

**Environment and
Sustainable Communities
Overview and Scrutiny
Committee**



14 February 2022

**Consideration of An
Ecological Emergency
(County Durham)**

**Report of Alan Patrickson, Corporate Director of Neighbourhoods
and Climate Change**

Electoral division(s) affected:

Countywide

Purpose of the Report

- 1 The purpose of the report is to provide further information to the Environment and Sustainable Communities Overview and Scrutiny Committee, to assist members in determining, as to whether they recommend to Cabinet, that Durham County Council declares an Ecological Emergency.

Executive summary

- 2 At a meeting of Cabinet Meeting held on the 13 October 2021, the national and international declines in natural habitats and species were recognised and it was requested that a focused piece of work be undertaken by Overview and Scrutiny to examine the evidence base for biodiversity declines within County Durham. This report together with information provided to the Environment and Sustainable Communities Overview and Scrutiny Committee (ESCOC) at a special meeting held on the 13 December 2021 provides the evidence base for the ESCOC to make a determination as to whether Durham County Council should declare an ecological emergency.
- 3 In 2019 Durham County Council declared a climate emergency. The climate change emergency recognised the global climate emergency, and the Council made a commitment to address the issue of climate change at a local level to assist in dealing with an international crisis. It is in a similar spirit that this report examines the evidence for a biodiversity crisis at a global, national and local level.

- 4 While the global and national data is robust there are some limitations with regards to local data and its ability to show clear trends over the same time periods as used by the national reports. The general view of the data is that at a national level it are robust but as you bear down on regional and local data the picture becomes less clear. The main reason for the limitations of local species data is the lack of time-series datasets.
- 5 The most robust data we have relates to the condition of designated sites and Environment Agency data on the condition of surface waters (rivers and streams) and there is high confidence in the data used within this report.
- 6 The species data varies in its ability to provide robust trends. Data on most of the species' groups provide a good degree of confidence in the trends exhibited. Although regular time series data is not always available, the data pertaining to many species has been analysed by local experts during the production of Atlases describing the fauna of County Durham. These Atlases provide the basis for reporting against species in this report.
- 7 Any assessment of the status of biodiversity within a given geographical area is not straightforward, whether at a global, national or local level. Within any area some of the many thousands of species will show population and distributional increases while others will decline, and new species will colonise as others go extinct. Within County Durham species such as buzzard are currently spreading eastwards and the red kite was re-introduced in the early 2000's bolstering our avian fauna, while a suite of other birds is in decline. Tree bumblebees colonised the county in 2010 increasing the numbers of resident bumblebees, yet other species have previously become extinct. The Brown Argus is colonising from the south adding to our diversity of butterflies yet at the same time this puts the Northern Brown Argus under threat due to interbreeding with the new arrival.
- 8 Biological diversity is a multifaceted concept and includes not only species richness but the functionality of the ecological systems within which species exist. These Ecosystems underpin all human life and activities. The goods and services they provide are vital to sustaining well-being, and to future economic and social development. The benefits ecosystems provide include food, water, timber, air purification, soil formation and pollination. These wider interactions are challenging to measure and so species data are taken as an indicator of the wider health of the environment.
- 9 This report concentrates on species data pertaining to Durham Biodiversity Action Plan¹ species. All the national State of Nature Reports

¹ BAPs are plans developed to protect and enhance biodiversity, the Durham BAP identified local priority habitats and species.

from 2013 onwards have assessed UK Priority Species and this report follows suit. Many Priority Species are habitat specialists² which rely on high quality semi-natural habitats and so they are good indicators of the overall health of our habitats. Priority species are often subject to more intensive monitoring and recording and therefore more data is available.

- 10 This report examines readily available data with a view to determining whether the evidence indicates that County Durham is mirroring the declines shown within national datasets or has escaped significant damage to its biodiversity.
- 11 A presentation will be provided highlighting to members loss of habitats and species in County Durham. In addition, partners will be in attendance at the meeting, the Chair of the Environment and Climate Change Partnership and Director of Durham Wildlife Trust and the Chair of the Ecological Emergency Workstream of the Partnership and Director of the North Pennines AONB Partnership to share their thoughts on biodiversity decline in the county.

Recommendations

- 12 That Members of the Environment and Sustainable Communities Overview and Scrutiny Committee are asked to consider the information provided in the report and presentation.

Global Data

- 13 As stated in the preceding section Durham County Council recognises the global decline in species and habitats. A brief outline of the global situation is provided here to provide wider context for the ESCOC.
- 14 The main source of global data is The Living Planet Index (LPI); a measure of the state of the world's biological diversity based on population trends of vertebrate species from terrestrial, freshwater and marine habitats.
- 15 The LPI tracks the abundance of almost 21,000 populations of mammals, birds, fish, reptiles and amphibians around the world and uses data from over 4,000 sources. The LPI is the indicator adopted by the Convention on Biological Diversity³ with regards to its target to 'take effective and urgent action to halt the loss of biodiversity'.
- 16 Key headlines from the 2020 Living Planet Index Report:

² Species strongly associated with high quality semi-natural habitats (e.g., magnesian limestone grassland) compared to more generalist species found in semi-natural habitats and the wider landscape (e.g., agricultural and garden habitats)

³ The Convention on Biological Diversity is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" that has been ratified by 196 nations.

- Average 68% decrease in population sizes of mammals, birds, amphibians, reptiles and fish between 1970 and 2016.
 - Average 84% decrease in freshwater species between 1970 and 2016.
 - European grassland butterflies: 1990 to 2017 The abundance of 17 grassland butterfly species declined by 49% on average.
 - More than 85% of the area of wetlands has been lost.
- 17 The LPI refers to other indices which can provide further insights into the plight of biodiversity at a global level.
- IUCN⁴ Red List Index. Represents the most comprehensive and objective system for assessing the relative risk of extinction of species. The current species extinction rate is estimated to be between 1,000 and 10,000 times higher than the natural or 'background' rate. The total number of known threatened animal species has increased from 5,205 to 8,462 since 1996. One in four mammals and one in eight birds face a high risk of extinction in the near future.
 - The Mean Species Abundance (MSA) Index and Biodiversity Intactness Index. These provide an indication of the functionality of ecosystems; both these indices have fallen to 66% and 79% respectively and are predicted to continue to decline.
 - The Species Habitat Index. This index provides information on the distribution of species and shows that the geographic distribution of terrestrial mammals, the only group for which baseline distribution could be estimated, has been reduced to 83% of pre-impact values.
- 18 The 2020 Living Planet Index Report can be found at:
<https://www.zsl.org/sites/default/files/LPR%202020%20Full%20report.pdf>

National Data

- 19 The County Council accepts the declines in biodiversity at a national level, and again headline information is provided within this report to offer wider context for the ESCOC.

