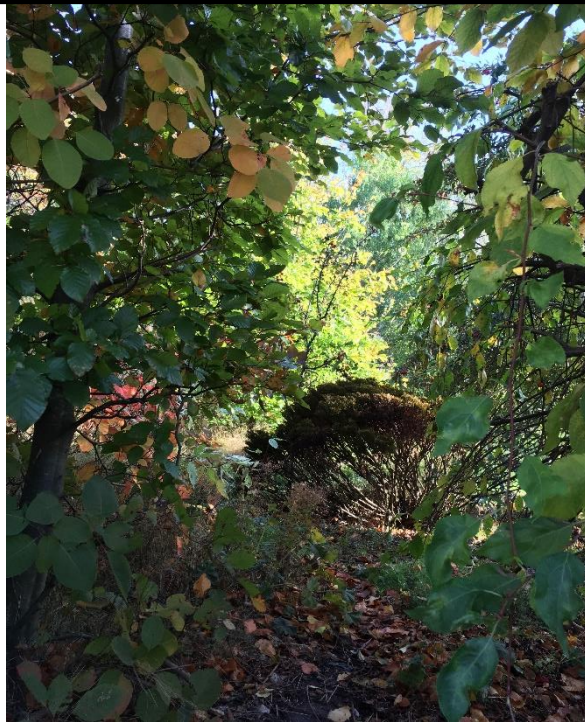


2023

Draft Environment Report – Tree and Woodland Strategy for East Lothian Non-Technical Summary



Planning Service

East Lothian Council

6/13/2023



**Tree and Woodland Strategy for East Lothian
Strategic Environmental Assessment
Draft Environment Report
Non-Technical Summary**

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Mapping

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KEY FACTS: Tree and Woodland Strategy for East Lothian

Name of Responsible Authority: East Lothian Council (The Council)

Title of Strategy: Tree and Woodland Strategy for East Lothian

What prompted the Strategy: Legislative provision of the Planning (Scotland) Act 2019 amending Section A159 to the Town and Country Planning (Scotland) Act 1997, to require the Council as planning authority to prepare a Forestry and Woodland Strategy for East Lothian. This Tree and Woodland Strategy for East Lothian (TWSEL) will replace the Lothian Forestry and Woodland Strategy 2013-2017, which is now out of date, in East Lothian. The TWSEL should consider the East Lothian Green Network Strategy however is not bound by it.

Area covered by Strategy: East Lothian Council area, however the strategy should integrate with the Forestry and Woodland Strategies of neighbouring administrative areas

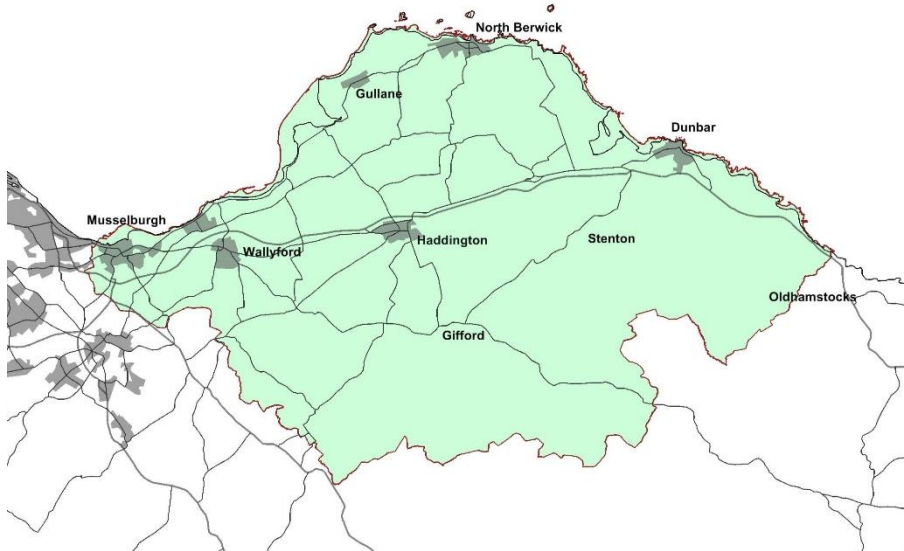


Figure 1: East Lothian

Subject: Forestry.

Period covered by Strategy: The Strategy does not have an end date but is intended to provide direction for the next ten years.

Frequency of updates: it is likely the Council will consider review of the Tree and Woodland Strategy in roughly the same timescales as the Local Development Plan.

Purpose of Strategy: To set framework for the expansion and management of tree, forestry and woodland cover across East Lothian including, as laid down by legislation:

- (a) the identification of woodlands of high nature conservation value in the planning authority's area, and
 - (b) the planning authority's policies and proposals in their area, as to—
 - (i) the development of forestry and woodlands,
 - (ii) the protection and enhancement of woodlands, in particular those mentioned in paragraph (a),
 - (iii) the resilience to climate change of woodlands, in particular those mentioned in paragraph (a),
 - (iv) the expansion of woodlands of a range of types to provide multiple benefits to the physical, cultural, economic, social and environmental characteristics of the area.

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Introduction

Tree and Woodland Strategy for East Lothian

1. The draft Tree and Woodland Strategy for East Lothian (TWSEL) sets out a long-term plan and policy for trees and woodland in East Lothian. The Vision of the TWSEL is:

Expanded and sustainably managed networks of woodland and trees across East Lothian contribute to addressing climate change, and provide healthy and resilient environment, nature recovery, a strong sustainable economy and enhanced quality of life for local communities

2. If the Strategy achieves its aims, at the end of 10 years, there will be 2 million new trees in East Lothian. Total woodland cover will increase by between 1% and 3%. Native woodland cover will double. Woodland will be better connected, improving habitat for woodland species and allowing them to migrate as our climate changes. More people will have woodlands they can visit close to where they live. There will be more recognition of trees as part of our heritage.

Role of the Environment Report

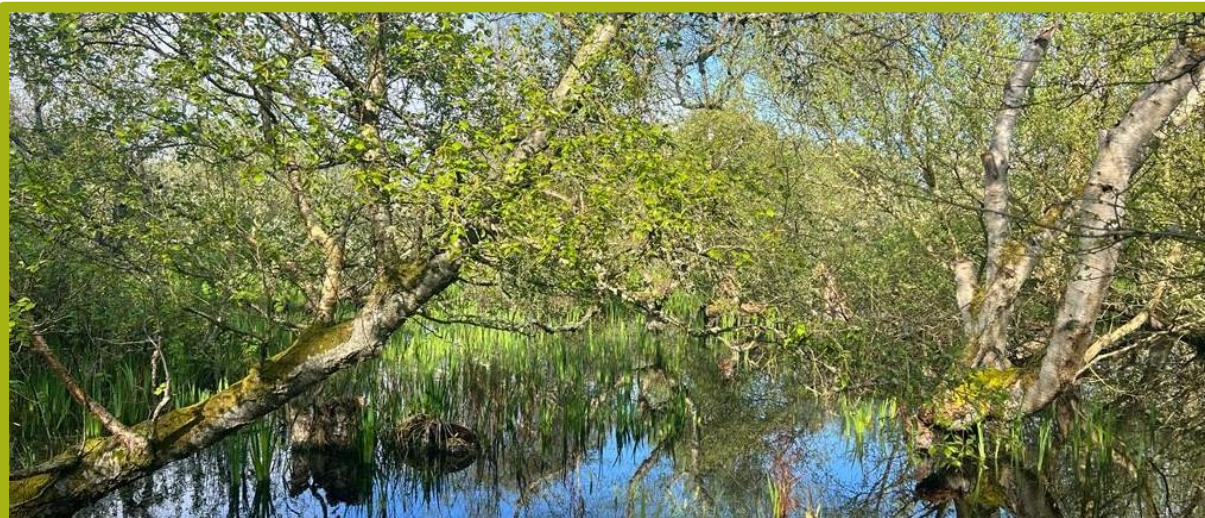
3. An Environment Report must be produced by law for this Strategy. Its purpose is to identify the potential significant effects of the Strategy. It should help you, the public, to understand what we think will happen to the environment if the Council adopts the Strategy. This can help you decide if you support the Strategy or if you wish to see it changed or even dropped. When Councillors decide whether to adopt the Strategy, they will understand the likely effects on the environment of their decision.
4. This draft Environment Report is now out for consultation. We are seeking views on this document at the same time as the draft Strategy. Where changes are needed to the draft TWSEL and the Environment Report we will make them. Councillors will then decide whether to adopt the Strategy, having read the Environment Report and understood the impacts.
5. We encourage you to read any sections you are interested in. If you think there is anything missing, unclear, out-of-date or wrong, we very much encourage you to comment and let us know. We will read and consider every comment you make. This will help us make better policy and better decisions. This will help make East Lothian a better place!

