Restoration Ecology
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EDITORIAL

Restoration Ecology at 25 years: the editors reflect on how we got here

Restoration Ecology is celebrating its 25th year anniversary, with the first issue published in 1993. During these years the discipline has transitioned from a fledgling niche topic to a globally recognized, scientifically based solution for humans to respond constructively to damaged and destroyed ecosystems. The journal has had enormous growth from 260 printed pages per year in volume 1 to the current annual totals that exceed 1,000 pages, and has transitioned through four editors. Here, the three living editors describe the origins, growth, and impacts of the journal.

The origins of the terms "restoration ecology/ecological restoration" are hard to track accurately. The use of the term "restoration" is clearly used in documents relating to Dekalb County, Illinois, forests in 1940, it appears in notes from George Ward and Paul Shephard at Knox College in 1954, and Jim and Elizabeth Zimmerman were credited with pioneering university and practicum courses on "ecosystem restoration" as early as 1973 at the University of Wisconsin (Court 2012).

As Court (2012) makes clear, one can argue that University of Wisconsin's Arboretum was practicing restoration since the time John Nolen laid the early plans and then through the time of Aldo Leopold (especially his 1934 address), John Curtis, Roger Anderson, and Gina Kline. *Restoration ecology* may be said to be formally codified as a discipline by Bill (William) Jordan III with the journal *Restoration and Management Notes* (1980; later called *Ecological Restoration*) and further with Gregory Armstrong and Bill Jordan III's 1984 symposium on Restoration Ecology: Theory and Practice—described in Aber and Jordan III (1985) and again in Jordan et al. (1987); see also Jordan and Lubick (2011) and Court (2012).

By this point, there was enough interest in the relatively new discipline of restoration ecology to consider forming a professional/scholarly society and then to consider enhancing an outlet—an even more ambitious journal—to publish research. Following the founding of the Society for Ecological Restoration (SER) in 1989, a Publications Committee chaired by Glen Hughes was formed to explore options for a Society journal. The committee's proposals were met with some skepticism that a journal with that name would be successful, as publishers believed this was a niche topic that was already covered in other venues such as *Restoration and Management Notes*.

However, the Society decided to reach for an international audience and the onus of funding a new journal was placed on SER. This was a daunting undertaking for a newly emerging society but Blackwell Publishers recognized the importance of the field and were willing to take on the monetary risk (Blackwell and SER were well rewarded—*Restoration Ecology* had a positive balance sheet within 5 years).

The next task was to search for a suitable Editor in Chief. Mary Kentula, an aquatic ecologist on the Publications Committee, recommended William Niering of Connecticut College. Bill had been active during his career in coastal wetland as well as terrestrial restoration research that led to regulatory changes in conservation management. The task of inviting Bill to edit the journal fell to Edith Allen, who was delighted at the opportunity to meet with such an eminent ecologist. Years before she heard him lecture at his PhD alma mater, Rutgers University, on his "arrested succession" research that was the core of his right-of-way management scheme adopted by the state of Connecticut.

Bill did not use the term "restoration ecology" in any of his publications up to that time, but he recognized that restoration was in fact what he was doing. And he had not heard of our fledgling society, which had its first meeting on the opposite coast in California led by our first president, John Rieger of CalTrans. Bill requested a few days to think about it. As a senior faculty member he was acting president of his college that year as well as Biology Department chair and had a lot to consider, but he called back as promised and enthusiastically accepted. At that time there was little funding to staff the journal, but Bill leveraged assistance from the college, which supported his editorial efforts with staff time. We later learned that his wife, Katherine, also gave freely of her time. Don Falk, the first SER Executive Director, visited Bill at his home in Connecticut and described his "bucket" filing system on his living room floor, one bucket filled with manuscripts for each issue!

Bill quickly populated the editorial board with pioneers in the disciplines of land and vegetation management, land reclamation, and rehabilitation. They included legendary figures such as Anthony Bradshaw, John Cairns, Joan Ehrenfeld, Ariel Lugo, and Zev Naveh, who promoted enthusiasm for the journal and the emerging discipline of restoration ecology. The journal grew to 40 articles per year, and even had a backlog of manuscripts at the end of Bill's term. He was at the helm for 6 years when he died suddenly in 1999 at the age of 75 (Allen & Holland 1999). SER is indebted to Bill and Connecticut College for making the journal possible.

The day after Bill's passing, Associate Editor Edie Allen received a call from Bill's department office assistant, with the bad news of Bill's passing. And in the next breath she said, what do I do with all these manuscripts? Edie gulped, and said, "you better send them to me for now." At their next meeting the

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SER Board of Directors appointed Edie editor-in-chief to follow in Bill's formidable footsteps. By this time the journal was economically self-sufficient, and the Board was able to allocate funding for a part-time Managing Editor. She hired Sheila Kee, who had field ecology, writing, and editorial experience.

