DEPT OF ENVIRONMENTAL SCIENCE



2019 PUBLICATIONS, REPORTS, CONFERENCES



JOURNAL PUBLICATIONS (50)

Amoako, E. & Gambiza, J. 2019. Effects of anthropogenic fires on soil properties and the implications of fire frequency for the Guinea savanna ecological zone. *Ghana Scientific African*, 6, eoo201. https://doi.org/10.1016/j.sciaf.2019.e00201.

Belluigi, D. & Thondhlana, G. 2019. 'Why mouth all the pieties?' Black and women academics' revelations about discourses of 'transformation' at an historically white South African University. *Higher Education*, https://doi.org/10.1007/s10734-019-00380-w

Chakona, G. & Shackleton, C.M. 2019. Food insecurity in South Africa: to what extent can social grants and consumption of wild foods eradicate hunger? World Development Perspectives, 13:87-94.

Chakona, G. & Shackleton, C.M. 2019. Food taboos and cultural beliefs influence food choice and dietary preferences among pregnant women in the Eastern Cape, South Africa. *Nutrients*, 11, 2668. DOI: 10.3390/nu11112668.

Clements, H.S., Kerley, G.I., Cumming, G.S., De Vos, A. and Cook, C.N., 2019. Privately protected areas provide key opportunities for the regional persistence of large-and medium-sized mammals. *Journal of Applied Ecology*, *56*(3), pp.537-546.

Cruz-Garcia, G., Vanagas Cubbilos, M., Torres-Vitolas, C., Harvey, C.A., Shackleton, C.M., Schreckenberg, K., Willcock, S., Carolina Navarrete-Frías C. & Sachet, E. 2019. He says, she says: ecosystem services and gender among indigenous communities in the Colombian Amazon. *Ecosystem Services*, 37: 100921. DOI: 10.1016/j.ecoser.2019.100921.

De Vos, A., Biggs, R. and Preiser, R. 2019. Methods for understanding social-ecological systems: a review of place-based studies. *Ecology and Society*, 24(4).

De Vos, A., Clements, H.S., Biggs, D. & Cumming, G.S. 2019. The dynamics of proclaimed privately protected areas in South Africa over 83 years. *Conservation Letters*, https://doi.org:10.1111/conl.12644.

De Vos, A. & Cumming, G.S. 2019. The contribution of land tenure diversity to the spatial resilience of protected area networks. *People and Nature*, https://doi.org:10.1002/pan3.29.

Didarali, Z. & Gambiza, J. 2019. Permaculture: Challenges and benefits in improving rural livelihoods in South Africa and Zimbabwe. *Sustainability*, 11. DOI: 10.3390/su11082219

Falayi, M., Shackleton, S.E., Cundill, G. & Shackleton, C.M. 2019. Changes in the use and sale of local collected environmental resources over a 15-year period in a rural village, South Africa. *Forests, Trees & Livelihoods,* 28: 90-107. DOI: 10.1080/14728028.2019.1568309.

Gouws, A. & Shackleton, C. 2019. A spatio-temporal, landscape perspective on *Acacia dealbata* invasions and broader land use and cover changes in the northern Eastern Cape, South Africa. *Environ Monit Assess*, 191: 1-20.

Gwedla, N. & Shackleton, C. 2019. Perceptions and preferences for urban trees across multiple socio-economic contexts in the Eastern Cape, South Africa. *Landscape and Urban Planning*, 189: 225-234.

Hackenberg, D.M., Adams, A., Brownson, K., Borokini, I.T., Gladkikh, T.M., Herd-Hoare, S.C., Jolly, H., Kadykalo, A.N., Kraus, E.B., McDonough, K.R., Morese, J.W., Sandhu, S.S., Tugjamba, N. & Vallet, A. 2019. Meaningfully engaging the next generation of ecosystem services specialists. *Ecosystem services*, 10, 101041.

