The State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources.
Annex.
Record of confidence assessments

Natural Resources Wales

Final Report

About Natural Resources Wales

We look after Wales' environment so that it can look after nature, people and the economy.

Our air, land, water, wildlife, plants and soil – our natural resources - provide us with our basic needs, including food, energy, health and enjoyment.

When cared for in the right way, they can help us to reduce flooding, improve air quality and provide materials for construction. They also provide a home for some rare and beautiful wildlife and iconic landscapes we can enjoy and which boost the economy.

But they are coming under increasing pressure – from climate change, from a growing population and the need for energy production. We aim to find better solutions to these challenges and create a more successful, healthy and resilient Wales.

Evidence at Natural Resources Wales

Natural Resources Wales is an evidence based organisation. We seek to ensure that our strategy, decisions, operations and advice to Welsh Government and others are underpinned by sound and quality-assured evidence. We recognise that it is critically important to have a good understanding of our changing environment.

We will realise this vision by:

- Maintaining and developing the technical specialist skills of our staff;
- Securing our data and information;
- Having a well resourced proactive programme of evidence work;
- Continuing to review and add to our evidence to ensure it is fit for the challenges facing us; and
- Communicating our evidence in an open and transparent way.

The State of Natural Resources Report (SoNaRR) Report Contents

This document is one of six annexes to the State of Natural Resources Report.

All of the SoNaRR documents can be downloaded from the NRW website: www.naturalresources.wales/sonarr.

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Record of Confidence Assessments

Confidence record for Chapter 3 Part A

Confidence Annex Table 1 Confidence assessments for 3.1 Animals, plants and other organisms.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	North Wales Environmental Information Service (Cofnod) 2016. Current environmental records datasets. And Hayhow DB, Burns F, Eaton MA, Bacon L, Al-Fulaij N, Bladwell S, Brookman E, Byrne J, Cheesman C, Davies D, DeMassimi S, Elding C, Hobson R, Jones J, Lucas SR, Lynch S, Morgan L, Rowe A, Sharp R, Smith RG, Stevenson K, Stretton TA, Taylor R, Gregory RD. 2016. State of Nature 2016: Wales. The State of Nature Partnership.	HIGH	Cofnod holds 22,000 data points. However, these are based on species they have data on which is not every species. This correlates with the amount of species NRW holds for invertebrates alone. Range suggested (25,000 to 50,000) is consistent with the estimates by State of Nature using NBN Gateway information. As it is a broad range based on large datasets for Wales and it is generally accepted, confidence is high for this message.
Key message Extent 2	NRW 2016. Current data on SAC and SPA Annex I habitats and Annex II species. NRW internal data source.	N/A	The number of SPAs and SACs is all NRW data that is recorded and published. NRW must know which areas are protected and therefore how many there are. Don't need to assign confidence as this is stating actual current numbers.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 3	NRW 2010. NRW features database. NRW internal data source.	N/A	The number of SSSIs is all NRW data that is recorded and published. NRW must know which areas are protected and therefore how many there are. Don't need to assign confidence as this is stating actual current numbers.
Key message Extent 4	Wales Biodiversity Partnership 2016. Online source: http://www.biodiversitywales.org.uk/Environment-Wales-Bill, Last accessed 07/07/2016.	N/A	Specified list of species and habitats of principal importance that forms part of the Environment (Wales) Act. Don't need to assign confidence as this is stating actual current numbers.
Key message Condition 1	NRW 2015. Current data on SAC and SPA species features. NRW internal data source.	HIGH	Information refers to species features that are within the protected sites and is based on information within NRW databases as part of monitoring. The State of Nature has a similar message. Their information is based on all data sources, not just species within protected sites. Given the messages are similar despite different data sources being used, it can be assumed the confidence in this message is high.
Key message Condition 2	Burns F, Eaton MA, Gregory RD (Eds). 2013. State of Nature Report. The State of Nature Partnership. Available from: http://www.rspb.org.uk/forprofessionals/science/research/details.aspx?id=363867 [Accessed 14th July 2016].	HIGH	This was reported in the 2013 State of Nature Report. Numbers are based on the old Section 42 list which has since been converted to the Section 7 list as part of the Environment (Wales) Act. State of Nature used a sample which looked at all species as a whole (not just SSSIs or other designations). All of the Section 7 species were used in the analysis and

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
			it used many datasets therefore drawing on a lot of evidence. State of Nature 2016 includes same message that some species are increasing and some are decreasing - over last 50 years 56% have declined, 44% have increased, based on 4,000 terrestrial and freshwater species. Extent of analysis and data used suggests it is high confidence.
Key message Condition 3	National Assembly Wales 2011. Sustainable Committee Inquiry into Biodiversity in Wales. January 2011 [online]. Available from: http://www.assembly.wales/Laid%20Documents/CR-LD8384%20-%20Sustainability%20Committee%20Inquiry%20into%20biodiversity%20in%20Wales-31012011-208859/cr-ld8384-e-English.pdf#search=inquiry%20into%20biodiversity%20in%20wales [Accessed 14th July 2016].	HIGH	This is a general consensus that Wales and the rest of the UK failed to meet the target although there is no specific monitoring for this target to measure success. The target was to halt the decline of biodiversity and Wales and the rest of the UK has not achieved this for some species which is shown in specific monitoring datasets. As some declines have been shown, there is general agreement that the target was not met. This is stated by the Welsh Assembly. Therefore, confidence in this message is high.
Key message Trends 1	Various example studies including Burns F, Eaton MA, Gregory RD, ed.. 2013. The State of Nature Report [online]. The State of Nature partnership. Available from: http://www.rspb.org.uk/forprofessionals/sc	HIGH	This is a general statement. Within groups there are both declines and increases shown in various studies (some well-known studies are given as examples) therefore this statement is true. It also highlights there is a lack of evidence for some species to reach a conclusion. Confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	ience/research/details.aspx?id=363867 [Accessed 14th July 2016].		
Key message Trends 2	Cefas 2016. Assessment of salmon stocks and fisheries in England and Wales. Standing report on methods, approaches and wider stock conservation and management considerations.	HIGH	Assesses the stocks of salmon in England and Wales. Based on monitoring and catch data from Cefas, the Environment Agency and Natural Resources Wales. Uses specific monitoring funded by Defra and Welsh Government as well as water flow data and ICES assessments. These reports present an assessment for the latest year to assist ICES in providing scientific advice to NASCO and to provide early feedback to fishery managers and anglers. Widespread data analysed in a standard way and updated annually since 1997 therefore high confidence.
Key message Trends 3	Great Britain Parliament. House of Commons. Department of Environment. 1994. Biodiversity: The UK action Plan. London: The Stationery Office HC 1994.	HIGH	This is linking pressures to species changes. Important to include here due to specific biodiversity duty under the Environment (Wales) Act. Reference used is a standard reference for this type of statement and was produced following the Rio meeting. Generally recognised. Therefore, confidence is high.
Key message Trends 4	Living with Environment Change (LWEC). 2015. Biodiversity Climate Change Impacts, Report Card 2015. Available from: http://www.nerc.ac.uk/research/partnershi	HIGH	Climate change is generally thought to be influencing species. Also climate events e.g. bad weather. General reference is the LWEC report cards but more specific studies are also available and given as examples. There is a lot of evidence to back up the

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	ps/lwec/products/report-cards/biodiversity/. [Accessed 9th August 2016].		general message here and studies are generally in agreement therefore this message is given high confidence.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.
Figure - Overview of status of Habitats Directive species features on SACs and SPAs	NRW 2016. Current data on SAC and SPA Annex I habitats and Annex II species. NRW internal data source.	HIGH	Evidence used in Article 17 reporting to the EU as part of the Habitats Directive. Standard data used in assessments. Therefore, confidence is high.
Figure - State of Nature	Burns F, Eaton MA, Gregory RD (Eds). 2013. State of Nature Report. The State of Nature Partnership. Available from: http://www.rspb.org.uk/forprofessionals/science/research/details.aspx?id=363867 [Accessed 14th July 2016].	HIGH	Many datasets pulled together. Extensive analysis. Completed by several organisations working together. Therefore, confidence is high.
Text			See individual points above - confidence can be considered to be the same as for the messages as they use the same evidence sources.

Confidence Annex Table 2 Confidence assessments for 3.2 Air Quality.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 1	Welsh Air Quality Forum. 2016. Air Quality in Wales [online]. Available from: http://www.welshairquality.co.uk/ [Accessed 14th July 2016]. And Royal College of Physicians. 2016. Every breath we take: the life long impact of air pollution. Available from: https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution. [Accessed 1st August 2016].	HIGH	Lots of information available and used. In the context of the content, confidence is high. Some of the data is modelled and some is modelled from emissions. Type amount and consistency high. Recalculate when changing methods so still comparable. Good timeframe too (many years). Lots of quality assurance around the data. Gets submitted to the EU so need to have a good level of confidence in it. Brings lots of results together and agreement is generally high. The "Every breath we take" publication confirms what was initially thought and has made it clear that the situation is currently worse than thought prior to this publication. Confidence is high overall.
Key message 2	Salisbury E, Thistlethwaite G, Pang Y, Misra A. 2015. Air Quality Pollutants Inventories for England, Scotland, Wales and Northern Ireland: 1990-2013 [online]. National Atmospheric Emissions Inventory. Available from: http://naei.defra.gov.uk/reports/reports?report_id=829	HIGH	Lots of information available and used. In the context of the content, confidence is high. Some of the data is modelled and some is modelled from emissions. Type amount and consistency high. Recalculate when changing methods so still comparable. Good timeframe too (many years). Lots of quality assurance around the

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
			data. Gets submitted to the EU so need to have a good level of confidence in it. Brings lots of results together and agreement is generally high. Therefore, confidence is high.
Key message 3	Centre for Ecology and Hydrology (CEH) 2012. Review of transboundary air pollution (RoTAP). Acidification, eutrophication, heavy metals and ground-level ozone in the UK. Report for Defra.	HIGH	Large amounts of information used and based on physical monitoring at many sites. High agreement across devolved administrations. Therefore, confidence is high.
Key message 4	Centre for Ecology and Hydrology (CEH) 2012. Review of transboundary air pollution (RoTAP). Acidification, eutrophication, heavy metals and ground-level ozone in the UK. Report for Defra.	MEDIUM	The majority of the evidence for Wales is modelled as there are only 2 altitude sites. However, more evidence collected across the UK back up the message around increases in background levels of ozone. Wales has some evidence but not as much as other countries which suggests the level of confidence in the amount of evidence is medium. There is high agreement across Europe about the general message that background levels are increasing so overall the confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 5	Salisbury E, Thistlethwaite G, Pang Y, Misra A. 2015. Air Quality Pollutants Inventories for England, Scotland, Wales and Northern Ireland: 1990-2013 [online]. National Atmospheric Emissions Inventory. Available from: http://naei.defra.gov.uk/reports/reports?report_id=829	HIGH	Lots of information available therefore type, amount and consistency of evidence is considered high confidence. In the context of the content, confidence is high. Recalculate when changing methods so still comparable. Good timeframe too (many years).
Key message 6	Hall J, Smith R 2015. Trends in critical load exceedances in the UK.	HIGH	Good amount of regularly collected information (annually) and good amount of agreement of this type of evidence.
Key message 7	Shilland EM, Monteith DT, Millidine K, Malcolm IA (eds) 2016. UK upland waters monitoring network. Data report for 2014-2015 (Year 27). Report to the Department for Environment, Food and Rural Affairs (DEFRA). Contract EPG1/3/160	HIGH	Freshwaters have shown sustained recovery from effects of acid rain. This is not an old story and there is still work to recover from sulphur dioxide. The report referenced is the standard report to use. The network has collected data regularly and therefore can show trends. This information is standardised and used by government. Therefore, this key message is high confidence.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Figure - PM10	Salisbury E, Thistlethwaite G, Pang Y, Misra A. 2015. Air Quality Pollutants Inventories for England, Scotland, Wales and Northern Ireland: 1990-2013 [online]. National Atmospheric Emissions Inventory. Available from: http://naei.defra.gov.uk/reports/reports?report_id=829	HIGH	Lots of information available and used. In the context of the content, confidence is high. Some of the data is modelled and some is modelled from emissions. Type amount and consistency high. Recalculate when changing methods so still comparable. Good timeframe too (many years). Lots of quality assurance around the data. Gets submitted to the EU so need to have a good level of confidence in it. Brings lots of results together and agreement is generally high.
Map - PM2.5	DEFRA. 2016. Modelled background pollution data. Available on Defra website via Data Archive, Modelled Air Quality Data. Available from: https://uk-air.defra.gov.uk/data/pcm-data. [Accessed 28th July 2016].	HIGH	The maps are based on modelling but this does use emissions data to calculate concentrations. Maps are therefore based on actual data and they are used widely and give a good representation of the current picture. Therefore confidence is high.
Map - Nitrogen dioxide	DEFRA. 2016. Modelled background pollution data. Available on Defra website via Data Archive, Modelled Air Quality Data. Available from: https://uk-air.defra.gov.uk/data/pcm-data. [Accessed 28th July 2016].	HIGH	The maps are based on modelling but this does use emissions data to calculate concentrations. Maps are therefore based on actual data and they are used widely and give a good representation of the current picture. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Graph - Nitrogen oxides (NOx)	Salisbury E, Thistlethwaite G, Pang Y, Misra A. 2015. Air Quality Pollutants Inventories for England, Scotland, Wales and Northern Ireland: 1990-2013 [online]. National Atmospheric Emissions Inventory. Available from: http://naei.defra.gov.uk/reports/reports?report_id=829	HIGH	Lots of information available and used. In the context of the content, confidence is high. Some of the data is modelled and some is modelled from emissions. Type amount and consistency high. Recalculate when changing methods so still comparable. Good timeframe too (many years). Lots of quality assurance around the data. Gets submitted to the EU so need to have a good level of confidence in it. Brings lots of results together and agreement is generally high. Therefore, confidence is high.
Map - ozone	DEFRA. 2016. Modelled background pollution data. Available on Defra website via Data Archive, Modelled Air Quality Data. Available from: https://uk-air.defra.gov.uk/data/pcm-data. [Accessed 28th July 2016	MEDIUM	The majority of the evidence for Wales is modelled as there are only 2 altitude sites. However, more evidence collected across the UK back up the message around increases in background levels of ozone. Wales has some evidence but not as much as other countries which suggests the level of confidence in the amount of evidence is medium. There is high agreement across Europe about the general message that background levels are increasing so overall the confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Graph - Ammonia	Salisbury E, Thistlethwaite G, Pang Y, Misra A. 2015. Air Quality Pollutants Inventories for England, Scotland, Wales and Northern Ireland: 1990-2013 [online]. National Atmospheric Emissions Inventory. Available from: http://naei.defra.gov.uk/reports/reports?report_id=829	HIGH	Lots of information available and used. In the context of the content, confidence is high. Some of the data is modelled and some is modelled from emissions. Type amount and consistency high. Recalculate when changing methods so still comparable. Good timeframe too (many years). Lots of quality assurance around the data. Gets submitted to the EU so need to have a good level of confidence in it. Brings lots of results together and agreement is generally high. Therefore, confidence is high.