The next challenge was conquering the backlog of manuscripts, and simultaneously broadening the content and international scope of the journal and providing an outlet for special issues, for which there was much demand. In the days of strictly hard copy when online journals were an unheard-of-dream, this required many rounds of discussion among the SER Board of Directors, Editorial Board, and the publisher to deal with increased costs associated with increased page numbers. Libraries were limited in space and slow to pick up new journals (although we had 600 library subscriptions by 2003 under consortia with Blackwell), and SER membership grew slowly. Nevertheless, by changing formatting and increasing page numbers, the journal published some 130 articles per year by 2003–2004. The publisher began to request electronic as well as hard copies, and Sheila and Edie struggled with uniformity as we received manuscripts on 3.5″, 5″, and even 8″ floppy disks (does anyone remember those?) as well as email attachments.

The more important Board discussions about content led to more submissions of review articles especially in the human dimensions of restoration ecology. Restoration is not only about the science of ecology, it also includes the valuation of nature, societal decisions on appropriate endpoints for restoration, economics of restoration, policy and planning, education and volunteerism, and other social and philosophical issues. Edie and Sheila expanded the editorial board, inviting more international editors and individuals who have published or specialized in the human dimensions of restoration, such as Eric Higgs and Jacques Swart. These topics continue to be popular with *Restoration Ecology* readers (Swart et al. 2018) and became highly cited articles that increased the Science Citation Index, an important criterion for publishers as they make decisions about journal support. By the time Edie stepped down in 2004 after 5 years, the journal was on a continuous growth trajectory, and available in online format starting in 2000.

In late 2003, Richard Hobbs, who at that time was a member of the SER Science and Policy Working Group and Asia-Pacific representative on the Board of Directors, was approached by Eric Higgs, then Chair of SER, to discuss the Editor in Chief role. Eric cleverly chose to raise the topic over a bottle of fine red wine at dinner during a conference in Seattle. After an initial reaction of wanting to run away very fast, Richard agreed to take the position on and started formally in 2004. Part of the decision not to run away very fast rested on Richard being able to recruit Sue Yates as Managing Editor. Sue was, herself, an experienced research scientist with extensive project management skills and was/is probably one of the most organized people on the planet.

At the time that Richard and Sue took the helm, many changes and challenges were afoot. Foremost of these was moving the journal onto a completely electronic manuscript submission and review process. Nowadays it appears weird to even contemplate a time when manuscript submission and handling was not done through a web-based system. However, "in the old days," everything was done with hard copy being mailed around the world to and from the editor. This gradually morphed into things being emailed, but the editorial process still relied on the editor keeping track of everything manually via a spreadsheet. That included logging initial submissions, inviting reviewers, tracking the arrival (or nonarrival) of reviews, making and communicating an editorial decision, receiving revisions, and so on until the manuscript was either rejected or accepted and ultimately published.

The advent of online manuscript handling systems such as Manuscript Central really revolutionized the editorial process. On first implementation, however, there was a lot of work to be done to ensure a smooth transition from the old system. Indeed, the two systems ran in parallel for about 18 months in order for the manuscripts submitted via the old system to track their way through. Sue Yates did an incredible job managing the transition and developing the online system in collaboration with the Blackwell editorial team. Marjorie Spencer deserves particular mention as being a stalwart supporter and endlessly helpful Blackwell contact.

The online system, as well as streamlining the handling of manuscripts, also provided ready access to all sorts of statistics regarding journal performance. The Journal Impact Factor (IF) is a key performance indicator (Hobbs 2007), but there are many other numbers that the editorial team needs to keep an eye on. These include things such as "time to first decision," rejection and acceptance rates, page quotas, and so on. These parameters can be altered mainly through the workings of the editorial system, and this in turn relies on the good will and hard work of the Editorial Board.

Another early task for Richard and Sue was the updating and expansion of the journal's Editorial Board. Some existing board members did not want to make the transition to the online system and, at the same time, it was clear that more editorial experience was needed in some areas that were expanding in terms of the number of manuscripts being received. The interest in human dimensions continued to grow, as did contributions in areas such as marine systems and microbial and soil ecology. A recruiting drive brought a band of young and enthusiastic people onto the board, many of whom have stayed until the present day.

While the Editorial Office (Editor in Chief and Managing Editor) is the hub of editorial activity, much of the real work is carried out by the members of the Editorial Board. Richard and Sue worked on a devolved system where board members were tasked with being Coordinating Editors with oversight of the papers they were allocated throughout the review process, with the final decision being referred to the Editor in Chief for approval. Occasionally, the Editor in Chief would adjudicate in the case of difficult decisions or extenuating circumstances, but by and large board members were entrusted with most of the editorial process. Not all journals work this way, but this system worked well for *Restoration Ecology*.

