Foreword

Despite a childhood in the West Midlands and a career now based in the West Country, I've always had a special connection to the city of Sheffield. My father's side of the family were all born and bred in Britain's city of steel, you see, and I have clear recollection of countless trips up to Shiregreen to visit my Nan and Aunty. Reporting on the wildlife for The One Show and Inside Out has enabled me to travel all over the UK, but it is the filming trips up to South Yorkshire that I particularly enjoy. In essence it's like dropping in on an old friend.

An impressive statistic I recently learnt about my dad's city is that it has more trees per person than any other urban conurbation in Europe. But to understand why this city has such green credentials you need to look beyond the trees. With an estimated two million trees Sheffield also houses or borders an impressive array of habitats in addition to the woodland, ranging from clean rivers to internationally important moorlands and urban parks to ancient hay meadows.

This Sheffield State of Nature 2018 report is about marking a moment in time. In the year 2018, it's crucial for us to know what we've actually got. In essence, how are our local habitats and species faring in modern Britain? Inevitably the report will be an uncomfortable read in places, as it both records the decline or even loss of certain species and charts the continued degradation or fragmentation of key habitats. The report has a duty to inform us, for example, that the white-clawed crayfish and water voles are in danger of local extinction due to issues with invasive species. It is also a warning that our impact on the natural environment cannot be taken for granted, particularly as we gauge the impact that factors such as climate change will make across town and country.

But like the proverbial curate's egg, the report also (and fortunately) has some good news as well. Who'd have thought 30 years ago that otters would now be a regular fixture along the Don? Sightings have even been made right in the heart of the city and are testament to both cleaner rivers and comprehensive protection of this once elusive mammal. There has also been a major investment in Sheffield's moorlands over the last 20 years which has resulted in huge landscape improvements across peat bogs and heather-clad moors. With the work never done, however, our next job is to ensure that the birds of prey are allowed to both return and breed unmolested in their traditional upland homes.

In addition to documenting the current state of Sheffield's wildlife and habitats, the report also looks forward, by proactively making a number of recommendations for anyone interested in looking after Sheffield's natural environment for both its people and wildlife. This report should not gather dust on a shelf but instead be used as a catalyst – a call to arms for local people and organisations to work together to reverse some of the declines, whilst also celebrating what we *do* have. The future will only be brighter for the peregrines, mountain hares, adder's tongue ferns, great crested newts and green tiger beetles living alongside us when enough good people care sufficiently to protect them from the ignorant and uninformed. Also if a good example of environmental stewardship can be set in the one jigsaw piece represented by Sheffield, think of the boost it will provide to the whole puzzle that stretches across South Yorkshire and beyond.

Finally, it is clear in reading this Sheffield State of Nature 2018 report that it has only come about as a result of the combined effort of a huge number of dedicated people, volunteers and professionals. These green guardians have not just given their time over many years to the studying and recording of Sheffield's natural heritage, but also to activities which promote its active recovery and ongoing conservation. Without their vast wealth of knowledge and experience this report would simply not have been possible. While thanking them on behalf of the Nature Counts team for all their contributions, we must also continue to support and encourage them in the uncertain times ahead. Nothing less than Sheffield's biodiversity is at stake and believe me, it's worth fighting for.



Michael JUlyo

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Key Headlines

Sheffield has a variety of habitats, from moorlands and uplands in the west, through to grasslands, farmlands, rivers and reservoirs in the district's centre, to a wooded and green urban landscape in the east. This mosaic of habitats has the potential to support a rich diversity of species and provides people with opportunities to connect with nature.

Sheffield has 253 Local Wildlife Sites (LWSs) and 17 Local Nature Reserves (LNRs). Over 36% of the Sheffield district is covered by designated sites with 25% protected at European level. Over 99% of Sheffield's Sites of Special Scientific Interest (SSSIs) are in 'favourable' or 'unfavourable recovering' condition, higher than the UK figure of 94%. Over half of Sheffield's LWSs are in positive conservation management; however, over 100 are still not.

Sixteen percent of Sheffield is wooded, far higher than the UK average of 10%. Sheffield supports over a third of South Yorkshire's woodland, despite covering less than a quarter of the area, and 1,256ha of ancient woodland can be found across the district, 92% of which is covered by site designations. Over 90% of Sheffield's residents have access to a large area of woodland within 4km.

Sheffield's woodland birds are doing well but others are mirroring national declines. Four out of the five most severe declines of local bird species correspond to farmland specialists.

Rivers are central to Sheffield's ecology and draw wildlife into the heart of the city. Twenty-six out of 31 fish species have recolonised the Don and otters have returned to Sheffield's waters. Many people and organisations have worked hard to reverse the negative impacts of Sheffield's industrial past on its waterways.

Local threats to wildlife mirror many national trends, such as habitat loss and fragmentation, pressure from development and non-native species introductions. Such threats are all too real with the neardisappearance of priority species including white-clawed crayfish, turtle dove and water vole from the district.

There are many dedicated individuals, groups and organisations that work tirelessly to record, monitor and protect Sheffield's habitats and species. Their contributions to wildlife conservation are reflected in both the knowledge we have of Sheffield's wildlife and the recovery of some species and habitats.

Despite these efforts, there is still a great deal we don't know about Sheffield's habitats and the wildlife they support. Despite having a wealth of data, there are still gaps for some species or a lack of consistency in data collection that make it difficult for us to identify and report changes over time with confidence. Some additional areas of priority habitats are known but unmapped. This leaves them unprotected and vulnerable to degradation.

> Wood warbler © Andy Rouse/2020VISION

Background to the Sheffield State of Nature 2018 report

Why compile a State of Nature report for Sheffield?

