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Ambio fit for the 2020s

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Environmental challenges and the way we frame and research them are changing, as are the channels for successful transfer of scientific knowledge into decision-making. In a time where novelty is often the beacon leading funding, research and publication, revisiting the archives and going back to the roots of current discussions offer an opportunity to reflect on what got us to where we are today. *Ambio's* 50th anniversary in 2021 gave us a reason to look back at how *Ambio's* scope and coverage have changed over time and to start a discussion about how *Ambio* can remain relevant for science *and* policy in the future. *Ambio* is growing steadily, and we see an increasingly broad range of methodological approaches and use of different sources of evidence. This is encouraging; our ambition is to support multi- as well as inter- and transdisciplinary science on the interrelationships between the environment and society. At the same time, the field of sustainability science and applied social-environmental research is growing rapidly and with it comes many potential outlets for publishing work within *Ambio's* approximate niche. In this increasingly mixed and busy field, we work constantly to ensure that *Ambio* remains recognized as a leading forum for high quality science based on a broad foundation of knowledge at the interface of society and the environment.

Where are we in this work? In 2021 we discussed with our advisory board *Ambio's* aims and scope, article formats, the editorial and peer review processes and more broadly where sustainability science and the study of social-environmental interactions is moving. In this editorial we will outline some of the changes that stem from these discussions. Some of these we have already implemented and others we will try out during 2022.

First, we have updated the *Ambio* author guidelines to explicitly state that “our articles present research to help understand contemporary sustainability changes and how proposed solutions may be implemented”, a change also reflected in the new subtitle “A Journal of Environment and Society”. Furthermore, we emphasize that *Ambio* 1) publishes

research on the interrelationships between the environment and society and 2) encourages multi-, inter- and trans-disciplinary research with explicit management and policy recommendations. To accommodate different writing traditions and disciplinary standards we now offer an opportunity to include an explicit 'Theoretical framework section' for clarifying theoretical assumptions that might not always be evident to our broad readership. We also emphasize that one of the core qualities we look for in a submission is a discussion about the disciplinary-specific and cross-disciplinary novelty of the study in relation to the existing body of literature that it engages with.

Second, the increasing recognition of human influence on all biophysical processes - together with our aim to increasingly promote interdisciplinarity - is reflected in the composition of our editorial board. We now have more editors with backgrounds in the social sciences and humanities and we are continuously reviewing our editorial work to ensure *Ambio's* quality and scientific rigour. Here we have identified a couple of priority areas, including continued work to ensure methodological robustness of all publications, from targeted disciplinary basic research to solution-oriented applied transdisciplinary work. The strategy for making improvements within these priority areas includes greater communication between editors and advisory board members, tapping into the broad and deep collective expertise, and internal discussions on 'scientific quality' and standards for submissions coming from different disciplines and traditions.

Third, another priority for the editorial team is to make sure policy recommendations and suggested practical solutions are robustly grounded in evidence. Insights from, among other fields, basic qualitative social science, action-oriented research and knowledge co-production, along with recognition of non-scientific knowledge systems and expertise, have led to an improved interdisciplinary and pluralistic understanding of how different stakeholders can and need to be involved in a social-environmental problem solving. An increasing number of journals and other dissemination venues make claims to supporting this development and being open to consider evidence from different knowledge systems, but the support needs to be backed by carefully developed standards, documentation protocols and procedures understood as legitimate by academia as well as the rest of the society. This is particularly critical in a time of political populism, anti-science movements, and active misinformation campaigns. We will continue to investigate ways to ensure (e.g. by, possibly, inviting non-academic reviewers to look at suggested

‘solutions’) that all contributions to *Ambio* are critically and fairly examined, from the evidence base and analyses to the feasibility and grounding of the conclusions and recommendations.