Hirsch, H., Allsopp, M.H., Canavan, S., Cheek, M., Geerts, S., Geldenhuys, C.J., Harding, G., Hurley, B.P., Jones, W., Keet, J-H., Klein, H., Ruwanza, S., van Wilgen, B.W., Wingfield, M.J., Richardson, D.M. 2019. *Eucalyptus camaldulensis* in South Africa – past, present, future. *Transactions of the Royal Society of South Africa*. doi: 10.1080/00359191x.2019.1669732

- Ijang, T.N., Shackleton, C.M. & Degrande, A. 2019. Knowledge and knowledge sources on the importance of fruits for nutritional security are unaffected by deforestation status in Cameroon. *Fruits*, 74: 272-281. DOI: 0.17660/th2019/74.6.2.
- Mahonya, S., Shackleton, C.M. & Schreckenberg, K. 2019. Non-timber forest product use and market chains along a deforestation gradient in southwest Malawi. *Frontiers in Forests & Global Change*. 2: 71. DOI: 10.3389/ffgc.2019.00071.
- Martins, V. & Shackleton, C. 2019. Bushmeat use is widespread but under-researched in rural communities in South Africa. *Global Ecology & Conservation*, 17, e00583
- McLellan, V. & Shackleton, C.M. 2019. Assessing the relative representation of ecosystem services and disservices in South African English newspaper media over fifteen years. *Ecosystems & People*, 15: 247-256. DOI: 10.1080/26395916.2019.1667442
- Mugido, W. & Shackleton, C.M. 2019. The contribution of NTFPs to rural livelihoods in different agro-ecological zones of South Africa. *Forest Policy & Economics*, 109: e101983. DOI: 10.1016/j.forpol.2019.101983.
- Nicholson, P., Dixon, D., Pullanikkatil, D., Moyo, B., Long, H. & Barrett, B. 2019. Malawi Stories: Mapping an artscience collaborative process. *Journal of Maps*, https://doi.org/10.1080/17445647.2019.1582440
- Ngorima, A. & Shackleton, C.M. 2019. Livelihood benefits and costs of an invasive alien tree (*Acacia dealbata*) to rural communities in the Eastern Cape, South Africa. *Journal of Environmental Management*, 229: 158-165 DOI: 10.1016/j.jenvman.2018.05.077.
- Ngulani, T. & Shackleton, C.M. 2019. Use of public urban green spaces for spiritual services in Bulawayo, Zimbabwe. *Urban Forestry & Urban Greening*, 38: 97-104. DOI: 10.1016/j.ufug.2018.11.009.
- Ngulani, T. & Shackleton, C. 2019. The degree, extent and value of air temperature amelioration by urban green spaces in Bulawayo, Zimbabwe. *South African Geographical Journal*, 10.1080/03736245.2019.1685405
- Njwaxu, A. & Shackkleton, C.M. 2019. The availability of non-timber forest products under forest succession on abandoned fields on the Wild Coast, South Africa. *Forests*, 10: 1093. DOI: 10.3390/f10121093.
- Nolte, C., De Vos, A. and Schöttker, O., 2019. Cost-effectiveness of public policy for the long-term conservation of private lands: What is the deal?. *Conservation Letters*.
- O'Brien, J. & Thondhlana, G. 2019. Plastic bag use in South Africa: Perceptions, practices and potential intervention strategies. *Waste Management*, 84: 320.328.
- Olagunju, A., Thondhlana, G., Chilima, J.S., Sene-Harper, A., Compaore, W.R. & Ohiozebau, E. 2019. Water governance research in Africa: progress, challenges and an agenda for research and action. *Water International*, doi.org/10.1080/02508060.2019.1594576.
- Panter, B., Ruwanza, S. 2019. Spekboom (*Portulacaria afra*) planting in degraded thickets improves soil properties and vegetation diversity. *Ecological Restoration* 37(2), 76-80. doi: 10.3368/er.37.2.76
- Ricketts, K. & Shackleton, C.M. 2019. Livelihoods and forest conservation through beekeeping in Northern KwaZulu-Natal. *Development southern Africa*. DOI: 10.1080/0376835X.2019.1698408.
- Ruwanza, S. 2019. The edge effect on plant diversity and soil properties in abandoned fields targeted for ecological restoration. *Sustainability* 11(1), 140. doi.org/10.3390/su11010140
- Ruwanza, S., Tshililo, K. 2019. Short term soil and vegetation recovery after *Acacia mearnsii* removal in Vhembe Biosphere Reserve, South Africa. *Applied Ecology and Environmental Research* 17(2), 1705-1716. doi: http://dx.doi.org/10.15666/aeer/1702 17051716
- Ruwanza, S., Dondofema, F. 2019. Effects of exotic guava (*Psidium guajava* L.) invasion on soil properties in Limpopo, South Africa. *African Journal of Ecology*, doi: 10.1111/aje.12675
- Sardeshpande, M. & Shackleton, C.M. 2019. Wild edible fruits: a systematic review of an under-researched multifunctional NTFP. *Forests*, 10, 467. DOI:10.3390/f10060467.
- Senkoro, A.M., Shackleton, C.M., Voeks, R.A. & Ribeiro, A.I. 2019. Use, knowledge and management of the threatened pepperbark tree (*Warburgia salutaris*) in southern Mozambique. *Economic Botany*, DOI: 10.1007/s12231-019-09468-x.

