NatureSpot

2019 Annual Report

1. Introduction

About NatureSpot

NatureSpot is a registered charity (1138852), established in 2009 with the aim of promoting the wildlife and wild places of Leicestershire and Rutland and helping to increase public awareness of, and interest in, local biodiversity. Our aims are:

1. To help the public to identify local wildlife and to learn about the natural environment
2. To create, with public participation, an online showcase of the wildlife and wild places of Leicestershire and Rutland
3. To encourage and facilitate wildlife recording

NatureSpot is a company limited by guarantee and has a Board of Trustees (see appendix 1) comprising local naturalists involved in wildlife conservation, biodiversity recording and local natural heritage. We are also supported by experts and professionals such as the County Recorders and the Leicestershire and Rutland Environmental Records Centre (LRERC), Leicestershire County Council, Leicester City Council and the Leicestershire and Rutland Wildlife Trust.

We are funded by grants and donations and supported by many volunteers as a community 'citizen science' initiative. Our main activity is the NatureSpot website which profiles wildlife species found in Leicestershire and Rutland and facilitates wildlife recording by the community, and local naturalists in particular.

Summary

2019 was another very successful year for NatureSpot. Over 40,000 new records were submitted by the community of local wildlife recorders, of which 96% were accepted, thus adding significant additional knowledge to what we know about biodiversity in Leicestershire and Rutland. Several hundred new species were added to the NatureSpot reference library, giving a total of 7,655 by the year end. Nearly a hundred new recorders joined NatureSpot and submitted records and the number of 'unique' visitors to the website reached a record level of 858,739, with a peak of over 132,000 in July alone.

The year has however been clouded by the loss of Ron Stevens, a long-standing trustee of NatureSpot, who passed away in January 2020. Ron was a brilliant local champion for wildlife and made a huge contribution to NatureSpot and to his home village of Broughton Astley. He will be sadly missed by all who knew him.

Thanks

NatureSpot is run by volunteers and relies on the time and effort so generously given by many people. We would like to express our deep gratitude to all those who have supported NatureSpot in so many ways during 2019.

1. Wildlife Recording

2019 Summary

41,126 records were submitted in 2019, a slight increase on the previous year. This figure only includes records for vice-county 55, the established recording boundary for Leicestershire and Rutland.

Year	Accepted	Plausible	Not accepted	Total
2010	3,999	16	10	**4,025**
2011	8,877	102	68	**9,047**
2012	9,549	307	171	**10,027**
2013	15,532	352	212	**16,096**
2014	28,654	696	510	**29,860**
2015	23,474	674	449	**24,597**
2016	42,268	682	591	**43,541**
2017	45,407	1,079	906	**47,392**
2018	39,821	643	573	**41,037**
2019	39,407	712	1007	**41,126**
Grand Total	**256,988**	**5,263**	**4,497**	**266,748**
%	96.3%	2.0%	1.7%	100%

Record distribution

As with most biological recording there is a strong recorder bias to the NatureSpot data, with a pattern that is very similar to that seen for all VC55 record data, indeed the same pattern exists for nearly all taxon groups. The main gaps are in the north-east and the far west, with perhaps a surprising paucity of records from the north east of the city. The distribution map opposite shows concentrations of records around Rutland Water, Charnwood Forest and the city, with further clusters following the River Soar / Grand Union Canal corridor, plus some of the major roads, such as the A47.

What the distribution map masks is dense recording within the same grid reference, such as in private gardens or places of work. The second illustration opposite is based on record density as well as distribution. This reveals a concentration of records in Melton, for example, that isn't so obvious on the simple distribution map.

