

Appendix B. Baseline Data and contextual information

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 2018, England had approximately 81.3% share of total net GHG emissions ² .	As of 2018, Scotland had approximately 8.2% share of total net GHG emissions ³ .	As of 2018, Wales had approximately 7.0% share of total net GHG emissions ⁴ .	AS of 2018, Northern Ireland had approximately 3.5% share of total net GHG emissions ⁵ .
	<p>Supporting Trend Data:</p> <p>Total emissions⁶ of direct greenhouse gases have decreased by 44% between 1990 and 2019 and 3% between 2018 and 2019. This decline between 1990 and 2019 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 2019, CO₂ emissions were 454.8 Mt CO₂ equivalent, 43.8% 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 59.7%. As of 2015, methane emissions were 54 Mt CO₂ equivalent.</p> <p>As of 2019, emissions of N₂O were 22 Mt CO₂ equivalent. Emissions of N₂O have declined 55.1% since 1990.</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 UK local authority carbon dioxide emissions estimates 2018 (published 2020) Available: [UK local authority carbon dioxide emissions estimates 2018 \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)

⁶ Final UK greenhouse gas emissions national statistics: 1990-2019. Available: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	Emissions of the F-gases (HFCs, PFCs, SF ₆ and NF ₃) totalled 13 Mt CO ₂ equivalent in 2019. Since 1990 the overall decrease in their emissions has been 22.6%.			
Climate change: Contribution of sectors to greenhouse gas emissions	Total GHG emissions expressed as MtCO ₂ e. NB: Land Use, Land Use Change and Forestry (LULUCF) is a net remover of CO ₂ e in England, Scotland and Wales.			
	As of 2018, the GHG emissions per sector in England were ⁷ : Agriculture: 26,000 CO ₂ e Business: 60,000 CO ₂ e Energy Supply: 69,000 CO ₂ e Industrial Processes: 8,000 CO ₂ e Public: 6,000 CO ₂ e Residential: 56,000 CO ₂ e Transport: 101,000 CO ₂ e Waste Management: 17,000 CO ₂ e LULUCF: - 5,000 CO ₂ e	As of 2018, the GHG emissions per sector in Scotland were ⁸ : Agriculture: 7,000 CO ₂ e Business: 8,000 CO ₂ e Energy Supply: 7,000 CO ₂ e Industrial Processes: 500 CO ₂ e Public: 1,000 CO ₂ e Residential: 6,000 CO ₂ e Transport: 13,000 CO ₂ e Waste Management: 2,000 CO ₂ e LULUCF: - 5,000 CO ₂ e	As of 2018, the GHG emissions per sector in Wales were ⁹ : Agriculture: 6,000 CO ₂ e Business: 9,00, CO ₂ e Energy Supply: 11,000 CO ₂ e Industrial Processes: 2,000 CO ₂ e Public: 325 CO ₂ e Residential: 4,000 CO ₂ e Transport: 6,000 CO ₂ e Waste Management: 1,000 CO ₂ e LULUCF: - 400 CO ₂ e	As of 2018, the GHG emissions per sector in Northern Ireland were ¹⁰ : Agriculture: 5,000 CO ₂ e Business: 2,000 CO ₂ e Energy Supply: 3,000 CO ₂ e Industrial Processes: 170 CO ₂ e Public: 150 CO ₂ e Residential: 3,000 CO ₂ e Transport: 4,000 CO ₂ e Waste Management: 800 CO ₂ e LULUCF: 510 CO ₂ e
	Supporting Trend Data¹¹: As of 2019, emissions in the energy supply sector accounted for 21% of total net direct greenhouse gas emissions and has declined from 279 MtCO ₂ e in 1990 to 106 MtCO ₂ e in 2018 (-62%).			

⁷ National Atmospheric Emissions Inventory (2021) *Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2018*. Available:

https://naei.beis.gov.uk/reports/reports?section_id=4

⁸ National Atmospheric Emissions Inventory (2021) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2018*. Available:

https://naei.beis.gov.uk/reports/reports?section_id=4

⁹ National Atmospheric Emissions Inventory (2021) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2018*. Available:

https://naei.beis.gov.uk/reports/reports?section_id=4

¹⁰ National Atmospheric Emissions Inventory (2021) *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2018*. Available:

https://naei.beis.gov.uk/reports/reports?section_id=4

¹¹ Final UK greenhouse gas emissions national statistics: 1990-2019. Available: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<p>As of 2019, emissions in the business sector accounted for 17% of total net GHG emissions and has declined from 114 MtCO_{2e} in 1990 to 79 MtCO_{2e} in 2018 (-30%).</p> <p>As of 2019, emissions in the agricultural sector accounted for 10% of total net GHG emissions and has declined from 54 MtCO_{2e} in 1990 to 46 MtCO_{2e} in 2018 (-16%).</p> <p>As of 2019, emissions in the industrial processes sector accounted for 4% of total net direct greenhouse gas emissions and has declined from 60 MtCO_{2e} in 1990 to 10 MtCO_{2e} in 2018 (-82%).</p> <p>As of 2019, emissions in the public sector accounted for 2% of total net direct greenhouse gas emissions and has declined from 13 MtCO_{2e} in 1990 to 8 MtCO_{2e} in 2018 (-40%).</p> <p>As of 2019, emissions in the residential sector accounted for 15% of total net direct greenhouse gas emissions and has declined from 80 MtCO_{2e} in 1990 to 70 MtCO_{2e} in 2018 (-13%).</p> <p>As of 2019, emissions in the transport sector accounted for 27% of total net direct greenhouse gas emissions and has declined from 130 MtCO_{2e} in 1990 to 126 MtCO_{2e} in 2018 (-3%).</p> <p>As of 2019, emissions in the waste sector accounted for 4% of total net GHG emissions and has declined from 67 MtCO_{2e} in 1990 to 21 MtCO_{2e} in 2018 (-67%).</p> <p>Note that the most recent Devolved Administration inventory covers 1990-2018 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	<p>The UK Climate Projections (UKCP18) and the State of the UK Climate reports (published annually) identify the following observed trends which are attributed to climate change¹²:</p> <ul style="list-style-type: none"> • The temperature in the UK in the most recent decade (2008-2017) has been on average 0.3 °C higher than the 1981-2010 average and 0.8 °C higher than the 1961-1990, with all of the top 10 warmest years occurring since 1990¹³. • The sea surface temperature around the UK coast for the most recent decade, 2008-2017, is 0.6 °C higher¹⁴ than the 1961-1990 average. 			

¹² Lowe, J. A., et al. (2018): UK Climate Projections 18 Science Overview Report, Met Office, Exeter, UK. Available:

<https://www.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Overview-report.pdf>

¹³ Murphy, J.M., et al. (2018): UK Climate Projections 18 Land Projections: Science Report, Met Office, Exeter, UK. Available:

<https://www.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Land-report.pdf>

¹⁴ Kendon, M., McCarthy, M., Jevrejeva, S., Matthews, A., and Legg, T. (2018): State of the UK Climate 2018, *International Journal of Climatology*, 38(S2). Available:

<https://rmets.onlinelibrary.wiley.com/toc/10970088/2018/38/S2>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	<ul style="list-style-type: none"> • 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. Note that sea level rise will not be at a constant rate around the coast – local geomorphological conditions will dictate precise levels. <p>The UKCP18 projects the following changes within the UK by the 2080-2099 decades, relative to a 1981-2000 baseline, with a medium emissions scenario¹⁵:</p> <ul style="list-style-type: none"> • Average summer temperatures across the UK will increase by 1.2 – 4.5 °C ; • Average summer rainfall will likely decrease, with projections ranging between -46 – +2%; • Average winter rainfall will likely increase, with projections ranging between -9 – +38%, and; • Sea levels in London will rise by 60 cm. <p>To provide context of how climate change may be manifested in individual regions, taking the north west region as an example, significant impacts across a range of sectors including health, infrastructure, economy and biodiversity are anticipated as a result of future changes in climate. Specifically, cold related illnesses and mortality are likely to decrease due to milder winter however, the number of incidents of food poisoning, heat stress and heat related deaths may increase in summer. Domestic energy use may decrease in winter due to higher temperatures however it may increase during summer months as refrigeration and air conditioning demand increases. Wetter winters and more intense rainfall events throughout the year may result in a higher risk of flooding from rivers.</p> <p>National key findings for temperature, precipitation and sea level rise for the different emissions scenarios are also detailed within UKCP18 as follows:</p>			

¹⁵ Palmer, M., et al. (2018): UK Climate Projections 18 Marine Report, Met Office, Exeter, UK. Available: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-marine-report-updated.pdf>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland																																																																																																																
	<table border="1"> <thead> <tr> <th>Variable</th> <th colspan="5">Annual Temperature Change (°C)</th> <th colspan="5">Winter precipitation change (%)</th> <th colspan="5">Summer precipitation change (%)</th> </tr> <tr> <th>Percentile</th> <th>5th</th> <th>10th</th> <th>50th</th> <th>90th</th> <th>95th</th> <th>5th</th> <th>10th</th> <th>50th</th> <th>90th</th> <th>95th</th> <th>5th</th> <th>10th</th> <th>50th</th> <th>90th</th> <th>95th</th> </tr> </thead> <tbody> <tr> <td>High emissions</td> <td>0.7</td> <td>0.9</td> <td>1.8</td> <td>2.7</td> <td>3.0</td> <td>-5</td> <td>-5</td> <td>7</td> <td>21</td> <td>25</td> <td>-35</td> <td>-31</td> <td>-15</td> <td>0</td> <td>3</td> </tr> <tr> <td>Medium emissions</td> <td>0.5</td> <td>0.7</td> <td>1.4</td> <td>2.3</td> <td>2.5</td> <td>-10</td> <td>-7</td> <td>4</td> <td>17</td> <td>21</td> <td>-30</td> <td>-26</td> <td>-13</td> <td>2</td> <td>6</td> </tr> <tr> <td>Low emissions</td> <td>0.3</td> <td>0.5</td> <td>1.2</td> <td>2.0</td> <td>2.3</td> <td>-8</td> <td>-5</td> <td>5</td> <td>16</td> <td>19</td> <td>-28</td> <td>-24</td> <td>-11</td> <td>1</td> <td>5</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th></th> <th>5th</th> <th>Central</th> <th>95th</th> </tr> </thead> <tbody> <tr> <td>High emissions</td> <td>53</td> <td>84</td> <td>115</td> </tr> <tr> <td>Medium emissions</td> <td>37</td> <td>60</td> <td>83</td> </tr> <tr> <td>Low emissions</td> <td>29</td> <td>49</td> <td>70</td> </tr> </tbody> </table> <p>UKCP18 absolute time mean sea level change (cm) projections over the 21st century in London under 3 different scenarios, with 5th and 95th percentile confidence intervals. The changes are given for the year 2100 relative to the 1981-2000 average.</p>																Variable	Annual Temperature Change (°C)					Winter precipitation change (%)					Summer precipitation change (%)					Percentile	5 th	10 th	50 th	90 th	95 th	5 th	10 th	50 th	90 th	95 th	5 th	10 th	50 th	90 th	95 th	High emissions	0.7	0.9	1.8	2.7	3.0	-5	-5	7	21	25	-35	-31	-15	0	3	Medium emissions	0.5	0.7	1.4	2.3	2.5	-10	-7	4	17	21	-30	-26	-13	2	6	Low emissions	0.3	0.5	1.2	2.0	2.3	-8	-5	5	16	19	-28	-24	-11	1	5		5 th	Central	95 th	High emissions	53	84	115	Medium emissions	37	60	83	Low emissions	29	49	70				
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Biodiversity and Ecosystems:	SPAs are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive , 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 .																																																																																																																			

