

# Martin Westgate | CV

## Research Fellow

Fenner School of Environment & Society  
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Total publications: 36 | total citations: 758 | h-index: 14

## Qualifications and Awards

2017: Next Generation Ecologist Award, Ecological Society of Australia

2013: Doctor of Philosophy in Conservation Biology & Landscape Ecology, ANU (awarded 19th July 2013)

2006: Bachelor of Science (Honours), Flinders University

2005: Bachelor of Environmental Management, Flinders University

## Employment History

2018 - Present: Research Fellow, Fenner School, ANU

2013 - 2017: Postdoctoral Fellow, Fenner School, ANU

2011 - 2012: Course convenor for “Biodiversity Conservation in Modified Landscapes”, 3rd year and masters-level course at the Fenner School, ANU

2010 - 2011: Research Assistant, Fenner School, ANU

## Publications

### Peer-reviewed journal articles

33. S Nakagawa, G Samarasinghe, NR Haddaway, **MJ Westgate**, RE O’Dea, DWA Noble & M Lagisz (in press) Research Weaving: Visualizing the future of research synthesis. *Trends in Ecology & Evolution*. *EcoEvoRxiv* preprint doi: <https://doi.org/10.32942/osf.io/ga2qz>
32. DB Lindenmayer, P Lane, M Crane, D Florance, CN Foster, K Ikin, D Michael, CF Sato, BC Scheele & **MJ Westgate** (in press) Weather effects on birds of different size are mediated by long-term climate and vegetation type in endangered temperate woodlands. *Global Change Biology*.
31. DB Lindenmayer, P Lane, CN Foster, **MJ Westgate**, BC Scheele, C Sato, K Ikin, M Crane, D Michael & D Florance (in press) Do migratory and resident birds differ in their responses to interacting effects of climate, weather and vegetation? *Diversity & Distributions*.
30. NR Haddaway & **MJ Westgate** (in press) Predicting the time needed for environmental systematic reviews and systematic maps. *Conservation Biology*. <https://doi.org/10.1111/cobi.13231>