The Editor in Chief reports directly to the SER Board, which has oversight of the journal, its finances and editorial policy. In consultation with the board, Richard initiated a number of new directions for the journal that had the aim of increasing its reach,

both geographically and intellectually. There was a concerted effort to increase the broader relevance of individual contributions by insisting that authors place their work in a broader context and consider its implications for practice (Hobbs 2005). An "Opinion" category for papers was initiated to promote discussion of important issues in restoration, and subsequently a "Setbacks and Surprises" category was set up to encourage contributors to share experiences where things had not gone as expected in restoration and what could be learned from these instances (Hobbs 2009).

Richard decided that 10 years as Editor in Chief was probably enough and that it would be good to pass the baton on at that stage. He and Sue had overseen considerable growth and development of the journal, made possible by the hard work of the Editorial Board and the goodwill of the publishers. Following an interesting internal SER process, a worthy successor was found, in the shape of Stephen Murphy.

Stephen Murphy is the current editor. Having worked in both academic and private practice, having worked with various international agencies, and having helped with several regional and international conferences on restoration ecology, Steve was approached by the SER Board. More specifically, he too was plied with beverages by Richard Hobbs. A theme emerges. The discussions occurred during a transition—new Executive Director, relatively new Board, and a new publisher (Wiley—because of their purchase of Blackwell). Further transitions followed but the SER Publications Working Group (Jim Hallett, Kingsley Dixon, James Aronson) remained stable and this allowed for the quick addition of Managing Editor Valter Amaral—giving us a European presence and also someone who is fluent in Portuguese, benefitting the emerging powerhouse in Brazil.

The sea change in publishing to a completely online/e-publication format occurred shortly thereafter and there were quite a few bumps behind the scenes as Managing Editor Amaral worked long hours to herd the cats and Editor in Chief Murphy alternated between carrots and sticks to shape the production efficiency. This is where the critical role of Jim Hallett as chair of the Publications Working Group needs to be emphasized as he held the leverage and authority to determine who would get the contract to publish the journal. Ultimately as the upheaval caused by disruptive changes in the publishing world calmed, the *Restoration Ecology* Editorial Board, SER, and Wiley crafted the first joint comprehensive strategic and operational plan for the journal—with ever more innovations in marketing, analytics, and social media.

As several long-time Board members retired from professional life, they exited the Board—they are formally known as Board Emeriti and always welcome to contribute because we wish to capture institutional memory. Thus began a diversification of the Board—more international members, more women, more diversity in cultural backgrounds. *Restoration Ecology* still has much work to do to further diversify the Board, so by no means are we smug or satisfied with efforts yet.

Concurrent with discussions with the publisher, Steve consulted with Board members and the SER-Publications Working Group, and the strategic and operational plan began to diversify the scope of *Restoration Ecology* (Murphy 2014). Specifically, shorter and pithier strategic and opinion pieces were invited and encouraged and there is more emphasis on the socioeconomic and policy aspects of restoration ecology—these are still well designed research or think-pieces but the discipline needed to expand beyond narrower biophysical papers. Targeted papers on professional practice (practitioners) were solicited and the conscious decision was made to embrace the currents and eddies of restoration ecology and that sometimes manifested in stormy seas of disagreements among SER members and in print.

Steve and Valter focused on metrics beyond IF—immediacy factor is one—but recognized that for all its flaws, IF still tends to drive decisions by authors on where to publish and some universities and even some nations tend to draw the line at an IF of 2.0. There are underhanded ways to achieve this—though Clarivate and other indexing companies will catch you eventually—but *Restoration Ecology* chose to capitalize on its broader mandate and publish special issues, special sections, and the high-impact opinion and strategic pieces. Rather than focus on using IF as the goal or driver, the approach was to increase actual influence by content and using marketing to boost the journal to higher IFs (hence IF is what it should be—a metric that reflects outcomes rather than drives it). This worked; as of 2018, the IF jumped from the normal 1.7–1.8 range to 2.54.

But *Restoration Ecology* is not just one number; it represents the professional and scholarly efforts of an ever expanding society. As Murphy (2018) noted, there will be a need for more diversification of the scope of the journal and discipline; technology and technique impacts such as AI, drones, and metagenomics are disrupting and revolutionizing restoration ecology; and restoration ecologists have to cope with regime-scale changes to ecosystems and political machinations that we cannot ignore because they threaten ecosystems. Cynically, one can predict that current governments will create terrible damage to ecosystems and guarantee job security for restoration ecologists who are devoted to cleaning up the damage. Idealistically—but also pragmatically—restoration ecologists will have to become more politically and economically savvy to prevent more damage than even we can "fix." Expect to see more opinion pieces on how translational restoration ecology can counteract transactional political and economic forces.

Stephen D. Murphy[1], Edith B. Allen[2], Richard J. Hobbs[3]
[1]School of Environment, Resources & Sustainability, University of Waterloo, Waterloo, ON N2L 3G1, Canada
[2]Department of Botany and Plant Sciences, University of California, Riverside, Riverside, CA 92521, U.S.A.
[3]School of Biological Sciences, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

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