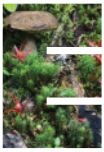
GUIDES TO BETTER SCIENCE

GETTING PUBLISHED

BRITISH ECOLOGICAL SOCIETY

Contents



BRITISH ECOLOGICAL SOCIETY

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Part of the ***BES Guides to Better Science***. In this series:
Peer Review
Data Management
Reproducible Code
Promoting Your Research
All are available electronically at **britishecologicalsociety.org/publications/guides-to**

Cover image: Tom Finch
Guide design by Cylinder

Foreword

Despite the many current and continuing changes in the publishing landscape, the journal article remains at the heart of the system by which scientists communicate. This guide is aimed at early career researchers, many of whom will be at the stage of writing their first paper for publication. Advice is given on selecting the best journal for your paper, on writing and submitting your manuscript and on the process which follows acceptance or rejection. I know that you will find the guidance given here (and in the other excellent guides produced by the BES) extremely useful and hope that you will take advantage of the offer from the Society's editorial staff to answer further queries. The excitement of seeing one's research set out for others to read in that first paper is something that even the most hardened of us can remember – making sure it's the best you can do will certainly add to that experience as well as provide a basis on which to build your career as a scientist.

Alan Gray
Chair BES Publications Committee, British Ecological Society

Thank you to the journal editors and researchers in ecology and evolution who contributed to this guide; a selection of their top tips are quoted throughout and a full list of contributors can be found in the Acknowledgements. We also collected questions from Twitter – some of these questions have been selected and answered here, but if you have further queries or comments, please tweet (@BritishEcolSoc) or email us (info@britishecologicalsociety.org). A webinar on 'How to Get Published,' based on this guide, will also run in February 2016 as part of the BES's webinar series *Careers Support and Training for Early Career Researchers*. All webinars are recorded and can be viewed anytime on the BES's YouTube channel.

Kate Harrison
Assistant Editor, British Ecological Society

Why publish?

Publishing research results is the one thing that unites scientists across all disciplines, and it is a necessary part of the scientific process. You can have the best ideas in the world, but if you can't communicate them clearly enough to be published, your work will not be acknowledged by the community. By publishing you are achieving three key goals for yourself and the larger scientific endeavour:

- disseminating your research
- advancing your career
- advancing science

In STEM (science, technology, engineering and mathematics) disciplines, the main avenue for publishing research results is the journal article.

Know your message

Before you begin to think about writing your journal article and where to submit it, it is important to thoroughly understand your own research and know the key conclusion you want to communicate.

Consider your conclusion and ask yourself, is it:

- new and interesting?
- contributing to a hot topic?
- providing solutions to difficult problems?[1]

If you can answer 'yes' to all three, you have a good foundation message for a paper. Shape the whole narrative of your paper around this message.

> *"Tell a story with your paper. People love stories, so the best papers have a clear flow from background information through to questions and predictions in the introduction, followed by methods that clearly test the proposed questions, then results and a discussion of these results that set them within the bigger picture..."*
>
> - Natalie Cooper, Natural History Museum, UK
> Associate Editor, *Methods in Ecology and Evolution*

[1] *Introduction to Publishing for Early Career Researchers*. Wiley Webinar. See **Resources**.

Selecting a journal

Before you begin to write, you need to think of your target reader – **what audience do you want your paper to reach?** This will help you select the right journal for your research. Talk to peers and colleagues about the journals they read and submit to and ask your supervisor for their advice on the journals you should aim for. Sign up to table of content (TOC) alerts for journals you would like to be published in to familiarise yourself with their content. Your manuscript should be tailored to the journal you want to submit to in terms of content (can you relate your research to other papers published in the journal?) and in terms of style (as outlined in journals' author guidelines). Here are some things to consider when choosing which journal to submit to:

Journal aims and scope

Look closely at what the journal publishes; manuscripts are often rejected on the basis that they would be more suitable for another journal. There can be crossover between different journals' aims and scope – differences may be subtle, but all important when it comes to getting accepted. If you think your paper could fit in two journals, think about their respective audiences – which audience do you want to reach most? Do you want it read by a more specialist audience working on closely related topics to yours, or researchers within your broader discipline? Once you have decided which journal you are most interested in, make sure that you tailor the article according to its aims and scope.

Editors and editorial boards

It's a good sign if you recognise the names of the editors and editorial board members of a journal from the work you have already encountered. Research who would likely deal with your paper if you submitted to a journal and find someone who would appreciate reading your paper. You can suggest handling editors in your cover letter or in the submission form, if it allows, but note that journals do not have to follow your suggestions and requests.

Impact Factor and other metrics

Impact Factors are the one unambiguous measure widely used to compare journal quality based on citations the journal receives. However, other metrics are becoming more common, e.g. Altmetric scores which measure the impact of individual articles through online activity (shares on different social media platforms etc.), or article download figures listed next to the published paper. None of these metrics are an exact measure of quality so you need to decide which is most important to you and ensure that your chosen journal scores highly.

Selecting a journal

"Don't be swayed by impact factors alone. It is tempting to just go for the highest impact journal in your field, but if that's not the journal researchers in your community actually read, you're not going to get cited very much. Choose the journal you and your colleagues read and talk about the most"

- Katie Field, University of Leeds, UK
Associate Editor, *Functional Ecology*

"Don't be afraid to aim high. As long as your paper fits within the aims and scope of the journal, there is no harm in aiming high, especially if it's easy to reformat for another journal. Often your paper will get rejected very quickly, but occasionally you'll get lucky!"

