically been prevalent in East Ayrshire, however, there has been a steep decline in coal production in the UK. As with the rest of the Central Belt, East Ayrshire has other mineral reserves, including rocks used for aggregate. However, production has and will continue to be limited by relatively poorer transport links and competition from the remainder of the Central Belt.

Recent trends, contained within the State of the Environment Report (2019) indicate that the quality of superficial deposits are of a “good status” and “improving”, with bedrock assessment graded as “stable”.

NatureScot’s carbon rich soil (based on component soils) map categorises the carbon richness of Scotland’s soils based on the Soil Survey of Scotland (SSS) National Soil Map, Map 4 illustrates this Environmental Baseline Data: Carbon and Peatland Soils in terms of Class 1, Class 2 and Class 5.

Environmental Issues

East Ayrshire has considerable quantities of peat and carbon rich topsoil, destruction of which releases potentially significant amounts of carbon dioxide into the atmosphere, reduced water storage and reduced filtration which can lead to an increased risk of flooding and pollution of watercourses, in addition to contributing to climate change.

Loss of productive agricultural soils, whilst of note and potentially of local importance, is unlikely to be of high significance in the context of East Ayrshire given the quality/quantity of the soil. When development takes place, the ground which it is built on is effectively sealed and natural processes can no longer take place. Even if the development is later demolished and the ground reinstated it can still take time to re-

Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

establish itself. Therefore the soil type upon which development is to take place and the land take of the development should be considered, and where possible developments should take place on Brownfield sites.

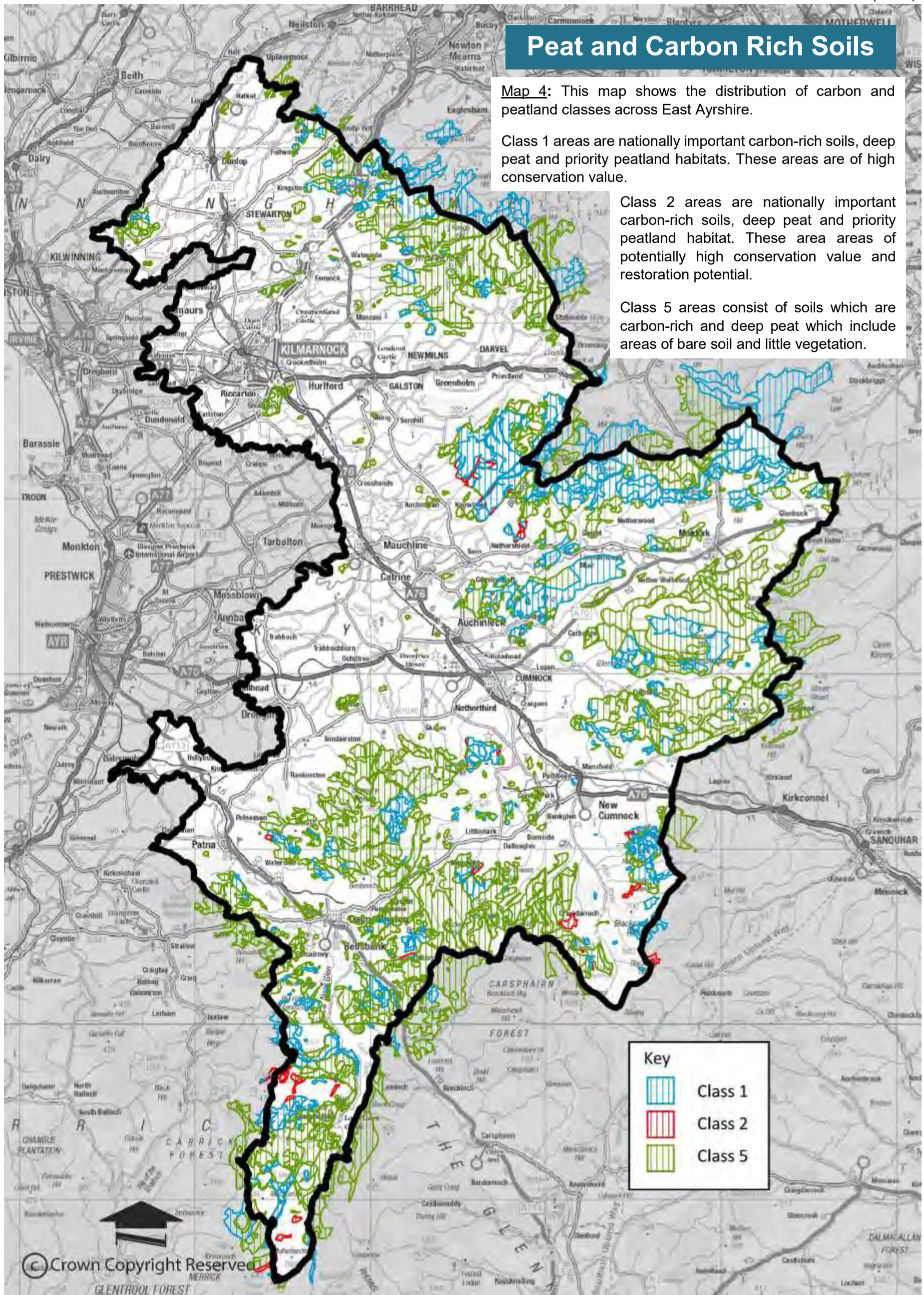
Contaminations of superficial soils can impact on human health, flora and fauna, potentially making land unfit for purpose and affecting biodiversity. In turn contamination of soils can result in chemicals leaching into watercourses, damaging water quality and potentially affecting biodiversity. As sites with historical contamination are progressed through the planning system and are developed, the overall level of contaminated sites will decline.

The obtaining of shale oil and gas using unconventional methods is a topic which is attracting a lot of interest at present. East Ayrshire is underlain by the Midland Valley of Scotland, highlighted as a potential reserve of shale gas. Despite this, studies suggest that beneath East Ayrshire the reserves do not exhibit the correct properties to warrant further investigation and therefore, other areas within the Central Belt are more likely to be explored. In addition to this a moratorium on granting consents for unconventional oil and gas developments in Scotland was put in place by the Scottish Government to allow time for further research and assessment of public opinion which will inform future decision making.

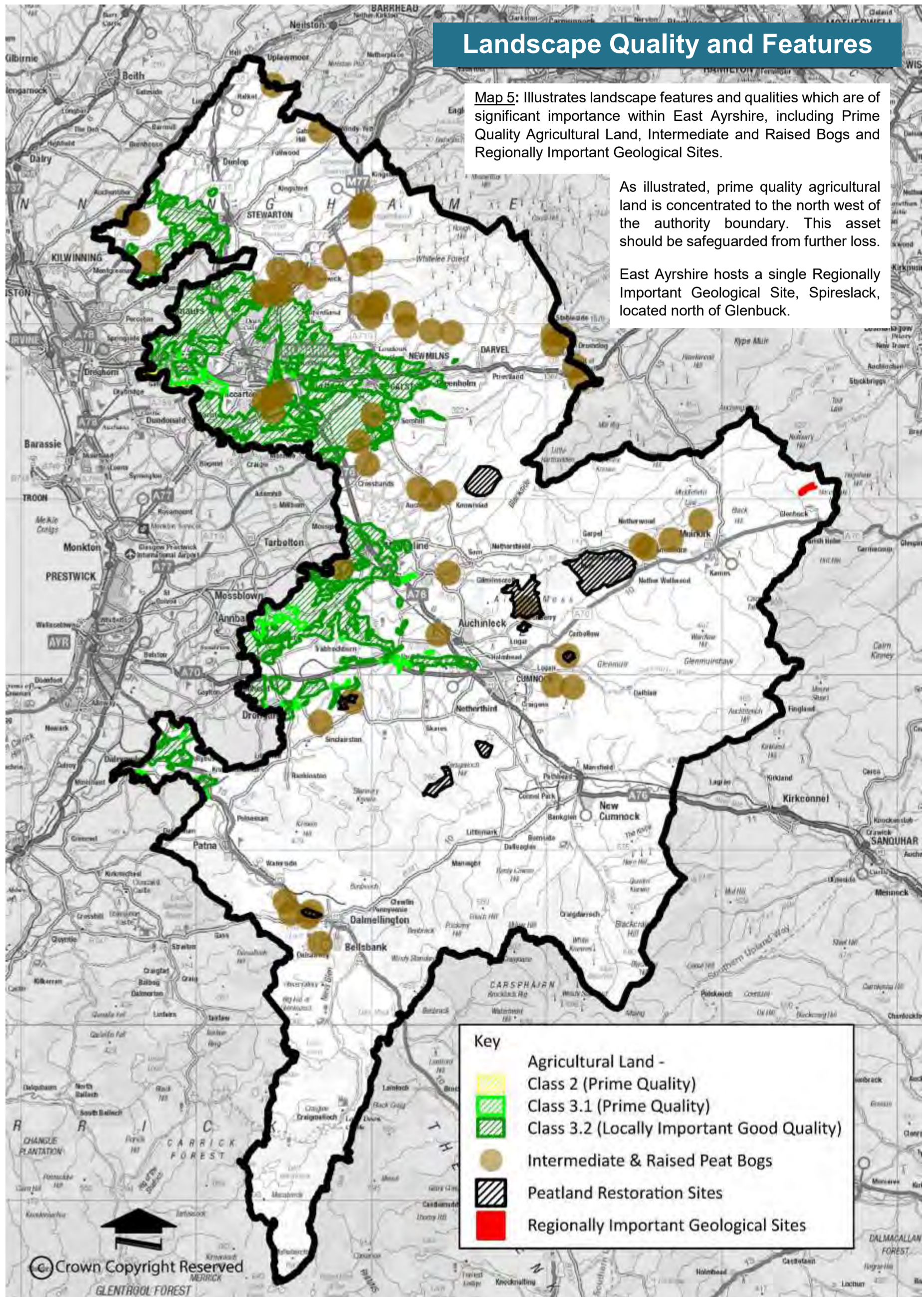
The Scottish Government announced its preferred policy position not to support the development of unconventional oil and gas in Scotland in October 2017. This preferred option is currently subject to the necessary statutory assessments, prior to finalisation. A separate moratorium on underground coal gasification (UCG) was also implemented in Scotland in 2016. The Scottish Government has indicated that it will not support UCG developments in Scotland following the publication of an independent report that highlights serious environmental concerns.

