NatureSpot

2020 Annual Report

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

2020 was a strange year for everyone but proved to be another very successful year for NatureSpot. A record 58,800 new records were submitted by the community of local wildlife recorders, of which 97% were accepted, thus adding significant additional knowledge to what we know about biodiversity in Leicestershire and Rutland. 570 new species were added to the NatureSpot reference library, giving a total of 7,239 by the year end. Nearly a hundred new recorders joined NatureSpot and submitted records during the year. The number of 'unique' visitors to the website reached a record level, exceeding 1.1 million.

We were also delighted to be the recipient of a national award in 2020!

> **NatureSpot**
> **winner of the John Sawyer NBN**
> **Open Data Award 2020**

1. Wildlife Recording

2020 Summary

58,827 records were submitted in 2020, a significant increase on the previous year and a record high. This figure only includes records for vice-county 55, the established recording boundary for Leicestershire and Rutland.

Records Submitted
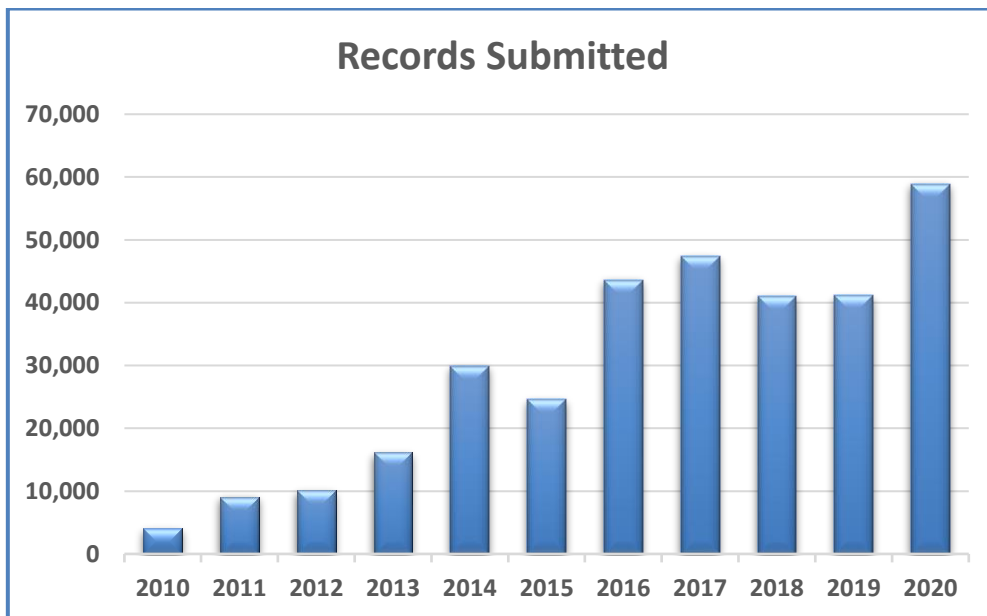
In total, 314,286 records have now been received through NatureSpot's online portal - a major contribution to the scientific knowledge of wildlife in the area.