Shackleton, C.M. & Mograbi, P.J. (in press). 2019. Meeting a diversity of needs through a diversity of species: urban residents' favourite and disliked tree species across eleven towns in South Africa and Zimbabwe. *Urban Forestry & Urban Greening*. DOI: 10.1016/j.ufug.2019.126507.

Shackleton, C., Mograbi, P., Drimie, S., Fay, D., Hebinck, P., Hoffman, M., Maciejewski, K. & Twine, W. 2019. Deactivation of field cultivation in communal areas of South Africa: Patterns, drivers and socio-economic and ecological consequences. *Land Use Policy*, 82: 686-699.

Shackleton, R.T., Shackleton, C.M. & Kull, C.A. 2019. The role of invasive alien species in shaping local livelihoods and human well-being: a review. *Journal of Environmental Management*, 229: 145-157DOI: 10.1016/j.jenvman.2018.05.007.

Shackleton, R.T., Richardson, D.M., Shackleton, C.M., Bennett, B., Crowley, S.L., Denhen-Schmutz, K., Estévez, R.A., Fischer, A., Kueffer, C., Kull, C.A., Marchante, E., Novoa, A., Potgieter, L.J., Vaas, J., Vaz, A.S. & Larson, B.M. 2019. Explaining people's perceptions of invasive alien species: a conceptual framework. *Journal of Environmental Management*, 229:10-26. DOI: 10.1016/j.jenvman.2018.04.045

Soumya, K.V., Shackleton, C.M. & Setty, S.R. 2019. Impacts of gum-resin harvest and *Lantana camara* invasion on the population structure and dynamics of *Boswellia serrata* in the Western Ghats, India. *Forest Ecology & Management*, 453: e117618. DOI: 10.106/j.foreco.2019.117618.

Soumya, K.V., Shackleton, C.M. & Setty, S.R. 2019. Harvesting and local knowledge of a cultural NTFP: gum-resin from *Boswellia serrata* in three protected areas of the Western Ghats, India. *Forests*, 10: 907. doi:10.3390/f10100907.

Tata Ngome, P.I., Shackleton C.M., Degrande, A., Nossi, E.J. & Ngome, F. 2019. Assessing household food insecurity experience in the context of deforestation in Cameroon. *Food Policy*, 84: 57-65. DOI: 10.1016/j.foodpol.2019.02.003.

