



Department for
Business, Energy
& Industrial Strategy

SCOPING REPORT

Appendix B: Baseline

December 2017

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Climate Change: Regional distribution of net greenhouse gas emissions	Expressed in terms of global warming potentials and includes the source emissions of CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ and NF ₃ ¹ . NB: 2.4% remains unallocated. Baseline years for UK GHG emissions are 1990 for CO ₂ , CH ₄ , N ₂ O and 1995 for fluorinated gases.			
	As of 2014, England had a 76% share of total net GHG emissions ² .	As of 2014, Scotland had a 8.6% share of total net GHG emissions ³ .	As of 2014, Wales had a 9.0% share of total net GHG emissions ⁴ .	AS of 2014, Northern Ireland had a 4.0% share of total net GHG emissions ⁵ .
	<p>Supporting Trend Data:</p> <p>Total emissions⁶ of direct greenhouse gases have decreased by 38% between 1990 and 2015 and 4% between 2014 and 2015. This decline between 1990 and 2015 is driven predominantly by a decrease in emissions from the energy supply sector – particularly from power stations.</p> <p>CO₂ is the largest contributor to global warming in the UK. As of 2015, CO₂ emissions were 404 Mt CO₂ equivalent, 32% below the 1990 level. CH₄ is the second most significant greenhouse gas in the UK after CO₂ and since 1990, emissions of CH₄ have decreased by 61%. As of 2015, methane emissions were 52 Mt CO₂ equivalent.</p> <p>As of 2015, emissions of N₂O were 23 Mt CO₂ equivalent. Emissions of N₂O have declined 55% since 1990.</p> <p>Emissions of the F-gases (HFCs, PFCs, SF₆ and NF₃) totalled 17 Mt CO₂ equivalent in 2015.</p>			

¹ Department of Energy and Climate Change (2016) *UK Greenhouse Gas Inventory, 1990 to 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1605241007_ukghgi-90-14_Issue2.pdf

² National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

³ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

⁴ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

⁵ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

⁶ Final UK greenhouse gas emissions national statistics: 1990-2015. Available: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-2015>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Since 1995 – the base year used for F-gases – the overall decrease in their emissions has been 21%.</p> <p>Note that the most recent Devolved Administration inventory covers 1990-2014 and is therefore one year behind the national inventory. Moreover, since the full emissions time series is recalculated on an annual basis, figures for the Devolved Administrations will not be directly comparable to the UK values until the next iteration of the Devolved Administration inventory is published.</p>			
Climate change: Contribution of sectors to greenhouse gas emissions	<p>Total GHG emissions expressed as MtCO₂e.</p> <p>NB: Land Use, Land Use Change and Forestry (LULUCF) is a net remover of CO₂e in England, Scotland and Wales.</p>			
	As of 2014, the percentage of GHG emissions per sector in England were ⁷ : Agriculture: 7% Business: 18% Energy Supply: 29% Industrial Processes: 2% Public: 2% Residential: 13% Transport: 25% Waste Management: 4% LULUCF: -1%	As of 2014, the percentage of GHG emissions per sector in Scotland were ⁸ : Agriculture – 19% Business – 18% Energy Supply – 31% Industrial Processes – 1% Public – 2% Residential – 13% Transport – 24% Waste Management – 5% LULUCF: -14%	As of 2014, the percentage of GHG emissions per sector in Wales were ⁹ : Agriculture – 13% Business – 20% Energy Supply – 38% Industrial Processes – 7% Public – 1% Residential – 8% Transport – 13% Waste Management – 3% LULUCF: -1%	As of 2014, the percentage of GHG emissions per sector in Northern Ireland were ¹⁰ : Agriculture – 28% Business – 12% Energy Supply – 19% Industrial Processes – 1% Public – 1% Residential – 13% Transport – 21% Waste Management – 3% LULUCF: 2%
	Supporting Trend Data¹¹:			

⁷ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

⁸ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

⁹ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

¹⁰ National Atmospheric Emissions Inventory (2016) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2014*. Available: http://uk-air.defra.gov.uk/reports/cat07/1606140853_DA_GHGI_1990-2014_Report_v1.pdf

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>As of 2015, emissions in the energy supply sector accounted for 29% of total net direct greenhouse gas emissions and has declined from 278 MtCO₂e in 1990 to 144 MtCO₂e in 2015 (-48%).</p> <p>As of 2015, emissions in the business sector accounted for 17% of total net GHG emissions and has declined from 114 MtCO₂e in 1990 to 85 MtCO₂e in 2015 (-26%).</p> <p>As of 2015, emissions in the agricultural sector accounted for 10% of total net GHG emissions and has declined from 59 MtCO₂e in 1990 to 49 MtCO₂e in 2015 (-17%).</p> <p>As of 2015, emissions in the industrial processes sector accounted for 3% of total net direct greenhouse gas emissions and has declined from 60 MtCO₂e in 1990 to 13 MtCO₂e in 2015 (-79%).</p> <p>As of 2015, emissions in the LULUCF sector accounted for -1% of total net direct greenhouse gas emissions and has declined from 6 MtCO₂e in 1990 to -7 MtCO₂e in 2015 (-229%)*.</p> <p>As of 2015, emissions in the public sector accounted for 2% of total net direct greenhouse gas emissions and has declined from 14 MtCO₂e in 1990 to 8 MtCO₂e in 2015 (-40%).</p> <p>As of 2015, emissions in the residential sector accounted for 13% of total net direct greenhouse gas emissions and has declined from 80 MtCO₂e in 1990 to 66 MtCO₂e in 2015 (-17%).</p> <p>As of 2015, emissions in the transport sector accounted for 24% of total net direct greenhouse gas emissions and has declined from 122 MtCO₂e in 1990 to 120 MtCO₂e in 2015 (-2%).</p> <p>As of 2015, emissions in the waste sector accounted for 4% of total net GHG emissions and has declined from 67 MtCO₂e in 1990 to 18 MtCO₂e in 2014 (-73%).</p> <p>Note that the most recent Devolved Administration inventory covers 1990-2014 and is therefore one year behind the national inventory. Moreover, since the full emissions time series is recalculated on an annual basis, figures for the Devolved Administrations will not be directly comparable to the UK values until the next iteration of the Devolved Administration inventory is published.</p> <p>*LULUCF has a large percentage decrease as it has switched from being a net source in 1990 to a net sink in 2015.</p>			
Climate change	The UK Climate Projections (UKCP09) and the State of the UK Climate reports (published annually) identify the following observed trends			

¹¹ Final UK greenhouse gas emissions national statistics: 1990-2015. Available: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-2015>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>which are attributed to climate change¹²:</p> <ul style="list-style-type: none"> • The temperature in Central England has already risen by about 1°C since the 1970s, with 2014 being the warmest year in the 357 year record¹³. • The sea surface temperature around the UK coast for the most recent decade, 2006-2015, is 0.6 °C higher¹⁴ than the 1961-1990 average. • Over the last 250 years in England and Wales, there has also been a slight trend for increased rainfall in winter and decreased rainfall in summer. • All regions of the UK have experienced an increase in the amount of winter rain that falls in heavy downpours. • Sea levels around the UK have risen by about 1mm/a year over the 20th century, although recent rates are slightly higher than this. <p>The UKCP09 projects the following changes within the UK by the 2080s, relative to a 1961-1990 baseline, with a medium emissions scenario¹⁵:</p> <ul style="list-style-type: none"> • Average summer temperatures across the UK will increase by 3 - 4°C; • Average summer rainfall will decrease by 17 – 23%; • Average winter rainfall will increase by 14 – 23%, and; • Sea levels in London will rise by 36cm. <p>Note that new projections as part of UKCP18 will build on work undertaken for UKCP09 and be available in 2018.</p>			
Biodiversity and Ecosystems:	SPAs are strictly protected sites classified in accordance with Article 4 of the <u>EC Birds Directive</u> , which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species ¹⁶ .			
Special Protection Areas (SPAs)	SPAs are of national and international conservation importance. The location of SPAs are shown in Figure 1.			

¹² Department for Environment, Food and Rural Affairs (2009) *Adapting to climate change – UK Climate Projections*. Available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69257/pb13274-uk-climate-projections-090617.pdf

¹³ Kendon, M., McCarthy, M., and S. Jevrejeva (2015): State of the UK Climate 2014, *Met Office, Exeter, UK*. Available:

http://www.metoffice.gov.uk/media/pdf/0/a/State_of_the_UK_climate_2014.pdf

¹⁴ Kendon, M., McCarthy, M., Jevrejeva, S. and Legg, T. (2016): State of

the UK Climate 2015, *Met Office, Exeter, UK*. Available: http://www.metoffice.gov.uk/media/pdf/r/4/State_of_the_UK_climate_2015.pdf

¹⁵ Department for Environment, Food and Rural Affairs (2009) *Adapting to climate change – UK Climate Projections*. Available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69257/pb13274-uk-climate-projections-090617.pdf

¹⁶ Joint Nature Conservation Committee (2013) *Special protection Areas*. Available: <http://jncc.defra.gov.uk/page-162>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	As of May 2016 there were 80 Classified SPAs in England, covering an area of 677,443 ha. There is one site crossing the England / Scotland border (43,710 ha), two across the England / Wales border (209,192 ha) and one classified as England / offshore (379,624 ha) ¹⁷ . SPAs In England are predominantly located in coastal and estuarine areas, with various sites distributed inland.	As of May 2016 there were 152 Classified SPAs in Scotland, covering an area of 1,205,368 ha. There is also one site crossing the England / Scotland border (43,710 ha) ¹⁸ . SPAs are distributed widely throughout Scotland, with large concentrations in coastal and estuarine areas, islands and uplands.	As of May 2016 there were 17 Classified SPAs in Wales, covering an area of 172,345 ha. There are also three sites crossing the England / Wales border (209,192 ha) ¹⁹ . SPAs are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands.	As of May 2016 there were 16 Classified SPAs in Northern Ireland, covering an area of 113,988 ha ²⁰ . SPAs in Northern Ireland are primarily located in coastal and estuarine areas.
	<p>Supporting Trend Data:</p> <p>In the UK, the first SPAs were identified and classified in the early to mid-1980s. Classification has since progressed, with regular updating of both the number of classified SPAs and those that are in process of being classified. A review of consultation feedback is currently being undertaken on five Potential SPA (pSPA) extensions and four new pSPAs in England, one pSPA extension and one pSPA in Northern Ireland and one pSPA extension and two pSPAs in Wales.</p> <p>In response to stakeholder consultation, the Department for Environment, Food and Rural Affairs (Defra) convened an advisory group to take forward further consideration of SPA network development. The Third SPA Network Review, published in 2016, focused largely on terrestrial SPAs, but recognised the need for a review of implementation of the Birds Directive in the UK's marine environment²¹. As a result of this, it is likely that further marine SPAs will be designated in the future.</p>			
Biodiversity and Ecosystems:	SACs are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to			

¹⁷ Joint Nature Conservation Committee (2016) *Classified Special Protection Areas (SPAs) in the UK*. Available: <http://jncc.defra.gov.uk/page-1399>.

¹⁸ Joint Nature Conservation Committee (2016) *Classified Special Protection Areas (SPAs) in the UK*. Available: <http://jncc.defra.gov.uk/page-1399>.

¹⁹ Joint Nature Conservation Committee (2016) *Classified Special Protection Areas (SPAs) in the UK*. Available: <http://jncc.defra.gov.uk/page-1399>.

²⁰ Joint Nature Conservation Committee (2016) *Classified Special Protection Areas (SPAs) in the UK*. Available: <http://jncc.defra.gov.uk/page-1399>.