⁴ The International Union for Conservation of Nature is the global authority on the status of the natural world and the measures needed to safeguard it

- 20 The main source of information to evidence a national decline is the State of Nature Report 2019, which provides a collective government and non-profit organization statement on our biodiversity.
- 21 Key headlines from the State of Nature Report 2019:
- Since 1970 35% of species in England have undergone population declines
 - In 2016 the breeding woodland bird indicator for England was 24% lower than in 1970
 - Woodland butterflies' abundance has fallen by 58% since 1990
 - The UK Breeding Seabird Indicator shows a 22% decline in average abundance for 13 species between 1985 and 2015.
 - The state of Nature report provides two indicators relating to UK Priority Species⁵. The first of these is an indicator of abundance which shows that since 1970, the indicator of abundance for 214 priority species has declined by a statistically significant 60%.
 - The second indicator provides information on the changes for UK Priority Species distribution. Between 1970 and 2016, the index of distribution of priority species in the UK declined by 27%.

⁵ Species of greatest conservation concern; the UK's priority species

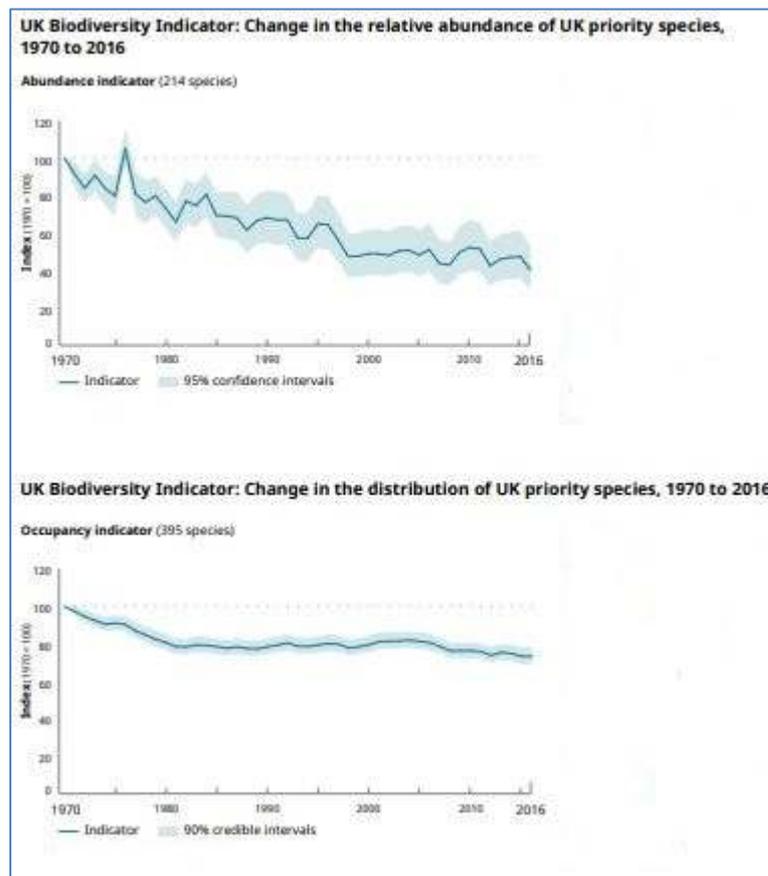


Chart 1: UK Biodiversity Indicators (Abundance & Distribution of Priority Species)

- 22 The 2019 State of Nature Report can be found at:
<https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf>

LOCAL DATA

- 23 The first aspect of local data to be examined is the condition of our designated sites; these are monitored against agreed national standards for specific habitat types.
- 24 Two sets of data are presented here; the first refers to Sites of Special Scientific Interest (SSSI), these are a formal conservation designation undertaken by Natural England. The second set of designated sites are Local Wildlife Sites (LWS). LWS are designated by Local Authorities across the UK for their local importance to biodiversity and contain priority habitats and species; they are regarded as a key component of our ecological network.

Sites of Special Scientific Interest

- 25 Natural England monitors the SSSI within County Durham. The monitoring and assessment of SSSI is an important aspect of Natural

England's overall monitoring programme and provides evidence for the delivery of the Government's 25 Year Plan to Improve the Environment.

- 26 There are 88 SSSI listed by Natural England in County Durham and the most recent data from Natural England's Designated Sites View website shows that 15% are in favourable condition with 85% in unfavourable condition in one of three categories.

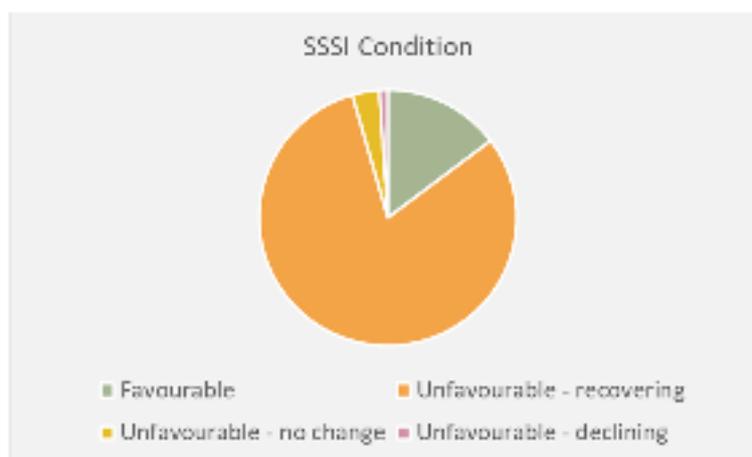


Chart 2: SSSI Condition.

- 27 The 25 Year Environment Plan Progress Report - April 2019 to March 2020 states that nationally 38.9% of SSSI are in favourable condition and that given these figures the Government "*...are not on track to meet our commitment to restore 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition*". The condition data for County Durham shows that our SSSI are in a poorer state than is evidenced nationally.

Local Wildlife Sites

- 28 There are 324 LWS in County Durham; since 2011 the authority has engaged Durham Wildlife Trust to re-survey the sites and to date 42% of sites have been surveyed providing a robust picture on the condition of our LWS network.
- 29 Most LWS are made up of compartments of different semi-natural habitat types. These range from ancient and wet woodlands, ponds and swamps to magnesian limestone and acidic grasslands. Data presented in Chart 3 below provides information on the condition of all the compartments making up the LWS network regardless of habitat type.

