Fifteen years of Landscape Online: Looking back at the development of an e-journal

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It has been 15 years by now that the International Association for Landscape Ecology – Chapter Germany (IALE-D) launched Landscape Online. At the time of its first publication in 2007, to the best of our knowledge, it was one of the first open access peer-reviewed scientific e-journals in the field of Landscape Ecology. Over the last 15 years, it evolved from an idea driven by the German-speaking IALE community in Germany, Austria and Switzerland to a wider established journal linked to the international IALE community supported by partners across the world. In this Editorial, we (1) present the journal’s development and the regional distribution of authorships, (2) reflect on the topics addressed by the articles published, and (3) outline the latest developments in the light of continuities and changes.

1 Introduction

From the beginning, Jörg Löffler took care of the journal as Editor-in-Chief together with Managing Editor Ole Rössler. The initial idea of the IALE chapter Germany was to offer an international peer-reviewed journal that is open access and subscription free to everyone. The thematic focus was set on landscape research, scientific, educational or applied aspect of processes, dynamics, indicators, controllers and visions related to landscapes. It also aimed to emphasise the coupling of societal and natural systems, not only the involvement of human impact on landscape systems but also human perceptions and values as well as the evaluation of landscapes. Furthermore, articles with interdisciplinary or transdisciplinary appeal were invited that deal with landscape theories, system approaches and conceptual models of landscape. In addition, one initial idea of this journal was to support doctoral students, offering them an opportunity for timely publishing research as part of their thesis. In total, 106 articles have been published in Landscape Online since 2007 by 236 authors and co-authors from 33 countries (Figure 1). After the first call for contributions was opened in 2006, two articles were published in 2007. The first article addressed driving processes and adverse factors of treeline advance (Holtmeier and Broll, 2007), has been cited by more than 200 publications so far (95th percentile) and got a field-weighted citation impact of 3.88 according to Scopus. Within the next five years, 31 articles were published (on av-
average around six articles per year), with an acceptance rate of 56% (Figure 2). Ninety-two authors and co-authors from 14 different countries were involved in these publications, almost two-thirds from Germany. In 2012, Landscape Online reached a first milestone highlighting the achievements of these pioneering years: The journal became listed in Scopus by Elsevier – the largest abstract and citation database of peer-reviewed literature. By that time, Jörg Löffler handed the journal responsibility over to Roman Lenz who became the new Editor-in-Chief.

With the change in the Editorial, a number of changes went along during 2013, including a relaunch of the journal platform in 2014. The publishing agreements with authors were clarified, establishing open access policy under the terms of the Creative Commons Attribution License CC BY 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. Another development was the introduction of ‘Living Special Issues’ (LSI) as a new category that enables ongoing publication possibilities with specific thematic orientations in collected editions. The first LSI entitled ‘Concepts and Methods for Ecosystem Service Assessments’, was initiated in 2014 by Felix Müller as a joined collabora-

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**Figure 1.** Spatial distribution of authorship based on affiliations contributing to publications in Landscape Online from 2007-2022 (n=326).

**Figure 2.** Overview of articles, authorship and cite score of Landscape Online across three periods. (AF= Africa, AS=Asia; EU=Europe; NA=North America; OC=Oceania; SA=South America).
tion by IALE-D and the ESP (Ecosystem Partnership) working group on ‘Ecosystem Service Indicators’. Another innovation was that of the introduction of what has been called ‘review tandems’. Here, doctoral students are given the opportunity to function as reviewers, under supervision of experienced reviewers, e.g. by their doctoral supervisors. This perspective change enables the young scholars to learn about quality criteria of good scientific publications while gaining first experience as reviewers. This, in turn helps to improve own publication skills. While the number of publications in the journal dropped significantly during the transition year 2013, its number increased again to an average of six articles per year in the following period. Between 2013 and 2017, 24 articles were published with a significantly lower acceptance rate of about 43%. Despite the fact that 98 authors and co-authors came again from 14 different countries, a trend towards a more international authorship started to appear (Figure 2). Although the number of published articles remained at a very manageable level compared to other journals, its scientific impact in the field of ‘Nature and Landscape Conservation’ increased significantly. According to Scopus database, the journal reached the highest CiteScore 6.7 in 2017 (95th percentile) and was ranked within the top ten of all scholarly journals in this field (7 out of 124). After Angela Lausch permanently took charge of the journal as Editor-in-Chief during 2017, Roman Lenz handed over the editorial responsibility to Werner Rolf in 2019, who already supported the Editorial Management in the last years.