Map 4 – Carbon and Peatland Soils

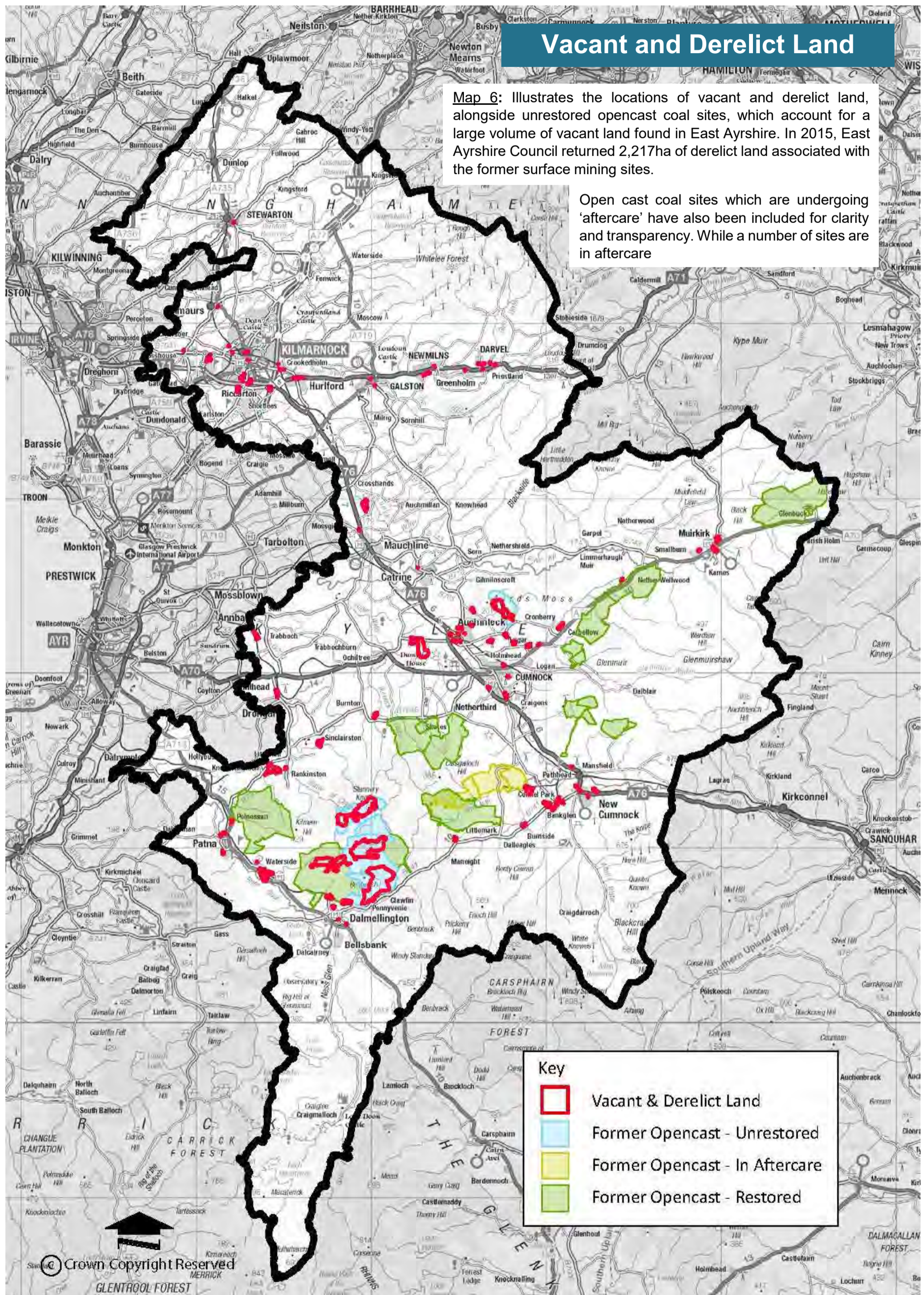
Data: NatureScot (2016)



**Map 5 – Landscape Quality and Features
(Agriculture, Bogs and Geological Importance)**



Map 6 – Vacant and Derelict Land



Air Quality

A number of pollutants are required to be assessed by local authorities against targets which are set in legislation. However, East Ayrshire does not host a designated Air Quality Management Area. Air quality in East Ayrshire is generally good with low concentrations of PM₁₀, NO₂ and other pollutants that are subject to local air quality management.

Baseline Information

- ❖ There are relatively few industrial sources of emissions to air within East Ayrshire and the main sources of emissions are road transport and agriculture.
- ❖ The air pollutants of most concern in Scotland are NO₂, precursor emissions of nitrogen oxides (NO_x), and PM₁₀ (particles approximately less than 10 µm in size that can penetrate to the lung). These are the pollutants emitted in the largest quantities and those that are of most significance for human health.
- ❖ The most heavily trafficked road is the M77/A77 but this route bypasses all major centres of population and built up areas. Concentrations of both NO₂ and PM₁₀ have locally exceeded relevant annual mean objectives in recent years beside heavily trafficked congested roads in Kilmarnock.
- ❖ Road traffic and undefined “rural” sources are important sources of NO₂ in East Ayrshire whereas PM₁₀ is predominantly derived from outside the local authority area.
- ❖ There is no evidence that surface coaling or quarrying activities in East Ayrshire have led to or would lead to any failure to achieve air quality objectives.
- ❖ It is anticipated that background concentrations of PM₁₀ and NO₂ will decline slightly over coming years as a result of reduced transport emissions due to technological improvements and a continued decline in the use of coal for power generation within the UK.
- ❖ Rates of nitrogen and acid deposition are likely to reduce slightly in future years as emissions from coal fired power stations across Europe, including the UK reduce as a result of tighter emissions control and the increased use of renewable energy sources.
- ❖ PM_{2.5} is a finer subfraction of PM₁₀ that is of particular health concern but there are currently no measurement data available for PM_{2.5} in East Ayrshire. The coarser fractions of PM are associated with dust deposition and associated nuisance.
- ❖ Sulphur dioxide (SO₂) is emitted in much smaller quantities than PM or NO_x but is also of concern because it reacts in the atmosphere to form secondary particles of PM₁₀ and contributes to acid deposition which adversely affects vegetation and aquatic life.

Environmental Issues

- ❖ Local emissions of NO_x and PM₁₀ in East Ayrshire are relatively small compared with more heavily trafficked or industrialised areas of the UK.
- ❖ Surface coating has been a relatively important source of airborne particulate matter in the recent past but this is against the background of generally low emissions of PM₁₀.
- ❖ The only industrial source in East Ayrshire that emits more than the reporting threshold of 100 tonnes of NO_x per year is the Egger Barony chipboard plant in Auchinleck.
- ❖ Background annual mean concentrations of NO₂ and PM₁₀ across East Ayrshire are low in comparison with the relevant objectives
- ❖ Across Scotland as a whole, emissions of NO_x, PM₁₀ and SO₂ have reduced substantially since 1990 but the rate of reduction has slowed markedly in recent years. Concentrations of these pollutants are predicted to continue to fall in coming years as a result in improvements in vehicle technology
- ❖ The expected reduction in NO₂ since 2010, however, has not materialised and there has been no consistent trend in PM₁₀ concentrations since 2000.
- ❖ At national level there was no significant reduction in emissions between 2009 and 2012. Trends within East Ayrshire would be anticipated to be similar to those for Scotland as a whole
- ❖ Concentrations of sulphur and nitrogen oxides at designated ecologically sensitive sites are low in comparison to the relevant objectives. Rates of nitrate and acid deposition, however, currently exceed the critical load at multiple sites and are only reducing very slowly in response to the substantial reduction in precursor emissions over the last two decades.

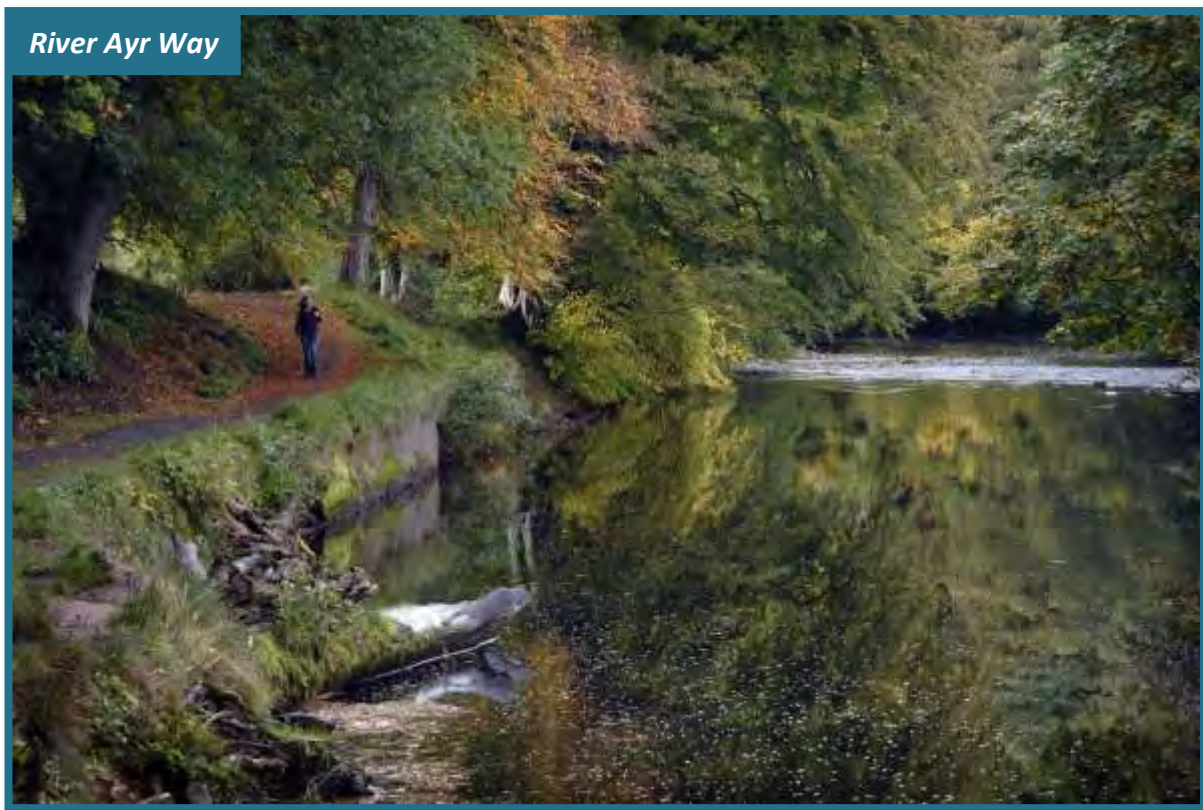
Water Environment

Water is a valuable resource, which has multiple uses e.g. potable water supply, waste water disposal, and water for agriculture and industry, ecology and conservation, recreation, sport and transport. There are robust regulations in Scotland which control activities to protect the water environment and has led to an improvement in water quality across Scotland and East Ayrshire.

