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CAPE website migrating to warmer weather



Like some of our feathered friends, the CAPE website is in the process of migrating towards warmer environmental conditions.

The CAPE website serves as an invaluable tool where resources, information and communication are shared amongst communities in the Cape Floristic Region and broader; including E-news articles, events and projects. Due to technical problems experienced, the website will be moved to the SANBI corporate

website.

An update will be provided upon completion of this process.

For more information about the website contact Marilyn Martin-Vermaak at m.martin@sanbi.org.za

Country's first ever bioregional plan gazetted!



News hot off the press: MEC for the Department of Economic Development, Environmental Affairs and Tourism, Sakhumzi Somyo, has gazetted the Nelson Mandela Bay Municipality's Bioregional Plan.

On 30 March 2015 the Province of the Eastern Cape broke new ground by being the first in the country to launch its Bioregional Plan and now the first bioregional plan to be gazetted!

'The Nelson Mandela Bay Municipality Executive Mayor is so excited and congratulated his Staff for being diligent and consistent in ensuring that the Bioregional Plan becomes the fundamental spatial layer for spatial planning in the Municipality. This is also consistent with our Climate Change objectives of establishing a climate resilient City through the maintenance of our biodiversity corridors and ecological processes,' said Joram Mkosana, Senior Director: Environmental Management at Nelson Mandela Metropolitan Municipality. The purpose of a bioregional plan is to inform land-use planning and decision-making by a range of sectors whose policies and decisions impact on biodiversity. This is done through

providing a map of biodiversity priorities with accompanying guidelines that inform land-use planning, environmental assessment and authorisations, and natural resource management.

Bioregional plans are intended to feed into a range of multi-sectoral planning and assessment processes such as Environmental Management Frameworks, Spatial Development Frameworks, Strategic Environmental Assessments and Environmental Impact Assessments. The gazette states that the plan should be used by all sectors that are involved in land-use planning and decision making and multi-sectoral planning. Users of the Bioregional Plan include mandatory users, i.e. those who are compelled to consider the Bioregional Plan, and other intended users for whom the Bioregional Plan will be a useful planning and developmental tool.

The National Environmental Management Act (NEMA; Act No. 107 of 1998) requires that all organs of state must take biodiversity considerations into account in their decision-making. The Bioregional Plan facilitates this by serving as the official reference for biodiversity priorities within the bioregion, superseding all the previous non-published spatial biodiversity plans. The plan supports the principles of integrated development planning and sustainable development espoused by NEMA by identifying the biodiversity conservation priority in the municipal area, as well as other natural areas that could potentially be made available for other land-uses. The plan is consistent with the NEM: Biodiversity Act (Act No. 10 of 2004), the National Biodiversity Framework (2009), and South Africa's commitments in terms of international agreements such as the Convention on Biological Diversity (1993) and the United Nations Framework Convention on Climate Change.

Furthermore, the plan was developed in an integrated manner with the Municipal Spatial Development Framework (SDF), which is a spatial articulation of the Municipal Integrated Development Plan (IDP), in order to identify an optimal balance between biodiversity conservation and other sector needs.

A copy of the gazetted NMBM Bioregional Plan can be viewed on the Nelson Mandela Bay Municipality website at www.nelsonmandelabay.gov.za

CAPE fire: rising from the ashes



A week after fires swept through Table Mountain National Park it was awe-inspiring, yet not unexpected, to see teeming life within this landscape. The fire raged through 5 500 hectares of the Cape Peninsula with strong winds and extreme temperatures making it difficult for the fire fighters to control. 'When fires like these are experienced the reaction is to feel a lot of sadness for the loss of our flora and fauna but fynbos flora is adapted to burn, it needs to burn to live', said Dr Adam West from the Department of Biological Science at UCT. If fynbos does not burn every 15 years; many species would be lost, and diversity from

the system would effectively start to wind down and die. Fire is really important as it is a rebirth for the ecosystem.

The fires raged over five days in early March and in some places were driven into old dense bush by strong winds. During the fires, Cape Town recorded its hottest temperature in 100 years at 42 degrees Celsius. 'Hot fire stimulates germination of large species' seeds, like proteas and leucodendrons, some of which have been waiting for 50 years to germinate', said Professor Richard Cowling, of the Department of Botany at Nelson Mandela Metropolitan University. 'Smaller seeded species like ericas and daisies however, get absolutely singed by the heat. This is why the fynbos is so bogglingly diverse. Each fire is unique in the effect it has on fynbos species, and while it cannot be predicted what the fire is going to be like; what happens after the fire is important. The timing of the fire - just before the rainy season; has been perfect for many of the taller plants like proteas and leucodendrons that release seeds after the fire. These taller plants would be favoured if the rains arrive soon. If the fire had occurred in September, seeds would lie in the soil right through the summer and could be scattered by wind or eaten by rodents.