- Natalie Cooper, Natural History Museum, UK
Associate Editor, *Methods in Ecology and Evolution*

"How can one balance the 'right' (desired) readership with the best Impact Factor? Especially for applied science." @iainmstott via Twitter

If your article is going to have impact then it is vital that it reaches the right audience. One way to achieve this is by selecting a journal with the most appropriate readership and ensuring your paper can easily be found by using appropriate keywords and applying SEO (search engine optimisation). If you select a journal based on other criteria (e.g. Impact Factor), don't forget that readers use many different ways to find content. Sharing your research results on social media and blogs as well as writing a short summary can all help to reach your desired readership. These alternative ways to disseminate your research can be highly effective, wherever your research is published.

- Erika Newton, Managing Editor, BES

Selecting a journal

Open Access (OA)

Do you need to publish OA? Some funders mandate it and grant money often has an amount earmarked to cover the article processing charge (APC) required for Gold OA. Some universities have established agreements with publishers whereby their staff get discounts on APCs when publishing in certain journals. If you do not have grant funding, check whether your university or department has got an OA fund that you could tap into. However, if you are not mandated to publish OA by your funder and/or you do not have the funds to do so your paper will still reach your target audience if you select the right journal for your paper. Remember, you can share your paper over email.

"How does OA work and does it ever compromise Impact Factor?"
@cassie_raby via Twitter

OA simply means barrier-free access, i.e. the content is NOT behind a paywall (gratis OA) AND can be reused by anyone (no licence restrictions, libre OA). However, it's not as simple as that. A good starting point for understanding OA terminology is the Wikipedia article on OA. Green OA usually means that content is published in a journal and made available after a suitable embargo period either by removing the paywall or by depositing an article in a repository, but it can also be used for content being posted on preprint servers before submission and publication in a journal. With gold OA, the author (funder/institution) pays a publication fee to a journal and the article is then freely available straight away, usually with creative commons licences that make the content not just gratis, but also libre.

OA journals can be very selective with high standards and thus have very high IFs (e.g. eLife), but they can also publish solid science and without considering novelty or importance. Although papers in the latter category can still be highly cited, using this approach tends to result in lower IFs for a journal. Of course, if an exciting, novel, important paper is freely available to everyone, it has the potential to be cited much more often than if it were behind a paywall.

- Andrea Baier, Senior Managing Editor, BES

Selecting a journal

Author guidelines

Author guidelines will outline the journal's requirements for submissions, including aims and scope, formatting requirements and any journal policies e.g. on data sharing. Papers can be rejected immediately if they do not meet them. Always follow the author guidelines, stick to the word limit and tailor your manuscript accordingly.

"Download, print, read and stick to the 'Guidelines for Authors' available on the journal's website. Note the word limit, figure guidelines, font size, reference style etc. This makes the whole process more straightforward and efficient for you, the reviewers and editors."

- Katie Field, University of Leeds, UK
Associate Editor, *Functional Ecology*

"There's nothing more frustrating than submitting a paper only to have the journal office return it to you half an hour later because the references are formatted incorrectly!"

- Natalie Cooper, Natural History Museum, UK
Associate Editor, *Methods in Ecology and Evolution*

Time to publication

The length of time a paper takes to be peer reviewed does not correlate to the quality of peer review but reflects the resources a journal has to manage the process (e.g. do they have paid editorial staff or is it managed by full-time academics?). Journals will sometimes give their average time to a decision on their website, so take note of this if time is a consideration for you. Some journals also make it clear that they are reviewing for soundness of science rather than novelty and will therefore often have a faster review process.

"Consider the tradeoff between likelihood of acceptance and the speed at which you need to publish. This is especially important during a thesis and postdoc."

- Michael Hochberg, CNRS, Université Montpellier 2, France
Founding Editor, *Ecology Letters*