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
Special Protection Areas (SPAs)	SPAs are of national and international conservation importance. The locations of SPAs are shown in Figure 1.			
	As of October 2019 there were 82 Classified SPAs in England, covering an area of 860,495 ha. There is one site crossing the England / Scotland border (43,710 ha), two across the England / Wales border (38,810 ha), two classified as England / offshore (745,722 ha) and one classified as England / Wales / Offshore (252,311 ha) ¹⁷ . SPAs in England are predominantly located in coastal and estuarine areas, with various sites distributed inland. Currently, there are 46 SPAs with marine components designated partly or wholly within English waters. A total of 3 SPAs with marine components are located within both English and Welsh waters.	As of October 2019 there were 152 Classified SPAs in Scotland, covering an area of 1,205,855 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 October 2019 there were 17 Classified SPAs in Wales, covering an area of 259,855 ha. There are also two sites crossing the England / Wales border (38,810 ha), one classified as England / Wales / Offshore (252,311 ha) and one classified as Wales / Offshore (249,390 ha) ¹⁹ . SPAs are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands. Currently, there are 10 SPAs with marine components designated partly or wholly within Welsh waters.	As of October 2019 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 (pSPA).</p>			

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>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	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 environment ²¹ . As a result of this, it is likely that further marine SPAs will be designated in the future.			
Biodiversity and Ecosystems: Special Areas of Conservation (SACs)	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 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 areas ²² . SACs are of national and international conservation importance. The locations of SACs are shown in Figure 1.			
	As of October 2019, there were 242 SACs, covering an area of 1,068,558 ha. There are three SACs crossing the England / Scotland border (112,770 ha) and seven across the England / Wales border (95,182 ha). Additionally, there are three SACs which are classified as England / Offshore (3,795,179 ha) and one classified as	As of October 2019, there were 238 SACs and one SCI in Scotland, covering an area of 2,288,674 ha. There are three SACs crossing the England / Scotland border (112,770 ha). Additionally, there are two SCIs which are classified as Scotland / Offshore (182,232 ha) ²⁴ . SACs in Scotland are widely and densely distributed throughout	As of October 2019, there were 85 SACs in Wales, covering an area of 590,915 ha. There are seven across the England / Wales border (95,182 ha), one classified as England / Wales / Offshore (584,989 ha) and one classified as Wales / Offshore (1,062,562 ha). ²⁵ SACs are widely distributed throughout Wales. There are also currently 12	As of October 2019, there were 57 SACs in Northern Ireland, covering an area of 85,871 ha ²⁶ . There is also one SAC classified as Northern Ireland / Offshore (160,367 ha). SACs are widely distributed throughout Northern Ireland, with the largest being situated around the coast and border with the Republic of Ireland.

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

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

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
	England / Wales / Offshore (584,989 ha) ²³ . SACs are widely distributed throughout England; however the highest concentrations correspond with the more remote rural and upland locations. There are also currently 37 SACs with marine components designated partly or wholly within English waters. A further 3 SACs with marine components are located within both English and Welsh waters.	the country. Large concentrations are found in coastal and highland areas.	SACs with marine components designated partly or wholly within Welsh waters.	
	<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 reporting period 2007 – 2013 and were identified to have improved in the most recent assessment (2019). In 2007, 5% of UK habitats listed in Annex I of the EU Habitats Directive were in favourable conservation status, this figure decreased to 3% in 2013 before increasing again to 8% in 2019. The conservation status of 48% of the habitats was unfavourable-improving in 2007, it decreased to 31% in 2013 and 20% in 2019. The conservation status of 30% of the habitats was unfavourable-declining in 2007, this decreased to 25% in 2013 and 23% in 2019.²⁷.</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 locations of Ramsar sites are shown in Figure 1.</p>			

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>.

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>.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	As of May 2018, 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 sites distributed inland throughout the country.	As of May 2018, 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.	As of May 2018, 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 ha ³¹ . Ramsar are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands.	As of May 2018, there were 20 Ramsar sites in Northern Ireland, totalling an area of 88,152 ha ³² . Ramsar sites in Northern Ireland are primarily located in coastal and estuarine areas.
	<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 locations of NNRs are shown in Figure 1.</p>			

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>.

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

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	As of January 2021, 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.	There are 43 NNRs in Scotland, totalling an area of 154,250 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. NNRs are distributed throughout Scotland, with larger concentrations within the north of the country.	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 November 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 .
	<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	<p>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 2002³⁸.</p> <p>SSSIs / ASSIs are of national conservation importance.</p> <p>The locations of SSSIs and ASSIs are shown in Figure 1.</p>			

³⁴ Natural England (2021) *National Nature Reserves in England*. Available: <https://www.gov.uk/government/collections/national-nature-reserves-in-england>.

³⁵ Scotland's National Nature Reserves (2021) *What are National Nature Reserves?*. Available: <https://www.nnr.scot/About>

³⁶ Natural Resources Wales (2021) *National Nature Reserves*. Available: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/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>.

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

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
(ASSI) (Northern Ireland) NB: The SSSI / ASSI information shown includes sites designated for both biological and geological reasons.	There are over 4,000 SSSIs in England, covering about 7% of the country's surface area ³⁹ . Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of England, and cover a wide variety of habitats and geological features.	As of August 2020, there were 1,422 SSSIs in Scotland covering about 13% of the country's surface area ⁴⁰ . Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of Scotland, and cover a wide variety of habitats and geological features.	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 whole of Wales, and cover a wide variety of habitats and geological features. (NRW 2016)	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.
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 locations of MCZs are shown in Figure 1.			

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

⁴⁰ NatureScot (2020) *Sites of Special Scientific Interest (SSSIs)*. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/sites-special-scientific-interest-sssis>

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-sssis/?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>.

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>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
	There are 89 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, eelgrass and algal communities ⁴⁷ .	There are five MCZs in Northern Irish waters ⁴⁸ : <ul style="list-style-type: none"> • Strangford Lough • Carlingford Lough (NB this area is adjacent to the border with the Republic of Ireland) • Outer Belfast Lough • Waterfoot • Rathlin
<i>Supporting trend data is not available.</i>				
Biodiversity and Ecosystems: Nature Conservation Marine Protected Areas (NCMPAs)	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 network ⁴⁹ .			
	NCMPAs are of national conservation importance. The locations of NCMPAs are shown in Figure 1.			
	This designation is not applicable to England.	There are 17 NCMPAs in Scottish waters, covering approximately 10% of the Scottish seas. These are	This designation is not applicable to Wales.	This designation is not applicable to Northern Ireland.

⁴⁶ Joint Nature Conservation Committee (2019) *Marine Conservation Zones*. Available: <https://jncc.gov.uk/our-work/marine-conservation-zones/>

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>

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

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)/)

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
		primarily designated to protect marine habitats and species ⁵⁰ .		
<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> <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 52,000 ancient woodland sites in England⁵³. Ancient Woodland sites are scattered throughout England, with the densest</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</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</p>

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

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

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
	concentrations being in the south east ⁵⁴ .	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 SSSIs ⁵⁵ .		5,662ha classified as Long-Established Woodland, 3,269ha as Possibly Ancient Woodland, 882ha of Probably Ancient Woodland.
	<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>			
Biodiversity and Ecosystems Biosphere Reserves	<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 locations of Biosphere Reserves are shown in Figure 1.</p>			
	There are two Biosphere Reserves in England. Brighton and Lewes Downs:	There are two Biosphere Reserves in Scotland. Galloway and Southern Ayrshire:	There is one Biosphere Reserve in Wales, Biosffer Dyfi. The area around the river Dyfi (west Wales) is a special place	There are no Biosphere Reserves in Northern Ireland.

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>

⁵⁷ Woodland Trust (2007) *Preliminary Report*. Available: <http://www.backonthemap.org.uk/NR/rdonlyres/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>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 & 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>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 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>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 about their magnificent surroundings⁶².</p>	
	<i>Supporting trend data is not available</i>			
Biodiversity and Ecosystems	Supporting Trend Data:			

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/>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Biodiversity	<p>Between 1970 and 2018, populations of breeding farmland and woodland birds decreased by 45% and 29% respectively, and the population index for breeding water and wetland birds was 17% lower than in 1975⁶³. The population of breeding seabirds is also in long-term decline, being 28% lower in 2018 than in 1986⁶⁴. Between 1970 and 2018, 63% of UK Biodiversity Action Plan (BAP) Priority Species had declined, with only 21% increasing⁶⁵.</p> <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, before increasing again to 8% in 2019. The number of habitats classified as unfavorable improving decreased to 31% in 2013 and 20% in 2019 from 48% in 2007⁶⁶. Improvement was seen in the number of habitats assessed as unfavorable declining, with a 7% decrease between 2007 and 2019. 48% 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 3.5 million hectares in 2019, an increase of 3.2 million hectares since 1992⁶⁸. 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 pollution⁶⁹.</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 storminess⁷⁰. 			

⁶³ Joint Nature Conservation Committee (2020) C5. Birds of the wider countryside and at sea.

⁶⁴ Joint Nature Conservation Committee (2020) C5. Birds of the wider countryside and at sea.