Taylor, P.J., Kearney, T., Dalton, D., Chakona, G., Kelly, C. & Barker, N.P. 2019. Biomes, geology and past climate drive speciation of laminate-toothed rates on South African mountains (Murinae: *Otomys*). Zoological Journal of the Linnean Society, 1-21. Doi/10.1093/zoolinnean/zlz134/5641518

Thondhlana, G. & Ruwanza, S. 2019. Homestead tree holdings: Composition, uses and challenges in Checheche Growth Point, South East lowveld, Zimbabwe. *African Journal of Ecology*, 10.1111/aje.12691.

Towns, A. & Shackleton, C.M. 2018. Traditional, indigenous or leafy? A definition, typology, and way forward for African vegetables. *Economic Botany*, 72: 461-477. DOI: 10.1007/s12231-019-09448-1.

Von Maltitz, G.P., Gambiza, J., Kellner, K., Rambau, T., Lindeque, L. & Kgope, B. 2019. Experiences from the South Africa land degradation neutrality target setting process. *Environmental Science and Policy*. 101: 54-62.

Weyer, D., Bezerra, J.C. and De Vos, A., 2019. Participatory mapping in a developing country context: Lessons from South Africa. *Land*, *8*(9), p.134.

Willcock, S., Hooftman, D.A., Balbi, S., Blanchard, R., Dawson, T., O'Farrell, P., Hickler, T., Hudson, M.D., Martinez-Lopez, J., Mulligan, M., Reyers, B., Schreckenberg, K., Shackleton, C.M., Sitas, N., Villa, F., Watts, S.M., Eigenbrod, F. & Bullock, J.M. 2019. Continental scale validation of multiple ecosystem services models. *Ecosystems*. DOI: 10.1007/s10021-019-00380-y.

Wolff, M., Cockburn, J., De Wet, C., Carlos Bezerra, J., Weaver, M., Finca, A., De Vos, A., Ralekhetla, M., Libala, N., Mkabile, Q. and Odume, O., 2019. Exploring and expanding transdisciplinary research for sustainable and just natural resource management. *Ecology and Society*, *24*(4).

BOOK CONTRIBUTIONS (9)

Dlamini, P & Pullanikkatil, D. 2019 Three generations of healers. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 135-142). Sustainable Development Goals Series, Springer Nature

Foit, M. & Pullanikkatil, D. 2019. The hidden master. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 83-90). Sustainable Development Goals Series, Springer Nature.

Fonyuy, T. & Baa, E. 2019. Honey production in urban Cameroon. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 45-48). Sustainable Development Goals Series, Springer Nature.

Kasumbu, A. & Pullanikkatil, D. 2019. Busy as a bee: breeding industrious bees in Malawi. . In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 91-98). Sustainable Development Goals Series, Springer Nature.

Ntoh, J. & Baa, E. 2019. Cameroon's Elixir: Palm wine. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 49-52). Sustainable Development Goals Series, Springer Nature.

Pullanikkatil, D & Shackleton, C (Eds.). 2019. *Poverty reduction through non-timber forest products*. Sustainable Development Goals Series, Springer Nature.

Pullanikkatil, D & Shackleton, C. 2019. Poverty reduction strategies and non-timber forest products. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 3-14). Sustainable Development Goals Series, Springer Nature.

Pullanikkatil, D & Shackleton, C. 2019. Considering the links between non-timber forest products and poverty alleviation. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 3-14). Sustainable Development Goals Series, Springer Nature.

Pullanikkatil, D & Shackleton, C. 2019. Listening to the stories. In Pullanikkatil, D & Shackleton, C (Eds.), *Poverty reduction through non-timber forest products* (pp 153-158). Sustainable Development Goals Series, Springer Nature.

POLICY BRIEFS AND POPULAR ARTICLES (2)

Shackleton, C., Mograbi, P., Drimie, S., Maciejewski, K., Hoffman, T., Twine, W., Fay, D. & Hebinck, P. 2019. Smallholder crop farming is on the decline in South Africa. Why it matters. *The Conversation,* July 3rd.