Cumulative records
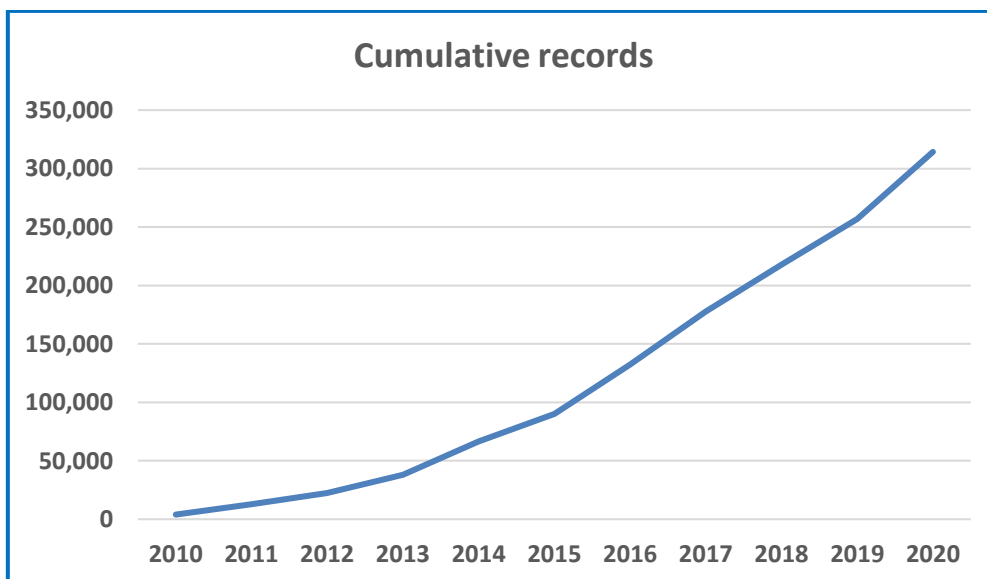
Record distribution

As with most biological recording there is a strong recorder bias to the NatureSpot data, with a pattern that is 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 east and the far west of Leicestershire, with perhaps a surprising paucity of records from the north east of the city. The main concentration of records is from 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. In contrast, the pattern or recording in 2020 reflects the impact of movement restrictions, with increased concentration in major housing locations and a reduced intensity of recording around Rutland Water and the road network (e.g. the A47) compared with all NatureSpot records (inset).
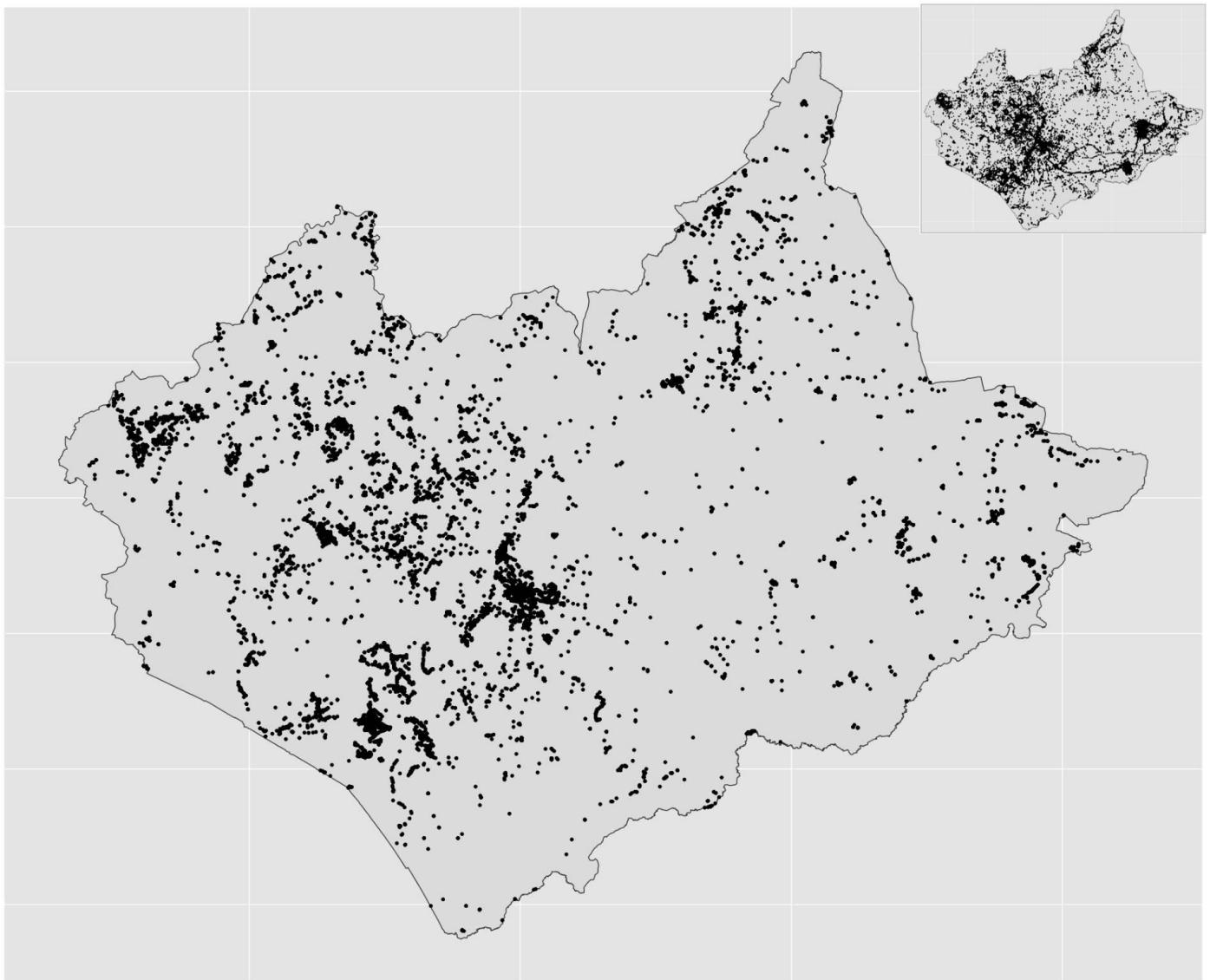
Distribution 'dot' map of 2020 VC55 records submitted to NatureSpot (inset of all records)