⁶⁵ Joint Nature Conservation Committee (2020) C4. Status of UK priority species.

⁶⁶ Joint Nature Conservation Committee (2020) C3. Status of European habitats and species.

⁶⁷ Joint Nature Conservation Committee (2020) C3. Status of European habitats and species.

⁶⁸ Joint Nature Conservation Committee (2020) B1a. Area of land in agri-environment schemes

⁶⁹ Joint Nature Conservation Committee (2016) Overview of assessment of change for all indicators.

⁷⁰ Inter-Agency Climate Change Forum, 2010. *Biodiversity and Climate Change: A Summary of Impacts in the UK*.

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland																																			
	<p>It is also worth noting that opportunities exist to deal with challenges and risks to natural resources. For example the State of Natural Resources Report (SoNaRR)⁷¹ for Wales has identified the following, which are also considered to be applicable to the rest of the United Kingdom:</p> <table border="1" data-bbox="943 456 1563 1182"> <thead> <tr> <th></th> <th>Declining natural resources</th> <th>Resilience of ecosystems</th> <th>Optimising benefits</th> <th>Minimising negative impacts</th> </tr> </thead> <tbody> <tr> <td>Green infrastructure in and around urban areas</td> <td></td> <td>Contribute to connectivity within and between ecosystems</td> <td>Multi-benefits of urban green-spaces such as water filtration, accessible places for health and recreation, connecting habitats, and supporting opportunities for community cohesion</td> <td>Tackling health inequalities and air quality</td> </tr> <tr> <td>Increasing woodland cover, and bringing more of our existing woodlands into appropriate management</td> <td>Will address woodland resource</td> <td>Contribute to diversity and connectivity of woodlands</td> <td>Multiple benefits of woodland, including health and recreation benefits, fibre and fuel, and wider catchment management opportunities</td> <td></td> </tr> <tr> <td>Coastal zone management and managed realignment</td> <td>Addressing coastal squeeze</td> <td>Supporting coastal habitat</td> <td>Supporting coastal communities, for example through providing opportunities for tourism and employment</td> <td>Future proofing from coastal flooding / sea level rises</td> </tr> <tr> <td>Maintaining, enhancing and restoring floodplains and hydrological systems</td> <td>Water availability</td> <td>Capacity of catchments to deal with high and low flows; supporting water quality</td> <td>Supporting recreation and economic activity</td> <td>Flood risk Social cohesion, equity/local economy</td> </tr> <tr> <td>Better soil management</td> <td>Investment in soils for future productivity</td> <td>Soils underpin everything</td> <td>Preventing erosion, supporting other habitats and benefits</td> <td>Erosion, costs of water treatment etc.</td> </tr> <tr> <td>Utilisation of our uplands to deliver multiple benefits</td> <td>Restoring peatland, safeguarding carbon stores</td> <td>Wider resilience of upland and lowland habitats and species that depend on them</td> <td>Making better use of Wales natural assets</td> <td>Tackling climate change; reducing flood risk</td> </tr> </tbody> </table>					Declining natural resources	Resilience of ecosystems	Optimising benefits	Minimising negative impacts	Green infrastructure in and around urban areas		Contribute to connectivity within and between ecosystems	Multi-benefits of urban green-spaces such as water filtration, accessible places for health and recreation, connecting habitats, and supporting opportunities for community cohesion	Tackling health inequalities and air quality	Increasing woodland cover, and bringing more of our existing woodlands into appropriate management	Will address woodland resource	Contribute to diversity and connectivity of woodlands	Multiple benefits of woodland, including health and recreation benefits, fibre and fuel, and wider catchment management opportunities		Coastal zone management and managed realignment	Addressing coastal squeeze	Supporting coastal habitat	Supporting coastal communities, for example through providing opportunities for tourism and employment	Future proofing from coastal flooding / sea level rises	Maintaining, enhancing and restoring floodplains and hydrological systems	Water availability	Capacity of catchments to deal with high and low flows; supporting water quality	Supporting recreation and economic activity	Flood risk Social cohesion, equity/local economy	Better soil management	Investment in soils for future productivity	Soils underpin everything	Preventing erosion, supporting other habitats and benefits	Erosion, costs of water treatment etc.	Utilisation of our uplands to deliver multiple benefits	Restoring peatland, safeguarding carbon stores	Wider resilience of upland and lowland habitats and species that depend on them	Making better use of Wales natural assets	Tackling climate change; reducing flood risk
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⁷¹ <https://naturalresources.wales/media/681127/chapter-3-state-and-trends-final-for-publication.pdf>

Sustainability Topic / Baseline	England	Scotland	Wales	Northern Ireland
Communities – Population, Employment, and Viability: Population	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 estimates which provide annual and more recent data ⁷² .			
	The population of England in June 2019 was 56,287,000 which accounts for 84% of the UK's population ⁷³ .	The population of Scotland in June 2019 was 5,463,000 which accounts for 8% of the UK's population ⁷⁴ .	The population of Wales in June 2019 was 3,153,000 which accounts for 5% of the UK's population ⁷⁵ .	The population of Northern Ireland in June 2019 was 1,894,000 which accounts for 3% of the UK's population ⁷⁶ .
	<p>Supporting Trend Data:</p> <p>Over the year to mid-2019, decreasing numbers of births and net international migration have resulted in the slowest rate of growth that the UK has seen in 15 years, returning it to the level seen in mid-2004 at 0.5% (361,000). Despite population growth slowing, this was the 37th consecutive year (since 1982) that the total UK population has increased.</p>			
Communities – Population,	The densest areas of population within the UK are within towns and cities. The locations of urban areas are shown in Figure 2.			

⁷² 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>

⁷³ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#population-growth-in-england-wales-scotland-and-northern-ireland>

⁷⁴ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#population-growth-in-england-wales-scotland-and-northern-ireland>

⁷⁵ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available:

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⁷⁶ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available:

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<p>Employment, and Viability:</p> <p>The location of major settlements and areas of population.</p>	<p>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 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.</p> <p>(GIS Mapping)</p>	<p>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 and north and west coasts of Scotland are comparatively sparsely populated.</p> <p>(GIS Mapping)</p>	<p>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 Bangor. Central and western Wales have smaller towns and villages distributed throughout the regions.</p> <p>(GIS Mapping)</p>	<p>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 Carrickfergus located in close proximity to Belfast. Smaller towns and villages are distributed through the rest of the country.</p> <p>(GIS Mapping)</p>	
	<p><i>Supporting trend data is not available.</i></p>				
<p>Communities – Population, Employment, and Viability:</p> <p>Age Structure – Working age population</p>	<p>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+. Mid-year population estimates provide annual and more recent data on these age structures⁷⁷.</p>				
	<p>In June 2019, in England, the estimated percentage of the population in each age group was⁷⁸:</p>	<p>In June 2019, in Scotland, the estimated percentage of the</p>	<p>In June 2019, in Wales, the estimated percentage of the</p>	<p>In June 2019, in Northern Ireland, the estimated</p>	

⁷⁷ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

⁷⁸ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

	0-14: 18.1% (an increase of 0.4% since the 2011 census) 15-64: 63.5% (a decrease of 2.5% since the 2011 census) 65+: 18.4% (an increase of 2.1% since the 2011 census)	population in each age group was ⁷⁹ : 0-14: 15.9% (a decrease of 0.2% since the 2011 census) 15-64: 65% (a decrease of 2.1% since the 2011 census) 65+: 19.1% (an increase of 2.3% since the 2011 census)	population in each age group was ⁸⁰ : 0-14: 16.8% (a decrease of 0.1% since the 2011 census) 15-64: 62.2% (a decrease of 2.5% since the 2011 census) 65+: 21% (an increase of 2.6% since the 2011 census)	percentage of the population in each age group was ⁸¹ : 0-14: 19.7% (an increase of 0.1% since the 2011 census) 15-64: 63.7% (a decrease of 2.1% since the 2011 census) 65+: 16.6% (an increase of 2% since the 2011 census)
	<p>Supporting Trend Data:</p> <p>In mid-2019, there were 12.4 million people aged 65 years and over (18.5%) and 2.5% were aged 85 years and over. Between mid-2009 and mid-2019, the number of children (those aged under 16 years) increased by 8.0% to 12.7 million and the working age population (those aged 16 to 64 years) increased by 3.2% to 41.7 million, the lowest growth of any age group. The number of people aged 65 years and over increased by 22.9% to 12.4 million. The number of people aged 70 years and over increased by 24.7% to 9.0 million. The number of people aged 85 years and over increased by 23% to 1.6 million⁸².</p>			
Communities – Population,	The definition of unemployed people within the UK is specified by the International Labour Organisation. This defines unemployed people as being without a job, having been actively seeking work in the past four weeks and are available to start work in the next two weeks, or people who are out of work, have found a job and are waiting to start it in the next two weeks ⁸³ .			

⁷⁹ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

⁸⁰ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

⁸¹ Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

⁸² Office for National Statistics (2020) *Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2019*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates#populati-on-growth-in-england-wales-scotland-and-northern-ireland>

⁸³ Office for National Statistics (2020) *A guide to labour market statistics*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/aguidetolabourmarketstatistics#unemployment>

Employment, and Viability: Unemployment	As of March 2020, the unemployment rate in England was 4% ⁸⁴ .	As of March 2020, the unemployment rate in Scotland was 4.7% ⁸⁵ .	As of November 2016, the unemployment rate in Wales was 3.1% ⁸⁶ .	As of November 2016, the unemployment rate in Northern Ireland was 2.3% ⁸⁷ .
	<p>Supporting Trend Data:</p> <p>The unemployment rate has fluctuated in the UK since 1992. A general decrease in unemployment rates can be seen throughout the UK since the period of economic recession between 2009 and 2012, however this is largely dependent on economic performance.</p> <p>Since the coronavirus pandemic, unemployment rates have begun to increase. However, as this is still ongoing and is seen as temporary, there is still some uncertainty about the accuracy of this data and the effects on unemployment that will be present in the long-term.</p>			
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 March 2020, the economic activity rate in England was 79.8% ⁸⁸ .	As of March 2020, the economic activity rate in Scotland was 77.5% ⁸⁹ .	As of March 2020, the economic activity rate in Wales was 76.4% ⁹⁰ .	As of March 2020, the economic activity rate in Northern Ireland was 72.9% ⁹¹ .
<p>Supporting Trend Data:</p> <p>Economic activity rates in the UK have not varied significantly since 1992.</p>				
The locations of strategic rail links are shown in Figure 2.				