Since 2020, Werner Rolf builds a tandem together with Uta Schirpke as Co-Editors-in-Chief. During this time, the journal took another major transition. First, a new journal platform was implemented. From now on, Open Journal Systems (OJS) from Public Knowledge Project (PKP) facilitates the entire editorial management workflow and allows to better deal with the increasing number of manuscripts. OJS also supports a number of tools to professionalise the journal, such as the management of the whole review process, indexing processes with a number of databases for scientific literature, long-term archiving of all articles, as well as automated plagiarism check. Due to these developments, Landscape Online has been awarded the DOAJ Seal in 2022. The DOAJ – Directory of Open Access Journals awards the Seal as recognition to journals that adhere to an exceptionally high level of publishing standards and best practice open access. Besides these advances, the journal reached out to different international IALE chapters. In the meanwhile, several chapters support the journal, such as the regional chapters IALE-Europe and IALE North-America, besides national chapters from UK, Italy, Denmark, and Chile. With this, additional members were included in the editorial board. This led to a new and restructured editorial board and significantly increased its members, broaden the expertise and now represents the international IALE community and further experts in Landscape Ecology - from well-established scientists to early career scholars. Moreover, a recent study conducted by Mohammadi Hamidi et al. (2022) indicated the editorial board from Landscape Online as highly inclusive. In the field of land sciences, it ranked under the top three of all peer-reviewed journals and was even identified as the highest ranked peer-reviewed open-access journal with regard to gender equality. From 2019 until 2022, the number of articles increased significantly, averaging around ten articles per year. An increasing diversification and internationalisation is also reflected by the authorship, as 136 authors from 29 different countries elaborated the 51 articles with an acceptance rate of about 42% (Figure 2). Just about 10% of the authors were from Germany, while almost two-thirds originated from other European countries and 30% were from other parts of the world.

Although there is an increasing internationalisation of authorship, it is still a long way to go to promote exchange among authors of all parts of the world to strengthen the scientific discourse about global ecological challenges.

2 The development of topics

In agreement with the aims and scope of the journal, the articles published during the last 15 years addressed the major topic ‘landscape’ from different perspectives (Figure 3). On the one side, values and preferences mostly connected to the environmental features and specific places have been analysed
across different landscapes. Landscapes have also been studied through the lens of models including landscape metrics and landscape ecology concepts. On the other hand, changes in land use or ecosystems are an important topic that also relates to the broad field of ecosystem services. Looking more specifically at three main periods, several shifts in the most addressed topics indicate their high dynamics (Figure 4).

From 2007 until 2012, the topics were often related to geographical landscape research, topological ecological approaches and natural sciences. Articles addressed factors that affect ecosystems and species, e.g., change of treelines (Holtmeier, 2012; Holtmeier and Broll, 2007; Kullman, 2010; Öberg and Kullman, 2012; Szerencsits, 2012), diversity and compositions of vegetation (Mehmeti et al., 2009; Richter et al., 2009) abundance and distribution of avifauna (Riffell et al., 2012, 2008), and insects (Foley and Holland, 2010). Articles also focused on landscape metrics analysis (Bianchin et al., 2011; Herbst et al., 2009; Hoechstetter et al., 2008), including multiple dimensions and 3D-metrics (Drăguț et al., 2010; Stupariu et al., 2010), as well as further geostatistical approaches for landscape classifications (Schröder et al., 2007). In addition, articles discussed socio-ecological systems in different biomes and landscapes, e.g., in forests (Ritters et al., 2009), agricultural areas (Deumlich, 2012; Müller et al., 2008; Papendiek et al., 2012; Wiggering et al., 2008), coastal landscapes (Nunneri et al., 2008), mountainous regions (Nautiyal et al., 2010), and urban sites (Priego et al., 2008). These studies often aim to conclude management implications for sustainable landscape development. Furthermore, several articles discussed rather conceptual considerations in landscape ecology (Albert and Vargas-Moreno, 2010; Ferrari and Ferrarini, 2008; Naveh, 2009; Pauleit et al., 2010), introduced landscape functions (Bolliger and Kienast, 2010) and ecosystem services (Burkhard et al., 2009; Müller et al., 2010). The article ‘Landscapes’ capacities to provide ecosystem services - A concept for land-cover based assessments’ (Burkhard et al., 2009) has been evolved as the journals long-time citation ‘champion’, cited more than 550 times by now, with number of cites per year still increasing.