Selecting a journal

Ethics

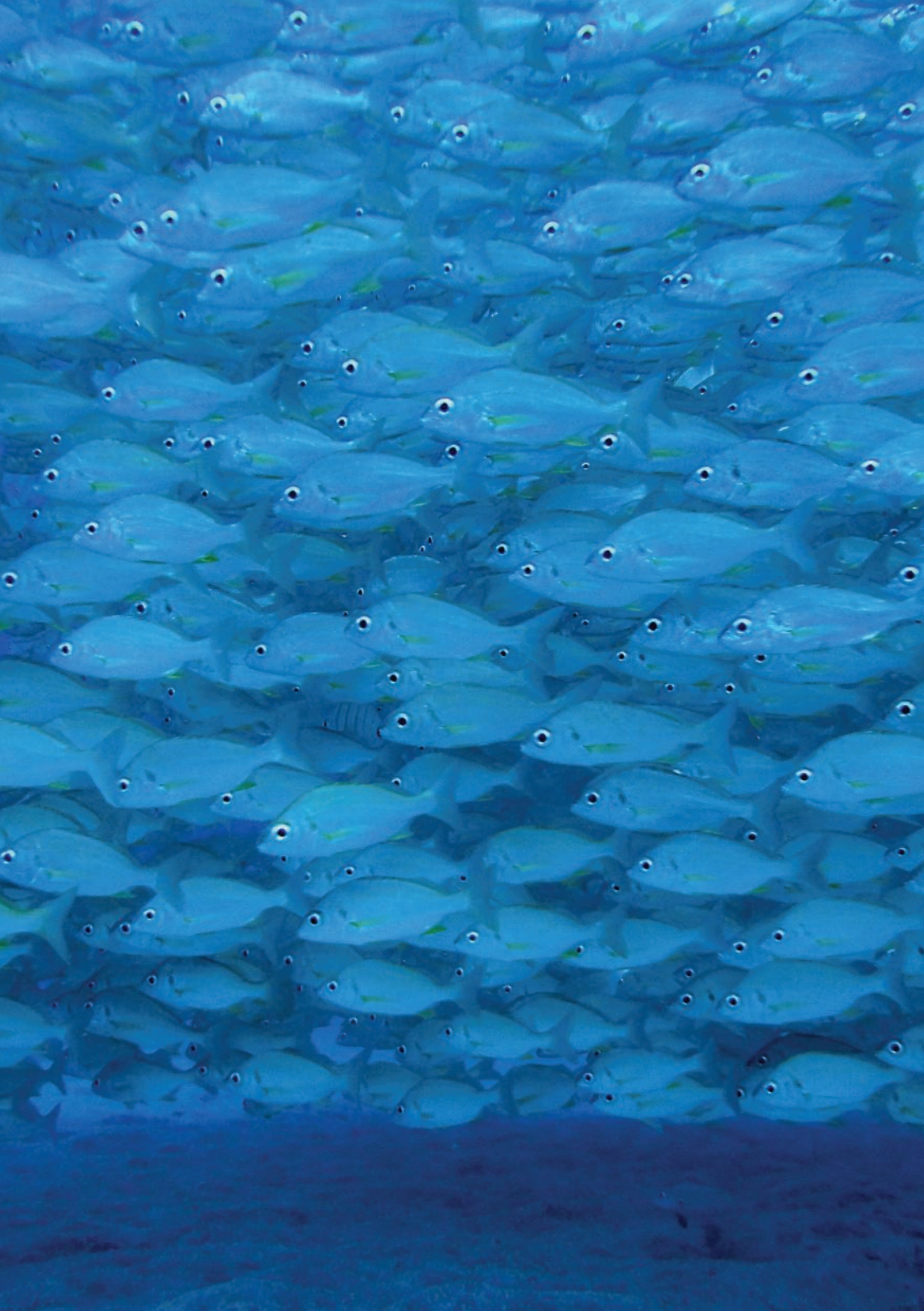
Ethics can be divided into two groups: research ethics and publication ethics. **Research ethics** include aspects such as how you manage sensitive species information, whether you adhere to animal welfare guidelines and regulations or how you deal with data protection. As an author it is important to check the journal's guidelines to ensure your paper meets their ethical standards. **Publication ethics** concern practices around the publication process. Standards set across scholarly publishing help define good practice and identify cases of misconduct. The Committee on Publication Ethics (COPE) provides the main forum for advice on ethics within scholarly publishing and has issued several sets of guidelines that help journals, editors and publishers handle cases of misconduct such as data fabrication, peer review fraud, plagiarism, etc.

As an author, it helps if you are familiar with what constitutes good practices and what is considered unacceptable. For example, copying sections of texts from an already existing publication because its authors have found a very elegant way of expressing what you want to say may seem tempting, or can even be considered as flattering to the original authors, but will be considered plagiarism by journals; you may not intend to breach publication ethics, but if journals spot cases such as this, they will investigate, which will at least delay the publication process if not result in a stark warning. COPE also have useful guidelines for authors on how to solve authorship disputes (see **Resources p.35**). Inform yourself about publication ethics beforehand to avoid unintended consequences.

"Is it better to be published in a few different journals or all in the same, most relevant one?" @DFofFreedom via Twitter

There are many different factors to consider when selecting where to submit your paper (e.g. subject area, international reach, journal metrics or ranking, open access option, speed of publication). Each paper will be different and your major criteria for selecting a journal may also differ each time (e.g. speed of publication may be more important than the specific subject area for research which is topical or time sensitive). So, each paper should be considered independently when choosing the best outlet for your research, even if you ultimately select the same journal.

- Erika Newton, Managing Editor, BES



Writing your manuscript

Authorship

Start talking about authorship and author order for your paper with collaborators at an early stage – before submitting and ideally before writing the paper. The increasingly collaborative nature of research is leading to larger numbers of authors on papers, so being able to define who did what will be increasingly important (and more informative than telling people 'I am author #3 on this paper'). Some journals are now encouraging 'authorship contribution statements' so check the journal guidelines to see if this is required and how to format it. For information and advice if disputes arise check COPE [2,3]. Nature has also published a useful article advocating for a "taxonomy" of author roles[4].

[2]http://publicationethics.org/files/Authorship_DiscussionDocument.pdf accessed October 2015.

[3]http://publicationethics.org/files/2003pdf12_0.pdf accessed October 2015.

[4]http://www.nature.com/news/publishing-credit-where-credit-is-due-1.15033 accessed October 2015.

Writing your manuscript

Planning to write

Single out the narrative that leads to your main conclusion and develop a skeletal plan around that narrative. The narrative should progress logically, which does not necessarily mean chronologically. Work out approximate word counts for each section to help manage the article structure and keep you on track for word limits. It is important to set aside enough time to write your manuscript and – importantly – enough time to edit, which may actually take longer than the writing itself (see **Editing p.25**).

"Don't ignore the rules of assembling a scientific paper. Particularly when you start writing papers, it can be difficult to know what goes into which section, so I recommend strictly following the rules. I like to think of scientific papers as following the shape of an hourglass or egg timer. You begin the introduction broadly and narrow it down to your aims/hypotheses/objectives/questions at the end of the introduction (this is the top third of the hourglass). The nitty gritty details (the narrow bit) are the Methods and Results. In the latter I always tell my students "just the facts, ma'am!" to remind them to avoid interpretation. As the hourglass widens back out you get to the discussion which should be a reflection of the introduction (revisit your aims/hypotheses/objectives/questions at the start) and then broaden out to the general topic. Also, one of the major issues I find with papers is often that their aims/hypotheses/objectives/questions don't match their experimental design – make sure what you did actually addresses your question!"