29. CN Foster, LS O'Loughlin, CF Sato, **MJ Westgate**, PS Barton, JC Pierson, JM Balmer, G Catt, J Chapman, T Detto, A Hawcroft, G Jones, RP Kavanagh, M McKay, D Marshall, KE Moseby, M Perry, D Robinson, JA Seddon, K Tuft & DB Lindenmayer (2019) How practitioners integrate decision triggers with existing metrics in conservation monitoring. *Journal of Environmental Management* 230:94-101. <https://doi.org/10.1016/j.jenvman.2018.09.067>
28. LS O'Loughlin, DB Lindenmayer, MD Smith, MR Willig, AK Knapp, K Cuddington, A Hastings, CN Foster, CF Sato, **MJ Westgate** & PS Barton (2018) Surrogates underpin ecological understanding and practice. *BioScience*. href="https://doi.org/10.1093/biosci/biy080"
27. BS Scheele, S Legge, D Armstrong, P Copley, N Robinson, D Southwell, **MJ Westgate** & DB Lindenmayer (2018) How to improve threatened species management: an Australian perspective. *Journal of Environmental Management* 223: 668-674. <https://doi.org/10.1016/j.jenvman.2018.06.084>
26. DB Lindenmayer, P Lane, **MJ Westgate**, BC Scheele, C Foster, C Sato, M Crane, D Michael, D Florance, K Ikin, PS Barton, LS O'Loughlin, N Robinson (2018) Tests of predictions associated with temporal changes in Australian bird populations. *Biological Conservation* 222: 212-221. <https://doi.org/10.1016/j.biocon.2018.04.007>
25. **MJ Westgate**, NR Haddaway, SH Cheng, EJ McIntosh, C Marshall & DB Lindenmayer (2018) Software support for environmental evidence synthesis. *Nature Ecology and Evolution* 2: 588-590. <https://doi.org/10.1038/s41559-018-0502-x>
24. **MJ Westgate**, C MacGregor, BC Scheele, DA Driscoll & DB Lindenmayer (2018) Effects of time since fire on frog occurrence are altered by isolation, vegetation, and fire frequency gradients. *Diversity & Distributions* 24(1): 82-91. <https://doi.org/10.1111/ddi.12659>
23. **MJ Westgate** & DB Lindenmayer (2017) The difficulties of systematic reviews. *Conservation Biology* 31(5): 1002-1007. <https://doi.org/10.1111/cobi.12890>
22. **MJ Westgate**, AIT Tulloch, PS Barton, JC Pierson & DB Lindenmayer (2017) Optimal taxonomic groups for biodiversity assessment: A meta-analytic approach. *Ecography* 40: 539-548. <https://doi.org/10.1111/ecog.02318>
21. DB Lindenmayer, C MacGregor, J Wood, **MJ Westgate**, K Ikin, C Foster, F Ford & R Zentelis (2016) Bombs, fire and biodiversity: vertebrate fauna occurrence in areas subject to military training. *Biological Conservation* 204(B) 276-283. <https://dx.doi.org/10.1016/j.biocon.2016.10.030>
20. DB Lindenmayer, SG Candy, SC Banks, **MJ Westgate**, K Ikin, JC Pierson, AIT Tulloch & PS Barton (2016) Do temporal changes in vegetation structure predict changes in bird occupancy additional to time since fire? *Ecological Applications* 26(7) 2267-2279. <https://doi.org/10.1002/eap.1367>
19. AIT Tulloch, I Chadés, Y Dujardin, **MJ Westgate**, PW Lane & DB Lindenmayer (2016) Dynamic species co-occurrence networks require dynamic biodiversity surrogates. *Ecography* 39(12) 1185-1196. <https://doi.org/10.1111/ecog.02143>
18. M Hunter Jr., **M Westgate**, P Barton, A Calhoun, J Pierson, A Tulloch, M Beger, C Branquino, T Caro, J Gross, J Heino, P Lane, C Longo, K Martin, WH McDowell, C Mellin, H Salo & D Lindenmayer (2016) Two roles for ecological surrogacy: indicator surrogates and management surrogates. *Ecological Indicators* 63: 121-125. <https://doi.org/10.1016/j.ecolind.2015.11.049>
17. **MJ Westgate**, PS Barton, JC Pierson & DB Lindenmayer (2015) Text analysis tools for identification of emerging topics and research gaps in conservation science. *Conservation Biology* 29(6): 1606-1614. <https://doi.org/10.1111/cobi.12605>
16. **MJ Westgate**, BC Scheele, K Ikin, AM Hoefer, RM Beaty, M Evans, W Osborne, L Rayner & DA Driscoll (2015) Citizen science program shows urban areas have lower occurrence of frog species, but not accelerated declines. *PLoS ONE* 10(11): e0140973. <https://doi.org/10.1371/journal.pone.0140973>
15. D Lindenmayer, J Pierson, P Barton, M Beger, C Branquinho, A Calhoun, T Caro, H Greig, J Gross, J Heino, M Hunter, P Lane, C Longo, K Martin, WH McDowell, C Mellin, H Salo, A Tulloch &