A topical shift appears in the period from 2013 to 2017. An increasing number of articles integrated approaches from social sciences, including socio-cultural valuation of landscapes and ecosystems, which is often related to agricultural landscapes and/or traditional land uses. Many of these articles are
clearly linked to the newly established Living Special Issue (LSI) on ‘Concepts and Methods for Ecosystem Service Assessments’. This LSI also contains the journal’s second long-time citation ‘champion’ addressing ‘Ecosystem service potentials, flows and demands-concepts for spatial localisation, indication and quantification’ (Burkhard et al., 2014) with currently around 450 citations. Articles published during this period cover a broad thematic spectrum, including the assessment and analysis of ecosystem services in agricultural landscapes (Bastian et al., 2015; Kandziora et al., 2014; Wiggering et al., 2016) and urban areas (Beichler et al., 2017; Hou et al., 2015). Other studies in the field of ecosystem services explicitly address cultural dimensions (Wangai et al., 2017), participatory approaches (Koschke et al., 2014), scenarios (Rosenberg et al., 2014) and monetary valuation (Bastian et al., 2015). There were several articles related to cultural valuations of landscape, including sacred sites in Morocco (Jäckle et al., 2013), meanings and symbolism of Persian gardens (Farahani et al., 2016), preferences of European mountain regions (Bacher et al., 2016), or about the traditional Umbrian landscape in Italy (Torquati et al., 2017). In addition, Zurlini et al. (2015) published a theoretical reflection on sustainable landscape development and value rigidity, demanding to reappraise values like in the case of ‘the Pirsig’s monkey trap’. However, comparatively few articles were published that had a rather direct natural scientific perspective, e.g., about the variability of vegetation due to climate change (Kullman, 2015), invasive pests (Schimmenti et al., 2017), aquatic Macrophytes (Brummer et al., 2017), and ecological assessments of biodiversity (Räsänen et al., 2015; Veselaj and Mustafa, 2015). Furthermore, several articles examined transition and landscape change with implications for sustainable landscape planning and development (Artmann and Breuste, 2014; Cabrera, 2015; Carlsson et al., 2017; Leibenath and Otto, 2014; Lüker-Jans et al., 2016; Schimmenti et al., 2017).

Some thematic shifts can also be noticed after 2018. An increasing number of articles focused on urban issues, such as accessibility of urban green space (Farahani et al., 2018), their perception and preferences (Farahani and Maller, 2018; Hami and Maruthaveeran, 2018; Yazdani, 2019), safety of urban parks (Lis et al., 2021), blue-green infrastructure (Pochodyła et al., 2021), urban trees (Al-Sulbi, 2019), and urban biodiversity (Moszkowicz et al., 2021). Furthermore, two new topics emerged that were also promoted by two new LSI’s launched during the IALE 2019 World Congress in Milan. The first LSI, ‘Implementing the Green Infrastructure (GI) Approach in Central Europe and beyond’ contains articles that present the breadth of the topic, ranging from GI in agricultural landscapes (Skokanová and Slach, 2020), protected areas (Drius et al., 2020), urban areas (Pochodyła et al., 2021) to mapping approaches using Pan-European high resolution layers (Danzinger et al., 2021). The other LSI initiated by the IALE-Europe working
group ‘Education in Landscape Ecology’ present studies about innovative learning and teaching approaches. First articles present lessons learned from the first worldwide accessible e-learning in Landscape Ecology (Kienast et al., 2020), insights about the integration of multiple perspectives in an urban ecology course (Hane and Korfmar, 2020), and experiences with interdisciplinary and intercultural students (Zerbe, 2020).