⁸⁴ Office for National Statistics (2021) *LFS: ILO unemployment rate: England: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnl/lms>

⁸⁵ Office for National Statistics (2021) *LFS: ILO unemployment rate: Scotland: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnn/lms>

⁸⁶ Office for National Statistics (2021) *LFS: ILO unemployment rate: Wales: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnm/lms>

⁸⁷ Office for National Statistics (2021) *LFS: ILO unemployment rate: Northern Ireland: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/zsfb/lms>

⁸⁸ Office for National Statistics (2021) *LFS: Economic activity rate: England: Aged 16-64: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3l/lms>

⁸⁹ Office for National Statistics (2021) *LFS: Economic activity rate: Scotland: Aged 16-64: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3n/lms>

⁹⁰ Office for National Statistics (2021) *LFS: Economic activity rate: Wales: Aged 16-64: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3m/lms>

⁹¹ Office for National Statistics (2021) *LFS: Economic activity rate: Northern Ireland: Aged 16-64: All: %: SA*. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf5y/lms>

<p>Communities – Supporting Infrastructure:</p> <p>Locations of Strategic Rail Links</p>	<p>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.</p> <p>(GIS mapping)</p>	<p>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 located in these areas.</p> <p>(GIS mapping)</p>	<p>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.</p> <p>(GIS mapping)</p>	<p>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.</p> <p>(GIS mapping)</p>
	<p>Supporting Trend Data:</p> <p>Major new strategic rail projects currently being undertaken in the UK include High Speed Two (HS2), Crossrail, Northern Powerhouse Rail and Midlands Engine. 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>	<p>The locations of motorways and primary roads are shown in Figure 2.</p>			
	<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>			
<p>Communities – Supporting Infrastructure:</p> <p>Location of Airports</p>	<p>The locations of major airports (+500,000) passenger per year) are shown in Figure 2.</p>			
	<p>Major Airports in England are⁹²:</p> <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 • Norwich 	<p>Major Airports in Scotland are⁹³:</p> <ul style="list-style-type: none"> • Edinburgh • Glasgow • Aberdeen • Inverness • Prestwick 	<p>The only major airport in Wales is Cardiff⁹⁴.</p>	<p>Major Airports in Northern Ireland are⁹⁵:</p> <ul style="list-style-type: none"> • Belfast International • Belfast City (George Best)
	<p>Supporting Trend Data:</p>			

⁹² Civil Aviation Authority (2020) *Airport Data 2020 02*. Available: <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2020-02/>

⁹³ Civil Aviation Authority (2020) *Airport Data 2020 02*. Available: <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2020-02/>

⁹⁴ Civil Aviation Authority (2020) *Airport Data 2020 02*. Available: <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2020-02/>

⁹⁵ Civil Aviation Authority (2020) *Airport Data 2020 02*. Available: <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2020-02/>

	The proposed expansion of London Heathrow Airport is likely to increase airport capacity in the south east of England if approved, in addition to smaller-scale improvements at other airports. It is considered unlikely that other significant new airports will be developed, although 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 ⁹⁶ : <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 	Principal ports in Scotland ⁹⁷ : <ul style="list-style-type: none"> • Forth • Clyde • Glensanda • Aberdeen • Cairnryan • Loch Ryan • Orkney • Sullom Voe 	Principal ports in Wales are ⁹⁸ : <ul style="list-style-type: none"> • Milford Haven • Port Talbot • Holyhead • Newport 	Principal ports in Northern Ireland are ⁹⁹ : <ul style="list-style-type: none"> • Belfast • Larne • Warrenpoint

⁹⁶ Department for Transport (2020) *UK Port Freight Statistics: 2019*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908558/port-freight-statistics-2019.pdf

⁹⁷ Department for Transport (2020) *UK Port Freight Statistics: 2019*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908558/port-freight-statistics-2019.pdf

⁹⁸ Department for Transport (2020) *UK Port Freight Statistics: 2019*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908558/port-freight-statistics-2019.pdf

⁹⁹ Department for Transport (2020) *UK Port Freight Statistics: 2019*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908558/port-freight-statistics-2019.pdf

	<p>Supporting Trend Data: It is considered unlikely that significant new strategic port development will take place.</p>			
<p>Health and Well-Being: 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) Northern Ireland Environment Agency (NIEA), Natural Resources Wales (NRW) 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 2020 and contains data for 2019¹⁰⁰.</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 (0.24 mSv), Capenhurst in the north-west (0.17 mSv), Springfields in the north-west (0.14 mSv) and Amersham in the south-east</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 (0.031 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 food and the site is</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 mSv¹⁰⁴.</p>

¹⁰⁰ Environment Agency (2020) *Monitoring radioactivity*. Available: <https://www.gov.uk/guidance/monitoring-radioactivity>

¹⁰⁴ UK Government (2020) *Radioactivity in Food and the Environment, 2019*. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932885/Radioactivity_in_food_and_the_environment_2019_RIFE_25.pdf

	<p>(0.14 mSv). The high doses around Sellafield are 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 Sellafield¹⁰¹.</p>	<p>the Sellafield site located in England¹⁰².</p>	<p>currently being decommissioned¹⁰³.</p>	
<p>Supporting Trend Data:</p> <p>During 2019, 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. Over a number of decades, concentrations of radioactivity in the environment around Sellafield have declined as a result of reduced discharges. 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. Fishing restrictions under the Food and Environment Protection Act (FEPA) 1985 are still in force¹⁰⁵.</p>				
<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-being¹⁰⁶. The latest data was released in In March 2019. It is worth noting that different groups or different areas of the UK feel differently about their lives and have different experiences, however data that compares different UK geographies has not yet been released.</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. Overall, personal well-being levels have increased in the UK.</p> <ul style="list-style-type: none"> • Mental well-being improved by 4.6 percentage points between 2011 and 2016, compared with the EU-28 average change of 2.2 percentage points. 			

¹⁰¹ UK Government (2020) *Radioactivity in Food and the Environment, 2019*. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932885/Radioactivity_in_food_and_the_environment_2019_RIFE_25.pdf

¹⁰² UK Government (2020) *Radioactivity in Food and the Environment, 2019*. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932885/Radioactivity_in_food_and_the_environment_2019_RIFE_25.pdf

¹⁰³ UK Government (2020) *Radioactivity in Food and the Environment, 2019*. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932885/Radioactivity_in_food_and_the_environment_2019_RIFE_25.pdf

¹⁰⁵ UK Government (2020) *Radioactivity in Food and the Environment, 2019*. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932885/Radioactivity_in_food_and_the_environment_2019_RIFE_25.pdf

¹⁰⁶ Office for National Statistics (2019) *Measuring national well-being in the UK: international comparisons, 2019*. Available;

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/2016>

	<ul style="list-style-type: none"> • Feelings of worthwhile increased by 4.1 percentage points between 2011 and 2016 in the UK, compared with the EU-28 average decrease of 0.5 percentage points. • There was little change in ratings of happiness between 2011 and 2016, but the UK remains similar to the EU-28 average of 7.4 out of 10. <p>According to data from the Organisation for Economic Co-operation and Development (OECD), the average (mean) rating of life satisfaction of people aged 15 years and over in the UK was 6.7 out of 10 from 2014 to 2016.</p> <p>According to 2016 data from the European Quality of Life Survey (EQLS), 86% of adults aged 18 years and over in the UK agreed or strongly agreed that they generally felt that what they did in life was worthwhile. This was a 4.1-percentage point increase from 2011, where 82% agreed or strongly agreed.</p> <p>When the EQLS asked adults aged 18 years and over to rate how happy they were, the average happiness rating for the UK was 7.8 out of 10 in 2016. The EQLS also asked adults aged 18 years and over the questions on the World Health Organisation’s (WHO-5)’s mental well-being index. This comprises five questions about feeling cheerful, calm, active, rested, and interested. A higher percentage score on the index indicates better mental well-being. The UK scored an average of 63.2% on the scale in 2016; an increase from 58.6% in 2011.</p> <p>Loneliness was measured on the European Quality of Life Survey (EQLS) by asking adults aged 18 years and over to rate how often they felt lonely in the past two weeks. In 2016, of respondents in the UK, 5% reported that they felt lonely most or all of the time, compared with 7% in 2011.</p> <p>The labour market shocks associated with the coronavirus pandemic have been felt more by young people and the lowest paid; people aged under 30 years and those with household incomes under £10,000 were around 35% and 60%, respectively, more likely to be furloughed than the general population. Measurements of health and well-being as a result of the coronavirus pandemic are still to be confirmed and indications of mental health issues such as anxiety are being preliminarily explored. The reliability of such data is unknown at this stage.</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 English Index of Multiple</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)¹⁰⁷.</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 indicators measured including income, employment, education, health, access to services, crime and housing¹⁰⁸.</p>

¹⁰⁷ Ministry of Housing, Communities and Local Government (2019) *English indices of deprivation 2019*. Available: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

¹⁰⁸ Scottish Government (2020) *Scottish Index of Multiple Deprivation 2020*. Available: <https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/>

Deprivation (IMD) 2019	The WIMD is the official measure of relative deprivation for small areas in Wales. WIMD ranks all small areas in Wales from 1 (most deprived) to 1,909 (least deprived) ¹⁰⁹ .			
The Scottish Index of Multiple Deprivation (SIMD) 2020	The NIMDM comprises seven domains of deprivation, each developed to measure a distinct form or type of deprivation. This provides a mechanism for ranking the 890 Super Output areas (SOAs) from the most deprived (rank 1) to the least deprived (rank 890) ¹¹⁰ .			
The Welsh Index of Multiple Deprivation (WIMD) 2019	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.
Northern Ireland Multiple Deprivation Measure (NIMDM) 2017	<p>Supporting Trend Data:</p> <p>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>Overall, 88 per cent of neighbourhoods that are in the most deprived decile according to the Index of Multiple Deprivation 2019 (IMD2019) were also the most deprived according to the IMD2015. As was the case in previous versions of the Indices, IMD2019 reveals concentrations of deprivation in large urban conurbations, areas that have historically had large heavy industry manufacturing and/or mining sectors (such as Birmingham, Nottingham, Hartlepool), coastal towns (such as Blackpool or Hastings), and parts of east London. There are also pockets of deprivation surrounded by less deprived places in every region of England.</p>			