Dr Phoebe Barnard, of the Birds and Environmental Change Programme at SANBI, said that 'there are birds that will be going into the burnt area as opportunists, birds of prey like buzzards and goshawks which capitalise on the exposed veld'. Barnard further mentioned that there are birds that can feed for a long time in "roasted" areas like cape canaries which feed on seeds of leucodendron bushes often roasted in their little cones.

Birds like cape rock jumpers which are endemic species do very well after fire because fire exposes the ground and the birds clean up any insects injured or killed by the fire and for the next four to five years there would be relatively opened habitat of newly growing fynbos. 'Some of the birds like the Cape sugar-bird which requires mature Proteoideae such as pincushions to be able to drink nectar will migrate elsewhere' said Barnard.

Barnard encourages people in the Cape Town suburbs to plant more locally indigenous water bearing and flowering species for the long term; as well as stopping the propagation of alien vegetation that adds a significant fuel load to fires. As Fynbos involves thousands of species; not just proteas, birds, insects, reptiles and mammals, it is also necessary to cater for them by keeping a mosaic of natural vegetation in the landscape. This ideal would mean a landscape of fynbos at differing cycles of fire age so that all species can thrive by moving easily between habitats.

Fire that occurs too frequently or in the wrong season result in plants not having enough time to seed or the seeds being wasted resulting to elimination of species including plants, birds, insects, reptiles and mammals. It is important that humans have a willingness to protect and manage the fynbos to avoid these risks.

For more information see www.africageographic.com

Citizen Scientists Discover New Plant Species



Amateur botanists have discovered two new species of beautiful blue-flowered legumes. The study was published in the open access journal *PhytoKeys*.

Few people take the time to tramp the rolling ranges of mountains and the fragmented and jagged coastline of the Southern Cape. Yet there are a band of intrepid walkers and climbers who traverse these areas every week searching for rare and endangered plants. One such group call themselves the Outramps (Afrikaans for senior walkers). They belong to the Citizen Science group, C.R.E.W. (Custodians of Rare and Endangered Wildflowers), run by SANBI, whose volunteers help with monitoring and conserving South Africa's threatened plants.

Recently they discovered two beautiful blue-flowered legumes which they thought were new to science. They sent these legumes to scientists researching the legume tribe Psoraleeae at the University of Cape Town. After a field trip to see these species in the field and after comparing them with known species, scientists identified the samples as new members of the legume genus *Psoralea*.

The Outramps are the most active CREW group in South Africa and are led by their indomitable leader Dianne Turner. Turner and her group, in their dilapidated and famous Kombi called 'The Buchu Bus', have crisscrossed the region many times and have assessed the conservation status of many rare species.

To honour the Outrampers, it was decided to name the new species after the group leader Dianne (*Psoralea diturnerae*) and the ace photographer in the group Nicky van Berkel (*P. vanberkelae*) who discovered the plants. Di's *Psoralea* (*P. diturnerae*) is a mountain species and is known from only a few localities around the Camferskloof area in the Outeniqua Mountains.

Nicky's *Psoralea* (*P. vanberkelae*) is locally abundant in an area of less than 20 km² coastal habitat along the Robberg Coastal Corridor. Fortunately, the main population is owned and protected by a keen conservationist in his private Fynbos Private Nature Reserve. This

stunning species is a flagship species for this wild and relatively unknown coastal strip where the cliff edges rise sharply from the sea and their escarpments are not easy to access.

The discovery of *P. vanberkelae* has stimulated a drive to undertake a botanical inventory along the unique 16 km long coastal strip between Robberg and Harkerville and to get it declared a Protected Environment. University of Cape Town botanists are keen to support this as they also noticed many other rare species in the area. Even normal plants such as Virgilias and buchus adopt strange forms here - a combination of the shearing salty sea breeze spray, the quartz substrate, their isolation, and poor local nutrition.

"Without the persistence and enthusiasm of the Outrampers, we would never have picked up these species in our studies as they were in areas we would not have accessed in our planned field trips. It is not uncommon for highly localised species to be overlooked by monographers", said Prof. Charles Stirton of UCT.