²¹ Joint Nature Conservation Committee (2013) *Special protection Areas*. Available: <http://jncc.defra.gov.uk/page-162>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Special Areas of Conservation (SACs)	<p>be most in need of conservation at a European level (excluding birds). Sites of Community Importance (SCIs) are sites that have been adopted by the European Commission but not yet formally designated by the government of each country. Candidate SACs (cSACs) are sites that have been submitted to the European Commission, but not yet formally adopted. SACs / SCIs / cSACs cover marine as well as terrestrial areas²².</p> <p>SACs are of national and international conservation importance.</p> <p>The location of SACs are shown in Figure 1.</p>			
	<p>As of September 2016 there were 235 SACs and seven SCIs in England, covering an area of 1,068,480 ha. There are three SACs crossing the England / Scotland border (112,683 ha) and seven across the England / Wales border (95,182 ha). Additionally there are two SCIs which are classified as England / offshore (231,388 ha)²³. SACs are widely distributed throughout England; however the highest concentrations correspond with the more remote rural and upland locations.</p>	<p>As of September 2016 there were 236 SACs, two SCIs and one cSAC in Scotland, covering an area of 2,289,782 ha. There are three SACs crossing the England / Scotland border (112,683 ha). Additionally there are two SCIs which are classified as Scotland / offshore (182,183 ha)²⁴. SACs in Scotland are widely and densely distributed throughout the country. Large concentrations are found in coastal and highland areas.</p>	<p>As of September 2016 there were 85 SACs in Wales, covering an area of 590,916 ha. There are seven across the England / Wales border (95,182 ha)²⁵. SACs are widely distributed throughout Wales.</p>	<p>As of September 2016 there were 54 SACs and three SCIs in Northern Ireland, covering an area of 85,969 ha²⁶. SACs are widely distributed throughout Northern Ireland, with the largest being situated around the coast and border with the Republic of Ireland.</p>

²² Joint Nature Conservation Committee (2016) *Special Areas of Conservation (SAC)*. Available: <http://jncc.defra.gov.uk/page-23>.

²³ Joint Nature Conservation Committee (2016) *Special Areas of Conservation/Sites of Community Importance in the UK as at 15 September 2016*. Available: <http://jncc.defra.gov.uk/page-1456>.

²⁴ Joint Nature Conservation Committee JNCC (2016) *Special Areas of Conservation/Sites of Community Importance in the UK as at 15 September 2016*. Available: <http://jncc.defra.gov.uk/page-1456>.

²⁵ Joint Nature Conservation Committee (2016) *Special Areas of Conservation/Sites of Community Importance in the UK as at 15 September 2016*. Available: <http://jncc.defra.gov.uk/page-1456>.

²⁶ Joint Nature Conservation Committee (2016) *Special Areas of Conservation/Sites of Community Importance in the UK as at 15 September 2016*. Available: <http://jncc.defra.gov.uk/page-1456>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Supporting Trend Data:</p> <p>Member States of the European Union are required to report every six years on the conservation status of habitats and species listed on the annexes of the Habitats Directive. In general, the status of UK habitats of European importance declined over the last reporting period (2007 – 2013). In 2007, 5% of UK habitats listed on Annex I of the Habitats Directive were in favourable conservation status, decreasing to 3 per cent in 2013. The conservation status of 48% of habitats was unfavourable-improving in 2007, decreasing to 31 per cent in 2013. The conservation status of 30 per cent of the habitats was unfavourable-declining in 2007, decreasing to 25 per cent in 2013²⁷.</p>			
<p>Biodiversity and Ecosystems:</p> <p>Ramsar Sites</p>	<p>Ramsar sites are wetlands of international importance designated under the Ramsar Convention. In the UK, the first Ramsar sites were designated in 1976. The initial emphasis was on selecting sites of importance to waterbirds within the UK, and consequently many Ramsar sites are also Special Protection Areas (SPAs) classified under the Birds Directive²⁸.</p> <p>Ramsar sites are of national and international conservation importance.</p> <p>The location of Ramsar sites are shown in Figure 1.</p>			
	<p>As of September 2015 there were 68 Ramsar sites in England, totalling an area of 320,648 ha. There are three sites crossing the England / Wales border (40,553 ha total) and one site crossing the England / Scotland border (43,637 ha)²⁹. Ramsar sites in England are predominantly located in coastal and estuarine areas, however there are smaller</p>	<p>As of September 2015 there were 50 Ramsar sites in Scotland, totalling an area of 283,083 ha. There is one site crossing the England / Scotland border (43,637 ha)³⁰. Ramsar sites in Scotland are primarily located in coastal and estuarine areas, with various lochs being designated, particularly in the far north off the country.</p>	<p>As of September 2015 there were 7 Ramsar sites in Wales, totalling an area of 11,366 ha. There were three sites crossing the England / Wales border, totalling 40,553 ha³¹. Ramsar are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands.</p>	<p>As of September 2015 there were 20 Ramsar sites in Northern Ireland, totalling an area of 88,152 ha³². Ramsar sites in Northern Ireland are primarily located in coastal and estuarine areas.</p>

²⁷ Joint Nature Conservation Committee (2013) *C3. Status of European habitats and species*. Available: <http://jncc.defra.gov.uk/page-4239>

²⁸ Joint Nature Conservation Committee (2015) *Ramsar sites in the UK, its Overseas Territories and Crown Dependencies*. Available: <http://jncc.defra.gov.uk/page-161>.

²⁹ Joint Nature Conservation Committee (2015) *UK Ramsar sites*. Available: <http://jncc.defra.gov.uk/page-1388>.

³⁰ Joint Nature Conservation Committee (2015) *UK Ramsar sites*. Available: <http://jncc.defra.gov.uk/page-1388>.

³¹ Joint Nature Conservation Committee (2015) *UK Ramsar sites*. Available: <http://jncc.defra.gov.uk/page-1388>.

³² Joint Nature Conservation Committee (2015) *UK Ramsar sites*. Available: <http://jncc.defra.gov.uk/page-1388>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	sites distributed inland throughout the country.			
<i>Supporting trend data is not available.</i>				
Biodiversity and Ecosystems: National Nature Reserves (NNRs)	<p>NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in the UK. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. In addition they may be managed to provide public recreation that is compatible with their natural heritage interests.</p> <p>NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. In Northern Ireland, Nature Reserves are designated under the Amenity Lands Act (Northern Ireland) 1965. In Scotland, whilst SNH remains the statutory designating authority, decisions to declare new NNR are shared with a Partnership Group of interested organisations³³.</p> <p>NNRs are of national conservation importance.</p> <p>The location of NNRs are shown in Figure 1.</p>			
	As of June 2015 there were 224 NNRs in England, totalling an area of 94,400 ha. The largest is The Wash covering almost 8,800 hectares, while Dorset's Horn Park Quarry is the smallest at 0.32 ha ³⁴ . NNRs are widely distributed throughout England.	As of May 2015 there were 47 NNRs in Scotland, totalling an area of 95,835 ha ³⁵ . NNRs within Scotland cover a wide variety of Scotland's habitats and species from pine forest to blanket bog, from seabird colonies to mountain plants.	There are 76 NNRs in Wales. These cover a wide range of habitats from high mountains, peat bogs and woodlands, to sand dunes, mud flats and remote off-shore islands ³⁶ .	As of August 2016 there are 12 NNRs in Northern Ireland, totalling an area of 1,800 ha. These are concentrated in the east and north east of the country. They contain a wide range of species, communities and geology ³⁷ .

³³ Joint Nature Conservation Committee (2014) *Protected areas designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>.

³⁴ Natural England (2015) *National Nature Reserves in England*. Available: <https://www.gov.uk/government/collections/national-nature-reserves-in-england>.

³⁵ Scotland's National Nature Reserves (2015) *Facts and figures on NNRs*. Available: <http://www.nnr-scotland.org.uk/facts-and-figures/>. 2016

³⁶ Natural Resources Wales (2016) *National Nature Reserves*. Available: <https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/national-nature-reserves/?lang=en>.

³⁷ Northern Ireland Environment Agency (2016) *NIEA Policy position statement on National Nature Reserves*. Available: <https://www.daera-ni.gov.uk/publications/niea-policy-position-statement-statutory-nature-reserves>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
		NNRs are distributed throughout Scotland, with larger concentrations within the north of the country.		
<i>Supporting trend data is not available.</i>				
Biodiversity and Ecosystems Sites of Special Scientific Interest (SSSI) (England, Scotland and Wales) and Areas of Special Scientific Interest (ASSI) (Northern Ireland) NB: The SSSI / ASSI information shown includes sites designated for both biological and geological	The SSSI / ASSI series has developed since 1949 as the suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. SSSIs were originally notified under the National Parks and Access to the Countryside Act 1949, and then were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010. ASSIs are notified under the Nature Conservation and Amenity Lands (Northern Ireland) 1985. Measures to improve ASSI protection and management are contained in the Environment (Northern Ireland) Order 2002 ³⁸ . SSSIs / ASSIs are of national conservation importance. The location of SSSIs and ASSIs are shown in Figure 1.			
	There are over 4,000 SSSIs in England, covering about 7% of the country's surface area ³⁹ . Some of these sites correspond with with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of	As of February 2014 there were 1,425 SSSIs in Scotland, covering about 13% of the country's surface area ⁴⁰ . Some of these sites correspond with with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the	There are more than 1,000 SSSIs in Wales, covering about 12% of the country's surface area ⁴¹ . Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the	There are 394 ASSIs in Northern Ireland ⁴² . ASSIs are widespread throughout the whole of Northern Ireland, and cover a wide variety of habitats and geological features.

³⁸ Joint Nature Conservation Committee (2014) *Protected areas designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>.

³⁹ Natural England (2016) *Designated Sites View*. Available: <https://designatedsites.naturalengland.org.uk/>.

⁴⁰ Scottish Natural Heritage (2016) *Where are SSSIs found*. Available: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/sssisi/sssii-location/>.

⁴¹ Natural Resources Wales (2016) *Site of Special Scientific Interest (SSSIs)*. Available: <https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/sites-of-special-scientific-interest-sssisi/?lang=en>.

⁴² Department of Agriculture, Environment and Rural Affairs (2016) *Areas of Special Scientific Interest*. Available: <https://www.daera-ni.gov.uk/topics/land-and-landscapes/areas-special-scientific-interest>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
reasons.	England, and cover a wide variety of habitats and geological features.	whole of Scotland, and cover a wide variety of habitats and geological features.	whole of Wales, and cover a wide variety of habitats and geological features. (NRW 2016)	
Supporting Trend Data:				
The last assessment of the status of SSSIs and ASSIs was undertaken in 2005. This indicated that between 1999 and 2005, less than 50% of the biological features monitored in SSSIs and ASSIs were in favourable condition ⁴³ .				
Biodiversity and Ecosystems: Marine Conservation Zones (MCZs)	MCZs are established to protect nationally important marine wildlife, habitats, geology and geomorphology and can be designated anywhere in English, Welsh and Northern Irish inshore and UK offshore waters ⁴⁴ . They are established under the Marine and Coastal Access Act (2009). In Northern Ireland, MCZs are designated under the Marine Act (Northern Ireland) (2013) ⁴⁵ .			
	MCZs are of national conservation importance.			
	The location of MCZs are shown in Figure 1.			
	There are 50 MCZs within English waters. These are located in coastal and offshore locations and are designated for a range of habitats, wildlife conservation and geological features ⁴⁶ .	This designation is not applicable to Scotland.	There is one MCZ in Welsh water, Skomer, covering 130.2 ha. Skomer MCZ is situated around the island of Skomer and the Marloes Peninsula in Pembrokeshire, south west Wales. Skomer MCZ has species and habitats of national and international importance. These include grey seal, pink seafan, sponge communities,	There are five MCZs in Northern Irish waters ⁴⁸ : <ul style="list-style-type: none"> • Strangford Lough • Carlingford Lough • Outer Belfast Lough • Waterfoot • Rathlin

⁴³ Joint Nature Conservation Committee (2010) Common Standards Monitoring for Designated Sites: First Six Year Report. Available: <http://jncc.defra.gov.uk/page-3520#download>

⁴⁴ Joint Nature Conservation Committee (2014) *Protected areas designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>.