Baseline Information

Within East Ayrshire:

- ❖ All surface water bodies are within either the Clyde or Solway sub basins.
- ❖ There are a total of 9 catchment areas, these include: River Ayr, River Clyde, River Dee (Solway), River Doon, River Garnock, River Irvine, River Nith, Water of Girvan and White Cart Water.
- ❖ There are a total of 58 river water bodies and 6 lochs.
- ❖ Most of the rivers are mid-altitude or lowland, calcareous or siliceous and medium or small in scale
- ❖ Lakes, 4 of which are reservoirs (Lochgoin Reservoir, Loch Riecawr, Loch Finlas and Loch Doon) are mid-altitude low or medium alkalinity, deep and large.
- ❖ When compared with the Whole of Scotland, East Ayrshire has proportionately less rivers and lochs of good status.
- ❖ Ground water in East Ayrshire tended to be of lower quality than Scotland-wide, since 2012 there are proportionately more groundwater bodies of good status in East Ayrshire than Scotland-wide.
- ❖ Of the 21 bedrock aquifers underlying East Ayrshire, in 2013, 4 were assessed as Poor status and 17 Good status, i.e. 81% are Good status. On an area basis, compared with the area of East Ayrshire (1270km²), the approximate areas of the 4 Poor status aquifers underlying East Ayrshire are 283km², 248km², 192km², and 87.6km² respectively which gives a total area of poor status groundwater of approximately 811.5km². This represents approximately 64% of the East Ayrshire area. On an area basis East Ayrshire has significantly higher proportion of the underlying aquifer areas of Poor status than Scotland as a whole
- ❖ Comparison with the bedrock geology indicates that poor status aquifers (Cumnock, Kilmarnock, Ayr and Upper Mithsdale) are associated with Scottish coal measures (a geological formation in midland valley of Scotland including Ayrshire coalfields which includes mudstone, siltstone and sandstone with common coal seams present at some levels).

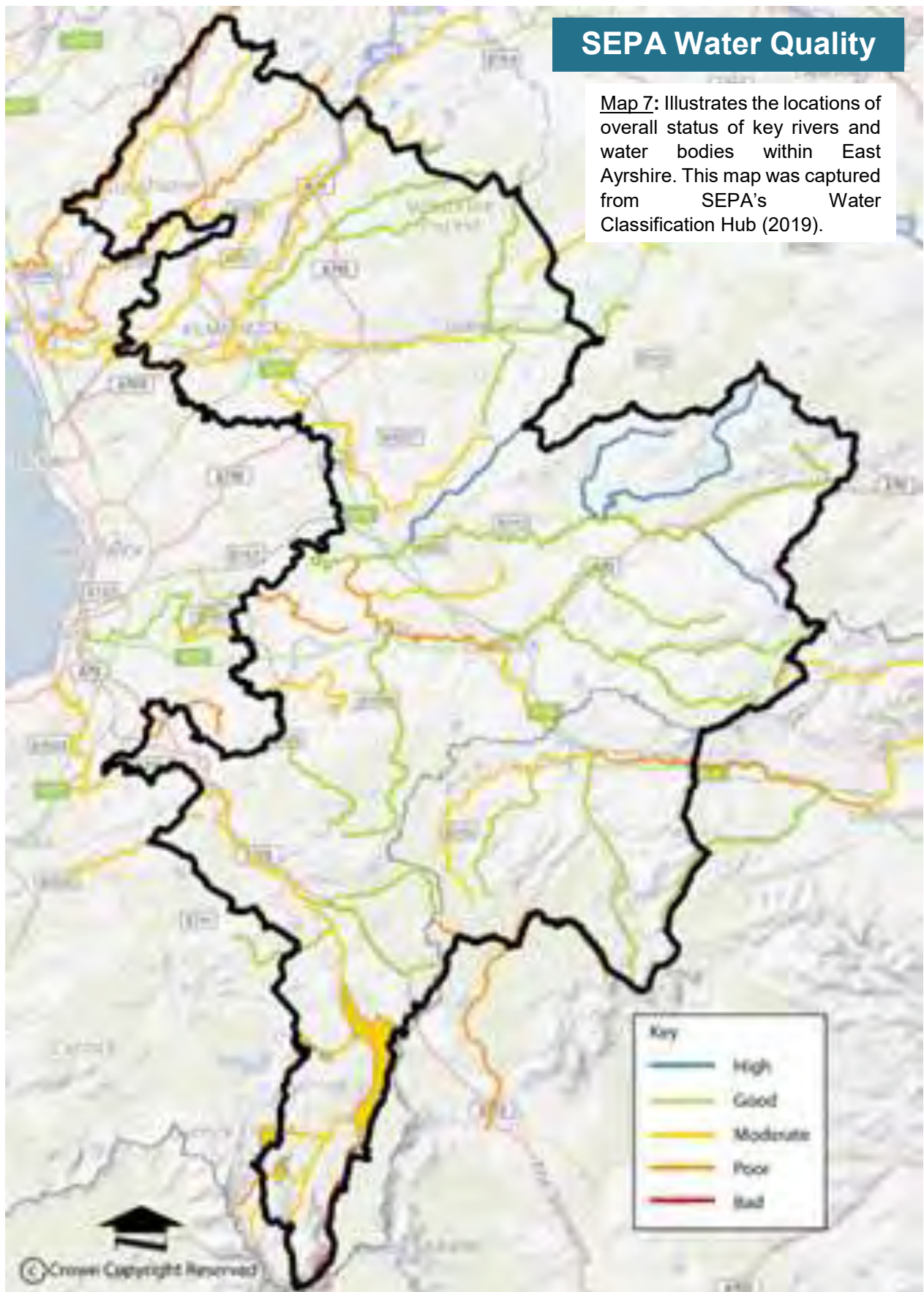


Environmental Issues

The Scottish Government’s River Basin Management Plan for Scotland River Basin District (2015-2027), provides an overview of information on water quality. The following issues are identified:

- ❖ Rural diffuse pollution and discharges of urban waste water are the main pressures on water quality contributing to adverse effects on water quality in 246 water bodies and 70 protected areas across Scotland.
- ❖ The percentage of river water bodies in East Ayrshire of “good status or better” in 2013 was 33% (19 out of 58), compared with 55% (1318 out of 2406) in Scotland. River water quality therefore requires improvement.
- ❖ The percentage of lochs in East Ayrshire of “good status or better” in 2013 was 17% (1 out of 6) compared with 67% (224 out of 334) in Scotland. Surface water quality therefore requires improvement.
- ❖ The percentage of superficial and bedrock groundwater bodies combined of “good status” in East Ayrshire is 84% (21 out of 25) compared with 78% (314 out of 403) in Scotland.
- ❖ Projected increase in frequency of extreme weather events.
- ❖ In addition to the increased risk of future storms and flooding, there is also an increased risk of future drought.

Map 7: Water Quality



Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

The following tables illustrate the condition of specific water bodies in East Ayrshire, this information has been obtained from SEPA’s Water Environment Hub (2015).

River Irvine (Kilmarnock and Irvine Valley)

River Irvine is 10.5 kilometres in length and is considered to be heavily modified, with any future physical alterations having a potentially significant impact on flood risk and subsidence. However, it is noted that the River Irvine is of “good” water quality. Due to other constraints, the River Irvine is classed as being of “moderate” quality.

	2014	2021	2027	Long-term
Overall	Moderate	Moderate	Good	Good
Access for fish migration	Good	Good	Good	Good
Water flows and levels	High	High	High	High
Physical condition	Moderate	Moderate	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	Good	Good	Good	Good

River Ayr (Sorn, Catrine and Stair)

River Ayr is located within the River Ayr catchment, flows through Sorn, Catrine and Stair, and is approximately 46.4 kilometres in length.

	2014	2021	2027	Long-term
Overall	Good	Good	Good	Good
Access for fish migration	High	High	High	High
Water flows and levels	Good	Good	Good	Good
Physical condition	Good	Good	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	Good	Good	Good	Good

Glaisnock Water (Cumnock)

Glaisnock Water is located within the River Ayr catchment, flows through Cumnock, and is approximately 7.2 kilometres in length. The water quality and physical condition of the river considered to be “good”.

	2014	2021	2027	Long-term
Overall	Moderate	Moderate	Good	Good
Access for fish migration	Good	Good	Good	Good
Water flows and levels	High	High	High	High
Physical condition	Moderate	Moderate	Good	Good
Freedom from invasive species	High	High	High	High

Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

Water Quality	Good	Good	Good	Good
Ecological Quality	Moderate			

Lugton Water (Lugton)

Lugton Water is located within the River Garnock catchment. The main stem is approximately 26.8 kilometres in length. The Lugton Water is considered to have poor access for migrating fish.

	2014	2021	2027	Long-term
Overall	Poor	Good	Good	Good
Access for fish migration	Poor	Good	Good	Good
Water flows and levels	High	High	High	High
Physical condition	Good	Good	Good	Good
Freedom from invasive species	Good	Good	Good	Good
Water Quality	Good	Good	Good	Good

Annick Water (Stewarton)

Annick Water is located within the River Irvine catchment of the Scotland river basin district. The main stem is approximately 31.1 kilometres in length. Hydroelectricity generation acts as a barrier to fish migration. There is a pressure of water abstraction from public water support. Water quality is detrimentally affected by diffuse sources as well as point source discharges from both rural and waste water (sewage) disposal sources.