Confidence Annex Table 3 Confidence assessments for 3.3 Water resources and hydrological processes.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Freshwater Extent 1	Environment Agency. 2009. Water for people and the environment – water resources strategy for Wales [online]. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http:/www.environment-agency.gov.uk/research/library/publications/40731.aspx. [Accessed 11th July 2016].	HIGH	Based on a lot of evidence. Description of what is affecting water resources. Written into a national strategy. Consulted on and agreed. Therefore, confidence is high.
Key message Freshwater Extent 2	Environment Agency & Natural Resources Wales. 2013. Current and future water availability – addendum: A refresh of the Case for Change analysis, December 2013. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/135501.aspx	HIGH	Based on a lot of evidence and backed up by climate change forecasts for change in water resources. Therefore, confidence is high.
Key message Freshwater Extent 3	Environment Agency & Natural Resources Wales. 2013. Current and future water availability – addendum: A refresh of the Case for Change analysis, December 2013. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/135501.aspx	HIGH	The majority of the reservoirs in Wales were constructed to support public water supply. As one of a number of options to manage water supply, the statement is true. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Freshwater Extent 4	Environment Agency & Natural Resources Wales. 2013. Current and future water availability – addendum: A refresh of the Case for Change analysis, December 2013. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/135501.aspx	HIGH	The information in the evidence has been used to drive and change legislation. The evidence would have used the water resources GIS and mapping that is available. There is general agreement in the evidence around this message. All the evidence is trackable and documented methodologies from the original sources. Therefore, confidence is high.
Key message Freshwater Extent 5	NRW. 2015. Natura 2000 Thematic Action Plan. Man-made changes to hydraulic conditions. LIFE Natura 2000 programme for Wales. LIFE N2K Wales: LIFE Nat11/UK/385. Available from: https://naturalresources.wales/media/676005/life-n2k-thematic-action-plan-man-made-changes-to-hydraulic-conditions.pdf. [Accessed 11th August 2016].	HIGH	Published and recognised report. This is based on a database where people on the ground have put the data in but it is reviewed by specialists and is trackable and traceable. Therefore, confidence is high.
Key message Freshwater Extent 5	NRW. 2016. WFD Reasons For Not Achieving Good, June 2016 (available but not published data)	HIGH	This information is gathered as part of WFD and supports the implementation of RBMPs. Snapshots are published. Data are reviewed by specialists and the process is trackable and traceable. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Freshwater Trend 1. First sentence.	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]	HIGH	Lots of evidence to back up the first statement including UK Climate Change Risk Assessment (CCRA), Climate Projections 2009 (UKCP09) and other climate change reports. More confidence in the climate change statements than the figures associated with them. Main point is that the annual rainfall is expected to be the same but there will be changes throughout the year. This is a statement of what the projections have shown. Therefore, confidence is high.
Key message Freshwater Trend 1. Second sentence.	Environment Agency. 2009. Water for people and the environment. Water Resources Strategy for Wales. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0609bqco-b-e.pdf. [Accessed 11th August 2016].	MEDIUM	Lots of evidence to back up the first statement including UK Climate Change Risk Assessment (CCRA), Climate Projections 2009 (UKCP09) and other climate change reports. More confidence in the climate change statements than the figures associated with them. There is some uncertainty with the precipitation projection figures. Therefore, confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Freshwater Trend 1. Third sentence.	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]	HIGH	Lots of evidence to back up the first statement including UK Climate Change Risk Assessment (CCRA), Climate Projections 2009 (UKCP09) and other climate change reports. More confidence in the climate change statements than the figures associated with them. Main point is that the annual rainfall is expected to be the same but there will be changes throughout the year possibly leading to the more common drought and flood conditions. Therefore, confidence is high.
Key message Freshwater Trend 2.	Environment Agency. 2009. Water for people and the environment. Water Resources Strategy for Wales. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0609bqco-b-e.pdf. [Accessed 11th August 2016].	MEDIUM	Lots of evidence to back up the first statement including UK Climate Change Risk Assessment (CCRA), Climate Projections 2009 (UKCP09) and other climate change reports. More confidence in the climate change statements than the figures associated with them. There is some uncertainty with the precipitation projection figures. Therefore, confidence is medium.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Marine and Coastal Extent 1	Welsh Government. 2015. Wales' Marine Evidence Report. Available from: http://gov.wales/docs/drah/publications/151008-wales-marine-evidence-report-master-october-2015-en.pdf [Accessed 12th July 2016].	HIGH	Official report using many evidence sources. The message is backed up by decades of peer reviewed research. Therefore confidence is high.
Key message Marine and Coastal Trend 1	Lowe JA, Howard T, Pardaens A, Tinker J, Jenkins G, Ridley J, Met Office, Leake J, Holt J, Wakelin S, Wolf J, Horsburgh K, Proudman Oceanic Laboratory, Reeder T, Environment Agency, Milne G, Bradley S, University of Durham, Dye S & Marine Climate Change Partnership (MCCIP). 2009. UK Climate Projections science report: Marine and coastal projections. And Baxter JM, Buckley PJ, Wallace CJ. 2008. Marine climate change impacts – Annual report card 2007-2008 [online]. Lowestoft: MCCIP. Available from: www.mccip.org.uk/arc [Accessed 11th July 2016].	HIGH	High confidence in the outputs from the CP09 and MCCIP reports. Lots of evidence to suggest sea level rise. Therefore, overall confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Marine and Coastal Trend 1	Lowe JA, Howard T, Pardaens A, Tinker J, Jenkins G, Ridley J, Met Office, Leake J, Holt J, Wakelin S, Wolf J, Horsburgh K, Proudman Oceanic Laboratory, Reeder T, Environment Agency, Milne G, Bradley S, University of Durham, Dye S & Marine Climate Change Partnership (MCCIP). 2009. UK Climate Projections science report: Marine and coastal projections.	MEDIUM	Whilst there is confidence in the outputs from the UKCP09 and MCCIP reports, we are uncertain about weather conditions (storminess). The modelling for weather conditions is not as good as other modelling yet. Therefore overall confidence is medium.
Key message Marine and Coastal Trend 2	Lowe JA, Howard T, Pardaens A, Tinker J, Jenkins G, Ridley J, Met Office, Leake J, Holt J, Wakelin S, Wolf J, Horsburgh K, Proudman Oceanic Laboratory, Reeder T, Environment Agency, Milne G, Bradley S, University of Durham, Dye S & Marine Climate Change Partnership (MCCIP). 2009. UK Climate Projections science report: Marine and coastal projections. And Baxter JM, Buckley PJ, Wallace CJ. 2008. Marine climate change impacts – Annual report card 2007-2008 [online]. Lowestoft: MCCIP. Available from: www.mccip.org.uk/arc [Accessed 11th July 2016].	HIGH	Sea surface temperature increases have already been observed and is a marked increase. The pattern for salinity is less clear but this is why the wording "affect" has been used as the general trend is increases in salinity but there will be localised reductions in estuaries for instance due to extreme rainfall events. Given the evidence sources and the wording, the overall confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Marine and Coastal Trend 3	Welsh Government. 2014. Flooding and coastal erosion. Shoreline management plans. Available from: http://gov.wales/topics/environmentcountryside/epq/flooding/?lang=en. [Accessed 27th July 2016]	HIGH	There has been a lot of research towards this conclusion. Climate change reports such as UKCP09 supports this. Therefore, confidence is high.
Key message Marine and Coastal Trend 4	ABPmer. 2008. Atlas of UK Marine Renewable Energy Resources: Technical Report [online]. Available from: http://www.renewables-atlas.info/ [Accessed 11th July 2016].	HIGH	The Welsh Government's Wales Marine Evidence Report supports this conclusion. Tidal range energy is mentioned in the Wales Marine Evidence Report, the other aspects are discussed in the Renewables Atlas. High agreement across evidence, therefore, high confidence overall.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.
Map - Water resource availability in Wales (percentage of time)	Environment Agency and Natural Resources Wales 2013. Current and future water availability. Addendum: A refresh of the Case for Change analysis. December 2013.	HIGH	The information in the evidence has been used to drive and change legislation. The evidence would have used the water resources GIS and mapping that is available. There is general agreement in the evidence around this message. All the evidence is trackable and documented methodologies from the original sources.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Maps - Maps of peak spring tidal flow (left) and wave height (right) for Welsh waters	ABPmer. 2008. Atlas of UK Marine Renewable Energy Resources: Technical Report [online]. Available from: http://www.renewables-atlas.info/ [Accessed 11th July 2016].	HIGH	Evidence presented in the map relates to Key message Marine and Coastal Trend 4. The same aspects apply therefore the confidence is HIGH for the maps.

Confidence Annex Table 4 Confidence assessments for 3.4 Soils.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Rudeforth CC, Hartnup R, Lea JW, Thompson TRE & Wright PS. 1984. *Soils and their use in Wales.* Soil Survey Bulletin No. 11 Soil Survey, Harpenden	HIGH	Well established soil survey methodology with good institutional agreement. Glastir Monitoring Evaluation Programme (GMEP) backs this up. Therefore high confidence in diversity of soil types.
Key message Extent 2	Welsh Government . 2008. Sustaining the Land - a Review of Land Management Actions under Axis 2 of the Wales RDP 2007 - 2013. Cardiff: Welsh Government.	MEDIUM	Uncertainty and institutional disagreements on the estimates. It is still a work in progress. Whilst the evidence is based on the work of Smith et al (2007) (ECOSSE) and Bradely et al (2005), it must be recognised that estimates of soil carbon reserves are heavily reliant on the quality of soil maps and algorithms. There is a wide range of estimate of soil carbon due to the different mapping approaches used. The figure stated lies within the range of estimates. Therefore, confidence is no higher than medium.
Key message Condition 1	Natural England. 2009. Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049) [online]. Available from: http://publications.naturalengland.org.uk/publication/35012 [Accessed 14th July 2016].	HIGH	Well established survey methodology used and good overall institutional agreement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 2	UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 20: Status and changes in ecosystems and their services to society: Wales. Cambridge: UNEP-WCMC.	MEDIUM	Across habitats for soil quality change. There's higher confidence and more evidence for mountains, moorlands and heaths, enclosed farmland, woodlands and wetlands compared to semi-natural grasslands, urban and coastal margins. Overall confidence is medium as there is a lack of evidence for some habitats.
Key message Condition 3	Newell-Price et al 2012. Characterisation of soil structural degradation under grassland and development of measures to ameliorate its impact on biodiversity and other soil functions.	LOW	There is no Wales-specific information on this point. There is some disagreement between studies. Conflicting evidence exists. Tir Gofal monitoring (Anthony et al 2012) found few soils above 'prompt' levels of concern for soil compaction and subsequent data from GMEP back this up. As there is no Wales-specific evidence for this point, overall confidence is low.
Key message Condition 3	Hannam J, Niziolomski J, Rickson J, Keay C. 2016. An analysis of the extent and severity of soil degradation in Wales. (Welsh Soils Evidence Review). Cranfield University on behalf of Welsh Government.	N/A	No confidence assessment required. Highlights an evidence gap.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 4	Evans C, Rawlins B, Grebby S, Scholefield P, Jones P. 2015. Glastir Monitoring & Evaluation Programme. Mapping the extent and condition of Welsh peat. Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780)	MEDIUM	The condition assessment is still ongoing, a work in progress. It ties in with the proportional extent of the least modified categories of peatland habitat. However as it is ongoing, confidence can only be assigned as medium.
Key message Condition 4	Hall J, Smith R. 2015. Trends in critical load exceedances in the UK. Report to Defra.	HIGH	A long-running assessment with well-established methodology and good agreement across evidence sources. Confidence is therefore high.
Key message Condition 5	NRW. 2016. The state of contaminated land in Wales. Cardiff: Natural Resources Wales.	HIGH	Number of sites subject to remediation is known therefore confidence is high.
Key message Condition 5	NRW 2016. The state of contaminated land in Wales.	LOW	There is a lot of uncertainty around the full extent of contaminated sites. Local Authorities are the only authority with a duty to collect details of potentially contaminated sites. The figures are based on what is reported by Local Authorities but not all Local Authorities respond to the surveys (19/22 in April 2016) and they may not have site specific details for all sites. There is likely to be an initial screening across the authority to get a feel for numbers of sites but realistically not many will pass the statutory test to be determined as contaminated land. It's very much risk-based and therefore Local Authorities may concentrate on the top priority sites. Therefore not all sites