⁴⁵ Joint Nature Conservation Committee (2016) *MCZ Project Northern Ireland*. Available: <http://jncc.defra.gov.uk/page-6682>

⁴⁶ Joint Nature Conservation Committee (2016) *Marine Protected Areas UK*. Available: <http://jncc.defra.gov.uk/page-5201>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
			eelgrass and algal communities ⁴⁷ .	
<i>Supporting trend data is not available.</i>				
Biodiversity and Ecosystems: Nature Conservation Marine Protected Areas (NCMPAs)	<p>NCMPAs are designated by Scottish Natural Heritage through the Marine (Scotland) Act (2010) and the Marine and Coastal Access Act (2009). NCMPAs are protected to reinforce the existing network of designated sites (SPAs, SACs, Ramsar) and introduce spatial protection for a wider range of marine wildlife, habitats and geology, previously not represented in the network⁴⁹.</p> <p>NCMPAs are of national conservation importance.</p> <p>The location of NCMPAs are shown in Figure 1.</p>			
	This designation is not applicable to England.	There are 17 NCMPAs in Scottish waters, covering approximately 10% of the Scottish seas. These are primarily designated to protect marine habitats and species ⁵⁰ .	This designation is not applicable to Wales.	This designation is not applicable to Northern Ireland.
<i>Supporting trend data is not available.</i>				
Biodiversity and Ecosystems: Ancient Woodland	<p>Ancient Woodland is land that has had continuous woodland cover since at least 1600AD (England and Wales) and 1750AD (Scotland) and is identified within the Ancient Woodland Inventory. As Ancient Woodlands have developed over such long timescales, they have unique features such as relatively undisturbed soils and communities of plants and animals that depend on the stable conditions that Ancient Woodland provides. These are often rare and vulnerable species.</p>			

⁴⁸ Joint Nature Conservation Committee (2016) *Marine Protected Areas UK*. Available: <http://jncc.defra.gov.uk/page-5201>.

⁴⁷ Natural Resources Wales (2016) *Skomer Marine Conservation Zone*. Available: <https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/skomer-marine-conservation-zone/?lang=en>

⁴⁹ Scottish Natural Heritage (2016) *Marine Protected Areas*. Available: [http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/marine-protected-areas-\(mpa\)/](http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/marine-protected-areas-(mpa)/)

⁵⁰ Scottish Natural Heritage (2016) *Nature Conservation Marine Protected Areas*. Available: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>There are two types of Ancient Woodland classification in England, Wales and Scotland; Ancient semi-natural woods and plantations on Ancient Woodland sites. Ancient semi-natural woods are woods that have developed naturally and may have existed since woodland first colonised the UK after the last glaciation. Plantations on Ancient Woodland sites are ancient woods that were felled and planted with non-native trees⁵¹.</p> <p>In Northern Ireland, four classifications of Ancient Woodland exist: Ancient Woodland; Probably Ancient Woodland; Possibly Ancient Woodland, and; Long Established Woodland⁵².</p> <p>Ancient Woodland is irreplaceable and is of national conservation importance; however it does not have statutory protection in its own right. The location of Ancient Woodland sites are shown in Figure 1 (England and Scotland).</p> <p><i>NB: No mapping data is available for Wales and Northern Ireland.</i></p>			
	<p>The Ancient Woodland Inventory for England identifies over 22,000 ancient woodland sites in England⁵³. Ancient Woodland sites are scattered throughout England, with the densest concentrations being in the south east⁵⁴.</p>	<p>Native woodlands occur in most of mainland Scotland and on several islands. Over 8,000 woods are identified as native woods of ancient origin in the SNH Woodland Inventory, but most are very small. Altogether this woodland covers only a tiny portion (1%) of the land, only one fifth is currently protected as nature reserves or SSSIs⁵⁵.</p>	<p>The Ancient Woodland Inventory 2011 indicates that there are around 95,000ha of Ancient Woodland in Wales⁵⁶.</p>	<p>The Inventory of Ancient and Long-Established Woodland identifies 2,374 sites, totalling 9,964ha. Of this, only 151ha is classified as Ancient Woodland (present since 1600AD) with 5,662ha classified as Long-Established Woodland, 3,269ha as Possibly Ancient Woodland, 882ha of Probably Ancient Woodland.</p>

⁵¹ Woodland Trust (2008) *KEY for classification of woods on the inventory and definitions of different antiquity classifications*. Available:

<http://www.backonthemap.org.uk/NR/rdonlyres/7F3F67AD-5A28-4897-A039-3FC97841B6D5/0/080612Updateddecisionkeyforwebsiteandreport.pdf>

⁵² Woodland Trust (2016) *Ancient Woodland*. Available: <https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/woodland-habitats/ancient-woodland/>

⁵³ Natural England (2016) *Ancient Woodland Inventory (provisional for England – Digital Boundaries)*. Available: http://www.gis.naturalengland.org.uk/pubs/gis/tech_aw.htm

⁵⁴ Defra (2016) *MAGiC – Ancient Woodland (England)*. Available: <http://magic.defra.gov.uk/MagicMap.aspx>

⁵⁵ Scottish Natural Heritage (2016) – *Ancient Woodland in Scotland*. Available: <http://www.snh.org.uk/publications/on-line/livinglandscapes/Ancient%20Woodland/health.asp>

⁵⁶ Natural Resources Wales (2016) *Ancient Woodland Inventory*. Available: <https://naturalresources.wales/forestry/woodlands-and-the-environment/ancient-woodland-inventory/?lang=en>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Supporting Trend Data:</p> <p>Within Northern Ireland, 1,500ha of classifiable woodland was lost from 1960 – 2007, although only 16ha of this can be stated to be truly Ancient Woodland (present since 1600AD)⁵⁷. Trends are less clear within the rest of the UK, however the preservation of Ancient Woodland is increasing recognised within planning policy.</p>			
<p>Biodiversity and Ecosystems</p> <p>Biosphere Reserves</p>	<p>Biosphere Reserves are areas of terrestrial and coastal ecosystems promoting the conservation of biodiversity with sustainable use. Biosphere reserves serve to demonstrate integrated management of land, water and biodiversity. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) Man and the Biosphere (MAB) programme comprises a World Network of Biosphere Reserves⁵⁸.</p> <p>Biosphere Reserves are comprised of three interrelated zones:</p> <ol style="list-style-type: none"> 1) The Core Area (protected: the ‘natural’ state of the region’s ecosystems). 2) The Buffer Zone (conserves the core area, and can accommodate positive human engagement, including research, education, training, tourism, extensive agriculture, or sustainable forestry). 3) The Transition Area (where most of the region’s people live and work, using the natural resources in a sustainable manner). <p>Biosphere Reserves are non-statutory.</p> <p>The location of Biosphere Reserves are shown in Figure 1.</p>			
	<p>There are two Biosphere Reserves in England.</p> <p>Brighton and Lewes Downs: The Brighton and Lewes Downs Biosphere reserve covers almost 400km² of land and sea between the River Adur and the River Ouse, bringing together the three environments of countryside, coast, and city &</p>	<p>There are two Biosphere Reserves in Scotland.</p> <p>Galloway and Southern Ayrshire: Covering 5268km² the Galloway and Southern Ayrshire Biosphere was granted its status in recognition of the special natural qualities that characterise the area. It is home to 95,000 people who work</p>	<p>There is one Biosphere Reserve in Wales, Biosffer Dyfi.</p> <p>The area around the river Dyfi (west Wales) is a special place for its people, its culture and the local environment. It hosts some of the finest and most inspiring landscapes and wildlife areas in Europe, as well as a passionate community that care strongly</p>	<p>There are no Biosphere Reserves in Northern Ireland.</p>

⁵⁷ Woodland Trust (2007) *Preliminary Report*. Available: <http://www.backonthemap.org.uk/NR/ronlyres/09F70BD6-8E68-4328-90B7-05DFE9483550/0/070115Preliminaryreport.pdf>

⁵⁸ UNESCO (2017) *Biosphere Reserves*. Available: <http://www.unesco.org.uk/designation/biosphere-reserves/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>towns under one united approach.</p> <p>Brighton and Lewes Downs Biosphere 2017⁵⁹</p> <p>North Devon:</p> <p>The North Devon Biosphere Reserve covers 3,300km² of land and sea. The reserve extends from the catchments of the Rivers Taw and Torridge and out to the island of Lundy, with its core at Braunton Burrows sand dune system⁶⁰.</p>	<p>together to improve life whilst caring for the natural environment.</p> <p>Wester Ross:</p> <p>The newly designated area of Wester Ross extends from the tip of Knoydart northwards to Achiltibuie and the Summer Isles, including population centres in Kyle of Lochalsh, Lochcarron, Gairloch and Ullapool. The new designation replaces an earlier one for Beinn Eighe – a much smaller area that was managed solely for nature conservation, research and education⁶¹.</p>	<p>about their magnificent surroundings⁶².</p>	
<i>Supporting trend data is not available</i>				
<p>Biodiversity and Ecosystems</p> <p>Biodiversity</p>	<p>Supporting Trend Data:</p> <p>Between 1970 and 2014, populations of breeding farmland and woodland birds decreased by 54% and 20% respectively, and the population index for breeding water and wetland birds was 15% lower than in 1975⁶³. The population of breeding seabirds is also in long-term decline, being 27% lower in 2014 than in 1986⁶⁴. Between 1970 and 2012, 75% of UK Biodiversity Action Plan (BAP) Priority Species had declined, with only 25% increasing⁶⁵.</p>			

⁵⁹ Brighton and Lewes Downs Biosphere (2017) *Brighton and Lewes Downs Biosphere*. Available: <http://biospherehere.org.uk/>

⁶⁰ North Devon Biosphere (2016) *Welcome to North Devon's UNESCO Biosphere Reserve*. Available: <http://www.northdevonbiosphere.org.uk/maps.html>

⁶¹ UNESCO (2017) *Biosphere Reserves*. Available: <http://www.unesco.org.uk/designation/biosphere-reserves/>

⁶² UNESCO (2017) *Biosphere Reserves*. Available: <http://www.unesco.org.uk/designation/biosphere-reserves/>

⁶³ Joint Nature Conservation Committee (2016) C5. Birds of the wider countryside and at sea.

⁶⁴ Joint Nature Conservation Committee (2016) C5. Birds of the wider countryside and at sea.

⁶⁵ Joint Nature Conservation Committee (2016) C4. Status of UK priority species.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Long-term data on habitats is not available, however in 2007, 5% of UK habitats listed on Annex I of the Habitats Directive were in favorable conservation status, decreasing to 3% in 2013. The number of habitats classified as unfavorable improving decreased over the same period by 17%⁶⁶. Improvement was seen in the number of habitats assessed as unfavorable declining, with a 5% decrease between 2007 and 2013. 38% of UK habitats of European importance are assessed as being unfavorable stable⁶⁷.</p> <p>Some aspects do show improvement. The area of land in higher-level or targeted agri-environment schemes was 3.1 million hectares in 2014, an increase of 2.81 million hectares since 1992. There has also been improvements in the number of fish stocks being sustainably harvested, forestry land being sustainably managed and reductions in marine and air pollution⁶⁸.</p> <p>Increasingly, biodiversity is under pressure from development and increasing population, in addition to climate change. Overall climate change could lead to:</p> <ul style="list-style-type: none"> • Changes in phenology (including changes in the timings of seasonal events causing loss of synchronicity and increased competitive advantage for some species at the expense of others); • Shifts in suitable climate conditions for individual species leading to change in species distribution, abundance and range; • Changes in the community structure and ecosystem function of habitats which species occupy. • Changes to the composition and structure of plant and animal communities (including arrival of non-natives, loss of native species and increase in pest species); • Changes to habitats and ecosystems, such as altered water regimes, increased rates of decomposition in bogs and higher growth rates in forests; and • Loss of physical space due to sea level rise and increased storminess⁶⁹. 			
Communities – Population, Employment, and Viability:	<p>The population in the UK is measured through the Census. This provides an estimate of the overall population the UK and its distribution within countries and regions. The last Census was undertaken in 2011. The Office for National Statistics (ONS) also provides mid-year population estimates⁷⁰.</p>			

⁶⁶ Joint Nature Conservation Committee (2016) C3. Status of European habitats and species.

⁶⁷ Joint Nature Conservation Committee (2016) C3. Status of European habitats and species.

⁶⁸ Joint Nature Conservation Committee (2016) Overview of assessment of change for all indicators.

⁶⁹ Inter-Agency Climate Change Forum, 2010. *Biodiversity and Climate Change: A Summary of Impacts in the UK*.

