



State of the Environment Report

EAST AYRSHIRE COUNCIL STATE OF THE ENVIRONMENT REPORT

1.0 Purpose of the Study

East Ayrshire Council appointed an independent specialist environmental consultant team to produce a State of the Environment Report to support the production of the Local Development Plan (adopted in April 2017) and a separate Minerals Local Development Plan (due for adoption end of 2019), as well as other policy formulation and to assist in the assessment of applications for planning permission etc. Preparation for Local Development Plan 2 has already begun with a Main Issues Report due to be published in August 2019.

Critical to developing a robust Local Development Plan is ensuring the Council has:

- a thorough, accountable State of the Environment Report which adds value to the LDP, the preparation of LDP2 and Minerals LDP process
- a mechanism to share knowledge and establish new data sources
- a reporting structure that can be easily updated as new data becomes available or to respond to legislative changes etc
- a consultative State of the Environment Report – promoting engagement with statutory consultees (SNH/SEPA/HES) and relevant NGOs (RSPB / SWT / others) and the public
- A detailed understanding of the impact of minerals extraction on the environment and potential for future impacts of minerals including unconventional gas.

2.0 The Study Area

The State of the Environment Report covers East Ayrshire Local Authority boundary.



Place

East Ayrshire is located in the south west of Scotland and shares borders with Dumfries and Galloway, East Renfrewshire, North Ayrshire, South Ayrshire and South Lanarkshire. East Ayrshire has a long history of minerals extraction and many of its settlements have developed around the coalfields. Kilmarnock is the administrative centre for East Ayrshire Council and is the largest town and the main shopping centre in East Ayrshire. Other key settlements include: Dunlop, Stewarton, Kilmaurs, Galston, Auchinleck, Cumnock, Muirkirk, New Cumnock, and Dalmelington.

People

The total population of East Ayrshire according to the 2011 Census was 122,767. This represents a growth of 2% from the last census in 2003 (120,235). The average age for women in East Ayrshire is 43 and for men is 41. There are more women than men in East Ayrshire, a trend reflected across most of Scotland. By 2037 the population of East Ayrshire 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 young people and higher proportion of older people compared to the rest of Scotland. 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.

Enterprise

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%. The M77 extension has created an important new employment corridor with excellent M8 and M74 links. Scottish Enterprise provides support to approximately 60 of East Ayrshire's larger companies each year with 36 'Account Managed' companies who are supported with growth plans (Source: Scottish Enterprise, 2014). There were 1,300 people working in Mining, quarrying & utilities in East Ayrshire in 2013, a decline of 10% from 2009.

3.0 What is a 'State of the Environment' Report?

The intent of the State of the Environment (SOE) report is to capture and present, in as accurate and useful a format as practicable, key information on the state of the 'environment' across a number of topic areas for East Ayrshire. The SOE report therefore looks at the environment in terms of its current condition and how current activity has shaped this status and trend and looks at the key drivers and pressures to change.

The SOE reporting includes assessments across a wide range of biophysical and ecological elements of the environment, as well as social and cultural aspects of environmental issues.

The principal objectives of State of the Environment reporting are to:

- Disseminate information on the state of the East Ayrshire environment and how human activity has shaped the current status and trends and to make this information available to the Council to support decisions about environmental policies and management.
- Promote public access to robust, peer reviewed and up-to-date information on the local environment and minerals extraction issues.

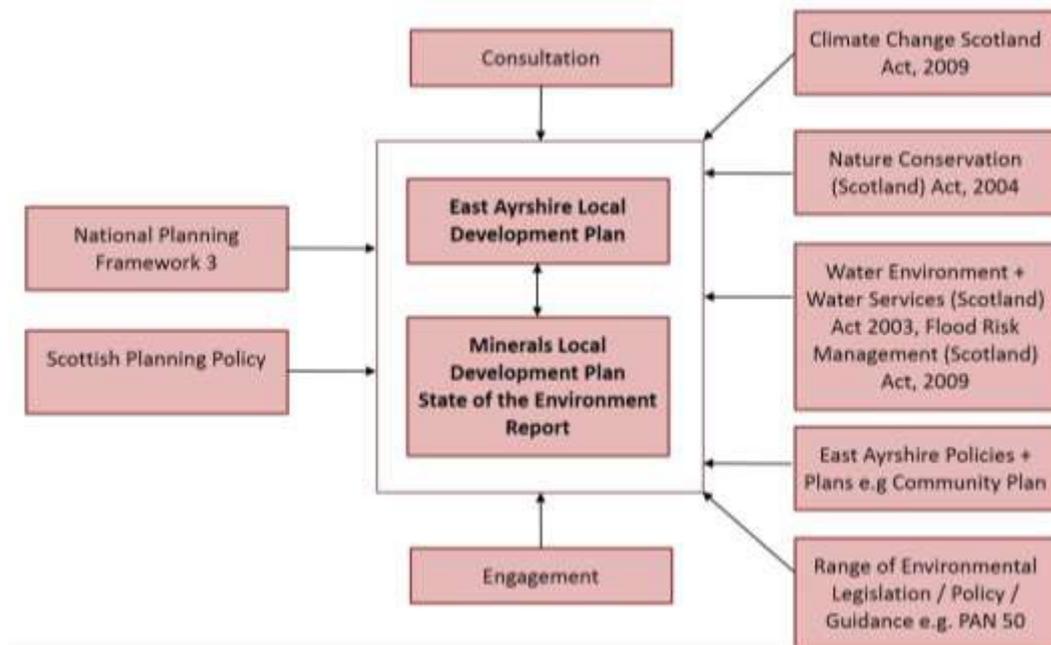
The State of the Environment Report will facilitate and enable:

- increased awareness, among decision-makers and the public, of the status and implications of the condition of the environment in East Ayrshire and pressures on it from both past activity and potential future development
- informed actions to issues that have arisen from the demise of major minerals companies in East Ayrshire and how lessons learned can steer environmental management decisions that lead to more sustainable use and effective conservation of environmental assets.