¹⁰⁹ Welsh Government (2019) *Welsh Index of Multiple Deprivation*. Available: <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>

¹¹⁰ Northern Ireland Statistics and Research Agency (2017) *Northern Ireland Multiple Deprivation Measure 2017 (NIMDM2017)*. Available: <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2017-nimdm2017>

	<p>Six council areas have a larger share of the 20% most deprived data zones in Scotland compared with SIMD 2016. Three council areas have a smaller share. The rest have changed by less than 2 percentage points. The councils with the largest decrease are Glasgow City, Renfrewshire, and City of Edinburgh. The councils with the largest increase are Aberdeen City, North Lanarkshire, Moray, East Lothian, Highland, and North Ayrshire.</p> <p>In WIMD 2019, there were pockets of high relative deprivation in the South Wales cities and valleys, and in some North Wales coastal and border towns. The overall picture is similar to that of WIMD 2014. Seven of the ten most deprived areas from WIMD 2014 remained in the ten most deprived areas in WIMD 2019.</p> <p>Since 2005 there has been little change in the areas of worst deprivation within Northern Ireland.</p>			
<p>Historic Environment:</p> <p>World Heritage Sites</p>	<p>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 measures¹¹¹.</p> <p>The location of World Heritage Sites are shown in Figure 3.</p>			
<p>There are 19 World Heritage Sites in England¹¹²:</p> <ul style="list-style-type: none"> • Blenheim Palace • Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church • City of Bath • Cornwall and West Devon Mining Landscape • Derwent Valley Mills • Dorset and East Devon Coast • Durham Castle and Cathedral • Frontiers of the Roman Empire 	<p>There are five World Heritage Sites in Scotland¹¹³:</p> <ul style="list-style-type: none"> • Heart of Neolithic Orkney • New Lanark • Old and New Towns of Edinburgh • St. Kilda • The Forth Bridge 	<p>There are three World Heritage Sites in Wales¹¹⁴:</p> <ul style="list-style-type: none"> • Blaenavon Industrial Landscape • Castles and Town Walls of King Edward in Gwynedd • Pontcysyllte Aqueduct and Canal 	<p>There is one World Heritage Site in Northern Ireland¹¹⁵:</p> <ul style="list-style-type: none"> • Giant's Causeway and Causeway Coast 	

¹¹¹ UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹² UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹³ UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹⁴ UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹⁵ UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

	<ul style="list-style-type: none"> • Ironbridge Gorge • Jodrell Bank Observatory • Lake District • 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 			
<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 Jodrell Bank Observatory, designated in 2019. Of all the sites in the UK, only the Liverpool Maritime Mercantile City site has been placed on the List of World Heritage in Danger. The list presently comprises 53 sites in total worldwide. These are sites at which conditions are present to threaten the characteristics for which a site was placed on the World Heritage List¹¹⁶.</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. Scheduled Monuments cover the whole range of archaeological sites and are not always visible or above ground sites.</p> <p>The condition of Scheduled Monuments is monitored as part of Historic England’s ‘Heritage at Risk’ programme. Local government archaeological services, plus independent national and local heritage organisations and community groups, can also play important roles in their curation, plus that of non-scheduled but nationally important monuments¹¹⁷.</p>			

¹¹⁶ UNESCO (2021) *World Heritage Convention - United Kingdom of Great Britain and Northern Ireland*. Available: <http://whc.unesco.org/en/statesparties/gb>

¹¹⁷ Department for Culture, Media and Sport (2013) *Scheduled Monuments & nationally important but non-scheduled monuments*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/249695/SM_policy_statement_10-2013_2_.pdf

	<p>The locations of Scheduled Monuments are shown in Figure 3 (England and Scotland). <i>NB: No mapping data is available for Wales or Northern Ireland.</i></p>			
	<p>As of 2021, there are almost 20,000 Scheduled Monuments located throughout England¹¹⁸.</p>	<p>As of 2021, there are approximately 8,000 Scheduled Monuments located throughout Scotland¹¹⁹.</p>	<p>As of 2021, there are over 4,000 Scheduled monuments located throughout Wales¹²⁰.</p>	<p>As of 2021, there are 1,901 Scheduled Monuments located throughout Northern Ireland¹²¹.</p>
	<p>Supporting Trend Data: 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>			
<p>Historic Environment: Listed Buildings and Conservation Areas</p>	<p>Conservation Areas are designated for their special architectural and historic interested and were first designated in 1967 with now around 10,000 in England¹²², over 600 in Scotland¹²³, approximately 60 in Northern Ireland¹²⁴ and over 500 in Wales¹²⁵. There are many different types including:</p> <ul style="list-style-type: none"> • the centres of our historic towns and cities • fishing and mining villages • 18th and 19th-century suburbs • model housing estates • country houses set in their historic parks • historic transport links and their environs, such as stretches of canal <p>Most Conservation Areas are designated by the local planning authority and as such are best identified on a local basis.</p> <p>Listing of buildings is concerned with recognising the buildings special architectural and historic interest, with a view to protecting the building, under the planning system for future generations to enjoy. All buildings built before 1700 which survive in anything like their</p>			

¹¹⁸ Historic England (2021) *Scheduled Monuments*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/scheduled-monuments/>

¹¹⁹ Historic Environment Scotland (2020) *Designations 2020 Onwards*. Available: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=e8d84fb0-7b16-49cc-a87a-abce00884e10>

¹²⁰ Lle (2021) *Scheduled Monuments*. Available: <http://lle.gov.wales/catalogue/item/ScheduledAncientMonumentsInWales?lang=en>

¹²¹ Department for Communities (2021) *Historic Monuments*. Available: <https://www.communities-ni.gov.uk/articles/scheduled-monuments>

¹²² Historic England (2021) *What is a Conservation Area?*. Available: <https://historicengland.org.uk/listing/what-is-designation/local/conservation-areas/>

¹²³ Historic Environment Scotland (2021) *Living in a conservation area*. Available: <https://www.historicenvironment.scot/advice-and-support/your-property/owning-a-traditional-property/living-in-a-conservation-area/>

¹²⁴ nidirect (2021) *Conservation areas and advice*. Available: <https://www.nidirect.gov.uk/articles/conservation-areas-and-advice>

¹²⁵ Welsh Government (2021) *Conservation Areas*. Available: <https://cadw.gov.wales/advice-support/placemaking/legislation-and-guidance/conservation-areas>

	<p>original condition are listed, as are most of those built between 1700 and 1840. Particularly careful selection is required for buildings from the period after 1945. Usually a building has to be over 30 years old to be eligible for listing¹²⁶.</p> <p>There are three categories of listed building:</p> <ul style="list-style-type: none"> • Grade I buildings are of exceptional interest, only 2.5% of listed buildings are Grade I • Grade II* buildings are particularly important buildings of more than special interest; 5.8% of listed buildings are Grade II* • Grade II buildings are of special interest; 91.7% of all listed buildings are in this class and it is the most likely grade of listing for a home owner. <p>As noted by Historic England, the total number of listed buildings is unknown, but is estimated to be around 400,000 in England¹²⁷. There are over 30,000 in Wales¹²⁸, about 47,000 in Scotland¹²⁹ and over 8,900 in Northern Ireland¹³⁰. Due to the numbers, listed buildings are best identified on a local basis.</p>			
<p>Historic Environment: Historic Battlefields</p>	<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 national significance, and to be capable of close definition on the ground. In Scotland, Historic Battlefields are listed in the Inventory of Historic Battlefields. The Inventory of Historic Battlefields in Wales is a non-statutory Inventory which means there is no primary legislation enacted to protect entire battlefields.</p> <p>Locations of Historic Battlefields in England and Scotland are shown in Figure 3.</p>			
	<p>As of 2021, there are 46 Registered Battlefields within England¹³¹.</p>	<p>As of 2021, there are 42 sites on the Inventory of Historic Battlefields¹³².</p>	<p>As of 2021, there are over 700 sites on the Inventory of Historic Battlefields in Wales¹³³.</p>	<p>There is no formal register of historic battlefields in Northern Ireland.</p>
	<p>Supporting Trend Data:</p> <p>Public consultation demonstrated strong public support for the recognition of the importance of historic battlefields in Wales and the inventory was only recently created following legislation introduced in 2016.</p>			

¹²⁶ Historic England (2021) *Listed Buildings*. Available: <https://historicengland.org.uk/listing/what-is-designation/listed-buildings/>

¹²⁷ Historic England (2021) *Listed Buildings Identification and Extent*. Available: <https://historicengland.org.uk/advice/hpg/has/listed-buildings/#:~:text=There%20are%20around%20400%2C000%20listed,list%20buildings%20are%20Grade%20I>

¹²⁸ Lle (2021) *Listed Buildings*. Available: <https://lle.gov.wales/catalogue/item/ListedBuildings/?lang=en>

¹²⁹ Historic Environment Scotland (2021) *What is Listing?*. Available: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/listed-buildings/what-is-listing/#listing-exclusions_tab

¹³⁰ Department for Communities (2021) *Listed Buildings – An Introduction*. Available: <https://www.communities-ni.gov.uk/articles/listed-buildings>

¹³¹ Historic England (2021) *Registered Battlefields*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-battlefields/>

¹³² Historic Environment Scotland (2020) *Designations 2020 Onwards*. Available: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=e8d84fb0-7b16-49cc-a87a-abce00884e10>

¹³³ Cadw (2016) *Historic Battlefields*. Available: <http://cadw.gov.wales/historicenvironment/protection/battlefields/?lang=en>

Historic Environment: Parks and Gardens	<p>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.</p> <p>Historic Environment Scotland maintains the Inventory of Gardens and Designed Landscapes which identifies historic grounds and designed landscapes intentionally laid out for artistic effect.</p> <p>In Wales, Cadw maintains the Register of Parks and Gardens of Special Historic Interest.</p> <p>In Northern Ireland, the Department for Communities maintains the Register of Historic Parks, Gardens and Demesnes.</p> <p>Locations of Parks and Gardens are shown in Figure 3 (England and Scotland).</p> <p><i>NB: No mapping data is available for Wales or Northern Ireland.</i></p>			
	<p>As of 2021, there are over 1,600 Registered Historic Parks and Gardens within England¹³⁴.</p>	<p>As of 2021, there are over 300 sites on the Inventory of Gardens and Designed Landscapes within Scotland¹³⁵.</p>	<p>As of 2021, there are approximately 400 sites on the Register of Parks and Gardens of Special Historic Interest in Wales¹³⁶.</p>	<p>As of 2021, there are around 154 sites on the register of Historic Parks, Gardens and Demesnes in 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' sites¹³⁷.</p>
	<p><i>Supporting trend data is not available.</i></p>			
Historic Environment: Protected Wrecks	<p>The <u>Protection of Wrecks Act (1973)</u> 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 importance¹³⁸.</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>			