	2014	2021	2027	Long-term
Overall	Poor	Poor	Moderate	Good
Access for fish migration	Moderate	Good	Good	Good
Water flows and levels	Moderate	Good	Good	Good
Physical condition	Good	Good	Good	Good
Freedom from invasive species	Good	Good	Good	Good
Water Quality	Poor	Poor	Moderate	Good

Cessnock Water (Stewarton)

Cessnock Water is located within the River Irvine catchment of the Scotland river basin district. The main stem is approximately 29.4 kilometres in length. The main pressure on the overall water quality is diffuse sources of pollution from the rural uses.

	2014	2021	2027	Long-term
Overall	Moderate	Good	Good	Good
Access for fish migration	High	High	High	High
Water flows and levels	High	High	High	High

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Physical condition	Good	Good	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	Moderate	Good	Good	Good

Lugar Water

Lugton Water is located within the River Garnock catchment. The main stem is approximately 26.8 kilometres in length. The Lugton Water is considered to have poor access for migrating fish.

	2014	2021	2027	Long-term
Overall	Poor	Good	Good	Good
Access for fish migration	Poor	Good	Good	Good
Water flows and levels	High	High	High	High
Physical condition	Good	Good	Good	Good
Freedom from invasive species	Good	Good	Good	Good
Water Quality	Good	Good	Good	Good

Annick Water (Stewarton)

Annick Water is located within the River Irvine catchment of the Scotland river basin district. The main stem is approximately 31.1 kilometres in length. Hydroelectricity generation acts as a barrier to fish migration. There is a pressure of water abstraction from public water support. Water quality is detrimentally affected by diffuse sources as well as point source discharges from both rural and waste water (sewage) disposal sources.

	2014	2021	2027	Long-term
Overall	Poor	Poor	Moderate	Good
Access for fish migration	Moderate	Good	Good	Good
Water flows and levels	Moderate	Good	Good	Good
Physical condition	Good	Good	Good	Good
Freedom from invasive species	Good	Good	Good	Good
Water Quality	Poor	Poor	Moderate	Good

Cessnock Water (Stewarton)

Cessnock Water is located within the River Irvine catchment of the Scotland river basin district. The main stem is approximately 29.4 kilometres in length. The main pressure on the overall water quality is diffuse sources of pollution from the rural uses.

	2014	2021	2027	Long-term
Overall	Moderate	Good	Good	Good
Access for fish migration	High	High	High	High

Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

Water flows and levels	High	High	High	High
Physical condition	Good	Good	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	Moderate	Good	Good	Good

Water of Coyle (Littlemill)

Water of Coyle (u/s Taiglum Burn) is located within the River Ayr catchment of the Scotland river basin district. The main stem is approximately 13.4 kilometres in length.

	2014	2021	2027	Long-term
Overall	Good	Good	Good	Good
Access for fish migration	High	High	High	High
Water flows and levels	High	High	High	High
Physical condition	Good	Good	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	High	High	High	High

Taiglum Burn (Drongan and Sinclairston)

Taiglum Burn is located within the River Ayr catchment of the Scotland river basin district. The main stem is approximately 8.8 kilometres in length. The physical condition of the Burn experiences pressures due to modifications to the bed, banks and shores as a result of urban and rural land uses. The water quality is impacted by rural sources of diffuse pollution and high nutrient levels. It is noted that the nutrient levels are not affecting ecology.

	2014	2021	2027	Long-term
Overall	Moderate	Moderate	Moderate	Moderate
Access for fish migration	High	High	High	High
Water flows and levels	High	High	High	High
Physical condition	Moderate	Moderate	Good	Good
Freedom from invasive species	High	High	High	High
Water Quality	Moderate	Moderate	Moderate	Moderate

Carmel Water (Stewarton)

Cessnock Water is located within the River Irvine catchment of the Scotland river basin district. The main stem is approximately 19.6 kilometres in length. The main pressure on the overall water quality is diffuse sources of pollution from the rural uses as well as point source discharges which contain waste water (Sewage) disposal.

	2014	2021	2027	Long-term
Overall	Moderate	Moderate	Moderate	Good
Access for fish migration	High	High	High	High

Water flows and levels	High	High	High	High
Physical condition	Good	Good	Good	Good
Freedom from invasive species	Good	Good	Good	Good
Water Quality	Moderate	Moderate	Moderate	Good

Historic Environment

Cultural Heritage

(Includes: Listed Buildings, Conservation Areas, scheduled monuments, archaeological sites, gardens and designed landscapes and historic battlefields)

East Ayrshire hosts a rich cultural heritage with 26 conservation areas, a large number of Listed Buildings, Scheduled Monuments, archaeological sites as well as Gardens and Designed Landscapes.



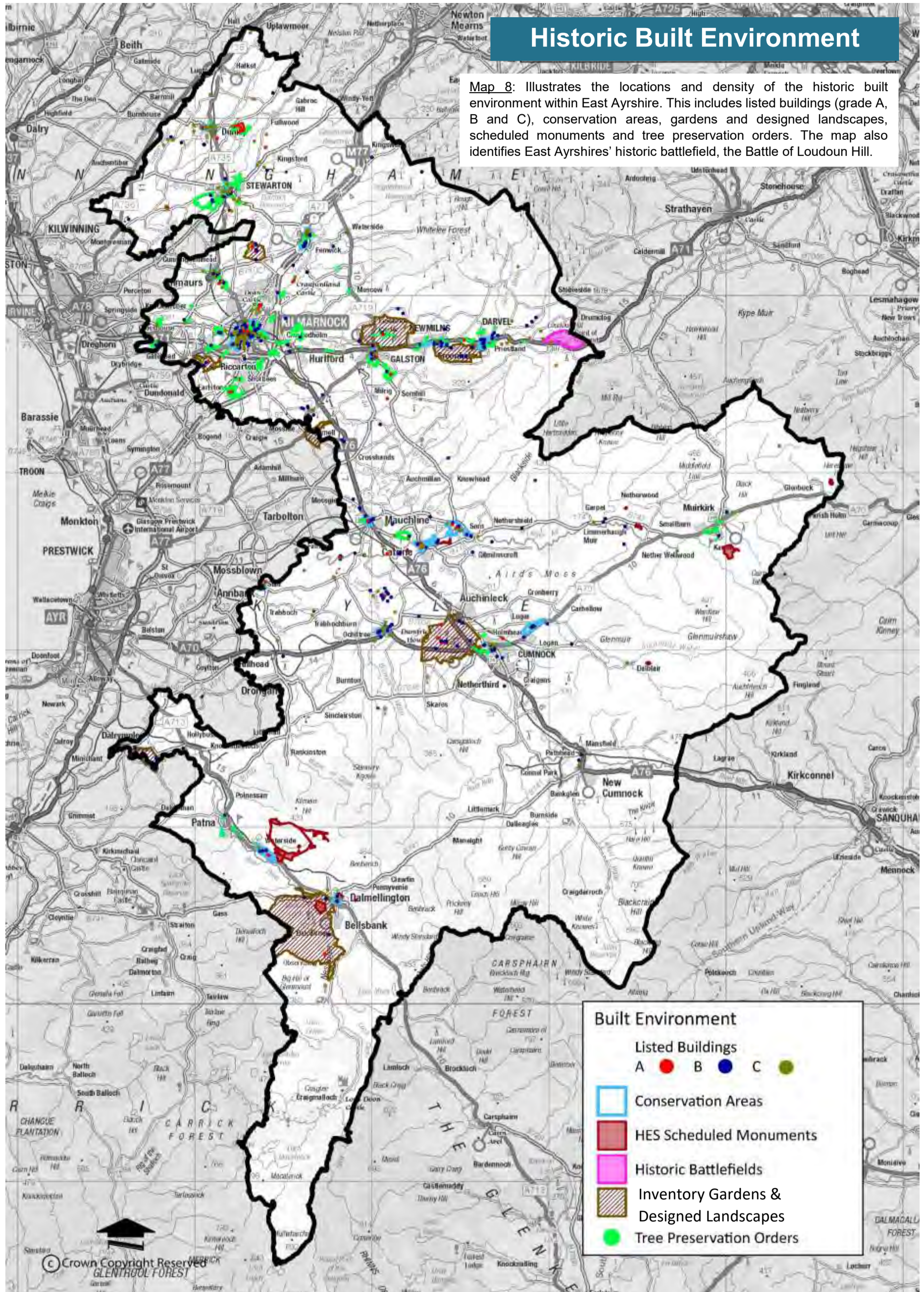
In recent years, there has been a significant level of regenerative investment focused on town centres, by way of various completed Conservation Area Regeneration Schemes (CARS) including: Galston, Newmilns, Kilmarnock and Cumnock, with a scheme beginning in Mauchline in 2019/2020. CARS has preserved a number of historic buildings with special character and importance to place, bringing a positive transformation to areas needing attention and investment.