4.0 Policy Context

National Planning Framework and Scottish Planning Policy are based around consideration of place, opportunity and ambition.

There are a range of environmental controls applied through legislation, policy and Best Practice Guidance that should inform the Local Development Plan and Minerals Local Development Plan which, coupled with the findings of the State of the Environment Report will strengthen the Policy response and safeguards to protect communities and environmental sensitivities.



5.0 Specialist Team

This report was produced by a bespoke environmental team led by Ironside Farrar with support from East Ayrshire Council working with a range of consultees.

Each member of the team was selected based on their knowledge and experience for each topic area and specialist understanding of minerals extraction. The team also bring experience in application of UK and Scottish environmental policy, legislation and planning system.

- **Ironside Farrar**
Geology & Soils, Landscape and Visual, Water Environment, Material Assets
- **ECOS Countryside Services**
Biodiversity, Flora and Fauna
- **Institute of Occupational Medicine**
Air Quality, Population & Health, Climate
- **GUARD Archaeology Ltd**
Historic Environment
- **Vibro**
Noise

Quality Assurance

The SoE has been produced using the best available environmental information, evidence and extensive consultation to produce a robust, peer-reviewed report that is rigorous and credible.

Limitations / Qualifications

The State of the Environment Report has been produced based on a 'snap-shot' in time based on the baseline information and professional judgement of the team.

6.0 Structure of the State of the Environment Report

The State of the Environmental Report covers a range of topic areas:

- Chapter 1 - Geology and Soil
- Chapter 2 - Landscape and Visual
- Chapter 3 – Ecology and Nature Conservation
- Chapter 4 - Air Quality
- Chapter 5 - Water Environment
- Chapter 6 - Climate
- Chapter 7 - Historic Environment
- Chapter 8 - Population and Human Health
- Chapter 9 - Noise and Vibration
- Chapter 10- Material Assets

This State of the Environment Report will inform policy formulation including the Local Development Plan, Local Development Plan 2 (MIR due to be published in August 2019) and Minerals Local Development Plan and seeks to promote a Policy response which captures measures to protect the environment and manage development pressures against the backdrop of an established understanding of the environmental and community sensitivities of East Ayrshire.

7.0 What does the State of the Environment Report tell us?

The current state of the environment of East Ayrshire has been assessed for each topic area and assigned a level of environmental condition from very good to very poor. The trends in the condition are assigned as improving, stable or deteriorating.

- Overall the quality of baseline information is good across most of the topic areas – the main exception is in relation to some ecological components where if data is available it is poor quality or fragmented.
- 65% of assessment components register a 'Good' score with 5% at 'Very Good'
- 25% of assessment components are improving with 30% stable and 20% deteriorating.

There are examples where there have been specific adverse impacts on protected sites and species which are currently being addressed through detailed survey and remedial works.

8.0 Need for Informed Decision Making

There are a range of legislative controls that, coupled with a robust planning system, ensure that potential impacts of sites and operations are identified early and controlled through planning consent, use of conditions and bond/legal agreements, planning monitoring and restoration and aftercare with appropriate oversight. Minerals operations if managed well can be implemented in a way which minimises impacts on the environment and communities to an acceptable level.

East Ayrshire has established a Compliance Monitoring Framework for Minerals, Energy and Infrastructure i.e. development classed as major development or where there is a perceived potential for environmental impacts which need to be controlled.

This Compliance Monitoring Framework has two main parts:

- The independent Compliance Assessor will review the Planning Application submission and associated documentation for a minerals extraction development – this will include the review of potential planning conditions and restoration proposals
- If approved, The Compliance Assessor will monitor the operational development during the lifespan of the Planning Application until completion of works

Consultation and engagement with communities is vital to successful planning, operation and restoration – to avoid impacts on properties and settlements close to proposed development sites and then providing a framework of conditions to ensure that elements e.g. fugitive emissions (dust, noise and vibration) are properly controlled during working of sites. Communities should play an important role in the restoration of sites where appropriate to integrate community benefits where possible e.g. to promote recreation and outdoor access, education and biodiversity interest.

9.0 Assessment Summaries

The following section contains a summary of the key findings of the State of the Environment Report per topic area. These summaries provide an overview of the environmental baseline, trends and potential future impacts of minerals exploitation.

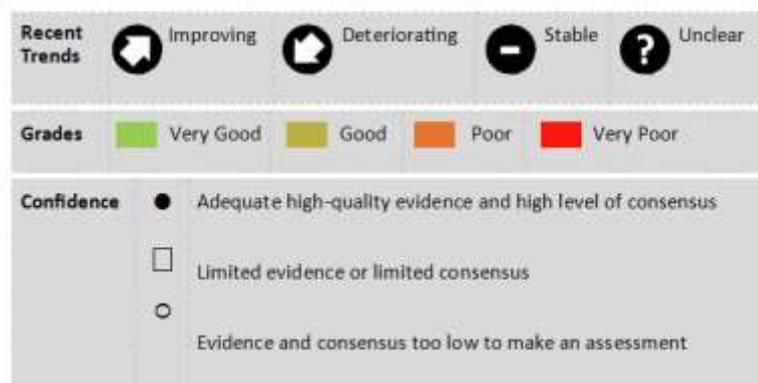
Each chapter author has provided an indication of their confidence in both the environmental condition and trend based on the following key factors:

- Level of baseline data available and quality of the sources
- Whether there is statutory reporting / monitoring / data gathering as a result of legislation e.g. water monitoring and quality data under the Water Framework Directive or air quality monitoring under the Air Quality (Scotland) Regulations.
- If data is available from peer reviewed published sources e.g. Scottish Government Statistics
- Data limitations and gaps
- Elements where there is not a clear link between minerals operations and a particular impact e.g. relative scale of minerals extraction and climate change.