- Alison Bennett, The James Hutton Institute, UK
Associate Editor, *Functional Ecology*

Structure

The article structure will be set out in the author guidelines, but if the journal's guidelines permit it, there may be scope to use your own subheadings. By breaking down your manuscript into smaller sections, you will be communicating your message in a much more digestible form (see **Fig. 1**). Use subheadings to shape your narrative – do they make logical sense when read in isolation? Do they guide the reader through your narrative rather than making them find their own way which could cause them to get lost? Write each subheading in statement form (see **Box 2 p.19**), and use keywords in the headings to increase the search engine optimisation (SEO) of your paper (see **Keywords p.22**).

Writing your manuscript

"Pick one main message and make sure you stay focused on it throughout, from abstract to conclusions. By narrowing the focus of the paper, it will be much easier to link the logical progression of your study and for the reviewer to comprehend this logic."

- Daniel Stouffer, University of Canterbury, New Zealand
Associate Editor, *Journal of Animal Ecology*

Fig 1. Our attention spans naturally dip in the middle of anything (watching TV, listening to the radio, reading) and our ability to recall information from the middle is significantly less. By 'chunking' information you are increasing the number of beginnings and ends, and the reader will be able to recall more of your paper[5].

Title

The title is the most visible part of your paper so it is important that it clearly communicates your key message. Pre-publication, reviewers base their decision on whether to review a paper on the quality of the title and abstract. Post-publication,

[5]Andrew Moore: *Introduction to Publishing for Early Career Researchers*. Wiley webinar. See **Resources**.

if you publish in a subscription journal and not OA, the title and abstract are the only freely available parts of your paper which will turn up in search engines and thus reach the widest audience. A good title will help you get citations and may even be picked up by the press.

Draft a title before you write to help you to focus your paper. The title needs to be informative and interesting to make it stand out to reviewers and subsequently readers. Some key tips for a successful title include:

- Write it in statement form (see **Box 2 p.19**). When scanning papers, most people skip to the last sentence of the abstract to look for the key message, so make that sentence your title.
- Keep it around 15 words – any longer or shorter and it has more chance of being rejected at peer review.[6]
- Use your core keywords to increase SEO (see **Keywords p.22**)
- Use punctuation to split the main message and qualifier/subtitle e.g. 'Feeding evolution of a herbivore influences an arthropod community through plants: implications for plant-mediated eco-evolutionary feedback loop'.
- Keep it general – readers prefer titles that emphasise broader conceptual or comparative issues, and these titles fare better both pre- and post-publication than papers with organism-specific titles.[7] Try to avoid using species names, put them in the abstract and keywords instead.
- Want to be punny? Puns, humour and sensationalist language do not increase citations but can make your paper do well over social media. Titles phrased as questions get downloaded more but cited less.[8]
- Do not use abbreviations even if they are familiar in your field. You should keep a broad audience in mind.
- Do not use phrases such as 'The effect of…', 'The involvement of…'. These phrases give the reader scope to question your message – instead **tell the reader what they are being told**.

[6]Charles W. Fox & C. Sean Burns: *The relationship between manuscript title structure and success: editorial decisions and citation performance for an ecological journal*. See **Resources**.
[7]Ibid.
[8]Ibid.

Writing your manuscript

Abstract

Write your abstract after you have written your paper, when you are fully aware of the narrative of your paper. After the title, the abstract is the most read part of your paper. As mentioned above, reviewers will read the abstract before deciding to review your paper and post-publication. Abstracts are freely available and affect how discoverable your article is via search engines. Given its importance, your abstract should:

- articulate your new and interesting key message
- outline the methods and results
- contextualise the work
- highlight how your research contributes to the field and its future implications

Do not use the abstract to talk about anything that is not in your paper[9] and don't cram it with details – it is not a mini version of your paper. Use the last sentence of your abstract to communicate your key message.

[9] *What makes a good abstract and more*. Wiley webinar. See **Resources**.

Writing your manuscript

Box 1 - Excerpt from *Journal of Applied Ecology* author guidelines. These guidelines are a good example of what is generally required in an abstract, but also the specificities which different journals may require. For example, *Journal of Applied Ecology* requires a numbered abstract with a specific final point on the wider implications and relevance to management or policy, but the overall structure is good general advice.
http://www.journalofappliedecology.org/view/0/authorGuideline.html

Summary. This is called the Abstract on the web submission site. The Summary should outline the purpose of the paper and the main results, conclusions and recommendations, using clear, factual, numbered statements. Authors should follow a formula in which point 1 sets the context and need for the work; point 2 indicates the approach and methods used; the next 2-3 points outline the main results; and the last point identifies the wider implications and relevance to management or policy. The final summary point is the most important of all in maximising the impact of the paper. It should synthesise the paper's key messages and should be generic, seminal and accessible to non-specialists, and must carry one of the following subheadings:

'Synthesis and applications' for articles that identify recommendations for management practices.

'Policy implications' for articles that are less directly tied to on-the-ground management and include discussion on conservation implications or links to policy.

Writing style

Writing with **clarity**, **simplicity** and **accuracy** takes practice and we can all get carried away with what we think is 'academic writing' (i.e. long words and jargon) but good science speaks for itself. Remember your reader and think of papers that you have enjoyed reading – do you prefer long prose or short 'chunks' of information; jargon or simple English? Mean sentence length has been decreasing over time: Chaucer's sentences in the 14th century were 49 words long, JK Rowling's are 12.[10] This gives an indication of how to write for a modern reader. See **Resources** for further reading on writing style.

[10] Andrew Moore: *Writing science well: Techniques, tips and pitfalls*. See **Resources**.

Writing your manuscript

"You should be single-minded about your message. Think like a reader and keep it simple."

