



**Biological
Recording
Company**



Summary Report

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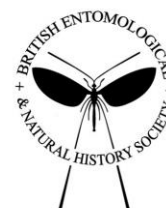
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**Biological
Recording
Company**



**Royal
Entomological
Society**



What is entoLIVE?

entoLIVE is a series of webinars, associated YouTube videos and blogs delivered by the Biological Recording Company that aims to make invertebrate science more accessible by giving invertebrate researchers a platform to present their research outputs to audiences beyond academia. The programme covers a wide range of topics including (but not limited to) ecology, identification, recording and conservation. Topics can be on any invertebrate group, including insects but moving beyond entomology to include any invertebrate group from terrestrial, freshwater or marine environments.

Each webinar is approximately 1 hour in length and consists of a 30–40-minute presentation by the guest speaker, followed by a Q&A with the live audience. The presentation is recorded and uploaded to YouTube and the video is embedded within a blog article alongside a transcript of the Q&A, a list of relevant literature reference and any other useful links.

Breaking down accessibility barriers

One barrier to invertebrate research for non-academic audiences is the cost of accessing research. Many research papers are locked behind journal subscription paywalls. All entoLIVE webinars are free to attend and can be booked through the entoLIVE collection on Eventbrite. All of the YouTube videos of speaker presentations and entoLIVE blog articles are publicly available.

Secondly, it can be difficult to interpret the results of some scientific outputs without specialist knowledge or skills. This can include aspects such as the use of complicated experimental methods, technical language and complex analysis (including statistical and genetic analysis).

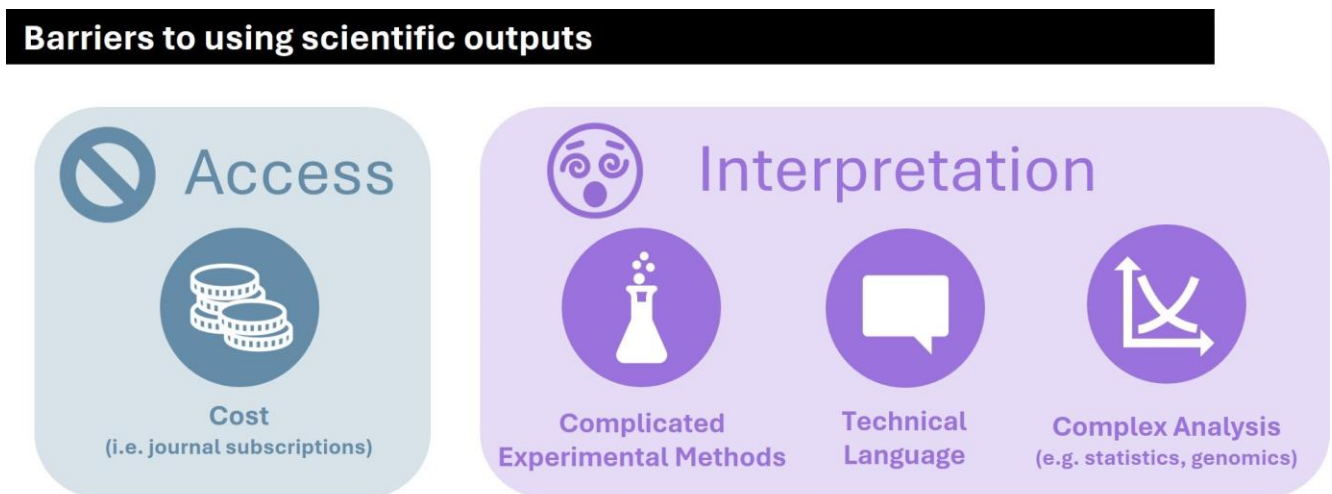


Figure 1: Barriers to engagement with research outputs

Working collaboratively

For the entoLIVE series to reach its true potential, a collaborative approach has been essential. Speakers on the programme represent a wide range of organisations and include established academics, early career researchers, conservation professionals and amateur naturalists.

The entoLIVE community extends beyond the Biological Recording Company, speakers and attendees. It includes a network of sponsors and affiliates that make invaluable contributions to the programme. Sponsors provide essential funding to ensure that the outputs can be made available to the public for free, while affiliates help promote the programme and raise awareness of the available opportunities for their networks.

How is entoLIVE making a difference?