These sections should be read in conjunction with the detailed chapters in the main body of the report.

9.1 Geology and Soils

Topic	Assessment Grade		Confidence	
	Very Poor	Very Good	In Grade	In Trend
Geology & Soils: Superficial Deposits			<input type="checkbox"/>	<input type="checkbox"/>
Geology & Soils: Bedrock			<input type="checkbox"/>	<input type="checkbox"/>



State

Across Scotland the geology is diverse, formed over a period of approximately three billion years. The natural processes which have helped create this geodiversity include volcanism, plate tectonics and glaciation¹, together with erosion and deposition in water environments. The geodiversity of Scotland has helped progress knowledge in a variety of fields, including oil and gas exploration and mining.

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.

Trends in Geology and Soils

Historically large areas of upland bogs and lowland raised bog were destroyed to make room for forestry and agriculture. Following the designation of Sites of Special Scientific Interest (SSSI) status to these features and the implementation of management plans, the future of these peat reserves within East Ayrshire should be secured.

Coal extraction has historically been prevalent in East Ayrshire, however following improvements in techniques in the late 1980s there was a shift from deep underground mining to surface mining methods. There has been a steep decline in coal production in the UK (2015 was a new record low) which has also been seen in both Scotland as a whole and

¹ Gordon, J.E. & Barron, H.F (2011). Scotland's geodiversity: development of the basis for a national framework. Scottish Natural Heritage Commissioned Report No. 417.

East Ayrshire, which is mirrored by increase in imported coal and this trend is expected to continue.

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.

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 finalization. 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.

9.2 Landscape and Visual



State

Landscape Character

- There are 18 separate and distinct rural landscape types within East Ayrshire
- The landscape character of East Ayrshire has a high proportion of upland and upland fringe landscapes, located in the east and south and grading into lowland farmland to 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 in the *Foothills with Forest*, *Plateau Moorland with Forest*, *Upper River Valley* and *Southern Upland* landscape character types.

Designated Landscapes

- There are no national landscape designations in East Ayrshire.
- There are 3 locally designated landscape areas in East Ayrshire, named Sensitive Landscape Character Areas (SLCAs). They cover nearly 37% of the local authority area.
- There are 7 Gardens and Designed Landscapes located in East Ayrshire.
- The areas of highest relative wildness in East Ayrshire correspond with the upland areas to the south and east of the local authority area. Within this area, the Merrick Wild Land Area, located mainly in Dumfries and Galloway, overlaps the south of East Ayrshire

Trends in Landscape

The East Ayrshire landscape has undergone many changes over the past decades. Several trends or potential trends are identified in the Ayrshire Landscape Assessment. The principal changes between the 1990's and 2015 largely reflect these trends and include:

- closure of deep mining operations with bings and some surface structures remaining;
- an expansion of surface coal mining operations, many of which are un-restored or poorly restored;
- commercial afforestation;
- an expansion of windfarms and wind turbines, installed and consented;

- expansion of settlements in some areas, decline in some mining settlements;
- construction of electricity transmission lines;
- development of major roads (e.g. M77).

The most significant trends are those relating to the supply of energy: surface coal mining and windfarms. These developments are concentrated predominantly in upland landscape character areas to the south and east. There is a need for control and management of developments which place pressure on the landscape through the planning system.

The recent demise of two surface coal mining operators left 22 sites un-restored, with some gradually deteriorating. Future trends indicate a gradual reduction in surface coaling and work has started by East Ayrshire Council to manage/ restore some of the sites. This will lead to a gradual improvement in the repair and quality of landscapes, although not a return to the original state.

Wind energy is likely to be the main driver of change in the landscape in the next few years. Whilst the Council has policies and supplementary 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.

9.3 Ecology and Nature Conservation

Topic	Assessment Grade		Confidence	
	Very Poor	Very Good	In Grade	In Trend
Biodiversity, Flora and Fauna: a) Statutory and non-statutory sites			●	●
Biodiversity, Flora and Fauna: b) habitats			●	●
Biodiversity, Flora and Fauna: c) Protected mammal species			●	●
Biodiversity, Flora and Fauna: other species - birds			●	●
Biodiversity, Flora and Fauna: amphibian and reptiles			○	○
Biodiversity, Flora and Fauna: other species - plants			○	○
Biodiversity, Flora and Fauna: other species - lower plants			○	○
Biodiversity, Flora and Fauna: other species - invertebrates, Lepidoptera*			□	□
Biodiversity, Flora and Fauna: other species - invertebrates excl Lepidoptera			○	○

* Moths Very Poor Butterflies Very Good

Recent Trends

Improving
 Deteriorating
 Stable
 Unclear

Grades

Very Good
 Good
 Poor
 Very Poor

Confidence

● Adequate high-quality evidence and high level of consensus
 □ Limited evidence or limited consensus
 ○ Evidence and consensus too low to make an assessment

State

Statutory and Non-statutory Sites

- Four internationally important designated nature conservation sites are present in East Ayrshire (EA). Namely, Airds Moss and Merrick Kells Special Areas of Conservation and the Muirkirk and North Lowther Uplands Special Protection Area. Total area of land covered by these European designations is 18,042.56ha (14.2% of EA) protecting 17 qualifying habitats and species. Nine are in a favourable condition whilst 8 remain unfavourable. In the latter category biological features are most highly represented.
- 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 a notifying feature of 5 SSSI's.
- 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) are a non-statutory designation identifying locally important areas for nature and landscapes, primarily for the purpose of alerting planners and developers. East Ayrshire Council have identified 128 individual sites in their key planning documents whilst Scottish Wildlife Trust in their listing, as a primary source, holds 123 sites.
- Ancient Woodland Inventory (AWI) sites are well represented with 458 listed covering a total of 2674ha, whilst the Scottish Native and Ancient Woodland Inventory (SNAWI) lists 221 sites, some of which overlap with AWI.
- Scottish Wildlife Trust (SWT) manages 15 reserves in Ayrshire, of which 2 are in East Ayrshire- Knockshinnoch and Dalmellington Moss