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
			are likely to be considered and overall confidence is low in the number given for potentially contaminated sites.
Key message Condition 5	Hannam et al 2016. An analysis of the extent and severity of soil degradation in Wales.	N/A	No confidence assignment required, highlights an evidence gap. This is an important point as soil sealing is one of the few targets that exists for sustainable use of soil at the European level (No net land take by 2050).
Key message Trend 1 (topsoil carbon)	Emmett et al. 2015. Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780), 549.	MEDIUM	There is a fair amount of evidence although there is no full soil profile. There is some disagreement and conflicting evidence of change in topsoil soil carbon but good peat soil stock maps. As there is a fair amount of evidence but some disagreement, confidence is medium.
Key message Trend 1 (decline in phosphorus levels)	Emmett et al. 2015. Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780), 549.	HIGH	The number of samples and methodology used is good for coming to conclusions. The evidence is also backed up by fertiliser use statistics. Therefore, confidence is high.
Key message Trend 1 (phosphorus above optimum levels)	Natural Resources Wales (2015b) Response by Cyfoeth Naturiol Cymru/Natural Resources Wales to Welsh Government Consultation Document: A Strategic Framework for Welsh Agriculture	HIGH	Good number of samples and methodology is appropriate. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	Emmett et al. 2015. Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780), 549.	HIGH	Good number of samples and methodology is appropriate. Therefore confidence is high.
Key message Trend 1	Emmett et al. 2015. Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780), 549.	LOW	There is little information available on soil invertebrate (mesofauna) numbers so agreement is also difficult to establish. Confidence is therefore low.
Key message Trend 1	UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 14: Regulating Services. Cambridge: UNEP-WCMC.	MEDIUM	There is a fair amount of evidence available but no recent data to corroborate this. Therefore the current situation is not clear and confidence is medium.
Key message Trend 2	UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 13: Supporting Services. Cambridge: UNEP-WCMC.	MEDIUM	There is a good amount of evidence available but there is an incomplete understanding of process and also some disagreement between evidence. Therefore overall confidence is medium.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Map - Soilscapes	UK Soil Observatory (UKSO) 2016	HIGH	Established methodology used. This map is the definitive simplified soil type map that is available. Overall confidence is high.
Maps - distribution of soil carbon in Wales	Scottish Executive and Welsh Assembly Government. 2007. ECOSSE: Estimating Carbon in Organic Soils - Sequestration and Emissions: Final Report. Scottish Executive Environment and Rural Affairs Department Environmental Research.	MEDIUM	Uncertainty over soil carbon stocks. Map is derived from modelled estimates of soil carbon density and is reliant on the quality of soil maps and algorithms used to described carbon density in soil. The underpinning soil map is coarse scale which results in discrepancies between measured/observed and map soil types when ground-truthing and therefore affects soils carbon estimates. Overall message is generally accepted and this is a go-to report therefore confidence is medium.
Map - Contaminated land sites in Wales	NRW. 2016. The state of contaminated land in Wales. Cardiff: Natural Resources Wales.	LOW	As before - It is the best information we've got but there is a lot of uncertainty around the full extent of contaminated sites. Local Authorities are the only authority with a duty to collect details of potentially contaminated sites. The figures are based on what is reported by Local Authorities but not all Local Authorities respond to the surveys (19/22 in April 2016) and they may not have site specific details for all sites. There is likely to be an initial screening across the authority to get a feel for numbers of sites but realistically not many will pass the statutory test to be determined as contaminated land. It's very much risk-based and therefore Local Authorities may concentrate on the top priority sites. Therefore not all sites are likely to be

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
			considered and overall confidence is low in the number given for potentially contaminated sites.
Graphs - GMEP data for topsoil	Emmett et al. 2015. Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government. NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780), 549.	MEDIUM	Some graphs low confidence, some medium and some high. Varying amounts of evidence available and varying agreement. Overall medium confidence in what is shown.

Confidence Annex Table 5 Confidence assessments for 3.5 Geodiversity, geological features and processes (including minerals).

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	British Geological Society. 2016. British Geological Society (BGS) website. Online source. Available from: http://www.bgs.ac.uk/home.html. [Accessed 29th July 2016].	HIGH	Many papers linking geology to biodiversity. Latest studies on Anglesey show history spanning 1.4 billion years. BGS data shows the variety. Wales' varied geology is largely unique. Many geological periods are named after Welsh terms to describe rocks so well-known. Therefore, confidence is high.
Key message Extent 2	UK National Commission for UNESCO. 2013. Wider value of UNESCO to the UK 2012-13. United Nations Educational Scientific and Cultural Organisation (UNESCO).	HIGH	Geoparks designated due to value of them to the local economy. Known areas as part of the designation. Therefore, confidence is high.
Key message Extent 3	EasyMap, ISIS central database of SSSI and protected sites.	HIGH	The numbers of SSSIs and the area covered by them is known down to half a metre.
Key message Extent 3	NRW 2005-present. Various individual site reports. Internal data sources.	L-H	Approximate number of features. Evidence ranges from older reports and newer reports with some sites monitored last year and others many years before. In terms of the condition of the sites, some sites have been assessed by experts, others assessed by competent people but not necessarily with the same level of experience as the experts. Therefore, it is difficult to know for sure what the actual number of features is and what percentage are in a favourable condition. The level of confidence varies between sites. Therefore, variable confidence is given.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	British Geological Survey. 2015. United Kingdom Minerals Yearbook 2014. Available from https://www.bgs.ac.uk/downloads/start.cfm?id=3030. [Accessed 29th July 2016].	HIGH	BGS figures conclude the aggregate areas and the type of aggregates as well as the current mining. Many reports all confirm the aggregates and mining industries. All mineral extractions have to be permitted so it is known where the sites are and what has been closed. Confidence is therefore high.
Key message Trend 2	BGS. 2015. Summary Applied Geology of the Dyfi Catchment. Report for Natural Resources Wales. British Geological Society.	HIGH	Uses Wales-wide datasets and evidence is largely in agreement. Therefore, confidence is high.
Key message Trend 3	British Geological Survey. 2013. A study of potential unconventional gas resources in Wales. Geology and Regional Geophysics Commissioned Report CR/13/142. A BGS (component body of the Natural Environment Research Council, NERC) report for Welsh Government.	HIGH	Information based on the report by BGS for the Welsh Government. The report combines lots of evidence to come up with the maps and statements. There is agreement about where there might be reserves and also agreement that it is actually unknown until drilling begins. NRW issues permits for exploration of oil and gas. Therefore, confidence in this statement and the evidence behind it is high.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.
Map - Welsh Geodiversity Sites	NRW. 2016. Corporate datasets with geological sites boundary details. Natural Resources Wales.	HIGH	Records are kept of where sites are so the map is a true representation of them.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Table	British Geological Survey. 2015. United Kingdom Minerals Yearbook 2014. Available from https://www.bgs.ac.uk/downloads/start.cfm?id=3030. [Accessed 29th July 2016].	HIGH	Same as for Key message 4. All mineral extractions have to be permitted so it is known where the sites are and what has been closed and what is taken. BGS figures conclude the mineral extraction figures. Confidence is therefore high.
Maps - potential unconventional gas resources	British Geological Survey 2013. A study of potential unconventional gas resources in Wales. Geology and Regional Geophysics Commissioned Report CR/13/142. A BGS (component body of the Natural Environment Research Council, NERC) report for Welsh Government	HIGH	Information based on the report by BGS for the Welsh Government. The report combines lots of evidence to come up with the maps and statements. There is agreement about where there might be reserves and also agreement that it is actually unknown until drilling begins. NRW issues permits for exploration of oil and gas. Shapefiles used here are the updated ones for 2016. Therefore, confidence is high.

Confidence record for Chapter 3 Part B

Confidence Annex Table 6 Confidence assessments for Part B Welsh ecosystems introduction.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Land area in Wales	Welsh Government Statistics 2016. Area of Wales derived from Ordnance Survey Boundary line under Open Government Licence (OGL).	N/A	Standard figure from Welsh Government using ordnance survey information. No confidence required.
Semi-natural habitat cover in Wales	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	Most comprehensive habitat survey of Wales. However, there is less agreement around semi-natural habitats than other habitats. UK NEA concludes different figures. Therefore, comprehensive information but not overall agreement so confidence is medium.
Graph - land cover type, semi-natural or modified	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	Most comprehensive habitat survey of Wales. However, there is less agreement around semi-natural habitats than other habitats. UK NEA concludes different figures. Therefore, comprehensive information but not overall agreement so confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Marine environment	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016].	HIGH	The figure (41%) was presented in the Welsh Government publication "Wales Marine Evidence Report" and is broadly considered to be correct. Therefore, confidence is HIGH.
Priority Habitats	Jones PS, Stevens DP, Blackstock TH, Burrows CR, Howe EA. 2003. Priority Habitats of Wales – a Technical Guide. Countryside Council for Wales, Bangor.	MEDIUM	Based on Blackstock et al which is the most comprehensive habitat survey of Wales. However, there is less agreement around semi-natural habitats than other habitats. UK NEA concludes different figures. Therefore, comprehensive information but not overall agreement so confidence is medium.
Priority Habitats	Brazier, P, Birch, K, Brunstrom, A, Bunker, A, Jones, M, Lough, N, Salmon, L and Wyn, G (2007) When the tide goes out. The biodiversity and conservation of the shores of Wales - results from a 10 year intertidal survey of Wales. Countryside Council for Wales	HIGH	When the tide goes out used GIS mapping to determine the area. Based on actual data collected. Therefore it is a good evidence base and confidence is high.
Habitats of principle importance	Welsh Government. Statistics for Wales. 2012. 3. Biodiversity conservation - Status of priority habitats and species (HI) [online]. Available from:https://statswales.gov.wales/Catalo	MEDIUM	This was a government indicator based on a variety of information but the information is not very recent and assessments were a combination of expert opinion and extensive analysis. Therefore, confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	gue/Sustainable-Development/Sustainable-Development-Indicators/TrendsInBiodiversityActionPlan-by-PrioritySpeciesAndHabitats [Accessed 26th August 2016].		
Graph - habitats in favourable or unfavourable condition	NRW. 2016. Current data on SAC and SPA Annex I habitats and Annex II species. Internal data source. Natural Resources Wales.	HIGH	Uses the evidence submitted as part of Article 17 of the Habitats Directive. There is no Welsh status but the UK status is considered to be representative of the Welsh status for mountains, moorlands and heaths and trends data (which is Welsh-specific) points towards this. Therefore, confidence is high.