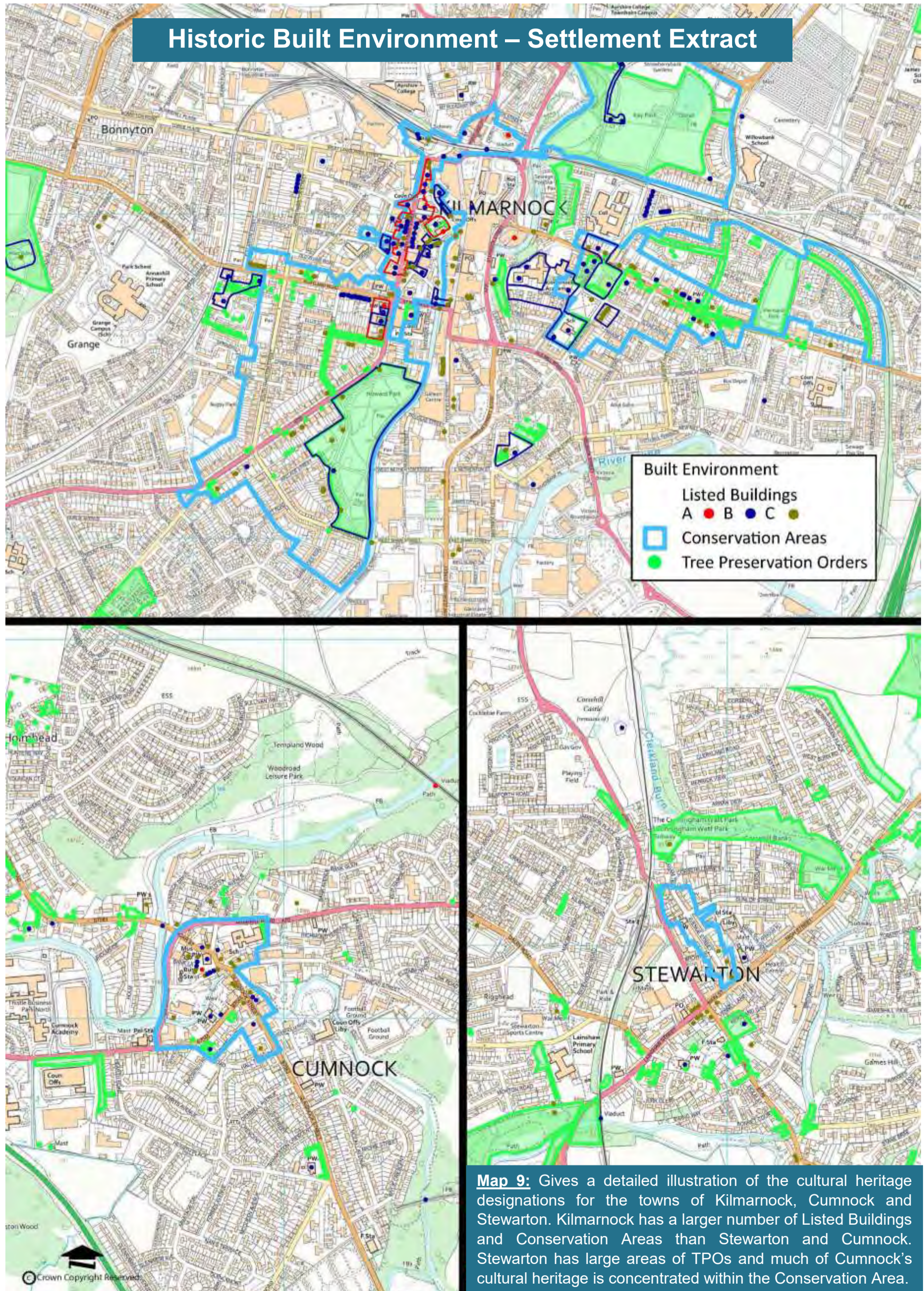


Map 8 – Cultural Heritage Designations

Historic Built Environment

Map 8: Illustrates the locations and density of the historic built environment within East Ayrshire. This includes listed buildings (grade A, B and C), conservation areas, gardens and designed landscapes, scheduled monuments and tree preservation orders. The map also identifies East Ayrshire’s historic battlefield, the Battle of Loudoun Hill.





Map 9: Gives a detailed illustration of the cultural heritage designations for the towns of Kilmarnock, Cumnock and Stewarton. Kilmarnock has a larger number of Listed Buildings and Conservation Areas than Stewarton and Cumnock. Stewarton has large areas of TPOs and much of Cumnock’s cultural heritage is concentrated within the Conservation Area.

Social Environment

Population and Health

- ❖ Deaths from cancers are slightly higher in East Ayrshire with cardiovascular and cerebrovascular death rates, slightly lower.
- ❖ The rate of cancer registrations is similar to that elsewhere in Scotland but rates of hospital admission for chronic obstructive pulmonary disease (COPD) and coronary heart disease are much higher than elsewhere in Scotland.
- ❖ There are proportionately more emergency hospital admissions than elsewhere in Scotland.
- ❖ The health of older people in East Ayrshire (65+years) is markedly poorer than the national average in relation to serious respiratory and cardiovascular disease
- ❖ East Ayrshire generally scores below the Scottish average on health behaviours as reflected in alcohol-related deaths, smoking prevalence, participation in exercise and obesity.
- ❖ Health in East Ayrshire is currently improving with an ongoing growth in life expectancy and reduction in cardiovascular and respiratory death rates.
- ❖ Levels of obesity in East Ayrshire are similar to levels across the rest of Scotland

Life expectancy

Life expectancy in East Ayrshire is marginally lower than the national average and reflects the social-economic and environmental inequalities within East Ayrshire.

Population

The total population of East Ayrshire according to the 2011 Census was 122,767. The general trend has been a growth in population of East Ayrshire – A growth of 2% from the last census in 2003.

Age of Population

The age structure of the East Ayrshire population is typical of Scotland but levels of deprivation are higher than the Scottish average. There are marked social-economic and environmental inequalities within East Ayrshire.

By 2037 the population of East Ayrshire population is projected to be 121,928 which is a decrease of 0.7% compared to the 2011 population. Generally the age structure of the East Ayrshire population is similar to that of Scotland as a whole although East Ayrshire has a lower proportion of older people compared to the rest of Scotland.

Appendix 6 – State of East Ayrshire’s Environment, Baseline Data and Issues

Employment and Employment Sectors

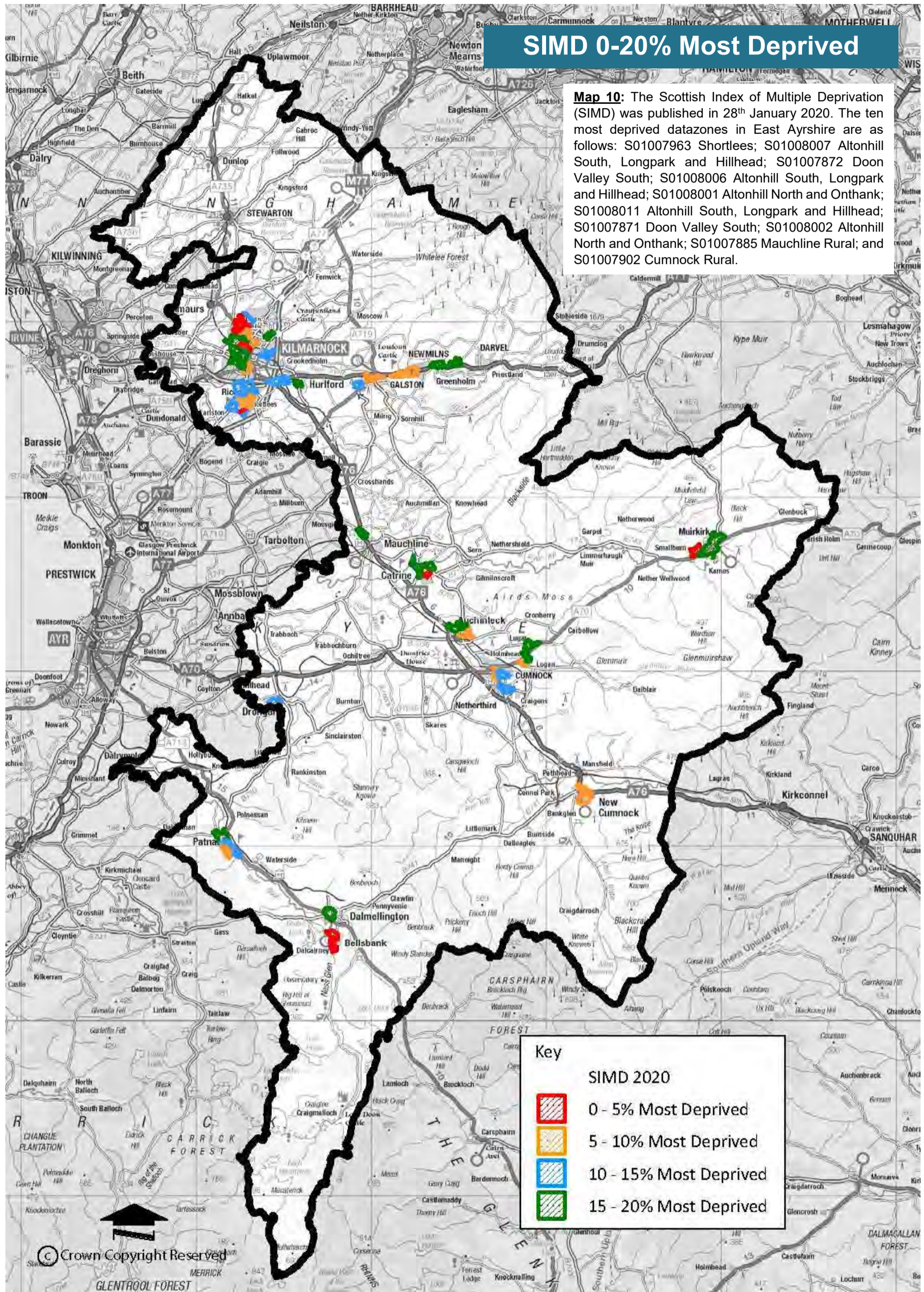
Job growth in East Ayrshire was below the national average for the period between 1998 and 2008, increasing by 5% as compared to a national increase of 12%. The East Ayrshire economic growth (Gross Value Added) rate was around 0.1% between 1997 and 2007, below the national average rate of 2.3%.