What the distribution map masks is dense recording within the same grid reference, such as in private gardens or places of work. The illustration below is based on record density as well as distribution. This reveals a concentration of records in Melton, for example, that is not obvious on the simple distribution map. The 2020 record pattern follows is similar to overall pattern of NatureSpot records (inset) but again reflects the decreased density of recording in Charnwood and Rutland Water in 2020.
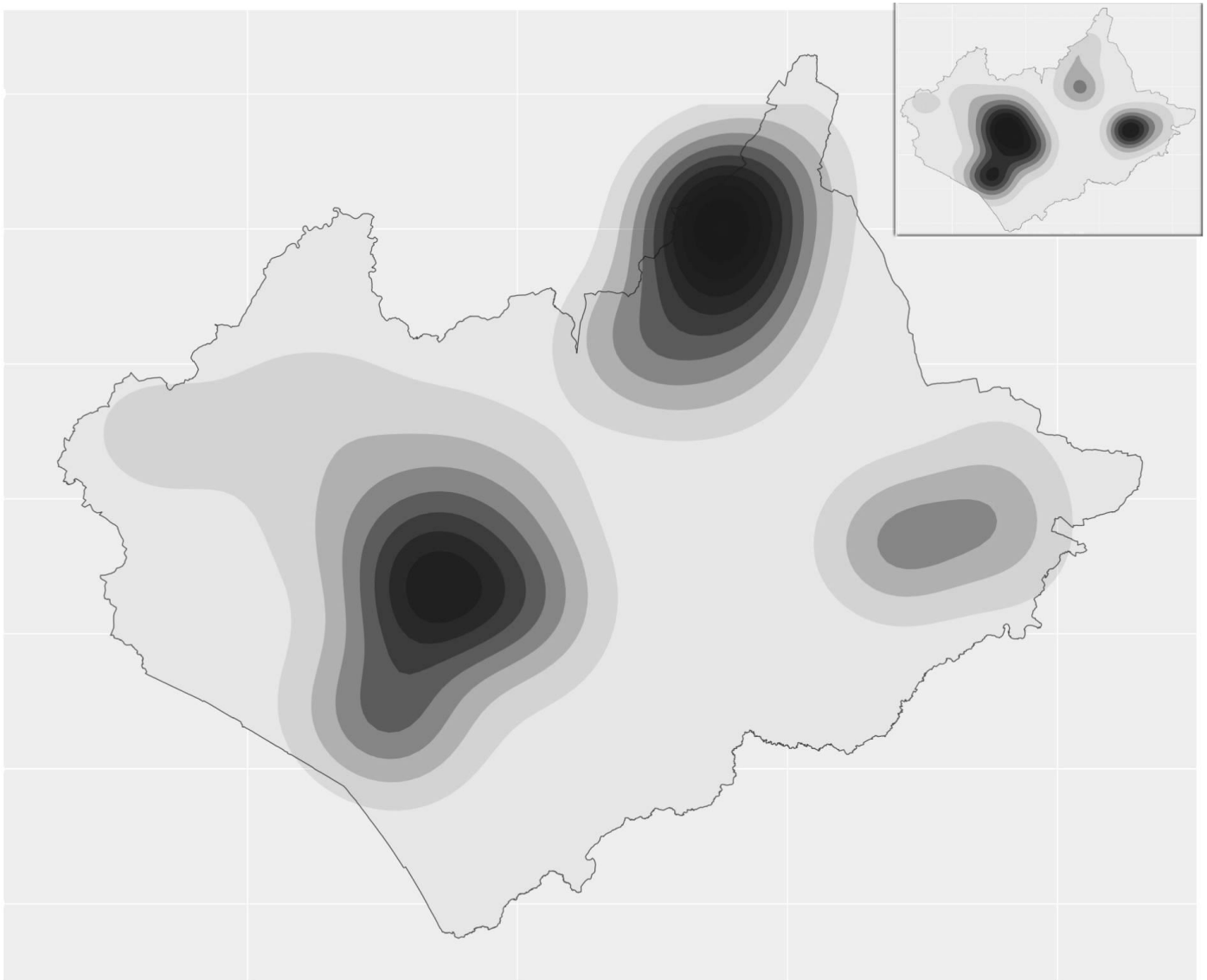
Heat map of 2020 VC55 records submitted to NatureSpot (inset of all records)

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, 96.5% of submitted records have been accepted and a further 1.8% considered plausible. The 2020 records fall into a 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	2020	%
Accepted / Considered correct	57,298	97.4%
Plausible	669	1.1%
Unable to review/identify	744	1.3%
Incorrect	116	0.2%
Not reviewed	0	0.0%
Grand Total	**58,827**	**100.0%**

Overall, 97.4% of the records submitted in 2020 were accepted and verified correct. A major effort is made each year to ensure every record is reviewed and verified by the year end. This ensures that all contributions from recorders are recognised and incorporated into the 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 2020, 3,797 (6.5%) 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 63 (45 in 2019) 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.
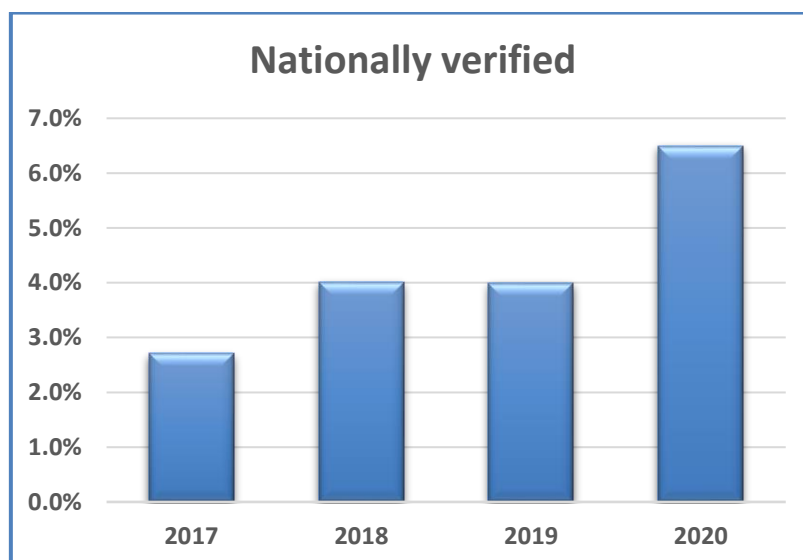
Evidence

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 always accepts the view of the relevant County Recorder in deciding the final verification status.