Availability of Baseline Information

- Baseline data for statutory and non-statutory sites is complete and up to date.
- There is a full set of habitat maps for the whole of East Ayrshire, which are still credible as a basic resource, but would benefit from updating.
- Habitat data that is 25 years old does not reflect the recent acceleration of agricultural intensification, urbanisation, afforestation or the impacts of mineral extraction and windfarm development.
- Species level data is fairly complete for European and UK protected species and birds are well covered due to highly active local recorders and to the recent publication of the BTO Bird Atlas (2007-11) of breeding and wintering birds of Britain and Ireland.
- Botanical data for higher plants is available and up-to-date with a current review of rare plants in Ayrshire due to be reported in 2015.
- Not unexpectedly, the status of taxa in specialist groups like invertebrates, excluding butterflies, and lower plants is poorly studied and less well known.

Habitats and Species

- Available habitat data (25 years old) provides an overview of coverage in East Ayrshire: 33.40% of the land is improved pasture, with significant contributions by planted coniferous woodland (18.40%) and planted broad-leaved woodland (11.04%). The latter is a significant wildlife resource and unexpectedly large. 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%. Cultivated land contributed 4.55% with poor, semi-improved grassland a further 2.02%. At this time, quarries of all types and associated spoil, past and present, covered only 90.40ha, approximately 0.079% which clearly does not reflect accelerated minerals extraction. A notable omission from the available digitised data are hedgerow habitats.
- Trees of particular amenity, cultural or heritage interest are protected by Tree Preservation Orders (TPOs) and there are 234 such orders in force in East Ayrshire.
- Bats - In East Ayrshire, common and soprano pipistrelles are probably the most abundant followed by brown long-eared, Daubenton's and Natterer's bats. Other species have been less frequently recorded and this may be due to lack of survey coverage. New Leisler breeding colonies have been located at Culzean Castle and may be present in East Ayrshire. Noctules were also recently discovered roosting in a bat box at Dean Castle Country Park, Kilmarnock.
- Otter – the latest survey for Scotland covered 1376 sites with positive otter evidence recorded in 92.08%. Strathclyde and Ayrshire were reported together as having a lower level of evidence (83.10%) but still suggesting a widespread recovery from the 23.94% reported in the first survey in 1978-79.

- Badgers are widespread in Ayrshire with East Ayrshire holding a moderate population, perhaps 100 social groups, mainly dispersed over lowland eastern farmland and woodland (Scottish Badgers)
- Red Squirrel - Scottish population is estimated as 120,000, approximately 75% of the UK population. This species has a significant presence in East Ayrshire.
- Water Vole - The most recent national survey (2003) found no evidence of water vole in East Ayrshire, however sampling was sparse and current status is unknown. A re-introduction programme is being implemented by Ayrshire Rivers Trust and, if successful, may provide donor animals for introduction to other suitable local sites.
- 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 (*Maragartifera maragartifera*) along with several species of beetle and dragonflies and damselflies are of key importance.

Trends

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.

9.4 Air Quality



State

Air Pollution

- 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.
- 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.

Air Quality in East Ayrshire

- Background concentrations of NO₂ and PM₁₀ in East Ayrshire easily meet the relevant regulatory objectives.
- Background concentrations of NO₂ are highest in the more heavily populated northern parts of East Ayrshire including Kilmarnock and along the major roads.
- Measurements of NO₂ and PM₁₀ at roadside locations in Kilmarnock in the recent past have not consistently met the regulatory objectives due to high emissions of these pollutants in heavily trafficked streets.
- East Ayrshire has not declared any Local Air Quality Management Areas.

Sources of Emissions in East Ayrshire

- 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 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.
- 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.

Mineral Extraction and Unconventional Gas

- Emissions from surface coaling or quarrying are likely to adversely affect air quality in the immediate vicinity of operations.
- Measurable increases in annual mean concentrations of PM₁₀ might arise within about 20 m of the site boundary and smaller effects on PM₁₀ might arise at distances of ≤1000 m.
- Background levels of PM₁₀ in areas of East Ayrshire affected by surface coaling are extremely low.
- There may also be a small increase in NO₂ concentrations in the immediate vicinity of surface coal operations arising from plant emissions.
- There is no evidence that surface coaling or quarrying activities in East Ayrshire are leading to or would lead to any failure to achieve air quality objectives.
- On rare occasions, activities at Opencast Coal Sites (OCCSs) have led to local complaints of dust nuisance but there is no evidence of a substantial ongoing problem. Current emissions from surface operations are likely to have a negligible impact on population mean exposure to PM₁₀ and NO₂.
- The air quality impacts of unconventional gas exploitation are hard to predict and will depend on both geological and operational factors. Suitable technologies exist to control emissions from flaring, plant and the transport and storage of gas such that air quality impacts should be very small. The potential for the unintended release of gas during exploration and extraction and the associated air quality impacts that might arise is highly uncertain.
- The combination of appropriate planning policies, conditions on consents, PPC permitting and effective enforcement should ensure that the air quality impact of any future minerals operations including coaling or unconventional gas will be negligible.