Confidence Annex Table 7 Confidence assessments for 3.6 Mountains, moors and heaths.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	Used the UK NEA broad habitats for the classification and then used these categories from the Blackstock et al 2010 report. Montane heath did not appear in the Blackstock et al 2010 report therefore this data came from the article 17 reporting for the Habitats Directive. There are many evidence sources for figures such as this. The Phase I survey dataset in Blackstock is the best available, consistent and most comprehensive for Wales. It is noted that it is now out of date but is a reasonable assessment of extent as it is good quality data. There is a reasonable level of agreement between evidence sources for the broad message here. Therefore confidence is medium.
Key message Extent 2	NRW. 2016. Qualifying Features of SSSI. Corporate GIS Data-set (based on data collated 2008-2010). Cardiff: Natural Resources Wales.	MEDIUM	Data used was the qualifying features layer information from legacy GIS and current NRW GIS so this is all known data relating to the features of SSSIs. The features were matched to the NEA categories and summation produced. However, there may be some features that were misassigned due to the categories, therefore confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 2	Welsh Government. 2015. A Review of the Contribution the Glastir Scheme to the Sustainable Management of Peatlands. Cardiff: Welsh Government Soils & Landuse Division.	HIGH	Message given is broadly representative. The evidence available is not detailed enough to go into more detail with the statement. Based on the data collected as part of the scheme, appropriate grazing of the sites does seem to be helping the mountains, moorlands and heaths habitats. Welsh Government did an involved GIS analysis with a peat map which shows this. Therefore confidence in this broad statement is high.
Key message Extent 3	NRW. 2015. Analysis of data collated for 2012 Article 17 Reporting Round. Cardiff: Natural Resources Wales.	MEDIUM	Information based on Blackstock et al (2010) - both the Phase I and Phase II datasets. Blackstock et al 2010 Phase I evidence is considered to be good due to the coverage and the survey being field by field. However, there are substantial gaps in the Phase II survey coverage. Therefore, confidence is medium.
Key message Condition 1	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this) and cross-referenced with the UK NEA broad habitats to come up with the numbers. The rapid review was informed expert judgement. Recovery is based on expert judgement and it isn't considered there's been enough recovery to put the features into favourable condition. Confidence is therefore low overall.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 1	NRW. 2015. Current data on SAC and SPA Annex I habitats and Annex II species. Internal data source. Natural Resources Wales.	HIGH	Uses the evidence submitted as part of Article 17 of the Habitats Directive. There is no Welsh status but the UK status is considered to be representative of the Welsh status for mountains, moorlands and heaths and trends data (which is Welsh-specific) points towards this. Therefore, confidence is high.
Key message Condition 2	Latham J, Sherry J, Rothwell J. 2013. Ecological Connectivity and Biodiversity Prioritisation in the Terrestrial Environment of Wales. CCW Staff Science Report No. 13/3/3. Bangor: Countryside Council for Wales.	HIGH	The map is the only one showing connectivity across the whole of Wales to our knowledge but the model to produce the map and show connectivity uses a variety of data sources and the approach for the model is one that is generally used. The data are all in broad agreement. Data is old (around 20 years) but much of it has been corroborated with more recent work so is still valid and representative. Don't have linear data but the broad picture is considered to be an accurate reflection of connectivity and is the best available. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 3	Latham J, Sherry J, Rothwell J. 2013. Ecological Connectivity and Biodiversity Prioritisation in the Terrestrial Environment of Wales. CCW Staff Science Report No. 13/3/3. Bangor: Countryside Council for Wales.	MEDIUM	The map is the only one showing connectivity across the whole of Wales to our knowledge but the model to produce the map and show connectivity uses a variety of data sources and the approach for the model is one that is generally used. The data are all in broad agreement. Data is old (around 20 years) but much of it has been corroborated with more recent work so is still valid and representative. Don't have linear data but the broad picture is considered to be an accurate reflection of connectivity and is the best available. Therefore, confidence is high. Upland framework (CCW, 2007) based on Phase I coupled with subjective but informed assessment of where habitat expansion could occur. This needs substantial revision so confidence medium at best.
Key message Condition 4	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	The Phase I survey dataset in Blackstock is the best available, consistent and most comprehensive for Wales. It is noted that it is now out of date but is a reasonable assessment as it is good quality data. Therefore confidence is medium.
Key message Condition 4	NRW. 2016. An assessment of the extent and distribution of peat erosion in Wales. Bangor: Natural Resources Wales.	MEDIUM	Based on careful examination of aerial photographs less than 10 years old. Whilst reliable, this is different to carrying out GIS based analysis and on the ground analysis therefore confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 5	Glastir Monitoring and Evaluation Programme (GMEP). 2016. Glastir Monitoring and Evaluation Programme (GMEP) portal [online]. Available from: https://gmep.wales [Accessed 14th July 2016].	MEDIUM	Number based on a sample of peatland areas but the methodologies are prone to errors. Confidence is therefore medium.
Key message Condition 5	NRW. 2016. Analysis of grip blocking activity undertaken to date in Welsh peatlands. Bangor: Natural Resources Wales.	HIGH	The number of blocked drainage ditches is based on information collected from all Glastir farmers, RSPB, National Trust, NRW and others in Wales. This is correct as of May 2015 and represents actual numbers. Therefore, confidence is high.
Key message Condition 5	NRW. 2016. Analysis of grip blocking activity undertaken to date in Welsh peatlands. Bangor: Natural Resources Wales.	MEDIUM	The statement around improvements is based on limited evidence but the uncertainty is clear - they may contribute. Therefore confidence is medium.

| Key message Trends 1 | Medcalf K, Whittick E, Turton, N, Cross, D. 2012. Wales Agri-Environment Monitoring Lot 1: Habitats. Final Report. Welsh Government. . A report produced for the Welsh Government by Environment Systems and Thompson Ecology.AndSmart SM, August T, Botham M, Cooper J, Emmett BA, Goodwin A, Hall J, Harrower C, Henrys P, Isaac N, Jarris S, Maskell L, Norton L, Oliver T, Peyton J, Powney G, Rorke S, Rowland C, Roy D, Scholefield P, Siriwardena G, Tebbs E, Wagner M, Wood C, Beckmann B, Dadam D. 2015. Chapter 5: Biodiversity. In: Emmett BA, et al., ed. Glastir Monitoring & Evaluation Programme, Second Year Annual Report [online]. Available from: http://nora.nerc.ac.uk/512331/1/N512331CR.pdf [Accessed 12 July 2016]s. | MEDIUM | Both reports have relatively consistent results showing an improvement in condition in some upland habitats. Specific reports such as that on the cover of Sphagnum have less confidence due to the size of the sample. Therefore, overall confidence is medium. |

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trends 2	GMEP. 2016. Glastir Monitoring & Evaluation Programme Portal. https://gmep.wales.	LOW	The cover estimates for bracken produced by Countryside Survey and GMEP have varied considerably over the last 3 reporting periods. Due to this, the changes reported are considered more likely to be caused by sampling or classification differences or errors rather than on the ground changes. Confidence is therefore low.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.
Pie chart - Breakdown of the component habitats of mountain, moorland and heath in Wales.	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	Used the UK NEA broad habitats for the classification and then used these categories from the Blackstock et al 2010 report. Montane heath did not appear in the Blackstock et al 2010 report therefore this data came from the article 17 reporting for the Habitats Directive. There are many evidence sources for figures such as this. The Phase I survey dataset in Blackstock is the best available, consistent and most comprehensive for Wales. It is noted that it is now out of date but is a reasonable assessment of extent as it is good quality data. There is a reasonable level of agreement between evidence sources for the broad message here. Therefore confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Table - Summary of the representation of mountain, moorland and heathland habitats within the SSSI series	NRW. 2016. Qualifying Features of SSSI. Corporate GIS Data-set (based on data collated 2008-2010). Cardiff: Natural Resources Wales.	MEDIUM	Data on SSSI features. Data used was the qualifying features layer information from legacy GIS and current NRW GIS so this is all known data relating to the features of SSSIs. The features were matched to the NEA categories and summation produced. However, there may be some features that were misassigned due to the categories, therefore confidence is medium.
Table - Summary of the representation of mountain, moorland and heathland habitats within the SSSI series	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	% assessed as unfavourable. Based on rapid review assessment undertaken 12 years ago (using evidence older than this) and cross-referenced with the UK NEA broad habitats to come up with the numbers. The rapid review was informed expert judgement. Recovery is based on expert judgement and it isn't considered there's been enough recovery to put the features into favourable condition. Confidence is therefore low overall.
Table - Summary of the conservation status of Habitats and Species Directive Annex I habitats associated with mountain, moorland and heath	JNCC. 2013. Third report by the United Kingdom under Article 17 on the implementation of the Habitats and Species Directive from January 2007 to December 2012: Habitat Accounts. Peterborough: Joint Nature Conservation Committee.	HIGH	Uses the evidence submitted as part of Article 17 of the Habitats Directive. There is no Welsh status but the UK status is considered to be representative of the Welsh status for mountains, moorlands and heaths and trends data (which is Welsh-specific) points towards this. Therefore, confidence is high.

Confidence Annex Table 8 Confidence assessments for 3.7 Semi-natural grasslands.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	HIGH	Complete survey coverage through Blackstock et al 2010. Field by field survey so this is good evidence. The Phase I survey identified grassland from woodland and heath etc. rather than the individual types of grassland so this is broadly correct. This could be backed up by aerial imagery. Therefore, confidence is high.
Key message Extent 1	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	HIGH	From the field by field surveys, it was apparent which were agriculturally improved fields. Using this, the area was worked out and is a rough estimation. Therefore, confidence is high.
Key message Extent 1	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	There is less agreement around whether grassland is semi-natural and how much there is e.g. the UK NEA figures are different to the Blackstock et al 2010 figures but Blackstock et al 2010 provides a comprehensive Wales-wide, field by field assessment. Due to agreement being limited, confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 2	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.AndBlackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	Information comes from more than one source. Priority habitats are difficult to distinguish on the ground (distinguishing woodland and grassland is easier than distinguishing different grassland types) so some areas may have been missed in the surveys and therefore the estimates are an approximation. Therefore confidence is medium.
Key message Extent 2	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press. And Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	HIGH	There is a specific upland boundary that is used so the data was mapped against this boundary and the percentage determined. Confidence is therefore high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Statement of UK status based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Therefore confidence is high.
Key message Condition 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	The condition of Special Areas of Conservation are based on common standards monitoring. This is standardised methodology that has been agreed. Therefore confidence is high.
Key message Condition 2	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this). The rapid review was informed expert judgement. Confidence is therefore low overall.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.AndFuller RM. 1987. The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930–84. Biological Conservation 40(4), 281–300AndRidding LE, Redhead JW, Pywell RF. 2015. Fate of semi-natural grassland in England between 1960 and 2013: A test of national conservation policy [online]. Global Ecology and Conservation 4, 516-525. Available from: http://nora.nerc.ac.uk/512095/. [Accessed 7th July 2016].	HIGH	Lots of evidence to support the message that there has been a dramatic decrease since the 1930s. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.	MEDIUM	The estimated percentage (91%) uses more than one dataset which compares field by field surveys completed in the 1930s with those conducted in the 1990s. The surveys were not an exact match so this is an estimation but is the best available evidence. It compares semi-natural against improved grasslands. Therefore confidence is medium.
Key message Trend 1	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.	MEDIUM	The estimated percentage (97%) uses more than one dataset which compares field by field surveys completed in the 1930s with those conducted in the 1990s. The surveys were not an exact match so this is an estimation but is the best available evidence. It compares semi-natural against improved grasslands. Therefore confidence is medium.
Key message Trend 1	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.	MEDIUM	Only Stevens et al 2010 completed studies to produce actual figures. Lots of other evidence notes declines but do not give exact figures. The general message is therefore supported by other evidence but the figures provided are not. Therefore overall confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 2	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press. And Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	HIGH	Both references show fragmentation of semi-natural grasslands. The field by field survey completed by Blackstock et al 2010 maps the improved grassland and shows fragmented areas of semi-natural grasslands mainly in lowland areas. Overall confidence is high.
Key message Trend 3	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.AndUK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 6: Semi-natural Grasslands. Cambridge: UNEP-WCMC.	LOW	The rate of loss is thought to have slowed and it is widely assumed but there is no comparative survey that shows this conclusively. This is quoted in Stevens et al 2010 and UK NEA 2011 but there is limited evidence to back this up. Overall confidence is therefore low.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 3	Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.	HIGH	There are many good example studies to show that there have been losses with Stevens et al 2010 being one of the main ones. Therefore there is also overall agreement and confidence is high.
Evidence Gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Table - extent of different semi-natural grasslands in Wales	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.AndStevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.AndJNCC. (2013a). 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	MEDIUM	There is less agreement around whether grassland is semi-natural and how much there is e.g. the UK NEA figures are different to the Blackstock et al 2010 figures but Blackstock et al 2010 provides a comprehensive Wales-wide, field by field assessment. Due to agreement being limited, confidence is medium. Priority habitats are difficult to distinguish on the ground (distinguishing woodland and grassland is easier than distinguishing different grassland types) so some areas may have been missed in the surveys and therefore the estimates are an approximation. Therefore confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Map - Distribution map (on left) of (on left) unimproved neutral grassland (Lowland Meadow) in Wales compared with that of improved grassland	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff.	MEDIUM	The overall impression of the distributions would have high confidence, however, there is only medium confidence in the points on the map as a large number of points increases the chances of there being some error. Some areas may have unmapped points. Therefore confidence is medium due to the possibility of error here.
Table - Recorded losses of semi-natural grasslands	Fuller RM. 1987. The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930–84. Biological Conservation 40(4), 281–300AndStevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. Cardiff: University of Wales Press.AndRidding LE, Redhead JW, Pywell RF. 2015. Fate of semi-natural grassland in England between 1960 and 2013: A test of national conservation policy [online]. Global Ecology and Conservation 4, 516-525. Available	MEDIUM	The estimates use more than one dataset. The surveys were not an exact match so this is an estimation but is the best available evidence. Although each is based on surveys and data, the estimates may not be completely accurate and they differ in timeframes and estimations. Therefore, confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	from: http://nora.nerc.ac.uk/512095/. [Accessed 7th July 2016].		
Summary of lowland grassland SSSI feature condition assessments	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this). The rapid review was informed expert judgement. Confidence is therefore low overall.