- Ken Thompson, University of Sheffield, UK
Senior Editor, *Functional Ecology*

Every extra word you write is another word for a reviewer to disagree with. Single out the narrative that leads to your main conclusion and write that – it is easy to get carried away with lots of interesting avenues that distract from your work, but by including those in your paper, you are inviting more criticism from reviewers.

"Don't succumb to the tendency to include every result you've ever obtained just because you conducted an analysis and don't want to 'forget' about it. There is such a thing as having too many results, and nothing is worse than being led down one path before encountering a result that breaks the overall thread and sets the reader/reviewer/editor on a tangent away from the main story."

- Daniel Stouffer, University of Canterbury, New Zealand
Associate Editor, *Journal of Animal Ecology*

Write in an active, positive voice e.g. 'We found this…' 'We did this…'. Be direct so that your message is clear – ambiguous writing is another invitation for reviewers to disagree with you.

When a senior editor assesses your paper for peer review, they will be looking at whether your question is one that is worth asking. In your introduction, state that your research is timely and important and why. Begin each section with that section's key message and end each section with that message again plus further implications. This will place your work in the broader context that high-quality journals like.

Draft and redraft your work to ensure it flows well and your message is clear and focused throughout. Keep the reader in mind at all times. Take a step back from your research and try to see it from the point of view of someone hearing about the work for the first time. After spending months or years doing the research and analysing the results, it can be tempting to dive right in to the details. Instead, set the context and guide the reader through logical steps to your conclusions.

Writing your manuscript

"The context of what you do is integral for maintaining the reader's attention and concentration; so don't write a methods section that feels like a list of bullet points (or a recipe from a cookbook) or a results section that feels like a barrage of summary statistics and p-values. The benefit of each additional 'In order to test where there was a relationship between X and Y…' or 'When we ran analysis W in order to test Z…' can be tremendous, as can making the methods and results feel like a fluid part of the narrative. It also helps avoid the frustrating dance of flipping from the results back to the methods to remind oneself about the point of everything."

- Daniel Stouffer, University of Canterbury, New Zealand
Associate Editor, *Journal of Animal Ecology*

Box 2. The art of writing

There are two key principles to effective communication in scientific writing:

1. Write in statement form: e.g. Dogs bites man.

2. State first and then explain qualifying detail – do not mix the detail into the sentence as the message will become diluted. Put as much detail as possible in tables or figures.[11]

[11] Andrew Moore: *Introduction to Publishing for Early Career Researchers*. Wiley webinar. See **Resources**.

Writing your manuscript

On being thorough

"Don't gloss over ideas or data, either when writing your article or when in response to a reviewer. It will be picked up and criticised."

- Sophie Evison, University of Sheffield, UK

"Don't try to paper over any major limitations. If limitations are not acknowledged, reviewers will hone in on them. Discussing limitations can help to head off criticism and guide future research."

- Joseph Bennett, Carleton University, Canada
Associate Editor, *Journal of Applied Ecology*

"Don't make assumptions without substantive evidence, nor take shortcuts, people will notice!"

- Alice Hughes, Chinese Academy of Sciences, China.
Associate Editor, *Journal of Animal Ecology*

"Don't submit a paper that has a defensive discussion section that focuses almost entirely on caveats (aka, what you would've done differently if you started all over again) instead of focusing on how your paper fits into the broader literature and what it suggests as the next steps forward. Yes, you need to be upfront about critical potential points of contention as opposed to hiding them; however, the reviewers will always find something that is 'wrong' with your study – that you'll likely have to shoehorn into a paper that is already pushing the word limit! – so there is no benefit in giving them a loaded gun to shoot with as well."

- Daniel Stouffer, University of Canterbury, New Zealand
Associate Editor, *Journal of Animal Ecology*

Writing your manuscript

Keywords

Keywords are used by readers to discover your paper. You will increase the chances of your paper being discovered through search engines by using them strategically throughout your paper – this is search engine optimisation (SEO). Think of the words you would search for to bring up your paper in a Google search. Try it and see what comes up – are there papers that cover similar research to your own?

Assessing biodiversity in forests using very high-resolution images and unmanned aerial vehicles

Keywords: **biodiversity**; coarse-filter approach; **forest** understorey; gap shape complexity index; **unmanned aerial vehicles**

Summary

1. Structural **diversity** and niche differences within habitats are important for stabilizing species coexistence. However, land-use change leading to environmental homogenization is a major cause for the dramatic decline of **biodiversity** under global change. The difficulty in assessing large-scale biodiversity losses urgently requires new technological advances to evaluate land-use impact on diversity timely and efficiently across space.
2. While cost-effective aerial images using have been suggested for potential **biodiversity** assessments in **forests**, correlation of canopy object variables such as gaps with plant or animal **diversity** has so far not been demonstrated using these images.
3. Here, we show that aerial images of canopy gaps can be used to assess floristic **biodiversity** of the **forest** understorey. This approach is made possible because we employed cutting-edge **unmanned aerial vehicles** and very high-resolution images (7 cm pixel−1) of the canopy properties. We demonstrate that detailed, spatially implicit information on gap shape metrics is sufficient to reveal strong dependency between disturbance patterns and plant **diversity** (R2 up to 0·74). This is feasible because opposing disturbance patterns such as aggregated and dispersed tree retention directly correspond to different functional and dispersal traits of species and ultimately to different species **diversities**.
4. Our findings can be used as a coarse-filter approach to conservation in **forests** wherever light strongly limits regeneration and **biodiversity**.

Fig 3. The use of both diversity and biodiversity throughout is good as people may search on both terms to look for the same thing. It would have been good to use 'unmanned aerial vehicles' once or twice more, but overall, the SEO of this paper is very strong – it is the top ranking paper in a Google Scholar search for 'biodiversity unmanned aerial vehicle'.[12]

[12] Getzin, S. Wiegand, K. , Schöning, I. (2011) Assessing biodiversity in forests using very high-resolution images and unmanned aerial vehicles. *Methods in Ecology and Evolution*, **3**, 397–404.