How was the draft Environment Report composed?

6. The two main Council officers working on the TWSEL drew up the Environment Report with advice from specialist colleagues. The first thing they did was to identify which issues were relevant. To help with this they sent a report to NatureScot, SEPA and Historic Environment

Scotland (the 'Consultation Authorities') as well as Scottish Forestry in a process called 'Scoping'. All of these bodies gave advice which helped the officers decide what the most significant issues were. The 'Scoping Tables' through the Environment Report show these issues.

7. The next stage was to seek baseline information on the topics that were relevant, and describe existing issues. Then the officers considered what the effect of the TWSEL on each issue would be. To help focus the assessment, they chose indicators with agreement from the Consultation Authorities. These are in the form of questions. For example, an indicator for climate change is: 'Does the plan support climate change adaptation?' The officers checked these indicators against every policy, target and action of the TWSEL.
8. Once officers knew the likely main effects of the TWSEL, they looked at mitigation. Mitigation is things that can be done to avoid or limit bad effects that might otherwise happen. Some of this mitigation comes from existing law or policy. For example, there are laws protecting otters. So, if otter use an area, people carrying out tree planting there have to make sure otter are not harmed. The TWSEL encourages woodland creation along rivers, where otter live. But the law means that otter will be taken into account at project level. This means the TWSEL will not harm otter. Other mitigation is contained within the strategy. For example the TWSEL has a policy that protects Designed Landscapes. This means the TWSEL would not support woodland creation that harmed a designed landscape, even though it supports woodland creation in general.
9. Some mitigation will have to take place at project level because it is not possible to identify all the possible effects at a local level. For example, TWSEL support more tree planting in urban areas. In some places this could harm the setting of a listed building. It is not possible to look at all of these in the Environment Report, but the TWSEL includes a policy saying that the settings of listed buildings should not be harmed. People planning planting should therefore consider this. So, it is clear that it is not in line with the TWSEL to harm the setting of listed buildings.
10. In the sections below, a summary of the baseline information and impact of the TWSEL on each of the assessment topics is given. This is followed by a summary of the effect on each indicator. There follows the main conclusions of the Environment Report. If you disagree with the conclusions, or think anything important has been missed, we encourage you to tell us by filling in the survey or sending your comments to the address given above.



11. Globally, nature is in crisis. According to the UN Environment Programme, one million of the world's estimated 8 million species of plants and animals are under threat of extinction. Human action has significantly altered three quarters of the Earth's land surface¹. The UK is one of the most nature-depleted countries in the world. Scotland, and East Lothian, are no exception. The main reasons for this loss of wildlife globally are:
 - changes in land and sea use;
 - direct exploitation of organisms;
 - climate change;
 - pollution; and
 - invasion of alien species.
12. It is likely that the reasons are the similar in East Lothian.
13. However, some areas rich in wildlife remain. The coast, and the birds that live there, are internationally important. NatureScot has designated much of the coast as a Special Protection Area (SPA) to protect its bird life. The Forth Islands with their puffins and gannets were also designated for this reason, as has the seas around East Lothian. This marine area is known as the Outer Firth of Forth and St Andrews Bay Complex SPA. Threats to the wildlife of the Firth of Forth includes disturbance, habitat loss, climate change, lack of proactive management and others. A formal assessment known as Habitat Regulations Appraisal and Appropriate Assessment have been carried out to check the impact of this plan on these sites. This assessment concludes that [to be completed].
14. There are also 15 Sites of Special Scientific Interest in East Lothian. Some of these include woodland as part of the reason for their designation. Information on SPAs, SSSIs and other sites can be found on NatureScot's website [SiteLink \(nature.scot\)](https://www.nature.scot)

¹ See UN Environment Programme website <https://www.unep.org/facts-about-nature-crisis> (accessed 18-05-2023)

15. East Lothian Council has also designated Local Biodiversity sites in its area. The main issue affecting their wildlife is lack of connectivity and potentially pressure from population increase.
16. The Central Scotland Green Network focusses on addressing climate change, biodiversity loss and environmental inequality by connecting people to greenspace. East Lothian's Green Network is part of the Central Scotland Green Network. One of the aims for the green network here is to support nature recovery.

17. There are some protected species in the area, including bats, great crested newts, otter and badgers.



18. The assessment objectives for biodiversity were:
- to contribute to addressing national and international issues,
 - to conserve existing biodiversity and
 - to support the Central Scotland Green Network.

19. The overall effects of the TWSEL on biodiversity are expected to be positive. The Strategy will help address national and international issues and conserve existing biodiversity. Woodland biodiversity will improve overall through protection of existing woodland (Policy 1), sustainable management of woodland (Policy 7) and improved woodland connectivity (Policy 10). The TWSEL aims to protect valued non-woodland habitat from the impact of woodland creation (Policy 13 Protection of European Sites, Policy 14 Protection of the Natural Environment). An increase in the urban tree canopy will be positive for urban biodiversity. The TWSEL will support the Central Scotland Green Network through improving habitat connectivity.

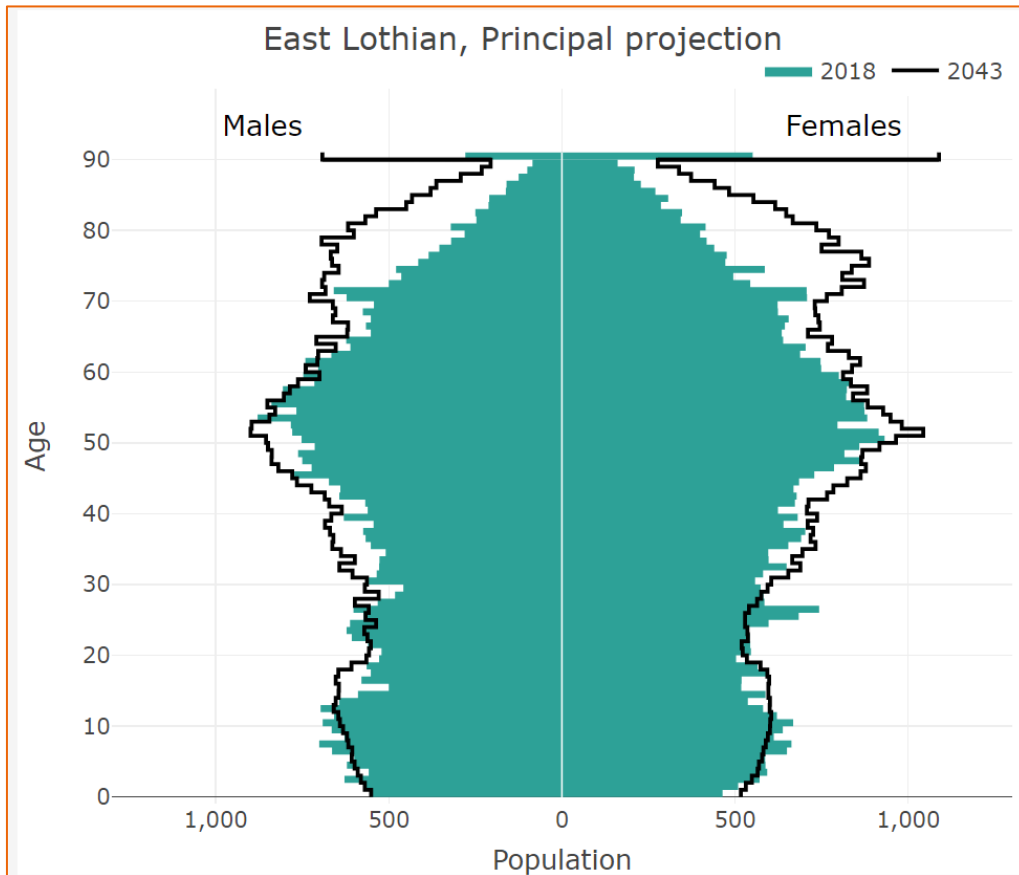
20. There are some residual adverse effects. There is the potential for adverse impact from an increase in recreational access. This comes from the TWSEL itself but also other plans and strategies. It is likely that there will be an increase in invasive non-native species associated with woodland such as rhododendron. It is likely that deer numbers will increase as there will be more suitable habitat. The deer are out of balance as adult deer now have no natural predators. There is likely to be some loss of habitat for northern brown argus, a butterfly. This is due to increasing woodland in the cleughs, which will affect the rockrose their caterpillars feed on.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Biodiversity		
Contribute to addressing national/international biodiversity issues	Positive/mixed	The TWSEL will increase protection of woodland, encourage creation of new woodland in particular native woodland, and increased connections between woodlands. It is likely that there will be some increase of invasive species as it is hard to create new woodland habitat without encouraging unwanted species that live there. The CSGN aims to increase biodiversity and access to the natural world, which the TWSEL aims to do.
Conserve existing biodiversity	Positive	
Support the Central Scotland Green Network	Positive	

Population



21. East Lothian is one of the fastest growing areas in Scotland. The population has increased by a fifth over the last 20 years with many new houses being built, and further growth is planned. The population as a whole is ageing, meaning there will be more older people as a proportion of the population than now. The graph below shows how the population of East Lothian is expected to change. The figures come from the [National Records of Scotland](#).



