SANBI
Biodiversity for Life
South African National Biodiversity Institute

SANBI Living Catchments **NEWSLETTER**

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Living Catchments Project overview

The Living Catchments Project is a collaborative project that is being implemented and led by the South African National Biodiversity Institute (SANBI) in partnership with the Water Research Commission through funding from the Department of Science and Innovation. The project was developed in response to the Water Research, Development and Innovation Roadmap (Water RDI Roadmap), which is a national planning intervention by the WRC, DSI, and the Department of Water Affairs (DWS), aimed at addressing water scarcity in South Africa over a ten-year period between 2015 and 2025. The project responds specifically to the RDI Roadmap's Supply Cluster 3: *Improve adequacy and performance of supply infrastructure*.

The project is being implemented in four unique catchments across South Africa: the uMzimvubu, Thukela, Berg–Breede and the Olifants catchments. The intention of the project is to create more resilient, better resourced and more relational communities with the ultimate vision to strengthen an enabling environment for catchment governance and the integration of built and ecological infrastructure in support of water security, economic development and livelihood improvement. The project also intends to strengthen an enabling environment for water governance at the nexus of landscapes and water supply in South Africa. The project is centred on co-learning and co-creation, through communities of practice, to enable collaboration, grow the practice of transformative social learning, and strengthening the practice of policy engagement and how biodiversity is mainstreamed into the water sector.

For further information on the Living Catchments Project, please contact the Project Leader, Mahlodi Tau, at SANBI: m.tau@sanbi.org.za

In this issue

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City Nature Challenge 2022: 29 April – 2 May 2022

By Namhla Mbona & Puseletso Nkadimeng

The City Nature Challenge is an international effort for people to find and document plants and animals in their city. It's a bioblitz-style competition where cities around the world compete against each other to see who can make the most observations of biodiversity, who can find the most diverse species, and who can engage the most people. The challenge uses the iNaturalist platform which is curated by Community Science teams at the California Academy of Sciences and the Natural History Museum of Los Angeles County.

The City Nature Challenge started in 2016 as a competition between San Francisco and Los Angeles; and has grown into an international event with almost 400 cities participating in 2022. It is an annual four-day global bioblitz held end of April to beginning May. The City Nature Challenge is collaborative, showing what can be accomplished through friendly-competition when we all work toward a common goal. It gives an opportunity of co-learning and growing networks with like-minded people. It also gives an opportunity for people in the cities to be in touch with nature again.

Through participating in the City Nature Challenge, we hope to create extensive community awareness of local biodiversity and promote further exploration of local environments. We join as citizen scientists to record as many species within a designated location and time period as possible. This is a great platform for naturalists, scientists and curious members of the public to meet in person in the great outdoors and have fun. As a result, citizen scientists get to participate in research and increase discovery opportunities that would otherwise be impossible. The data are used to gain a better understanding of biodiversity, including monitoring population trends, influencing conservation priorities and land-use decision making.

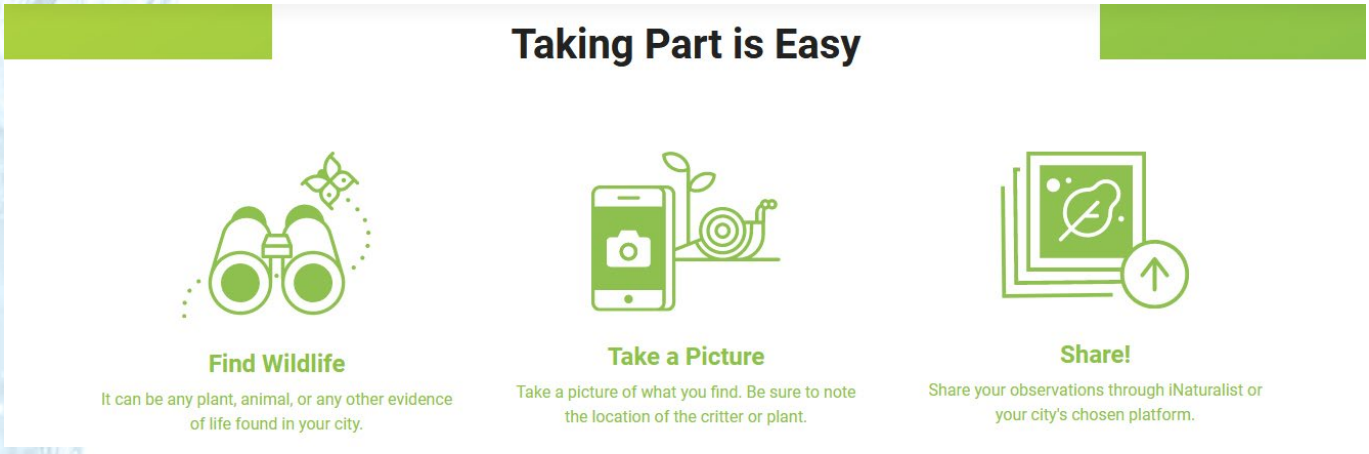
SANBI's citizen science team and other partners will be participating in the City Nature Challenge representing the different cities within the country (cities are listed below). The City Nature Challenge will take place from 29 April to 2 May 2022, making observations of plants, animals and fungi. During 3 – 8 May there is time to identify the observations that have been uploaded. The results will be announced on 9th May 2022. Everyone is encouraged to participate. SANBI's citizen science team will be hosting a series of iNaturalist tutorials leading up to the City Nature Challenge. The training will be held on Microsoft Teams every Wednesday in April at 10:00 – 11:00 and 19:00 – 20:00.