Acid Deposition

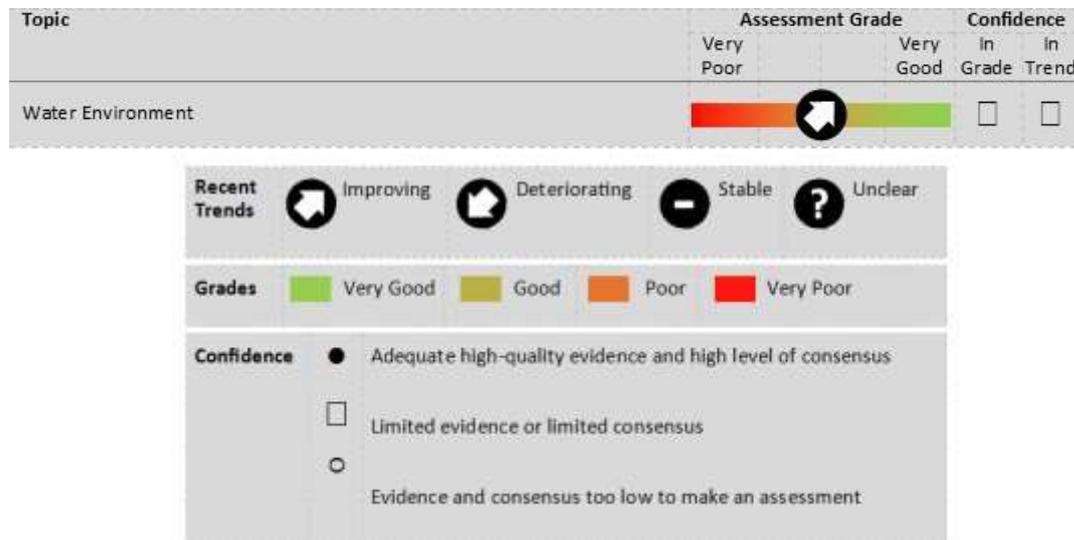
- Current levels of nitrogen and acid deposition at most designated ecologically sensitive sites in East Ayrshire exceed critical load levels.
- Local emissions of SO_x, NO_x and NH₃, however, will only make a small contribution to local nitrogen and acid deposition compared with the contribution of sources elsewhere in the UK and Europe.

Overall Trend – Air Quality

- 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.

- The highest concentrations of PM₁₀ and NO₂ arise at heavily trafficked locations in the more urban northern parts of the area, particularly within congested areas within 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.

9.5 Water Environment



State

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 is robust regulation in Scotland which regulates activities to protect the water environment and has led to an improvement in water quality across Scotland and East Ayrshire. In respect of East Ayrshire's water resources:

- There are no estuaries or coastal waters.
- All surface water bodies are within either the Clyde or Solway sub basins. Nine catchments have been identified within or partially within East Ayrshire, i.e. River Ayr, River Clyde, River Dee (Solway), River Doon, River Garnock, River Irvine, River Nith, Water of Girvan and White Cart Water.
- There are 64 identified surface water bodies including some water bodies with only part of their catchments within East Ayrshire, such as rivers and lochs at the region's boundary. These comprise 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. The 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.
- Compared with the whole of Scotland, East Ayrshire has proportionately less rivers and lochs of good status.
- Although groundwater in East Ayrshire tended to be of lower quality than Scotland-wide, the new system has noted that 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.
- The Flood Risk Management (Scotland) Act, 2009 introduced new duties for the Council in relation to assessing and managing flood risk. Flood Risk Management Strategies for each of the 14 National Local Plan Districts were published in December 2015. The strategy for the majority of watercourses in East Ayrshire is contained in LPD 12 -

Ayrshire, with the strategy for New Cumnock (River Nith) is contained in LPD 14 – Solway. Local Flood Risk Management Plans which provide additional local detail on the funding and delivery timetable for actions between 2016 and 2021 will be published in June 2016.

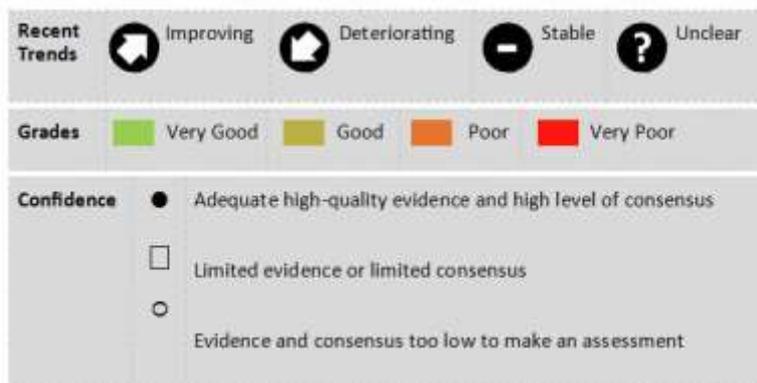
Trends

Recent annual trends (based on latest available data from 2013) show more improvements in status and fewer degradations in East Ayrshire than across Scotland for rivers and lochs. However there is more degradation of groundwater body status in East Ayrshire than Scotland-wide. Comparison with the bedrock geology indicates that these poor status aquifers (Cumnock, Kilmarnock, Ayr and Upper Nithsdale) 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).

- 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.
- 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.
- 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.
- The Met Office (see Chapter 6 Climate Change) projections do not include extreme weather events but there appears to be widespread consensus that these are likely to increase in frequency. In addition to an increased risk of future storms and flooding, there is also an increased risk of future drought. Areas of East Ayrshire were affected by flooding in December 2015 as a result of 'Storm Frank' and illustrates the importance of forward looking actions to address areas of potential risk. The Flood Risk Management Strategy for Ayrshire identified lists of Works and Studies within East Ayrshire: Studies identified through the FRM Strategies are expected to be funded by Local Authorities; however it is anticipated that the Scottish Government may contribute to some studies in the future. Work has already commenced on the River Irvine study following the flooding event of December 2015.

9.6 CLIMATE CHANGE

Topic	Assessment Grade		Confidence	
	Very Poor	Very Good	In Grade	In Trend
Climate: Greenhouse Emissions			<input type="checkbox"/>	<input type="checkbox"/>
Climate: Temperature Rainfall			<input type="checkbox"/>	<input type="checkbox"/>



State

Climate Change

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 of Greenhouse Gases

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.