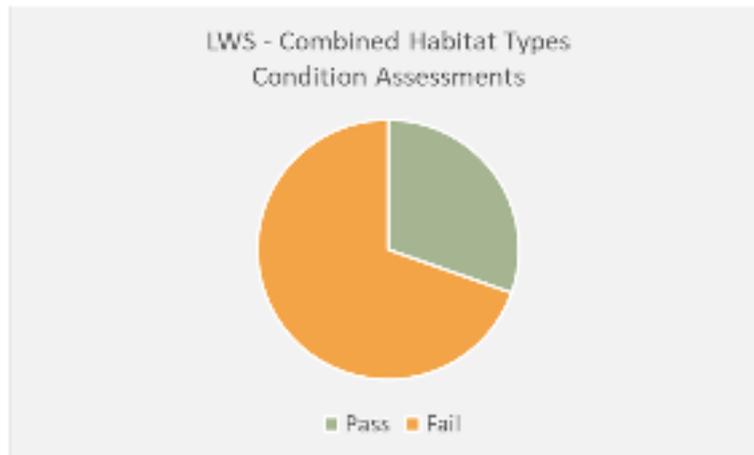


Chart 3: Condition of all compartments

30 The data shows that 70% of all the compartments within the re-surveyed LWS fail to pass the condition assessments. This data can be further broken down into broad habitat types: woodland, grassland, wetlands and heathland.

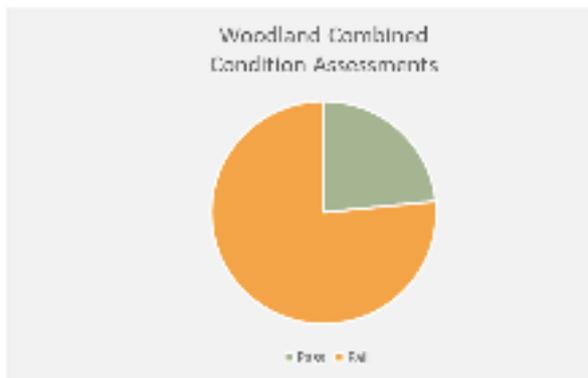


Chart 4: Condition of Woodland Compartments

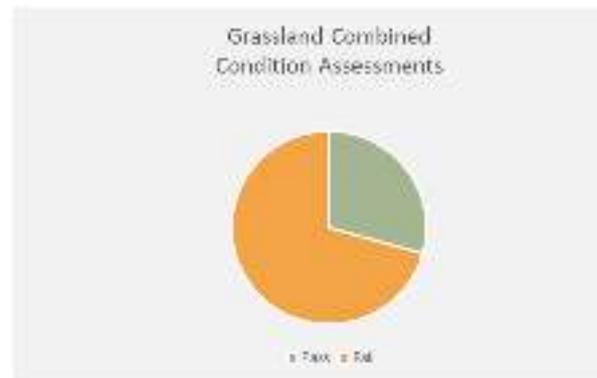


Chart 5: Condition of Grassland Compartments

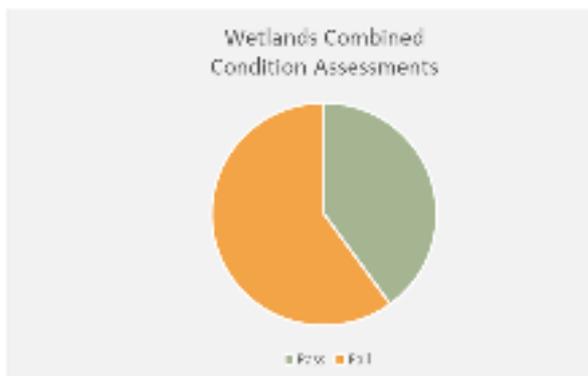


Chart 6: Condition of Wetland Compartments

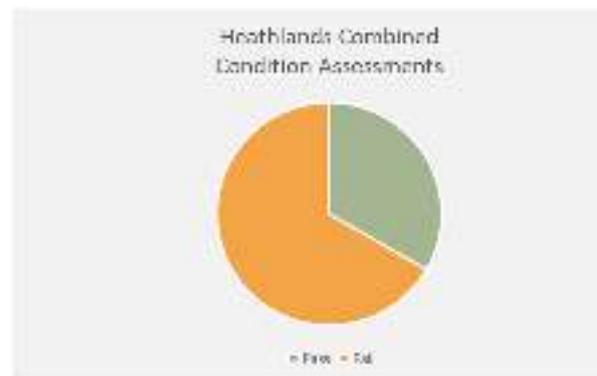


Chart 7: Condition of Heathland Compartments

- 31 The data for broad habitat types shows a similar picture with the percentage of habitat compartments in unfavourable condition ranging between 60% for wetlands up to 77% for woodlands; this shows that a significant proportion of all the habitat types represented within the LWS network are in poor condition.
- 32 The major reasons for a failure to meet condition criteria are the presence of invasive non-native species, a lack of management or inappropriate management. The LWS are obviously in decline as the management issues are on-going. A gradual decline in quality will eventually lead to sites no longer meeting designation criteria and them being removed from the LWS register as the habitat has been lost. Although there are no firm figures as yet, it is estimated that up to fourteen LWS may require de-designation or boundary changes due to habitat loss; this number will only increase in the future without intervention.

Ancient Woodlands

- 33 Ancient woodlands are represented within the LWS network and have been subject to condition assessments.
- 34 Ancient woods are areas of woodland that have persisted since 1600 and because of this longevity they are unique and complex communities of plants, fungi, insects and other microorganisms. Ancient woodlands are our richest and most complex terrestrial habitat and regarded as 'irreplaceable' by the National Planning Policy Framework. The Durham Wildlife Audit (1995) states that "*There has been a 25% loss of Durham's ancient woodlands since the 1920's*" and that this woodland type only occupies 1.3% of the County.
- 35 Ancient woodlands fall into two categories, the first of these are Ancient semi-natural woods (ASNW) which are woods that have developed naturally and have retained broadleaf woodland cover for over 400 years. ASNW are represented within the LWS network and the resurveys of LWS shows that 77% of the ASNW fail condition assessments.