Confidence Annex Table 9 Confidence assessments for 3.8 Enclosed farmland.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Blackstock TH, Howe EA, Stevens JP, Burrows CR & Jones PS. 2010. Habitats of Wales: a comprehensive field survey, 1979-1997. Cardiff: University of Wales Press, Cardiff And UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 20: Status and changes in ecosystems and their services to society: Wales. Cambridge: UNEP-WCMC. And UK Government. The Government Office for Science. 2011. The Future of Food and Farming . Final Project Report. London: The Government Office for Science.	HIGH	Area estimates are explained in the Annex. The UK NEA, Countryside Survey, Agriculture Survey and Blackstock et al 2010 are all options. Blackstock et al 2010 splits arable and improved grassland so this was the best option to use and lies between the others so is a good estimation. Therefore high confidence. Confidence in saying enclosed farmland plays a role in food production and affects soil, water etc. Of note, enclosed farmland as a category was not used in the Blackstock et al 2010 surveys but estimate is still valid based on the categories used.
Key message Extent 2	Welsh Government. Statistics for Wales. 2015. Estimates from Welsh Agricultural Survey, June 2015 [online]. Available from: http://gov.wales/statistics-and-research/survey-agricultural-	HIGH	Confident in the estimation as from Welsh Government statistics. Of note, area of farmland goes up as farmers register new farmland but old land is not necessarily deregistered. Information is based on samples but the methodologies are accurate and the

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	horticulture/?lang=en [Accessed 14th July 2016].		overall figure is a rough estimation. Therefore confidence is high.
Key message Condition 1	Preston CD, Pearman D, Dines TD & Botanical Society of the British Isles. 2002. New atlas of the British & Irish flora: An atlas of the vascular plants of Britain, Ireland, the Isle of Man and the Channel Islands. Oxford University Press. And Cheffings C & Farrell L (Eds). 2005. The vascular plant red data list for Great Britain. Species Status, No. 7. ISSN 1473-0154. Available from: http://jncc.defra.gov.uk/pdf/pub05_speciesstatusvpredlist3_web.pdf. [Accessed 8th August 2016].	HIGH	Both publications are based on comprehensive data collection exercises involving a large number of experts from across the UK. The publications are the standard ones used for plant recording. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 2	Countryside Survey. 2007. Countryside Survey 2007: Results for Wales [online]. Available from: http://www.countrysidesurvey.org.uk/outputs/wales-results-2007 [Accessed 13th July 2016].	MEDIUM	One source of evidence that is relatively old in comparison to the other studies used here. Not many sample squares used so not highly confident. However, it is a robust sampling procedure. More sample points were used in the 2007 survey than previous survey. Don't know about improvements based on payments to farmers. Some information from Welsh Government as part of Glastir information. Money spent on good work in Glastir but only impacts around 5% of the total length so don't have data for all hedgerows. Overall confidence is therefore medium.
Key message Condition 2	Wales Audit Office. 2007. Tir Gofal - Report presented by the Auditor General to the National Wales 15 November 2007 [online]. Available from:http://www.assembly.wales/Laid%20Documents/AGR-LD6870%20-%20Tir%20Gofal-15112007-65632/agr-ld6870-e-English.pdf [Accessed 14th July 2016].AndWelsh Government Rural Payments Division. 2016. Glastir statistics - personal communication with all figures based on the information available in May 2016.	HIGH	Welsh Government statistics and a count of what has been done. Published and recognised information. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 3	GMEP. 2016. Glastir Monitoring and Evaluation Programme (GMEP) portal [online]. Available from: https://gmep.wales [Accessed 14th July 2016].	HIGH	Large sample size of improved grassland so confident in what the results are saying. Confidence is therefore high.
Key message Condition 3	Glastir Advanced Water Quality Report. 2014: Results from 2013-2014 visits. Accessible from Natural Resources Wales.	MEDIUM	Not sure that this data is of the same level as the improved grassland data so confidence is medium.
Key message Trends 1	Oram S, Alexander L, Sadler E. 2014. Traditional Orchard Habitat Inventory of Wales. Natural Resources Wales Evidence Report No: 18. Bangor: Natural Resources Wales.	HIGH	Very confident in the outcomes of this study. Comprehensive dataset. Therefore, confidence is high.
Key message Trends 2	Woodland Trust. 2015. Chalara in Non-woodland Situations: Findings from a 2014 Survey. Defra Report	HIGH	From the rapid recent spread of Chalara in Wales and the situation unfolding in other parts of the UK, there are other evidence sources that support this message. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 3	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]	HIGH	The Climate Change Risk Assessment for Wales is also based on the UK Climate Projection 2009 report. Statements are all in line with these findings. The new LWEC agriculture and forestry card also report the same type of things. The first statement around cropping is high confidence as change is already happening and likely to continue - changes in the climate means different crops are likely to be used.
Key message Trend 3	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 20	MEDIUM	The Climate Change Risk Assessment for Wales is also based on the UK Climate Projection 2009 report. Statements are all in line with these findings. The new LWEC agriculture and forestry card also report the same type of things. The statement around rainfall is medium confidence as there is uncertainty around the weather projections - weather is more difficult to model.
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.
Extent table		N/A	Same confidences where references were the same as those above.
Extent table	NRW. 2016. Extent of arable SSSI's. Internal database. Natural Resources Wales.	HIGH	This is a newly added reference to the section. The SSSIs are designated therefore it is known where they are and therefore how big they are. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Trends table		N/A	Same confidences where references were the same as those above.
Trends table	Shellswell CH. 2015. Wales' Important Arable Plants. Plantlife.	HIGH	Publication produced following a substantial evidence gathering exercise across Wales, with known experts contributing on a peer-reviewed basis. Extensive survey information was used. Therefore, confidence is high.

Confidence Annex Table 10 Confidence assessments for 3.9 Woodland.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	HIGH	All national statistics. Percentage for EU is a collation of the stats that feed into EU datasets. All of these have a good level of agreement. Some fragments of woodlands can be treated differently but generally figures are normally around the same amount. Previously woodlands were 2 ha or larger, this has changed to 0.5 ha or larger. Given these statistics are the standard statistics that are used for woodland in Wales, confidence is high.
Key message Condition 1	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	MEDIUM	The way the figure for this message is calculated is based on a minimum and a maximum. The proxy measures whether it is managed woodland and includes grant schemes but these are only available to a certain amount of woodlands. As grant schemes become restricted or unavailable, the way we calculate it changes and goes up or down. This measure is used by NRW but as it depends on woodlands being within grant schemes etc., confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 2	NRW. 2015. Natura 2000 Thematic Action Plan Woodland Management. October 2015. Natural Resources Wales.AndAllen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	HIGH	There is a lot of evidence to support the figures and statements and there is high agreement. Conservation status is taken from the Natura 2000 site information and SSSI statistics. Therefore, confidence is high. It should be noted that conservation status can't be applied to habitats that aren't on the Annex I list of the Habitats Directive so it doesn't cover all of the priority habitat types or other woodland types but the statement is true for how the definition of conservation status is applied.
Key message Condition 3	Forestry Commission. 2011. National Forest Inventory - Forestry Commission, Edinburgh – Available from: http://www.forestry.gov.uk/inventory [Accessed 15 July 2016]	HIGH	There is a lot of evidence to support the figures and statements and there is high agreement. Therefore, confidence is high.
Key message Condition 3	Welsh Assembly Government. 2011. Welsh Assembly Government's strategy for Wild deer management in Wales. Available from: http://gov.wales/docs/drah/publications/120222wilddeermanagementen.pdf. [Accessed 15 July 2016]	HIGH	There is a lot of evidence to support the figures and statements and there is high agreement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	HIGH	GVA is calculated by the national statistics and is widely accepted. Confidence is therefore high.
Key message Trend 1	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	HIGH	The same aspects apply to this message as for Key message 1. All national statistics. Percentage for EU is a collation of the stats that feed into EU datasets. All of these have a good level of agreement. There is also good agreement with the statement around timber across evidence sources to support this. Overall, confidence is high for this message.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 2	Confor. 2014. Welsh softwood timber supplies and our green economy – Summary. Workshop November 2014. Available from: http://www.confor.org.uk/media/246181/welsh-softwood-timber-supplies-and-our-green-economy-workshop-nov-2014-summary-report.pdf. [Accessed 25th July 2016]. And Forestry Commission. 2014. Statistical Analysis Report: 50 year forecast of softwood / hardwood availability. April 2014. - Available from: http://www.forestry.gov.uk/pdf/50_YEAR_FORECAST_OF_SOFTWOOD_AVAILABILITY.pdf/$FILE/50_YEAR_FORECAST_OF_SOFTWOOD_AVAILABILITY.pdf. [Accessed 15 July 2016].	HIGH	The forecast is from the National Forest Inventory. There are a number of evidence sources that corroborate the messages about availability of timber. There is fairly good agreement about what can be done about it and this is widely known. Confidence is therefore high for the whole message.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 3	NRW. 2016. P. ramorum survey and monitoring data (unpublished internal report). Natural Resources Wales.AndNRW. 2016. Chalara dieback in Ash survey and monitoring data (unpublished internal report). Natural Resources Wales.	HIGH	Varying proportions of larch within woodlands are affected by P. ramorum (some stands it is only 20%, others can be more than 80%). The figure is the overall amount affected in Wales. The figures are collated through monitoring by NRW using annual aerial monitoring and is reported to Welsh Government and therefore widely accepted. Technology and recognition of affected woodlands of both P. ramorum and Chalara is improving and therefore accuracy is increased year on year so the current figures are the most accurate. Therefore confidence is high.
Key message Trend 4	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	HIGH	Many good evidence sources to corroborate the message e.g. Climate Change Risk Assessment, Living With Environmental Change Report Cards. The messages are supported by what is said in the UK NEA and these have high confidence. Technical annex describes everything in more detail. Overall, confidence is high.
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Table - Classification of woodland in Wales, by type, including area in hectares (ha).	NRW. 2015. Ancient Woodland Inventory 2011. Natural Resources Wales. Available from: https://naturalresources.wales/forestry/woodlands-and-the-environment/ancient-woodland-inventory/?lang=en. [Accessed 15 July 2016].AndWelsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=enAndForestry Commission. 2011. National Forest Inventory - Forestry Commission, Edinburgh – Available from: http://www.forestry.gov.uk/inventory [Accessed 15 July 2016]	HIGH	National statistics. There is a lot of evidence to support the figures and statements and there is high agreement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Graph - New planting in Wales (hectares, ha), by woodland type (broadleaves and conifers), 1971-2015	Welsh Government (Official Statistics). 2015. Woodlands for Wales Indicators 2014-15. December 2015 – Available from: http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en	HIGH	National statistics. There is a lot of evidence to support the figures and statements and there is high agreement. Therefore, confidence is high.
Table - Forecast of timber availability in Wales (thousand m3 overbark standing – 000s m3 obs), 2017-2061	Forestry Commission. 2014. Statistical Analysis Report: 50 year forecast of softwood / hardwood availability. April 2014. Available from: http://www.forestry.gov.uk/pdf/50_YEAR_FORECAST_OF_SOFTWOOD_AVAILABILITY.pdf/$FILE/50_YEAR_FORECAST_OF_SOFTWOOD_AVAILABILITY.pdf. [Accessed 15 July 2016].	HIGH	National statistics. There is a lot of evidence to support the figures and statements and there is high agreement. Therefore, confidence is high.
Map - Phytophthora	NRW. 2016. P. ramorum survey and monitoring data (unpublished internal report). Natural Resources Wales.	HIGH	This is the most up-to-date information available from NRW monitoring and highlights the individual cases by individual landowners. Links to Key message Trend 2. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Maps - Suitability change in Sitka spruce and Sessile oak based on predicted climate change by 2080	Forest Research. 2016. Climate change in Wales: tree species suitability. Available from: http://www.forestry.gov.uk/fr/infd-7fxc3j. [Accessed 15 July 2016].	MEDIUM	Modelled changes, all predicted information. This is based on soil nutrient and soil moisture regime and other factors. The data are as good as they can be but are reliant on the soil mapping which is on a certain scale. Some data are more coarse than other data. This is using the HIGH scenario (2080 high) and uses UKCP02 predictions. There is a high level of confidence in the ecological site classification (ESC) base from which the species are assessed against the predicted climatic factors as it is the baseline for which we do all the planning for tree planting and usage. Suitability maps based on UKCP02 so out of date but do not have maps that use UKCP09. Therefore, overall confidence is medium.