⁷⁰ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Population	The population of England in June 2015 was 54,786,300, which accounts for 84% of the UK's population ⁷¹ .	The population of Scotland in June 2015 was 5,373,000 which accounts for 8% of the UK's population ⁷² .	The population of Wales in June 2015 was 3,099,100 which accounts for 5% of the UK's population ⁷³ .	The population of Northern Ireland in June 2015 was 1,851,600 which accounts for 3% of the UK's population ⁷⁴ .
	<p>Supporting Trend Data:</p> <p>The UK population has increased by 16% since 1971. Over the year to mid-2015 the number of people resident in the UK increased by 513,300 (up 0.8%), similar to the average annual increase seen over the last decade. The population increase of the UK in the year to mid-2015 included natural growth (more births than deaths) of 171,800 people, net international migration of 335,600 and an increase of 5,800 people in the armed forces population⁷⁵.</p>			
Communities – Population, Employment, and Viability:	The densest areas of population within the UK are within towns and cities.			
The location of major settlements and areas of population.	The locations of urban areas are shown in Figure 2.			
	The south east of England, in particular London and the surrounding areas are highly populated. Large urban areas are located along the south coast, including Brighton, Southampton, Portsmouth and Bournemouth. The midlands and	The largest settlements in Scotland are Glasgow and Edinburgh, both of which are located in the south of the country. The east coast has several areas of population including Aberdeen, Inverness and Dundee. The highland areas	The most populated area of Wales is the south coast, where the large urban areas of Cardiff, Newport, Bridgend and Swansea are located. The north coast has fewer major urban settlements, however areas of population are present in Rhyl, Colwyn Bay and	The major settlements in Northern Ireland are Belfast to the east and Londonderry to the north west. The area surrounding Belfast is particularly densely populated, with smaller urban areas including Bangor, Lisburn and

⁷¹ Office for National Statistics (2015) *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁷² Office for National Statistics (2015) *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁷³ Office for National Statistics (2015) *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁷⁴ Office for National Statistics (2015) *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁷⁵ Office for National Statistics (2015) *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	north west are also locations of large urban areas, including Birmingham, Leicester, Nottingham, Greater Manchester and Liverpool. The east, north east and south west of England contain fewer major settlements, however large urban areas are located in these regions, including Newcastle, Sunderland, Leeds and Bristol. (GIS Mapping)	and north and west coasts of Scotland are comparatively sparsely populated. (GIS Mapping)	Bangor. Central and western Wales have smaller towns and villages distributed throughout the regions. (GIS Mapping)	Carrickfergus located in close proximity to Belfast. Smaller towns and villages are distributed through the rest of the country. (GIS Mapping)
<i>Supporting trend data is not available.</i>				
Communities – Population, Employment, and Viability:	Using the 2011 Census, the Office for National Statistics compared the age structures of each of the UK countries. This was split into three categories: 0-14, 15-64 (i.e. working age) and 65+.			
Age Structure – Working age	In 2011, in England, the percentage of the population in each age group was ⁷⁶ : 0-14: 17.7%	In 2011, in Scotland, the percentage of the population in each age group was ⁷⁷): 0-14: 16.1%	In 2011, in Wales, the percentage of the population in each age group was ⁷⁸ : 0-14: 16.9%	In 2011, in Northern Ireland, the percentage of the population in each age group was ⁷⁹ : 0-14: 19.6%

⁷⁶ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

⁷⁷ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

⁷⁸ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

⁷⁹ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
population	15-64: 66% 65+: 16.3%	15-64: 67.1% 65+: 16.8%	15-64: 64.7% 65+: 18.4%	15-64: 65.8% 65+: 14.6%
Supporting Trend Data: The UK has an aging population. In 2001 the percentage of older people (65+) was 15.9%. This has risen to 16.4% in 2011. Comparatively the percentage of younger people (0-14) was 18.8% in 2001 and has dropped to 16.4% in 2011 ⁸⁰ .				
Communities – Population, Employment, and Viability:	The definition of unemployed people within the UK is: 'Unemployed people are those without a job who have been actively seeking work in the past 4 weeks and are available to start work in the next 2 weeks. It also includes those who are out of work but have found a job and are waiting to start it in the next 2 weeks' ⁸¹ .			
Unemployment	As of November 2016, the unemployment rate in England was 4.8% ⁸² .	As of November 2016, the unemployment rate in Scotland was 4.9% ⁸³ .	As of November 2016, the unemployment rate in Wales was 4.4% ⁸⁴ .	As of November 2016, the unemployment rate in Northern Ireland was 5.3% ⁸⁵ .
Supporting Trend Data: The unemployment rate has fluctuated in the UK since 1992. A general decrease in unemployment rates can be seen throughout the UK,				

⁸⁰ Office for National Statistics (2012) *2011 Census: Population Estimates for the United Kingdom, March 2011*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuspopulationestimatesfortheunitedkingdom/2012-12-17>

⁸¹ Office for National Statistics (2016) *Unemployment*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment>

⁸² Office for National Statistics (2016) *LFS: ILO unemployment rate: England: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnl/lms>

⁸³ Office for National Statistics (2016) *LFS: ILO unemployment rate: Scotland: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnn/lms>

⁸⁴ Office for National Statistics (2016) *LFS: ILO unemployment rate: Wales: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnm/lms>

⁸⁵ Office for National Statistics (2016) *LFS: ILO unemployment rate: Northern Ireland: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/zsfb/lms>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	however this is largely dependent on economic performance.			
Communities – Population, Employment, and Viability: Economic Activity Rates	This is a measure of people, who are economically active, expressed as a percentage of all people (aged 16-64).			
	As of November 2016, the economic activity rate in England was 78.8% ⁸⁶ .	As of November 2016, the economic activity rate in Scotland was 77.6% ⁸⁷ .	As of November 2016, the economic activity rate in Wales was 76.2% ⁸⁸ .	As of November 2016, the economic activity rate in Northern Ireland was 74.1% ⁸⁹ .
	Supporting Trend Data: Economic activity rates in the UK have not varied significantly since 1992.			
Communities – Supporting Infrastructure: Locations of Strategic Rail Links	The locations of strategic rail links are shown in Figure 2.			
	The strategic rail network in England is well developed. All major cities are connected as are the majority of significant towns. Extensive rail networks are located around large conurbations such as London and Greater Manchester, with the major cities in the midlands being well connected. Remote, rural and coastal areas are less well served by rail.	The larger cities of Scotland are located in the south of the country and as such, this is where the majority of the strategic rail network is focused. This extends up the east coast to the cities of Dundee, Aberdeen and Inverness. The far north and western regions of Scotland are far less served by rail. This is largely as a result of fewer major urban centers being	Both the north and south coast of Wales are well connected by rail, linking the major coastal cities such as Cardiff and Swansea in the south, and Llandudno, Bangor and Holyhead in the north. Few major branch lines extend from these links, and the central and western regions of Wales are comparatively poorly served by rail.	The strategic rail network in Northern Ireland is concentrated in the east of the country around Belfast and the surrounding cities of Lisburn, Antrim, Bangor and Carrickfergus. The network extends to the north and north west, with Londonderry being the most westerly point. The central and south west regions are poorly served by rail.

⁸⁶ Office for National Statistics (2016) *LFS: Economic activity rate: England: Aged 16-64: All: %: SA*. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3l/lms>

⁸⁷ Office for National Statistics (2016) *LFS: Economic activity rate: Scotland: Aged 16-64: All: %: SA*. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3n/lms>

⁸⁸ Office for National Statistics (2016) *LFS: Economic activity rate: Wales: Aged 16-64: All: %: SA*. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3m/lms>

⁸⁹ Office for National Statistics (2016) *LFS: Economic activity rate: Northern Ireland: Aged 16-64: All: %: SA*. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf5y/lms>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	(GIS mapping)	located in these areas. (GIS mapping)	(GIS mapping)	(GIS mapping)
	<p>Supporting Trend Data:</p> <p>High Speed Two and Crossrail are major new strategic rail projects currently being undertaken in the UK. Upgrades to lines and electrification projects are continually taking place. It is considered unlikely that future projects will significantly increase the strategic rail network.</p>			
<p>Communities – Supporting Infrastructure:</p> <p>Locations of strategic road networks (motorways and primary roads)</p>	The locations of motorways and primary road are shown in Figure 2.			
	<p>England is covered by a comprehensive network of motorways and A roads. All major cities are served by motorways, whilst towns and larger villages are connected by A routes. Areas not serviced by these connections are generally rural and in areas of low population.</p> <p>(GIS mapping)</p>	<p>The major cities of Glasgow and Edinburgh are served by the motorway network which extends north to Perth. The west coast has a substantial network of A roads linking the major coastal cities. The A road network in highland areas and the west coast are less extensive, although most towns and large villages are connected.</p> <p>(GIS mapping)</p>	<p>The south and north coast of Wales are the only areas with motorway connections. The remaining regions are serviced by the A road network which links the major towns and villages. Comparatively the central and upland regions are less provisioned with strategic network links.</p> <p>(GIS mapping)</p>	<p>The motorway network in Northern Ireland is focused around Belfast in the east, with two links extending north west and south west. These terminate in Randalstown and Dungannon respectively. The remaining regions are well connected by the A road network, which services towns and the majority of larger villages.</p> <p>(GIS mapping)</p>
	<p>Supporting Trend Data:</p> <p>The strategic road network in the UK is constantly undergoing maintenance and improvements to improve efficiency, such as managed motorways. It is considered unlikely that significant new strategic road networks will be developed.</p>			
Communities –	The locations of major airports (+500,000 passenger per year) are shown in Figure 2.			

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Supporting Infrastructure: Location of Airports	Major Airports in England are ⁹⁰ : <ul style="list-style-type: none"> • Heathrow • Gatwick • Manchester • Stansted • Luton • Birmingham • Bristol • Liverpool (John Lennon) • Newcastle • East Midlands International • London city • Leeds Bradford • Southampton • Doncaster Sheffield • Southend • Exeter • Bournemouth 	Major Airports in Scotland are ⁹¹ : <ul style="list-style-type: none"> • Edinburgh • Glasgow • Aberdeen • Inverness • Prestwick 	The only major airport in Wales is Cardiff ⁹² .	Major Airports in Northern Ireland are ⁹³ : <ul style="list-style-type: none"> • Belfast International • Belfast City (George Best)
Supporting Trend Data: The proposed expansion of London Heathrow Airport is likely to increase airport capacity in the south east of England, in addition to smaller-scale improvements at other airports. It is considered unlikely that other significant new airports will be developed, although				

⁹⁰ Civil Aviation Authority (2016) *Airport Data 2016 10*. Available: <http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2016-10/>

⁹¹ Civil Aviation Authority (2016) *Airport Data 2016 10*. Available: <http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2016-10/>

⁹² Civil Aviation Authority (2016) *Airport Data 2016 10*. Available: <http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2016-10/>

⁹³ Civil Aviation Authority (2016) *Airport Data 2016 10*. Available: <http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2016-10/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	capacity may be increased through development at existing sites.			
Communities – Supporting Infrastructure: Location of Ports	The locations of principal ports (handling +2m tonnes of freight per year) are shown in figure 2.			
	Principal ports in England ⁹⁴ :	Principal ports in Scotland ⁹⁵ :	Principal ports in Wales are ⁹⁶ :	Principal ports in Northern Ireland are ⁹⁷ :
	<ul style="list-style-type: none"> • Tyne • Tees and Hartlepool • Hull • Grimsby and Immingham • Rivers Hull and Humber • Ipswich • Felixstowe • Harwich • Medway • Dover • London • Portsmouth • Southampton • Plymouth • Bristol • Liverpool • ManchesterHeysham 	<ul style="list-style-type: none"> • Forth • Clyde • Glensanda • Aberdeen • Cairnryan • Loch Ryan • Orkney • Sullom Voe 	<ul style="list-style-type: none"> • Milford Haven • Port Talbot • Holyhead • Newport 	<ul style="list-style-type: none"> • Belfast • Larne • Warrenpoint
Supporting Trend Data: It is considered unlikely that significant new strategic port development will take place.				