NatureSpot has developed a number of initiatives to help and guide recorders which also helps 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 as a reminder to the recorder.

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. NatureSpot data is incorporated into the ORCA database used by the Leicestershire and Rutland Environmental Records Centre for all VC55 data. 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. In 2020, records of 4,036 different species were submitted. 584 of these were species not previously recorded on NatureSpot (see New Species below).
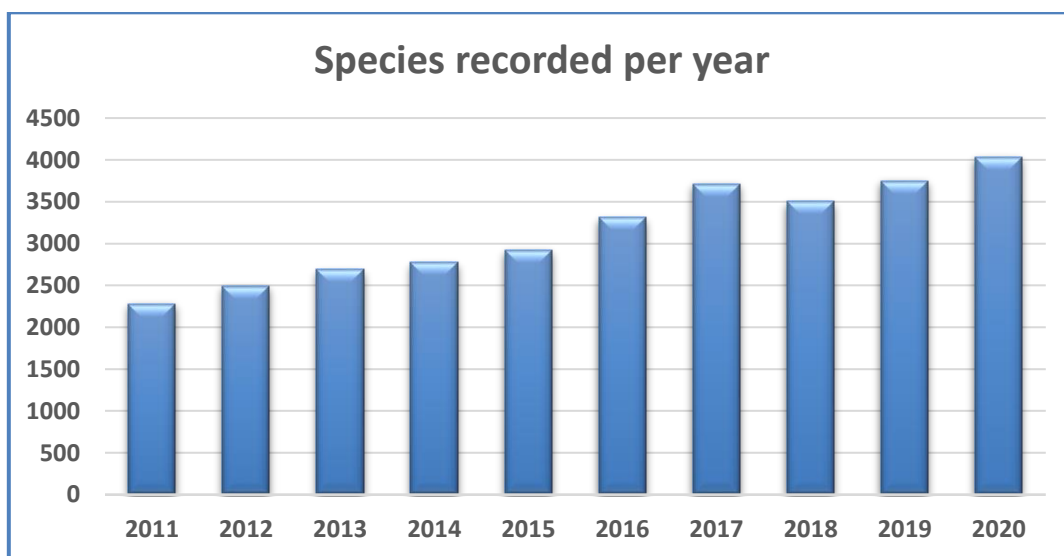
The table below lists the taxon groups of the species records received in 2020. Moths top the list this year, replacing birds in 2019. This reflects the addition of some older data from a few contributors and illustrates another useful function of NatureSpot by enabling previously unshared data to be easily added and made available for conservation benefit. NatureSpot has a bulk import facility that can be employed for large datasets. Two thirds 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	2020	
	Record no.	%
Moths	24764	43.45%
Birds	8392	14.16%
Wildflowers	5294	9.08%
Butterflies	2773	4.77%
Fungi	1496	2.95%
Bugs	1454	2.62%
Beetles	1517	2.58%
Bees, Wasps, Ants	1441	2.47%
Trees	1189	2.12%
Flies	1144	2.09%
Hoverflies	930	1.63%
Spiders	888	1.59%
Dragonflies and Damselflies	865	1.52%
Mammals	831	1.40%
Grasses	613	1.07%
Slugs & Snails	618	1.05%
Craneflies	418	0.77%
Mites	376	0.71%
Caddisflies	327	0.55%
Sawflies	229	0.42%
Springtails & Bristletails	239	0.41%
Ferns & Horsetails	224	0.41%
Lichens	227	0.37%
Mosses & Liverworts	193	0.32%
Grasshoppers & Crickets	162	0.30%
Woodlice	159	0.27%
Amphibians	145	0.25%
harvestman (Opiliones)	113	0.22%
Centipedes & Millipedes	65	0.10%
Reptiles	53	0.09%
Slime Moulds	27	0.05%
Earwigs	23	0.04%
Barklice & Booklice	23	0.04%
Fish	20	0.03%
Algae	19	0.03%
Lacewings & Scorpionflies	18	0.03%
Mayflies	11	0.02%
Worms	8	0.01%
Woodlice, Crustaceans	5	0.01%
Silverfish	4	0.01%
Thrips	1	0.00%
Cnidaria	1	0.00%

The most recorded species in 2020 are listed below. The list is dominated by moths and birds as expected but with six butterflies, one beetle and one bug breaking into the top 30.