- M Westgate** (2015) A new framework for selecting environmental surrogates. *Science of the Total Environment* 538: 1029-1038. <https://doi.org/10.1016/j.scitotenv.2015.08.056>
14. D Stojanovic, A Terauds, **MJ Westgate**, MH Webb & R Heinsohn (2015) Exploiting the richest patch has a fitness pay-off for the migratory swift parrot. *Journal of Animal Ecology* 84(5): 1194-1201. <https://doi.org/10.1111/1365-2656.12375>
  13. A Mortelliti, **MJ Westgate**, J Stein, J Wood & DB Lindenmayer (2015) Ecological and spatial drivers of population synchrony in bird assemblages. *Basic and Applied Ecology* 16(3): 269-278. <https://doi.org/10.1016/j.baae.2015.01.008>
  12. PS Barton, JC Pierson, **MJ Westgate**, PW Lane & DB Lindenmayer (2015) Learning from clinical medicine to improve the use of surrogates in ecology. *Oikos* 124: 391-398. <https://doi.org/10.1111/oik.02007>
  11. DB Lindenmayer, PW Lane, **MJ Westgate**, M Crane, D Michael, S Okada & PS Barton (2014) An empirical assessment of the focal species hypothesis. *Conservation Biology* 28(6): 1594-1603. <https://doi.org/10.1111/cobi.12330>
  10. PS Barton, **MJ Westgate**, PW Lane, C MacGregor & DB Lindenmayer (2014) Robustness of habitat-based surrogates of animal diversity: a multi-taxa comparison over time. *Journal of Applied Ecology* 51(5): 1434-1443. <https://doi.org/10.1111/1365-2664.12290>
  9. A Mortelliti, **MJ Westgate**, & DB Lindenmayer (2014) Experimental evaluation shows limited influence of pine plantations on the connectivity of highly fragmented bird populations. *Journal of Applied Ecology* 51(5): 1179-1187. <https://doi.org/10.1111/1365-2664.12313>
  8. PW Lane, DB Lindenmayer, PS Barton, W Blanchard & **MJ Westgate** (2014) Visualisation of species pairwise associations: a case study of surrogacy in bird assemblages. *Ecology and Evolution* 4(16): 3279-3289. <https://doi.org/10.1002/ece3.1182>
  7. **MJ Westgate**, PS Barton, PW Lane & DB Lindenmayer (2014) Global meta-analysis reveals low consistency of biodiversity congruence relationships. *Nature Communications* 5:3899. <https://doi.org/10.1038/ncomms4899>
  6. DA Driscoll, SC Banks, PS Barton, K Ikin, P Lentini, DB Lindenmayer, AL Smith, LE Berry, EL Burns, A Edworthy, MJ Evans, R Gibson, R Heinsohn, B Howland, G Kay, N Munro, BC Scheele, I Stirnemann, D Stojanovic, N Sweaney, NR Villasenor, & **MJ Westgate** (2014) The trajectory of dispersal research in conservation biology. Systematic review. *PLoS ONE* 9(4): e95053. <https://doi.org/10.1371/journal.pone.0095053>
  5. DB Lindenmayer, PS Barton, PW Lane, **MJ Westgate**, L McBurney, D Blair, P Gibbons & GE Likens (2014) An empirical assessment and comparison of species-based and habitat-based surrogates: a case study of forest vertebrates and large old trees. *PLoS ONE* 9(2): e89807. <https://doi.org/10.1371/journal.pone.0089807>
  4. **MJ Westgate**, GE Likens, & DB Lindenmayer (2013) Adaptive management of biological systems: A review. *Biological Conservation* 158: 128-139. <https://doi.org/10.1016/j.biocon.2012.08.016>
  3. **MJ Westgate**, DA Driscoll & DB Lindenmayer (2012) Limited influence of stream networks on the terrestrial movements of three wetland-dependent frog species. *Biological Conservation* 153: 169-176. <https://doi.org/10.1016/j.biocon.2012.04.030>
  2. **MJ Westgate**, DA Driscoll & DB Lindenmayer (2012) Can the intermediate disturbance hypothesis and information on species traits predict anuran responses to fire? *Oikos* 121: 1516-1524. <https://doi.org/10.1111/j.1600-0706.2011.19863.x>
  1. A Felton, J Fischer, DB Lindenmayer, R Montague-Drake, A Lowe, D Saunders, A Felton, W Steffen, NT Munro, K Youngentob, J Gillen, P Gibbons, JE Bruzgul, I Fazey, SJ Bond, CP Elliott, BCT

Macdonald, LL Porfirio, **MJ Westgate** & M Worthy (2009) Climate change, conservation and management: an assessment of the peer-reviewed scientific journal literature. *Biodiversity and Conservation* 18:2243-2253. <https://doi.org/10.1007/s10531-009-9652-0>

## Book Chapters

**MJ Westgate** (2015) Surrogates for the distribution and trajectory of biodiversity. Chapter 2 in DB Lindenmayer, PS Barton & JC Pierson (eds) *Indicators and Surrogates of Biodiversity and Environmental Change*. CSIRO Publishing.