Confidence Annex Table 11 Confidence assessments for 3.10 Freshwater.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	May J. 1994. Reference Wales. Cardiff: University of Wales Press.	HIGH	We have mapped information that corroborates this figure based on the definition of this being all rivers and streams (i.e. all running waters, not just large waterbodies). Therefore, confidence is high.
Key message Extent 1	Hatton-Ellis TW. 2014. Lake BAP Priority Areas in Wales: A Strategic Review. Cardiff: Wales Biodiversity Partnership	HIGH	We have mapped information that corroborates this figure based on the definition of lakes being equal to or more than 1 hectare in size. Therefore, confidence is high.
Key message Extent 2	NRW. 2015. Analysis of data collated for 2012 Article 17 Reporting Round. Natural Resources Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this). The rapid review was informed expert judgement. Confidence is therefore low overall.
Key message Extent 3	Jones PS, Stevens DP, Latham J & Duigan CA. 2009 Habitats of Welsh River Floodplains. In: Welsh Rivers, Eds Duigan CA and Williams D. Leiden: Backhuys Publishing. Pp. 35-58.	MEDIUM	Based on Blackstock et al which is the most comprehensive habitat survey of Wales. However, there is less agreement around semi-natural habitats than other habitats. UK NEA concludes different figures. Therefore, comprehensive information but not overall agreement so confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 1	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/[Accessed 15 July 2016].AndNRW. 2015. River Basin Management Plans, 2015-21. Available from: https://naturalresources.wales/water/quality/river-basin-management-plans-published/?lang=en. [Accessed 29th July 2016].	HIGH	Water Framework Directive uses methodologies that have been consulted on and refined. Data goes through various QA processes. This information is reported to Europe and is generally accepted. Therefore confidence is high.
Key message Condition 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: http://jncc.defra.gov.uk/page-6387 [Accessed 15 July 2016]	HIGH	Statutory reporting is public and based on lots of information. There is confidence that there is something stopping it being in favourable conservation status. Therefore confidence is high.
Key message Condition 1	NRW. 2016. Nitrate Vulnerable Zone (NVZ) GIS datasets. Natural Resources Wales internal datasets.	HIGH	This data is digitised with the NVZ designated areas being known and the total area of Wales also known. The percentage was calculated from these two known areas, therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 2	NRW. 2015. Protected Area Register, River Basin Management Plans, Published 2015-2021 [online]. Available from: https://naturalresources.wales/water/quality/river-basin-management-plans-published/?lang=en. [Accessed 29th July 2016].	HIGH	Information is part of the Directive and the waterbodies have been designated as they meet the criteria of the Directive. The nutrient removal of sewage is known to be in place and the effects of sewage on waterbodies is well documented. Therefore, confidence is high.
Key message Trend 1	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/[Accessed 15 July 2016].AndNRW. 2015. The salmon for tomorrow programme. A national programme across Wales 2010-2015. Summary. Available from: http://www.therrc.co.uk/sites/default/files/files/Conference/2015/Outputs/posters/salmon_for_tomorrow.pdf. [Accessed 25th August 2016].	HIGH	Lots of evidence and agreement that quality has improved. Based on WFD monitoring. It is known that some redundant weirs have been removed and some fish passes have been added as some of this work has been carried out by NRW. Therefore, confidence is high. (High confidence – based on best available data, and scientific peer review) - (http://gov.wales/topics/environmentcountryside/epq/waterflooding/nitrates-directive/?lang=en)
Key message Trend 1	NRW. 2016. Information submitted to Welsh Government in relation to Nitrate Vulnerable Zone review. Internal data source.	HIGH	Nitrate levels information submitted to Welsh Government by NRW is based on the best available data and scientific peer review indicating good agreement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 2	Shilland EM, Monteith DT, Millidine K & Malcolm IA. 2016. United Kingdom Upland Waters Monitoring Network: Data report for 2014-2015 [online]. Report to Defra. Available from: http://awmn.defra.gov.uk/resources/annualreports/year27annRpt.pdf [Accessed 14th July 2016].AndNRW. 2013. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Supporting documentation for the Third Report by the United Kingdom under Article 17. Habitats accounts (various). Natural Resources Wales.	HIGH	The Upland Waters Monitoring Network has been carrying out annual monitoring. Reports are submitted to Defra and are accepted widely. Methodologies are good and have been agreed. This work has shown recovery to have taken place. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 3	NRW. 2013. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Supporting documentation for the Third Report by the United Kingdom under Article 17. Habitats accounts (various). Natural Resources Wales.AndNRW. 2015. LIFE Natura 2000 Programme for Wales [online[. Cardiff: Natural Resources Wales. Available from: https://naturalresources.wales/about-us/our-projects/life-n2k-wales/life-n2k-wales/?lang=en [Accessed 14th July 2016].	HIGH	Lots of evidence and agreement that are in agreement for this message. Therefore, confidence is high.
Key message Trend 4	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]	MEDIUM	Whilst the models used in the CCRA are widely accepted, there is some uncertainty with the projection figures for precipitation. Therefore, confidence is MEDIUM.
Evidence gaps			No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Maps - Water Framework Directive Classification, overall status 2015, rivers and groundwaters	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/. [Accessed 15 July 2016]. And NRW. 2015. River Basin Management Plans, 2015-21. Available from: https://naturalresources.wales/water/quality/river-basin-management-plans-published/?lang=en. [Accessed 29th July 2016].	HIGH	Water Framework Directive uses methodologies that have been consulted on and refined. Data goes through various QA processes. This information is reported to Europe and is generally accepted. Therefore confidence is high.
Graphs - Water Framework Directive classification, element status, 2015, rivers.	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016]. And NRW. 2015. River Basin Management Plans, 2015-21. Available from: https://naturalresources.wales/water/quality/river-basin-management-plans-published/?lang=en. [Accessed 29th July 2016].	HIGH	Water Framework Directive uses methodologies that have been consulted on and refined. Data goes through various QA processes. This information is reported to Europe and is generally accepted. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Water Framework Directive classification, element status, 2015: lakes	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016]. And NRW. 2015. River Basin Management Plans, 2015-21. Available from: https://naturalresources.wales/water/quality/river-basin-management-plans-published/?lang=en. [Accessed 29th July 2016].	HIGH	Water Framework Directive uses methodologies that have been consulted on and refined. Data goes through various QA processes. This information is reported to Europe and is generally accepted. Therefore confidence is high.
Summary of the representation of lowland terrestrial wetland habitats within the SSSI series	NRW. 2016. Freshwater SSSI data. Internal database. Natural Resources Wales.	HIGH	The SSSIs are designated therefore it is known where they are and therefore how big they are. Therefore, confidence is high.
Summary of the representation of lowland terrestrial wetland habitats within the SSSI series	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this). The rapid review was informed expert judgement. Confidence is therefore low overall.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Table - Status of Habitats Directive Annex I Freshwater Habitats in Wales (NRW 2013g-r).	NRW. 2013. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Supporting documentation for the Third Report by the United Kingdom under Article 17. Habitats accounts (various). Natural Resources Wales.	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Therefore, confidence is high.
Bog trends table	NRW. 2013. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Supporting documentation for the Third Report by the United Kingdom under Article 17. Habitats accounts (various). Natural Resources Wales.	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Therefore confidence is high.

Confidence Annex Table 12 Confidence assessments for 3.11 Urban environments.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Statistics for Wales, Local Authority Population Projections for Wales, Statistics for Wales, July 2013. Available from: http://gov.wales/statistics-and-research/local-authority-population-projections/?lang=en [Accessed 15 July 2016]	HIGH	This is a census so an actual count rather than an estimate. They are official statistics and therefore would be done in the same way each time and result in the same answer. Therefore, confidence is high.
Key message Extent 2	Welsh Government, Statistics for Wales. 2008. A statistical focus on rural Wales. 2008 edition.	HIGH	Using a base map which is good evidence and widely accepted. Calculations carried out using GIS. Specific definitions for towns and cities so doesn't have the same issue as definitions for "urban". Therefore, confidence is high.
Key message Extent 3	Cecil C. Konijnendijk et al. 2013. Benefits of Urban Parks A systematic review - report for IFPRA. Copenhagen & Alnarp. Available from: http://worldurbanparks.org/images/Newsletters/IfpraBenefitsOfUrbanParks.pdf [Accessed 15 July 2016]	HIGH	Widely accepted and lots of evidence to support this. Cited one of the main reports that shows this. Therefore, confidence is high.
Key message Extent 3	Keep Wales Tidy. 2013. Green Flag Awards. Available from: http://www.keepwalestidy.org/greenflag [Accessed 15 July 2016]	HIGH	The number of sites that have been awarded the Green Flag is known. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 4	NRW GIS team. Ordnance survey data. Tree (canopy) cover study. Land use breakdowns across towns.	MEDIUM	This was calculated from ordnance survey data GIS updated to 2013. Using the base map which is good evidence and widely accepted, it was interpreted using tools and definitions from the ordnance survey. Others may interpret what the definitions of urban and open space are in a different way and therefore produce different figures. An example of this is how England produce their figures. Therefore, confidence is medium.
Key message Condition 1	NRW. 2014. Tree Cover in Wales' Towns and Cities. Available from; https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf [Accessed 15 July 2016]	MEDIUM	Survey conducted by contractors. Whilst the base data is good, there is a similar issue with the interpretation of the maps as for Key message Extent 4. The outcome depends on factors such as height of trees to be included in the calculations. Different boundaries for "urban" depending on the definition used. For consistency with Key message Extent 4, this is medium confidence.
Key message Condition 2	NRW. 2014. Tree Cover in Wales' Towns and Cities. Available from; https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf [Accessed 15 July 2016]	MEDIUM	Survey conducted by contractors. Whilst the base data is good, there is a similar issue with the interpretation of the maps as for Key message Extent 4. The outcome depends on factors such as height of trees to be included in the calculations. Different boundaries for "urban" depending on the definition used. For consistency with Key message Extent 4, this is medium confidence.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 3	Welsh Government. 2013. A Noise Action Plan for Wales 2013-18. Available from: http://gov.wales/docs/desh/publications/131217noise-action-plan-for-wales-en.pdf[Accessed 15 July 2016]	MEDIUM	There is a lot of evidence on the second point about ill-health. There are a number of studies demonstrating excess noise leads to increased stress which can result in early deaths. However, there is limited coverage in Wales to back up this evidence for Wales specifically. It is based on mostly modelled information. Traffic counts are conducted but don't measure the levels of noise. This is done in agglomerations (Cardiff, Swansea, Newport). A lot of agreement that there is a lot of noise but not a lot of evidence available. Therefore, confidence is medium.
Key message Trends 1	Statistics for Wales, Local Authority Population Projections for Wales, Statistics for Wales, July 2013. Available from: http://gov.wales/statistics-and-research/local-authority-population-projections/?lang=en [Accessed 15 July 2016]	MEDIUM	Projections are based on a variety of aspects and it is not known what the actual outcome will be as it will depend on a number of factors. Therefore, confidence is medium.
Key message Trends 2	London Assembly Environment Committee. 2005. Crazy Paving: the environmental importance of London's front gardens. September 2005. Greater London Authority, London	HIGH	Some studies mapped changing gardens in Cardiff and Bridgend (as yet unpublished). The major study in London which shows this which produced quantifiable figures so this is the reference to use. There's lots of evidence to show the relevance to wildlife. A lot of evidence to back this up and agreement is high across the board. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trends 3	Gill, S.E., Handley, J.F., Ennos, A.R. and Pauleit, S. (2007). Adapting cities for climate change: the role of green infrastructure. Built Environment 33 (1), 115–133.	HIGH	Urban areas have always been warmer than the countryside due to the amount of hard surfaces present that absorb heat. There is evidence to show that this existed even in roman times. Lots of recent evidence as well as older evidence. General agreement around the stated difference in temperature between towns and the surrounding countryside. Therefore, confidence is high.
Key message Trends 4	Richards IG, Palmer JP, Barratt PA. 1993. Elsiever. The reclamation of former coal mines and steelworks - Studies in Environmental Science 56. Available from: https://www.elsevier.com/books/the-reclamation-of-former-coal-mines-and-steelworks/richards/978-0-444-81703-7 [Accessed 15 July 2016].	MEDIUM	Few studies have been done on this. Looking at maps of specific areas corroborates the message but these are site-specific and there are not a lot of published evidence sources. It can be seen that overall brownfield area has decreased from these and a number of sites are known to have been restored. It is thought that open mosaic habitats on previous developed land are declining. However, it is difficult to quantify and define overall. Therefore, confidence is medium.
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Map - Wales noise map - all sources	Environmental Noise Mapping. 2012. Welsh Government. Available from http://lle.gov.wales/catalogue/item/EnvironmentalNoiseMapping/?lang=en. [Accessed 29th July 2016].	MEDIUM	Limited coverage in Wales. It is based on mostly modelled information. Traffic counts are conducted but don't measure the levels of noise. This is done in agglomerations (Cardiff, Swansea, Newport). A lot of agreement that there is a lot of noise but not a lot of evidence available. Therefore, confidence is medium.
Pie - Urban land use 2013	NRW. 2014. Tree Cover in Wales' Towns and Cities. Available from; https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf[Accessed 15 July 2016]	MEDIUM	Survey conducted by contractors. Whilst the base data is good, there is a similar issue with the interpretation of the maps as for Key message Extent 4. The outcome depends on factors such as height of trees to be included in the calculations. Different boundaries for "urban" depending on the definition used. For consistency with Key message Extent 4, this is medium confidence.
Graph - Accessible natural greenspace standards by local authority (per 1,000 population ha), July 2012	Statistics Wales 2012. Accessible natural greenspace standards by local authority, 2007-2010. Measure 072. Data collated by CCW from local authorities for Wales Environment Strategy Indicator 27b.	MEDIUM	Whilst the approach is similar between local authorities, there are still discrepancies in how the mapping has been done between local authorities. Therefore, confidence is medium.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Pie - Land use tree canopy cover distribution.	NRW. 2014. Tree Cover in Wales' Towns and Cities. Available from: https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf [Accessed 15 July 2016]	MEDIUM	Survey conducted by contractors. Whilst the base data is good, there is a similar issue with the interpretation of the maps as for Key message Extent 4. The outcome depends on factors such as height of trees to be included in the calculations. Different boundaries for "urban" depending on the definition used. For consistency with Key message Extent 4, this is medium confidence.
Map - Cardiff ward by ward (LSOA) tree canopy cover distribution – Communities First Cluster areas highlighted.	NRW. 2014. Tree Cover in Wales' Towns and Cities. Available from: https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf [Accessed 15 July 2016]	MEDIUM	Survey conducted by contractors. Whilst the base data is good, there is a similar issue with the interpretation of the maps as for Key message Extent 4. The outcome depends on factors such as height of trees to be included in the calculations. Different boundaries for "urban" depending on the definition used. For consistency with Key message Extent 4, this is medium confidence.