22. Although in general East Lothian is a prosperous area, some areas fall into the lowest 20% on Scotland's Index of Multiple Deprivation. This means people in these areas have lower incomes, poorer health outcomes, poorer access to services and less education than do people in Scotland as a whole. The figure below shows that most of these areas are in the west of the county, in Musselburgh, Prestonpans, Tranent and Wallyford. You can explore these areas on the [Scottish Index of Multiple Deprivation website](#) (extract below).



23. Many people also leave the area during the day to get to their jobs. The number of jobs in East Lothian per working age person is low.
24. The assessment objectives are:
- Mitigate the effects of population growth
 - Reduce the impact of inequality
 - Support rural employment
25. There is visitor pressure on some of our coastal and countryside sites. This has recently increased, partly due to Covid. Pressure may increase further with population growth. The TWSEL will ease this by increasing the accessibility of woodland and supporting creation of new woodland. This may draw visitors from existing sites, spreading the load.
26. The TWSEL also sets a target of 30% tree canopy cover in towns and villages, and in lower Scottish Index of Multiple Deprivation Areas. More deprived areas are often lower in tree canopy cover. Increasing this will make these areas more attractive. The amount of accessible woodland will also be increased. These both reduce the impact of inequality.
27. People commuting in the daytime affects the local economy, vibrancy of place and can weaken community links. TWSEL Section 9, Economy, aims to increase rural employment opportunities. This can help reducing commuting out.
28. There is a potential risk that trees could be planted in areas where some people do not want them. The TWSEL seeks community consultation to avoid this (Policy 18), though there is still some risk it could happen. Overall, however, the effects on population are expected to be positive.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Population		
Mitigate the effects of population growth	Positive	Increasing the amount of trees and woodland will improve the appearance of new housing by softening it in the landscape. More woodland will be available for recreation, reducing the pressures from more people on existing recreational areas. The TWSEL will reduce the impact of inequality by increasing tree canopy in towns, especially in more deprived areas, and improving access to woodland. There is a risk that woodland and tree planting may happen in areas
Reduce the impact of inequality - older people, protected characteristics, lower SIMD areas	Positive/ mixed	
Support rural employment	Positive/ mixed	

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
		people do not want it, especially more deprived areas. The TWSEL seeks to guard against this by encouraging those planting trees to talk to communities. There may be some additional jobs from increased woodland cover, though there may be fewer rural jobs opportunities that are not related to woodland.

Human Health



29. The World Health Organisation has a very broad definition of health. This is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Health means a lot more than just not being ill. Health services such as doctors are important for our health. But they are only a small part of what shapes our overall health. Economic and social factors are the most important, followed by health behaviours including leading an active life. The physical environment also has an effect, such as the quality of our air or water and the appearance of the areas we live in. We should aim to reduce the effects on health that come from living in a poorer environment, and make the most of the benefits of living in a good one.
30. Life expectancy in East Lothian is generally above average for Scotland but not for all groups in all places. The Preston-Seton-Gosford area has worse health and wellbeing than East Lothian as a whole on many measures. Obesity is a significant problem, and is highest among those who live in deprived areas.
31. The assessment objectives for Human Health are:

- Creation of vibrant, healthy and safe places and communities, support good mental wellbeing, a healthy weight and physical activity
 - Flourishing in early years
 - Reduce the direct health impact from woodland, and forestry operations
 - Reduce the impact of noise
32. Increasing how active people are can improve their physical and mental health. East Lothian has a network of Core Paths. However, provision for active travel here, as in much of Scotland, lags behind some other European countries in terms of both availability and quality of routes. Improving the attractiveness of urban areas and green space is likely to increase walking and cycling in the local area. TWSEL targets for increasing tree canopy cover will also help keep urban areas cool when it is too hot. It will also reduce exposure to UV light from the sun, which will have both good and bad effects.
33. Woodland and trees should be part of the play experience for children and teenagers. Increasing the amount of accessible woodland and access to woodland will help more children have this experience (Target 4B, Policy 16: Design for All, Action 15, and Action 16).
34. Trees can cause health issues. There are accidents every year involving trees including fallen leaves, a small number of which are serious. More woodland and trees could lead to more such accidents; however, the numbers are low.
35. An increase in the amount of woodland, and more connected woodland, could lead to more tick borne disease. The TWSEL aims to increase woodland cover, and the number of people visiting woodland (Targets 1 and 4, numerous actions and policy). This is likely to increase numbers of woodland mammals including deer, which in turn is likely to increase tick numbers.
36. Tree pollen allergies affect a lot of people. Birch pollen allergy is a particular problem as it can cause people to become allergic to some foods. The TWSEL advises against planting birch trees near places with vulnerable people such as schools and care homes. However, some increase in suffering from pollen allergy is likely due to increased tree cover.
37. Noise can harm both mental and physical health. Some parts of East Lothian experience noise from the A1 road and East Coast mainline railway. The TWSEL encourages planting along transport corridors and this could help buffer noise. Having trees in the view also makes people think an area is quieter than it is, which reduces the adverse effect of noise.
38. The Environment Report considers Air quality issues under 'Air' though there are clear links to health. TWSEL supports tree planting and woodland creation, and this

is expected to improve air quality. The TWSEL contains design guidance to avoid poor air being trapped by trees along busy pedestrian routes where it could harm people's health.

39. The experience of being flooded can also have significant mental and emotional effects, as well as the obvious physical ones. Flooding is considered in the 'Water' section.
40. The overall effect on health is expected to be positive. The TWSEL will support more active lives, improve living environments and reduce the perception of noise. There is likely to be some increase in tick borne illness and tree pollen allergies.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Human Health		
Help create vibrant, healthy and safe places and community, support good mental well-being and maintaining a healthy weight through physical activity	Positive/ Mixed	The TWSEL will generally support good physical and mental health. An increase in trees in the landscape and townscape helps create vibrant, healthy places where people are encouraged to spend time outdoors. There is however a risk that some people may feel less safe if trees in towns are poorly planned. Being able to spend time within woodland and even to see trees from a window has been shown to lower stress. This reduces the risk of a range of illness. Being able to see trees has also been shown to reduce how bad people perceive noise to be. .
Flourishing in early years: increase opportunities for young people to experience play in woodland	Positive	Trees add value to children's outdoor play. This is in line with the UN Convention of the Rights of the Child, which gives a right to play in nature.
Reduce health impact from woodland and forestry operations	Positive	However, increasing tree and woodland cover may also increase tree pollen allergies and increase the risk of tick borne illness.
Reduce the impact of noise	Positive	

Soil



41. Soil is essential for growing food, storing carbon, filtering pollutants and managing water flow. They also provide habitat and minerals. Soils must be managed properly so they can do this.
42. Climate change and changes in land use and land management practices are the most significant pressures on Scottish soils overall. Contamination is also an issue. Poor land management can harm soil through loss of organic matter and erosion. Development can lead to soil sealing or loss. Some land in East Lothian is at high risk of soil run off. As well as the loss of the soil itself, this can also transfer pollutants. More information on Soils is available at [Scotland's Environment](#) website.
43. The assessment objectives for soil are:
 - Conserve the food production capability of land
 - Maintain soil quantity and quality
44. East Lothian contains some of Scotland's best agricultural land, and there is a lot of it here compared to Scotland as whole. Some of this prime agricultural land is still in agricultural use, while other parts have been developed or are used for recreation or something else. Once agricultural land is lost it is very difficult to replace. The UK imports a little under half of its food. The ability to grow food could become more important if for any reason this becomes more difficult.