To register for the training: https://teams.microsoft.com/registration/XnyEC-JzQUSHiZwJLS3UiQ,mJB63rmtuUmSlj0XSulAyg,gFWbWD6x20uIHERv2o2UMA,Di6vzIAajkOvuwzZYUSR1g,ysJq8h-f0kWuSaWUKtI0-Q,s0z5DZR_uUKoQa1eJMocsQ?mode=read&tenantId=0b847c5e-73e2-4441-8789-9c092d2dd489

How do I take part?

City Nature Challenge is all about embracing the healing power of nature while making a difference for biodiversity research. It's really easy to take part – all you need is your smart phone!

To take part, download the free iNaturalist app onto your smartphone or tablet; take photos using the app and upload. Your records will then be identified by a community of iNaturalist, and you can also help others to



https://citynaturechallenge.org/

identify what they find. Those with big cameras can take observations with camera and record GPS location. The photos can be uploaded on iNaturalist desktop page.

The South African cities taking part in the City Nature Challenge 2022 are:

- Tshwane: https://www.inaturalist.org/projects/city-nature-challenge-2022-tshwane
- Johannesburg: https://www.inaturalist.org/projects/city-nature-challenge-2022-joburg
- Thohoyandou: https://www.inaturalist.org/projects/city-nature-challenge-2022-thohoyandou
- Bloemfontein: https://www.inaturalist.org/projects/city-nature-challenge-2022-bloemfontein
- eThekwini: https://www.inaturalist.org/projects/city-nature-challenge-2022-ethekwini-municipality
- Nelson Mandela Bay: https://www.inaturalist.org/projects/city-nature-challenge-2022-nelson-mandela-bay
- Cape Town: https://www.inaturalist.org/projects/city-nature-challenge-2022-city-of-cape-town
- Garden Route: https://www.inaturalist.org/projects/city-nature-challenge-2022-garden-route
- Overstrand: https://www.inaturalist.org/projects/city-nature-challenge-2022-overstrand
- Stellenbosch: https://www.inaturalist.org/projects/city-nature-challenge-2022-stellenbosch
- Southern Overberg: https://www.inaturalist.org/projects/city-nature-challenge-2022-southern-overberg

If you're interested in participating in the City Nature Challenge but your city isn't taking part you can join this global project to have your observations be counted as part of CNC 2022! https://www.inaturalist.org/projects/city-nature-challenge-2022-global-project.

Note: To participate in the global project you must first 'join' the project, using the link near the top right corner. For all other cities listed, there is no need to join your local project, though you may choose to do so. All observations made within the boundaries of participating cities between April 29 – May 2 will automatically be added.

Living Lands

Science education in the Cape Winelands Biosphere Reserve

By Mark Heistein

The Cape Winelands Biosphere Reserve (CWBR) management team are excited to share their project, a Mobile Education Unit: The Science Trailer, affectionately nicknamed 'STEAM-Y' (Science, Technology, Engineering, Art, Math, for Youth). This mobile educational space is used as a tool to inform, inspire and excite individuals and communities through hands-on learning experiences and empower them to navigate through the 21st century.

Through collaboration with existing partnerships, building new ones, and sharing educational resources, the CWBR aims to develop and co-create innovative ways to share skills and knowledge.