Overall Trends in Population and Health

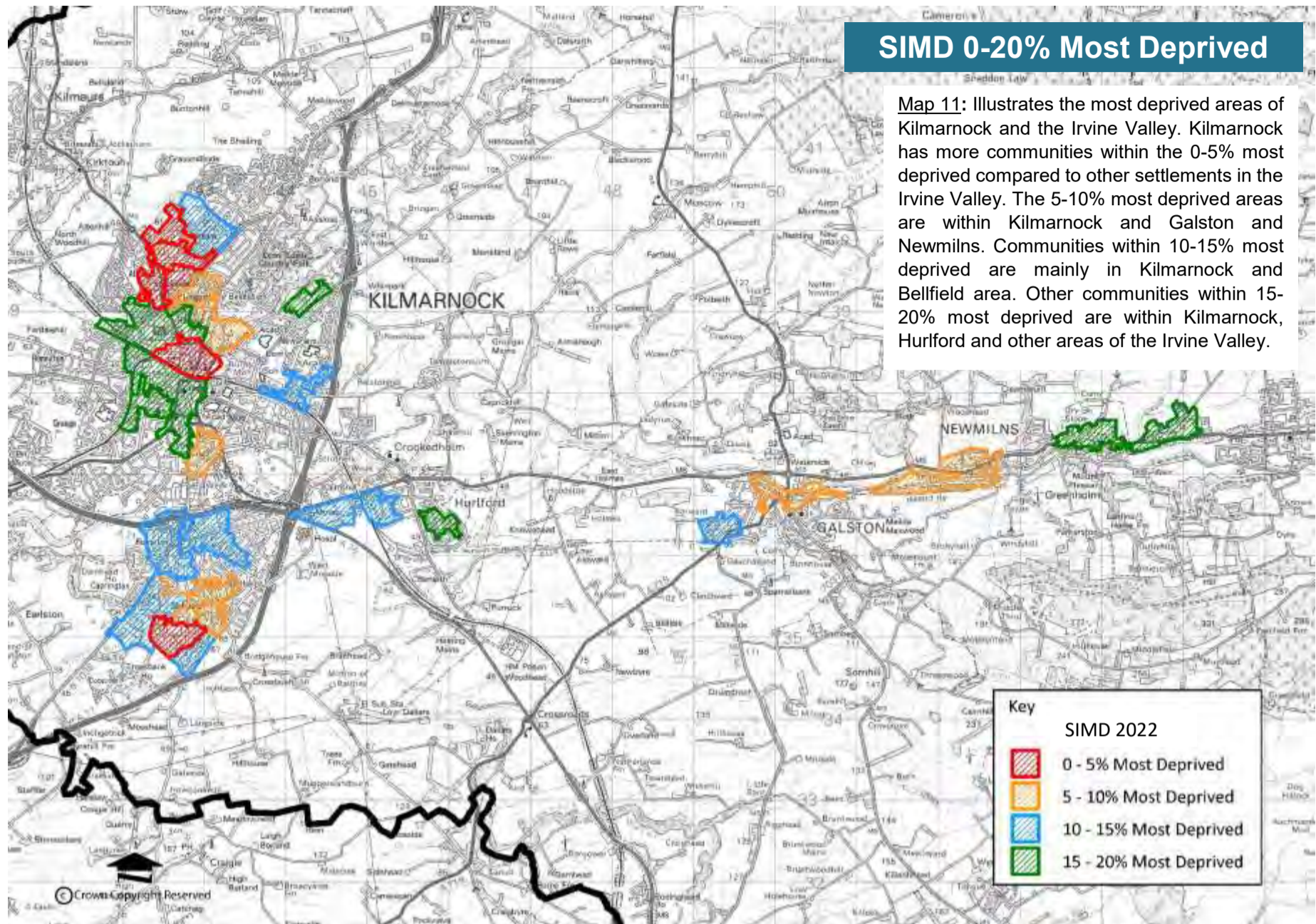
Health in East Ayrshire is currently improving with an ongoing growth in life expectancy and reduction in cardiovascular and respiratory death rates. Health is likely to continue to improve as a result of reduced environmental emissions and workplace exposures to dust and other hazardous substances. There is also, however, some evidence of an upward trend in adverse health behaviours that might ultimately offset the increase in life expectancy such as smoking, alcohol consumption and obesity.

There is some evidence to link health issues (cancer, heart disease and, obesity) and social-economic inequalities within East Ayrshire. There is little evidence to link health with environmental inequalities and the evidence base is limited.

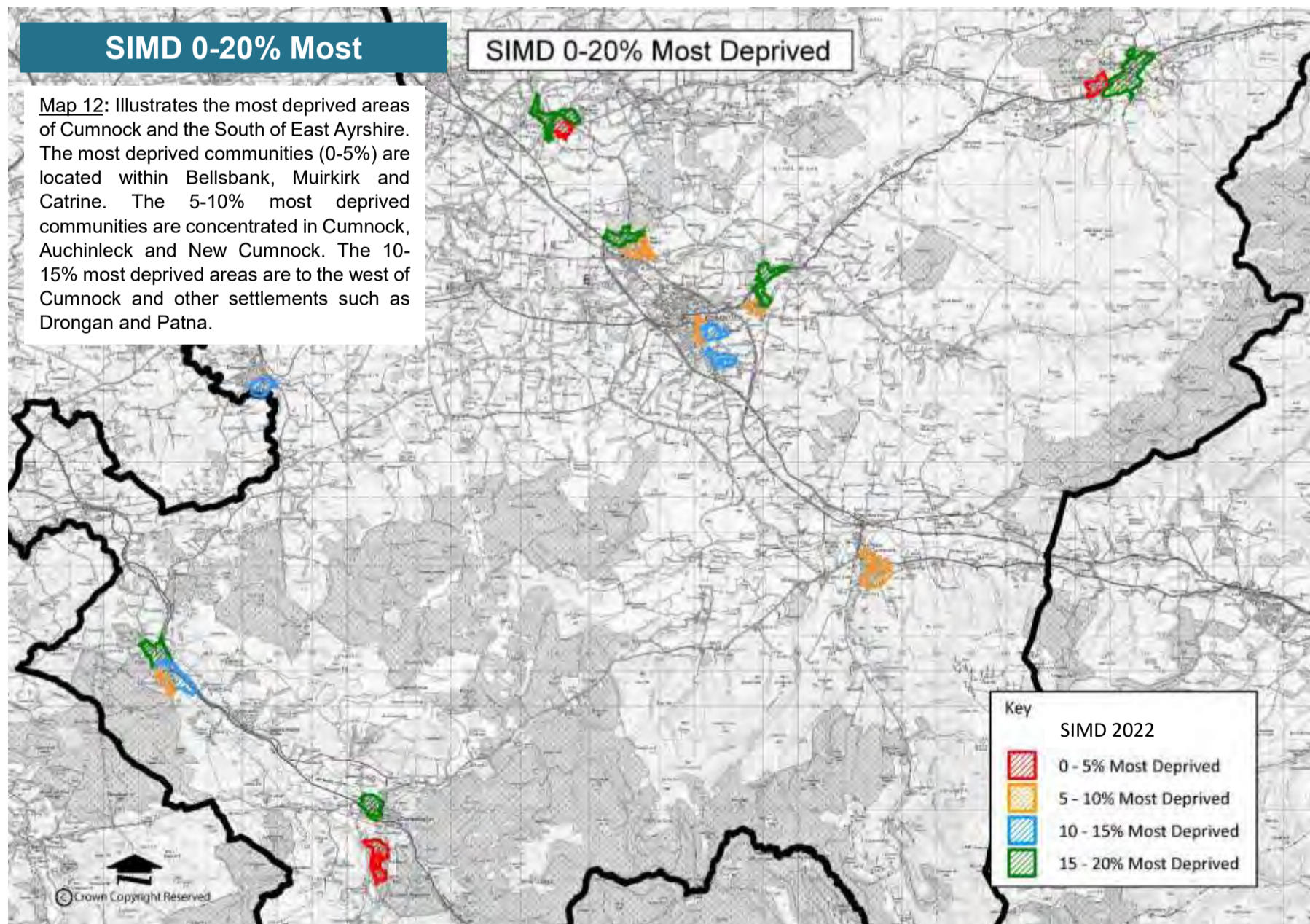
Map 10 – Scottish Index of Multiple Deprivation (SIMD)



Map 11 – SIMD: Kilmarnock and the Irvine Valley



Map 12 – SIMD: Cumnock and the South of East Ayrshire



Material Assets

(Infrastructure, amenity and open spaces)

The protection, management and enhancement of material assets in East Ayrshire is important to the overall quality of life experienced by residents and visitors alike. There are a range of material assets in East Ayrshire and typically communities are satisfied with facilities and neighbourhood quality. There has been significant investment in regeneration of key settlements and it is anticipated that future grant funding opportunities will be targeted.

There are challenges which result in East Ayrshire having the fourth highest level of unemployment in Scotland. There are measures being advanced through partnership working with bodies such as Scottish Enterprise and Skills Development Scotland to seek to support existing businesses maintain and grow successes. East Ayrshire has strengths in terms of geographic location, access and connectivity and sectors such as renewable energy and food and drink on which to build future growth and attract new investment.

East Ayrshire benefits from strategic connections to the Trunk Road network with the A76, providing North- South connections between Kilmarnock, Dumfries and Galloway and Carlisle, and the A71, providing East-West connections between Irvine, Kilmarnock and the M74 South of Glasgow and the A78 (North to North Ayrshire and Inverclyde). The M77 (North East to Glasgow and South West to Prestwick and Ayr) provides a fast and direct route to Glasgow. These routes will continue to be important in terms of sustainable economic growth.

Kilmarnock is the commercial hub of East Ayrshire and will continue to be an important hub for economic and cultural activity. The Council have agreed through the LDP process a Housing Supply Target (HST) for market housing of 434 units per annum and 100 new build affordable units per annum which is focussed around the existing key settlements. A new Local Development Plan for East Ayrshire is in the early stages of being prepared. Through the plan preparation process the housing supply target will be reviewed.

There are a range of renewable energy sites which are at an early stage in the planning system which may be progressed through to the consent stage. There are a range of financial changes affecting subsidies which may affect future developments.



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There are a number of future minerals operations which will be covered by compliance monitoring including restoration of existing sites. There are also applications pending for amendments to existing working arrangements which will be subject to scrutiny through the planning system. The East Ayrshire Minerals Local Development Plan was adopted in 2020 and deals with all minerals related applications and directs future development / restoration proposals.

There are 3,893 Ha of protected public open space within East Ayrshire and the Green Infrastructure and Green Network Strategy and planning policy seek to protect these and to incorporate new open space through new developments.

Tourism is a growth sector for Scotland with similar trends across the various regions. The increase in popularity of holidays in Scotland will grow the share of visitors in East Ayrshire and growth is supported by the Ayrshire Economic Partnership (AEP) and implementation of The Ayrshire & Arran Tourism Strategy 2012-17.