Citizen scientists play a valuable role in the discovery and protection of the unique Cape Flora. This is a testament of their contribution.

Case studies making the case for biodiversity



Ecological infrastructure case studies that demonstrate how the wise management of biodiversity and ecological infrastructure contributes to economic and social development in the Cape Floristic Region (CFR) have recently been completed by SANBI.

These case studies form part of a suite of ten case studies produced as part of the 'making the case for biodiversity' programme which is aimed at inspiring sector partners to strive towards communication that not only reflects the scientific discoveries being made, but also illustrates its relevance to individuals and the challenges we face as a country in a way that will leverage emotional and financial investment.

'Washed away', looks at careful farming practices, infrastructure planning and development dovetailing with keeping water catchments healthy, to avoid costly damage caused by flooding in the Heidelberg area. Losing healthy catchments upriver can have devastating consequences for built infrastructure further downstream, due to flooding. The study calls for better decision-making in the management of landscapes.

The second case study 'A Flower in The Heart of Eden' is set in the Eden District Municipality and highlights that by working together in water catchments; municipalities, farmers and the private sector can build a shared response to managing communal water supply. This can help them to better manage the negative impacts of climate change on the water resources on which they all depend.

'The Buzz Factor' highlights that healthy hives and adequate pollination services are essential to agricultural production, the economy and agriculture-linked jobs. Thus encouraging the conservation of the natural veld, growing bee-friendly plants and good farming practices, which can help keep honeybee populations strong, ensuring they continue working our fields and giving us 'free' pollination services. This is important for the economy and agriculture-linked jobs.

'A cup of tea' is set in the Nieuwoudtville area and focuses on the rooibos tea industry. The case study makes the case for protecting natural ecosystems, and the plants and animals living in them, because they hold the key to sustaining our lives and economies. To view all of the case studies visit: <http://www.sanbi.org/news/ten-compelling-case-studies-making-case-biodiversity>

The case studies offer good narrative evidence and aim to appeal to the audience on a personal level, facilitating emotional investment around the issues in question. The suite of case studies serve as powerful evidence of biodiversity communication and are based on practical cases that have occurred across the country.

The case studies form part of a toolkit designed to equip researchers for the collection of compelling information and the formulation of evocative case studies. To that end, an overview of the factors that contribute to effective communication as well as a case study preparation framework and a case study collection worksheet are provided. To access the toolkit visit: <http://www.sanbi.org/sites/default/files/documents/documents/mtc-case-study-development-toolkitmediumresolution.pdf>

The 'making the case for biodiversity' programme is being implemented by the Council for Scientific and Industrial Research (CSIR) and SANBI as part of ProEcoServ (Project for Ecosystem Services). Part of SANBI's role in ProEcoServ is to develop innovative communication tools aimed at supporting the work at the science-policy interface. ProEcoServ aims to support the incorporation of ecological infrastructure and ecosystem services into national development planning and policy. ProEcoServ is an international project operating in Chile, Trinidad and Tobago, Vietnam, South Africa and Lesotho. The project is funded by the Global Environment Fund (GEF) through the United Nations Environment Programme (UNEP).

Celebrating National Water Week



National Water Week 2015, held from 16 to 22 March, provided the opportunity to highlight the importance of this most vital of resources. National Water Week is an initiative of the Department of Water and Sanitation. The 2015 theme is, “Water has no substitute”.

National Water Week serves as a powerful campaign mechanism re-iterating the value of water, the need for sustainable management of this scarce resource and the role water plays in eradicating poverty and under-development in South Africa. On World Water Day, held annually on 22 March, we celebrate the role freshwater plays in our lives and focus on the roles we can all play in protecting our water resources.

The campaign seeks to continue building on the ongoing awareness creation within the broader South African community. This awareness creation is coupled with the responsibility that every citizen must take in ensuring the integrity of our water resources and its efficient use. The Western Cape has a fast growing population, where the demand of clean and sufficient water is increasing every day.

‘Water is our single most precious resource, and I encourage everyone in our beautiful province to make their own #pledge4water during National Water Week’, said; CEO of Cape Nature, Dr Razeena Omar. Omar challenged all of the citizens of the Western Cape to be water wise. ‘Whether it’s cutting the length of your shower in the morning, or making sure you switch off the tap while brushing your teeth, every little bit can help to secure the future of our water supply’.