¹³⁴ Historic England (2021) *Registered Parks & Gardens*. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-parks-and-gardens/>

¹³⁵ Historic Environment Scotland (2021) *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/>

¹³⁶ Cadw (2021) *Understanding Registered Parks and Gardens*. Available: <https://cadw.gov.wales/advice-support/historic-assets/registered-historic-parks-and-gardens/understanding-registered#section-finding-out-about-registered-historic-parks-and-gardens>

¹³⁷ Department for Communities (2021) *Historic Parks, Gardens and Demesnes*. Available: <https://www.communities-ni.gov.uk/articles/historic-parks-gardens-and-demesnes>

¹³⁸ Historic England (2021) *Protected Wreck Sites*. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

	<p>There are 53 Protected Wreck sites in English waters as of 2017. The majority of these are located along the south coast¹³⁹.</p>	<p>There are 6 Wrecks of Wales. These are primarily located around the north west and north coast, with one being located off Pembrokeshire in the south west¹⁴⁰.</p>	<p>There are 18 Designated Wreck sites in Scottish waters. These are primarily located on coastal areas in the north-west¹⁴¹.</p>	<p>There is 1 Protected Wreck in Northern Irish waters, La Girona, which is located on the North Antrim coast¹⁴².</p>
<p><i>Supporting trend data is not available.</i></p>				
<p>Landscape: National Parks</p>	<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 threatened. Where these aims conflict, the relevant National Park authority must prioritise the first of these aims.¹⁴³</p> <p>Note that every National Park is required to prepare and publish a National Park Management Plan which formulates its policy for the management of the relevant National Park and for the carrying out of its functions in relation to that National Park and note needs to be made of these in relation to any National Park that may be affected.</p> <p>Locations of National Parks within England, Scotland and Wales are shown in Figure 4.</p>			

¹³⁹ Historic England (2021) *Protected Wreck Sites*. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

¹⁴⁰ Cadw (2021) *Marine historic environment*. Available: <https://cadw.gov.wales/advice-support/placemaking/legislation-and-guidance/marine-historic-environment>

¹⁴¹ Marine Scotland Information (2021) *Wrecks (HES)*. Available: <https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=628>

¹⁴² Department for Communities (2021) *Shipwrecks*. Available: <https://www.communities-ni.gov.uk/articles/shipwrecks-0>

¹⁴³ NatureScot (2021) *National Park*. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/national-park>

	<p>There are 10 National Parks in England¹⁴⁴:</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 Scotland¹⁴⁵:</p> <ul style="list-style-type: none"> • Cairngorms • Loch Lomond and the Trossachs 	<p>There are three National Parks in Wales¹⁴⁶:</p> <ul style="list-style-type: none"> • Brecon Beacons • Pembrokeshire Coast • Snowdonia 	<p>There are currently no National Parks within Northern Ireland.</p>
<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 Mountains¹⁴⁷.</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 AONBs¹⁴⁸.</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) 1985¹⁴⁹.</p>			

¹⁴⁴ National Parks UK (2021) *Your National Parks*. Available: <https://www.nationalparks.uk/parks/>

¹⁴⁵ National Parks UK (2021) *Your National Parks*. Available: <https://www.nationalparks.uk/parks/>

¹⁴⁶ National Parks UK (2021) *Your National Parks*. Available: <https://www.nationalparks.uk/parks/>

¹⁴⁷ Northern Ireland Assembly (2008) Potential Impacts of National Parks Designation with Particular Reference to The Proposed Mournes National Park. Available: http://archive.niassembly.gov.uk/environment/2007mandate/Research/0801National%20Parks%20_Mournes_.pdf

¹⁴⁸ Natural England (2018) *Areas of outstanding natural beauty (AONBs): designation and management*. Available: <https://www.gov.uk/guidance/areas-of-outstanding-natural-beauty-aonbs-designation-and-management>

¹⁴⁹ Department of Agriculture, Environment and Rural Affairs Northern Ireland (2020) Council for Nature Conservation and the Countryside. Available: <https://www.daera-ni.gov.uk/articles/council-nature-conservation-and-countryside>

<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 NSAs under the provisions of The Town and Country Planning (Scotland) Act 1997 (as amended in 2006) (s.263) ¹⁵⁰. NSAs are broadly equivalent to the AONBs found in England, Wales and Northern Ireland.</p> <p>Locations of AONBs and NSAs are in Figure 4.</p>			
<p>There are 34 AONBs located within England¹⁵¹:</p> <p>NB: the Wye Valley is on the England / Wales border.</p> <ul style="list-style-type: none"> • Arnside & Silverdale • 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 	<p>There are 40 National Scenic Areas within Scotland¹⁵²:</p> <ul style="list-style-type: none"> • East Stewartry Coast • Fleet Valley • Nith Estuary • 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 	<p>There are four AONBs within Wales¹⁵³:</p> <ul style="list-style-type: none"> • Clwydian Range and Dee Valley • Gower • Llyn • Anglesey 	<p>There are eight AONBs within Northern Ireland¹⁵⁴:</p> <ul style="list-style-type: none"> • Antrim Coast and Glens • Causeway Coast • Lagan Valley • Mourne • Binevenagh • Ring of Gullion • Sperrin • Strangford Lough

¹⁵⁰ NatureScot (2017) *National Scenic Areas: background, guidance and policy*. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/national-scenic-areas/national-scenic-areas-background-guidance>

¹⁵¹ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

¹⁵² NatureScot (2010) *National Scenic Areas of Scotland: maps*. Available: <https://www.gov.scot/publications/national-scenic-areas-of-scotland-maps/>

¹⁵³ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

¹⁵⁴ The National Association of Areas of Outstanding Natural Beauty (2017) *Areas of Outstanding Natural Beauty*. Available: <http://www.landscapesforlife.org.uk/>

	<ul style="list-style-type: none"> • 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 and Wales) 	<ul style="list-style-type: none"> • 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 North Uist • South Uist Machair • St. Kilda • Loch Lomond • The Trossachs • Cairngorm Mountains • Deeside & Lochnagar 		
<i>Supporting trend data is not available.</i>				
<p>Landscape: Heritage Coasts (England and Wales)</p>	<p>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) Natural England or (in Wales) Natural Resources Wales, as an aid to local authorities in planning and managing their coastlines¹⁵⁵.</p> <p>The locations of Heritage Coasts are shown in Figure 4.</p>			

¹⁵⁵ 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>

	<p>There are 32 Heritage Coasts located around England¹⁵⁶:</p> <ul style="list-style-type: none"> • Sussex • Pentire - Widemouth • Isles Of Scilly • Hartland (Cornwall) • North Norfolk • South Devon • Suffolk • Spurn • N Yorks & Cleveland Hamstead • 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 	<p>There are no areas of Heritage Coast in Scotland.</p>	<p>There are 14 Heritage Coasts located around Wales¹⁵⁷:</p> <ul style="list-style-type: none"> • Aberffraw Bay • Ceredigion • Dinas Head • Glamorgan • Gower • Great Orme • Holyhead Mountain • Llŷn • Marloes and Dale • North Anglesey • St Bride’s Bay • St David’s Peninsula • St Dogmaels and Moylgrove • South Pembrokeshire 	<p>There are no areas of Heritage Coast in Northern Ireland.</p>
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¹⁵⁶ 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>

¹⁵⁷ Natural Resources Wales (2021) *Heritage Coasts*. Available: <https://lle.gov.wales/catalogue/item/ProtectedSitesHeritageCoast/?lang=en>

	<ul style="list-style-type: none"> Trevoise Head Durham 			
<i>Supporting trend data is not available.</i>				
Landscape: Landscape Character Areas	Landscape Character Areas or Landscape Character Assessments encompass various aspects of landscape, biodiversity, heritage, cultural and geological features. These are non-statutory and used as an aid in the planning process and for decision making.			
	Natural England has produced Natural Character Area Profiles (NCAs) ¹⁵⁸ 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.	The Landscape Character 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 ¹⁵⁹ .	Natural Resources Wales uses the LANDMAP tool to evaluate landscape characteristics. This includes geological landscape, landscape habitats, visual and sensory, historic landscape and cultural landscape ¹⁶⁰ . Although no specific defined Landscape Character Areas are identified, LANDMAP is used to inform planning, policy and strategies.	The Northern Ireland Landscape Character Assessment subdivides the countryside into 130 Landscape Character Areas, each based upon local patterns of geology, landform, land use, cultural and ecological features ¹⁶¹ .
<i>Supporting trend data is not available.</i>				
Air Quality: Location of Air Quality	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 (NOx), oxides of sulphur (SO ₂) and particulates (PM10). As such, AQMAs are predominantly associated with urban areas and the road network ¹⁶² .			