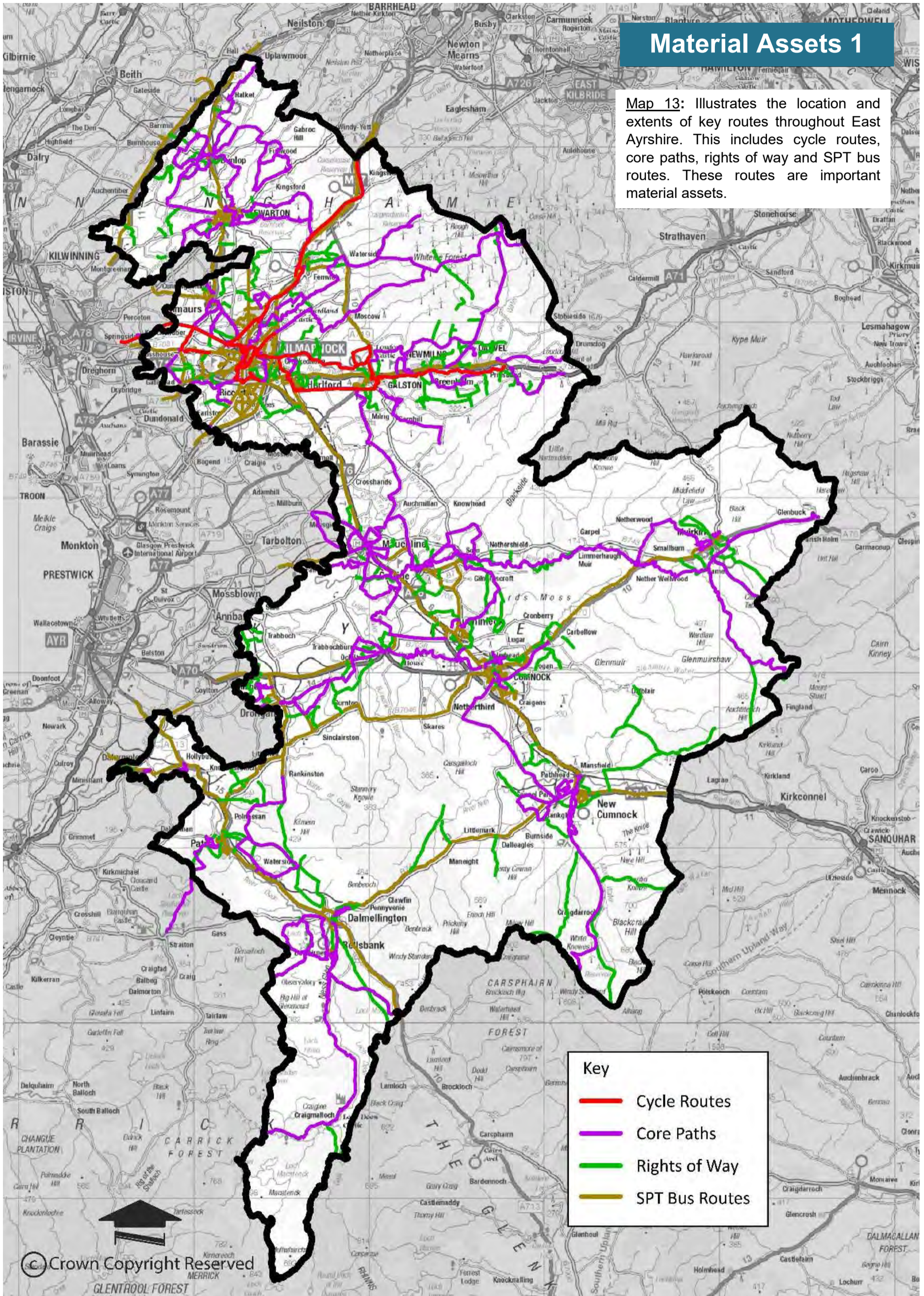
The volume of waste generated in East Ayrshire is slightly higher per person than the rest of Scotland although is decreasing annually with corresponding increase in recycling.

There is a historical legacy of minerals in relation to vacant and derelict land and contaminated land. The closure of coal mines has the potential to significantly add to the amount of derelict and vacant land in the Local Area if sites are not restored. There has been a decline of 1% in vacant and derelict land in East Ayrshire between 2008 and 2014. In 2015, East Ayrshire Council returned 2,217ha of derelict land associated with the former surface mining sites and a total of 2,536ha vacant and derelict land for the local authority area as a whole. Further information can be found on the Scottish Government website.

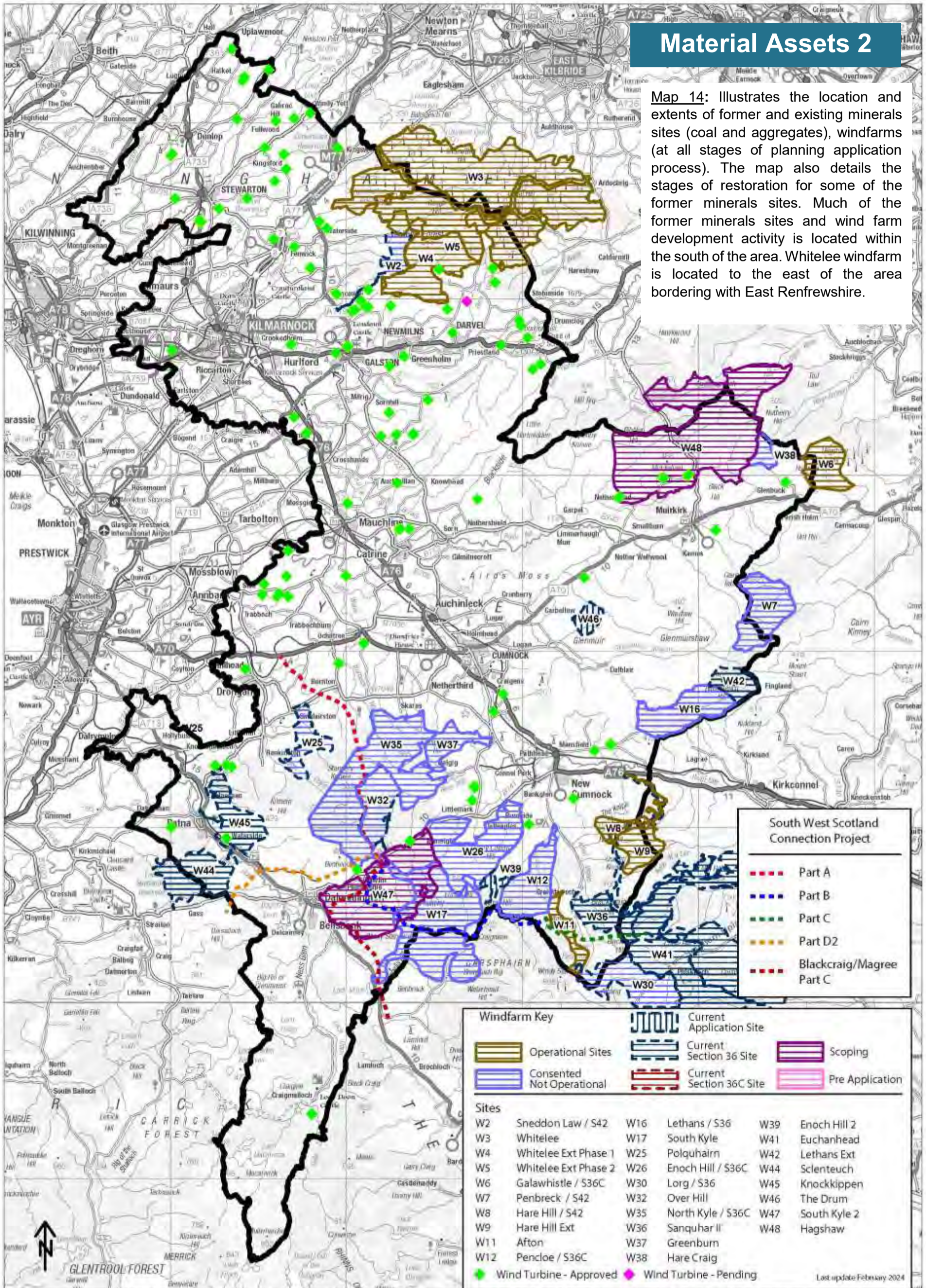


Ponesk and Spireslack

Map 13 – Material Assets (Routes)

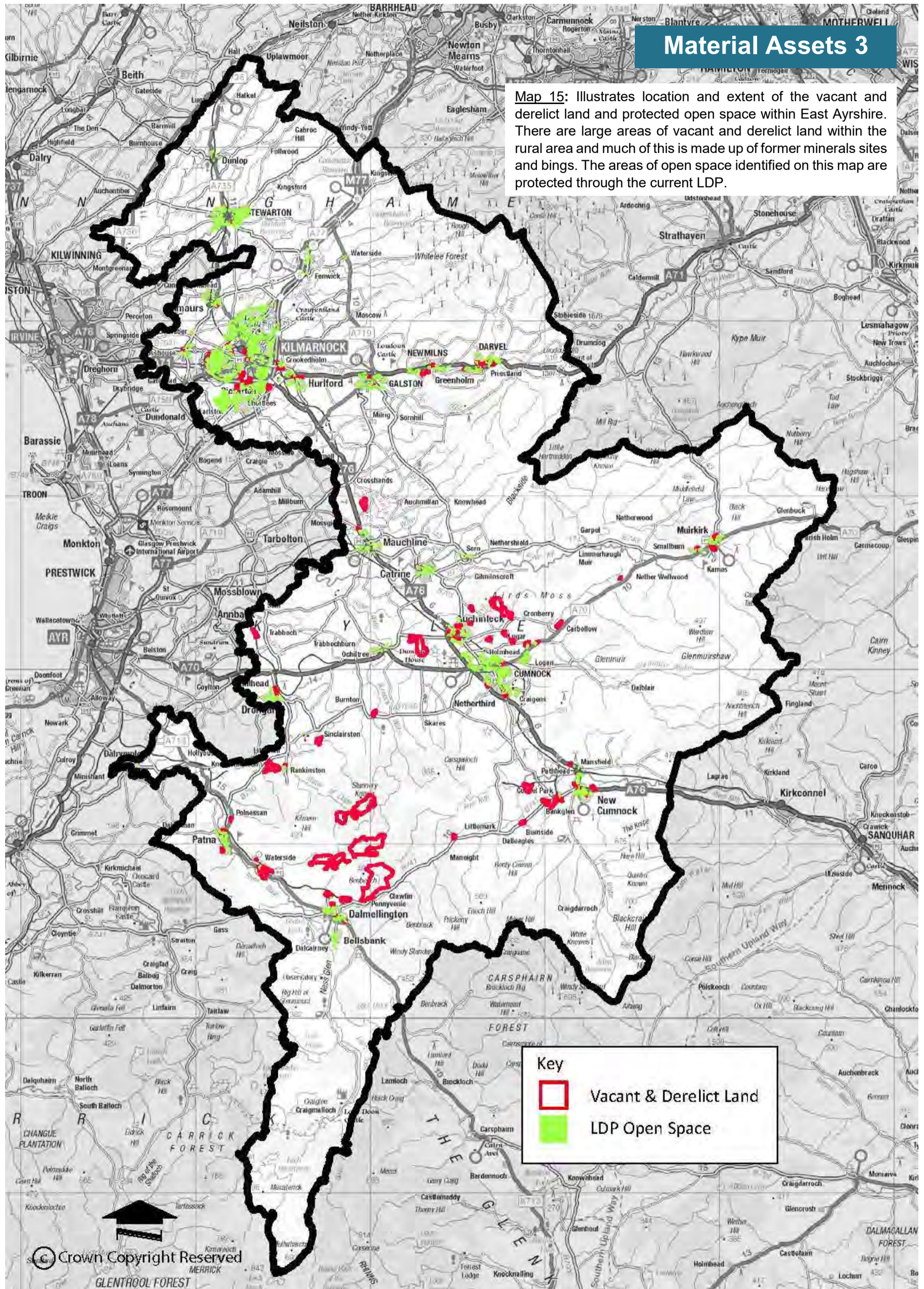


Map 14 – Material Assets (Wind and Minerals)



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Map 15 – Material Assets (Vacant Land and Open Space)



Likely evolution of the environment outwith LDP2

Local Development Plans need to be up-to-date in order to comply with the latest policy guidance from national government and reflect the area’s actual development pressures and environmental issues. If they are not, then less weight is generally attached to them in decision-making.