Confidence Annex Table 13 Confidence assessments for 3.12 Coastal margins.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Presence of habitats is confirmed and it has been confirmed there are fewer and smaller areas of shingle habitats and coastal lagoons than other coastal margin habitats. Therefore confidence is high.
Key message Condition 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Statement based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends data for Wales shows designated habitats are in unfavourable condition. Therefore confidence is high.
Key message Condition 1	Allen D. 2004. A Rapid Review of SSSI Feature Condition in Wales. Bangor: Countryside Council for Wales.	LOW	Based on rapid review assessment undertaken 12 years ago (using evidence older than this). The rapid review was informed expert judgement. Confidence is therefore low overall.
Key message Condition 2	UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 11: Coastal Margins. Cambridge: UNEP-WCMC.	HIGH	This message can be backed up by a number of evidence sources including articles in Nature and Geoscience. Lots of recent sources that are peer-reviewed and in agreement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	UK NEA. 2011. The UK National Ecosystem Assessment - Technical Report. Chapter 11: Coastal Margins. Cambridge: UNEP-WCMC.	MEDIUM	Habitat change covers a variety of things. Established but incomplete evidence. High agreement based on a small amount of evidence. Therefore, confidence is medium.
Key message Trends 2	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Presence of habitats is confirmed and it has been confirmed there are fewer and smaller areas of shingle habitats and coastal lagoons than other coastal margin habitats. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trends 3	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016] And Halcrow Group. 2012. SMP 22 Great Ormes Head to Scotland (North West England and North Wales) Shoreline Management Plan SMP2. Available from: http://www.allerdale.gov.uk/downloads/nw_shoreline_management_plan_2.pdf [Accessed 15 July 2016] And Halcrow Group. 2012. SMP 22 Great Ormes Head to Scotland (North West England and North Wales) Shoreline Management Plan SMP2. Available from: http://www.allerdale.gov.uk/downloads/nw_shoreline_management_plan_2.pdf [Accessed 15 July 2016]	HIGH	CCRA is high confidence in relation to risks as these are possible future problems. Defra report (Future Coasts, 2001) was used to inform the Shoreline Management Plans. The SMPs improved the information where it was weak and by supplementing it with locally collected data. This is all recent and published evidence that is widely accepted. This is also related to the national coastal erosion risk mapping project. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.
Graph - Annex I SAC feature condition (% of total area ha) derived from Article 17 reporting	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.
Table - Short and long term trends in range and extent of Annex I coastal margin habitats in Wales.	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.

Confidence Annex Table 14 Confidence assessments for 3.13 Marine: Marine General.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016].	HIGH	The figure (41%) was presented in the Welsh Government publication "Wales Marine Evidence Report" and is broadly considered to be correct. Therefore, confidence is HIGH.
Key message Extent 2	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016].	HIGH	The number of protected areas is all NRW data that is recorded and published. NRW must know which areas are protected and therefore how many there are. It is also known what the area of each site is. Therefore, confidence is high.
Key message Condition 1	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016]. And NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available	HIGH	Lots of evidence to show the marine environment is diverse and lots of evidence to show there have been improvements in water quality. Based on different monitoring studies for different purposes but generally in agreement.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016]. And Acornley RM, Morgan OC, Campos CJA, Kershaw S. 2010. Temporal trends in the microbial quality of shellfish from UK production areas. Project WT1001 – Factors affecting the microbial quality of shellfish. Cefas contract report to Defra. Available from: https://www.cefas.co.uk/media/41388/20110601-c3608-wt1001-temporal-trends-microbial-quality-shellfish-final-report.pdf. [Accessed 15 July 2016] And Welsh Government. 2015. Bathing water quality and beaches in Wales. Available from: http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en [Accessed 15 July 2016].		Therefore, confidence is high.
Key message Condition 2	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016] And Biodiversity Action Reporting System. 2010. UK Habitat and Species Action Plans. Available from: http://jncc.defra.gov.uk/page-5155 [Accessed 15 July 2016] And JNCC. 2015. Seabird Population Trends and Causes of	HIGH	Based on a variety of evidence including the Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	Change: 1986-2014 Report. Joint Nature Conservation Committee. Updated October 2015.AndJNCC. 2015. Seabird Monitoring Programme Online Database [online]. Joint Nature Conservation Committee. Available from: http://jncc.defra.gov.uk/smp/. [Accessed 25th August 2016].		
Key message Condition 3	HM Government. 2012. Marine Strategy Part One: UK Initial Assessment and Good Environmental Status. And Defra. 2015. Marine Strategy Part Three: UK programme of measures.	N/A	Wales contributes to the process.
Key message Trend 1	NRW. 2016. Proposed new marine Special Areas of Conservation and Special Protection Areas [online]. Natural Resources Wales. Available from: https://naturalresources.wales/about-us/consultations/our-own-consultations-closed/proposed-new-marine-special-areas-of-conservation-and-special-protection-areas/?lang=en. [Accessed 25th August 2016].	HIGH	The number of protected areas is all NRW data that is recorded and published. NRW must know which areas are protected / proposed to be protected. Therefore, confidence in this statement is high.
Key message Trend 2	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016]. And Airold L, Beck MW (2007) Loss, status and trends for coastal marine habitats of Europe. In: GibsonRN, Atkinson RJA, Gordon JDM (eds) Oceanography and Marine Biology:	HIGH	Direct from the Wales Marine Evidence Report. Also backed up by the other references. Lots of evidence to support this statement. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	An Annual Review. pp345–405AndMossman H, Grant A, Davy A (2013) Terrestrial biodiversity climate change impacts report cardtechnical paper 10. Implications of climate change for coastal and inter-tidal habitats in the UK.AndNRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/[Accessed 15 July 2016].		
Key message Trend 3	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]	HIGH	The Climate Change Risk Assessment for Wales is also based on the UK Climate Projection 2009 report. Statements are all in line with these findings. Therefore, confidence is high.
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.

Confidence Annex Table 15 Confidence assessments for 3.13 Marine: Marine Waters.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be give
Key message Condition 1	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Key message Condition 2	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 3	Acornley RM, Morgan OC, Campos CJA, Kershaw S. 2010. Temporal trends in the microbial quality of shellfish from UK production areas. Project WT1001 – Factors affecting the microbial quality of shellfish. Cefas contract report to Defra. Available from: https://www.cefas.co.uk/media/41388/20110601-c3608-wt1001-temporal-trends-microbial-quality-shellfish-final-report.pdf. [Accessed 15 July 2016]	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Key message Condition 4	HM Government. 2012. Marine Strategy Part One: UK Initial Assessment and Good Environmental Status.	HIGH	There are many studies corroborating that there is a problem with marine litter. Confidence is therefore high.
Key message Trend 1	Welsh Government. 2015. Bathing water quality and beaches in Wales. Available from: http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 2	Welsh Government. 2015. Bathing water quality and beaches in Wales. Available from: http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.
Graph - Water Framework Directive classifications for estuarine and coastal elements, 2015.	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Graph - Bathing Water Directive compliance 1990 – 2014.	Welsh Government. 2015. Bathing water quality and beaches in Wales. Available from: http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Pie - Bathing Water Directive compliance 2015	Welsh Government. 2015. Bathing water quality and beaches in Wales. Available from: http://gov.wales/topics/environmentcountryside/epq/waterflooding/bathing-water-quality-and-beaches/?lang=en [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Map Coastal and estuarine Water Framework Directive water body classifications.	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available from: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.

Confidence Annex Table 16 Confidence assessments for 3.13 Marine: Marine Intertidal.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Russell S. 2011 Status and Changes in the UK's Ecosystems and their Services to Society: Wales [Chapter 20]. In: UK National Ecosystem Assessment. Understanding nature's value to society. Technical Report. Cambridge, UNEP-WCMC, 979-1044. Available from: http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx [Accessed 15 July 2016]	HIGH	UK NEA uses recent references. Length not derived from "When the tide goes out" as this uses a different tide mark to calculate it. Length thought to be determined using GIS and therefore is an accurate representation. Confidence is high.
Key message Extent 1	Brazier P, Birch K, Brunstrom A, Bunker A, Jones M, Lough N, Salmon L and Wyn G. 2007. When the tide goes out. The biodiversity and conservation of the shores of Wales - results from a 10 year intertidal survey of Wales. Bangor: Countryside Council for Wales.	HIGH	When the tide goes out used GIS mapping to determine the area. Based on actual data collected. Therefore it is a good evidence base and confidence is high.
Key message Extent 2	Brazier P, Birch K, Brunstrom A, Bunker A, Jones M, Lough N, Salmon L and Wyn G. 2007. When the tide goes out. The biodiversity and conservation of the shores of Wales - results from a 10 year intertidal survey of Wales. Bangor: Countryside Council for Wales.	HIGH	Lots of information available on extent of different habitats. The SSSI designations are known and recorded therefore it is known how much area is covered. Percentage derived from the mapping referred to in Key message Extent 1. Therefore confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 3	Cunningham PN, Hawkins SJ, Jones HD & Burrows MT, 1984. The geographical distribution of Sabellaria alveolata (L.) in England, Wales and Scotland, with investigations into the community structure of and the effects of trampling on Sabellaria alveolata colonies. Nature Conservancy Council, Peterborough, Contract Report no. HF3/11/22., Manchester: University of Manchester, Department of Zoology. NCC report No. HF3/11/22. And Bush LE, Balestrini SJ, Robins PE, Davies AJ. 2015. NRW Evidence Report No 049 - The reproduction and connectivity of Sabellaria alveolata reefs in Wales – MAR4REF Bangor University. NRW Evidence Report No: 49. 119pp. Bangor: Bangor University. Available from: http://ukbars.defra.gov.uk/project/show/37531 [Accessed 15 July 2016]	HIGH	A lot of evidence, including recent evidence, and general agreement in this statement. Well-established evidence. Recent studies have shown there are reefs in North Wales now. Therefore, confidence is high.
Key message Condition 1	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/ [Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Trend 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.
Key message Trend 2	Jolley E, Guthrie G, Clipsham V, Dawks S, Elmore S, Lavender J. 2012. Marine Habitat Vulnerability Assessment of the Welsh Coast. CCW Science Report No: 1010, 153pp, Bangor: Countryside Council for Wales .	HIGH	Lots of evidence and general agreement around this message. Therefore, confidence is high.
Key message Trend 1	Boyes S, Hemingway K and Allen JH. 2008. Intertidal Monitoring of Zostera marina in Pen Llŷn a'r Sarnau SAC in 2004/2005. CCW Marine Monitoring Report No. 28. Bangor: Countryside Council for Wales And Boyes, S, Brazier, DP, Burlinson, F, Mazik, K, Mitchell, E and Proctor, N (2009) Intertidal monitoring of Zostera noltii in the Menai Strait & Conwy Bay SAC in 2004/05. CCW Marine Monitoring report No 31. Bangor:Countryside Council for Wales And	HIGH	Lots of evidence to corroborate this message including site-specific studies that have shown increases in the area of seagrass bed extent. Studies based on standardised methodology. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	Howson C. 2009. Intertidal SAC monitoring, Carmarthen Bay and Estuaries SAC (September 2009). CCW Marine Monitoring Report No: 79. Bangor: Countryside Council for Wales.		
Key message Trend 3	Elliot P. 2006. Impacts of Climate Change on Non-Native Species in Marine Climate. Change Impacts Annual Report Card. (Eds. Buckley, PJ, Dye, SR and Baxter, JM). Online Summary Reports. Lowestoft: MCCIP . Available from: http://www.mccip.org.uk/media/1391/non-natives-report-from-cambridge-university.pdf [Accessed 15 July 2016] And Reid PC, Cook EJ, Edwards M, McQuatters-Gollop A, Minchin D and McCollin T. 2009. Marine non-native species in Marine Climate Change Ecosystem Linkages Report Card 2009. (Eds. Baxter JM, Buckley PJ and Frost MT), Online science reviews. Lowestoft: MCCIP. Available from: http://www.mccip.org.uk/media/1626/mccip-elr2009-reid_etal.pdf. [Accessed 15 July 2016] And Hulme PE. 2015. Biodiversity Climate change impacts report card Technical paper 9. Non-native Species. Swindon: Natural Environment Research Council. Available from: http://www.nerc.ac.uk/research/partnerships/lwec/pr	HIGH	Lots of evidence and general agreement around this message. These trends are occurring already. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
	oducts/report-cards/biodiversity/papers/source09/. [Accessed 15 July 2016]		
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.
Map - Annex I habitats	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016].	VARIABLE, L-H	Confidence is variable given the amount of information varies for each habitat. There is generally more confidence in the intertidal habitat presence and extent but less confidence in subtidal habitats. Some intertidal and subtidal habitats have been surveyed in more detail whereas others haven't. Some data in this map is modelled, some is actual data collected on the ground. Can't reach a decision on confidence overall as each dataset would need its own confidence assigning and there are many that have gone into this map.