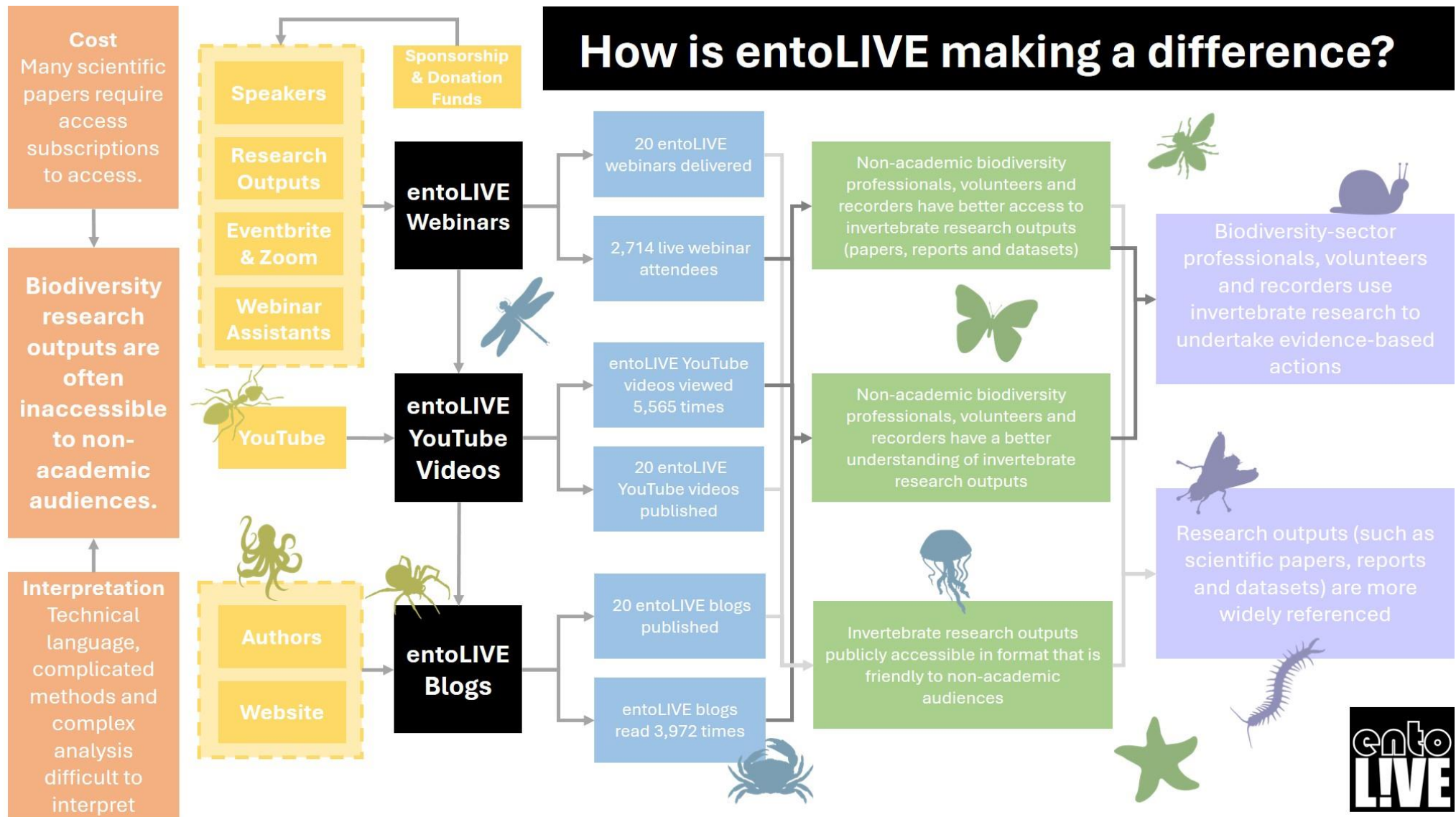


Figure 2: entoLIVE Theory of Change

entoLIVE Season 1 Programme

Season 1 of entoLIVE took place between February and July of 2023 and included 20 live webinars, alongside their associated YouTube videos and blogs. It was delivered by the Biological Recording Company with funding from the British Entomological & Natural History Society and the Royal Entomological Society.

The programme contained presentations covering a wide range of taxonomic groups, including insects, annelids, molluscs, crustaceans and jellyfish. Entomological groups included mayflies, grasshoppers, true flies, beetles, bees, dragonflies and wasps. Invertebrates across terrestrial, marine and freshwater environments were covered, in addition to presentations that covered multiple taxa (such as presentations on sequencing invertebrates and invertebrate sentience).



There was also a variety of subject matters covered, including biological recording, citizen science, conservation, laboratory research and field research. Speakers varied from recording scheme organisers to conservation professionals, PhD students, museum curators and established academics.



One of the primary objectives of entoLIVE is to increase the awareness and use of research outputs, with participants directed to research papers, museum collections, species occurrence datasets and project reports.



A full list of the presentation titles, speakers and dates can be found in **Table 1** on the following page.

Table 1: Summary of entoLIVE webinars scheduled as part of season 1.

Presentation Title	Speaker	Date
Wriggling Into Recording: 10 Years of the National Earthworm Recording Scheme	Keiron Brown	02/02/23
No Brain, No Problem? 20 Years of the National Jellyfish Survey	Amy Pilsbury	06/02/23
Ain't No Mountain High Enough: The Impacts of Climate Change on Aquatic Insects	Craig Macadam	09/02/23
The Most Remarkable Migrants of All: The Fascinating World of Fly Migration	Will Hawkes	13/03/23
Flying Squids: Their Life Story and Relationships With Each Other	Fernando Á. Fernández-Álvarez	16/03/23
Hop of Hope: Restoring the Large Marsh Grasshopper Through Citizen Keepers	Citizen Zoo	20/03/23
The Pine Hoverfly: Bringing Them Back From The Brink Of Extinction	Dr Helen Taylor	23/03/23
Weird But Wonderful World of Worms: Tales From The Museum Collections	Emma Sherlock	30/03/23
Celebrating Ladybirds: Developing Our Knowledge Through Citizen Science	Helen Roy	03/04/23
Crawfish: Trending in South-west Britain	Dr Angus Jackson	06/04/23
Unlocking Invertebrate Genomes: How & Why Are Scientists Trying To Sequence Every Species?	Dr Liam Crowley	13/04/23
The London Bee Situation: How Sustainable Is Beekeeping in London?	Mark Patterson	17/04/23
DragonflyWatch: The National Dragonfly Recording Scheme	Eleanor Colver	27/04/23
Big Wasp Survey: Investigating Social Wasp Populations Through Citizen Science	Prof. Seirian Sumner	04/05/23
Restoration, Rearing & Reintroductions: Saving the Freshwater Pearl Mussel	Dr Louise Lavictoire	11/05/23
The Marine Mollusc Recording Scheme: Discoveries from the Conchological Society of Great Britain and Ireland	Simon Taylor	15/05/23
The National Honey Monitoring Scheme: A Peak Behind The Scenes	Dr Jenny Shelton	18/05/23
Bumblebees & Their Differing Habitats: How a Decade of Citizen Science Has Increased Our Knowledge	Dr Penelope Whitehorn	25/05/23
The Bugs Matter Citizen Science Survey: Where Every Journey Counts	Dr Lawrence Ball	01/06/23
Invertebrate Sentience: Do Invertebrates Experiences Deserve Respect & Welfare Protection?	Dr Jonathan Birch	17/07/23

Engagement Analysis

The entoLIVE programme has been successful in engaging large audiences, with season 1 webinars receiving over 6.6k bookings and over 2.7k live webinar attendees (see **Figure 3**). The YouTube videos for season 1 have been viewed over 5.5k times and the blogs have over 3.9k views. The average number of bookings for season 1 webinars was 334 bookings, and the average attendance was 135 attendees.

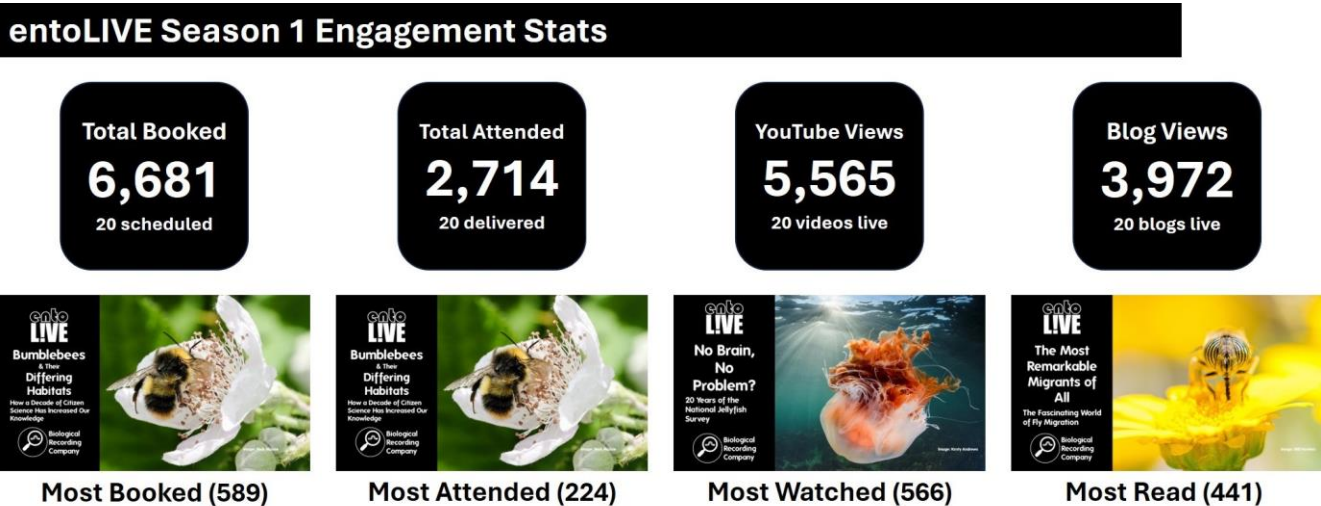


Figure 3: entoLIVE season 1 summary stats

A full breakdown of the engagement numbers (number of people booked, number of live webinar attendees, number of YouTube video views and number of blog views) by webinar is provided in **Table 2** on the next page.