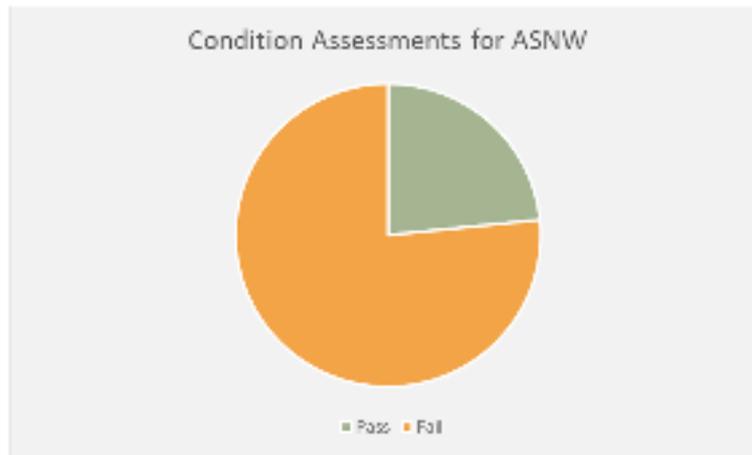


Chart 8: Condition of ASNW

- 36 The second category of ancient woodland are Plantations on ancient woodland sites (PAWS) which are ancient woods that have been felled and replanted with non-native species. Typically, these are conifers, but it can also include broadleaved planting such as beech, red oak, and sweet chestnut. Although they have the complex soil of ancient woodland and are considered to contain remnants of woodland specialist species they are regarded as being in poor condition relative to the ASNW.
- 37 Recent work on Green Infrastructure Mapping has provided data on the amount of our ancient woodlands that are categorised as PAWS; 63% of our ancient woodlands are poor condition PAWS sites.

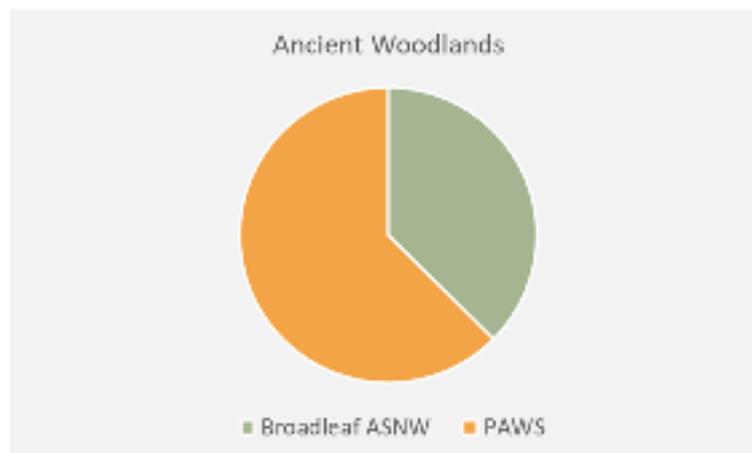


Chart 9: Ancient Woodlands - PAWS and ASNW

Woodland Functionality

- 38 The Green Infrastructure Mapping exercise has also provided information with regards to the functionality of our woodlands. The mapping process needed to identify our core areas of ecologically functioning woodland; core areas are defined as ASNW which are a minimum of 10ha in size,

this alongside a 1km buffer zone⁶ identified our core network of functioning woodland. Using these criteria, it can be shown that most of our ASNW woodlands are not regarded as being fully functional with only 9% of ASNW meeting the size criteria.



Chart 10: Functional Woodlands

Water Framework Directive

- 39 The Environment Agency (EA) monitors the delivery of the Water Framework Directive (WFD) which was adopted by the UK in 2000 and imposes standards for the improvement of all aspects of water environments, including rivers, lakes, estuaries, coastal waters and groundwater. It requires surface waters to be of good quality by 2027.
- 40 The EA provides water classification data relating to obligations under the directive and part of this data is concerned with the ecological status of surface waters. The data places 64 surface waters in County Durham within status categories, the categories are Bad, Poor, Moderate, Good and High. In order for the obligations of the directive to be met surface waters should fall into the Good category. Data from 2015, 2016 and 2019 is currently available.
- 41 Taking the most recent data it can be seen that for the River Wear Catchment only 6% of watercourses in the catchment are in Good condition, the River Tees fairs a little better with 15% of watercourses being in Good condition.

⁶ Woodland size and buffer zones based on minimum patch size for specialist woodland species and a maximum dispersal distance of 1km (Generic Focal Species approach). This is a nationally recognised approach for mapping and spatially analysing habitats on a landscape scale.

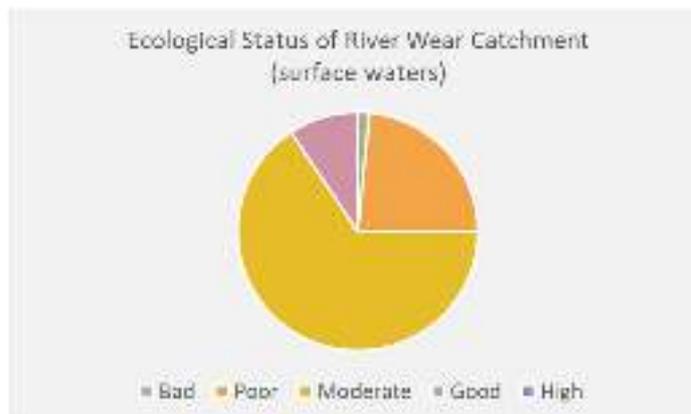


Chart 11: Ecological Status of River Wear watercourses

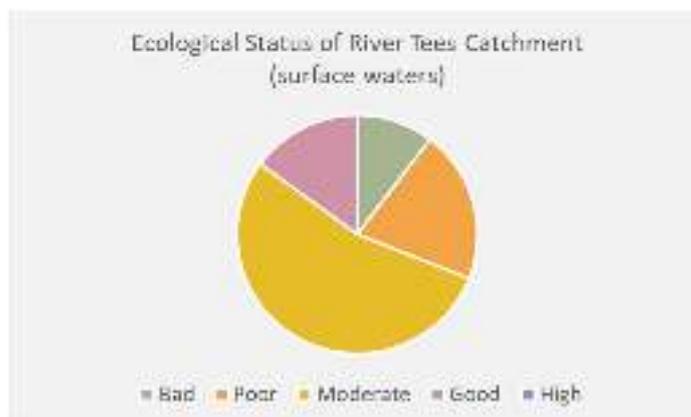


Chart 12: Ecological Status of River Tees watercourses

42 A comparison of the EA data for all watercourses in County Durham between 2015 and 2019 indicates that the ecological status of our watercourses appears to have further declined with a reduction in watercourses attaining Good status and an increase in those in Poor condition.