The 2019 record pattern follows the same overall pattern. Efforts have been made to better understand recorder behaviour in order that the inevitable distribution bias this brings might be mitigated in interpreting the overall dataset. This is discussed further later in this report.
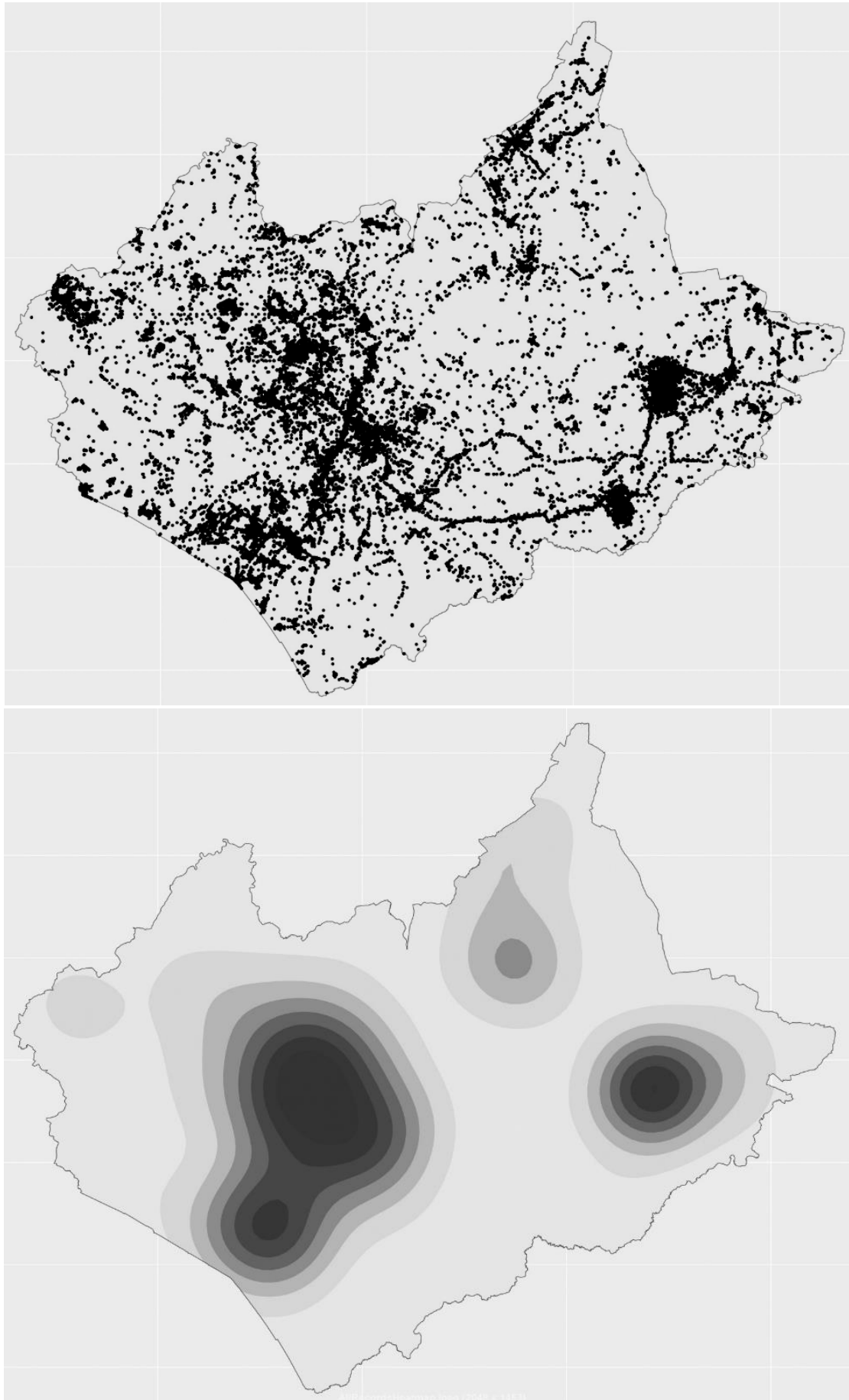
Top: Distribution "dot map" of all VC55 records submitted to NatureSpot
Bottom: Record density "heat map" of all VC55 records submitted to NatureSpot

Verification

Every record submitted to NatureSpot is individually checked by an expert and only accepted where there is satisfactory evidence to confirm the species identity. This evidence can comprise images, a description of key features or knowledge of the recorder's skills and competence. Overall, 96% of submitted records have been accepted and a further 2% considered plausible. The 2019 records fall into a very similar pattern.

NatureSpot uses the verification system used by the Biological Recording Centre (BRC) on iRecord, the national online recording system. NatureSpot is part of the iRecord family with some sharing of software. All NatureSpot records are securely held on the BRC warehouse server. This verification system offers verifiers five options: confirmed correct; assumed correct, plausible; unable to verify; incorrect. In addition, records may be queried, seeking more information before a decision is made, or forwarded to an expert for assessment.

Verification option	2019 records	%
Correct / Assumed correct	39,407	95.82%
Plausible	712	1.73%
Unable to review/identify	891	2.17%
Incorrect	116	0.28%
Not reviewed	0	0.00%
Grand Total	**41,126**	**100.00%**

Overall, 95.8% of the records submitted in 2019 were accepted and verified correct. A major effort is made to ensure every record is reviewed and verified by the year end. This ensures that all contributions from recorders are recognised and incorporated into final dataset ready for distribution.

A further benefit of NatureSpot being linked with iRecord and the BRC is that the NatureSpot records are made available to national experts who help with verification. In 2019, 2,347 (5.7%) records were verified by these national experts. The remainder were verified locally by local experts, verifiers appointed by NatureSpot, and assisted by County Recorders and other specialists.