Climate Change and East Ayrshire

Long term measurements of temperature and rainfall in Scotland show substantial year on year variability. In general the weather has become warmer and wetter over the last 30 years but there are no consistent trends over the last century. It seems certain that the climate will continue to change in future years. It is likely to get slightly warmer, and it is predicted that winters will become wetter and summers will become drier, although this is at odds with the trend over recent years.

Renewables in East Ayrshire

The onshore wind planning application visual register illustrates the number and location of wind farms in East Ayrshire (correct as of February 2018) that are:

- Operational – 7
- Consented- not operational- 6
- Current application site – 2
- Section 36 Applications – 1
- Pre Application - 0
- Scoping requests – 4

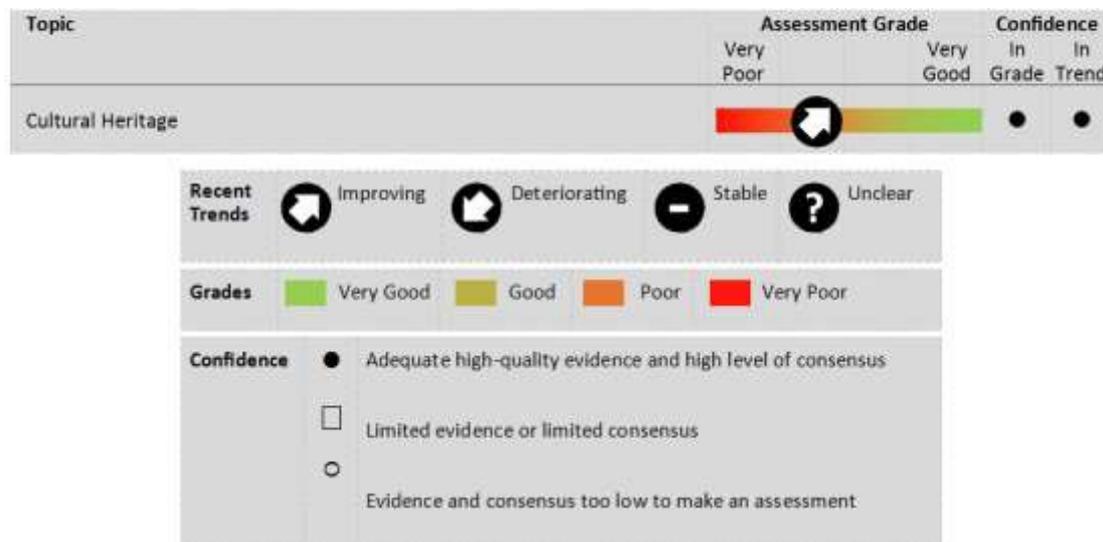
In terms of hydro schemes, according to the East Ayrshire planning portal², there are approved hydro schemes (data accessed December 2017).

Overall Trends - Climate Change

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. 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.

² <http://eplanning.east-ayrshire.gov.uk/online/search.do?action=simple&searchType=Application>

9.7 CULTURAL HERITAGE



State

Cultural Heritage Resource of East Ayrshire

The cultural heritage of East Ayrshire comprises some 2680 archaeological sites, monuments, buildings and artefacts that are recorded on the Historic Environment Record (HER). The register of archaeology is maintained by the West of Scotland Archaeology Service (WoSAS) on behalf of East Ayrshire Council with records of listed buildings, scheduled monuments and conservation areas covered by Historic Environment Scotland.

Cultural heritage sites in East Ayrshire with statutory or non-statutory designation comprise:

- 30 Scheduled Monuments (with the inclusion of Bogton Airfield in 2019)
- 44 category A Listed Buildings
- 334 category B Listed Buildings
- 362 category C Listed Buildings
- 26 Conservation Areas
- 7 Inventory Historic Garden & Designed Landscapes
- 1 Inventory Battlefield
- 1877 undesignated cultural heritage sites

There are currently 60 buildings, either listed or within conservation areas, which are considered to be 'at risk' according to the Buildings at Risk Register, with 4 of these under restoration.

Trends

The cultural heritage of East Ayrshire has been affected by several distinct trends over the last few decades, some of which have led to direct impacts on the cultural heritage resource. Among these trends are:

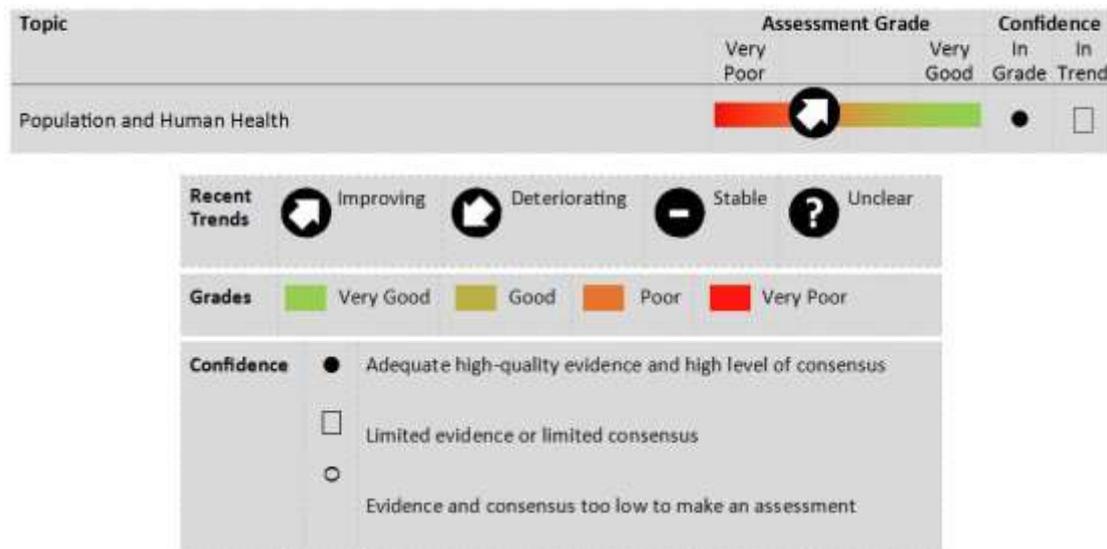
- The change from deep mining to surface mining, which has led to the remains of earlier mines and pits being destroyed by the later surface coaling operation;
- The development of infrastructure (e.g. M77);
- The development of housing;
- Renewable energy initiatives, including windfarms and wind turbines;
- Afforestation; and

- A number of listed buildings have been demolished, mostly due to poor maintenance by the owners that result in them becoming a danger to the public.