⁹⁴ Department for Transport (2016) *Port freight statistics: 2015 final figures*. Available: <https://www.gov.uk/government/statistics/port-freight-statistics-2015-final-figures>

⁹⁵ Department for Transport (2016) *Port freight statistics: 2015 final figures*. Available: <https://www.gov.uk/government/statistics/port-freight-statistics-2015-final-figures>

⁹⁶ Department for Transport (2016) *Port freight statistics: 2015 final figures*. Available: <https://www.gov.uk/government/statistics/port-freight-statistics-2015-final-figures>

⁹⁷ Department for Transport (2016) *Port freight statistics: 2015 final figures*. Available: <https://www.gov.uk/government/statistics/port-freight-statistics-2015-final-figures>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
<p>Health and Well-Being:</p> <p>Radioactivity levels in the environment</p>	<p>Radiation levels in the UK are monitored regularly. This is undertaken by the Radioactive Incident Monitoring Network (RIMNET), the Environment Agency, Public Health England, the Scottish Environment Protection Agency (SEPA) and operators of nuclear sites.</p> <p>Environment agencies monitor radioactivity to:</p> <ul style="list-style-type: none"> • check whether radiation exposure conforms to legal limits; • check that radioactivity in food and the environment from authorised releases and discharges does not affect people’s health or the environment; • gather long-term information on concentrations and trends so that we can identify any changes and take action if required, and; • assess the public’s total exposure to radiation around nuclear sites <p>Monitoring includes several high volume air samplers, which are capable of detecting tiny amounts of radioactive particles in the air. Analysis can be carried out for short lived radionuclides. Results are published in Radioactivity in Food and the Environment (RIFE) reports. The latest RIFE report was published in 2016 and contains data for 2015⁹⁸.</p>			
	<p>The RIFE report identifies that the radiation doses to people living around nuclear licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2015. The highest doses of radiation received by the public in England were near Sellafield in the north west (0.42 mSv), Amersham in the south east (0.14 mSv) and Capenhurst in the north west (0.13 mSv). The high doses around Sellafield are</p>	<p>The RIFE report identifies that the radiation doses to people living around nuclear licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2015. The highest doses of radiation received by the public in Scotland were on the Dumfries and Galloway coast in the south west (0.038 mSv). This was found within consumers of fish, shellfish and wildfowl, and is attributed to discharges from</p>	<p>The RIFE report identifies that the radiation doses to people living around nuclear licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2015. The highest doses of radiation received by the public in Wales was in Trawsfynydd in the north west (0.016 mSv). This was found in consumers of locally grown food¹⁰¹.</p>	<p>There are no nuclear licensed facilities in Northern Ireland. The RIFE report identifies through regional monitoring of consumer doses were all less than one per cent of the annual limit of one mSv¹⁰².</p>

⁹⁸ Environment Agency (2016) *Monitoring radioactivity*. Available: <https://www.gov.uk/guidance/monitoring-radioactivity>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	found within consumers of locally caught crab and lobster, which have concentrations of polonium-210 which is attributed to discharges from the former phosphate processing plant at Whitehaven, rather than the nuclear site at Sellafield ⁹⁹ .	the Sellafield site located in England ¹⁰⁰ .		
<p>Supporting Trend Data:</p> <p>During 2015, as a result of an ongoing programme of monitoring by the operator, radioactive items (particles, including contaminated pebbles / stones) from Sellafield were detected on Cumbrian coastline beaches and removed (339 in financial year 2015 / 16). Public Health England (PHE) has provided advice that the overall health risks for beach users from radioactive objects on beaches near Sellafield are very low and significantly lower than other risks that people accept when using the beaches. A programme of work is in place to address the remaining uncertainties in the origins, fate and effects of the particles with the aim of returning the work to a routine monitoring programme only by about 2018. At Dounreay, the comprehensive beach monitoring programme continued for fragments of irradiated nuclear fuel (particles) and further particles were recovered from local beaches. Fishing restrictions under the Food and Environment Protection Act (FEPA) 1985 are still in force¹⁰³.</p>				

¹⁰¹ UK Government (2016) *Radioactivity in Food and the Environment 2015*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563010/RIFE21.pdf

¹⁰² UK Government (2016) *Radioactivity in Food and the Environment 2015*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563010/RIFE21.pdf

⁹⁹ UK Government (2016) *Radioactivity in Food and the Environment 2015*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563010/RIFE21.pdf

¹⁰⁰ UK Government (2016) *Radioactivity in Food and the Environment 2015*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563010/RIFE21.pdf

¹⁰³ UK Government (2016) *Radioactivity in Food and the Environment 2015*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/563010/RIFE21.pdf

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
<p>Health and Well-Being:</p> <p>The Measuring National Well-being programme</p>	<p>The Measuring National Well-being (MNW) programme set out to establish measures to understand and monitor national well-being¹⁰⁴. The latest data was released in In March 2016.</p> <p>Four measures of personal well-being are examined: how satisfied people feel with their lives; how worthwhile they feel the things they do are; how happy they were yesterday; and how anxious they felt yesterday. Between the financial years ending 2014 and 2015, those reporting the highest ratings of life satisfaction increased 2.0 percentage points, to 28.8%. This was closely followed by ratings of how worthwhile the things people do are, which increased by 1.9 percentage points to 34.4%. The proportion of people reporting the highest levels of happiness, and lowest levels of anxiety increased by 1.5 percentage points to 34.1%, and 40.9% respectively. Improvement across all 4 measures suggests that more people in the UK are feeling positive about their lives than in the financial year ending 2014. Over the same period, there were significant reductions in the proportions of people giving the lowest ratings of happiness (down 0.8 percentage points to 8.9%), life satisfaction (down 0.8 percentage points to 4.8%), worthwhile (down 0.4 percentage points to 3.8%), and the highest ratings of anxiety (down 0.6 percentage points to 19.4%).</p> <p>The MNW also studies the health satisfaction of the population. The proportion of people aged 16 and over in the UK who were somewhat, mostly or completely satisfied with their health was lower in the financial year ending 2014 (57.8%) than in the previous year (59.3%). The way in which people view their health is crucial to well-being. Those aged 75 and over, and between 45 and 54, had the lowest proportions of people satisfied with their health, 50.7% and 54.7% respectively. Almost two-thirds (66.0%) of young people aged 16 to 24 were somewhat, mostly or completely satisfied with their health, with 15.2% reporting that they were completely satisfied with their health.</p> <p>In the financial year ending 2014 the proportion of people aged 16 and over in the UK that showed some evidence of anxiety or depression increased to 19.7%, from 18.3% in the previous year. Mental health is a factor that affects well-being. People with positive mental health will feel good about themselves, and will feel they are better equipped to cope with their problems, whereas those people that indicate depression or anxiety may find this more challenging. A higher proportion of women (22.5%) than men (16.8%) indicated they had some feelings of depression or anxiety in the financial year ending 2014. The age group with the highest proportion indicating depression or anxiety was 45 to 54 year olds (22.8%), whereas the lowest was those aged 65 to 74 (14.4%).</p> <p>Detailed studies of the health and well-being of populations surrounding new nuclear sites will need to undertaken at later stages.</p>			
<p>Health and Well-Being:</p> <p>The Index of</p>	<p>The IMD is the official measure of relative deprivation for small areas (Lower-Area Super Output Areas) in England. The Index ranks every small area in England from 1 (most deprived) to 32,844 (least deprived)¹⁰⁵.</p> <p>The SIMD shows where the most deprived areas in Scotland and is a relative measure of deprivation. Scotland is split into 6,976 zones with</p>			

¹⁰⁴ Office for National Statistics (2016) Measuring national well-being: Life in the UK: 2016. Available; <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/2016>

¹⁰⁵ Department for Communities and Local Government (2015) *English indices of deprivation 2015 – Guidance*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464430/English_Index_of_Multiple_Deprivation_2015_-_Guidance.pdf

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Multiple Deprivation (IMD) 2015 (England)	indicators measured including income, employment, education, health, access to services, crime and housing ¹⁰⁶ .			
The Scottish Index of Multiple Deprivation (SIMD) 2016	The WIMD is the official measure of relative deprivation for small areas in Wales. It is designed to identify those small areas where there are the highest concentrations of several different types of deprivation ¹⁰⁷ .			
The Welsh Index of Multiple Deprivation (WIMD) 2014	The NIMDM comprises seven domains of deprivation, each developed to measure a distinct form or type of deprivation; income, employment, health, education, proximity to services, living environment and crime ¹⁰⁸			
Northern Ireland Multiple Deprivation Measure (NIMDM) 2010	The south east, south west and east of England are the least deprived areas in the UK. Deprivation increases in urban areas, with towns and cities generally being more deprived than rural areas. The north west and north east are the most deprived areas of England. Middlesbrough, Knowsley, Kingston upon Hull, Liverpool and Manchester are the five local authority districts with the largest proportions of highly deprived neighbourhoods in England.	The most deprived areas in Scotland are concentrated around the populated central areas of Glasgow, Edinburgh, Stirling, Perth, Kilmarnock and Dundee. Pockets of deprivation are also located in other urban centres throughout the country, such as Stranraer in the south west, Oban in the west and Aberdeen in the East. The islands of Stornoway and the Orkneys are comparatively deprived to the majority of Scotland.	The south east and north east coast are the most deprived areas in Wales. Deprivation is most concentrated in the south east, around the urban areas of Cardiff, Newport, Swansea and Bridgend. The smaller towns within the valleys of the south east, such as Caerphilly and Merthyr Tydfil are similarly deprived. Comparatively the rural areas of Wales are considerably less deprived.	The most deprived areas of Northern Ireland are the urban centres of Belfast in the east and Derry in the north west. Deprivation is also recorded in rural areas, including around Cookstown in central Northern Ireland, Crossmaglen in the south and Strabane in the west. The lowest deprived areas are North Down, Fermanagh and South Tyrone, Strangford and South Antrim.
Supporting Trend Data:				

¹⁰⁶ Scottish Government (2016) *The Scottish Index of Multiple Deprivation*. Available: <http://www.gov.scot/Topics/Statistics/SIMD>

¹⁰⁷ The Welsh Government (2015) *Welsh Index of Multiple Deprivation (WIMD)*. Available: <http://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en>

¹⁰⁸ Northern Ireland Statistics and Research Agency (2010) *Northern Ireland Multiple Deprivation Measure*. Available: http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Report.pdf

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>The same five local authority districts have the greatest proportions of highly deprived neighborhoods according to both the 2015 and 2010 Index. There have been large decreases in a number of London Boroughs in the proportions of their neighborhoods that are highly deprived. The absence of any notable changes in rank among the most deprived local authority districts is of interest as this indicates areas that have been persistently most deprived. It is not advised to compare the deprivation measures across the UK as data definitions, collection methods and base populations are not the same across the devolved administrations.</p> <p>There are no significant changes in the most deprived areas of Scotland. Urban areas are persistently the most deprived. It is not advised to compare the deprivation measures across the UK as data definitions, collection methods and base populations are not the same across the devolved administrations.</p> <p>The most deprived areas in Wales in 2011 are still relatively the most deprived areas in 2014. It is not advised to compare the deprivation measures across the UK as data definitions, collection methods and base populations are not the same across the devolved administrations.</p> <p>Since 2005 there has been little change in the areas of worst deprivation within Northern Ireland. It is not advised to compare the deprivation measures across the UK as data definitions, collection methods and base populations are not the same across the devolved administrations.</p>			
Historic Environment: World Heritage Sites	World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention and the sites are designated for their globally important cultural or natural interest and require appropriate management and protection measures ¹⁰⁹ . The location of World Heritage Sites are shown in Figure 3.			
	There are 16 World Heritage Sites in England ¹¹⁰ : <ul style="list-style-type: none"> • Blenheim Palace • Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church 	There are five World Heritage Sites in Scotland ¹¹¹ : <ul style="list-style-type: none"> • Heart of Neolithic Orkney • New Lanark • Old and New Towns of 	There are three World Heritage Sites in Wales ¹¹² : <ul style="list-style-type: none"> • Blaenavon Industrial Landscape • Castles and Town Walls of King Edward in 	There is one World Heritage Site in Northern Ireland ¹¹³ : <ul style="list-style-type: none"> • Giant's Causeway and Causeway Coast

¹⁰⁹ UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹⁰ UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹¹ UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹² UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹³ UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<ul style="list-style-type: none"> • City of Bath • Cornwall and West Devon Mining Landscape • Derwent Valley Mills • Durham Castle and Cathedral • Frontiers of the Roman Empire • Ironbridge Gorge • Liverpool – Maritime Mercantile City • Maritime Greenwich • Palace of Westminster and Westminster Abbey, including Saint Margaret’s Church • Royal Botanic Gardens, Kew • Saltaire • Stonehenge, Avebury and Associated Sites • Studley Royal Park including the Ruins of Fountains Abbey • Tower of London • Dorset and East Devon Coast 	<p>Edinburgh</p> <ul style="list-style-type: none"> • The Forth Bridge • St. Kilda. 	<p>Gwynedd</p> <ul style="list-style-type: none"> • Pontcysyllte Aqueduct and Canal 	