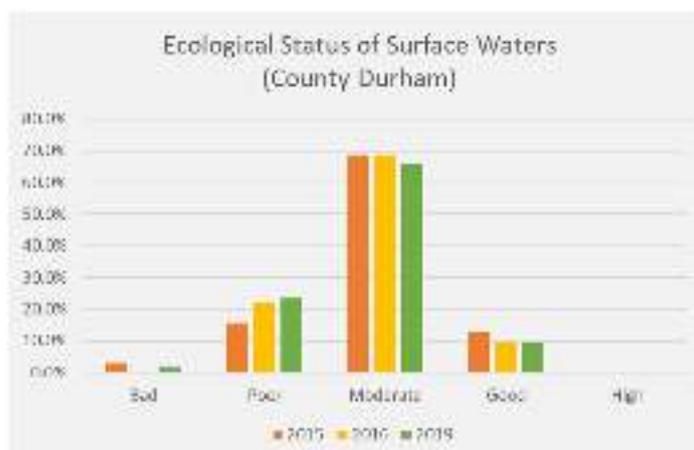


Chart 13: Ecological Status for surface waters in County Durham

Species

- 43 Information on species is mostly derived from species atlases, those referenced are:
- A Summer Atlas of the Breeding Birds of County Durham (2000)
 - The Birds of Durham (2012)
 - Mammals, Amphibians and Reptiles of the North East (2012)
 - Atlas of the Butterflies of North East England (2014)
 - Bumblebees of North East England (2019)
- 44 When looking at the data or statements arising from Atlases the reader should be aware of the publication dates and that statements extracted from the Atlases only apply up to the year of publication.
- 45 Information on salmon and sea trout has been gathered from Salmon Stocks and Fisheries in England and Wales in 2020 (Environment Agency) and EA data on River Wear and River Tees fish counts which is available up to 2021.

Birds

- 46 Two Publications are referenced in this report. The Birds of Durham (2012) which includes breeding and non-breeding birds and The Summer Atlas of the Breeding Birds of County Durham (2000) which deals with birds that breed in the County. The Atlas provides “guiding statement” trends for a range of Durham Biodiversity Action Plan (DBAP) species associated with different habitat types between 1985 and 1995.
- 47 These guiding statements provide a snapshot of population trends over a 10-year period and although, as the atlas states they are not definitive the statements do none the less give an indication as to the health of our breeding bird populations.
- 48 The Birds of Durham does not provide an equivalent to the guiding statements, but the detail held within the species accounts enables the reader to determine the local status of each species.
- 49 The Atlas statements for birds associated with the Durham Coast are relatively positive with only a handful of species showing any evidence of a potential decline.

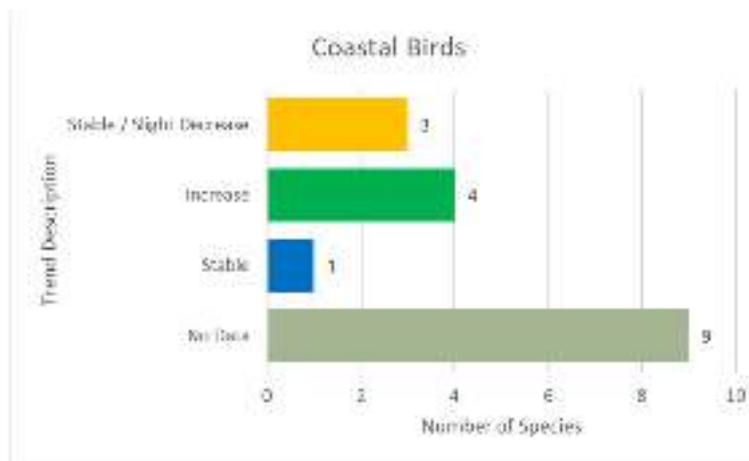


Chart 14: Guiding Statement Trends for Coastal Birds

- 50 The Atlas does not provide data on Turnstone and Purple Sandpiper as they are non-breeding birds. These medium-sized sandpipers of rocky shores and gravel beaches are qualifying features of the Northumbria Coast Special Protection Area (SPA)⁷, part of which lies along the Durham coast⁸ and so of interest in the context of this report.
- 51 The Wetland Bird Survey (WeBs) provides annual data for Turnstones counted within the Northumbria Coast SPA. The species shows a shallow increase in population up until the late 1980s/early 1990s, from which there has then been a steady decline. Further survey work reinforces the population declines, with a significant decline in counts of turnstones on the Northumbrian Coast SPA between the winters 1980/81 and 2014/15 (Mark Whittingham et. al. 2016). The national and regional turnstone populations show a similar trend, however the changes in counts were significantly slower than the more rapid declines in the Northumbrian Coast SPA.
- 52 The other species covered by the SPA, Purple Sandpiper, is regarded by The Birds of Durham as "*having declined in recent years*".
- 53 Two breeding species are listed on the SPA citation, Roseate Turn and Little Turn. According to the Atlas both these species show evidence of increases. The Birds of Durham note that the last time Roseate Turn tried (unsuccessfully) to breed in County Durham was in 1999 and it is an "*uncommon passage visitor*". The Little Turn has a precarious foothold in County Durham. The dunes at Crimdon have held a breeding colony and while efficient wardening has prevented part or total failure of the colony in recent years by minimising human impacts and predation, the small size of the colony makes it susceptible to impacts.

⁷ Special Protection Area (SPA) are selected to protect one or more rare, threatened or vulnerable bird species listed in Annex I of the Birds Directive

⁸ Between Seaham and Ryhope and between Crimdon Dene and Blackhall Colliery

- 54 The trend statements within the Atlas for Farmland and Upland Birds indicate declines. Although some species of farmland birds show evidence of a slight increase in numbers, the overall picture is one of decline. Upland birds follow suit, with a concerning picture of decreases and potential declines.

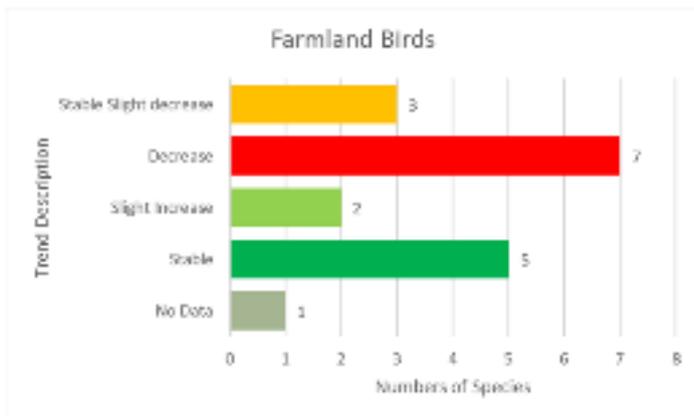


Chart 15: Guiding Statement Trends for Farmland Birds

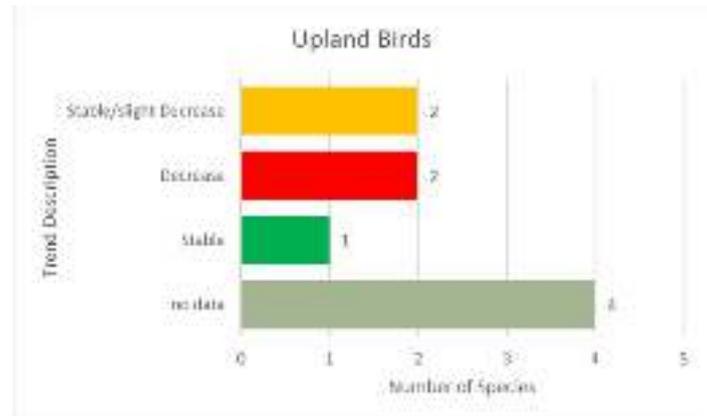


Chart 16: Guiding Statement Trends for Upland Birds

- 55 The Birds of Durham paints a similar picture of declines, notably with Farmland birds where twelve of the eighteen species are in decline. Uplands birds are generally seen as currently stable, but three species have historically declined with no evidence of a recovery.