Future changes to the environmental baseline, in the absence of LDP2, are inevitable due to natural processes but also due to human activity that are unconnected to the Plan. It is important to take into account this likely evolution of the environment in the absence of the LDP2 as this will help to inform the LDP2. It also helps to recognise the limits of the Plan itself.

In the absence of an updated Local Development Plan (in this instance LDP2), the adopted development plan framework in the East Ayrshire area would be utilised to access and consider development, which was adopted in July 2017 and includes a suite of 20 Supplementary Guidance documents, and 17 non-statutory guidance documents. As outlined above, this would hold less weight than an appropriately updated Plan.

Development would continue to take place but would not be monitored and would be less well attuned to the surrounding environment and other strategic objectives and priorities. LDP2 is also an important vehicle for progressing social and economic justice through an overarching vision and environmental protection.

The scenarios outlined below are based on the continuation of the implementation of LDP1 beyond its intended period.

Natural Environment

Landscape → The landscape will continue to evolve as a result of human activity, biological processes and climate will continue to alter the landscape, particularly in relation to flooding. Increased levels of sporadic and isolated developments, including inappropriate residential development in the rural area will take place. Without the additional allocation of further appropriate development opportunity sites, greenfield sites may be built on rather than brownfield sites, which will have a detrimental impact on landscape character of settlements and rural areas. Continued pressure for rural development could result in the urbanisation of our rural landscape. Although LDP1 contains a policy framework which protects the natural environment and landscape, development may take place in inappropriate locations or environmentally sensitive areas, possibly resulting in an unacceptable loss of greenfield areas, areas of ecological importance or significant environmental quality. For example, Local Landscape Areas, where development under LDP1 has eroded the value of this

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designation. The review of this designation under LDP2 now more appropriately reflects landscape boundaries of value, improving its applicability. Identified vacant and derelict land as well as brownfield sites within existing settlements could be less likely to be developed and this could potentially undermine the opportunity for regeneration and improvement of townscapes which are undergoing significant changes and challenges.

Biodiversity, Flora and Fauna → Certain adverse effects on biodiversity could be unchecked and would likely be exacerbated by inappropriate development leading to a loss of areas of importance for nature conservation, biodiversity and prime agricultural land. Despite issues relating to the preservation and protection of biodiversity being in place within a range of PPSs, habitats could continue to become fragmented resulting in a loss of species and biodiversity. Ultimately, it is considered that the emerging environmental protection/enhancement needs of East Ayrshire would not be appropriately addressed. There will be less protection for East Ayrshire’s natural habitats and other environmentally sensitive areas potentially resulting in unacceptable levels of degradation to landscape and biodiversity. LDP2 strongly embeds principles which aim to tackle the nature crisis and biodiversity loss, in accordance with Draft NPF4, which are somewhat absent within LDP1.

Climatic factors → The effects of climate change on the environment, economy and society would be more severely felt and will increase. In recent years, greater levels and rates of flooding have been experienced throughout East Ayrshire, development within flood plains or other inappropriate locations will exacerbate this risk and have a detrimental impact on the local economy, investment and infrastructure. Without a strong policy framework energy efficiency measures and enhanced green and blue infrastructure requirements (natural-flood management solutions) may not be integrated into the design, layout and materials of development proposals. The loss or disturbance of important natural carbon stores could increasingly occur, having cumulative negative impacts on climate and resilience.

Natural Resources

Soil → Soil quality is likely to be detrimentally impacted by development, which might not occur if the LDP2 was in place. Development may take place in prime agricultural areas having a detrimental impact on agricultural land quality and provision within the local authority. Development on areas of peat and carbon rich soils or development which includes the disturbance or removal of peat may take place without LDP2 and have detrimental impacts on areas of peat (Class 1, 2 and 5), raised bogs and carbon rich soils which would increase the carbon emissions of East Ayrshire. Peat and carbon rich soils act as a significant carbon store, as such, this would likely have subsequent impacts on air quality, climate and resilience.

Air → Air quality levels may decrease in East Ayrshire. Air quality issues will be prevalent, particularly in urban centres and in locations close to the commuter belts. It

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is noted that air quality issues are contained within other PPSs, such as regional and local transport strategies. Development would more likely take place on less sustainably located sites such as greenfield land which would increase the dependency of private car usage within East Ayrshire, potentially increasing traffic congestion and greenhouse gas emissions.

Water → Adverse impacts on water quality would remain, or be detrimentally affected, in the absence of an updated and more robust policy framework covering flood risk but also blue and green infrastructure requirements. There is the potential that agricultural uses will intensify, which will increasingly impact on the water environment in a detrimental manner through construction and agricultural run-off. There may be an absence of the appropriate flood mitigation measures to suitably address the adverse impacts of developments on the water environment and the impact that this will have on the social environment as well as climate and resilience

Historic Environment

Cultural Heritage→ Whilst the existing impacts and benefits on the historic environment in relation to economic development will remain, the physical and visual condition of the historic environment may deteriorate without an effective and up-to-date policy framework which supports “preservation” and “enhancement” of cultural heritage assets. The reuse of vacant historic properties are less likely to take place, as it is not embedded within the Plan as a Spatial Strategy objective, although there may still be a degree of regeneration of these buildings of historic character. With a lack of focus on the need to reduce levels of vacant and derelict land, listed buildings which are currently sitting vacant and derelict will not be restored which could lead to unsustainable land use management. Therefore, a less proactive approach to the protection of the built heritage.

Social Environment

Health → Air quality may deteriorate in East Ayrshire, having a significant impact on the health of its residents. Sporadic and periphery development may limit or restrict access to open/green spaces and active travel opportunities. A lack of high quality design could lead to the creation of poor quality places and have a detrimental impact on health and population.

Population → The population of East Ayrshire may decrease, with rural settlements becoming increasingly depopulated, while the wider rural landscape becomes increasingly populated in a sporadic manner. Alternatively, the population in high-demand areas such as Stewarton, Dunlop and Kilmaurs may increase in an unsustainable manner, where there are significant capacity issues. It is less likely that residential development will take place in the south of East Ayrshire, if additional sites are not allocated to direct development.

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Material Assets → The integration of new development within existing developments and infrastructure such as health centres, bus services, transport connections as well as sewers and water treatment infrastructure would be more difficult to achieve effectively. There is a higher demand in certain areas (such as Stewarton) where the existing infrastructure would be unable to cope with this type and level of development. Due to demand, development would become concentrated within these areas, which would lead to the decline of settlements which are located in the more remote areas of East Ayrshire (such as small communities within Doon Valley). Increased levels of sporadic and isolated developments would have a significant impact on infrastructure. Demand for services such as retail and commercial leisure may emerge at the edges or out of town centre locations to the detriment of the vitality of existing town centres. There will be no updated strategic approach to infrastructure or development within challenging settlements, leading to significant infrastructure capacity issues.

Environmental Problems

The Interim Environmental Report identifies current environmental issues and problems that affect East Ayrshire by utilising information that has been identified through an analysis of baseline data and environmental implications, which are contained in Appendix 4, 5 and 6 and are detailed within the updated State of the Environmental Report.

Figure 1 illustrates the current State of the Environment of East Ayrshire and outlines whether each component is improving, deteriorating, stable or unclear. It represents the assessment for each topic area and their level of environmental condition ranging from very good to very poor.

In overall terms, the quality of baselines environmental information is good across most of the topic area with the exception of some ecological data being of poor quality, fragmented or not available. 65% of the assessment components (Geology and Soils, Biodiversity, etc.) have been scored as “Good” with 5% being scored as “Very Good”. 25% of the assessment components are improving with 30% stable and 20% degrading.

Utilising the information from Appendix 4 and 6, the key environmental issues and problems facing East Ayrshire are as follows:

- ❖ Landscape change in rural areas due to minerals and wind farm developments as well as restoration works and changes to agricultural and forestry practices;

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- ❖ The amount of vacant units within town centres is increasing and this is causing an adverse impact on the image of town centres. Town centres across East Ayrshire especially Kilmarnock are in need of environmental improvement and regeneration;
- ❖ There are areas within East Ayrshire that are at risk of flooding (e.g. Irvine Valley);
- ❖ The area contains a number of unused and derelict buildings both in the settlements and rural area which detract from the character and appearance of the area;
- ❖ The legacy of unrestored land as a result of opencast coal companies going into liquidation has resulted in access problems to the rural area. Some of these areas are working through their restoration schemes and new uses need to be identified to bring new business and industry to the area;
- ❖ There is an increasing pressure on the area’s transport infrastructure, particularly at Bellfield Interchange, Kilmarnock. This has resulted in an increase in congestion and pollution; and
- ❖ The area has experienced increasing pressure for new, large scale wind farm developments with subsequent implications for landscape, historic environment, habitats and biodiversity and the cumulative impacts of windfarms and minerals sites.

It will be important to take account of these factors in development the LDP2.



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