The number of national verifiers recruited by iRecord has been growing and last year 45 of these helped with the verification of NatureSpot data, including well known experts in their fields such as Roger Morris, Gavin Broad, Helen Roy and Craig Macadam.

Evidence

High data quality is a key objective for NatureSpot. Verifiers are asked to adopt a cautious approach and to carefully assess the evidence presented with each record submission.

Though it is not necessary to submit images with records, particularly for the more common species, it does help verifiers to confirm the identification. Records of unusual species or from an unfamiliar recorder do normally need an image to allow a correct verification decision, though confirmation from a known expert or a satisfactory description of the identification method may be sufficient. Records from known recorders may also be accepted based on their experience and track record.

The verification status can be, and is, amended should a mistake be realised or further information becomes available. Feedback from County Recorders when the records are distributed at the year end is always highly valued in this regard.

NatureSpot has developed a number of initiatives to help and guide recorders which aim to improve data quality. The species account aims to include a detailed description of the key features needed to identify that species, including reference to similar species with which it could be confused. Every species has been given a RAG (Red / Amber / Green) rating representing the identification difficulty. Recording advice also states the evidence needed with the submission for the record to be accepted. Both the RAG rating and the recording advice appear on the recording form when that species is selected.

Data distribution

At the year end the record data is shared with all local and some national recording schemes, as well as a number of land managers such as the Leicestershire and Rutland Wildlife Trust and the National Forest. Increasing efforts are being made to rationalise and integrate NatureSpot data with the ORCA database used by the Leicestershire and Rutland Environmental Records Centre for all VC55 data. This year the NatureSpot data will be added directly to ORCA and then made available to County Recorders by the LRERC. In addition, all NatureSpot accepted records are published on the National Biodiversity Network Atlas with an update made each month as part of the iRecord service.

Species

The number of different species recorded each year had grown steadily, but appears to have levelled in the last three years. In 2019, records for 3,747 different species were submitted.
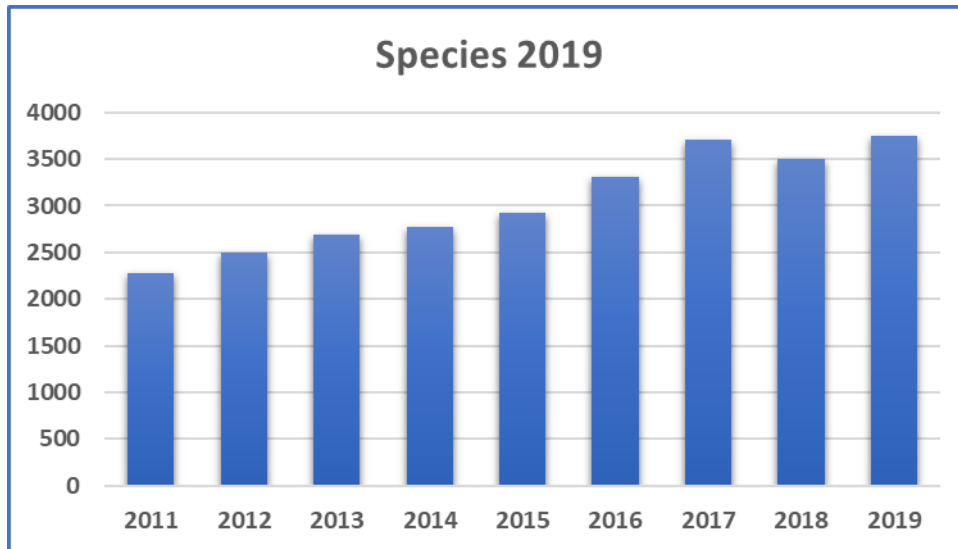
Species 2019

The table below lists the taxon groups of the species records received in 2019. As in most previous years, birds were the most recorded group overall (though moths topped the list in 2017). 61% of all records are from the three most recorded groups of moths, birds and wildflowers, the remainder are widely spread amongst all other groups.

Taxon Group	2019	
	Record no.	%
Birds	11,763	28.7%
Moths	7,653	18.6%
Wildflowers	5,695	13.9%
Butterflies	1,803	4.4%
Beetles	1,630	4.0%
Trees, Shrubs & Climbers	1,460	3.6%
Fungi	1,386	3.4%
Bugs	1,326	3.2%
Bees, Wasps, Ants	1,120	2.7%
Flies, Gnats and Midges	915	2.2%
Spiders	874	2.1%
Hoverflies	752	1.8%
Grasses, Rushes & Sedges	657	1.6%
Slugs & Snails	645	1.6%
Mammals	579	1.4%
Dragonflies and Damselflies	447	1.1%
Springtails & Bristletails	339	0.8%
Lichens	280	0.7%
Mites, Ticks & Pseudoscorpions	276	0.7%
Sawflies	197	0.5%
Woodlice, Crustaceans	187	0.5%
Grasshoppers & Crickets	173	0.4%
Ferns & Horsetails	138	0.3%
Mosses & Liverworts	126	0.3%
Harvestmen	125	0.3%