The number of people booking webinars has varied greatly by webinar. The factors for this are unknown, but could relate to factors such as topic, marketing efforts, speaker, time slot, day of the week, date and time of year. When the bookings are plotted over time (from webinar 1 onwards), there is a clear upwards trend in the number of bookings (as can be seen by the dashed red line in **Figure 4** below). This is further supported by comparing the average number of bookings per webinar by season, with the season 1 average being 334 bookings and the season 2 average being 444 bookings (as of the 15 webinars that have aired to date).

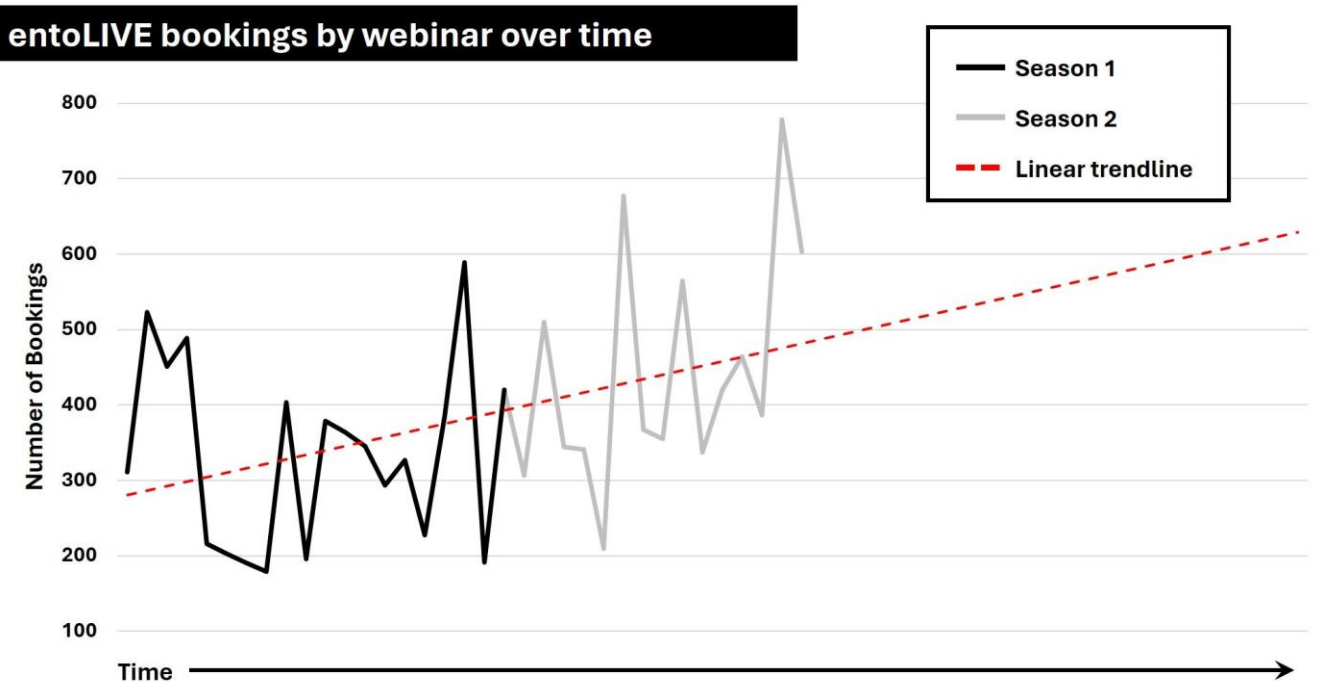


Figure 4: entoLIVE bookings by webinar over time for the first 35 webinars plotted alongside a linear trendline forecasting booking numbers up until the end of season 3 (webinar 60).

Table 2: Engagement stats by individual entoLIVE webinar for season 1.

Presentation Title	Booked	Attended Webinar	YouTube Views	Blog Views
Wriggling Into Recording: 10 Years of the National Earthworm Recording Scheme	311	114	284	239
No Brain, No Problem? 20 Years of the National Jellyfish Survey	523	222	566	436
Ain't No Mountain High Enough: The Impacts of Climate Change on Aquatic Insects	451	197	311	271
The Most Remarkable Migrants of All: The Fascinating World of Fly Migration	489	251	466	441
Flying Squids: Their Life Story and Relationships With Each Other	216	87	261	127
Hop of Hope: Restoring the Large Marsh Grasshopper Through Citizen Keepers	203	94	257	217
The Pine Hoverfly: Bringing Them Back From The Brink Of Extinction	190	82	173	123
Weird But Wonderful World of Worms: Tales From The Museum Collections	179	77	158	140
Celebrating Ladybirds: Developing Our Knowledge Through Citizen Science	403	187	200	194
Crawfish: Trending in South-west Britain	196	76	184	92
Unlocking Invertebrate Genomes: How & Why Are Scientists Trying To Sequence Every Species?	379	145	117	162
The London Bee Situation: How Sustainable Is Beekeeping in London?	364	153	502	232
DragonflyWatch: The National Dragonfly Recording Scheme	345	140	298	255
Big Wasp Survey: Investigating Social Wasp Populations Through Citizen Science	293	117	180	147
Restoration, Rearing & Reintroductions: Saving the Freshwater Pearl Mussel	327	151	230	133
The Marine Mollusc Recording Scheme: Discoveries from the Conchological Society of Great Britain and Ireland	227	73	159	105
The National Honey Monitoring Scheme: A Peak Behind The Scenes	385	80	219	148
Bumblebees & Their Differing Habitats: How a Decade of Citizen Science Has Increased Our Knowledge	589	224	465	232
The Bugs Matter Citizen Science Survey: Where Every Journey Counts	191	63	142	85
Invertebrate Sentience: Do Invertebrates Experiences Deserve Respect & Welfare Protection?	420	181	393	193

Attendance rate has also been variable, and ranged from 51% to just 21%, with the average rate around 40%. Weather appears to be one of the most significant factors impacting attendance rate, and is likely also affected by changes to the webinar (i.e., change of topic/speaker or change of date).

The number of attendees shows a similar pattern to the number of bookings, though the increase over time is not as large as with the booking numbers (see **Figure 5** below). Again, this is further supported by comparing the average numbers per webinar by season, with the season 1 average being 135 attendees and the season 2 average being 170 attendees (as of the 15 webinars that have aired to date).