Confidence Annex Table 17 Confidence assessments for 3.13 Marine: Marine Subtidal.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 1	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016].	HIGH	The figure (41%) was presented in the Welsh Government publication "Wales Marine Evidence Report" and is broadly considered to be correct. Therefore, confidence is high.
Key message Extent 2	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016]. And NRW. 2016. Marine broadscale habitats GIS layers. Natural Resources Wales internal dataset.	LOW	The broadscale habitat map shows the current estimates from GIS layers at a Wales-level. However, there is not a general consensus on the proportions of each substrate type. Estimates vary widely so can't be sure that this is accurate. Therefore, confidence is low.
Key message Extent 3	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	There is a lot of evidence, including admiralty charts, to corroborate the presence of subtidal reefs in the stated areas. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Extent 4	Smale DA, Burrows MT, Moore P, et al .2013 Threats and knowledge gaps for ecosystem services provided by kelp forests: a northeast Atlantic perspective. Ecology and Evolution, 3, 4016–4038. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810891/ [Accessed 15 July 2016] And Bertelli, CM & Unsworth, RKF. 2014. Protecting the hand that feeds us: Seagrass (Zostera marina) serves as commercial juvenile fish habitat. Marine Pollution Bulletin, 83(2), 425-429. And Peters, JR, McCloskey, RM, Hinder, SL & Unsworth, RKF (2015) Motile fauna of sub-tidal Zostera marina meadows in England and Wales. Marine Biodiversity, 45(4), 647-654. Available from http://link.springer.com/article/10.1007/s12526-014-0264-x#/page-1[Accessed 15 July 2016]	HIGH	There is peer-reviewed evidence, all published and well-known for the presence of kelp forest around the Welsh coast, and the presence of horse mussel reefs and seagrass meadows. There is not as much information for Sabellaria spinulosa but there is still confidence that this is correct and the general evidence base is in agreement. Therefore, confidence is high for this message overall.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message Condition 1	Welsh Government. 2015. Wales' Marine Evidence Report [online]. Available from: http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en [Accessed 12th July 2016]. And JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	Variable L-H	Various pieces of evidence show different things at different points in time. There is currently no fully comprehensive marine monitoring in place to fully substantiate the current condition of all subtidal habitats. Some are studied more than others so confidence is variable.
Key message Condition 2	Biodiversity Action Reporting System (2010) UK Habitat and Species Action Plans. Available from: http://jncc.defra.gov.uk/page-5155 [Accessed 15 July 2016]	Variable L-H	There is only one maerl bed known in Wales and this is well studied and measured. There are few Modiolus modiolus beds but these are well studied and there is a comprehensive study for one of the beds on the impacts of fishing. For these two habitats, confidence is therefore high. However, the other habitats listed are low to medium confidence. All the evidence was published but much of it was based on expert judgement so can't be sure that this is the true picture. Would need to revisit all data sources for these other habitats to reach conclusions on

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
			confidence. Therefore, overall confidence for this message is variable.
Key message Condition 3	NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. Available: http://waterwatchwales.naturalresourceswales.gov.uk/en/[Accessed 15 July 2016].	HIGH	All WFD, Bathing Waters and Shellfish Waters Directives considered to be high confidence. Data is quality assured, goes through consultation and is intercalibrated. Agree with previous assessments (water resources and freshwater) that these should be given high confidence.
Key message Trend 1	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.
Key message Trend 2	JNCC. 2013. 3rd UK Habitats Directive Reports [online]. Peterborough: Joint Nature Conservation Committee. Available from: See http://jncc.defra.gov.uk/page-6387 [Accessed 14th July 2016].	HIGH	Based on Article 17 data for the Habitats Directive. This uses a variety of data to reach conclusions. Trends information reported to JNCC at UK level and widely accepted. Therefore confidence is high.
Key message Trend 3	Lock K, Burton M, Newman P and Jones J. 2015. Skomer Marine Conservation Zone Project Status Report 2014. NRW Evidence Report No. 66. Available from: https://naturalresources.wales/media/675105/skomer-mcz-project-status-report-2014_15-sm.pdf [Accessed 15 July 2016]	HIGH	The message relates to a specific area which has been studied. The methodology used was consistent with WFD standards and the area is surveyed regularly by NRW so the information is up to date. This report is grey literature available from NRW. Overall confidence in this statement is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Evidence gaps		N/A	No confidence assignment required as this lists what is unknown.
Broadscale habitats map	NRW. 2016. Welsh marine habitats GIS layers. Internal data source.	Variable, L-H	The confidence for each of the polygons in this map could also be mapped but it may be confusing to the public. The map was published in the Wales Marine Evidence Report but NRW collect information to allow the map to be updated on a regular basis. This is the most recent data. Each piece of data has its own confidence applied to it and therefore this map is made up of a lot of different data with different confidence levels. Therefore, confidence is variable.

Confidence record for Chapter 3 Part C

Confidence Annex Table 18 Confidence assessments for Part C Presenting integrated evidence around place.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 1	NRW. 2014. The Review of Designated Landscapes in Wales – The Written Evidence of Natural Resources Wales [online]. Cardiff: Natural resources Wales. Available from: https://naturalresources.wales/media/1776/the-review-of-designated-landscapes-in-wales.pdf?lang=en [Accessed 19th August 2016]	HIGH	The designations are known and the area covered by them is also known. Therefore, confidence is high.
Key message 2	Land Use Consultants. 2013. LANDMAP Statistics Visual and Sensory Aspect. Aberystwyth: Countryside Council for Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 3	Land Use Consultants. 2009. Wales Tranquil Areas Map. Bangor: Countryside Council for Wales.	MEDIUM	This evidence was commissioned work conducted by a consultant and included NRW input. It provided the best estimates at that time and was based on an amalgamation of several quantitative and qualitative datasets. Some of the results were qualitative judgement and therefore the level of agreement cannot be considered high. The methodology and data are becoming more sophisticated over time so new analyses using new data would be more reliable than this and more robust. Therefore, confidence for this message at this time is medium.
Key message 4	Land Use Consultants. 2013. LANDMAP Statistics Visual and Sensory Aspect. Aberystwyth: Countryside Council for Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 5	Land Use Consultants. 2013. LANDMAP Statistics Visual and Sensory Aspect. Aberystwyth: Countryside Council for Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.
Key message 6	Thomas B. 2015. LANDMAP Change Detection: Visual & Sensory Aspect Monitoring Reports. Aberystwyth: Natural Resources Wales.AndWhite S. 2015. LANDMAP Visual & Sensory Data Monitoring Tables. Aberystwyth: Natural Resources Wales.AndTurton N, Naumann EK, Kelly M, Medcalf K. 2015. LANDMAP Change Evaluation. Aberystwyth: Natural Resources Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Key message 7	Thomas B. 2015. LANDMAP Change Detection: Visual & Sensory Aspect Monitoring Reports. Aberystwyth: Natural Resources Wales. And White S. 2015. LANDMAP Visual & Sensory Data Monitoring Tables. Aberystwyth: Natural Resources Wales. And Turton N, Naumann EK, Kelly M, Medcalf K. 2015. LANDMAP Change Evaluation. Aberystwyth: Natural Resources Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.
Key message 8	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]AndHistoric Environment Group. 2013: Climate change and the historic environment of Wales: A summary of potential impacts	HIGH	The CCRA uses their own confidence levels but this message is backed up by statements in other research on the historic environment. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
The most detailed landscape baseline in Wales is LANDMAP , our national programme of landscape assessment.	NRW. 2016. LANDMAP – the Welsh Landscape baseline [online]. Aberystwyth: Natural Resources Wales http://naturalresources.wales/planning-and-development/landmap/?lang=en [Accessed 19th August 2016]	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.
LANDMAP information is also the starting point for Landscape Character Assessments (LCAs) in Wales, which provide a simple representation of the nature and extent of places possible at different spatial scales	NRW. 2016. LANDMAP – the Welsh Landscape baseline [online]. Aberystwyth: Natural Resources Wales http://naturalresources.wales/planning-and-development/landmap/?lang=en [Accessed 19th August 2016]	MEDIUM	Whilst the approach is similar for carrying our Landscape Character Assessments, the local authorities and other organisations would probably approach it slightly differently and apply it slightly differently. Whilst there is a lot of evidence available, the agreement would depend on the approach used. Therefore, confidence is medium.
LCAs have been identified for Wales at both a local planning authority level and at a national level with 48 National LCAs	NRW. 2016. LANDMAP – the Welsh Landscape baseline [online]. Aberystwyth: Natural Resources Wales http://naturalresources.wales/planning-and-development/landmap/?lang=en [Accessed 19th August 2016]	HIGH	The number of National Landscape Character Assessments is known. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
identifying regional landscapes			
The 29 national Marine Character Areas (MCAs)	LUC. 2015. National Seascape Assessment for Wales [online]. NRW Evidence Report 80. Bangor: Natural Resources Wales. Available from: http://naturalresources.wales/our-evidence-and-reports/marine-character-areas/?lang=en [Accessed 19th August 2016]	HIGH	The number of National Marine Character Areas is known. There was a lot of consultation and feedback and used a nationally agreed method. Therefore, confidence is high.
the 50 Regional Seascapes	Briggs JHW, White S. 2009. Welsh seascapes and their sensitivity to offshore developments. CCW Policy Research Report 08/5. Bangor: Countryside Council for Wales.	HIGH	The number of regional seascapes is known. There was stakeholder involvement, quality assurance and independent input involved. Therefore, confidence is high.
Other sources of evidence include the Register of Landscapes of Historic Interest in Wales and National Park and Area of Outstanding Natural Beauty (AONB) Management Plans	Not applicable	HIGH	Explains that there are a number of other sources of evidence available. There is high confidence in these reports as they have been consulted on, peer-reviewed and considered the best evidence to use. They are statutory documents. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
and the local Seascape Character Assessments (SCA) of Pembrokeshire , Snowdonia and Ynys Mon provide unrivalled seascape information in Wales.	White S. 2013. Pembrokeshire Seascape Character Assessment. Supplementary Planning Guidance to the Local Development Plan for the Pembrokeshire Coast National Park. Pembrokeshire Coast National Park Authority. [online]. Available from: http://www.pembrokeshirecoast.org.uk/?PID=614 [Accessed 19th August 2016]. And Snowdonia National Park Authority. 2014. Supplementary Planning Guidance: Landscapes and Seascapes of Eyri. [online]. Available from: http://www.eryri-npa.gov.uk/planning/planning-policy/Supp-Planning-Guidance [Accessed 19th August 2016]. And Fyfe F, Countryscape, Bangor University (SEACAMS). 2013. Anglesey Seascape Character Assessment. Isle of Anglesey Council. [online]. Available from: http://www.anglesey.gov.uk/planning-and-waste/countryside/areas-of-outstanding-natural-beauty-aonbs/anglesey-aonb-management-plan/anglesey-seascape-character-assessment/126881.article [Accessed 19th August 2016]	HIGH	These local seascape character assessments had a high degree of local involvement. The assessments for Pembrokeshire and Snowdonia were adopted as supplementary planning guidance. There was stakeholder involvement, quality assurance and independent input involved. Therefore, confidence is high.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
National landscape change to 2015 has been small overall, but some changes have been substantial locally	Thomas B. 2015. LANDMAP Change Detection: Visual & Sensory Aspect Monitoring Reports. Aberystwyth: Natural Resources Wales. And White S. 2015. LANDMAP Visual & Sensory Data Monitoring Tables. Aberystwyth: Natural Resources Wales. And Turton N, Naumann EK, Kelly M, Medcalf K. 2015. LANDMAP Change Evaluation. Aberystwyth: Natural Resources Wales.	HIGH	The amount of evidence available is high - it is based on ONS, mapping, commissioned work, local authorities and other sources. All of this type of evidence has been quality assured and is underpinned by consistent methods. The level of agreement is also high as it is peer reviewed evidence with local planning authorities verifying the information. Therefore, confidence is high.
Climate change is likely to have significant impacts on landscape character, local distinctiveness and quality, directly through changing land cover (migrating habitat and species ranges) and indirectly by influencing land use decisions	Committee on Climate Change. 2016. UK Climate Change Risk Assessment 2017 Evidence Report, Summary for Wales [online]. Available from: https://documents.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf. [Accessed 29th July 2016]AndHistoric Environment Group. 2013: Climate change and the historic environment of Wales: A summary of potential impacts	HIGH	The CCRA uses their own confidence levels but this message is backed up by statements in other research on the historic environment. Therefore, confidence is high.

Confidence record for Chapter 4

Confidence Annex Table 19 Confidence assessments for Chapter 4 Resilience.

Key message bullet / topic or figure in chapter 3 or annex	Reference	Confidence	Reasoning
Connectivity maps (x3)	Latham J, Blackstock TH & Howe EA. 2008. Ecological connectivity in Wales: planning action to help terrestrial biodiversity respond to habitat fragmentation and climate change. CCW Staff Science Report No. 08/7/1. Countryside Council for Wales.	HIGH	This map is the only one showing connectivity across the whole of Wales to our knowledge but the model to produce the map and show connectivity uses a variety of data sources and the approach for the model is one that is generally used. The data are all in broad agreement. Data is old (around 20 years) but much of it has been corroborated with more recent work so is still valid and representative. Don't have linear data but the broad picture is considered to be an accurate reflection of connectivity and is the best available. Therefore, this is high confidence.
Coloured table showing resilience summary	Chapter 3 of SoNaRR	MEDIUM	A lot of different experts involved in the compilation of the table. Generally, each of the experts involved was quite sure around whether the status of each attribute was good, fair or poor (within habitats). Consistent approach used and based on a variety of evidence sources identified in Chapter 3 so cannot be considered as LOW confidence. Equally, it is based on expert judgement of the evidence and is not a standardised methodology to reach the conclusion, nor has it been done elsewhere in this way so cannot be considered as high confidence. Therefore, this is medium confidence.