2020 Top 30	Record no.	Taxon
Large Yellow Underwing	383	Moths
Setaceous Hebrew Character	323	Moths
Brimstone Moth	323	Moths
Heart & Dart	291	Moths
Blackbird	290	Birds
Small Tortoiseshell	284	Butterflies
Robin	266	Birds
Mallard	259	Birds
Mute Swan	255	Birds
Peacock	247	Butterflies
Light Brown Apple Moth	245	Moths
Blue Tit	220	Birds
Common Wainscot	218	Moths
Orange-tip	217	Butterflies
Common Marble	213	Moths
Flame Shoulder	205	Moths
Silver Y	205	Moths
Riband Wave	200	Moths
Black-headed Gull	196	Birds
Gadwall	195	Birds
Buff Ermine	194	Moths
Buzzard	183	Birds
Dark Arches	183	Moths
Small White	181	Butterflies
Elephant Hawk-moth	181	Moths
Brimstone	180	Butterflies
7-spot Ladybird	177	Beetles
Willow Beauty	175	Moths
Green-veined White	173	Butterflies
Green Shieldbug	172	Bugs

New species

584 'new' species were recorded during 2020 and added to the NatureSpot galleries. The selection below is a small sample of these:

Coelioxys inermis **Shiny-vented Sharp-tail Bee**	*Clitostethus arcuatus* **Horseshoe Ladybird**	*Narcissus pseudonarcissus* **Wild Daffodil**
Diacrisia sannio **Clouded Buff**	*Hypsosinga pygmaea* **Spider**	*Aproceros leucopoda* **Zig-zag Elm Sawfly**
Pithanus maerkelii **Bug**	*Pastor roseus* **Rose-coloured Starling**	*Melastiza cornubiensis* **Orange Cup**

Image credits (left to right from the top): Matthew Berriman, Graham Finch, Pete Leonard. Ron Follows, Alan Cann, Mark Skevington, David Gould, Mark Skevington, David Nicholls

Recorders

The number of active recorders submitting wildlife records to NatureSpot each year has remained steady for the last few years at around 250 per year, though this figure did increase to 270 in 2020. Of these, 87 joined NatureSpot and submitted records for the first time this year.

No. of active recorders
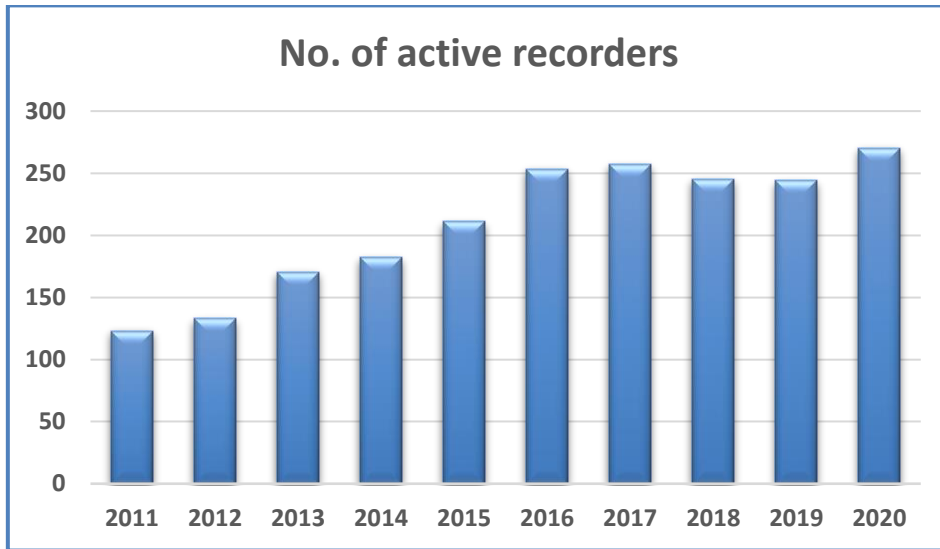
The total overall number of contributing recorders is 1297.

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.

Average no. records per recorder
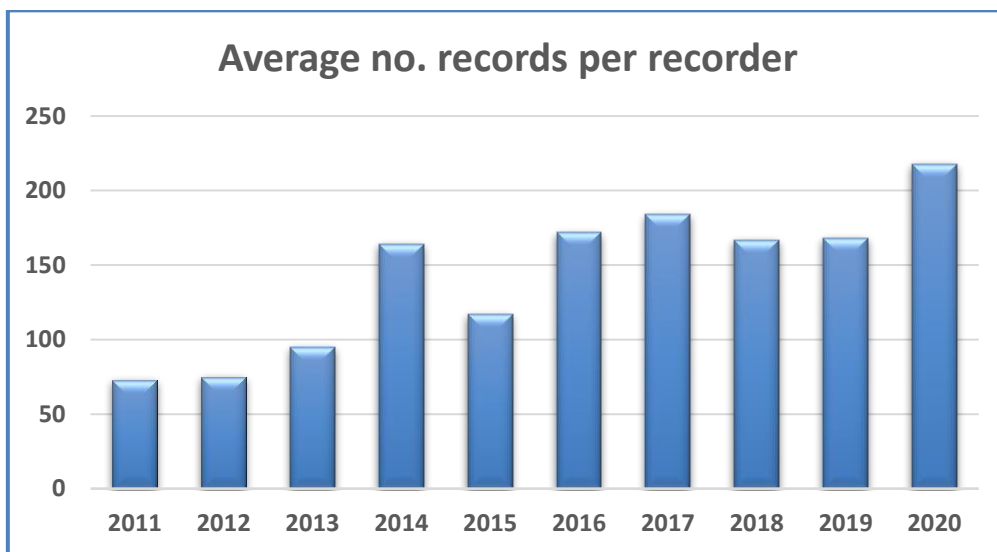
NatureSpot tends to receive regular submissions from core recorders rather than lots of occasional submissions from the general public. This has proved mutually beneficial in that NatureSpot verifiers build up their knowledge of the recording abilities and reliability of individual recorders, whilst 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.