CapeNature is a significant role player in ensuring regular and steady water supply in the Western Cape. This is done through CapeNature’s Integrated Catchment Management programme. This programme is holistic focusing on both water and land management to manage water resources for a sustainable water supply for communities. As part of catchment management the programme also works to control the fires and invasive alien species in order to protect the ecosystems surrounding catchment areas, while guiding

land-use planning and development. CapeNature's approach allows for up to 60% of the water in the province to be collected in our catchment areas.

Managing water isn't just about ensuring a steady supply of clean drinking water from your tap it's also about ensuring that the agricultural sector enjoys a reliable supply of usable, clean water, as well as keeping the ecosystem healthy so that the entire cycle can keep going.

For more information on CapeNature's Integrated Catchment Management Programme, visit <http://www.capenature.co.za/care-for-nature/conservation-in-action/integrated-catchment-management/>

Cape learners' eyes opened to new biodiversity careers



Another successful biodiversity careers day was held early in March at Kirstenbosch National Botanical Garden, coordinated by SANBI's Gold Fields Education Centre. The purpose of the Biodiversity Careers Day is to highlight the wide variety of options in biodiversity and environmental careers to Grade 10 to 12 learners.

The Biodiversity Careers Day supports SANBI's Corporate Strategic Plan and mandate, which states that the organisation must drive human capital development, education and awareness in response to SANBI's mandate. This year saw a mix of 14 biodiversity conservation career stations hosted by SANBI, 4 Cape Town universities, 214 Grade 10 – 12 learners, 14 educators and 29 SANBI Education officers, interns and Botanical Society volunteers coming together to participate in the Biodiversity Careers Day.

Learners entered labs and facilities, usually closed to the public, such as the molecular, global pollination and Geographic Information Systems (GIS) labs; the Herbarium and the climate change and bio-adaptation reading area. Scientists and researchers, not only in these labs, but also from the Millennium Seed Bank project, horticulture fields, ornithology, CREW (Custodians of Rare and Endangered Wildlife), the Invasive Species Programme and SAEON (South African Environmental Observation Network) spoke directly with groups of learners who not only learnt about these careers, but also had the opportunity to ask their own questions.

Careers not represented in SANBI were covered by colleagues from the City of Cape Town Nature Reserves and the South African Iziko Museum entomology, taxonomy and

palaeontology divisions. Each school group also spent valuable time at the stations set up by the University of Stellenbosch, University of Cape Town, and University of the Western Cape and the Cape Peninsula University of Technology. Learners were able to find out what courses the universities offer; application requirements and bursaries.

Learners comments on the day reflect that their eyes were opened to new careers that they had not known exist. A learner from Heritage College said, 'It has given me a deeper understanding of many new career options and how biodiversity works. I will try to research more about the aspects that I liked and try to be clear on what career I want'. Rukeya Samaai, the accompanying educator from Rylands High School said, "It was most informative and exceptionally well organised. My learners absolutely loved it. I hope that you will consider us next year again."

A comment from one of the career presenters, described it as an "impeccably stage-managed and inspired production. I thought it was perfect and I really appreciated the opportunity to reach nearly 250 teenagers from across greater Cape Town. The interaction was very energising, and some schools were particularly engaging and engaged. Schools left not only with new knowledge about biodiversity and associated careers, but also with a "goodie bag" of teaching resources, thoughtfully supplied by SANBI, partner organisations, the Botanical Society of South Africa, the Kirstenbosch Garden Centre and the Kirstenbosch shop.

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Restoration action in the Cape Winelands



The Cape Winelands Biosphere Reserve, one of the CAPE landscape initiatives, together with the Western Cape Department of Agriculture's LandCare Programme has signed an agreement to develop an indigenous tree nursery at the Sustainable Living Centre on DelVera Farm outside Stellenbosch. The owners of the farm, the Sperling Family, have very kindly given use of the premises at no cost, making this project and others, possible.

Trees produced will be used to restore riparian zones along the Berg River catchment area both on farms and on public land. Unemployed people of the area will be trained to harvest the correct seeds, take cuttings, collect grasses and will be involved in the propagation process.

Seeds will be collected on Plaisir De Merle Wine Estate where Freddie Le Roux, the manager, has been on a 20 year quest to restore all the kloofs to their original pristine state. Not only have some very rare pincushions been preserved, but leopards and other mammals and birds, live in the kloofs as well.

The project is co-funded by the Western Cape Department of Agriculture, and the Dutch Government through Living Lands, and demonstrates how CAPE partners from government and civil society can work together to conserve the rich biodiversity of the CFR.

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