Amphibians	90	0.2%
Caddisflies	78	0.2%
Craneflies	71	0.2%
Centipedes & Millipedes	68	0.2%
Lacewings & Scorpionflies	39	0.1%
Reptiles	30	0.1%
Earwigs	29	0.1%
Fish	28	0.1%
Barklice & Booklice	21	0.1%
Mayflies	12	0.0%
Slime Moulds	12	0.0%
Algae, Bacteria, Virus	9	0.0%
Silverfish	7	0.0%
Worms	5	0.0%
Total	**41,045**	**100%**

The most recorded species in 2019 are listed below. The list is dominated by birds as expected with just two ladybirds, two moths and a butterfly breaking into the top 30.

2019 Top 30	Record no.
Mallard	443
Mute Swan	377
Tufted Duck	341
Coot	331
Gadwall	328
Moorhen	275
Teal	262
Black-headed Gull	256
Canada Goose	250
Cormorant	246
Lapwing	244
Wood Pigeon	243
Blackbird	243
Wigeon	242
7 Spot Ladybird	236
Great Crested Grebe	225
Robin	220
Little Egret	214
Grey Heron	213
Greylag Goose	203
Small Tortoiseshell	198
Goldfinch	196
Large Yellow Underwing	189
Blue Tit	188
Shoveller	185
Great Tit	183
Light Brown Apple Moth	180

Carrion Crow	179
Harlequin Ladybird	175
Wren	175

New species

Several hundred 'new' species were recorded during 2019 and added to the NatureSpot galleries. The selection below is a small sample of these:

Polistes dominula **European Paper Wasp**	*Myosurus minimus* **Mousetail**	*Catocala fraxini* **Clifden Nonpareil**
Rhyzobius lophanthae **Beetle**	*Chalcolestes viridis* **Willow Emerald Damselfly**	*Cheilosia caerulescens* **Hoverfly**
Mycena haematopus **Burgundydrop Bonnet**	*Neobisium carcinoides* **Pseudoscorpion**	*Eublemma purpurina* **Beautiful Marbled**

Recorders

The overall number of active recorders submitting wildlife records to NatureSpot each year has remained steady for the last four years at around 250 per year.

The total overall number of contributing recorders is 872. There has also been an overall increase in the average number of records submitted by each recorder, perhaps indicating greater commitment to recording from regular members and/or an increase in the range of species they feel confident to identify.

NatureSpot tends to receive regular submissions from core recorders rather than lots of occasional submissions from the general public. This has proved mutually beneficial in that NatureSpot verifiers build up their knowledge of the recording abilities and reliability of individual recorders, whilst the recorders develop their identification skills and interests through regular dialogue.
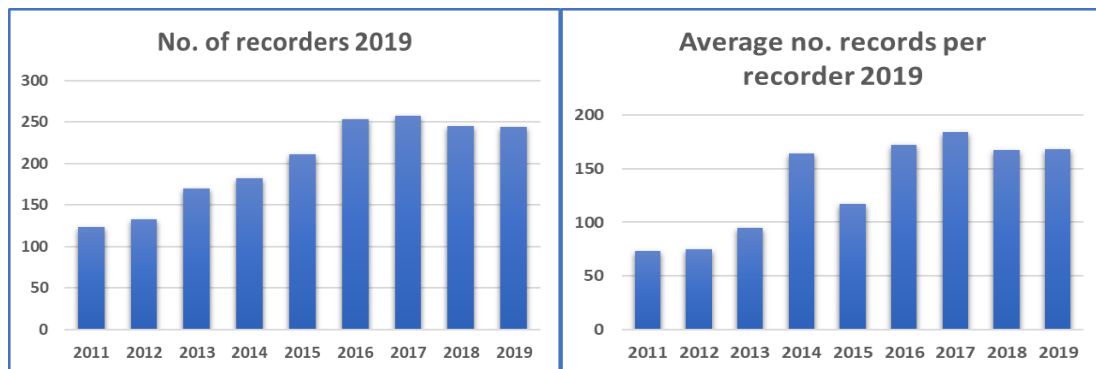
Registered Users

It is necessary to be registered with NatureSpot to submit records, but not all registered users actively record. We know that many users use the site as a source of information, including many that would submit records but they live outside of Leicestershire and Rutland.

In response to the growing threat of spam registrations, a decision was made to require each account to be manually approved. Though this does prevent instant registration, we aim to approve legitimate applications within 24 hours of submission.