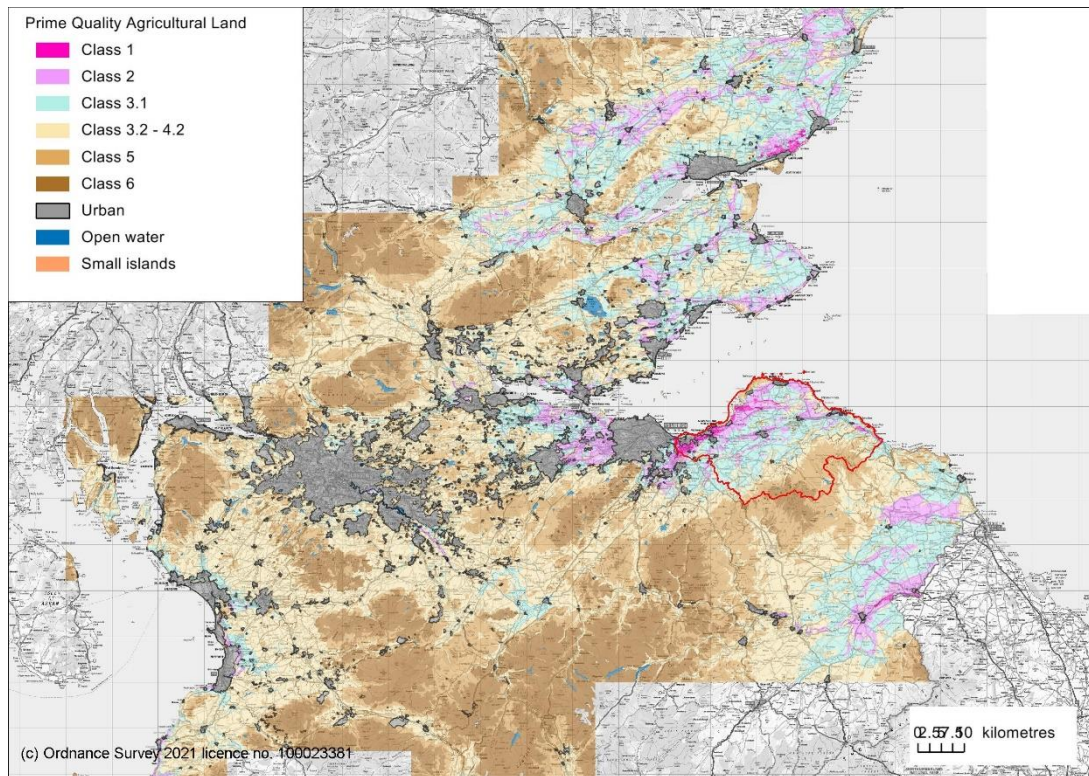


Figure 2 Agricultural Land, Central Scotland

45. Growing trees on land means that specific piece of land cannot be used for agriculture. However, trees in the right place can support crop and livestock production by providing shelter and helping to manage water. The TWSEL supports woodland creation on good agricultural land where it supports agricultural production, improves water quality or reduces flood risk. Although the TWSEL tries to balance woodland creation with maintaining food and drink production, there will be some loss of prime and sub-prime agricultural land. This will add to losses from other strategies, notably the East Lothian Local Development Plan 2018.
46. Wind and water can erode soil. Woodland creation could help prevent soil erosion and landslides. The TWSEL 'Resilience' section supports use of trees to protect the soil resource. Target 2B encourages woodland creation along rivers which will help avoid soil being washed away.
47. Peatland in good condition stores a lot of carbon, but when it degrades it emits carbon. In places where peat can be restored, TWSEL Policy 15 supports this rather than woodland creation.
48. There are some areas of contaminated land here, including former quarrying and mining and previous military activity. Some types of planting can be used to remediate contamination. This has not been included in the TWSEL. Preparation for tree planting may disturb contaminants. The potential for this should be considered at project level.

- 49. Changes to the water environment could spread contamination. This must be investigated the project level as woodland creation proposals to help manage water flow take shape.
- 50. The impact of the strategy overall is likely to be mixed. There is likely to be some loss of agricultural land to woodland. Creation of small farm woodlands and hedgerows, as well as woodland creation along rivers, should reduce soil erosion.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Soil		
Conserve the food production capability of land	Mixed	It will be difficult to find land for the climate forest without some loss of agricultural land, though the aim of the strategy is for woodland creation where it will support food production.
Maintain soil quantity and quality	Positive	The creation of new woodland is likely to have positive effects on maintaining soil quantity and quality, as trees tend to stabilise soil and reduce erosion.

Water



- 51. Water is essential for human life and environmental quality. The quality of the water environment in Scotland is generally good, though there are problems such as diffuse pollution, discharge of waste water, abstraction of water and historic physical alterations to water courses. Other issues relevant to water include quantity of water (flooding and drought); drinking water quality; and the sustainability of natural ecosystems.
- 52. Trees can benefit the water environment in many ways. They can help stop soil entering rivers, protecting water quality. They reduce flood risk by slowing the

movement of water. However, badly managed or planned tree operations contribute to flood risk or water quality issues.

53. The assessment objectives were:
- Reduce flood risk
 - Protect or enhance water quality
 - Maintain availability of water
54. Flooding happens when too much water arrives at once. Recognised river flood risk exists in Haddington and Musselburgh. SEPA has identified Potentially Vulnerable Areas. These are areas where there is significant flood risk now or likely to be so in the future. Climate change predictions are for increased total rainfall in winter, as well as for heavier rain. Risks of flooding from all sources is likely to increase.
55. Woodland creation in a water catchment can help reduce flood risk downstream. However, it is also possible for trees to block the flow of watercourses and worsen flooding. The TWSEL in Policy 6 encourages the use of woodland and trees to reduce flood risk. The effect is likely to be positive, though the risk of worsening flood risk will need to be considered at project level.
56. Water quality be improved or at least not worsened. River water quality is monitored by SEPA and can be seen on their website at <https://www.environment.gov.scot/our-environment/water/> East Lothian is in the Edinburgh, East Lothian and Borders Nitrate Vulnerable Zone. This is due to agricultural diffuse pollution.



Figure 3 Water quality status

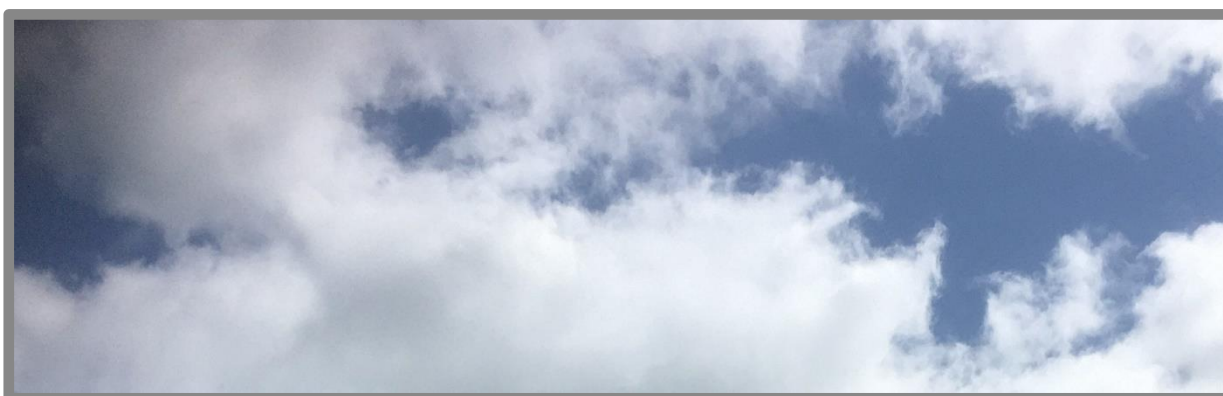
57. Forestry can harm water quality through sediment run off when the ground is prepared for planting, or by use of chemicals and pesticides. Too much shade can also harm water ecology. Trees can also support good water quality by reducing run off of sediment and nitrates into watercourses. TWSEL includes a section on Resilience and Climate Adaptation which aims to use trees to improve the water environment. Target 2B encourages woodland creation along rivers. The effect on water quality is likely to be positive.
58. Scottish waters drainage assets must face the impact of climate change, aging assets, reducing climate emissions. The water infrastructure was built for a smaller population than it will be expected to serve. Flooding and drought can both affect the operation of the drains and climate change will increase both. Scottish water aim to collect, treat and recycle water in ways that add value to the environment.
59. The traditional sewage system collects both waste-water and surface water in a combined sewer. If too much surface water enters the system at one time the sewer is overwhelmed, leading to unplanned discharge of water including foul water. This ends up in the sea, where it can affect coastal and bathing water quality. Woodland creation can help address this by planting trees where they can slow surface water runoff, reducing pressure on the sewer.
60. With no action, discharge from the sewer system is likely to happen more often due to increased heavy rainfall, predicted under climate change. The Council has been working with other agencies, including SEPA and Scottish Water, and has drawn up

a vision for structural planting around Cockenzie/Blindwells which would help reduce surface water entering the sewer. The TWSEL supports this structural planting, as well as increasing tree cover in urban areas which will reduce surface water entering the sewer. This will support water quality by reducing unplanned sewer discharge into the Forth. The effect of the TWSEL is likely to be positive.