- 56 The Atlas trend statements are worse for Woodland Birds and Urban and Garden Birds with no evidence of population increases recorded in the Atlas and all the species for which data is available indicating some level of decline.

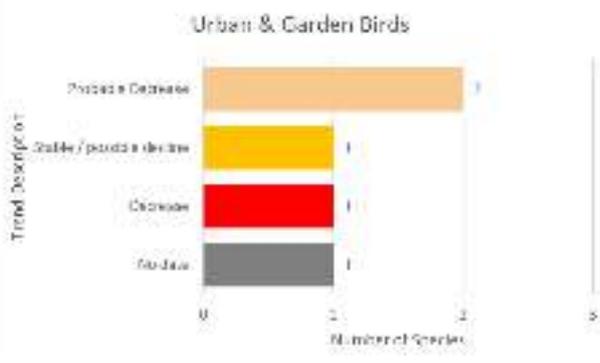


Chart 17: Guiding Statement Trends for Urban and Garden Birds



Chart 18: Guiding Statement Trends for Woodland and Scrub Birds

- 57 Again, the Birds of Durham aligns with the trend statements within the Atlas with three of the five Urban and Garden birds showing evidence of declines. Five of the nine Woodland & Scrub species are regarded as showing evidence of declines in The Birds of Durham.
- 58 The State of the UK's Birds Report (2020) by the British Trust for Ornithology provides trends for Woodland and Farmland Birds. The farmland bird index has declined by 45% since the 1970's and the woodland bird index by 27% in the same period.
- 59 Information from the two Durham bird publications provides evidence that we were following the national declines up to 2012, there seems to be no reason to suspect that this situation has radically changed over the preceding years. The 2020 BTO report states that "*The farmland indicator continues to decline, despite widespread uptake of agri-environment schemes and other bespoke conservation initiatives*" and this statement is more than likely to apply at a local level.

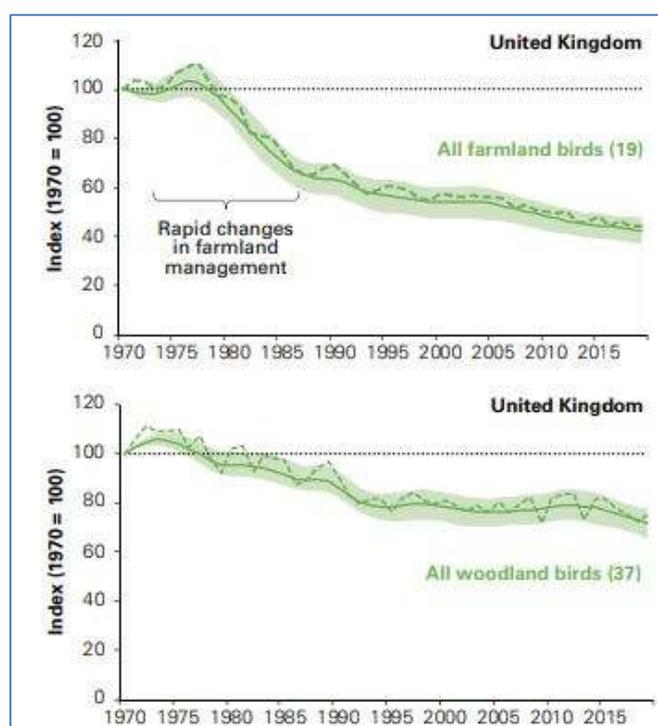


Chart 19: Farmland and Woodland Bird Index Change - State of the UK's Birds Report (2020)

Mammals and Herptiles

- 60 There are 25 mammals and herptiles listed on the DBAP and the Mammals, Amphibians and Reptiles of the North East (2012) provides the most recent published information on these species.
- 61 The atlas states that all the reptile species are "*declining in the region*" and that our only DBAP listed amphibian, the great crested newt, had undergone a decline since the 1980's. Statements or information

extracted from the Atlas for reptiles and amphibians is shown in the table below:

Grass Snake	“Decline and possibly heading to extinction”
Great Crested Newt	20% decline between 1984 and date of publication
Adder	Some evidence of reduction in distribution
Common Lizard	“Considerable decline in lowland distribution”
Slow Worm	Some evidence of reduction in distribution

Table 1: Reptiles and Amphibians

- 62 The County Reptile Recorder was contacted (January 2022) for an opinion on the current state of our herptile fauna; they believe that there is no evidence of a recovery in our reptile species and that they may still be in decline. There have been no Grass snake records for five years and they are almost certainly now extinct and that great crested newts might be stable but have not recovered from the declines noted in the 2012 Atlas. The County Recorder thinks that coastal slow worm populations are the most likely future population loss.
- 63 This picture of declines is also evident at a national level with all the species resident in County Durham regarded as in ‘general decline’ across the UK other than the adder which is reported as declining in some areas. The grass snake which is likely extinct in County Durham is regarded as in general decline nationally (BTO Research Report 572).
- 64 There are 20 species of mammal listed on the DBAP of which 9 are species of bat. The Atlas is unable to provide clear population or distribution trends for most of the species due to a lack of data; the Atlas provides clear information on declines or increases in population or distribution for only five species.
- 65 Within living memory, the otter, water vole and red squirrel have declined or are still declining. The otter became virtually extinct in Durham during the 1960’s and 1970’s due to pollutants and adverse riparian management; fortunately, this situation has been reversed and otters have recolonised the County. The water vole and red squirrel have undergone significant declines and there is little, if any, evidence of any reversal in their fortunes. Two other species, the pine marten and polecat suffered near extinction in the late 1800’s / early 1900’s and remain elusive to this day.