Writing your manuscript

Build up a list of 15–20 terms relevant to your paper, using the common form for each word (e.g. 'water' as opposed to 'H_2O' – remember to appeal to as broad an audience as possible), and divide them into two groups: a core group of around 5 keywords, and a larger group of secondary keywords. Place your core keywords in the title, abstract and subheadings, and the secondary keywords throughout the text and in figures and tables. Repeat keywords in the abstract and text naturally. Search engines will not include papers that try to 'cram' keywords.

Statistics

Authors often make elementary errors in their statistics. Seek statistical advice, ideally at the sample design stage. This will not only improve your research, but also mean you can avoid the worst case scenario of having your entire study invalidated when a statistically well-versed reviewer uncovers a fatal error at publication stage.

Data archiving

Many journals now mandate that data used in papers to support results must be archived in an appropriate public repository. Check the journal's policy on this for exact requirements, rules for any exceptions from mandates, suggested repositories and instructions on how to cite archived data in your paper. It is good practice to think about how you will manage your data and preserve them for future research before you begin your research project – read the BES's ***A Guide to Data Management in Ecology and Evolution*** (**Resources**) for useful tips.

References

Reference all sources and do it as you go along, then tidy them once the paper is complete. There are many programmes out there (e.g. Bibdesk, EndNote, Mendeley, Reference Manager, Zotero) which simplify the process by ensuring consistency and which automatically update as you modify your paper but errors can still slip through so always check before submitting your paper. Make sure that most of your references are recent to demonstrate both that you have a good understanding of current literature, and that your research is relevant.

Figures and tables

Figures and tables enhance your paper by communicating results or data concisely. Use them to maintain the flow of your narrative – e.g. instead of trying to describe patterns in your results, create a figure and say 'see **Fig. 1**'. Not only does this keep your word count down but a well-designed figure can communicate a key message more effectively than writing in prose ("a picture paints a thousand words"). Figures are

useful for communicating overall trends and shapes, allowing simple comparisons between fewer elements. Tables should be used to display precise data values that require comparisons between many different elements.

Figure legends and table titles should explain what is presented and highlight the key message of this part of your narrative – the figure/table and its legend/title should be understandable in isolation from the rest of your manuscript.

When designing both figures and tables, keep in mind that they may be resized or adjusted by the typesetters for final publication so, keep them clear and simple. Print journals tend to charge for colour figures, so if you do not plan to pay for this, make sure that your figures are still legible in grayscale. Check the journal's author guidelines for details on table formatting, appropriate file types, number of tables and figures allowed and any other specifications that may apply. Cargill & O'Conner (**Resources**) has a useful chapter on creating effective figures and tables.

"Put lots of thought into your central figure or table – design it so it stands alone with a strong message (imagine someone cutting it out to use in a talk – would they want to?)"

- Julia Jones, Bangor University, UK. Associate Editor, *Journal of Applied Ecology*

"Don't include lots of figures all saying pretty much the same thing – think about how to present work concisely, ideally, to get the key results in a single figure."

- David Warton, University of New South Wales, Australia.
Associate Editor, *Methods in Ecology and Evolution*

"Make sure that your figures and tables are well prepared. They should stand alone from the paper. So many manuscripts I have reviewed have been let down by poor quality figures."

- Jill Edmondson, University of Sheffield, UK

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Complications around copyright often arise when you don't expect it to be an issue. For example, screen grabbing from Google Earth or searching for icons or line drawings online and pasting them into your own figure is not acceptable. Always check the license for any imagery that you do not create yourself.

Editing

Once you have finished writing, leave your paper alone for a week so you come back to it with fresh eyes. Take your time to read it through. Editing can take more time than you expect, but this is your opportunity to fine-tune and submit the best paper possible. Key things to look out for when editing include:

- Spelling and grammar – a surprising amount of errors slip through. If you are a non-native English speaker, ask a native speaker, ideally a colleague who knows a little bit about the subject, to read it through, or use a language-editing service if you have the funds to do so.
- Make sure all statements and assumptions are explained.
- Remove redundant words or phrases – keep it concise and jargon-free to avoid diluting your message.
- Abbreviations – check that they have been expanded on the first use.
- Acknowledgements – make sure all funders are clearly mentioned and that all people who contributed in any way are acknowledged. Refer to the COPE guidelines on authorship for criteria on those who should be listed as an author vs those who should be acknowledged.
- Keywords – they should be consistent, evenly spaced throughout the text and placed at key points in your manuscript e.g. subheadings.
- Finally, make sure you have specifically dealt with the hypothesis set out in the introduction – you'd be surprised at the number of papers submitted that don't!

Pre-submission peer review

"Don't underestimate informal feedback. I circulate all my manuscripts to colleagues, students, and on preprint servers. I ask for advice on Twitter. This helps iron out the minor quirks that can irritate reviewers, or can even result in major changes."
- Timothée Poisot, Université de Montréal, Canada
Associate Editor, *Methods in Ecology and Evolution*

"Have someone from a slightly different discipline read your paper to ensure it's comprehensible and not too jargon laden"
- Alice Hughes, Chinese Academy of Sciences, China
Associate Editor *Journal of Animal Ecology*

"Before publishing my first paper, I wish I'd known the value of harsh pre-submission reviews. Scientific writing is quite precise, and my initial attempts at it were rambling and opaque. Without tough but extremely helpful reviews from my MSc and PhD supervisors, there is no way my first efforts would have been published."
- Joseph Bennett, Carleton University, Canada
Associate Editor, *Journal of Applied Ecology*