61. The effect of the TWSEL overall is likely to be positive.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
WATER		
Reduce flood risk	Positive	The TWSEL aims to help reduce flood risk through nature-based solutions including woodland creation alongside rivers and in river catchments. Riparian woodland will also support good water quality by reducing river temperatures and helping trap silt before it reaches the watercourse. There could be some adverse effect on water quantity from encouraging woodland tourism. This may increase water use as tourist needs will require to be serviced. The Strategy also encourages tree fruit and nut growing which could need water.
Protect or enhance water quality	Positive	
Maintain quantity of water	Mixed	

Air



62. Good air quality is essential to maintain human health, the climate and ecosystems.
63. A range of substances from a variety of sources affects air quality. The main sources are industrial and transport emissions, along with some agricultural processes. Air quality in Scotland is generally good, though there are some areas

that exceed objectives. Information on air quality can be found at www.scottishairquality.co.uk/.

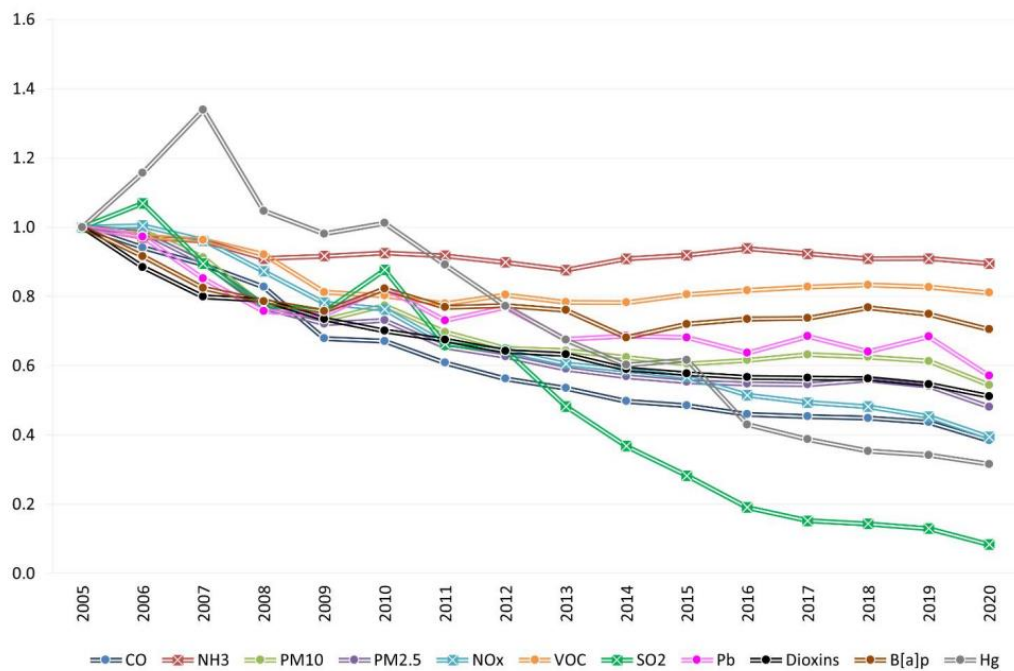
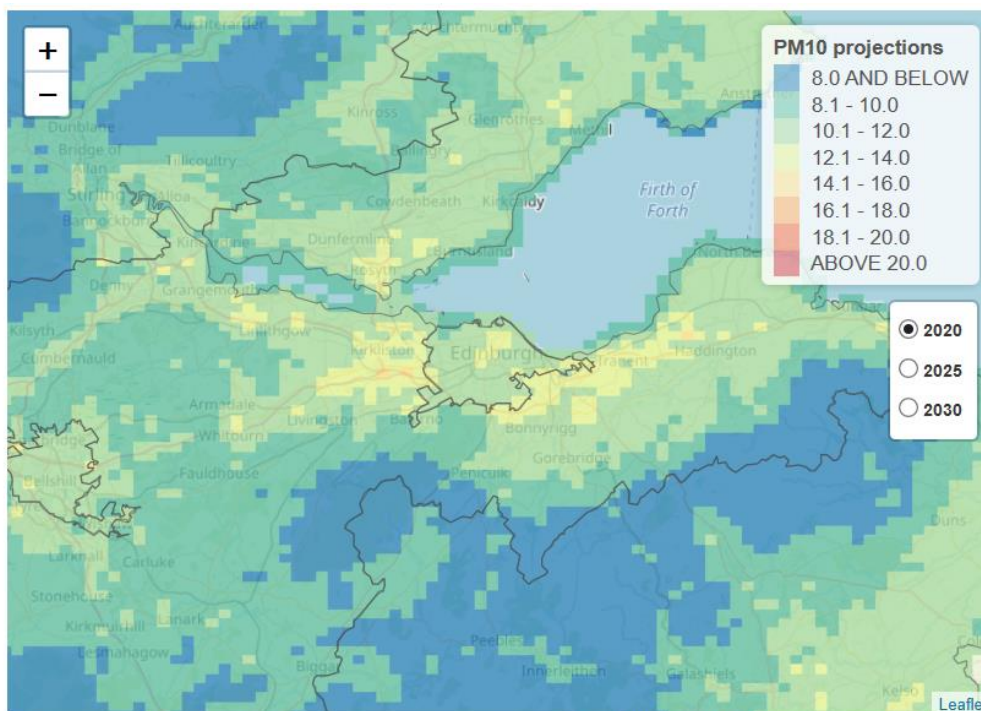


Figure 4 Trends in the main Scottish air pollutants

64. Although air quality is better now than at any time since the Industrial Revolution, it is estimated that across the UK poor air quality reduces life expectancy of every person by 7-8 months. Evidence of harm from traffic is building. Poor air quality can also affect the natural environment.
65. Trees can improve air quality, and also help block air pollution away from people, reducing harm.
66. The assessment objectives were:
 - Protect air quality
 - Improve air quality
67. Background levels of some pollutants, notably particulates for which there is no safe level, are higher in parts of East Lothian than in Scotland as a whole.



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Figure 5 Estimate annual mean background PM10 maps 2020

68. The Council designated Musselburgh High Street as a Local Air Quality Management Area, mostly due to traffic impacts. It produced a strategy to improve the situation and air quality there is getting better. Tranent High Street is also monitored though is currently below the levels that would require an air quality management area to be declared.
69. The TWSEL aims to increase the amount and accessibility of woodland. This is likely to generate more car trips, although it is not the intention of the strategy. While cars are using petrol or diesel, this would lead to an increase in air pollution. Compared to the overall amount of travel in East Lothian, any increase would be small.
70. More woodland is likely to lead to an increase in fires, both planned and wildfires. Fires can impact air quality. The TWSEL encourages sustainable woodland management which reduces risk of wildfire. However, a small increase in domestic burning is likely. The TWSEL does not promote use of wood burning stoves, which can have an adverse impact on air quality.
71. The effect of trees and hedges on urban air quality is complicated. They can trap polluted air, which is good when it stops it reaching people, but bad when it traps pollution where they are. Trees can also give off chemicals which allow ozone to form. This gas can cause health problems. Some species emit less than others, and the TWSEL recommends these. Tree planting can also reduce ozone formation by reducing exposure of pollutants to sunlight, so the effect overall on ozone production is uncertain.

72. The overall impact of the TWSEL on air is likely to be positive. The positive effects come from increased hedge and tree planting which absorb air pollutants. Planting in urban areas can also separate people from polluted air. However, there are likely to be some adverse impacts. There is increased potential for severe short lasting impact to air from wildfire. There could be more pollutions from increased car travel to woodland. There could be an increase in formation of ozone though this is uncertain.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Air		
Help improve local air quality, particular in areas of elevated air pollution	Positive	<p>Tree and woodland creation overall are generally expected to have positive impacts on local air quality. This is because trees catch particles, a form of air pollution. They also remove some other air pollutants, though trees effect on ozone formation is complicated and may in some cases be adverse.</p> <p>Trees and hedges in urban areas can separate the source of pollution, namely vehicles, from sensitive receptors (people). The Strategy includes encouragement of planting along roadsides for this reason. It also includes design guidance showing how to avoid trapping air pollutants within urban areas.</p>

Climatic Factors



73. It is now widely recognised that the climate is in crisis. The emission of greenhouse gases from both human and natural sources affects the climate. Overall, the UK and the planet as a whole is warming. Countries agreed at the 2015

UN Climate Conference in Paris that they should try to limit temperature increase to 1.5 degrees above pre-industrial levels. Crossing this threshold risks unleashing more severe climate impacts. These include more frequent droughts, heatwaves and rainfall. The Intergovernmental Panel on Climate Change (IPCC) set up by the UN warn the [situation is now serious](#).

