

TO: Professor Glenda Wardle  
Council Chairperson  
Ecosystem Science Council

31 October 2018

RE: Nomination for election to the Ecosystem Science Council

Dear Professor Wardle,

I hereby submit my nomination for election to the Ecosystem Science Council. As requested, I have provided a short CV and a statement outlining my motivation and capacity for serving on the Council. Lastly, I have included a signed statement acknowledging that I subscribe to the principles and ideals governing the work of the Council and that I am willing to commit the time and energy needed to undertake this important work.

Thank you for your consideration.

Sincerely,



Rachel

Dr Rachel Standish  
Senior Lecturer in Ecology

## Dr Rachel J. Standish

Senior Lecturer in Ecology, School of Veterinary and Life Sciences, Murdoch University Western Australia

E-mail: R.Standish@murdoch.edu.au

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## RESEARCH

I am a plant community ecologist with expertise in the application of theory to management and conservation of native ecosystems.

## EDUCATION

2002                      PhD in Ecology, Massey University, New Zealand  
1991                      BSc with Honours in Zoology, The University of Western Australia.

## PROFESSIONAL EXPERIENCE AND LEADERSHIP

2014 to present        Lead CI, Nutrient Network Experimental Site.  
2015 to present        Co-leader of the Terrestrial Ecology Research Group, Murdoch University  
2015 to present        Co-CI, Drought-Net Experimental Site.  
2016 to present        Associate Editor, *Ecology and Evolution*.  
2016                      LOC Co-chair for the annual conference of the Ecological Society of Australia.  
2017 to present        Chief Editor, Ecological Society of Australia *Hot Topics*.

**Associate Editor:** *Ecological Management and Restoration* (5 years), *Journals of Vegetation Science and Applied Vegetation Science* (4 years).

**Reviewer:** International and national journals (20), external thesis examiner (7), academic calibration (2), ARC Grants (1).

**Professional Societies:** Ecological Society of Australia, British Ecological Society, Society of Ecological Restoration International, Royal Society of Western Australia, Weeds Society of Western Australia.

## RESEARCH ACHIEVEMENTS

**Competitive funding:** Career total = \$1 246 588 includes ARC Linkage (2006-09) and ARC Discovery (2017 to present).

**Communication:** 6 invited talks at conferences and universities in Australia, Canada, Germany and New Zealand. Regular contributed papers and invited symposium talks at meetings of the Ecological Society of America, the British Ecological Society, INTECOL, Southern Connections, MEDECOS, SERI and especially the Ecological Society of Australia.

**Publications:** I have published eight Scholarly Book Chapters, 61 Refereed Journal Articles and two Refereed Conference Papers. My publications have been cited a total of 1991 times and my H-index is 24 (retrieved from Scopus on 23 Sept 2018).

**Invitations:** 10 international and national fully-funded workshops.

**Research supervision and mentoring:** Postdoctoral advisor (3), Research students: 9 PhDs, 2 Research Masters and 5 honours completed; 5 PhD and 1 Masters and 2 honours current.

## SYNERGISTIC ACTIVITIES

*Expert advice to industry, government and NGOs* (e.g., mining industry, 20-million trees, Bush Heritage, Greening Australia). Most recent projects include developing: 1. A science-based framework for post mining completion criteria and monitoring to inform best practice mine rehabilitation in Western Australia; 2. A Platform for Ecological Restoration Research and Infrastructure for Australia's agricultural landscapes. *Media engagement* through Hot Topics, research (e.g., Oct 2018 issue of TERN Newsletter) and teaching (e.g., segment showing me and ecology undergraduates measuring vegetation recovery in the corridor cleared for the now obsolete Roe 8 highway is due to appear on ABC's *Gardening Australia* later this year). *Contribution to Decadal Plan for Women in STEM*.

## Statement of motivation for serving on the Council and capacity for the role

Having secured tenure at Murdoch University in December 2017, I have reached a stage in my career where I have the time to help advance the goals of *Foundations for the future: a longer-term plan for Australian Ecosystem Science*. Moreover, with over 20 years' experience in science, predominantly as a researcher but also as mentor, supervisor, leader and lecturer, I can make a higher-level contribution to science and its application to ecosystem management. Indeed, I attended the town hall workshop in Perth on March 11 2014 in the planning phase. The Council offers me an opportunity to make a greater societal impact. I outline below why I am interested in joining the Council and what I offer the Council.