In contrast to these new topics, the topic around ecosystem services becomes less significant, although a number of publications are regularly published in the LSI (Augstburger et al., 2018; Kokthi et al., 2021; Scolozi et al., 2019; Wübbelmann et al., 2021; Želeny et al., 2020). Furthermore, a range of articles continues to focus on landscape structure and dynamics (Belda-Carrasco et al., 2019; Cieslak and Biłozor, 2022; Dekaraja and Mahanta, 2022; Flores et al., 2019; Gine, 2018; Istanbululy et al., 2022; Khoroshev, 2019; Oppermann et al., 2021; Schmalz and Kruse, 2019; Silva et al., 2020; Stoicescu et al., 2019), landscape vegetation and ecosystems (Botti, 2019; Carlier and Moran, 2019; Mustafa et al., 2018; Ojeda, 2018), landscape management (Buendía et al., 2021; Hanberry, 2022; MacDonald et al., 2020; Raatikainen, 2018; Siagian et al., 2022), and conceptual ideas in the field of landscape ecology (Helm and Buchroithner, 2018). In addition, articles address archaeological and sacred landscapes (Długozima, 2020; Puzdrakiewicz, 2020; Żemla-Siesicka, 2022), and landscape perception (Khaledei et al., 2022; Maz-zochci et al., 2019; Rodríguez Romero et al., 2019; Serrano-Montes et al., 2019).

3 Current and future developments

In 2021, a new LSI entitled ‘Syntheses from landscape-ecological research’ was launched, offering the opportunity to publish research results in a summarized way and to make the most important outcomes of the work accessible to researchers and practitioners. Hence, the summary of a thesis (PhD, habilitation, and master candidates and graduates) as well as project and research synthesis from research consortia and working groups are welcome for submissions. This LSI already includes three syntheses. The first one is about transformation pathways towards sustainable urban development by peri-urban farmland (Rolf, 2021). Another publication investigates the application of instrumental and deliberative approaches for a systematic integration of sense of place into spatial and landscape planning (Gottwald, 2022). The latest article presents spatial relationships and impacts of global change on ecosystem services in the European Alps (Schirpke, 2022). In addition, two further LSI’s have been launched recently. The first LSI ‘Assessment of intangible landscape values for landscape planning and design’ has been initiated as an outcome of the IALE 2022 European Landscape Ecology Congress in Warsaw, with currently eight manuscripts proposed for publication. In addition, the LSI ‘Italian landscapes towards 2030: Identity, Care and Perspectives’ has been just been launched by the Italian IALE Chapter SIEP.

Concluding the reflection of the last 15 years, the articles published in Landscape Online cover the breadth in the field of landscape ecology while roughly following general trends. In the future, we would like to promote more strongly socio-cultural aspects in the assessment and analysis of landscapes to foster on the one side the relevance of landscape ecology for society, on the other side the consideration of people’s perceptions and values in landscape assessment and planning. This includes a stronger focus on human-nature relationships, the consideration of landscapes as social-ecological systems and the application of interdisciplinary, transdisciplinary and participatory approaches. We encourage authors from all over the world to publish in Landscape Online to further widen the perspective. In this sense, we consider Landscape Online in first place for exchanging research findings and connecting the IALE community, while also linking theory and practice by presenting current research to a broad international readership.

In addition to the topical considerations, we envision the journal as an independent publication medium linked to the IALE community. Although we already received several requests from publishing houses to join, after careful consideration, we decided to remain independent and to maintain creativity to further develop the journal as a peer-reviewed
open-access journal for non-profit. We believe that this broadens the opportunity for publication within the field of Landscape Ecology and the IALE community, while having the freedom to introduce innovative publication formats. We further want to promote young scholars as a journal’s ‘DNA’. This idea goes beyond the invitation of young landscape ecologists to present their work, by promoting activities such as review tandems or offering the opportunity to gain first experience as editorial board members. One big remaining challenge is how to reach authors across the globe. A strong global landscape ecologists community can provide valuable contributions to the discussion on how to face global ecological challenges of humanity. Hence, we will need to critically reflect on how to strengthen scientific discourse between the Global North and Global South within this journal. We learned from some interested authors that submission fees in open-access journals can be a barrier. Thus, we also need to enhance journal policies that are more inclusive and link even stronger to the IALE community in these countries and with other chapters. We will set many efforts in further developing Landscape Online and we look very much forward to upcoming contributions.

Closing this Editorial, we take the opportunity to thank all the people and groups making this journal happened. We thank the International Association for Landscape Ecology – IALE and its community for its commitment and support in particular our journal partners, the IALE regional chapters IALE-Europe and IALE North America, as well as the national chapters of UK, Italy, and Chile. We owe many thanks to IALE-D taking the leading role as publisher of Landscape Online and we would like to thank all members of IALE-D for funding Landscape Online. We express our gratitude and appreciation to all the editors and reviewers as well as copy editors who bring the manuscripts in their final form but are rarely acknowledged. Finally, we are grateful to all authors and co-authors for their interesting contributions and hard work.

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