Records show an overall reduction in the number of A listed buildings at risk and levels of buildings added to the register have also declined between 2009 and 2013. The current level of buildings at risk is expected to be maintained rather than improving further across Scotland as a result of a group of buildings which are long standing entries on the register and have particular challenges to restoration.

It is important to note that loss of cultural heritage features is sometimes an unavoidable result of development and where impacts are identified conditions to protect where possible or record interest are often applied to planning consents in agreement with Historic Environment Scotland and / or the local authority archaeologist.

9.8 POPULATION AND HUMAN HEALTH



State

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
- By 2037 the population of East Ayrshire 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 young people and higher proportion of older people compared to the rest of Scotland.

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.

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.

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

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%.

Socio-Economic Impacts

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.

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.

9.9 NOISE



State

Noise and vibration impacts arising from human activity have the potential to cause annoyance and in more extreme cases sleep disturbance. The levels where these effects are experienced vary widely from individual to individual because of their subjective nature; what is acceptable to one person may be considered unacceptable to another.

Acceptable levels of noise and vibration are regularly researched and criteria amended in the light of these studies. European and UK wide legislation and standards, as well as legislation and guidance prepared specifically for Scotland, reflect the desire to limit the numbers of the population exposed to high levels of noise and vibration and to ensure their amenity is not adversely affected.

- Noise is unwanted sound and sound in any variation in atmospheric pressure that the ear can detect.
- For the ear to detect the variation as sound it has to occur at least 20 times per second.
- Noise impacts are typically subjective in that what is noisy for one person may not bother someone else. Noise is measured in decibels on a logarithmic which is similar to the Richter scale for earthquakes.
- Noise is the environmental problem that affects the largest number of people in Scotland. Nearly 1 million people are exposed to noise levels above 55 dBA outside their home (based on a day-evening-night level – Lden).
- Noise can have a range of impacts including sleep disturbance and interference with communication and day to day activity This can lead to a range of health problems such as stress and conditions caused by stress including high blood pressure and heart disease.
- The main sources of noise are from road traffic, rail and aircraft. Road noise is the dominant source.
- In Scotland, Local Authorities report that a rising number of complaints are about neighbour noise and mediation services report that around 50% of neighbour mediation cases are about noise disturbance.
- East Ayrshire Council currently receives an average of 220 complaints annually regarding domestic noise, primarily relating to dog barking.

- In relation to non-domestic noise, an average of 28 complaints are recorded annually, primarily relating to construction noise or the sounding of audible intruder alarms. These are also investigated as Statutory Nuisances and an average of 2 Abatement Notices are served annually.
- In East Ayrshire the only elements that require assessment under the Environmental Noise Directive (END) and Environmental Noise (Scotland) Regulations 2006 legislation criteria are the M77 and A77. Under the END, there is a two stage process – firstly the production of strategic noise maps for major roads, rail, airports, and industry (Round 1) then for Competent Authorities to draw up Action Plans to manage noise (Round 2).
- There are limited co-ordinated records for vibration available for Scotland and East Ayrshire. Vibration is most often perceived by people when associated with transport and infrastructure e.g. HGVs travelling on a surface with potholes close to housing or through development such as minerals extraction.

Trends

Overall, the number of people exposed to noise above 55 decibels outside their homes has reduced from 1.185 million in 2007 to 991,200 in 2012 (based on a day-evening-night level – Lden).

The Pan Ayrshire Environmental Health Out of Hours Noise Team was disbanded in March 2014. The current method for recording noise complaints is through the Environmental Health Service team who accept complaints by phone, email, in writing or in person during standard office hours.

The number of complaints has significantly reduced since the Out of Hours service was closed. It is not clear whether the lack of an Out of Hours service has increased calls to other public service providers such as the police in relation to anti-social behaviour.

The trend in reported noise nuisance is fairly stable according to Scottish Household Survey data although the percentage of those surveyed identifying noise as a problem decreased from 13% in 2012 to 8% in 2017. The level of nuisance from animals increased in 2017 from 43% in 2012 to 50% in 2013 (dog fouling is included in this statistic).

Analysis of the END Round 1 data revealed two areas in Kilmarnock as Candidate Noise Management Areas, references 20 and 21, and they have subsequently, in November 2010, been confirmed as the New Farm Loch, Kilmarnock Noise Management Areas. Very large parts of East Ayrshire are remote from the major road network identified as requiring to be mapped by END. Where new developments or extensions to existing developments have potential to generate noise, appropriate noise survey will be requested to determine the particular situation.

9.10 MATERIAL ASSETS



State

Settlements

Situated in the northern part of East Ayrshire, Kilmarnock is the largest settlement with a population of 46,159 (2011 Census). Cumnock is the second largest town in the area with a population of 9,039 (2011 Census). There are nine other notable settlements with populations over 3000 residents, a further eight settlements have populations of between 1,000 and 3,000. Sixteen settlements have populations between 100 and 1,000.

Most settlements within East Ayrshire have experienced various degrees of population decline since the 1980s, including the main settlements of Kilmarnock and Cumnock. However, there is evidence of population stabilisation and growth in these areas with some communities experiencing regeneration and increasing development pressure.