Shackleton, C., Mograbi, P., Drimie, S., Maciejewski, K., Hoffman, T., Twine, W., Fay, D. & Hebinck, P. 2019. Smallholder crop farming is on the decline in South Africa – Here's why it matters. *The South African, July* 10th.

CONFERENCE PRESENTATIONS (24)

Amoako, E. & Gambiza, J. 2019. Effects of fire on the population structure and abundance of *Anogeissus leiocarpa* and *Vitellaria paradoxa* in the Guinea savanna, Ghana. The 44th New Phytologist Symposium, 'Determinants of tropical vegetation structure and function', Swiss Spirit Hotel and Suites Alisa, Accra, Ghana, 7–9 August 2019.

Davoren, E. 2019. People's perceptions of ecosystem disservices in public urban green spaces (PUGS). IERM annual conference, 4-6th Sept, George.

De Vos, A., Clements H.S., Biggs, D., Cumming G.S. The dynamics of South African protected areas over 83 years. International Congress on Conservation Biology. Kuala Lumpur, Malaysia, 21-25 July 2019.

De Vos, A. The development of privately-owned protected areas in South Africa: implications for agriculture-protected area interfaces. CASEST workshop, Brazil, 27-31 May 2019. Invited Plenary.

De Vos, A. Opportunities of land claims for protected area resilience in South Africa. Leverage Points Conference, Leuphana, Germany. 6-8 Feb 2019. Contributed Oral Presentation.

Duma, M., Gambiza, J., Chakoma, C. & Powell, R. 2019. Community-based restoration of degraded landscapes: Developing a training model for sustainable land management at Machubeni, Eastern Cape. Presented at the 8th World Conference on Ecological Restoration: Restoring Land, Water & Community Resilience, 24-28 September 2019, Cape Town

Duma, M. & Gambiza, J. 2019. Socio-economic considerations for land rehabilitation: Exploring the use of low-cost land rehabilitation structures in communal areas. SAAG Conference on workshop on Erosion, land degradation and rehabilitation, Chintsa, East London.18 September 2019

Gambiza, J. and Moragh, P. 2019. An inquiry-based pedagogy to support the development of environmental science Honours students' literacies at Rhodes University. *HELTASA Conference*, 26-29 November, Rhodes University.

Gambiza, J. 2019. An inquiry-based pedagogy to support the development of environmental science Honours students' literacies at Rhodes University. *Teaching At University (TAU) Conference*, 07-10 July, KZN.

Gambiza, J., Duma, M., Chakoma, C., Menelisi, F. and Francis, B. 2019. Lessons for improving rural livelihoods through sustainable land management in Machubeni communal land: a landscape littered with skeletons of failed development projects. 8th World Conference on Ecological Restoration (SER 2019) - 24th to 28th September, Cape Town, South Africa.

Gambiza, J. 2019. The current status and thinking regarding land degradation and land degradation neutrality in South Africa. Keynote paper presented at the South African Association of Geomorphologists (SAAG) Post Conference Workshop, 18 September, East London.

Grant, R. Lunderstedt, K, Biggs, H., Powell, M & Smart, K. 2019. Albany Thicket Research Framework Meeting: Workshop Proceedings._Developing a research framework for thicket, it's restoration and related praxis. Thicket Forum oral presentation. 12-14 June 2019, Addo Elephant National Park, Addo

Gwedla, N. & Shackleton, C. 2019. Perceptions and preferences for urban trees across multiple socio-economic contexts in the Eastern Cape, South Africa. IERM Convention 2019: "Public Spaces and Places- Current Trends, Future Opportunities & Global Views", 03-06 September, George, South Africa.

Hardisty, S. 2019. Understanding how spatial resilience thinking can help address scale mismatches in marine protected areas: Case studies of South African marine policies. West Indian Ocean Marine Science Association (WIOMSA), 11th Scientific Symposium, Port Louis, Mauritius, 28 Jun – 5 July.