### *Why I am interested in joining the Council?*

I am a strong advocate of science informing management and policy governing the sustainable use and care of Australia's native ecosystems. I have seen first-hand the benefits of a coordinated approach to research, development and infrastructure through my involvement with Global Research Networks (i.e., NutNet and Drought-Net). The advent of global distributed experiments has been a game-changer for ecosystem science, providing robust and powerful datasets to test long-standing and novel research questions. It's been a very exciting transformation for experimental ecologists of my generation. I would welcome the opportunity to help coordinate similar efforts for ecosystem science in Australia.

Another significant transformation that has motivated me to nominate for Council is the pressing need for scientists to advocate the role of science in helping to mitigate impacts of human activities on earth's ecosystems. I find it perplexing that people generally respect the role of science in society and yet are at times unwilling to accept the science behind inconvenient truths (e.g., undermining climate science by journalists writing for *The Australian* newspaper). I think finding new ways to share scientific knowledge, of engaging people in science, reinforcing its value, and offering realistic yet optimistic solutions to environmental problems are some ways forward to reduce denial and apathy, and to inspire action. My role as Chief Editor of the ESA Hot Topics has given me valuable experience communicating science to a broad audience; a highlight this year was an update on effectiveness of water reform for the Murray-Darling Basin by the Wentworth Group of Concerned Scientists. A role on the Council offers me a new opportunity for contributing to wide understanding and reporting of ecosystem science.

### *What do I offer the Council?*

I offer Council extensive experience in collaborative research of the type needed to implement the Council's long-term plan. I have a strong track record working with industry and land managers to undertake research needed to underpin restoration and conservation of native ecosystems. I work predominantly in agricultural and mining landscapes in one of the nation's biodiversity hotspots where the need for ecosystem restoration is significant. For example, I am the joint custodian (with Greening Australia) of a ten-year dataset reporting carbon and plant diversity outcomes for woodland restored as part of the Gondwana Link Initiative in south-western Australia. Through this research I have become acutely aware of the difficulties of funding and sustaining long-term research in agricultural landscapes where funds are often available to restore but not to monitor these efforts. In mining landscapes, the boom and bust cycle of mining activity can impact long-term research and I am aware that my collaborative research with Alcoa of Australia is unusual in the availability of long-term datasets. My research experience in agricultural and mining landscapes has given me a well-versed perspective on the state of knowledge of ecosystem science in these south-west Australian landscapes, the benefits of implementing a coordinated effort for long-term research and a working knowledge of the key stakeholders.

I am dedicated to long-term ecosystem science with real-world application and facilitating this prospect for others. In my role as an academic, I have garnered respect as a research leader, lecturer and supervisor. That I recruited 5 PhD students within a year of starting at Murdoch in 2015 is testament to my growing reputation as a good supervisor. I ensure that my research students are embedded into the network of scientists and stakeholders relevant to their research and its application. I have had successes to date with one PhD student

supported by Bush Heritage, Gundawa and Carbon Neutral for her work on soil and invertebrate recovery in restoration plantings in the northern wheatbelt and another PhD student supported by Hanson at their Gaskell Mine for her work to understand the role of facilitation in assembly of banksia woodland.

I have highly developed written communication skills and well-practiced oral communication skills. I enjoy the opportunity to learn and to work with researchers from other disciplines in a problem-solving approach to ecosystem science. For example, I recently attended two workshops (Feb and June) at the German Centre for Integrative Biodiversity Research (iDiv) with social scientists, policymakers, ecologists and modellers to explore the concept of undesirable resilience in socio-ecological systems driving biodiversity loss. I would be comfortable working across disciplines, organisations, societies, and professions to help implement Council plans.

In summary, I offer energy, enthusiasm, and experience in research, research training and science communication to the position on Council.

### Signed statement

This statement confirms that I subscribe to the principles and ideals outlined for the Ecosystem Science Council and I am willing to commit the time and energy needed to undertake the Council's work.

A handwritten signature in black ink that reads "Rachel Standish". The signature is written in a cursive style with a horizontal line underlining the name.

Dr Rachel Standish  
Senior Lecturer in Ecology, Murdoch University, Western Australia  
31 October 2018