"Whenever possible, ask colleagues to read your manuscript before submitting. The power of 'fresh eyes' can never be underestimated."
- Sophie Evison, University of Sheffield, UK

"Make sure that your submission is polished. Numerous silly mistakes can jade reviewers. These people know who you are but you don't know who they are. This could have unforeseen consequences for your reputation."
- Michael Hochberg, CNRS, Université Montpellier 2, France
Founding Editor, *Ecology Letters*

"Be excited about your research and submit a well-written manuscript based on thorough analyses. Certainly do not rely on reviewers and editors to get your manuscript into proper shape. To achieve this, have your manuscript read by colleagues/lecturers/professors who can provide good feedback on your topic and the fit with the journal you're aiming for. If asked nicely, even very busy professors will read your manuscript and often provide crucially useful feedback."
- Luca Borger, Swansea University, UK
Associate Editor, *Journal of Animal Ecology*

Submitting your paper

You are now ready to submit your paper to your chosen journal. Each journal will have a different submission procedure that you will have to adhere to, and most, including the BES journals, manage their submissions through online submission systems such as ScholarOne Manuscripts, Editorial Manager or other proprietary platforms. Although these systems are fairly easy to navigate, be prepared to enter quite a lot of data during the submission process, such as funding details, data archiving details, all author affiliations and contact details, etc. The system being used will prompt you for all necessary information and you can always contact the journal's editorial office if you have any questions during this process.

Only submit your paper for consideration to one journal at a time otherwise you will be breaching publishing ethics. The reviewer pool is small and you will get found out – this could have serious implications on your career.

Cover letters

A great cover letter can set the stage towards convincing editors to send your paper for review. Write a concise and engaging letter addressed to the editor-in-chief, who may not be an expert in your field or sub-field. The following points should be covered:

- State your key message and why your paper is important and relevant to the journal.
- State that your paper is not under review in another journal and hasn't been published before.
- Double-check that you are addressing the editor of the journal you are submitting to and not the one you were rejected from before!
- The cover letter should be shorter than your abstract and be written in less technical language.
- Use it to recommend reviewers (include their emails) and/or a relevant handling editor. Pick suggested reviewers with a good reputation to demonstrate both your knowledge of the field and your belief that your paper can stand up to their scrutiny.
- There may also be good reasons for asking a journal NOT to have your work reviewed by certain researchers, e.g. if you are in a competitive situation with them with regards to your research. Mention this or any other reasons you may have for listing non-preferred reviewers in the cover letter as well. Note, however, that journals are not required to avoid non-preferred reviewers or invite your suggested reviewers to give feedback on your work.

- Any other information necessary to communicate to the editorial office/ editor e.g. why you are unable to archive data or a justification if you have gone over the word limit.

Once your paper has been submitted you should receive a confirmation email from the editorial office to say it has been received. Your paper is now under peer review (**Fig. 2**). To read more about how this process works or indeed what to consider when reviewing papers yourself, read the BES's ***A Guide to Peer Review in Ecology and Evolution*** (**Resources**).

If you do not hear from the editorial office for some time (e.g. longer than their advertised time to decision), there is no harm in contacting them for an update.

Handling revisions

Very rarely is a paper immediately accepted – almost all papers undergo at least one round of revision before they get published. If a decision comes back asking for revisions you should reply to all comments politely – not answering comments or being rude in your response will harm your reputation. Here are some tips on handling reviewer comments and revising your paper:

- Look at the reviewer comments with scrutiny and make a list of all the points that need to be addressed (reviewer comments may come in list or narrative form).
- Start with the minor revisions such as spelling, grammar, inconsistencies – these are often the most numerous but the easiest to correct.
- If you disagree with certain comments, disagree politely and with evidence. Do not skip over them when writing your reply.
- If things can't be dealt with in this paper then explain that to the editor – reviewers may try to push their own agenda e.g. 'why don't you write this paper instead', but you have the right to disagree if you don't feel it is appropriate to deal with this in your paper.
- Do not simply respond to all the comments by adding text and making your paper longer – replace and update to keep within the word limit of the journal.
- Respond to comments as thoroughly as you can.
- Include a point-by-point response to the reviewer comments in the relevant section of the online system.

Fig. 2. Peer review workflow and roles.

Submitting your paper

Handling rejection

Reviewers are volunteers but the service they provide is invaluable – by undergoing peer review, regardless of the outcome, you are receiving some of the best advice from leading experts for free. With this in mind, any feedback you get will be constructive in the end (even if not phrased in the most constructive way) and will lead you on the way to a successful publishing portfolio. Keep in mind that feedback is another person's opinion on what you have done, not on who you are, and it is up to you to decide what to do with it.

"Papers get rejected ALL THE TIME. If your paper gets rejected, it is absolutely not a personal failure, it happens to everyone at some point. You should always take reviewer and editor comments as positive criticism, they will only help to improve the paper, get you thinking about your data in a different way or help you to maximise your audience by suggesting submission elsewhere"

- Katie Field, University of Leeds, UK
Associate Editor, *Functional Ecology*

"Rejection is the rule". Most of the time your paper is going to get rejected, or at least require a lot of revision before acceptance. Be prepared for this, and don't let it get you down! It's the same for everyone, no matter how long they've been writing papers, so don't take it as a sign that your paper is no good. It's a normal part of the publishing process."

- Natalie Cooper, Natural History Museum, UK
Associate Editor, Methods in Ecology and Evolution

"Don't take rejections as personal failure. If you never get rejected, this means you are not aiming high enough."