2. Species Galleries

The total number of Leicestershire and Rutland species recorded on NatureSpot at the end of 2019 was 7,655. Every featured species has an information page in the galleries, illustrated with the best images submitted by recorders (all taken in Leicestershire and Rutland). Where possible, images are selected that show the key identification features and also represent different colour forms, sex differences and juvenile stages.

The illustration below provides an example (in this case for the Glossy Glass Snail, Oxychilis navarricus.

Glossy Glass Snail - *Oxychilus navarricus*

| Species | Additional images |

	Click here to support NatureSpot by making a donation - small or large - your gift is very much appreciated. Thank you.
Alt Name	Oxychilus helveticus
Description	A medium-sized (8 to 10 mm) glossy brown snail with a slightly raised spire, 5 flattened whorls and with sutures slightly deeper than those of *O. cellarius*. The body is blue-grey with jet-black mantle edge - that can be seen as a dark band at the front edge of the shell. Sometimes emits a faint garlic smell when disturbed but not as strongly as the smaller Garlic Snail.
Similar Species	*O. alliarius* (Garlic Snail) is smaller: 6-8mm but also has a slightly raised spire. *O. cellarius* can be a little larger but overlaps in size, however it is very flat and lacks the slightly raised spire and the black mantle..
Identification difficulty	
ID guidance	• the black mantle is visible through the transparent shell as a dark band just above the mouth • glossy brown • a slightly raised spire
Recording advice	Unless identified by a recognised expert, a photo is required. An image should show the black mantle and in the comments box describe the size and identifying characters you have observed.
Habitat	Associated with woodland but also rubbish strewn sites on roadsides and in quarries, occasionally in gardens.
When to see it	All year round.
UK Status	Widespread but not especially common in much of England, and Wales, but its numbers seem to be increasing of late.
VC55 Status	Occasional in Leicestershire and Rutland, but probably increasing.

| David Nicholls
Lucas' Marsh
09 March 2012 | David Nicholls
Ratby Disused Railway
28 February 2014 | David Nicholls
Ratby Disused Railway
28 February 2014 | sue
Bagworth
23 October 2017 |

Total Species Profiled
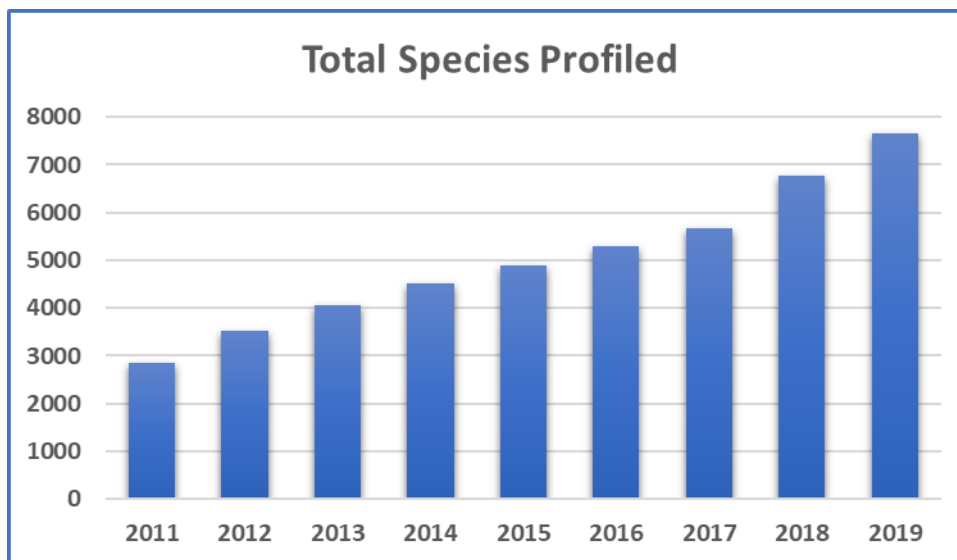
During 2019 a few changes were made to the taxon groups used to organise these species accounts. A menu listing all these groups is displayed on the home page. To reduce the number of pages within certain taxon group galleries and to provide clearer menu access, some combined categories have been divided. The single group covering all arachnids was split into three: 'Spiders', 'Harvestmen' and 'Mites, Ticks and Pseudoscorpions'. In addition, Mosses and Liverworts have been split into two separate groups.

3. Wild Places and Parish pages

Another key feature of the NatureSpot website is the ability to set up pages for any given site or area boundary in order to showcase the wildlife of that area. This applied in two sections, firstly for **Parishes** (or wards in the city) and secondly for '**Wild Places**' – sites of known or potential wildlife interest with public access. Records and images for each parish/site are automatically displayed on these pages creating a dynamic and up to date account of recent wildlife sightings. Many of these site/parish pages are administered by local volunteers.