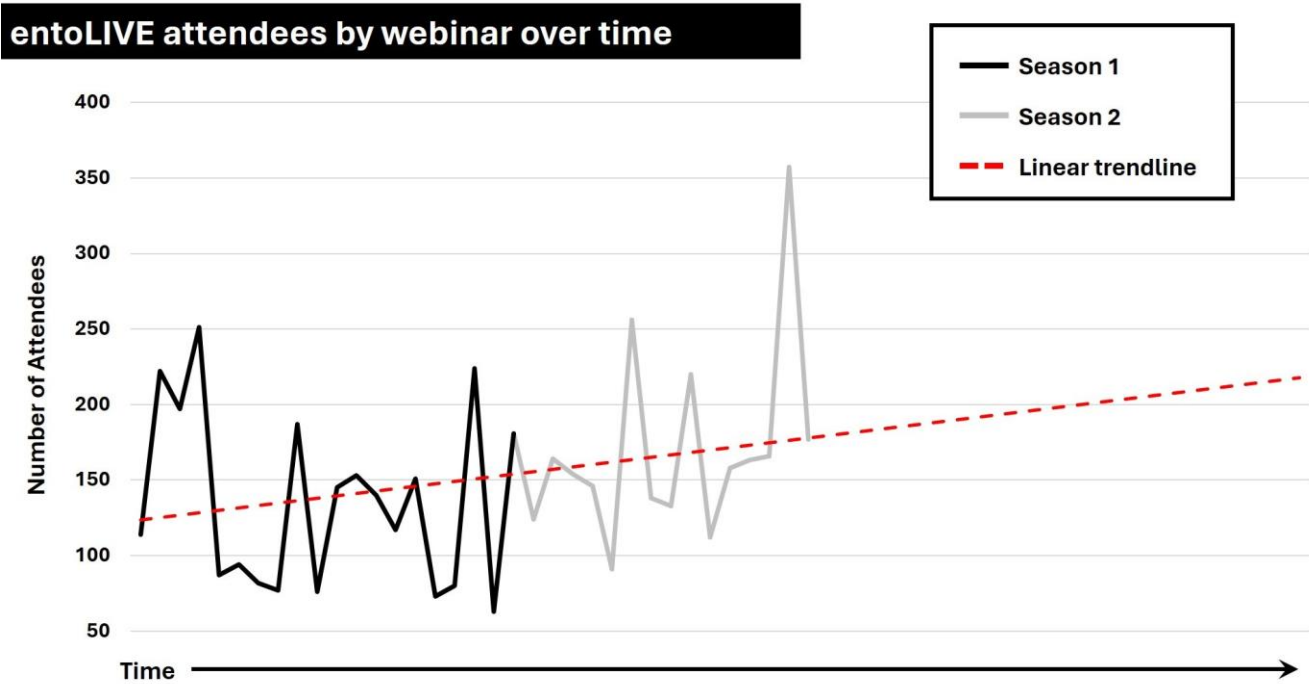


Figure 5: entoLIVE attendees by webinar over time for the first 35 webinars plotted alongside a linear trendline forecasting booking numbers up until the end of season 3 (webinar 60).

Interestingly, the most popular live events have not necessarily been the most popular YouTube videos and blogs. As with the live webinars, the YouTube video and blog engagement has been variable and the factors that impact which YouTube video and blog engagement are not understood. Possible factors could include marketing efforts, subject matter, length of time they have been live and links to these outputs from other channels.

The booking and attendee trends illustrate that the entoLIVE webinar programme has the potential to reach even larger audiences in future years, as the engaged audience is grown over time. The forecasts suggest that during 2024 (season 3 of entoLIVE), the programme is likely to exceed the targets set for engagement: an average of 600 bookings and 200 attendees per webinar.

Participant Feedback

An online feedback survey form was sent to all individuals that had booked on a minimum of one of the 20 webinars within season 1 of entoLIVE. 179 responses to the survey were received and the results for each question are summarised below.

Engagement Level Questions

Respondents had engaged with between 0 and 20 of the twenty season 1 entoLIVEs. **Figure 6** (below) shows that approximately a quarter (28%) of respondents engaged with a single entoLIVE and almost half (46%) of respondents engaged with a small number (between 2 and 5) of entoLIVEs. Over a fifth (21%) engaged with the programme on a regular basis (over 10 entoLIVEs).

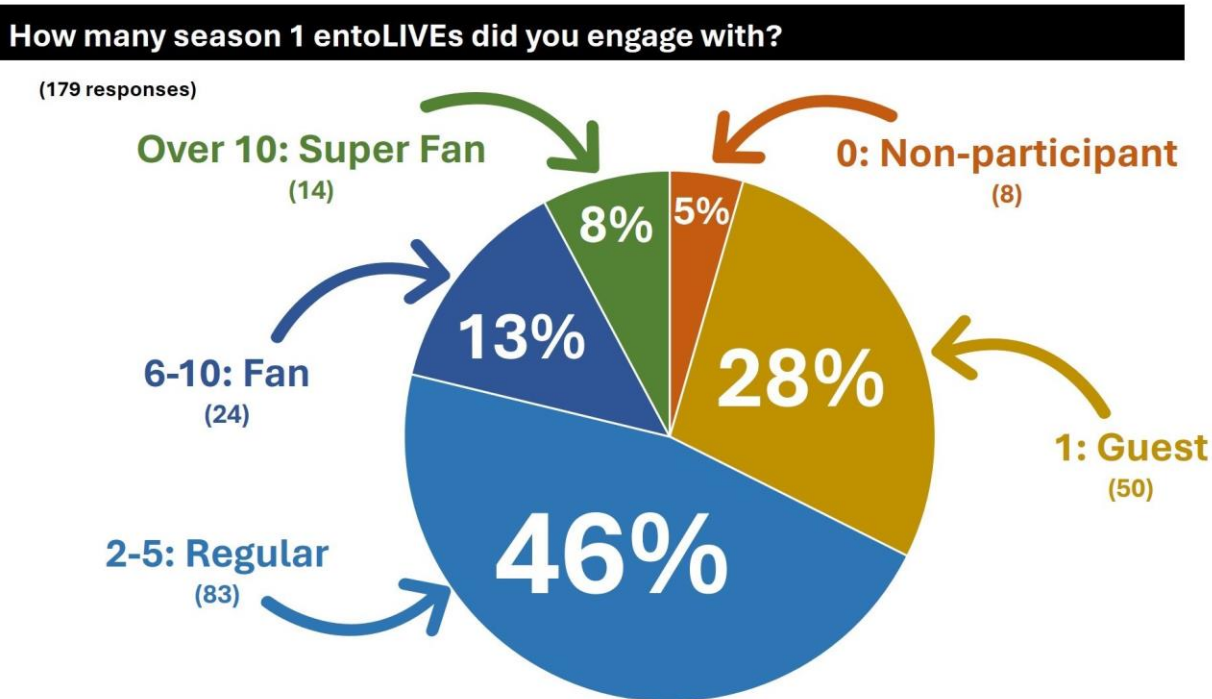


Figure 6: entoLIVE season 1 feedback survey results showing the number of entoLIVEs respondents individually engaged with. (n=179)

The live webinars were the most popular (96%) engagement method from survey respondents (see **Figure 7** below). The popularity of the YouTube and blog engagement methods should be treated with caution as this survey targeted those that booked for the live events and those only engaging with the YouTube videos and blogs may be finding entoLIVE outputs through other channels, such as social media and internet searches.