- Luca Borger, Swansea University, UK
Associate Editor, *Journal of Animal Ecology*

"Reviewer criticism and rejection can be extremely discouraging, especially when you see your paper as your crowning achievement to date. Before I published my first paper, I wish I'd paid attention to the fact that the reviewer's mandate is to improve a paper, not to lavish it with praise."

- Daniel Stouffer, University of Canterbury, New Zealand
Associate Editor, Journal of *Animal Ecology*

Submitting your paper

If your paper is rejected look at the reviewer's comments and use their feedback to improve your paper. If you submit your work to another journal without revising your paper it may either go out to different referees and could be rejected with similar comments, or it may get sent to the same referees who will notice it has not been revised and instantly reject it. It is always best to revise your paper after any comments are received.

Appeals

If you are unhappy with a reject decision, 99.9% of the time, move on. However, don't be afraid of appealing if you have well-founded concerns or think that the reviewers have done a bad job. Editors are busy people and, although they will have analysed the reviewer comments carefully, they cannot evaluate them with the same level of scrutiny that you do and in most cases they also don't have your specific subject knowledge. There are instances where journals grant your appeal and allow you to revise your paper, but in the large majority of cases, the decision to reject will be upheld. Appeal processes tend to take a long time as dealing with other manuscripts in the peer review process generally takes priority for editorial offices and editors. It is therefore worth considering carefully before you submit an appeal whether you really do have a case or whether you are simply disappointed and unsatisfied with the decision. If you do decide to appeal, contact the editorial office with a clear and polite justification for your appeal. Don't send an angry email!

Acceptance and publication

Congratulations! By now you should have an acceptance email from the editor-in-chief in your inbox. The process from here will vary according to each journal, but the BES journals post-acceptance workflow is as follows:

- Your paper will be published online, unedited, but citable as an 'Accepted Article' within a week of acceptance.
- Your paper will be copyedited. The level of copyediting your paper will receive will vary according to each journal, so it is worth checking your proof thoroughly.
- Your paper will be typeset and a proof will be sent to you for checking. Author queries will be marked on the proof. At this stage, only minor corrections related to the typesetting are allowed, e.g. figure placement, unintentional changes to the meaning of a sentence as a result of copyediting. Take your time over this as once you have finalised your proof, **no further corrections can be made**. If you notice fundamental mistakes in the final published paper, you can only correct these through a corrigendum or erratum, which is a separate publication.
- Your finalised proof will be published online in 'Early View'.
- Finally, according to the journal's schedule, your paper will be placed in an issue.

At the BES we keep an eye out for press-worthy articles. If your paper has been picked for a press release, or if your institution would like to do a press release around your paper, we will coordinate the publication of your paper with your press release date (it will be held out of Accepted Articles and published, most likely in Early View, on a pre-agreed date).

As well as press releases, you may be approached by editors or the editorial office to write a blog post, be featured as an 'Editor's Choice,' or even be interviewed for a podcast. Papers are also promoted through the journals' social media channels. There are numerous ways we can all work together to increase your research profile and get your paper read – this will be covered in a future **BES Guide**.

Acceptance and publication

"There is a lot of benefit to using social media to improve research impact – if your journal has a YouTube channel or a blog, make use of it!"

- David Warton, University of New South Wales, Australia
Associate Editor, *Methods in Ecology and Evolution*

"When you produce a manuscript you believe to be of importance and general interest, make sure you also produce a press release highlighting your research findings. This can generate interest within the media and get your research out beyond the scientific community."

- Jill Edmondson, University of Sheffield, UK

Resources

British Ecological Society (2013) *A Guide to Peer Review in Ecology and Evolution* – for an overview of the peer review process.

British Ecological Society (2014) *A Guide to Data Management in Ecology and Evolution* – for advice on best practice on all aspects of data management.

Cargill, M. & O'Connor, P. (2014) *Writing Scientific Research Articles*. Second edition, Wiley-Blackwell, UK. – for in-depth advice and exercises to help scientists overcome the challenge of how to write, as well as what to write, to maximise their chances of publishing in international journals.

COPE http://publicationethics.org/ – for general information on publishing ethics.

COPE: *How to handle authorship disputes: a guide for new researchers*
http://publicationethics.org/files/2003pdf12_0.pdf – for information on authorship.

Fox, C. & Burns, C.S. (2015) The relationship between manuscript title structure and success: editorial decisions and citation performance for an ecological journal. *Ecology and Evolution*, 5, 1970–1980. – research into the success of titles.

methods.blog: *Choosing Where to Submit: Is Your Manuscript Right for MEE?* https://methodsblog.wordpress.com/2015/09/02/choosing-where-to-submit/ – advice on how to work out whether one journal, Methods in Ecology and Evolution, is the best place for your paper.

Moore, A. *Writing Science Well: Techniques, tips and pitfalls*.
http://www.wiley.com/legacy/wileyblackwell/gmspdfs/69204eBookECR/#/1/ – a free ebook on writing clearly and engagingly. Explains common grammar mistakes using real examples from journal publishing.

Wiley Author Services Webinar: Introduction to Publishing for Early Career Researchers https://www.brighttalk.com/webcast/11201/124937 – four editors talk through selecting a journal, writing, the peer review process, and promoting your paper.

Wiley Author Services Webinar: *What Makes a Good Abstract and More...*
https://www.brighttalk.com/webcast/11201/154803– editors and marketing experts explain the importance of SEO and making articles discoverable.

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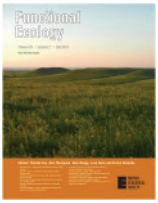

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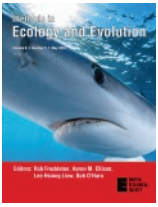

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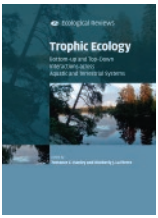

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