2. Species Galleries

The total number of Leicestershire and Rutland species recorded on NatureSpot at the end of 2020 was 7,239. Around 500 new species are typically added each year (584 in 2020).
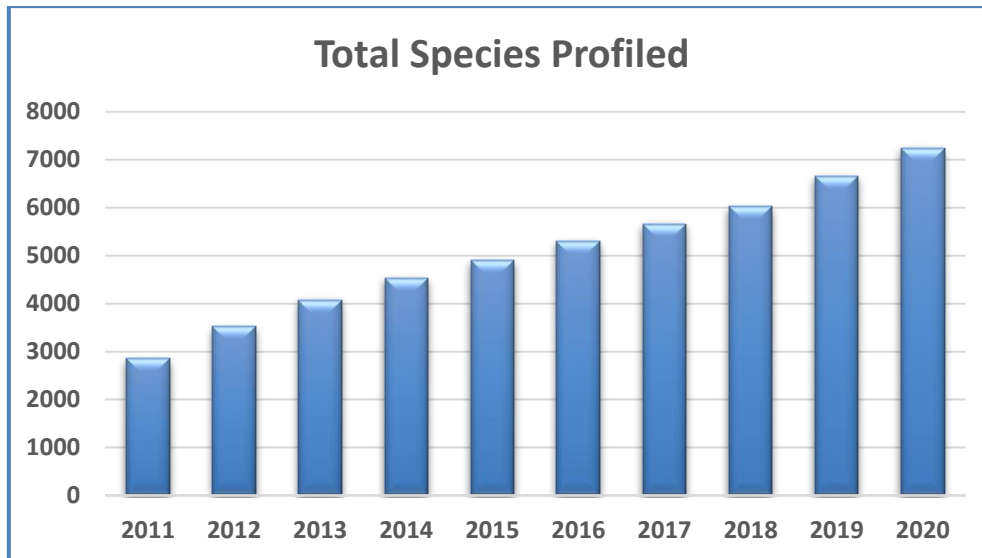
Every featured species has an information page in the galleries, illustrated with the best images submitted by recorders (all taken in Leicestershire and Rutland). Where possible, images are selected that show the key identification features and also represent different colour forms, sex differences and juvenile stages.

The illustration below provides an example (in this case for Footballer Hoverfly *Helophilus pendulus*).

The Footballer - *Helophilus pendulus*

| 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	Footballer Hoverfly
Description	This hoverfly is sometimes called 'The Footballer' due to its stripy thorax. There are in fact several species with similar stripes which are difficult to tell apart. Another name is 'The Sunfly' due to its preference for bright sunny days. In this species the black on the hind tibia is restricted to the distal third and the mid tibia is all yellow.
Similar Species	*Helophilus pendulus*, *H. trivittatus* and *H. hybridus* are all very similar. See Identification Aids below for help on separating these three species.
Identification difficulty	
Identification aids	Show identification aids
Habitat	Around muddy puddles, wet ditches and ponds, but also in most sunny situations along roadsides, field margins, etc.
When to see it	April to November, very common from June to August with a peak in July.
Life History	Larvae have been found in farmyard drains, very wet manure, and very wet sawdust.
UK Status	A common hoverfly and widespread throughout Britain.
VC55 Status	Very common in Leicestershire and Rutland.

David Nicholls
Charnwood Lodge
01 September 2012
female

David Nicholls
Martinshaw Wood
29 June 2007
female

Lostash
Whetstone Village Fields/Footpath
25 April 2011

The species pages are constantly revised and added to in order to provide accurate and useful information, particularly on how to reliably identify the species. This year we also added a new feature – Identification Aids – which is an expandable field allowing images, illustrations and text to be added to help identify the species and distinguish it from similar species it could be confused with.

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 is applied in two ways, 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.