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Supporting Trend Data:</p> <p>The first World Heritage Sites within the UK were designated in 1986. Sites can continue to be nominated, with the last site on the UK mainland being the Forth Bridge, Designated in 2015¹¹⁴.</p>			
<p>Historic Environment</p> <p>Scheduled Monuments</p>	<p>Scheduling is the selection of nationally important archaeological sites which are legally protected. The monitoring and identification of sites is undertaken by Historic England, Cadw in Wales, Historic Environment Scotland and the Department for Communities in Northern Ireland.</p> <p>Scheduled Monuments cover the whole range of archaeological sites and are not always visible or above ground sites.</p> <p>The locations of Scheduled Monuments are shown in Figure 2 (England and Scotland).</p> <p><i>NB: No mapping data is available for Wales or Northern Ireland.</i></p>			
	As of 2016, there are almost 20,000 Scheduled Monuments located throughout England ¹¹⁵ .	As of 2016, there are approximately 8,000 Scheduled Monuments located throughout Scotland ¹¹⁶ .	As of 2016, there are over 4,000 Scheduled monuments located throughout Wales ¹¹⁷ .	As of 2016, there are 1,901 Scheduled Monuments located throughout Northern Ireland ¹¹⁸ .
	<p>Supporting Trend Data:</p> <p>Applications for sites to be Scheduled can be made at any time and is an ongoing process. Since 2007 the number of Scheduled Monuments has increased by approximately 2,000 in England, 400 in Wales and 163 in Northern Ireland. Wales has an ongoing planned policy of enhancing the number of sites on the Schedule.</p>			
Historic	<p>The purpose of the Register of Historic Battlefields in England is to offer protection through the planning system and to promote a better understanding of their significance and public enjoyment. If the site of a battle is to merit registration it has to have been an engagement of</p>			

¹¹⁴ UNESCO (2017) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹⁵ Historic England (2017) *Scheduled Monuments*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/scheduled-monuments/>

¹¹⁶ Historic Environment Scotland (2016) *Scotland's Scheduled Monuments 2016*. Available: <https://pub-prod-sdk.azurewebsites.net/api/file/2c1f23d2-1de6-4bf9-91eb-a67b00f1b169>

¹¹⁷ Cadw (2016) *Ancient Monuments*. Available: <http://cadw.gov.wales/historicenvironment/protection/monuments/?lang=en>

¹¹⁸ Department for Communities (2016) *Historic Monuments*. Available: <https://www.communities-ni.gov.uk/articles/scheduled-monuments>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Environment: Historic Battlefields	national significance, and to be capable of close definition on the ground. In Scotland, Historic Battlefields are listed in the Inventory of Historic Battlefields. Locations of Historic Battlefields in England and Scotland are shown in Figure 3.			
	As of 2016, there are 46 Registered Battlefields within England ¹¹⁹ .	As of 2016, there are 35 sites on the Inventory of Historic Battlefields ¹²⁰ .	Wales is currently consulting on the creation of a Register of Historic Battlefields ¹²¹ .	There is no formal register of historic battlefields in Northern Ireland.
	Supporting Trend Data: In view of the work being undertaken by Cadw, it is considered likely that Historic Battlefields in Wales will be given greater protection in the future.			
Historic Environment: Parks and Gardens	The purpose of Registers of Historic Parks and Gardens in England is to encourage the protection of gardens, grounds and other open spaces which are of historic importance. Historic Environment Scotland maintains the Inventory of Gardens and Designed Landscapes which identifies historic grounds and designed landscapes intentionally laid out for artistic effect. In Wales, Cadw maintains the Register of Parks and Gardens of Special Historic Interest. In Northern Ireland, the Department for Communities maintains the Register of Historic Parks, Gardens and Demesnes. Locations of Parks and Gardens are shown in Figure 3 (England and Scotland). <i>NB: No mapping data is available for Wales or Northern Ireland.</i>			
	As of 2016, there are over 1,600 Registered Historic Parks and Gardens within England ¹²² .	As of 2016, there are over 300 sites on the Inventory of Gardens and Designed	As of 2016, there are approximately 400 sites on the Register of Parks and Gardens	As of 2016, there are 154 sites on the register of Historic Parks, Gardens and Demesnes in

¹¹⁹ Historic England (2016) *Registered Battlefields*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-battlefields/>

¹²⁰ Historic Environment Scotland (2016) *Scotland's Inventory of Historic Battlefields 2016*. Available: <https://pub-prod-sdk.azurewebsites.net/api/file/3081a082-0a6f-44e7-9646-a67b00f0eb05>

¹²¹ Cadw (2016) *Historic Battlefields*. Available: <http://cadw.gov.wales/historicenvironment/protection/battlefields/?lang=en>

¹²² Historic England (2017) *Registered Parks & Gardens*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-parks-and-gardens/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
		Landscapes within Scotland ¹²³ .	of Special Historic Interest in Wales ¹²⁴ .	Northern Ireland. Additionally, a further 150 sites have been identified as having a high level of interest and are included as an appendix to the main Register as designated 'Supplementary' sites ¹²⁵ .
<i>Supporting trend data is not available.</i>				
Historic Environment: Protected Wrecks	<p>The Protection of Wrecks Act (1973) allows the Government to designate a wreck to prevent uncontrolled interference. Designated sites are identified as being likely to contain the remains of a vessel, or its contents, which are of historical, artistic or archaeological importance¹²⁶.</p> <p>Locations of Protected Wrecks are shown in Figure 3 (England).</p> <p><i>NB: No mapping data is available for Scotland, Wales or Northern Ireland.</i></p>			
	There are 52 Protected Wreck sites in English waters. The majority of these are located along the south coast ¹²⁷ .	There are six Wrecks of Wales. These are primarily located around the north west and north coast, with one being located off Pembrokeshire in the south west ¹²⁸ .	There are eight Designated Wreck sites in Scottish waters. Three are located in the Sound of Mull, two each in the waters of the Firth of Forth and around the Shetland island of Out Skerries, and one on the north west coast near Kinlochbervie ¹²⁹ .	There is one Protected Wreck in Northern Irish waters, La Girona, which is located on the North Antrim coast ¹³⁰ .

¹²³ Historic Environment Scotland (2016) Inventory of Gardens and Designed Landscapes. Available: <https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/gardens-and-designed-landscapes/what-is-the-inventory-of-gardens-and-designed-landscapes/>

¹²⁴ Cadw (2016) *Historic Parks and Gardens*. Available: <http://cadw.gov.wales/historicenvironment/protection/historiclandscapes/histparkgrdns/?lang=en>

¹²⁵ Department for Communities (2016) *Historic Parks and Gardens*. Available: <https://www.communities-ni.gov.uk/articles/historic-parks-and-gardens>

¹²⁶ Historic England (2017) *Protected Wreck Sites*. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

¹²⁷ Historic England (2017) *Protected Wreck Sites*. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

¹²⁸ Cadw (2016) *Wrecks of Wales*. Available: <http://cadw.gov.wales/historicenvironment/protection/maritimewrecks/wrecksnwreck/wreckswales/?lang=en>

¹²⁹ Scotland's Protected Places (2016) *Designated Wreck Sites*. Available: <http://www.scotlandspreservedplaces.gov.uk/designated/historic/designated-wreck-sites>

¹³⁰ Department for Communities (2016) *Shipwrecks*. Available: <https://www.communities-ni.gov.uk/shipwrecks#toc-2>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<i>Supporting trend data is not available.</i>			
Landscape: National Parks	<p>In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them.</p> <p>The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales. In addition, the Environment Act 1995 requires relevant authorities to have regard for nature conservation. Special Acts of Parliament may be used to establish statutory authorities for their management (e.g. the Broads Authority was set up through the Norfolk and Suffolk Broads Act 1988).</p> <p>The National Parks (Scotland) Act 2000 enabled the establishment of National Parks in Scotland. In addition to the two purposes described above, National Parks in Scotland are designated to promote the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. These purposes have equal weight and are to be pursued collectively unless conservation interests are threatened¹³¹.</p> <p>Locations of National Parks within England, Scotland and Wales are shown in Figure 4.</p>			
	<p>There are 10 National Parks in England¹³²:</p> <ul style="list-style-type: none"> • Broads • Dartmoor • Exmoor. • Lake District • New Forest • Northumberland • North York Moors • Peak District • South Downs • Yorkshire Dales. 	<p>There are two National Parks in Scotland¹³³:</p> <ul style="list-style-type: none"> • Caingorms • Loch Lomond and the Trossachs 	<p>There are three National Parks in Wales¹³⁴:</p> <ul style="list-style-type: none"> • Brecon Beacons • Pembrokeshire Coast • Snowdonia 	<p>There are currently no National Parks within Northern Ireland.</p>

¹³¹ Joint Nature Conservation Committee (2014) *Protected areas and designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>

¹³² National Parks (2016) *National Parks – Britain’s Breathing Space*. Available: <http://www.nationalparks.gov.uk/quick-guide-to-the-uks-national-parks>

¹³³ National Parks (2016) *National Parks – Britain’s Breathing Space*. Available: <http://www.nationalparks.gov.uk/quick-guide-to-the-uks-national-parks>

¹³⁴ National Parks (2016) *National Parks – Britain’s Breathing Space*. Available: <http://www.nationalparks.gov.uk/quick-guide-to-the-uks-national-parks>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>Supporting Trend Data:</p> <p>The designation of National Parks is an ongoing process with two being added in England since 2008 (South Downs and Broads). Within Northern Ireland there are proposals to create a National Park within the Mourne Mountains.</p>			
<p>Landscape:</p> <p>Areas of Outstanding Natural Beauty (AONBs) and National Scenic Areas</p>	<p>In England, Wales and Northern Ireland, the primary purpose of the AONB designation is to conserve natural beauty – which by statute includes wildlife, physiographic features and cultural heritage as well as the more conventional concepts of landscape and scenery. Account is taken of the need to safeguard agriculture, forestry and other rural industries and the economic and social needs of local communities. AONBs have equivalent status to National Parks as far as conservation is concerned.</p> <p>AONBs are designated under the National Parks and Access to the Countryside Act 1949, amended in the Environment Act 1995. The Countryside and Rights of Way Act 2000 clarifies the procedure and purpose of designating AONBs.</p> <p>Originally designated in Northern Ireland under the Amenity Lands Act (Northern Ireland) 1965, AONBs are now designated under the Nature Conservation and Amenity Lands Order (Northern Ireland) 1985¹³⁵.</p> <p>National Scenic Areas (NSAs) are designated by Scottish Ministers as the best of Scotland's landscapes, deserving special protection in the nation's interest. Scottish Ministers in 2010 confirmed 40 NSA under the provisions of The Town and Country Planning (Scotland) Act 1997 (as amended in 2006) (s.263)¹³⁶.</p> <p>Locations of AONBs are in Figure 4.</p> <p><i>NB: No mapping data is available for NSAs.</i></p>			
	<p>There are 34 AONBs located within England¹³⁷:</p> <p>NB: the Wye Valley is on the England / Wales border.</p> <ul style="list-style-type: none"> • Arnsdale & Silverdale 	<p>There are 40 National Scenic Areas within Scotland¹³⁸:</p> <ul style="list-style-type: none"> • East Stewartry Coast • Fleet Valley • Nith Estuary 	<p>There are four AONBs within Wales¹³⁹:</p> <ul style="list-style-type: none"> • Clwydian Range and Dee Valley • Gower 	<p>There are eight AONBs within Northern Ireland¹⁴⁰:</p> <ul style="list-style-type: none"> • Antrim Coast and Glens • Causeway Coast • Lagan Valley

¹³⁵ Joint Nature Conservation Committee (2014) *Protected areas and designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>

¹³⁶ Joint Nature Conservation Committee (2014) *Protected areas and designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>

¹³⁷ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

¹³⁸ Scottish Natural Heritage (2017) *National Scenic Areas: Scotland's finest landscapes*. Available: <http://www.snh.org.uk/pdfs/publications/nsa/National%20Scenic%20Areas.pdf>