DB Lindenmayer, JC Pierson, PS Barton, PL Lane & **MJ Westgate** (2015) Biodiversity surrogates. Chapter 3 in DB Lindenmayer, PS Barton & JC Pierson (eds) *Indicators and Surrogates of Biodiversity and Environmental Change*. CSIRO Publishing.

DB Lindenmayer, JC Pierson, PS Barton, PL Lane, AIT Tulloch & **MJ Westgate** (2015) A diversity of approaches to ecological surrogates and key knowledge gaps. Chapter 19 in DB Lindenmayer, PS Barton & JC Pierson (eds) *Indicators and Surrogates of Biodiversity and Environmental Change*. CSIRO Publishing.

## Conference Presentations

**MJ Westgate** (2017) Next Generation Ecologist Keynote Address: Mainstreaming text mining for rapid synthesis. *EcoTas: The joint conference of the Ecological Society of Australia and the New Zealand Ecological Society, Hunter Valley*.

**MJ Westgate**, AIT Tulloch, PS Barton, JC Pierson & DB Lindenmayer (2015) Oral Presentation: Selecting optimal taxa for ecological monitoring: A meta-analytic approach. *Ecological Society of Australia Conference, Adelaide*.

**MJ Westgate**, GE Likens, & DB Lindenmayer (2011) Oral Presentation: Adaptive Management of biological systems: a review. *Ecological Society of Australia Conference, Hobart*.

**MJ Westgate**, DA Driscoll & DB Lindenmayer (2010) Oral Presentation: Do amphibians preferentially use streamlines as terrestrial habitat? *Ecological Society of Australia Conference, Canberra*.

**MJ Westgate**, DA Driscoll & DB Lindenmayer (2010) Oral Presentation: Testing hypotheses relating to fire effects on an amphibian community. *International Congress on Conservation Biology, Edmonton*.

## Data and Software

**MJ Westgate** (2018) revtools: Tools to support evidence synthesis. R package version 0.2.2 <https://cran.r-project.org/package=revtools>

**MJ Westgate**, AIT Tulloch, PS Barton, JC Pierson & DB Lindenmayer (2017) Data from: Optimal taxonomic groups for biodiversity assessment: A meta-analytic approach. *Ecography* 40(4): 539-548. <https://doi.org/10.5061/dryad.s1660>

AIT Tulloch, I Chades, Y Dujardin, **MJ Westgate**, PW Lane & DB Lindenmayer (2017) Data from: Dynamic species occurrence networks require dynamic biodiversity surrogates. *Ecography* <https://doi.org/10.5061/dryad.5c4d6>

**MJ Westgate**, BC Scheele, K Ikin, AM Hoefer, RM Beaty, M Evans, W Osborne, L Rayner & DA Driscoll (2015) Data from: Citizen science program shows urban areas have lower occurrence of frog species, but not accelerated declines. *PLOS ONE* <https://doi.org/10.5061/dryad.75s51>

D Stojanovic, A Terauds, **MJ Westgate**, MH Webb & R Heinsohn (2015) Data from: Exploiting the richest patch has a fitness pay-off for the migratory swift parrot. *Journal of Animal Ecology* <https://doi.org/10.5061/dryad.23h73>

PS Barton, **MJ Westgate**, PW Lane, C MacGregor, DB Lindenmayer (2014) Data from: Robustness of habitat-based surrogates of animal diversity: a multi-taxa comparison over time. *Journal of Applied Ecology*  
<https://doi.org/10.5061/dryad.s7d2d>