In 2019, a grant from the Tesco 'Bags of help' scheme enabled a further 200 Wild Places to be set up: 100 in each of Leicestershire and Rutland. A particular focus for selecting new Wild Places was the need to encourage more recording in areas currently with gaps. Experience from other Wild Place set ups has shown that these feature sites attract more visits and more records.

A number of new parish pages were also set up during the year.

4. Website Visitors and Social Media

Visits to the NatureSpot website are monitored using Google Analytics. This records many details of each visitor, including: country of origin, their operating system, the search engine used and the term entered. It also identifies 'unique' visitors – access from computers with different IP addresses.
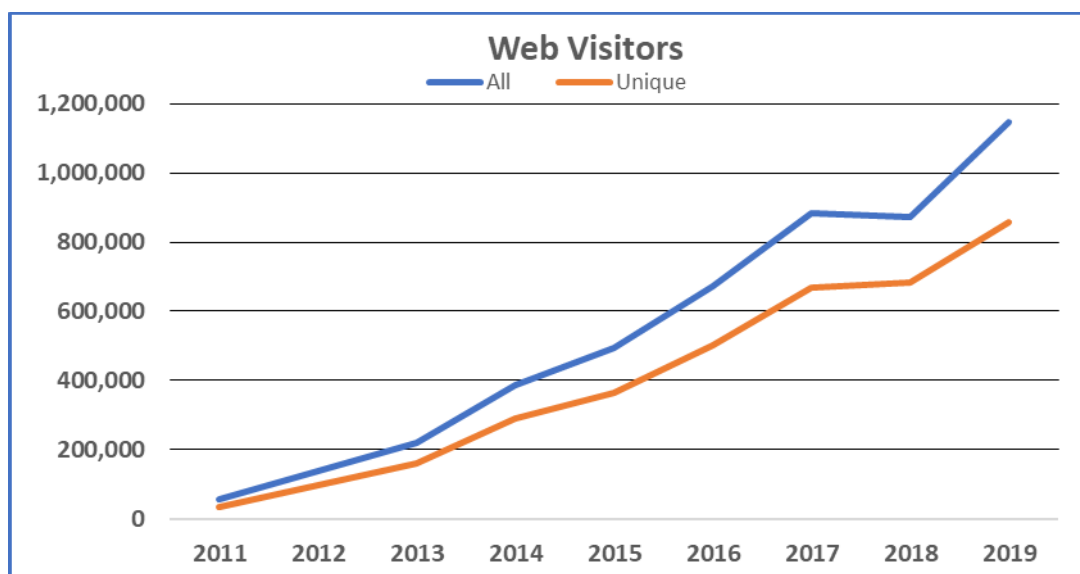
Visitor numbers have grown every year showing a distinct seasonal pattern, peaking in June/July. There is a similar seasonal pattern of record submissions due to flowers and invertebrates being more numerous and more easily seen in the warmer months.