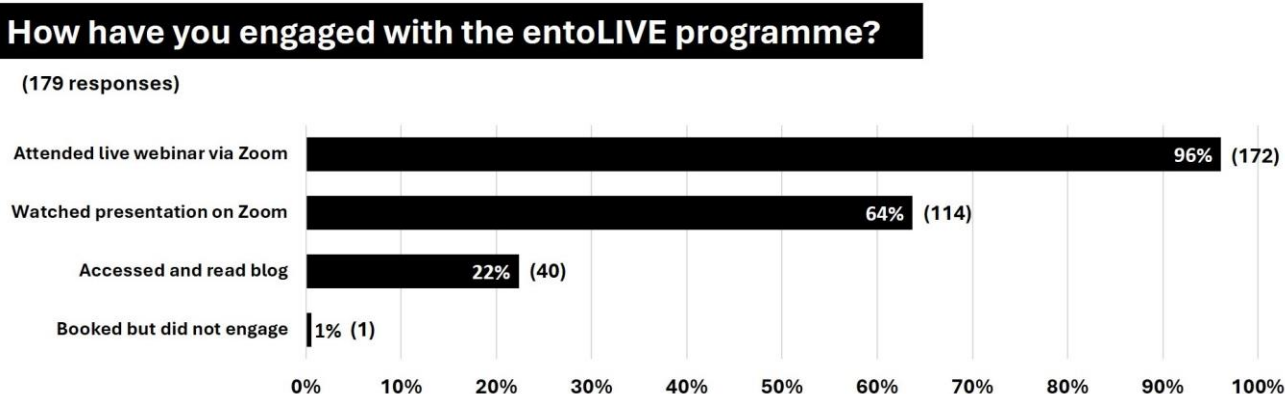


Figure 7: entoLIVE season 1 feedback survey results to the question ‘How have you engaged with the entoLIVE programme??’. (n = 179)

Engagement Impact Questions

Respondents reported overwhelmingly (99%) that they got enjoyment from engaging with entoLIVE content (see **Figure 8** below). Almost three quarters (74%) of respondents reported that entoLIVE content was very enjoyable (the highest rating in the survey). No respondents ranked the content boring or very boring.

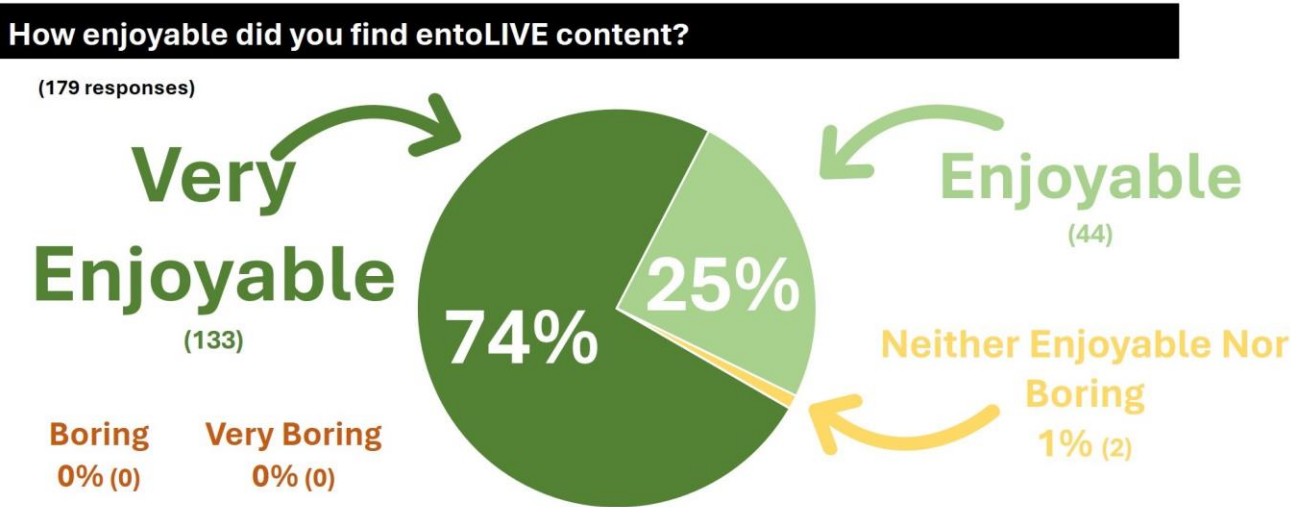


Figure 8: entoLIVE season 1 feedback survey results to the question ‘Please rate how enjoyable you have found entoLIVE content.’. (n = 179)

Respondents were also asked how useful entoLIVE content is to them (see **Figure 9** below). Three quarters (75%) reported that the content was very useful. Almost a quarter (23%) ranked the content as moderately useful and only 2% rated it as slightly useful. No respondents rated the entoLIVE content as not useful at all.

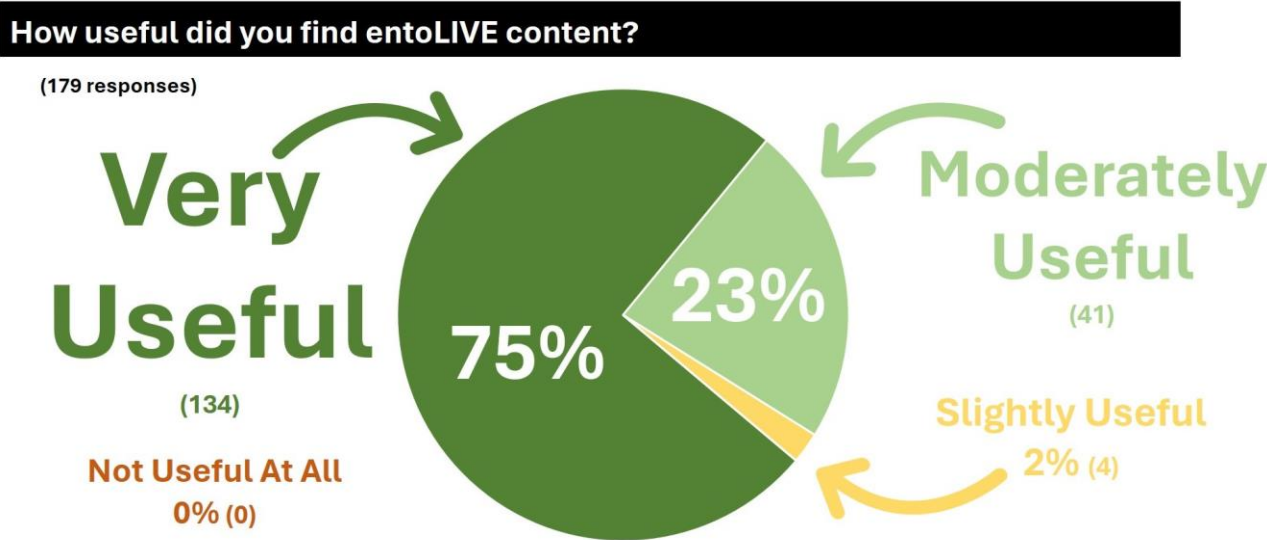


Figure 9: entoLIVE season 1 feedback survey results to the question ‘Please rate how useful you have found entoLIVE content.’. (n = 179)

Respondents were also asked to select from a list of statements to explain if and what impact engaging with entoLIVE had resulted in for them personally (see **Figure 10** below).