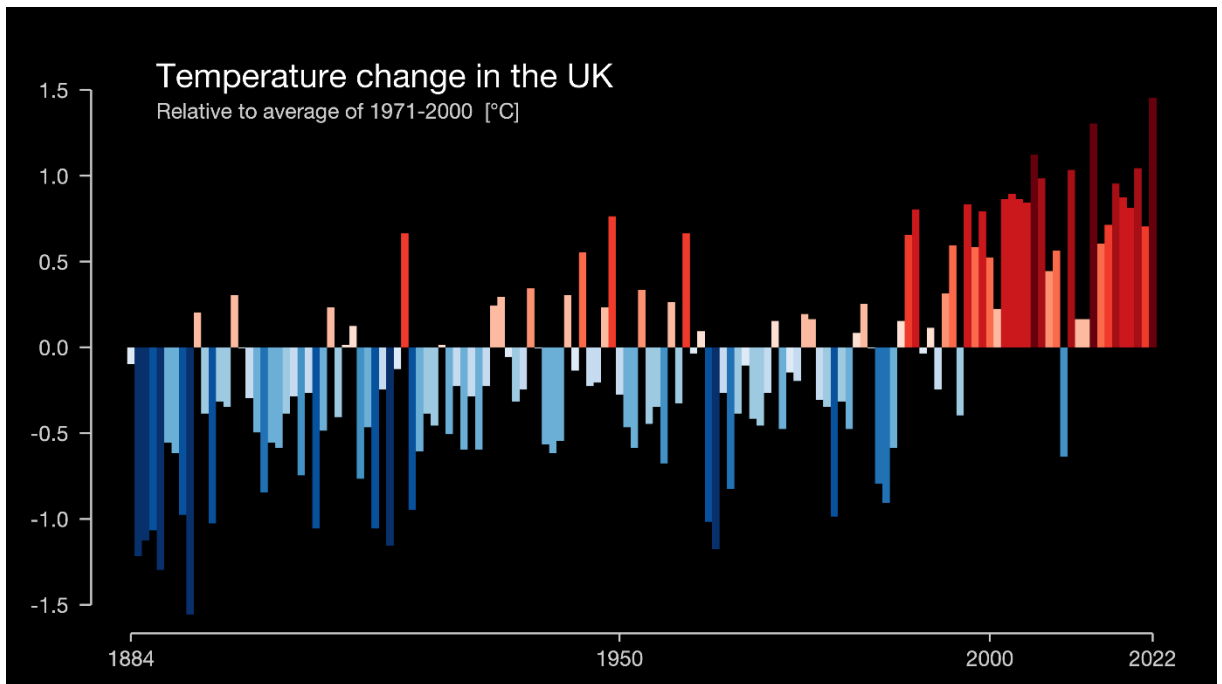


Figure 6: Temperature change in the UK, from www.showyourstripes.info

74. Scotland has targets of reducing emissions to net zero by 2045. This is likely to lead to a step change in how society is organised. The Climate Change Committee reports on progress of the Scottish and UK Governments against key targets. This Committee considers targets for new woodland and peatland are not on track. The TWSEL will help this through encouragement of woodland creation.
75. The main sources of climate emissions in East Lothian are from energy use, personal sources and transport, and less so from land use and waste management. Although emissions in East Lothian have fallen since 2005, more recently they have risen faster than population. There is a small amount of renewable energy generation in East Lothian. Some trees were felled to make way for some of these developments. Land use, land use change and forestry is a category of greenhouse gas emissions accounting that covers emissions and removals of greenhouse gas from direct human land use activity. This sector has the potential not only to avoid emissions but to remove carbon dioxide from the atmosphere. There is relatively little woodland, grassland or wetland in this area to sequester emissions.
76. The assessment objectives are:
 - Mitigate climate change

- Adapt to climate change

Mitigation

77. The main driver for the Council in promoting the Climate Forest was the ability of trees to absorb carbon dioxide. This is one of the main climate forcing gases. If successful, woodland creation under TWSEL will lead to around 1-3% more woodland. Although this increase appears low, it is in line with Scottish Government targets. The way that woodland is created can also affect carbon emissions. TWSEL promotes natural regeneration over intrusive planting practices, which is the low carbon approach. Other habitat including peatland, grassland and saltmarsh also sequester carbon, and the TWSEL seeks to protect these through Policy 14. The strategy is likely to have an overall positive effect on emissions from land use and land use change through promotion of woodland creation, promotion of climate sensitive planting methods and protection of other habitats that sequester carbon.
78. Use of timber and wood products locks up carbon, some for a long time. The TWSEL supports softwood (coniferous) production on existing sites, and hardwoods elsewhere. However, its multifunctional approach means that timber production is not the only priority. It is difficult to judge the effect of this on carbon emissions as woodlands where timber is not removed also sequester carbon.
79. People travelling to recreate in the countryside often go by car. The TWSEL aims to increase accessible woodland, to which most people could walk or cycle. However, they may choose to go by car. This will increase carbon emissions, though by less than if woodland further away was a focus for recreation.
80. The TWSEL does not encourage the use of wood fuel due to the effect on local air quality and short-term release of carbon. There is some use of wood fuel including in domestic stoves. The Council does not know if wood is imported to meet this demand, which would lead to carbon emissions from transport. It is not clear what the overall effect on climate is from not promoting wood as fuel.
81. Overall, it is likely the strategy will be positive for climate change mitigation through woodland creation and carbon stored in wood products. There may be a small increase in car travel for recreation.

Adaptation

82. Some climate change is inevitable no matter what we do to mitigate it now. We therefore need to adapt. Predictions for East Lothian are for a warmer, wetter winters with periods of more intense rainfall and warmer, drier summers. There is likely to be a longer growing season, linked to warmer weather. Extreme weather events are more likely. There will also be sea level rise with consequent coastal habitat squeeze and increased coastal flood risk. Outdoor spaces within towns are

expected to have to cope with increasing heat and sudden downpours. There could be global effects on food production.

83. Trees can help us adapt to climate change but they also need to adapt.
84. Heat stress can make people ill and can even kill. Trees can help keep urban areas cooler in summer. The TWSEL sets targets for tree canopy in our urban areas, which will help reduce heat there. Farm animals can also suffer from heat. The TWSEL Target 5 aims to increase woodland on farms, which will help them stay cool.
85. The trees that are in East Lothian now grew in conditions different from those that are coming. Some species may cope better than others. Different conditions mean we may see new tree pests and diseases. Having a range of different tree species gives the best chance that some will thrive. Planning for connected woodland (Policy 10, addressing fragmentation, and Target 2A on resilience) will help trees and other woodland plants and animals move elsewhere if the climate gets too difficult for them here, and allow new species to come here.
86. TWSEL Policy 7 supports sustainable woodland management. This includes encouraging different species. The Council will also actively manage key tree species and woodlands to improve their resilience to climate change, and encourage others to do so.
87. Overall the effect on adaptation for both human interests and the woodland itself is expected to be positive.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Climatic Factors		
Mitigate Climate Change	Positive/ mixed	<p>Mitigation of climate change was the main driver behind the Council's original commitment to the 2 million trees of the Climate Forest. It is also a main aim of the TWSEL. The impacts of the Strategy are generally positive. This arises from many actions and policies. These include stronger policy on retention of existing woodland, and the delivery of the Climate Forest as the trees will absorb carbon dioxide from the atmosphere. Support for the use of timber products also means the carbon in trees will be locked up for longer.</p> <p>A possible increase in climate forcing emissions comes from encouragement of tourism. Creating more woodland is also likely to lead to more car</p>

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
		borne visitors. Both could lead to more emissions from car borne visitors.
Support climate change adaptation	Positive	The TWSEL contains a section on 'Resilience' which includes adaptation to climatic change as part of creating a resilient place. This section encourages use of trees to combat flooding, poor water quality, soil erosion, and to regulate urban temperatures. The Strategy also provides encouragement and guidance on helping East Lothian's trees and woodlands adapt to climate change through good management and species choice.

