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Renu-Karoo News Highlights 2012.04-2013.03

Renu-Karoo Nursery

Renu-Karoo runs a nursery specialising in indigenous Karoo plants but also producing culinary herbs and vegetable seedlings. We have a staff of 9 local people. Over the past year we expanded our plants range and now propagate 540 indigenous species. These include 46 species of indigenous Pelargoniums and 80 species of Mesembryanthemaceae, a family of 2000 species most of which are endemic to South Africa's arid areas. Our major outlet is the Renu-Karoo Nursery Shop in the main street of Prince Albert that attracts visitors from all parts of South Africa. We also offer garden landscaping services specialising in water-wise indigenous Karoo plants. In January 2013 we designed the garden for the set of a TV programme (Kokkedoor) featuring Karoo cookery.

Seed production

We collect seeds of 10 species of Karoo shrubs and 6 species of common Karoo grasses for use in rangeland rehabilitation work in the Karoo. Our female workers collect all seeds by hand, either from our own seed orchard or from roadsides. Over the past 5 years the major buyers of seed for rangeland rehabilitation have been engineering companies that are required by law to repair damage to natural vegetation using appropriate, locally indigenous species. Lifestyle farmers, game farmers and stock farmers occasionally buy seed to carry out small vegetation improvement projects such as the conversion of formerly ploughed lands back to rangeland to improve grazing or the appearance of the landscape. Over the past year seed sales have dropped markedly. We are not sure whether this is the result of the global recession, or failure of the seeds to yield the expected restoration outcomes. Hopefully the research conducted by Willem Matthee will enable us to better serve our clients needs.

Students & interns

During the first half of 2012, Renu-Karoo hosted two student interns from the Nelson Mandela Metropolitan University (NMMU). Willem Matthee, registered for a masters degree at NMMU and co-supervised by Sue Milton-Dean, set out field restoration experiments on Wolwekraal Nature Reserve and interviewed people who had purchased seed from Renu-Karoo to document factors influencing performance of seeds sowed in rangeland. In May 2012, Denise Mager, a visiting scientist carried out research on lichen crusts in Wolwekraal Nature Reserve. Renu-Karoo collaborated with Corinna Bekker, another Nature Conservation masters student at NMMU, throughout 2012 in nursery-

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based trials to determine the influence of soil texture and water salinity on the growth of *Portulacaria afra* (spekboom) a succulent plants being used in rehabilitation trials in the eastern Karoo. Student Andrew Jackson, registered January 2013 for a Masters degree through NMMU, is working at Loxton with the Endangered Wildlife Trust to establish habitat restoration trials for the Critically Rare Riverine Rabbit. Sue Milton-Dean is an advisor on this project.

Talks, training & community involvement by Renu-Karoo staff

In April 2012 we presented a rangeland information and plant identification day for a group of farmers near Loxton, and a two week course on restoration ecology at Rhodes University (Grahamstown). In May we gave lectures on Karoo Biodiversity at the "winterschool" held in our village. In June Sue Milton presented a week-long course on sustainable use of plant at the NMMU. In September she led an outing for the Garden Club. In December 2012 and throughout March 2013, WCRO/Renu-Karoo assisted the local Extended Public Works Programme team with their environmental training. In February 2013 WCRO and Renu-Karoo staff presented a two-day plant propagation and veld restoration course for 12 adults, of whom 8 came from poor rural communities in Spoegegrivier (Namaqualand) and Merweville (Great Karoo). Richard Dean and Sue Milton participate in the local "LandCare Forum" that meets to share information on solutions to rangeland management problems in the area. Maraai Isaacs spoke to a school group and a local women's club on indigenous medicinal plants. Sue Milton addressed senior learners at a local school on Karoo ecology. Titles of talks given in 2012/2013 appear below.

1. Milton, S.J. and Dean, W.R.J. 2012. The importance of managing road-verge vegetation to conserve biodiversity and prevent alien plant invasion. Presented to Western Cape Minister of Transport, Cape Town 2012.01.20
2. Milton, S.J. and Dean, W.R.J. 2012. The Karoo South Africa's spectacular biodiverse semi-desert hotspot. Presented at Prince Albert Winter School, 2012.05.31
3. Milton, S.J. and Dean, W.R.J. 2012. Why restore unproductive semidesert? Environmental awareness and practical skills development as spin-offs from a Karoo veld restoration business. TEDx Prince Albert, 2012.09.01 Can be viewed at [sue_milton_dean.mp4](http://www.youtube.com/watch?v=aGQi6bLkxhk&feature=youtu.be) with sound <http://www.youtube.com/watch?v=aGQi6bLkxhk&feature=youtu.be> [Rufford logo]
4. Milton, S.J. and Dean, W.R.J. 2012. Why manage the Karoo sustainably? Talk compared past and future damage caused by farming and mining and discussed need for and limitations of restoration. African Relish, Prince Albert. Part of Anti-fracking campaign, 2012.09.19 [Rufford logo]
5. Milton, S.J. and Dean, W.R.J. 2012. Mining in the Karoo: Environmental Risks & Impacts. Karoo Development Conference, Beaufort West 2012.10.15 [Rufford logo]
6. Milton, S.J. 2012. Repairing compound damage in arid ecosystems: challenges and controversies. Stellenbosch University, Botany-Zoology Research Day 2012.11.28 [Rufford logo]
7. Milton, S.J. and Dean, W.R.J. 2013. Karoo Ecology. Lecture for Grades 9-12, Albert College, Prince Albert. 2013.03.05 [Rufford logo]

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8. Milton, S.J. and Dean, W.R.J. 2013. A business based on biodiversity and environmental challenges. Women's Club, Rietbron (in Afrikaans). 2013.03.06 [Rufford logo]

Nature tourism and education in Wolwekraal Nature Reserve

Between 1 April 2012 and 31 March 2013 we guided 70 university or school students and 170 paying visitors on nature walks in Wolwekraal Nature Reserve.