Website 'hits'
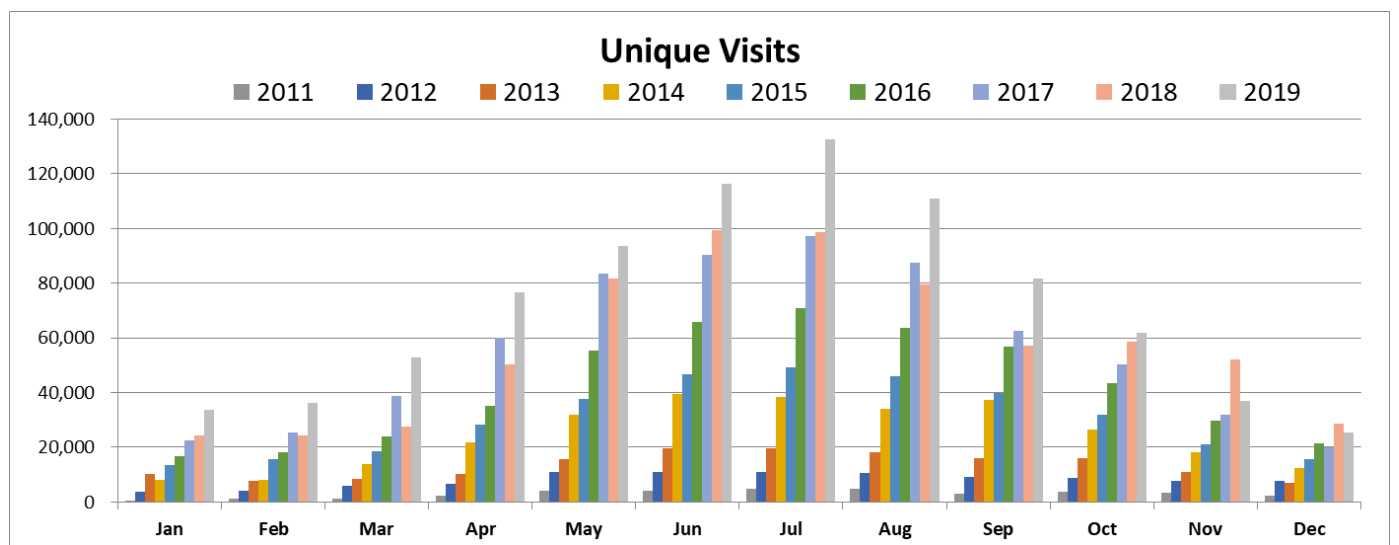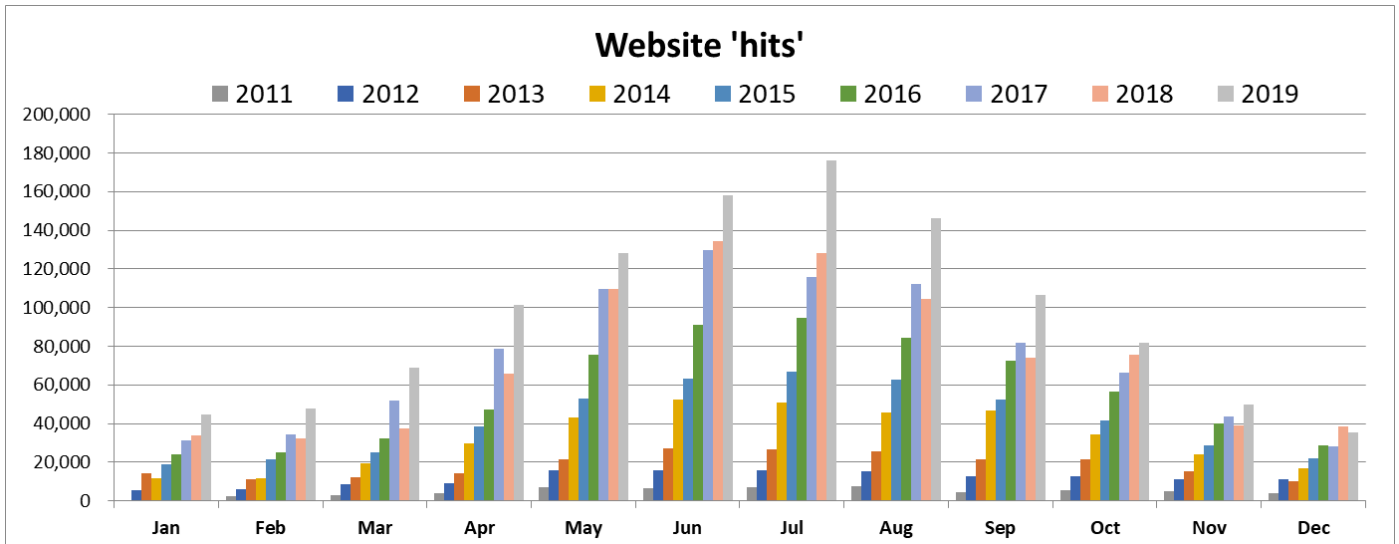
Unique Visits

Total website visits for the year was 1,145,516 (858,739 unique), a 31% increase on 2018.

Google Analytics reveals that 72% of these visits came from the UK, the rest coming from a total of 217 countries or territories worldwide. Site visits from mobile phones rose by 15% over the previous year and it is noteworthy that for the first time, more visitors accessed the website from a mobile phone than either a desktop PC or a tablet. This highlights the importance of ensuring the website is mobile-friendly.

Countries	2019
1. United Kingdom	72%
2. United States	10%
3. India	2%
4. Canada	1%
5. Ireland	1%
6. Germany	1%
7. France	1%
8. Natherlands	1%
9. Australia	1%
10. Spain	1%
Sources	
Web search	87%
Direct	8%
Social media	4%
Other	1%
Technology	
Mobile Phone	55%
Desktop Computer	33%
Tablet	12%

The demographics of NatureSpot users (according to Google Analytics data) were as follows. While this data might not be 100% accurate it does give a flavour of NatureSpot users:

Age

27.50%	33.50%	15.50%	12.50%	5.50%	5.50%
18-24	25-34	35-44	45-54	55-64	65+

Gender

45.85% Female
54.15% Male
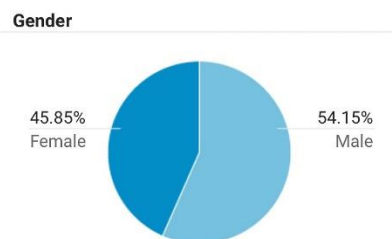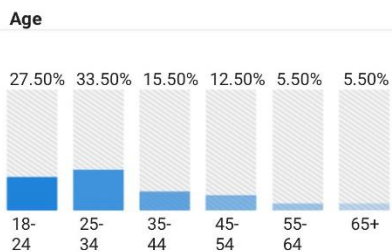
We also published regular "news stories" on the website, approximately on a weekly basis. These are written to be relevant to Leicestershire and Rutland and timed to highlight species of note and identification resources. Feedback tells us that this is a popular feature of the site.