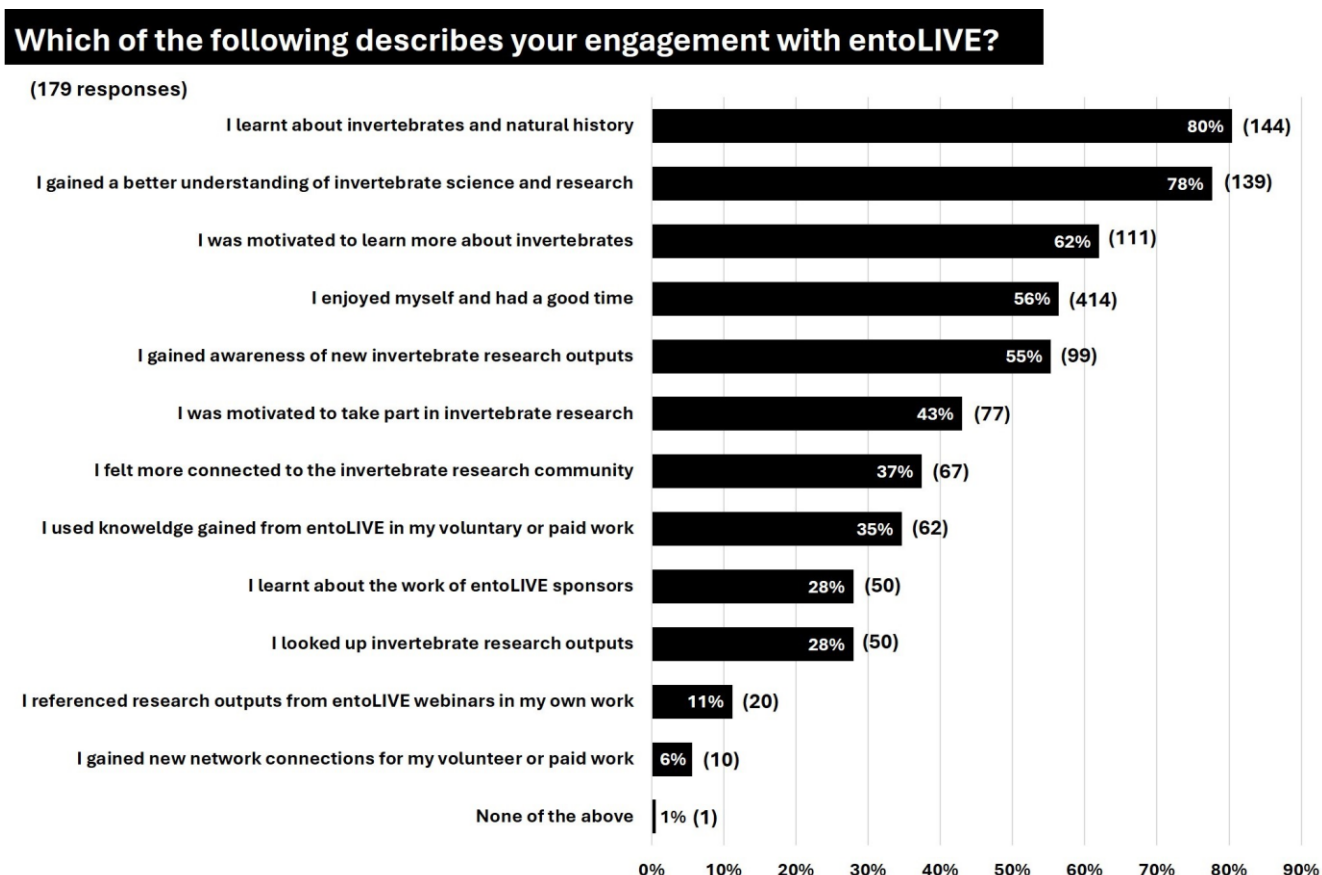


Figure 10: entoLIVE season 1 feedback survey results to the question ‘Which of the following statements describe how you feel about your engagement with entoLIVE?’. (n = 179)

The most popular statements included generic benefits that would be expected from any science-based webinar series, such as learning about the programme subject (invertebrates and natural history) (80%), gaining a better understanding of science/research (78%) and being motivated to explore the subject further (62%).

One of the primary aims of entoLIVE is to raise awareness of research outputs and increase the use of these, so it was encouraging that over half (55%) of the respondents reported that they had gained awareness of new research outputs and 28% had gone on to look up invertebrate research outputs as a result of their engagement with entoLIVE.

Furthermore, 43% of respondents were motivated to take part in invertebrate research (such as citizen science projects), 35% had used knowledge gained from entoLIVE in their voluntary or paid work and 11% had referenced research outputs presented in entoLIVE within their own work.

In addition to these direct benefits, 37% of respondents felt more connected to the invertebrate research community and 28% reported learning about the work of entoLIVE sponsors.

Feedback

Survey respondents were asked what they most liked and disliked about the entoLIVE webinar programme. The feedback was overwhelmingly positive. A selection of positive comments from the survey are listed below.

What did you like about entoLIVE?

“Amazing resource - bringing academic invert research to amateurs.”

“As a layperson I don't know how I would access these fascinating subjects. They introduce you to topics you have never even heard of.”

“It broadened my knowledge and awareness of aquatic insects beyond dragonflies (my main interest) and how the ecosystems are connected.”

“Superb quality of speakers, and all for free, an excellent learning resource.”

“Of the organisations whose webinars I watch, only ICMDA is as good as entoLIVE.”

“Well advertised, widely known, high quality, latest info, professional, relevant”

“The sessions were pitched at a good level for me, scientific but still understandable.”

“Ground breaking access to fabulous education from researchers at the front end of our knowledge.”

“The best free webinars I've attended. Informative and engaging.”

“Every one that I have watched has been brilliant, so diverse and interesting.”

“It's extremely well thought through and each webinar is fascinating and well presented.”

“The presentation about fly migration was fantastic because it completely changed my understanding of the insect world.”

“It's good that I can keep building on my knowledge of nature and use it in my voluntary conservation role and for my blog posts.”

“Great presenters, useful to be able to access films later via You Tube.”

“The quality of the sessions is high with excellent speakers with highly specialised knowledge. This has been a really valuable programme of events.”

“Very engaging, presented scientific information in a way that was easy to understand. Fascinating.”

Figure 11: Selection of comments from the entoLIVE season 1 feedback survey.

Only 16 respondents provided feedback on aspects that they disliked or felt could be improved. 4 respondents reported that the housekeeping/intro could be repetitive for repeat attendees and 3 respondents reported that sometimes the times of the webinars did not work for them.

Examples of the positive feedback received outside of the feedback survey can be found on the reviews for the Biological Recording Company on Google (see **Figure 12** and **Figure 13** below).