66 Statements or information extracted from the Atlas for mammals is shown in the table below:

Otter	Significant decline in 1960/70's; now returned to former distribution
Pine Marten	Functionally extinct since late 1800's.
Polecat	Extinct in the early 1900's. Evidence of a limited return to the area
Red Squirrel	1953 survey stated that the species had "declined of late years". Lost from east Durham in early 2000's
Water Vole	Lost from approx. 90% of range (late 1990's). Further 30% loss (2006 to 2015)

Table 2: Mammals

67 The State of Nature Report provides information on changes in the abundance and distribution of mammals across the UK. Over the short term, the indicator for abundance remained stable, just 3% lower in 2016 compared to 2006 while the distribution indicator shows long term decreases of 26% over the long term and a 6% decrease over the short term. The lack of time series data informing the local Atlas means that it is difficult to compare the local and national pictures; but only one of the three species that we can show to have declined in our lifetimes has recovered. The water vole and red squirrel continue to be of concern in 2022 despite conservation efforts spanning decades.

Butterflies

68 The Atlas of the Butterflies of North East England was published in 2014 and provides information on the 7 DBAP listed butterflies within County Durham. Butterflies have been relatively well recorded, with natural historians producing accounts of local butterflies since the late 1800s and Dunn and Parrack publishing *The Moths and Butterflies of Northumberland and Durham* in 1986.

69 Of the seven DBAP species five have clearly undergone declines up to 2014. The remaining two species are both hairstreaks and are regarded as under-recorded making any determination of declines difficult, although it is thought that the White-letter hairstreak may have been in decline since the mid 2000's.

70 Statements or information extracted from the Atlas and other publications for all DBAP butterflies are shown in the table below:

Northern Brown Argus	Two distinct colonies (inland and coastal). Two inland sites have been lost.
Dingy Skipper	A 2005 survey indicated a 30% loss of known sites
Small Pearl-bordered Fritillary	Formally found across the county, with significant declines in the early 1900's. Increasing due to introductions and active management, but distribution still limited as of 2021.
Dark Green Fritillary	Once common, but declined in the 1960/70's. Now recovering and spreading but distribution still limited as of 2021.
Grayling	Noted as extinct by Dunn and Parrack (1986). Previously present along the Durham coast. No confirmed ⁹ Durham records as of 2021 but might be possible that a recolonisation is slowing occurring.
White-letter hairstreak	Increase up to 2006 (probably due to recording effort), potential decline since 2006. Regarded as under-recorded.
Green Hairstreak	A rare species, increase in distribution since 1986 (probably due to recording effort).

Table 3: Butterflies

71 Since the 2014 Atlas was written, targeted conservation action has continued to be directed toward the Small Pearl-bordered Fritillary and Dark Green Fritillary. These two species have shown limited recoveries, with Dark Green Fritillary becoming increasingly common where good quality habitat is present.

72 The Dingy Skipper survey was repeated in 2016, albeit involving fewer sites, but the rate of loss was almost identical to that shown by the previous work referenced in the Atlas.

73 Butterflies are one of the species groups exhibiting alarming declines at a national level with the State of Nature Report reporting recent declines

⁹ A few records from Murton and a singleton from Hawthorn, but the reliability of these records is in doubt. Surveys at Murton and in 2021 at Hawthorn did not find the species.

of 12% in abundance and habitat specialist butterflies showing a decline of 68% between 1976 and 2018.

- 74 This national pattern of declines amongst specialist species chimes with the local data, all five DBAP species which we can show have declined are habitat specialists with only White-letter hairstreak being a species of the wider countryside. A decline in specialist butterflies can be seen as a reflection on the state of our semi-natural habitats as discussed with regards to SSSI and LWS, as without the habitats to support them, species declines are inevitable.

Bumblebees

- 75 The most recent Atlas is that for the bumblebees, which was published in 2019. There is a long history of bumblebee recording in County Durham with information from the early 1800's and active recorders in the early 1900s through to the modern day.
- 76 Since 1827 there have been 22 species of bumblebee recorded in County Durham, currently there are 18 extant species, 23% of our bumblebee historical fauna is either locally extinct or has significantly declined.
- 77 Statements or information extracted from the Atlas for bumblebees are shown in the table below:

Great yellow bumblebee	Extinct (last recorded in 1970)
Red shanked carder bee	Extinct (last recorded in 1979)
Large garden bumblebee	Extinct (last recorded in 1926)
Shrill carder bee	Extinct (last recorded in 1926)
Moss carder bee	Significant reduction in distribution, lost from the lowlands by the 1970's although still present in upper Weardale and Teesdale.
Red-tailed Cuckoo Bee	Formerly rare, increasing across the County

Table 4: Bumblebees

- 78 At a national level bumblebee species have declined over the past century. Two species became extinct in the UK during the 1900's with Cullum's bumblebee last seen on the Berkshire Downs in 1941 and the

Short-haired bumblebee last seen at Dungeness in 1988 and officially declared extinct in 2000.

- 79 The concerns over the national status of bumblebee have led to seven species being listed as UK Priority Species, of which five have been recorded in County Durham, of these five, four are now extinct and one has undergone a significant reduction in distribution.
- 80 Most bumblebees are not habitat specialists but are dependent on permanent flower-rich grasslands that they need to forage in. The loss of hay meadows and wildflower meadows especially in the lowlands is a major cause of declines and the likely explanation for the losses in the local area. Despite some positive news, bumblebee populations in County Durham have clearly undergone declines that mirror the national picture and the drivers for these declines are likely the same.

Salmon and Sea Trout

- 81 The Environment Agency monitors salmon and sea trout numbers passing the fish counters at Framwellgate on the River Wear and at the Tees Barrage on the lower reaches of the River Tees. Data is available up to 2021.
- 82 The data for both rivers indicate a decline in salmonids recorded moving through the Wear and Tees catchments. The trend for the River Tees is more marked than for the Wear, where increases in fish counts have been noted up until the 2010's when numbers started to decline.