Research and Consulting

Research during the past year was limited to involvement as a supervisor or advisor of projects of students, student interns or visiting students, and to minor collaboration in research projects run by colleagues. Consulting work included environmental sensitivity and specialist botanical assessments for gravel mines, uranium exploration, solar farm development and game introductions in the Karoo.

2012-2013 peer publications and consulting reports are listed below:

Peer-reviewed Publications 2012-2013

1. Dean, W.R.J., Franke, U., Joseph, G., Gonçalves, F.M., Mills, M.S., Milton, S.J., Monadjem, A. and Oschadleus, H.D. 2012. Type specimens in the bird collection at Lubango, Angola. *Bulletin of the British Ornithological Club* **132**(1): 41-45. www.birdsangola.org/downloads/Angola2013LBSCNotes.pdf [PDF] UCT
2. Belnap, J., Ludwig, J.A., Wilcox, B., Bestlemeyer, B., Betancourt, J.L., Dean, W.R.J., Milton, S.J. 2012. Introduced and invasive species in novel rangeland ecosystems: Friends or Foes? *Journal of Rangeland Ecology & Management* **65**: 569-578, DOI: [10.2111/REM-D-11-00157.1](https://doi.org/10.2111/REM-D-11-00157.1) [PDF] UCT
3. Blignaut, J., Esler, K.J., de Wit, M.P., Le Maitre, D., Milton, S.J. and Aronson, J. 2013. Establishing the links between economic development and the restoration of natural capital. *Current Opinion in Environmental Sustainability* **5**: 5:94-101 <http://dx.doi.org/10.1016/j.cosust.2012.12.003> [PDF] SRU_NMMU
4. Crookes D.J., Blignaut J.N., de Wit M.P., Esler K.J., Le Maitre D., Milton S.J., Mitchell S., Cloete J., de Abreu P., Fourie H. (nee Vlok), Gull K., Marx D., Mugido W., Ndhlovu T., Nowell M., Pauw M. & Rebelo A. 2013. System dynamic modelling to assess economic viability and risk trade-offs for ecological restoration in South Africa. *Journal of Environmental Management* **120**: 138-147. doi: [10.1016/j.jenvman.2013.02.001](https://doi.org/10.1016/j.jenvman.2013.02.001) [PDF] UCT

Consulting reports 2012-2013

1. Milton SJ 2012. Habitat Assessment for Sable Antelope Njalo-Njalo, Touwsrivier. Prepared for A. Nel 2012.03.20
2. Milton SJ 2012 Botanical Sensitivity Analyses for 25 Proposed Borrow Pits. Prepared for Aurecon (Cape Town)
3. Milton SJ & Dean WRJ 2012. Botanical and Faunal Specialist Studies for Application for Environmental Authorisation for proposed construction of a Photovoltaic Solar Power Station with associated infrastructure near Collett Substation, Middelburg, Eastern Cape. Prepared for AE-AMD Renewable Energy (Pty) Ltd (Cape Town).

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4. Milton SJ 2012 Broadscale Habitat Sensitivity Assessment for Uranium Prospecting: Tasman-Pacific Minerals Site 29. Prepared for Prepared for Geo-Consult International (Pty) Ltd, On behalf of Tasman-Pacific Minerals Ltd
5. Milton SJ 2013 Broadscale Habitat Sensitivity Assessment for Uranium Prospecting: Tasman-Pacific Minerals Site 22. Prepared for Prepared for Geo-Consult International (Pty) Ltd, On behalf of Tasman-Pacific Minerals Ltd
6. Blignaut J, de Wit M, Milton SJ, Karen Esler K, le Maitre D, Mitchell S, and Crookes D 2012. Determining the Economic risk/return parameters for developing a market for ecosystem goods and services following the restoration of natural capital: a system dynamics approach. Prepared for the Water Research Commission by Asset Research.

Awards

On the 26th June 2012 Renu-Karoo was chosen as a runner up in the South Africa Mail and Guardian "Greening the Future Awards"

Wolwekraal Conservation and Research Organisation (WCRO)

As a first step in splitting the business from the non-profit activities of Renu-Karoo. a Founding Meeting to establish a Non-Profit Organization (NPO) was held on 24 October 2012. An Exco of 5 members was elected to manage "Wolwekraal Research and Conservation Organization (WCRO)" a public benefit organisation that will raise funds for management of the Wolwekraal Nature Reserve, and for environmental education, ecological restoration and biodiversity research activities in the Karoo. Renu-Karoo Veld Restoration cc will continue to run a biodiversity-based business specializing in Karoo veld consulting, indigenous nursery, composting and seed collection.

Wolwekraal Nature Reserve Conservation Activities

Achievements in conservation management of Wolwekraal Nature Reserve over the reporting period include development of a CapeNature approved management plan, Construction of a 2.5 m net fence along the southern boundary of the reserve with the Municipal Garbage Dump, construction of 500 m of stock-proof fencing along the western boundary of the reserve with the road to Leeuw Gamka.

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Photos

Renu-Karoo nursery staff 2012.01

Standing: Richard, Brenda, Mina, Jasmien, Meraai

Front row: Sue (inset), Christiaan, Wilfred, Caroline, Ernest, Klaas



Will Matthee rehabilitation research Mar-Jul 2012



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Veld rehabilitation discussion Feb 2013



EPWP training Feb 2013

Maraai Isaacs of Renu-Karoo introduces Rietbrom Women's Club to medicinal uses of Karoo plants



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Making cuttings with WCRO mentorship Feb 2013

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