Transport Infrastructure

There is an established transport infrastructure in East Ayrshire based around key trunk road networks (M77/A77, A76, A71, and the M74 South of Glasgow). Kilmarnock is the commercial hub of East Ayrshire, serving as a local gateway to the M77 and A78. East Ayrshire is becoming popular as a place to live and commute to Glasgow as a result of the M77 upgrade. The main rail line in East Ayrshire is the Strathclyde South Line connecting East Ayrshire to Glasgow with 6 main stations. East Ayrshire is currently serviced by several bus companies operating both strategic and local services. The main operator is Stagecoach West Scotland. Due to the rural nature of the area, car ownership is higher than the rest of Scotland.

Accessibility – Walking and Cycling

East Ayrshire Council produced a Core Paths Plan in accordance with the Land Reform Scotland Act (2003) and provides a number of walking and cycling routes. These include 22.2km of dedicated cycle routes, 600km of rights of way and 358km of managed path network.

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%.

Community Facilities

A wide range of community facilities are offered across East Ayrshire, presenting opportunities for sport, education and the arts. The majority of these are run by East Ayrshire Leisure, within which there are a variety of facilities and activities to suit all ages and abilities.

Open space and Recreation

East Ayrshire benefits from rich and varied open spaces offering the opportunity for numerous recreational activities. There is a commitment to maintaining free open access to all of the open space in its ownership.

- The accessibility of useable greenspace within a 10 minute walk is higher in East Ayrshire than the Scottish average.
- The proportion of residents using their nearest greenspace is lower in East Ayrshire than across Scotland as a whole.
- East Ayrshire residents are significantly less satisfied with their local greenspaces compared to the Scottish average.

Minerals

Minerals extraction has been a significant employer in East Ayrshire since the early 19th Century with the working of deep mines to the modern day surface mining methods. There are 215 staff currently employed in the sector by operators in East Ayrshire reflecting decline in operational sites. Restoration of sites that were subject to closure and abandonment post demise of Scottish Coal and ATH Resources is anticipated to provide additional employment opportunities.

The amount of coal moved by freight reduced to its lowest level since 2010 to 9 million tonnes, due to use of gas and imported coal, in 2014. This is a trend likely to be seen in East Ayrshire. The reduction in fuel prices may result in increased road based haulage.

Renewable Energy

There are over 20 operational windfarms in East Ayrshire including large sites at Whitelee, Harelaw and South Kyle.

Waste

Volumes of waste produced in East Ayrshire are reducing with more waste sent for recycling corresponding to reductions in materials sent to landfill.

Vacant and Derelict 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 2018, East Ayrshire Council returned a total of 1,827ha vacant and derelict land for the local authority area. Further information can be found on the Scottish Government website.

Trend

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, Cumnock, 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.

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. There will be a separate Minerals LDP which will direct 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 trend 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.

10.0 CONCLUSIONS

East Ayrshire benefits from a high quality environment with significant natural and social capital.

East Ayrshire's population trend has been one of growth since the last census although there is a lower proportion of young people and higher proportion of older people compared to the rest of Scotland. There are a range of initiatives for sustainable economic growth and regeneration in East Ayrshire which have led to population stabilisation and growth in key settlements. 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 with tourism as an important growth area.

Past development pressures in East Ayrshire has undoubtedly changed the environment in terms of land use change, community effects, landscape and visual change, water environment, noise, air quality, biodiversity and protected sites / species and material assets.

In particular, the nature and scale of the mineral extraction that took place in East Ayrshire firstly through deep mining and subsequently surface coal mining and quarrying has shaped both communities and places. Communities often benefit from minerals extraction through jobs, economic growth and funds for projects through organisations such as the Coalfields Regeneration Trust. However, it is recognised that minerals operations can bring adverse effects during operation if sites are not managed and monitored coupled with long term adverse legacy if sites are not restored correctly.

The production of the State of the Environment Report represents one step in a whole range of actions that have been implemented since two major surface coal operators went into administration in 2013 and is a component part of the Council's commitment to 'Steps to Recovery'.

Wind energy has and is likely to remain a key driver of change in the environment and the Council are committed to rigorous review of proposals and implementation of monitoring / aftercare and restoration for projects that are consented.

The Council have established a Monitoring Framework for major developments which ensures compliance with planning conditions and environmental protection measures.

Climate change will bring new and different challenges. Current emissions of greenhouse gases per head of population in East Ayrshire are lower than the national average for Scotland and emissions have dropped substantially since 1990 but the rate of decrease has flattened out in recent years. East Ayrshire Council is a signatory to the Scottish Climate Change Declaration and has made a commitment through the Sustainable Development Strategy with the Energy Strategy and Carbon Management Programme to work towards achieving its carbon emissions reductions targets by 2020.

There is a need for more awareness of the importance of biodiversity as set out in the Ayrshire Local Biodiversity Action Plan along with a need to safeguard habitats and species. There are notable successes in terms of bats, otters, a few species of bird and several common butterflies, however, as across Scotland, biodiversity trends are broadly negative for key species of flora and fauna indicating there is work still to be done.

The State of the Environment Report will support the production of the Local Development Plan 2 and the Minerals Local Development Plan, as well as formulation of other policy strengthening the planning framework to capture measures to protect the environment and manage development pressures against the backdrop of an established understanding of the environment of East Ayrshire.

The State of the Environment Report will assist Council officers in the consideration of minerals applications (new, existing and extensions) and ensure that regulation, consenting, conditions, enforcement, restoration and aftercare are defined based on an understanding of the receiving environment and sensitivity of that environment to change.



East Ayrshire Council
Comhairle Shiorrachd Inbhir Àir an Ear

Planning & Economic Development
The Johnnie Walker Bond, 15 Strand Street
Kilmarnock, East Ayrshire KA1 1HU

www.east-ayrshire.gov.uk