Material Assets



88. The 'Material assets' category includes impacts on infrastructure such as roads, railways, paths and electricity systems, the land itself and minerals. Woodland as a source of timber is also a material assets. Assets in this area include transport infrastructure; roads, railways, cycle ways and paths, and the electricity and gas supply and distribution system, and water supply and management systems.
89. The assessment objectives were:
- Promote the effective and sustainable use of forests and woodland
 - Safeguard and enhance existing natural and built resources
 - Promote the circular economy
90. East Lothian contains commercial softwood plantation and hardwood production. The Scottish Forestry Map viewer shows commercial forestry at [Scottish Forestry](#)

[Map Viewer \(arcgis.com\)](https://arcgis.com). The TWSEL supports existing commercial timber production, but does not seek an expansion of primarily commercial forestry. The effect on timber as a material asset is therefore considered neutral.

91. The TWSEL supports an increase in trees and woodland overall (Target 1, Action 2 and others) and an increase in urban tree canopy cover. It also supports tree planting along road corridors to improve air quality and reduce noise. Transport operators have statutory powers to remove trees that pose a safety issue, regardless of the strategy. However, operation of roads and railways can be affected by trees from issues such as leaves and sightlines. If badly planned or maintained, an increase in urban tree cover could make some pedestrian routes appear dark or unsafe. This will reduce their function. This is not the intention of the strategy and this issue should be considered at project level. The TWSEL also contains an action to work with landowners to reduce water run off onto local roads. This will help improve their condition and safety. Increased tree cover will improve the appearance of roads. Overall, the effects on transport assets are mixed.
92. Much of the land in East Lothian is suitable for a number of purposes. The constraints mapping aims to guide woodland creation to suitable areas. This supports efficient use of land. An increase in woodland cover may make it less acceptable to extract minerals if woodland is created on ground with minerals.
93. The circular economy is one where we make, use, then remake. This is more sustainable than the linear economy where we make, use, then dispose. The TWSEL encourages the waste hierarchy in tree work and forestry, seeing disposal as a last resort. The effect on the circular economy is expected to be positive.
94. The effect of the TWSEL on material assets are varied. The effect on woodland and timber as a resource is positive. Mostly the effect on the transport network are neutral, as the operators have statutory powers to remove problem trees. There could be local issues arising from more leaves or self-seeded trees though. The planned increase in the urban tree canopy will generally make pedestrian routes more pleasant to use but some people may see some routes as less attractive or unsafe.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Material assets		
Help to ensure forests and woodlands are sustainably managed	Positive	Policy 7 of the TWSEL explicitly encourages sustainable woodland management in line with the UK Forestry Standard. The TWSEL supports

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Promote the circular economy	Positive	<p>continuous cover management, which avoids clear felling and is a more sustainable method of managing woodland.</p> <p>The circular economy is one where materials are not wasted but are constantly reused or recycled. The TWSEL is likely to be positive for this as it looks for ways to increase use of wood and wood products. This avoids use of non-renewable materials.</p>

Cultural Heritage



95. Cultural heritage is everything created by people over time. It includes physical evidence of this, such as designed landscapes, listed building or scheduled monuments, but also songs, stories and artwork.
96. Information on sites, finds and designations is available on East Lothian's [Historic Environment Record](#). Historic Environment Scotland's [website](#) has further information about nationally important heritage assets. The map below shows some of these historic assets.

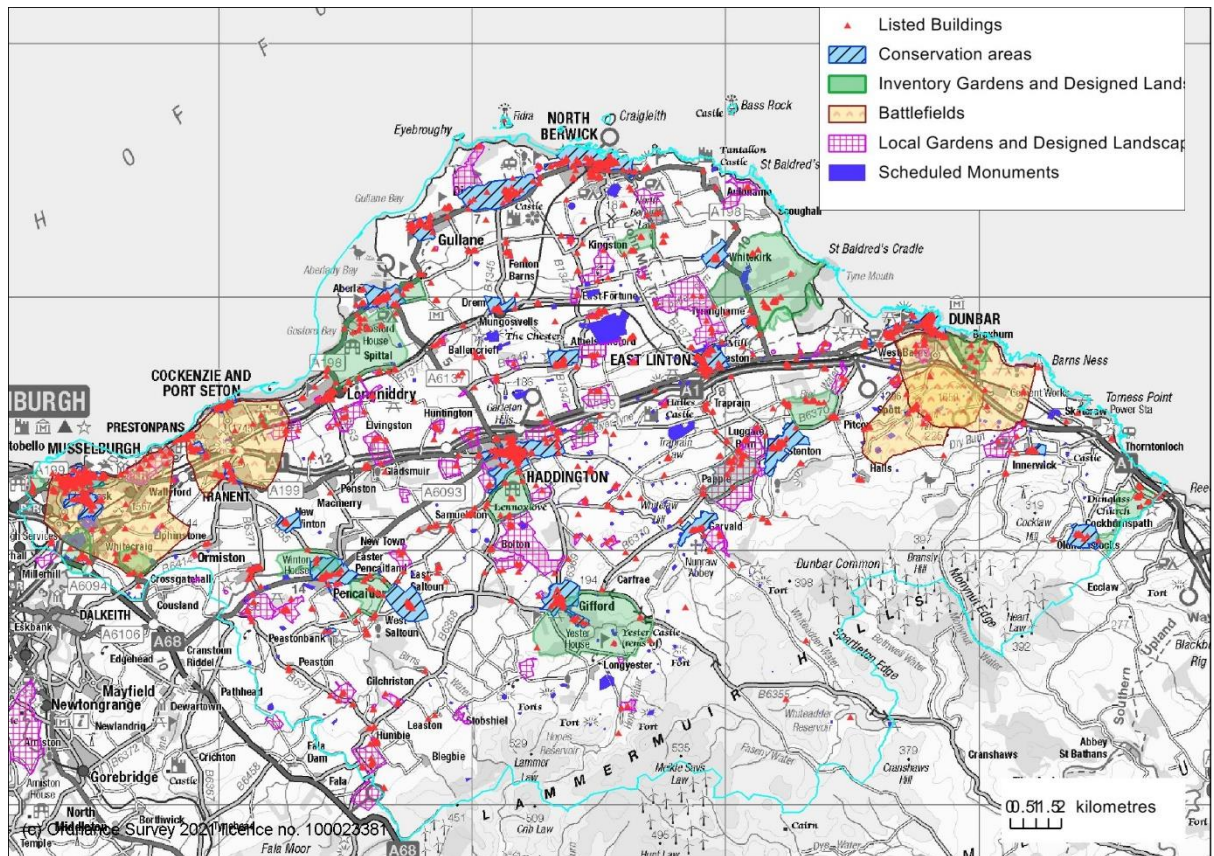


Figure 7 Designated Historic Environment assets

97. Pressures on the historic environment include development pressures, land use, maintenance, climate change (both mitigation and adaptation), sustainability, sea level rise and coastal change, pollution and visitors.
98. East Lothian contains a large number of designated heritage assets. There is also high potential for further unrecorded remains of all periods. Evidence and remains of prehistoric farming; medieval industry; conflict; industrial innovation and expansion as well as settlement from all periods survive. Towns and villages also have historic origins and strong identities; individual trees and areas of woodland are part of this heritage.
99. The assessment objectives were:
 - Avoid land use change and tree planting harming the cultural heritage
 - Avoid physical damage
100. Economic and population changes have led to development pressure and change in East Lothian. This has altered the traditional setting of some towns and villages. Increased tree canopy coverage should help new areas integrate into the landscape, so reducing the impact of new development on the traditional setting. Woodland creation could also affect key elements of the historic setting or obscure traditional views of towns and villages. The impact will depend on what comes forward at project level and is difficult to predict overall.