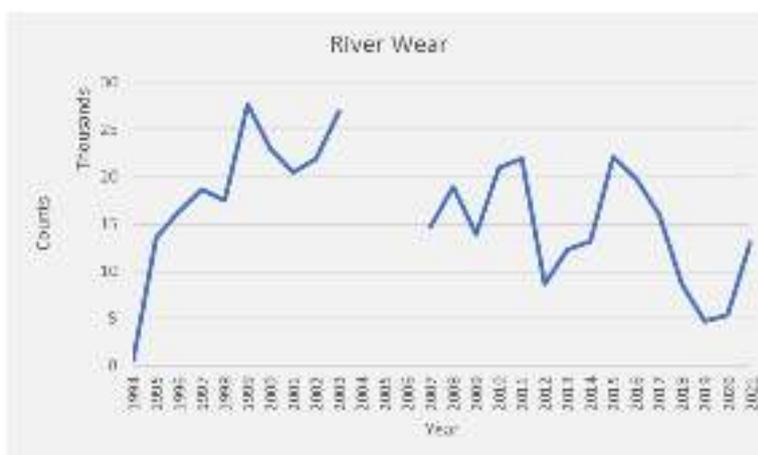


Chart 20: Fish counts (River Wear)

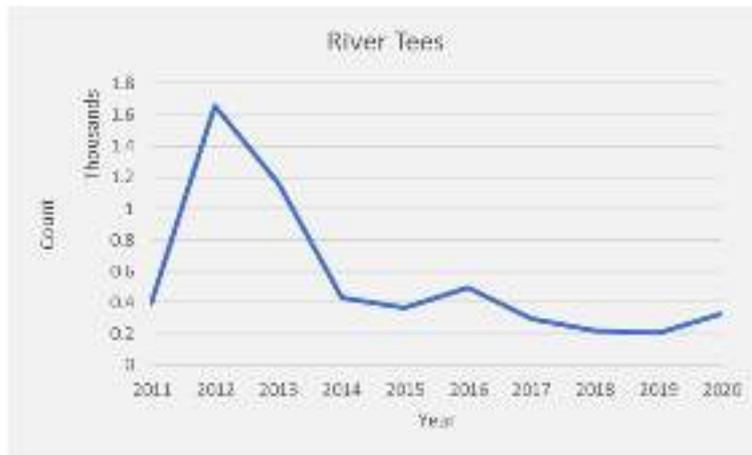


Chart 21: Fish Counts (River Tees)

- 83 The concerns raised by the fish count data are reinforced by Environment Agency compliance assessments for the Rivers Wear and Tees against the management objective for salmon stocks.
- 84 The EA places rivers in risk categories of not meeting the management objectives, the categories range from 'not at risk' in the current year i.e., having a high probability ($p \geq 95\%$) of achieving the management objective to 'at risk' i.e. having a low probability ($p \leq 5\%$) of achieving the objective.
- 85 Data relating to the risk categories of rivers across the country has been reported in 'Salmon Stocks and Fisheries in England and Wales in 2020' and is shown in the table below:

Year	River Wear (Risk Category)	River Tees (Risk Category)
2008	Not at risk	At risk
2009	Not at risk	At risk
2010	Not at risk	At risk
2011	Not at risk	At risk
2012	Not at risk	At risk
2013	Not at risk	At risk
2014	Probably not at risk	At risk
2016	Probably not at risk	At risk
2020	Probably not at risk	At risk
		At risk
2025 (predicted)	Probably at risk	At risk

Table 5: Risk of not meeting Management Objectives – Rivers Wear and Tees

86 The River Tees has fallen into the ‘at risk’ category since 2008 and is not predicted to meet its management objectives in 2025. While the River Wear was ‘not at risk’ for many years its risk of failing management objectives is increasing and predicted to further decline.

87 The national picture can be summed up in a statement from the 2020 report - “*The latest assessment therefore indicates that most salmon stocks in England and Wales remain in a depleted state*”. The local picture with regards to salmon appears to be in line with the 2020 report’s assessment of the national status of stocks.

Summary

88 The local data for our terrestrial and aquatic habitats clearly shows that across-the-board semi-natural habitats are failing to meet condition assessments and targets: 85% of SSSIs are in unfavourable condition, 70% of LWS compartments are failing condition assessments, 90.6% of surface waters are failing to meet the required standards and the risks of failure to meet management objective for salmon on our rivers are increasing.

89 Other than the Water Framework Directive data for surface waters, which shows continuing failures since 2015 the remaining habitat data provides a snapshot of condition rather than a time series. Despite this gap in the

data, our semi-natural habitats are clearly under significant pressure, and this represents a substantial impact on our biodiversity. If our habitats are in poor condition and being gradually lost due to lack of, or inappropriate management then it follows that our species will also be negatively impacted upon.

- 90 Although our species data does not allow trends to be produced over the same time periods as used by the State of Nature Report all the local evidence, across the species groups, points to the conclusion that declines comparable with the global and national picture are occurring in County Durham. The national picture of declines for Priority Species is echoed at a local level within all the Atlases and more recent anecdotal and survey evidence supports the interpretation provided by these publications.

Ecological Emergency

- 91 The question of whether to declare an Ecological Emergency begins with the ESCOC deciding whether to make a recommendation to Cabinet that a declaration should be made, and if so, the form it should take.
- 92 If the ESCOC makes a recommendation for declaration, then the Climate Change Emergency provides a proven framework for any response to the Ecological Emergency. The Climate Emergency Action Plan consists of two parts: one for the council's target and one for the countywide target. If an Ecological Emergency follows the same blueprint, then the ESCOC should be made aware of the developing Local Nature Recovery Strategy (LNRS); this strategy is a statutory requirement of the Environment Act 2021 and provides a strategic framework that will help drive action and investment to help nature and wider nature-based environmental benefits.
- 93 A LNRS will consist of
- A Statement of Biodiversity Priorities: priorities for biodiversity outcomes, and the actions that need to be undertaken to achieve these outcomes.
 - A Local Habitat Map: existing distribution of habitats and areas already important for biodiversity, overlaid by locations considered suitable for delivering the outcomes and actions.
- 94 The LNRS could form the 'countywide' section of any Ecological Emergency with the Council partially satisfying its commitment to an Ecological Emergency by supporting the production of a LNRS and delivery of its targets and actions.

- 95 This would leave the production of an Action Plan for the council's targets. The priority would be a cross service review to identify and describe the measures and changes that might be made to benefit biodiversity.

Conclusion

- 96 Members have already received information at the special meeting on the 13 December, showing the decline in habitats and various species across the county. The information previously provided has been further added to by this report and accompanying presentation together with the views of key partners on biodiversity decline across the County.
- 97 It is anticipated that the information provided to members will allow them to determine as to whether they recommend to Cabinet that DCC declares an Ecological Emergency.

Background papers

- [Living Planet Index 2020](#)
- [State of Nature Report 2019](#)

Contact: Stuart Priestley

03000 267135

Appendix 1: Implications

Legal Implications

Not applicable

Finance

Not applicable

Consultation

Not applicable

Equality and Diversity / Public Sector Equality Duty

Not applicable

Human Rights

Not applicable

Climate Change

The decline in biodiversity is detailed in the report.

Crime and Disorder

Not applicable

Staffing

Not applicable

Accommodation

Not applicable

Risk

Not applicable

Procurement

Not applicable