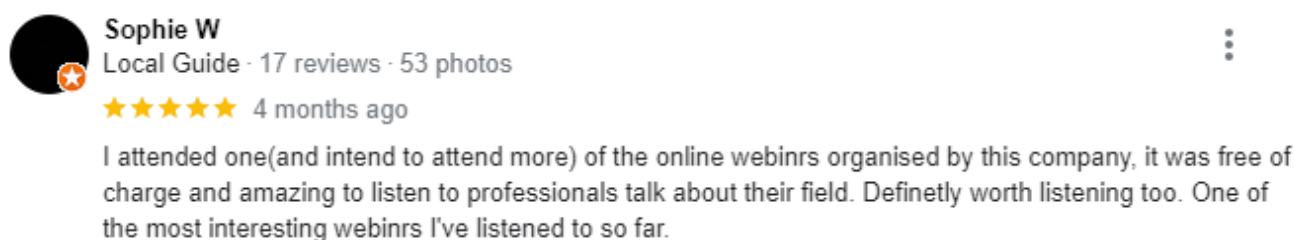


Figure 12: Google review of entoLIVE by an entoLIVE participant. Available at <https://g.co/kgs/dbSXUw>

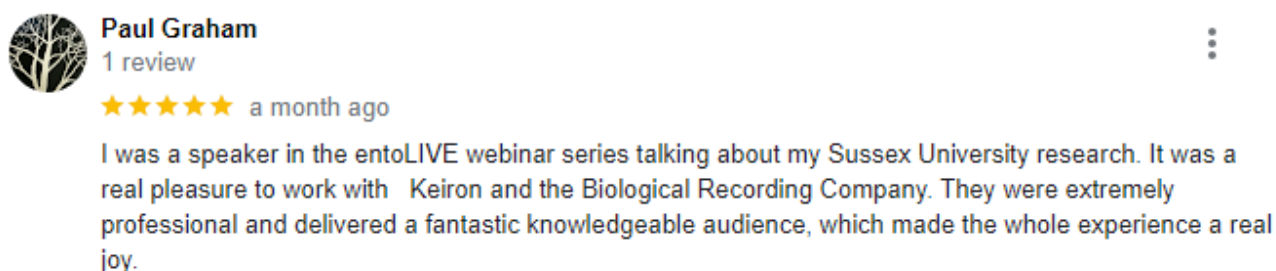


Figure 13: Google review of entoLIVE by an entoLIVE speaker. Available at <https://g.co/kgs/z9cd9N>

Sponsor Questions

Are you a member of the British Entomological & Natural History Society?

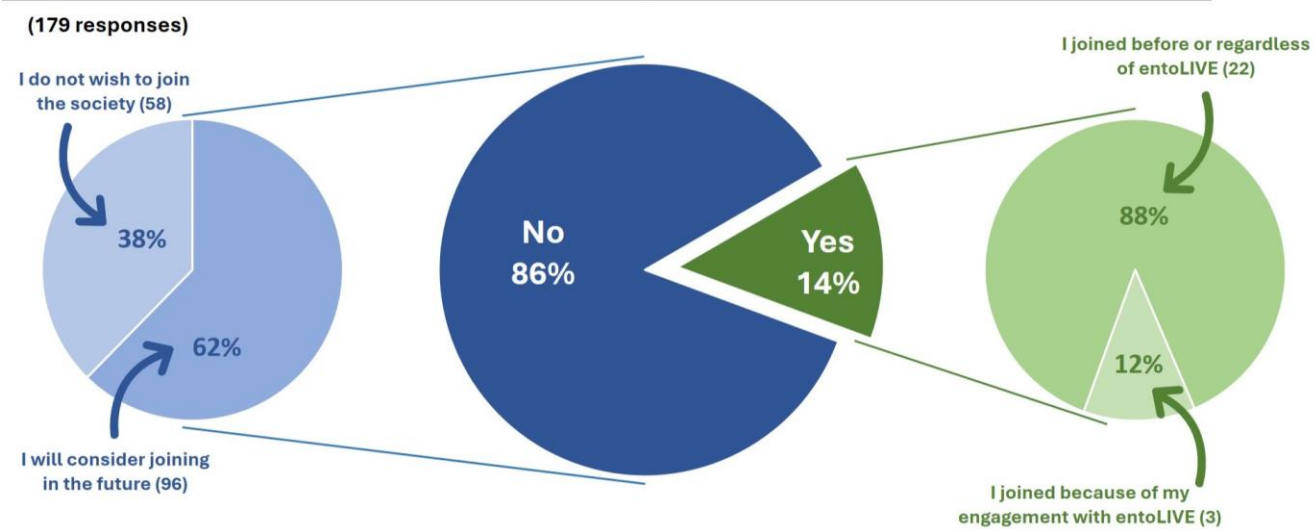


Figure 14: entoLIVE season 1 feedback survey results to the question 'Are you a member of the British Entomological & Natural History Society?'. (n = 179)

Are you aware of the insect identification workshops run by the BENHS?

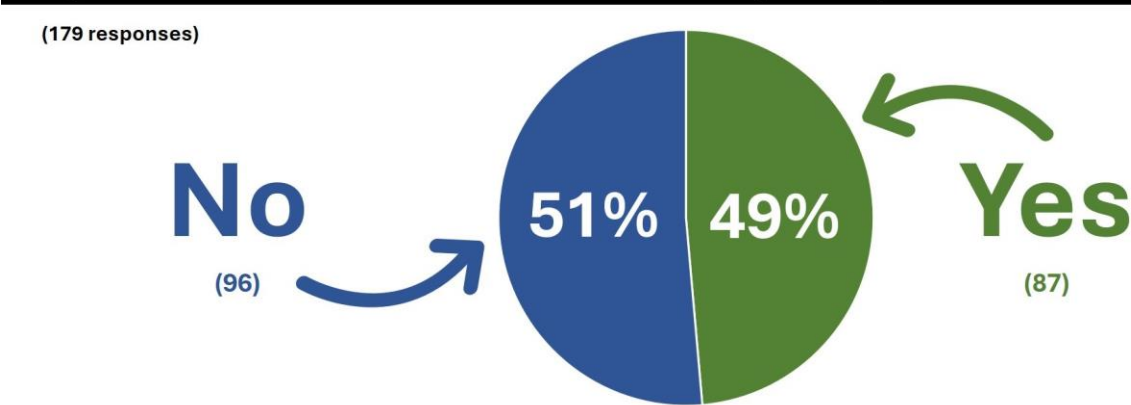


Figure 15: entoLIVE season 1 feedback survey results to the question 'Are you aware of the insect identification workshops run by the BENHS?'. (n = 179)

Are you a member of the Royal Entomological Society?

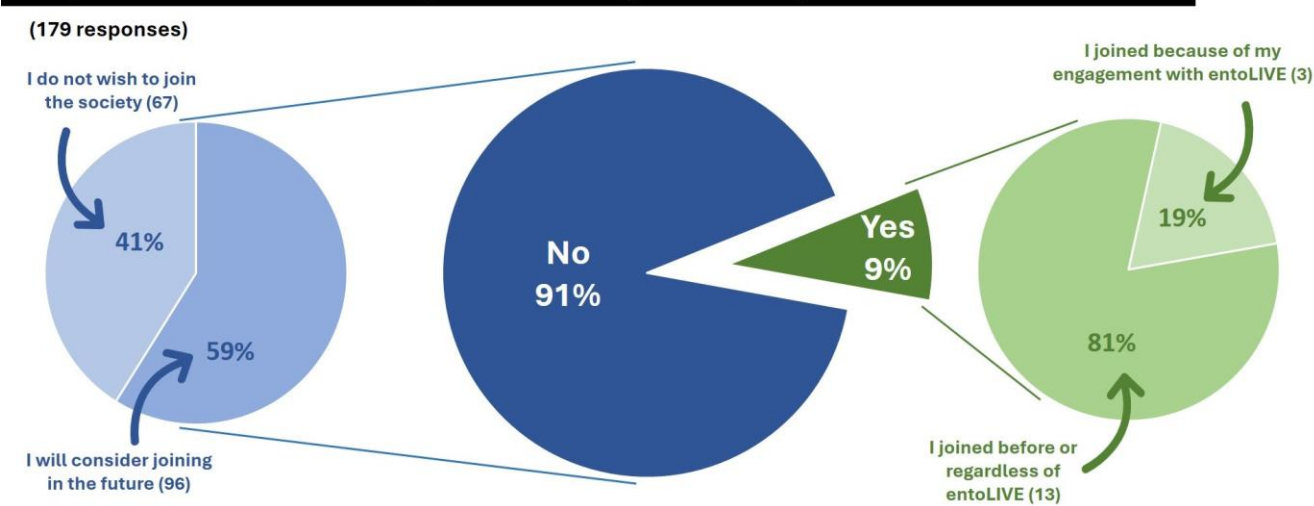


Figure 16: entoLIVE season 1 feedback survey results to the question 'Are you a member of the Royal Entomological Society?'. (n = 179)

Looking Ahead

entoLIVE Season 2

Season 2 is currently underway and runs from mid-July 2023 until the end of December 2023. A total of 15 webinars from season 2 have already been delivered and 5 more are currently scheduled and open for bookings.