A number of new wild place and 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.
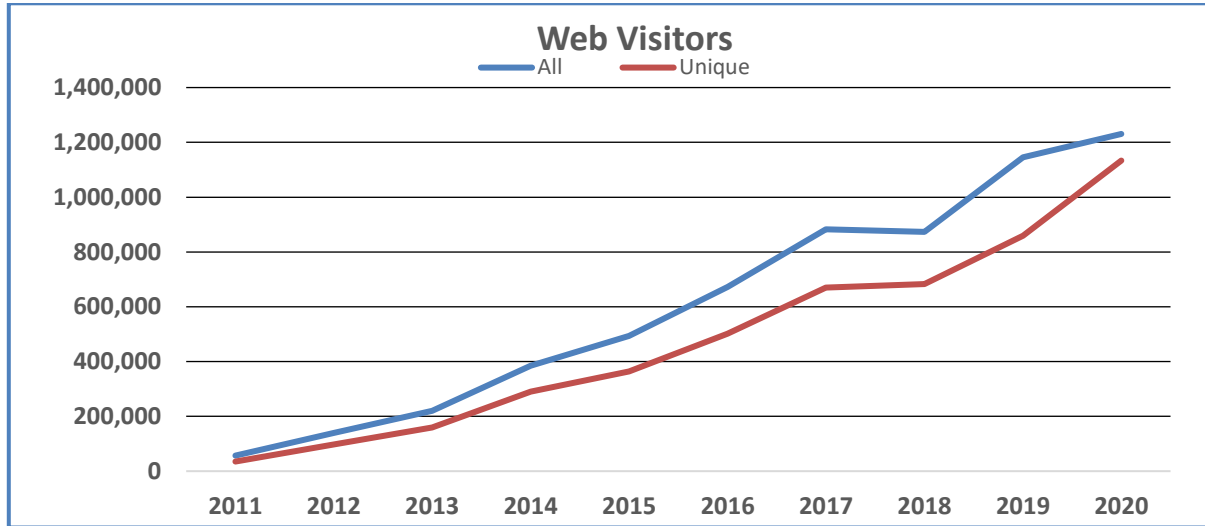
Visitor numbers have grown every year showing a distinct seasonal pattern, peaking in June/July. There is a similar seasonal pattern of record submissions due to flowers and invertebrates being more numerous and more easily seen in the warmer months.
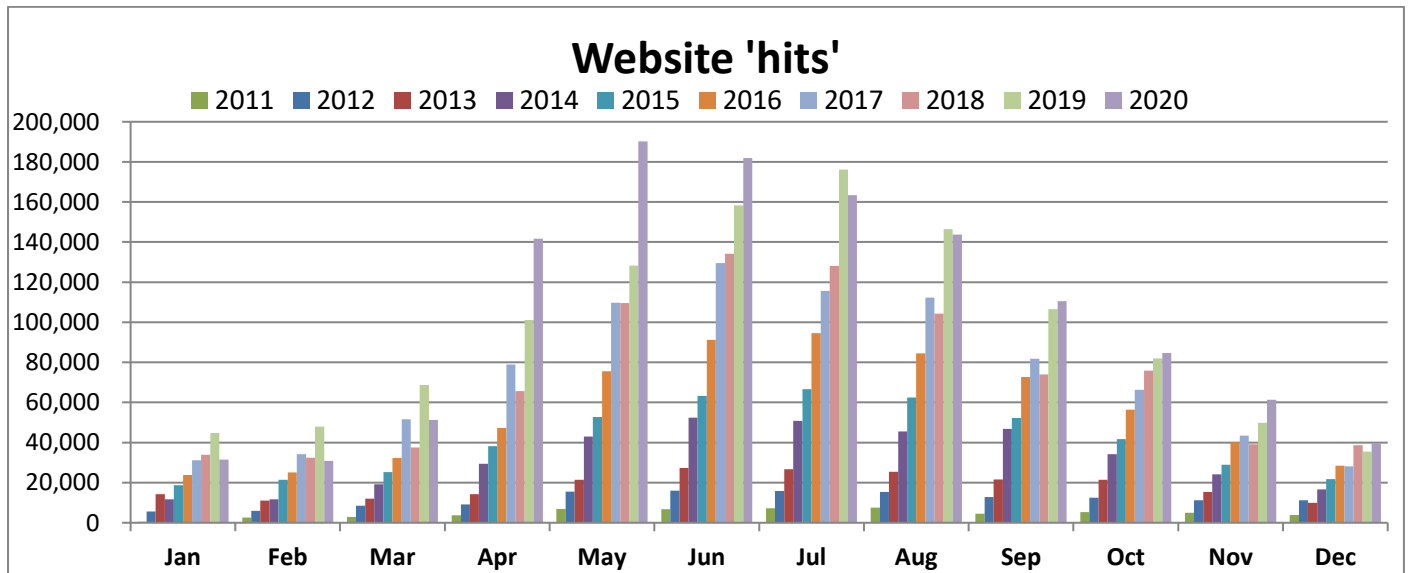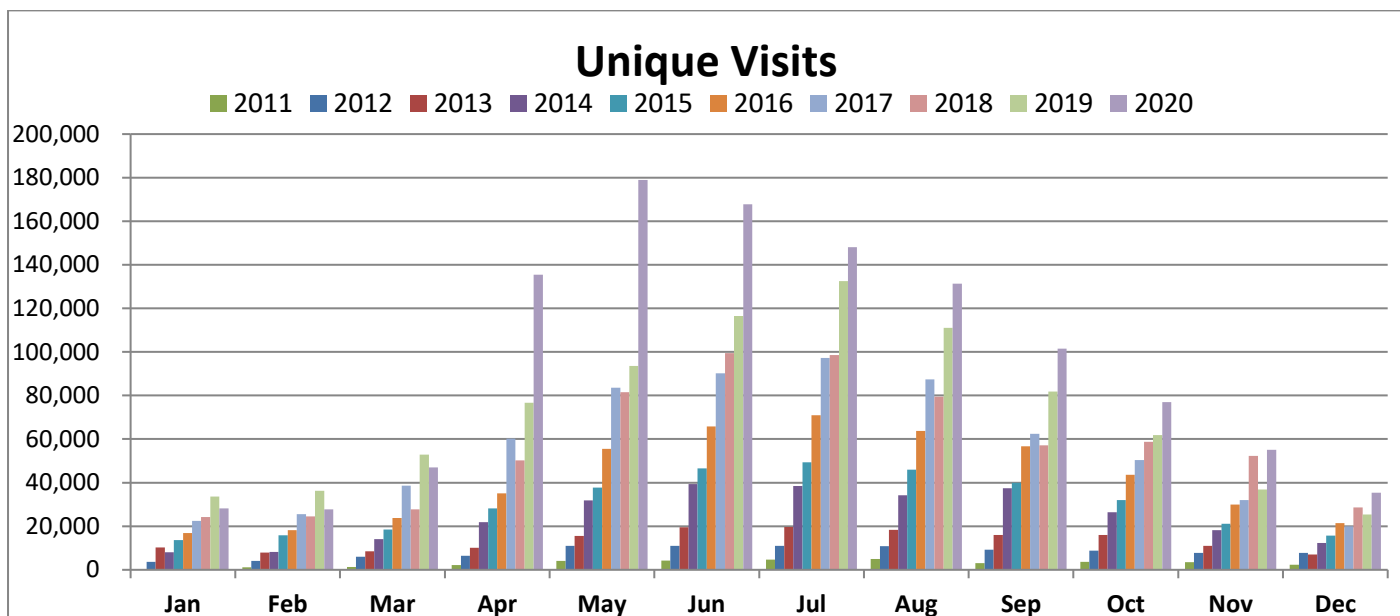
Unique Visits