101. Some of East Lothian's trees are visitor attractions, and visitors also come to see Designed Landscapes. The TWSEL is cautious about promoting individual trees as attractions due to the potential for harm. The overall impact of the TWSEL on historic trees is considered neutral.
102. Heritage assets are shown on the map above. An increase in tree cover has the potential for both direct and indirect effects. The TWSEL encourages restoration of woodland and tree planting of Designed Landscapes, though poorly considered woodland creation could affect their interest. There are four major battlefield sites in East Lothian, and woodland creation in some parts could affect the understanding of the battle. Policy 25 aims to protect these assets from harm. Designed Landscapes and Battlefields are shown on the constraints mapping as 'potential' recognising that some planting could be beneficial there but their interest needs to be considered. Planting in Scheduled Monuments needs consent from Historic Environment Scotland so they will not be directly affected by the TWSEL. Scheduled Monuments are shown on the constraints mapping as 'Sensitive'.
103. Archaeological remains can be harmed by poorly planned and sub-standard tree planting, drying out (which trees can cause) root damage and disturbance. Archaeology is taken account of in grant schemes, but small scale planting may not consider this so some loss may occur.
104. The TWSEL supports the passing on of traditional skills and knowledge. It seeks to protect notable trees, which includes those with heritage interest (Policy 22). The strategy overall will help maintain intangible heritage.
105. The Cultural Heritage section of the strategy aims to 'celebrate the role of trees and woodland as part of our cultural heritage and protect our cultural heritage assets from harm from trees'. The TWSEL has policy on notable trees, protection of the historic environment and archaeology. It also supports the passing on of traditional skills and knowledge. Detailed advice at settlement level and the production of Conservation Area appraisals will help make sure the traditional setting and valued historic elements of towns and villages are not harmed by trees. The Strategy has mapped as 'sensitive' or 'potential' historic assets where tree planting and woodland creation could cause most harm. Increasing tree cover in a place which historically did not have many trees inevitably changes the historic appearance of the place, including specific historic features and their settings. Mostly this will not be harmful, but there may be occasions when it is.
106. Overall the effect on cultural heritage is likely to be positive.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Cultural Heritage		
Avoid adverse impacts on heritage assets, including archaeological sites and monuments?	Positive Mixed Negative	The TWSEL includes policy aimed at protecting heritage assets, which will help avoid harm. However, when most of the heritage assets (listed buildings, Conservation Areas, Designed Landscapes, Battlefields and Scheduled Monuments) were created, East Lothian was a lot less treed than now. More trees and woodland is likely to change the setting of these assets, which could affect appreciation and understanding of them. Increased woodland cover and a greater number of trees in urban areas makes damage to some historic assets from self seeded trees more likely.
Protect and deepen the appreciation of East Lothian's historic woodlands and notable trees	Positive	The Cultural heritage theme aims to celebrate the role of trees and woodland as part of our heritage. Proposed actions including the development of tree trails, recording of important historic trees and promotion of positive management of Designed Landscapes support this. Protecting historic types of woodland such as ancient woodland, parkland and orchards mean they are there to be enjoyed.

Landscape



107. Landscapes play a large part in forming identity and distinctiveness of place. Good landscapes support quality of life and encourage us outdoors. Poor and degraded landscapes restrict social and economic opportunity, and adversely affect quality of

life. The European Landscape Charter values all landscapes. East Lothian has a reputation for attractive countryside and coast and everyone should benefit from having good landscape around them.

108. There are almost no areas in East Lothian which are not managed by and for human beings, whether as farmland, grouse moor, or for urban or recreational use. New woodland should aim to conserve landscape overall. Small-scale incremental change can eventually lead to irreversible landscape damage; woodland planting may mitigate existing harmful change, and help avoid future change by providing a landscape framework for new development.
109. The assessment objectives for landscape were:
 - Protect and enhance the quality of landscapes and townscapes
 - Conserve geological heritage
110. This area does not contain any National Scenic areas, but does include several locally designated Special Landscape Areas. East Lothian includes an area of the Edinburgh Green Belt and some Countryside Around Town areas. Some areas of woodland and trees here are subject of Tree Preservation Orders.
111. The TWSEL included relevant advice from the Special Landscape Areas from their Statements of Importance. This should help to avoid harm to them. Woodland creation is generally in line with Green Belt objectives especially supporting nature networks and the natural setting of settlement. The Council designated Countryside Around Town areas in response to strong pressure for development here. The purpose of designation is to avoid development which would potentially harm the landscape setting of towns. Countryside Around Town areas should also ideally provide opportunities for access to the countryside for recreation. In most of these areas, woodland creation would help meet their landscape and recreational objectives. Policy 26 provides for the protection and enhancement of landscape, including avoiding harm to these areas. The effect on these areas overall is likely to be at least neutral if not positive.
112. The main threat to trees covered by Tree Preservation Order is development, however lack of appropriate management is also an issue. The threat of diseases such as ash dieback disease is also important.
113. Maintaining distinctiveness of different areas of Scotland in relation to each other and the rest of the UK is important. As part of Eastern Coastal Central Scotland, keeping the features that help make the area distinctive is important, even if - or perhaps because - they are common here. This includes policy woodland and shelterbelts. Woodland creation could alter the landscape character of some areas. This could either weaken or strengthen landscape character overall and has the

potential to be a significant effect. Native woodland creation is generally seen as good for the landscape as it adds interest and diversity. Reinstatement of hedges, roadside planting and woodland planting in scale with landscape character are also good.

114. The TWSEL will help by woodland creation to help integrate transport corridors into the landscape. Target 5 supports creation of farmland woodland, which adds features (shelterbelts) to the landscape increasing its distinctiveness. Action 7 is to plan for landscape scale replacement of Ash trees, which will help address the effects of their expected loss to disease.
115. There is considerable existing development here, some of which is poorly integrated into its surroundings. Further development is planned, some of which is in fairly open locations. Woodland can help integrate urban development into its landscape setting and provide for multifunctional green networks. Some other existing development detracts from landscape quality, such as the high voltage power lines. These require wayleaves, however planting in appropriate places could help screen them in important views. The TWSEL provides guidance on character and tree planting in each settlement and village. The TWSEL also has an Action (32) to create a managed programme of replacement of street trees important to townscape character. Together these have the potential to guide and improve townscape.
116. East Lothian contains both geological SSSIs and locally designated geodiversity sites. TWSEL identifies these sites as Sensitive on its constraints mapping, which will guide tree planting away from them. In SSSIs, this would need consent from NatureScot in any case. Woodland near these sites could increase self-seeding which could damage or obscure the geological interest. There is therefore a slightly increased risk of damage to these sites.
117. Landscape is a Theme of the TWSEL, with the aim to "use trees to help retain and enhance the distinctiveness of landscape and settlement character within East Lothian". The TWSEL is expected to have a positive effect on Landscape.

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
Landscape		
Protect the diversity and value of East Lothian's Landscapes	Positive/ Mixed	Positive effects are expected on the diversity and value of East Lothian's landscapes from woodland creation and tree planting, which usually make landscapes better. Policy is included to

Indicator: Does the plan....?	Overall effect of TWSEL	Comment
		<p>avoid harm to landscape character, especially in areas designated for their landscape value.</p> <p>Coniferous plantation has been criticised in the past for its impact on landscape. The TWSEL supports existing coniferous plantation, and continued softwood production on these sites. Although the plantation will be restructured in line with the UK Forestry Standard when it is time to fell it, there is likely to be some adverse landscape impact.</p>
Improve and reinforce townscape character and sense of place	Positive/ Mixed	Increasing urban canopy coverage will improve townscape character and sense of place. Helping protect Notable Trees also will help reinforce townscape character, as will some other actions with more local effects.

Overall Conclusion

118. The TWSEL contains Themes specifically aimed at Biodiversity, Landscape and Climate Change, Cultural Heritage, and Landscape, and significant benefits for these topics are expected. Woodland biodiversity will benefit from increased protection of woodland, expansion of woodland and more connections between woodland areas. Increased woodland planting will mitigate climate change and help us adapt to inevitable climate changes. Cultural heritage will benefit from recognition of notable trees. Landscape will be enhanced by woodland creation.

119. The main potential adverse impacts are:

- For biodiversity, there is likely to be an increase in invasive species that live in woodland, due to the expansion of woodland.
- The TWSEL aims to increase access to woodland, and to focus this on those woodlands that can best cope with more visitors. However, there could be some increase in damage to woodland biodiversity from increased recreational access
- An increase in tree canopy coverage generally makes an area more pleasant to be in. However, there for some people or in some places this increase in tree cover may reduce their enjoyment of their home or area.

- Increasing woodland cover, and encouraging people to use woodland, could lead to an increase in vector borne disease, mainly from ticks. There could also be an increase in tree pollen allergy
- TWSEL encourages woodland on agricultural land where it will support agricultural production. This will lead to the loss of some of this land.
- More trees especially in towns will bring more fallen leaves and seeds which can grow in unwanted places. This could potentially lead to an increase in damage to or maintenance needs of structures and roads.
- An increase in trees and woodland will bring landscape change. This will generally make the landscape more diverse. However, when most cultural heritage assets were created, there were fewer trees. Sometimes, therefore, tree planting may affect them or their setting, and impact on how people understand them.