Hardisty, S. 2019. Understanding how spatial resilience thinking can help address scale mismatches in marine protected areas: Case studies of South African marine policies. International Congress for Conservation Biology (ICCB), Kuala Lumpur, Malaysia, 21-25 July.

Lunderstedt, K. 2019. Towards avoided degradation and transformation: mapping for monitoring in the thicket biome. Thicket Forum oral presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Norman, Y. 2019. Modifying the current planting protocol to improve establishment of *Portulacaria afra* in Albany Thicket Biome (ATB) of the Baviaanskloof, Eastern Cape. Thicket Forum oral presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Powell, M & Smart, K. 2019. Manipulating soil moisture release from heavy clay soils for improved restoration. Thicket Forum oral presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Powell, M & Smart, K. 2019. Is the restoration of thicket in the Albany Thicket Biome with woody species really not feasible? Oral presentation at the 8th World Conference on Ecological Restoration, 24-28 September, Cape Town.

Ruwanza, S. Secondary invasion: The need for a proper river restoration management plan. 8th World Conference on Ecological Restoration (SER 2019) - 24th to 28th September 2019, Cape Town, South Africa.

Sardeshpande, M. 2019. Fruits in the city: Sources and supply of wild foraged fruits in urban Kwa-Zulu Natal, South Africa. Intn Congress for Conservation Biology 21-25 July, Kuala Lumpur (Malaysia).

Smart, K., Archibald, S., Venter, N. & Cowie, B. 2019. The unexpected spekboom response to CO2 levels and drought. Thicket forum oral presentation. 12-14 June, Addo Elephant National Park, Addo.

Smart, K., Palmer, T. & Ripley B. 2019. Restoring ecosystem function: The conundrum of woody encroachment in South Africa. Oral presentation at the 8th World Conference on Ecological Restoration, 24-28 September, Cape Town.

Thondhlana, G., Redpath, S., Vedeld, PA., van Eden, L., Pascual, U., Sherren, K. and Murata, C. Understanding qualitative costs of wildlife conservation for human well-being. International Symposium on Society and Resource Management: June 2-7, 2019, Oshkosh, Wisconsin (USA).

CONFERENCE POSTERS (7)

Botha, C. 2019. Carbon Modelling of *Portulacaria afra*. Thicket Forum poster presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Joynt, C., Chuene, K., Goosen, E., Nakhooda, M. Paxton, M. and Gambiza, J. 2019. Nurturing Student Capital. *Best poster at the Teaching At University (TAU) Conference*, 09 July, KZN

Lunderstedt, K. & Gummow, W. 2019. Vegetation cover change and loss at regional and farm scale in the Gamtoos River Valley, Eastern Cape. Thicket Forum poster presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Lunderstedt, K. 2019. Vegetation cover change and loss in the Alexandria District, Eastern Cape. Thicket Forum poster presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Trafford, B. 2019. The use of remote sensing and field data to analyze the effects of land transformation on Thicket. Thicket Forum poster presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Zenani, K. 2019. Soil Nutrient Levels: The difference between Intact and Transformed Thicket. Thicket Forum poster presentation. 12-14 June 2019, Addo Elephant National Park, Addo.

Zenani, K. 2019. Soil Nutrient Levels: the difference between Intact and Transformed *Thicket*. Poster presentation at the 8th World Conference on Ecological Restoration, 24-28 September, Cape Town.

PUBLISHED CONFERENCE PROCEEDINGS (1)

Baa, Enokenwa O. Shackleton, Sheona. Coetzer-Hanack, Kaera (2018). Gender, culture, and natural resource use: How this nexus manifests in the Baka communities in the East region of Cameroon. In Petrik, D., Ashburner, L. 2018. *Conference Proceedings of Adaptation Futures 2018.* Adaptation Futures 2018. University of Cape Town, Cape Town. Pages 132-136. https://doi.org/10.15641/0-7992-2543-3

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