¹⁵⁸ 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>

¹⁵⁹ NatureScot (2019) *Landscape Character Assessment in Scotland*. Available: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/landscape-character-assessment-scotland>

¹⁶⁰ Natural Resources Wales (2021) *LANDMAP – the Welsh landscape baseline*. Available: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en>

¹⁶¹ 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>

¹⁶² Department for Environment and Rural Affairs (2016) *Current AQMAs by Source*. Available: <https://uk-air.defra.gov.uk/aqma/summary>

<p>Management Areas (AQMA)</p>	<p>The locations of AQMAs are shown in Figure 5.</p>			
	<p>As of February 2021, there were 526 AQMAs in England¹⁶³. 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 February 2021, there were 41 AQMAs in Scotland¹⁶⁴. 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 February 2021, there were 44 AQMAs in Wales¹⁶⁵. 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 small AQMAs are associated with congestion within the town centres.</p>	<p>As of February 2021, there were 19 AQMAs in Northern Ireland¹⁶⁶. 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>As the NPS applies to England & Wales only, it is anticipated that there are no implications for the air quality of Northern Ireland in terms of AQMA as these have been declared for the most part in relation to the impact of emissions from road traffic.</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 kilometres 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</p>			

¹⁶³ Department for Environment and Rural Affairs (2016) *AQMAs interactive map and AQMA Summary Data*. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁶⁴ Scottish Air Quality (2021) *Air Quality Management Areas*. Available: <http://www.scottishairquality.scot/laqm/aqma>

¹⁶⁵ Welsh Government (2021) *Air Quality Management Areas*. Available: <https://airquality.gov.wales/laqm/air-quality-management-areas>

¹⁶⁶ Department of Agriculture, Environment and Rural Affairs (2021) Northern Ireland Air, Air Quality Management Areas. Available: <https://www.airqualityni.co.uk/laqm/aqma>

	<p>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 regulations¹⁶⁷.</p>
<p>Soils, Geology, and Land Use:</p> <p>Location of Geological SSSIs / ASSIs</p>	<p><i>Geological SSSIs / ASSIs are included within the SSSI / ASSI information provided in Biodiversity and Ecology.</i></p>
<p>Soils, Geology, and Land Use:</p> <p>Contaminated Land</p>	<p>Of particular note across England and Wales are the numerous contaminated sites that are a legacy of current or past industrial activities. Typically, contaminated land would be found in urban areas and along major transport links, though many sites are also found in rural or coastal areas. While many sites are known, it is the case that many contaminated sites (their location and the nature of contamination) remain unknown. In England, arsenic, lead and benzo(a)pyrene are the most common substances causing contamination of land identified under Part 2A of the Environmental Protection Act 1990¹⁶⁸.</p> <p>Across the United Kingdom, land is legally defined as ‘contaminated land’ where substances are causing or could cause¹⁶⁹:</p> <ul style="list-style-type: none"> • Significant harm to people, property or protected species • Significant pollution of surface waters or groundwater • Harm to people as a result of radioactivity <p>Some types of contaminated land are classed as ‘special sites’. This includes land that:</p> <ul style="list-style-type: none"> • seriously affects drinking waters, surface waters or important groundwater sources • has been, or is being, used for certain industrial activities, such as oil refining or making explosives • is being or has been regulated using a permit issued under the integrated pollution control or pollution prevention and control regimes • has been used to get rid of waste acid tars • is owned or occupied by the Ministry of Defence • is contaminated by radioactivity • is a nuclear site <p>Determination of contaminated land is made in the UK by a local council or the relevant environment agency and is best identified on a local or regional basis.</p>

¹⁶⁷ 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>

¹⁶⁸ Environment Agency (2016) *Dealing with contaminated land in England*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/513158/State_of_contaminated_land_report.pdf

¹⁶⁹ UK Government (2021) *Contaminated Land*. Available: <https://www.gov.uk/contaminated-land>

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 ¹⁷⁰ . <i>NB: No mapping data on Geoparks is available.</i>			
	There are currently three Geoparks in England, the English Riviera, located in the south of Devon in the south west, the North Pennines, between Cumbria and Northumberland in the north, and the Black Country located in the Midlands ¹⁷¹ .	There are currently two Geoparks in Scotland, the North West Highlands, located in the north, and Geopark Shetland, within the Shetland Islands ¹⁷² .	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 ¹⁷³ .	There is currently one Geopark in Northern Ireland, Marble Arch Caves, in the south west of the country ¹⁷⁴ .
	<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 2017 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. Groundwater is an important natural resource that supports river flows as well as ecological diversity in rivers, lakes and wetlands. It is also available for use, across the United Kingdom, for water supply by abstraction from boreholes, wells and springs. 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.			

¹⁷⁰ United Kingdom National Commission for UNESCO (2021) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁷¹ United Kingdom National Commission for UNESCO (2021) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁷² United Kingdom National Commission for UNESCO (2021) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁷³ United Kingdom National Commission for UNESCO (2021) *Global Geoparks*. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁷⁴ Marble Arch Caves Global Geopark (2021) *Our Geopark*. Available: <http://www.marblearchcavesgeopark.com/our-global-geopark/>

<p>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 and water flows and levels (e.g. presence of barriers to fish migration, modelled lake level data) (JNCC 2010¹⁷⁵).</p> <p>Note will also be made in the AoS of each site of the terms of the Environmental Permitting Regulations (England and Wales) 2018.</p>				
<p>As of 2019, in England, the quality status of water bodies assessed under the WFD were¹⁷⁶:</p> <p>Lakes:</p> <p>High – 0% Good – 16% Moderate – 71% Poor – 11% Bad – 1%</p> <p>Rivers and Canals:</p> <p>High – 0% Good – 15% Moderate – 62% Poor – 19% Bad – 3%</p> <p>Estuaries and Coastal:</p> <p>High – 1% Good – 28% Moderate – 65%</p>	<p>As of 2019, in Scotland, the quality status of water bodies assessed under the WFD were¹⁷⁷:</p> <p>Lakes:</p> <p>High – 31% Good – 38% Moderate – 20% Poor – 10% Bad – 1%</p> <p>Rivers and Canals:</p> <p>High – 7% Good – 48% Moderate – 24% Poor – 16% Bad – 5%</p> <p>Estuaries and Coastal:</p> <p>High – 30% Good – 68% Moderate – 1%</p>	<p>As of 2019, in Wales, the quality status of water bodies assessed under the WFD were¹⁷⁸:</p> <p>Lakes:</p> <p>High – 1% Good – 19% Moderate – 67% Poor – 13% Bad – 0%</p> <p>Rivers and Canals:</p> <p>High – 0% Good – 44% Moderate – 47% Poor – 8% Bad – 1%</p> <p>Estuaries and Coastal:</p> <p>High – 2% Good – 22% Moderate – 75%</p>	<p>As of 2019, in Northern Ireland, the quality status of water bodies assessed under the WFD were¹⁷⁹:</p> <p>Lakes:</p> <p>High – 0% Good – 24% Moderate – 29% Poor – 33% Bad – 14%</p> <p>Rivers and Canals:</p> <p>High – 0% Good – 31% Moderate – 57% Poor – 9% Bad – 2%</p> <p>Estuaries and Coastal:</p> <p>High – 0% Good – 40% Moderate – 56%</p>	

¹⁷⁵ 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>

¹⁷⁶ Joint Nature Conservation Committee (2020) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁷⁷ Joint Nature Conservation Committee (2020) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁷⁸ Joint Nature Conservation Committee (2020) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

¹⁷⁹ Joint Nature Conservation Committee (2020) B7. Surface Water Status. Available: <http://jncc.defra.gov.uk/page-4250>

	Poor – 2% Bad – 4%	Poor – 0% Bad – 0%	Poor – 2% Bad – 0%	Poor – 4% 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 9,300 in 2018. There was a small decrease in the overall number of water bodies awarded high or good surface water status between 2009 and 2018. In 2018, 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 2009 and 37% in 2013¹⁸⁰.</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 transposed into law in all of the United Kingdom's devolved nations and is administered in England by the Department of Environment, Food and Rural Affairs, in Scotland by the Scottish Government, in Wales by Natural Resources Wales and in Northern Ireland by the Department of Agriculture, Environment and Rural Affairs.</p> <p>Water quality at designated bathing water sites in England is assessed by the Environment Agency. From May to September, weekly assessments measure current water quality, and at a number of sites daily pollution risk forecasts are issued. Annual ratings classify each site as excellent, good, sufficient or poor based on measurements taken over a period of up to four years.</p>			
	<p>As of 2019, in England, the quality status of bathing water areas assessed under the Bathing Waters Directive were¹⁸¹:</p> <ul style="list-style-type: none"> • Excellent – 300 • Good – 92 • Sufficient – 21 • Poor – 8 • Closed - 1 	<p>As of 2019 there were 86 designated bathing waters in Scotland. The quality status of bathing water areas assessed under the Bathing Waters Directive were¹⁸²:</p> <ul style="list-style-type: none"> • Excellent – 29 (34%) • Good – 31 (35%) • Sufficient – 20 (23%) • Poor – 6 (8%) 	<p>In Wales, 105 designated bathing waters were sampled and classified during the 2019 bathing season. The quality status of bathing water areas assessed under the Bathing Waters Directive were¹⁸³:</p> <ul style="list-style-type: none"> • Excellent – 83 • Good – 17 	<p>In Northern Ireland, all 26 monitored coastal bathing waters were classified overall as reaching minimum standards during the 2019 annual classification. The quality status of bathing water areas assessed under the Bathing Waters Directive were¹⁸⁴:</p>

¹⁸⁰ Joint Nature Conservation Committee (2019) *Surface Water Status – Datasheet*. Available: http://jncc.defra.gov.uk/docs/UKBI2015_DS_B7_Final2.xlsx

¹⁸¹ Environment Agency, Bathing Water Data. Available: <http://environment.data.gov.uk/bwq/profiles/data.html?country=England>

¹⁸² Scottish Environment Protection Agency (2019) *Season 2019: Classifications*. Available: <https://www2.sepa.org.uk/bathingwaters/Classifications.aspx>

¹⁸³ Natural Resources Wales (2021) *Wales bathing water quality report 2019*. Available: <https://naturalresources.wales/evidence-and-data/research-and-reports/water-reports/2019-wales-bathing-water-quality-report/?lang=en>

¹⁸⁴ Department of Agriculture, Environment and Rural Affairs (2020) *Better beaches report*. Available: <https://www.daera-ni.gov.uk/articles/bathing-water-quality>

			<ul style="list-style-type: none"> • Sufficient – 5 <p>All of the designated bathing waters met the minimum water quality standards and there were no non-compliant bathing waters during the 2019 season.</p>	<ul style="list-style-type: none"> • Excellent – 14 (53.85%) • Good – 9 (34.62%) • Sufficient – 3 (11.54%)
<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>				
<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 zones¹⁸⁵ for planning purposes (noting that the NPPF further subdivides flood zone 3 into 3a and Functional Floodplain 3b (land where water has to flow or be stored in times of flood)):</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 1% (1:1000 – 1:100)) chance of flooding. • Medium risk area (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 areas¹⁸⁶:</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>The Northern Ireland Flood Risk Assessment Plan (NIFRA) 2018, identified a total of 45 flood risk areas. Out of these, 12 have been identified as Areas of Potential Significant Flood Risk (APSFR) and a further 9 determined Transitional Areas of Potential Significant Flood Risk (TAPSFR)¹⁸⁷.</p>			

¹⁸⁵ Environment Agency (2013) *Flood Map for Planning*. Available: <http://apps.environment-agency.gov.uk/wiyby/37837.aspx>

¹⁸⁶ Scottish Government (2020) *Scottish Planning Policy, A Natural, Resilient Place*. Available: <https://www.gov.scot/publications/scottish-planning-policy/pages/7/>

¹⁸⁷ Department for Infrastructure (2018) *Northern Ireland Flood Risk Assessment (NIFRA) 2018*. Available: <https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/northern-ireland-flood-risk-assessment-report-2018-updated-may2019.pdf>

Estimates of flood risk from different sources across the UK vary, but it is known that the level of risk is substantial – for example in Wales, over 160,000 properties are at risk of flooding from rivers and sea, with approximately 130,000 properties in Wales at risk of surface water flooding (in addition to potentially other flood risks)¹⁸⁸. Scotland has an estimated 108,000 properties at risk of flooding¹⁸⁹, England has approximately 5.2million at risk¹⁹⁰, while in Northern Ireland, the Preliminary Flood Risk Assessment (PFRA) 2011 estimated that 46,000 or 5% of the 830,000 properties in Northern Ireland are located within the undefended 1 in 100 year fluvial floodplain or 1 in 200 year coastal floodplain¹⁹¹.