Twitter/Facebook

The number of users of our social media accounts continued to grow and by the end of 2019 there were a total of 850 followers on Twitter and Facebook.

Feedback

Feedback from site users was almost all very positive, with a few examples given below.

- *Your site is incredibly useful on a national level. Other local groups could try to replicate it but so far I'm not aware of any coming remotely close. I can't praise this site enough.*
- *It's a great resource. I know several people who regularly use the species galleries pages who don't live in Leicestershire or Rutland and wish their county had something similar.*
- *I absolutely adore your website. It is my first point of call when I want to find good images of certain species and a regular for me to scour to see if I can identify what I have photographed.*
- *I have been following this site for many years, and have found it an invaluable reference source for identifying species of all kinds. Excellent work. One of the very best out there! Thank you!*
- *This is such a valuable resource to help me, as a relative newcomer, to identify species. It's terrific having so many photos for each species to show the variation, angles, etc. I am really grateful for all the work that you have put into this site - thank you!*
- *An excellent resource for identifying species in neighbouring Nottinghamshire. Thank you, your hard work is appreciated. (I have made a donation!)*
- *I'm not in Leics & Rutland but this is a fantastic resource for wildlife ID anywhere in the UK (at least). Thank you!*
- *Although I live in (against my will) in the London area, I go on trips to look at wildlife every chance I get. This is by far the best website for identifying UK species.*

5. Support for local wildlife groups

We have continued to provide a web platform for a number of local wildlife groups, including those listed below, helping to promote their work and publications. We also allow these groups to publicise their events and activities directly onto the website's calendar.

- Leicestershire Entomological Society
- Leicester Amphibian and Reptile Network
- Leicestershire Moth Recorders
- Leicestershire and Rutland Mammal Group
- Market Bosworth & District Natural History Society
- Literary & Philosophical Society – Natural History Section
- Leicestershire and Rutland Badger Group
- Loughborough Naturalists

NatureSpot was represented at the annual Recorder's Conference and also at the Bradgate Wildlife Weekend event. In addition several talks were given and educational events attended.

6. Developments in 2019

The following summarises some of the key developments which we have made to the website during 2019:

- Added over 200 new Wild Place pages
- Added a new Wild Place interactive search map
- Increased the percentage of species with Identification Difficulty ratings to 96%
- Created a new 'Thank you' page with stats and dates of previous records for each species record added

In 2019 NatureSpot was invited to join the steering committee of the Leicestershire and Rutland Environmental Record Centre, to contribute to this advisory group that aims to improve record flow, coordination and access to wildlife data in the two counties. In addition, NatureSpot has committed to closer working with the LRERC and in particular to seek more integration and synchrony with their ORCA database.

Data analysis

NatureSpot now has a database of over 250,000 records for VC55, a substantial and important resource. The vast majority of these records were collected through the website recording form as part of our citizen science initiative. We are keen to explore ways in which this data can inform about the biodiversity of the two counties. With the considerable support of Paul Palmer, a start was made on examining the data with the initial focus looking at recorder behaviour. It is appreciated that citizen science recording is not systematic and as we saw earlier, there is much unevenness as to where the records are collected from. In order to begin drawing conclusions about the biodiversity itself, it was felt that we need to better understand the inevitable geographical bias that exists in the dataset. This work is in its early stages and will continue in 2020.

7. Plans for 2020

2020 will see NatureSpot's 10th anniversary (online recording began in late 2010) and we plan to use this opportunity to celebrate and promote the charity's work.

We are planning to organise a modest events programme, involving recording visits to sites of interest, especially those in areas with relatively few records.

We are pleased to welcome Ben Devine as a new NatureSpot trustee. Ben has been a valued supporter of NatureSpot for several years and we worked closely with him through the Black to Green project – a partnership between the National Forest Company and the Wildlife Trust. Ben's appointment will also facilitate closer ties with the Wildlife Trust.

We are committed to continuous improvement of the website so work will continue to improve the species information pages. In particular we intend to add more guidance on identification matters and also develop a new 'My Records' section. Work will also continue on data analysis.

Further Information

If you would like further information or an explanation of anything included in this report, please contact:

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