¹³⁹ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

¹⁴⁰ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<ul style="list-style-type: none"> • Blackdown Hills • Cannock Chase • Chichester Harbour • Chilterns • Cornwall • Cotswolds • Cranborne Chase and West Wiltshire Downs • Dedham Vale • Dorset • East Devon • Forest of Bowland • Howardian Hills • High Weald • Isle of Wight • Isles of Scilly • Kent Downs • Lincolnshire Wolds • Malvern Hills • Mendip Hills • Norfolk Coast • North Devon • North Pennines • North Wessex Downs • Nidderdale • Northumberland Coast • Quantock Hills • Shropshire Hills • Solway Coast • South Devon • Suffolk Coast and Heaths • Surrey Hills • Tamar Valley • Wye Valley (England) 	<ul style="list-style-type: none"> • Eildon and Leaderfoot • Upper Tweeddale • North Arran • Jura • Knapdale • Kyles of Bute • Loch na Keal, Isle of Mull • Lynn of Lorn • Scarba, Lunga and the Garvellachs • Loch Rannoch & Glen Lyon • Loch Tummel • River Earn (Comrie to St. Fillans) • River Tay (Dunkeld) • Hoy & West Mainland • Shetland • Assynt-Coigach • Ben Nevis and Glen Coe • Cuillin Hills • Dornoch Firth • Glen Affric • Glen Strathfarrar • Kintail • Knoydart • Kyle of Tongue • Loch Shiel • Morar, Moidart and Ardnamurchan • North-West Sutherland • Small Isles • Trotternish • Wester Ross • South Lewis, Harris and 	<ul style="list-style-type: none"> • Llyn • Anglesey 	<ul style="list-style-type: none"> • Mourne • Binevenagh • Ring of Gullion • Sperrin • Strangford Lough

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	and Wales)	North Uist <ul style="list-style-type: none"> • South Uist Machair • St. Kilda • Loch Lomond • The Trossachs • Cairngorm Mountains • Deeside & Lochnagar 		
<i>Supporting trend data is not available.</i>				
Landscape: Heritage Coasts (England and Wales)	A Heritage Coast is a section of coast exceeding one mile in length that is of exceptionally fine scenic quality, substantially undeveloped and containing features of special significance and interest. The designation is agreed between local authorities and (in England) the Countryside Agency or (in Wales) the Countryside Council for Wales, as an aid to local authorities in planning and managing their coastlines ¹⁴¹ . The location of Heritage Coasts are shown in Figure 4.			
	There are 32 Heritage Coasts located around England ¹⁴² : <ul style="list-style-type: none"> • Sussex • Pentire - Widemouth • Isles Of Scilly • Hartland (Cornwall) • North Norfolk • South Devon • Suffolk • Spurn • N Yorks & Cleveland Hamstead 	There are no areas of Heritage Coast in Scotland.	There are 14 Heritage Coasts located around Wales ¹⁴³ : <ul style="list-style-type: none"> • Aberffraw Bay • Ceredigion • Dinas Head • Glamorgan • Gower • Great Orme • Holyhead Mountain • Llŷn • Marloes and Dale • North Anglesey 	There are no areas of Heritage Coast in Northern Ireland.

¹⁴¹ Joint Nature Conservation Committee (2014) *Protected areas and designations directory*. Available: <http://jncc.defra.gov.uk/page-1527>

¹⁴² Natural England (2015) *Heritage coasts: definition, purpose and Natural England's role*. Available: <https://www.gov.uk/government/publications/heritage-coasts-protecting-undeveloped-coast/heritage-coasts-definition-purpose-and-natural-englands-role>

¹⁴³ Natural Resources Wales (2016) *Protected areas of land and seas*. Available: <https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/protected-areas-of-land-and-seas/?lang=en>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<ul style="list-style-type: none"> • Purbeck • Tennyson • West Dorset • Flamborough Head • East Devon • Hartland (Devon) • Rame Head • Lundy • Gribbin Head • Exmoor • The Roseland • St Bees Head • The Lizard • Northumberland • Penwith • North Devon • Godrevy – Portreath • South Foreland • St Agnes • Dover-Folkestone • Trevoise Head • Durham 		<ul style="list-style-type: none"> • St Bride’s Bay • St David’s Peninsula • St Dogmaels and Moylgrove • South Pembrokeshire 	
	<i>Supporting trend data is not available.</i>			
Landscape: Landscape	Landscape Character Areas or Landscape Character Assessments encompass various aspects of landscape, biodiversity, heritage, cultural and geological features. These are non-stutory and used as an aid in the planning process and for decision making.			
	Natural England has produced	The Landscape Character	Natural Resources Wales uses	The Northern Ireland Landscape

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Character Areas	Natural Character Area Profiles (NCAs) ¹⁴⁴ which divide England into 159 distinct natural areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries. They can be used for planning and development.	Assessment in Scotland 300 distinct landscape character types, which are aggregated into 53 types for a strategic overview. These are used to inform development plans and decision making on proposed developments ¹⁴⁵ .	the LANDMAP tool to evaluate landscape characteristics. This includes geological landscape, landscape habitats, visual and sensory, historic landscape and cultural landscape ¹⁴⁶ . Although no specific defined Landscape Character Areas are identified, LANDMAP is used to inform planning, policy and strategies.	Character Assessment subdivides the countryside into 130 Landscape Character Areas, each based upon local patterns of geology, landform, land use, cultural and ecological features ¹⁴⁷ .
<i>Supporting trend data is not available.</i>				
Air Quality: Location of Air Quality Management Areas (AQMA)	Since December 1997 each local authority in the UK must review and assess air quality in their area to determine performance against national air quality objectives. Where air quality objectives are not likely to be achieved an AQMA must be declared. AQMAs are typically associated with vehicle emissions, principally oxides of nitrogen (NO _x), oxides of sulphur (SO ₂) and particulates (PM10). As such, AQMAs are predominantly associated with urban areas and the road network ¹⁴⁸ . The locations of AQMAs are shown in Figure 5.			

¹⁴⁴ Natural England (2014) *National Character Area profiles: data for local decision making*. Available: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making>

¹⁴⁵ Scottish Natural Heritage (2016) *Landscape Character Assessment in Scotland – further information*. Available: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/lca/lca-further-information/>

¹⁴⁶ Natural Resources Wales (2017) *LANDMAP – the Welsh landscape baseline*. Available: <https://naturalresources.wales/planning-and-development/landmap/?lang=en>

¹⁴⁷ Department of Agriculture, Environment and Rural Affairs (2017) *Landscape Character of Northern Ireland*. Available: <https://www.daera-ni.gov.uk/articles/landscape-character-northern-ireland>

¹⁴⁸ Department for Environment and Rural Affairs (2016) *Current AQMAs by Source*. Available: <https://uk-air.defra.gov.uk/aqma/summary>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>As of October 2016 there were 523 AQMAs in England¹⁴⁹. AQMAs are distributed throughout England, although they are principally located in areas of high population. The largest AQMAs are within major cities, including London, Birmingham, Manchester, Liverpool, Sheffield and Bristol. A significant amount of AQMAs are designated along major trunk roads and are generally associated with areas of high congestion.</p>	<p>As of October 2016 there were 35 AQMAs in Scotland¹⁵⁰. The majority of these are located in the south of the country and are associated with the larger cities of Glasgow, Edinburgh, Falkirk, Perth and Dundee. Outside of these areas, Aberdeen and Inverness, on the east coast, have designated AQMAs. The north, highlands and west coast do not have any AQMAs.</p>	<p>As of October 2016 there were 38 AQMAs in Wales¹⁵¹. These are all located in the south of the country. The largest AQMAs are within Swansea and Port Talbot, on the south coast. Smaller AQMAs are within Cardiff, Newport and the smaller towns within the valleys between the M4 corridor and the Brecon Beacons. These smaller AQMAs are associated with congestion within the town centers.</p>	<p>As of October 2016 there were 26 AQMAs in Northern Ireland¹⁵². These are located in the east, west south and central regions. The urban areas of Belfast in the east, Newry in the south and Strabane in the west have the largest AQMAs. Smaller AQMAs, associated with congestion in town centres, are located throughout east, west and south Northern Ireland.</p>
	<p><i>Supporting Trend Data:</i></p> <p>The quality of our air in the UK has improved considerably over the last decade. Road transport is a key source of many air pollutants, particularly in urban areas. There are two main trends in the transport sector working in opposite directions: new vehicles are becoming individually cleaner in response to European emission standards legislation, but total vehicle kilometers are increasing. Overall emissions of key air pollutants from road transport have fallen by about 50% over the last decade, despite increases in traffic, and are expected to reduce by a further 25% over the next decade. This is mainly a result of progressively tighter vehicle emission and fuel standards agreed at European level and set in UK regulations¹⁵³.</p>			
Soils, Geology, and Land Use:	<p><i>Geological SSSIs / ASSIs are included within the SSSI / ASSI information provided in Biodiversity and Ecology.</i></p>			

¹⁴⁹ Department for Environment and Rural Affairs (2016) AQMAs interactive map. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁵⁰ Department for Environment and Rural Affairs (2016) AQMAs interactive map. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁵¹ Department for Environment and Rural Affairs (2016) AQMAs interactive map. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁵² Department for Environment and Rural Affairs (2016) AQMAs interactive map. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁵³ Department for Environment and Rural Affairs (2011) *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland - Volume 1*. Available: <https://www.gov.uk/government/publications/the-air-quality-strategy-for-england-scotland-wales-and-northern-ireland-volume-1>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Location of Geological SSSIs / ASSIs				
Soils, Geology, and Land Use: Geoparks	Geoparks are endorsed by UNESCO and are not designated under legislation. They are locally-led partnerships within areas of internationally significant geology that work to support sustainable economic development of the area, primarily through geological and eco-tourism ¹⁵⁴ .			
	<i>NB: No mapping data on Geoparks is available.</i>			
	There are currently two Geoparks in England, the English Riviera, located in the south of Devon in the south west, and the North Pennines, between Cumbria and Northumberland in the north ¹⁵⁵ .	There are currently two Geoparks in Scotland, the North West Highlands, located in the north, and Geopark Shetland, within the Shetland Islands ¹⁵⁶ .	There are currently two Geoparks Wales, Fforest Fawr, located in the Brecon Beacons in the south, and GeoMon, which encompasses the island of Anglesey in the north west ¹⁵⁷ .	There is currently one Geopark in Northern Ireland, Marble Arch Caves, in the south west of the country ¹⁵⁸ .
	<i>Supporting trend data is not available.</i>			
Water Quality and Resources: Water Framework Directive (WFD)	The EU WFD is transposed into UK law through the following regulations: The Water Environment (WFD) (England and Wales) Regulations 2003 for England and Wales; the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act) and The Water Environment (WFD) Regulations (Northern Ireland) 2003 for Northern Ireland.			
	The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. All EU member states aim to ensure that all aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands reach 'good' chemical and ecological status by 2027.			
	The WFD specifies the quality elements that can be used to assess the surface water status of a water body. Quality elements can be biological (e.g. fish, invertebrates, plants), chemical (e.g. heavy metals, pesticides, nutrients) or indicators of the condition of the habitats			

¹⁵⁴ United Kingdom National Commission for UNESCO (2017) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁵⁵ United Kingdom National Commission for UNESCO (2017) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁵⁶ Shetland Amenity Trust (2017) *About Geopark Shetland*. Available: <http://www.shetlandamenity.org/about-geopark-shetland>

¹⁵⁷ United Kingdom National Commission for UNESCO (2017) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁵⁸ Marble Arch Caves Global Geopark (2017) *Our Geopark*. Available: <http://www.marblearchcavesgeopark.com/our-global-geopark/>