Shoreline Management Plans have been developed across England and Wales by Coastal Groups made up of members from local councils and the Environment Agency. The purpose of these plans is to identify the most sustainable approach to managing the flood and coastal erosion risks to the coastline in the:

- Short term (0 to 20 years)
- Medium term (20 to 50 years)
- Long term (50 to 100 years)

A total of 22 plans have been developed for England and Wales as follows¹⁹²:

- SMP 1 – Scottish Border to River Tyne
- SMP 2 – The Tyne to Flamborough Head
- SMP 3 – Flamborough Head to Gibraltar Point
- SMP 4 – Gibraltar Point to Huntstanton
- SMP 5 – Hunstanton to Kelling hard
- SMP 6 – Kelling Hard to Lowestoft
- SMP 7 – Lowestoft to Felixstowe
- SMP 8 – Essex and South Suffolk
- SMP 9 – River Medway and Swale Estuary
- SMP 10 – Isle of Grain to South Foreland
- SMP 11 – South Foreland to Beachy Head
- SMP 12 – Beachy Head to Selsey Bill
- SMP 13 – Selsey Bill to Hurst Spit

¹⁸⁸ Welsh Government (2019) Properties at Risk of Flooding in Wales. Available: <https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Flooding>

¹⁸⁹ Scottish Government (2015) *Mapping flood disadvantage in Scotland 2015: report*. Available: [https://www.gov.scot/publications/mapping-flood-disadvantage-scotland-2015-main-report/pages/10/#:~:text=The%20investigation%20into%20the%20flood,change\)%2C%20with%20a%20minor%20number](https://www.gov.scot/publications/mapping-flood-disadvantage-scotland-2015-main-report/pages/10/#:~:text=The%20investigation%20into%20the%20flood,change)%2C%20with%20a%20minor%20number)

¹⁹⁰ Environment Agency (2009) *Flooding in England: A National Assessment of Flood Risk*. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/292928/geho0609bqds-e-e.pdf

¹⁹¹ Rivers Agency (2011) *Preliminary Flood Risk Assessment and Methodology for the Identification of Significant Flood Risk Areas*. Available: <https://www.infrastructure-ni.gov.uk/sites/default/files/publications/dard/final-pfra-report.pdf>

¹⁹² Environment Agency (2009) *Shoreline Management Plans (SMPs)*. Available: <https://www.gov.uk/government/publications/shoreline-management-plans-smps>

	<ul style="list-style-type: none"> • SMP 14 – Isle of Wight • SMP 15 – Hurst Spit to Durlston Head • SMP 16 – Durlston Head to Rame Head • SMP 17 – Rame Head to Hartland Point • SMP 18 – Hartland Point to Anchor Head • SMP 19 – Anchor Head to Lavernock Point • SMP 20 – Lavernock Head to Saint Ann’s Head • SMP 21 – St. Ann’s Head to Great Ormes Head • SMP 22 – Great Ormes Head to Scotland <p>The Shoreline Management Plans propose four different management policies:</p> <ul style="list-style-type: none"> • No active intervention • Hold the (existing defence) line • Managed realignment • Advance the line <p>There is not the same comprehensive approach to Shoreline Management in Scotland, with only a small number (four) of local authorities publishing Shoreline Management Plans, though there is a growing recognition of the need for a more joined up approach to this issue, particularly in light of a changing climate and recent work has informed this process¹⁹³. Northern Ireland also does not have a strategic approach to shoreline management¹⁹⁴.</p>				
	<table border="1"> <tr> <td data-bbox="414 837 833 1125"> <p>The National Flood and Coastal Erosion Risk Management 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 water¹⁹⁵. Flood Zones 2 and 3 and located across the</p> </td> <td data-bbox="833 837 1252 1125"> <p>Scotland has an estimated 108,000 properties, over 4% of residential properties, at risk of any type of flooding, with just below 3.6% of all data zones classified as having an extremely high or acute vulnerability to flooding, affecting an estimated 100,000 people¹⁹⁷,</p> </td> <td data-bbox="1252 837 1671 1125"> <p>Flood zones 2 and 3 are located across the whole of Wales. The 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</p> </td> <td data-bbox="1671 837 2089 1125"> <p>There are Significant Flood Risk Areas throughout Northern Ireland, for which detailed mapping is available. The largest of these are located around centres of population, such as Belfast in the east and Londonderry in the west.</p> </td> </tr> </table>	<p>The National Flood and Coastal Erosion Risk Management 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 water¹⁹⁵. Flood Zones 2 and 3 and located across the</p>	<p>Scotland has an estimated 108,000 properties, over 4% of residential properties, at risk of any type of flooding, with just below 3.6% of all data zones classified as having an extremely high or acute vulnerability to flooding, affecting an estimated 100,000 people¹⁹⁷,</p>	<p>Flood zones 2 and 3 are located across the whole of Wales. The 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</p>	<p>There are Significant Flood Risk Areas throughout Northern Ireland, for which detailed mapping is available. The largest of these are located around centres of population, such as Belfast in the east and Londonderry in the west.</p>
<p>The National Flood and Coastal Erosion Risk Management 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 water¹⁹⁵. Flood Zones 2 and 3 and located across the</p>	<p>Scotland has an estimated 108,000 properties, over 4% of residential properties, at risk of any type of flooding, with just below 3.6% of all data zones classified as having an extremely high or acute vulnerability to flooding, affecting an estimated 100,000 people¹⁹⁷,</p>	<p>Flood zones 2 and 3 are located across the whole of Wales. The 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</p>	<p>There are Significant Flood Risk Areas throughout Northern Ireland, for which detailed mapping is available. The largest of these are located around centres of population, such as Belfast in the east and Londonderry in the west.</p>		

¹⁹³ Dynamic Coasts (2017) National Coastal Change Assessment. Available: <http://www.dynamiccoast.com/outputs.html>

¹⁹⁴ Northern Ireland Assembly (2015) *Shoreline management planning in Northern Ireland*. Available: http://www.niassembly.gov.uk/globalassets/documents/raise/knowledge_exchange/briefing_papers/series4/2015-04-15-kess-shoreline-management-planning-in-northern-ireland1.pdf

¹⁹⁵ 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

¹⁹⁷ Scottish Government (2015) *Mapping flood disadvantage in Scotland 2015: report*. Available: [https://www.gov.scot/publications/mapping-flood-disadvantage-scotland-2015-main-report/pages/10/#:~:text=The%20investigation%20into%20the%20flood,change\)%2C%20with%20a%20minor%20number](https://www.gov.scot/publications/mapping-flood-disadvantage-scotland-2015-main-report/pages/10/#:~:text=The%20investigation%20into%20the%20flood,change)%2C%20with%20a%20minor%20number)

	<p>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 rivers¹⁹⁶.</p>	<p>Over 60,000 people may be extremely or acutely disadvantaged in relation to river (fluvial) flooding, over 28,000 people may be extremely or acutely disadvantaged in relation to coastal flooding, and 14,000 people in regard to surface water flooding.</p>	<p>the Brecon Beacons, have less risk of flooding¹⁹⁸.</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 density¹⁹⁹.</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 Ireland²⁰⁰.</p>				
<p>Resources and Raw Materials</p>	<p>The UK generated 221.0 million tonnes of total waste in 2016, and it is estimated that 41.1 million tonnes of this was commercial and industrial (C&I) waste²⁰¹.</p> <p>In 2018, 26,411,000 tonnes of Waste from Households (WfH) were generated in the UK with an overall recycling rate of 45%. In England, the recycling rate was 44.7%, in Northern Ireland it was 47.7%, in Wales it was 54.1% and in Scotland it was 42.8%. Around 14,644,000 tonnes of the UK's municipal waste went to landfill in 2018²⁰².</p>			

¹⁹⁶ Environment Agency (2017) *Flood Map for Planning (Rivers and Sea)*. Available: <http://apps.environment-agency.gov.uk/wiyby/37837.aspx>

¹⁹⁸ Natural Resources Wales (2017) *Flood risk map*. Available: <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

¹⁹⁹ Department for Infrastructure (2020) *Flood Maps NI*. Available: <https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni>

²⁰⁰ 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

²⁰¹ Department for Environment, Food and Rural Affairs (2020) UK Statistics on Waste. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918270/UK_Statistics_on_Waste_statistical_notice_March_2020_accessible_FINAL_updated_size_12.pdf

²⁰² Department for Environment, Food and Rural Affairs (2020) UK Statistics on Waste. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918270/UK_Statistics_on_Waste_statistical_notice_March_2020_accessible_FINAL_updated_size_12.pdf

Total UK commercial and industrial waste, comprising inert, non-hazardous arising which result from trade or businesses, was 41.1 million tonnes in 2017. Around 80% of this total was generated in England. This was split between the commercial and industrial sectors by 27.5 and 13.6 million tonnes respectively²⁰³.

Construction, demolition and excavation (CD&E; including dredging) generated around three fifths (62%) of total UK waste in 2016. 66.2 million tonnes of non-hazardous construction and demolition waste was produced in the UK in 2018, 91% (60.2 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 expected to achieve at these given rates²⁰⁴.

²⁰³ Department for Environment, Food and Rural Affairs (2020) UK Statistics on Waste. Available:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918270/UK_Statistics_on_Waste_statistical_notice_March_2020_accessible_FINAL_updated_size_12.pdf

²⁰⁴ Department for Environment, Food and Rural Affairs (2020) UK Statistics on Waste. Available:
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