BISS Biodiversity Information Science and Standards

Biodiversity Information Science and Standards 8: e132930
doi: 10.3897/biss.8.132930

OPEN ACCESS

Conference Abstract

What Is Sustainability? A Reflection From the Perspective of Biodiversity Informatics

Giuditta Parolini‡, Mareike Petersen‡

‡ Museum für Naturkunde, Leibniz Institute for Evolution and Biodiversity Science, Berlin, Germany

Corresponding author: Giuditta Parolini (giuditta.parolini@mfn.berlin)

Received: 23 Jul 2024 | Published: 07 Aug 2024

Citation: Parolini G, Petersen M (2024) What Is Sustainability? A Reflection From the Perspective of Biodiversity Informatics. Biodiversity Information Science and Standards 8: e132930. https://doi.org/10.3897/biss.8.132930

Abstract

In recent years, the word sustainability has been used in multiple domains ranging from finance to packaging, and the list of products and activities claiming to be sustainable grows day after day. However, a general and unambiguous definition of the term sustainability is not available and might not even be advisable because sustainability is a multifaceted concept that takes its meaning from the context of use and cannot provide a set of rules applicable everywhere (Ramsey 2015). Therefore, it remains a task for all the fields that strive to be sustainable to carve out a working definition that suits their needs.

Addressing the meaning of sustainability in biodiversity informatics requires paying special attention to the data practices and infrastructures of this discipline. Over time, there has been a steep increase in the amount of biodiversity data created and shared and, at the same time, a rapid proliferation of use cases for biodiversity data. For instance, fields as different as spacial planning (Underwood et al. 2018), climate change research (Hirsch 2017), and finance (Elliot et al. 2024) rely now on biodiversity data. This growth can become unmanageable for biodiversity science, if its data practices and infrastructures do not scale up efficiently and are not sufficiently flexible to cater to the needs of a larger and more varied group of stakeholders.

Biodiversity informatics has mainly addressed the financial sustainability of its infrastructures so far (Cook and Cochrane 2023; Kalfatovic et al. 2023). However, environmental and social sustainability are equally important to ensure that biodiversity science achieves its full potential. For instance, data infrastructures with lower

environmental impact typically require less electricity to run continuously, and this will save money in the long run, especially at times of significant fluctuations in energy prices. Again, if biodiversity data are collected and shared while keeping in mind the necessities of multiple stakeholders, the user community will become larger and this, in turn, will offer the chance to develop fairer cost contribution agreements for running data infrastructures. More examples could be added to make the case that the three pillars of sustainability—economy, society, environment (Purvis et al. 2018)—are all equally relevant when examining data practices and infrastructures in biodiversity science.

Hence, there is a need to open up a discussion on sustainability within the biodiversity community, and to promote an exchange on the topic among different stakeholders interested in biodiversity data and working with them. A community effort is required to agree upon an effective definition of sustainability in biodiversity informatics. Only such a community effort can translate this definition into practical criteria and recommendations for the sustainability of biodiversity data and infrastructures, and set milestones for their implementation.

The Society for the Preservation of Natural History Collections and Biodiversity Information Standards (TDWG) are authoritative members of the biodiversity community. The aim of the talk is to involve their members in the discussion on data practices and infrastructures, addressing all the three pillars of sustainability: economy, society, and environment.

Keywords

economy, society, environment, community effort

Presenting author

Giuditta Parolini

Presented at

SPNHC-TDWG 2024

Funding program

Scientific Library Services and Information Systems (LIS)

Grant title

Promoting sustainable data practices and infrastructures in biodiversity science (Grant No. 528674292)

Hosting institution

Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science

Conflicts of interest

The authors have declared that no competing interests exist.

References

- Cook C, Cochrane G (2023) The Global Biodata Coalition: Towards a sustainable biodata infrastructure. Biodiversity Information Science and Standards 7 https://doi.org/10.3897/biss.7.112303
- Elliot V, Jonäll K, Paananen M, Bebbington J, Michelon G (2024) Biodiversity reporting: standardization, materiality, and assurance. Current Opinion in Environmental Sustainability 68 https://doi.org/10.1016/j.cosust.2024.101435
- Hirsch T (2017) Biodiversity Data for Climate Change Research and Policy. The Lima Declaration on Biodiversity and Climate Change: Contributions from Science to Policy for Sustainable Development. Secretariat of the Convention on Biological Diversity. CBD Technical Series No. 89. URL: https://www.cbd.int/doc/publications/cbd-ts-89-en.pdf
- Kalfatovic M, Crowley B, Dearborn J, Funkhouser C, Iggulden D, Trei K, Herrmann E, Merriman K (2023) Safeguarding Access to 500 Years of Biodiversity Data: Sustainability planning for the Biodiversity Heritage Library. Biodiversity Information Science and Standards 7 https://doi.org/10.3897/biss.7.112430
- Purvis B, Mao Y, Robinson D (2018) Three pillars of sustainability: in search of conceptual origins. Sustainability Science 14 (3): 681-695. https://doi.org/10.1007/s11625-018-0627-5
- Ramsey J (2015) On Not Defining Sustainability. Journal of Agricultural and Environmental Ethics 28 (6): 1075-1087. https://doi.org/10.1007/s10806-015-9578-3
- Underwood E, Taylor K, Tucker G (2018) The use of biodiversity data in spatial planning and impact assessment in Europe. Research Ideas and Outcomes 4 https://doi.org/10.3897/rio.4.e28045