The UK State of Nature report was released in 2013 with a follow-up report in 2016. These UK reports aimed to use the best available information, in order to reach conclusions on the current state of species and habitats. Both reports highlighted worrying trends, with 60% of assessed species declining over the past 50 years and 31% of species showing a strong decline. In addition, species with specific habitat requirements were deemed to be worst affected by current and predicted changes in the environment. The report indicated that a lack of systematic data in many cases prevented robust analyses of trends in species abundances and distributions.

These national findings give an indication about the state of the natural environment overall but cannot consider local variations in the distribution, abundance or status of species and habitats. This report for Sheffield is an attempt to provide a more local picture, ensuring that we are better informed, and so better able, to protect nature both now and in the future.

Compiling the Sheffield State of Nature 2018 report

This report was compiled as part of the two-year Nature Counts partnership project funded by the National Lottery through the Heritage Lottery Fund. The report has been produced by Sheffield & Rotherham Wildlife Trust under the guidance of a steering group, and with support from many local and national organisations and individuals who have provided data and written content. This report represents a huge body of knowledge about nature that is held within the Sheffield district and its compilation would not have been possible without the input of these organisations and individuals. We extend huge thanks to all of those who have helped make this work possible. A list of report contributors and steering group members is included in the Appendix.

Aims of the report

The main aim of this report is to bring together the huge amount of information and data that already exists about Sheffield's natural environment, in one place, for interpretation. Not all data have been used in this final report (see caveats below) but key elements have been extracted along with examples of recent work and current understanding of species and habitats in Sheffield.

In doing so, this provides us with an overview of how nature is faring in Sheffield and helps to identify key issues affecting our local wildlife. This report also aims to serve as a baseline document for future conservation efforts by providing a current snapshot of local habitats, plus information, where possible, on how local nature has changed. Finally, the report also aims to showcase key species and habitats within the Sheffield area, highlight conservation success stories, and set Sheffield in context with the rest of the UK. In order to help achieve this final point, we have included some assessments of the UK Biodiversity Indicators

as outlined by the Joint Nature Conservation Committee. Information on data sources and analyses is given in the methods section of the Appendix.

Recommendations and future action

We want this report to act as a catalyst - to inspire and guide positive action for nature. Whether you are a decision maker, local politician, developer, planner, land manager, farmer, park manager, 'friends of' group, conservation organisation, amateur naturalist, volunteer or just someone with an interest in our natural world – this report is relevant to you. We have identified the current threats and opportunities from the information we have gathered and translated them into key recommendations. We hope we can work together across Sheffield to deliver these recommendations and secure a healthy and thriving natural environment for both people and wildlife for the future.

Caveats

Data availability and resolution

It is important to note that the way species data can be assessed, plus their reliability, depends both on how much data exists and how they were collected. There are hundreds of thousands of records available through the Sheffield Biological Records Centre (SBRC), National Biodiversity Network (NBN) and local recording groups such as Sheffield Bird Study Group (SBSG) and Sorby Natural History Society (SNHS), with records covering many years and for thousands of species. However, most are incidental records and have no associated measure of recording effort. For these records it is not possible to disentangle actual changes (for example, in a species' distribution or abundance) from variations in survey effort. Whilst many national recording bodies exist for specific species groups and habitats, these organisations may not record locally at a sufficiently fine resolution to allow us to be confident about apparent changes in these measures. Additionally, some data have not been available for use in the report due to data usage restrictions, and inevitably some data will have been omitted.

In all cases, we have been conservative and only chosen to use data when standardised survey effort means that observations are likely to be real signals of trends and not just a relic of survey effort. This means that we have not been able to present most species data to the level of detail that we would have liked or at the level of the UK reports. However, this does not mean that the data we have on Sheffield's species are not useful or valuable. They can help us identify where a species is present, allowing us to apply effective conservation methods to specific habitats and regions. This is particularly relevant for the species of conservation concern highlighted in this report.

Many existing reports and studies have looked at Sheffield's species over the years, for example, SNHS and SBSG annual reports and publications. Unless they have been used in a case study, most of these have not been presented here, but can be found in the references listed within the Appendix. Opinions of case study authors are not necessarily those of the report authors and partners.

Choice of content and subject representation

Whilst we have attempted to provide fair coverage of all taxonomic groups and habitats, it is important to note that not all species can be represented equally. This may be because local recording efforts favour certain species more than others, or because particular species are harder to study due to being rare or cryptic. It would be impossible to discuss all species and habitats present in Sheffield, but we have attempted to include the most locally relevant and important species either for interest or to meet the aims of the report. Including a large number of case studies and bringing in local experts have been two ways in which we have done this. Case studies have only been edited for space and formatting reasons and final versions have been checked with authors. For original, often longer, versions of the case studies see **wildsheffield.com/stateofnature**

Habitat definitions and coverage

There are different methods available for defining and mapping habitats, and as such, regional estimates can differ. In order to present the most detailed and accurate habitat information we have used a method that includes data from a variety of sources, outlined in the Appendix. Habitat definitions are still, however, open to interpretation. Most data sources are also on a national level, meaning that information on a smaller, local scale may be coarser. Care should therefore be taken when comparing habitat coverage to other UK figures that may have used different methods and habitat definitions. Habitat definitions, a glossary and acronyms are also included in the Appendix.

> The UK Priority Habitat Inventory (PHI) that we have used contains information on habitats only where data have been provided and has been conducted on a national scale. This means that it is likely that fine-scale or local areas of habitat may have been missed or excluded. These figures should therefore be taken as a minimum estimate and do not necessarily mean that additional UK PHI habitat is not present in the Sheffield area.

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