Bookings have increased since season 1 and all engagement figures are on track to be significantly higher than season 1 (see **Figure 17** below for summary stats).

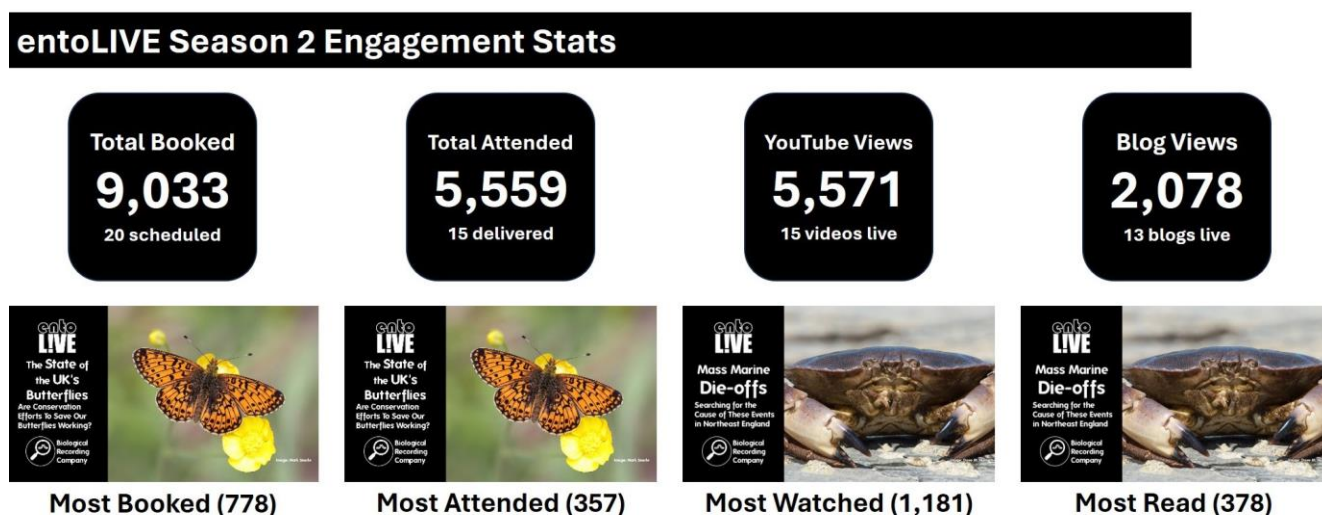


Figure 17: entoLIVE season 2 summary stats

Season 2 is delivered by the Biological Recording Company and sponsored by the following organisations:

- British Entomological and Natural History Society
- Environmentjob.co.uk
- Field Studies Council
- Royal Entomological Society

A fifth sponsor, the Nurturing Nature project (part of the Chalk and Chase Landscape Partnership), have sponsored 5 individual webinars that have a biological recording focus.

entoLIVE Season 3

Season 3 will take place during 2024 (running from January to December) and will include a minimum of 20 webinars. To date 11 webinars have been scheduled, with 1,491 bookings already received:

1. **Showcase Butterflies: Expanding Networks of Farmers & Biological Recorders** (Dr Stuart Edwards)
2. **The Return of the Native: The Great Fox-spider in Britain** (Mike Waite)
3. **Leeches: Life History and Identification** (Craig Macadam)
4. **Darwin's Earthworms: A Groundbreaking Piece of Soil Ecology** (Kerry Calloway)
5. **Nature Overheard: Acoustic Monitoring for Insects Through Community Science** (Dr Abigail Lowe)
6. **The Plight of the Bumblebee: A 12 Year Reintroduction Case Study** (Dr Nikki Gamman)
7. **Refurbishing the Bee Hotel: Different Bees, Different Needs** (Dr Linda Birkin & Isobel Sexton)
8. **Spiders, Earthworms and Spiders: The Impacts of Cover Crop Frost Tolerance** (Dr Amelia Hood)
9. **Butterflies Through Time: Climate Change, Conservation & Historic Specimens** (Matthew Hayes)
10. **Bees and Heatwaves: Preparing For A Warming World** (Yanet Sepulveda & Isobel Sexton)
11. **Bees and Beyond: Ecosystem Services at a Garden Scale** (Dr Linda Birkin)

2024 Sponsorship Opportunities

Sponsorship is crucial for the continuation of entoLIVE, as it allows us to continue to engage audiences with invertebrate research outputs. Due to the notable rise in fees on Eventbrite, we have made changes to our sponsorship opportunities. We have introduced an extra tier of sponsorship to generate additional funds without burdening our existing sponsors with increased costs.



Partners will replace the current 'Sponsor' option. The cost will remain at £1,000 for a full season of 20 webinars and all of the current benefits will be retained (see **Table 3** below), in addition to the provision of a set of promotional images for the webinars that include the partner logo (for use on partner websites and social media). The number of partners will remain restricted to 5 organisations (plus the Biological Recording Company), with priority given to existing sponsors and organisations within the biodiversity sector.



Supporters will provide a lower cost option with reduced benefits (see **Table 3** below). Unlike partners, supporters will not have the opportunity to promote their organisation, services or products in entoLIVE webinars, YouTube video descriptions or blogs, and so this option will be available to any organisation. The number of supporters will not be restricted and the cost for this option will be £500 per season (or £50 per webinar if a supporter wishes to sponsor specific events).

Table 3: Summary of Sponsor and Partner benefits within the sponsored season.

Benefit	Supporter	Partner
Increase engagement and reach new audiences through the entoLIVE programme.	✓	✓
Use entoLIVE stats to help meet philanthropic or charitable objectives.	✓	✓
Logo added to entoLIVE page on Biological Recording Company website.		✓
Logo added to Eventbrite pages for all sponsored events.	✓	✓
Option of receiving an advance article for newsletters/blogs about entoLIVE and the upcoming webinars.	✓	✓
Receive a set of promotional images branded with partner logo for all entoLIVE webinars.		✓
Promotional slide presented during each live entoLIVE webinar.		✓
Promotional link permanently added to each entoLIVE YouTube video description.		✓
Logo added to entoLIVE blog for all sponsored events.	✓	✓
Promotional link permanently added to each entoLIVE blog.		✓
Receive a Season Summary Report three following the final webinar.	✓	✓