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	and water flows and levels (e.g. presence of barriers to fish migration, modelled lake level data). (JNCC 2010 ¹⁵⁹)			
	<p>As of 2015, in England, the quality status of water bodies assessed under the WFD were¹⁶⁰:</p> <p>Lakes:</p> <p>High - 0 Good – 168 Moderate – 357 Poor – 88 Bad – 77</p> <p>Rivers and Canals:</p> <p>High - 3 Good – 929 Moderate – 2973 Poor – 942 Bad – 99</p> <p>Estuaries and Coastal:</p> <p>High - 1 Good – 43 Moderate – 121 Poor – 4</p>	<p>As of 2015, in Scotland, the quality status of water bodies assessed under the WFD were¹⁶¹:</p> <p>Lakes:</p> <p>High - 103 Good – 119 Moderate – 59 Poor – 48 Bad – 5</p> <p>Rivers and Canals:</p> <p>High - 166 Good – 1132 Moderate – 581 Poor – 400 Bad – 128</p> <p>Estuaries and Coastal:</p> <p>High - 163 Good – 321 Moderate – 21 Poor – 1</p>	<p>As of 2015, in Wales, the quality status of water bodies assessed under the WFD were¹⁶²:</p> <p>Lakes:</p> <p>High – 1 Good – 17 Moderate – 96 Poor – 9 Bad - 1</p> <p>Rivers and Canals:</p> <p>High - 0 Good – 305 Moderate – 361 Poor – 55 Bad – 3</p> <p>Estuaries and Coastal:</p> <p>High - 2 Good – 19 Moderate – 32 Poor – 2</p>	<p>As of 2015, in Northern Ireland, the quality status of water bodies assessed under the WFD were¹⁶³:</p> <p>Lakes:</p> <p>High – 0 Good – 2 Moderate – 12 Poor – 3 Bad – 4</p> <p>Rivers and Canals:</p> <p>High - 8 Good – 139 Moderate – 245 Poor – 45 Bad – 8</p> <p>Estuaries and Coastal:</p> <p>High - 1 Good – 8 Moderate – 14 Poor – 2</p>

¹⁵⁹ Joint Nature Conservation Committee (2010) *Council Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive)*. Available: <http://jncc.defra.gov.uk/page-1375>

¹⁶⁰ Joint Nature Conservation Committee (2015) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁶¹ Joint Nature Conservation Committee (2015) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁶² Joint Nature Conservation Committee (2015) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁶³ Joint Nature Conservation Committee (2015) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	Bad – 3	Bad - 0	Bad - 0	Bad - 0
	<p>Supporting Trend Data:</p> <p>The number of waterbodies assessed each year varies and has decreased from 10,761 in 2009 to 10,379 in 2015. There was a small decrease in the overall number of water bodies awarded high or good surface water status between 2010 and 2015. In 2015, 35% of surface water bodies assessed under the WFD in the UK were in high or good status. This reflects very little change from 36% of surface water bodies assessed in 2010¹⁶⁴.</p>			
<p>Water Quality and Resources:</p> <p>Bathing Water Quality</p>	<p>The Bathing Water Directive (76/160/EEC) is to protect public health and the environment. The Directive sets a number of microbiological and physico-chemical standards that bathing waters must either comply with ('mandatory' standards) or endeavour to meet ('guideline' standards). The Bathing Water Directive is administered in England by Defra and in the rest of the UK by the devolved administrations (Scottish Executive, Natural Resources Wales and Department of the Environment, Northern Ireland).</p>			
	<p>As of 2016 there were 413 designated bathing waters in England. Of these, 287 (69.5%) were classified as excellent, 98 (23.7%) as good, 22 (5.3%) as sufficient and 6 (1.5%) as poor¹⁶⁵.</p>	<p>As of 2016 there were 84 designated bathing waters in Scotland. Of these, 17 (20%) were classified as excellent, 38 (45%) as good, 12 (14%) as sufficient and 17 (20%) as poor¹⁶⁶.</p>	<p>As of 2016 there were 103 designated bathing waters in Wales. Of these, 84 (82%) were classified as excellent, 13 (13%) as good, 5 (5%) as sufficient and 1 (1%) as poor¹⁶⁷.</p>	<p>As of 2016 there were 23 designated bathing waters in Northern Ireland. Of these, 11 (48%) were classified as excellent, 9 (39%) as good, 2 (8%) as sufficient and 1 (4%) as poor¹⁶⁸.</p>
	<p>Supporting Trend Data:</p> <p>2015 was the first year of implementing the new classification system for bathing water quality. The results of these are not directly comparable to years prior to this. In general there has been improvements in bathing water quality since recording began in 1988.</p>			

¹⁶⁴ Joint Nature Conservation Committee (2015) *Surface Water Status – Datasheet*. Available: http://jncc.defra.gov.uk/docs/UKBI2015_DS_B7_Final2.xlsx

¹⁶⁵ Department for Environment Food and Rural Affairs (2016) *Statistics on bathing waters in England for 2016*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/565710/STATS_bathing-water-release-2016v1.pdf

¹⁶⁶ Scottish Environment Protection Agency (2016) *Bathing Waters Report*. Available: http://www.sepa.org.uk/media/219168/1282_sepa_bathing_waters_2016_web.pdf

¹⁶⁷ Welsh Government (2016) *Bathing water quality and beaches in Wales*. Available: <http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en>

¹⁶⁸ Department of Agriculture, Environment and Rural Affairs (2016) *Bathing water quality*. Available: <https://www.daera-ni.gov.uk/articles/bathing-water-quality>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
<p>Flood Risk and Coastal Change:</p> <p>Location of Fluvial and Tidal Floodplains</p>	<p>In England and Wales the flood risk (river and tidal) is categorised into three zones¹⁶⁹ for planning purposes:</p> <ul style="list-style-type: none"> • Flood Zone 1 – Land unlikely to be affected by flooding, with a less than 0.1% (less than 1 in 1000) chance of flooding each year. • Flood Zone 2 – Land likely to be affected by a major flood, with up to a 0.1% (1 in 1000) chance of occurring each year. • Flood Zone 3 – Land likely to be affected by flooding from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year, or from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year. <p>The risk of surface water flooding also needs to be considered:</p> <ul style="list-style-type: none"> • Very low risk area (less than 0.1% (1:1000)) chance of flooding. • Low risk area (0.1% to 0.1% (1:1000 – 1:100)) chance of flooding. • Medium risk area (0.1% to 3.3% (1:100 – 1:30)) chance of flooding. • High risk area (3.3% (1:30)) or greater chance of flooding. <p>In Scotland, the flood risk (river, tidal and surface water) is categorised into three areas¹⁷⁰:</p> <ul style="list-style-type: none"> • Little or no risk area (less than 0.1% (1:1000)) chance of flooding. • Low to medium risk area (0.1% to 0.5% (1:1000 – 1:200)) chance of flooding. • Medium to high risk area (0.5% (1:200)) or greater chance of flooding. <p>In Northern Ireland, the flood risk is identified, the Preliminary Flood Risk Assessment (December 2001), identified 69 Significant Flood Risk Areas¹⁷¹ for which detailed mapping is available. These maps identify land likely to be affected by flooding from the sea or surface water by a flood that has a 0.5% (1 in 200) or greater chance of happening each year, or from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year.</p> <p>.</p> <p>Flood Zones (England) and Significant Flood Risk Areas (Northern Ireland) are shown in Figure 6.</p>			
	The National Flood and Coastal Erosion Risk Management	In Scotland the total extent of the fluvial flood zone is 3,425 km ²	Flood zones 2 and 3 are located across the whole of Wales. The	There are Significant Flood Risk Areas throughout Northern

¹⁶⁹ Environment Agency (2013) *Flood Map for Planning*. Available: <http://apps.environment-agency.gov.uk/wiyby/37837.aspx>

¹⁷⁰ Scottish Government (2004) *Scottish Planning Policy SPP 7 Planning and Flooding*. Available: <http://www.gov.scot/Publications/2004/02/18880/32953#40>

¹⁷¹ Department for Infrastructure (2016) *Contents of the Flood Maps NI*. Available: <https://www.infrastructure-ni.gov.uk/articles/contents-flood-maps-ni>

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	<p>Strategy for England identifies that approximately 5.2 million, or one in six residential properties are located in areas at risk of flooding from rivers, the sea and surface water¹⁷². Flood Zones 2 and 3 and located across the whole of England associated with river and coastal areas. Lowland areas are of particular risk as a consequence of floodplains being associated with the lower reaches of rivers¹⁷³.</p>	<p>and covers 4.3% of the country. The total extent of the coastal flood zone is 566 km² and covers 0.7% of the country¹⁷⁴. In total the fluvial flood zone affects approximately 73,000 properties, which is 2.9% of all properties in Scotland. In total the coastal flood zone affects approximately 26,000 properties, which is 1.0% of all properties in Scotland.</p>	<p>largest and most extensive of these areas exist in lowland and estuarine regions, such as the River Dee and Severn estuary. Mid Wales and the highland regions, such as Snowdonia and the Brecon Beacons, have less risk of flooding¹⁷⁵.</p>	<p>Ireland, for which detailed mapping is available. The largest of these are located around centers of population, such as Belfast in the east and Londonderry in the west.</p> <p>NB: Other areas of Northern Ireland are likely to be at risk of flooding, although these are not as extensively mapped/assessed due to Significant Flood Risk Areas being allocated on the basis of population density¹⁷⁶.</p>
<p>Supporting Trend Data:</p> <p>As a consequence of climate change (which could lead to increased rainfall, river flows, and higher coastal storm surges), and development pressures, it is likely that flood risk will increase in the future, with potentially the most significant changes likely to happen in the latter half of the century. In England it is estimated that over the next 50 years, without investment in flood defences, the number of properties experiencing a 1% annual likelihood of flooding from rivers and sea would increase from 748,000 to 1.29 million. Similar increase are likely to occur within Scotland, Wales and Northern Ireland¹⁷⁷.</p>				

¹⁷² Environment Agency (2009) *Flooding in England: A National Assessment of Flood Risk*. Available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292928/geho0609bqds-e-e.pdf

¹⁷³ Environment Agency (2017) *Flood Map for Planning (Rivers and Sea)*. Available: <http://apps.environment-agency.gov.uk/wiyby/37837.aspx>

¹⁷⁴ Scottish Executive (2007) *Impact of Flooding in Scotland*. Available: <http://www.gov.scot/Resource/Doc/198321/0053031.pdf>

¹⁷⁵ Natural Resources Wales (2017) *Flood risk map*. Available: <https://www.naturalresources.wales/our-evidence-and-reports/maps/flood-risk-map/?lang=en>

¹⁷⁶ Department for Infrastructure (2016) *What is Flood Maps (NI)?* Available: <https://www.infrastructure-ni.gov.uk/articles/what-flood-maps-ni>

¹⁷⁷ Environment Agency (2014) *Flood and coastal erosion risk management. Long-term investment scenarios (LTISA) 2014*. Available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381939/FCRM_Long_term_investment_scenarios.pdf

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Resources and Raw Materials	<p>The UK generated 202.8 million tonnes of total waste in 2014. Over half of this (59.4%) was generated by construction, demolition and excavation, with households responsible for a further 13.7%. 44.5% of waste was recovered (including recycling and energy recovery). The proportion of waste that went to landfill was 23.1%¹⁷⁸.</p> <p>Total UK commercial and industrial waste, comprising inert, non hazardous arising which result from trade or businesses, was 27.7 million tonnes in 2014. This was split between the commercial and industrial sectors by 15.1 and 12.6 million tonnes respectively. Commercial waste generated decreased between 2012 – 2014 by 10.6% (1.8 million tonnes) and industrial waste decreased over the same period by 20.8% (3.3 million tonnes)¹⁷⁹.</p> <p>55 million tonnes of non-hazardous construction and demolition waste was produced in the UK in 2014, 90% (49.4 million tonnes) of which was recovered. This recovery rate is broadly similar over the period 2010 – 2014. The Waste Framework Directive targets a 70% recovery rate for non-hazardous construction and demolition waste by 2020, which the UK is currently achieving¹⁸⁰.</p> <p>N.B: The statistics above are the most recent available, with reference periods ranging from 2010 up to 2015.</p>			

¹⁷⁸ Department for Environment, Food and Rural Affairs (2016) *UK Statistics on Waste*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577752/UK_Statistics_on_Waste_statistical_notice_Dec_2016_FINAL.pdf

¹⁷⁹ Department for Environment, Food and Rural Affairs (2016) *UK Statistics on Waste*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577752/UK_Statistics_on_Waste_statistical_notice_Dec_2016_FINAL.pdf

¹⁸⁰ Department for Environment, Food and Rural Affairs (2016) *UK Statistics on Waste*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577752/UK_Statistics_on_Waste_statistical_notice_Dec_2016_FINAL.pdf