In 2020 the NatureSpot website received over 3.7 million page views from 1,230,673 (1,133,509 unique) users, an increase of nearly 40% over the previous year and the highest ever annual usage. 70% of these visits came from the UK, the rest coming from a total of 222 countries or territories worldwide (hello to our user from Samoa!). China appears in the list of top 10 countries for the first time (this does not necessarily mean people in China are accessing the site, mobile devices of visitors and students from China often have this setting).

1. United Kingdom	70%
2. United States	7%
3. China	2%
4. Australia	1%
5. Germany	1%
6. Ireland	1%
7. Canada	1%
8. India	1%
9. Argentina	1%
10. Netherlands	1%

Users accessed the website in the following ways:

	2020	2019
Mobile Phone	51%	55%
Desktop Computer	43%	33%
Tablet	6%	12%

Although access from mobile devices such as phones and tablets exceeds visits from computers, desktop usage increased for the first time in a number of years – surely an effect of lockdown.

Twitter / Facebook

The NatureSpot Twitter account now has over 750 followers, a 35% increase over the year, with an annual reach of nearly a quarter of a million views.   Over the year, the NatureSpot Facebook group grew from 30 to nearly 150 members, a five-fold increase.

YouTube

However, the big change for NatureSpot in 2020 was the increased use of video via Zoom and our YouTube channel, which attracted more than 4,000 views totalling over 500 hours.
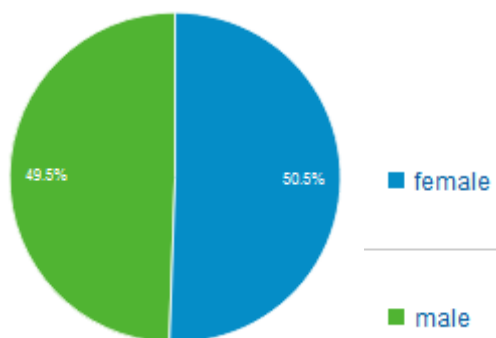
Demographics

The demographics of NatureSpot users in 2020 (according to Google Analytics data) were:

Age range:

1.	25-34	**98,785** (24.33%)
2.	35-44	**72,168** (17.77%)
3.	45-54	**63,356** (15.60%)
4.	65+	**62,659** (15.43%)
5.	55-64	**58,757** (14.47%)
6.	18-24	**50,308** (12.39%)

Gender:

We also published regular news stories on the website, approximately on a weekly basis.

Feedback

Comments from site users are 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 (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

6. Developments in 2020

We were delighted to be told that NatureSpot had been awarded the John Sawyer NBN Open Data Award 2020. This award is given by the National Biodiversity Network to "recognise and celebrate the outstanding contribution of NBN Data Partners in collecting and sharing biological data openly to educate and inform". The Network has 160+ Data Partners and these organisations vary in their commitment to open data. The NBN Gateway has almost 130 million biological records and some of this data is shared openly, but much is not available at full resolution or hidden from public view. The award recognises not only the hard work all the contributors to NatureSpot but also the accessibility of the mass of record data collected by our recorders.

We are pleased to welcome two new trustees: John Clarkson, Head of Conservation at the Leicestershire and Rutland Wildlife Trust) and Mike Higgott (long-term contributor to NatureSpot and a verifier).

Our plans for delivering an events programme involving recording visits to sites of interest, especially those in areas with relatively few records, were unable to proceed due to Covid. However, instead, we began a programme of online talks, presentations and 'meetings' which proved very popular and will now continue as part of an ongoing outreach programme.

We became an active partner with Leicestershire County Council in supporting the Urban Verges Biodiversity project. This initiative is engaging parish councils in taking over the management of selected verges in their areas with the aim of improving the biodiversity value. NatureSpot's role has been to recruit and support volunteers from amongst its recording community to undertake a site survey of the existing flora and to use this data to advise parish councils on management options. This project will continue in 2021. More details are available here.

We are committed to continuous improvement of the website so work will continue to improve the species information pages. In particular we will add more guidance on identification matters.

Further Information

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

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