Fourth, we believe there is a need for a new forum for cross-examining and contrasting important ideas, concepts, and results of research embedded in complex social-environmental contexts. The backbone of the 50th anniversary volume was formed by the collection of anniversary thematic articles featuring environmental problems such as decomposition of the ozone layer and biodiversity conservation, as well as broad phenomena like urbanization and the Anthropocene. Novel to *Ambio*, the anniversary collections combined author reflections with peer perspectives in a critical cross-examination, providing an opportunity to both look back at how our understanding has grown, and to take stock of where we are today and look forward. We will continue to explore this space for multiple interpretations through a new initiative called *thematic features*, actively curated by *Ambio* editors and advisory board members. We have decided not to introduce any new article types, instead we will continue to make use of our *Perspective* format. *Perspectives* are full-length and peer reviewed contributions that provide a forum for authors to propose alternative ways of synthesizing and analysing already published evidence and share thoughts on topical environmental issues, ideas, or models based on their understanding of the field. About 20% of all published articles in 2019 were *Perspectives* and the relatively high number of citations (on average 14.25 compared to 9.18 for research articles, see Fig. 1) give clear evidence that this article category is in demand.

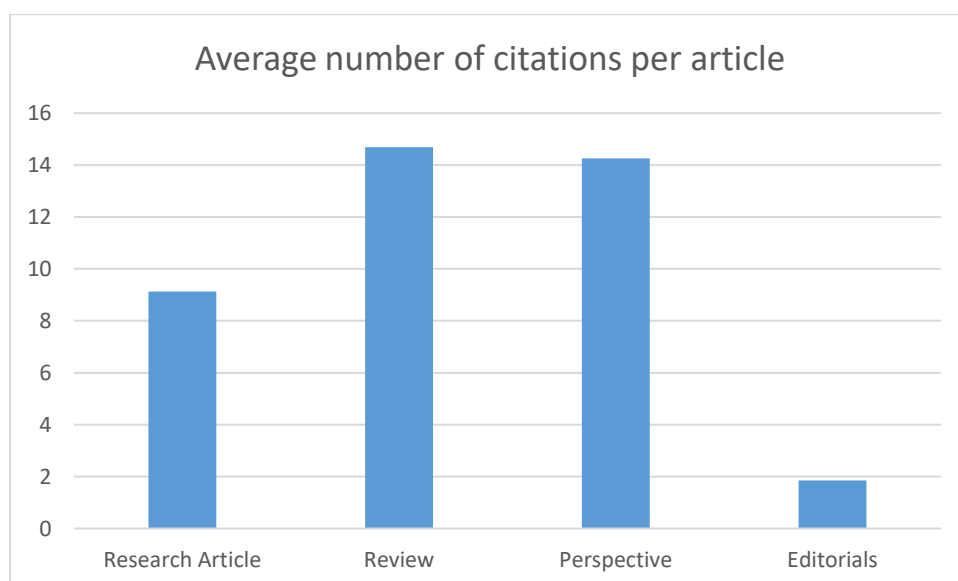


Figure 1. Average number of citations per article category based on volumes 48, 49 and first three issues of volume 50 (based on 218 Research articles, 48 Reviews, 49 Perspectives and 14 Editorials). Data retrieved from Clarivate Analytics on December 20, 2021.

The new thematic features will be centred around 2-3 *Perspective* papers (for the first thematic feature by invitation only, later potentially 1-2 commissioned papers plus 1 contribution from an open invitation) offering different approaches and ways of looking at an issue. These will be accompanied by a minimum of two *Comments* reflecting on and adding to the *Perspectives*. Pre-proofs/proofs of the *Perspectives* will be made available to editors and advisory board members, who will be asked to add a first round of *Comments* reflecting on the points made in the *Perspectives*. These *Comments* will be included in the thematic feature, and, as with all publications, additional *Comments* can be submitted at any time after the thematic feature has been published for later publication and a continued discussion. The final thematic feature will be introduced by a longer *Editorial*.

The 50th anniversary has come and gone. But as this editorial has made clear - this was not 'it', the work continues. We have gained new inspiration through the anniversary celebrations to continue publishing high-quality, relevant and multi, inter-, and transdisciplinary science for sustainability in the years to come. The outlined changes in the *Ambio* editorial work we hope will help us achieve our goals of contributing with robust, pluralist, and actionable knowledge to policy and decision-making for taking better care of our planet.

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