Activities include first-hand experiences such as outings to pristine areas and the evaluation of rivers utilising mini-SASS. Introduction to various tools such as flying drones, utilising telescopes, binoculars, magnifying glasses, laptops and cameras. Educational activities such as reading eco-educational books, outdoor cinema, food systems workshops, the use of mobile phones for creative and skills sharing through edu-bites, education about biosphere reserves (their role and function), and a Mobile Career Cafe.

The workshops also include anatomical models which can be taken apart to learn about the incredible anatomy of mammals and fish, including the human body.

Our latest addition includes handheld digital microscopes with a 1000x magnification that can be taken on hikes and enhance mini-SASS. The microscope can be connected to cellphones, iPads and computers and used to take videos or photos.

The CWBR has partnered with CapeNature, Action Volunteers Africa, USIKO Stellenbosch and IZIKO Museum to facilitate joint holistic outings that include career guidance, environmental education, and wilderness therapy. Outings have taken place in Franschhoek, James Town, Gordons Bay, Darling, Worcester, Wolseley and at De Hoop Nature Reserve. As many as 1 300 people have been reached since STEAM-Y's inception.




Anatomical models, handheld telescopes and opportunities to fly a drone.


Magnification: The suction cups on the base of a starfish.

CWBR has facilitated an educational programme since 2015 reaching children, youth and adults. The programme includes building a school, training educators, providing outdoor educational hikes and camps for youth, food systems and nutrition, and registered adult educational courses. This programme has successfully educated, upskilled and empowered over 13 000 children, youth and adults in local communities, as well as helping them to foster a deeper connection with the natural world.

For more information, visit our website:
https://www.capewinelandsbiosphere.co.za/

Mobile Career Café YouTube video:
https://www.youtube.com/watch?v=FWmsxHHMDiY

To book the Science Trailer for educational events contact:
cwbioreserve@gmail.com

Sharing knowledge and environmental education from source to sea!

Olifants Living Catchment Project

Evaluating ecosystem services and their value in the Blyde Catchment

By Mbali Mashele

On the 15th of February 2022, the Kruger to Canyons Biosphere Region (K2C) team participated in an Ecosystems Services Valuation Workshop for the Blyde catchment in Graskop. The workshop was conducted as part of a project funded by the Department of Forestry Fisheries and Environment (DFFE) – Land User Incentive programme, and implemented by IDLES and K2C, with further links to the SANBI Living Catchments project. Stakeholders that participated included DFFE Natural Resources Management, IDLES, SANParks, K2C,

Mpumalanga Tourism and Parks Agency, Working on Fire, Blyde Community Property Association, TGME Mine, Conservation South Africa, SANBI, South African Earth Observation Network and Rhodes University.

The lead facilitator of the workshop, SANBI Living Catchments Ph.D. student Slindile Mtshali alluded that the Freshwater Health Index (FHI) framework has massive benefits and will be utilised to analyse the health of catchments. Moreover, the framework provides an understanding of the consequences and trade-offs of actions to ultimately explore approaches to develop healthy and sustainable catchments. A direct linkage of these processes will complement broader Blyde Catchment conservation processes, including the Blyde Catchment Management Strategy, and the Blyde Catchment Investment Program.

Dimakatso Nonyane, K2C Resilient Waters Project Coordinator stated the following:

> *"The workshop was very informative as we learned more about the Freshwater Health Index framework as a methodological tool for valuable ecosystem services. Collective inputs, the weighting of indicators, and perceptions on the effectiveness for sustainable management of ecological infrastructure to support ecosystem services in the Blyde were discussed."*

Follow-up engagements will be conducted in due course, and these will focus on the governance component of the FHI framework. We are excited about the action research agenda, the convergence of science and people, and the emergence of tools that enable inclusive stakeholders' voices to be incorporated in such important work for the sustainability of our catchments.

Silindile Mtshali, SANBI Living Catchments PhD student explaining the Fresh Water Health Index framework at the Blyde Catchment Ecosystem Valuation Workshop.

Itumeleng Selebalo and Jenny Newham proving group feedback from one of the breakaway sessions.

uMzimvubu Catchment

34th uMzimvubu Catchment Partnership quarterly meeting

By Tsoanelo Shata & Nicky McLeod

The uMzimvubu Catchment Partnership (UCP) convened their 34th quarterly meeting from the 22 – 24 February 2022 linked with in-field visits which included the celebration of World Wetlands Day, themed Wetlands Action for People and Nature. The three-day event had about 83 participants including online attendance.

Day one involved an in-field celebration of World Wetlands Day, with day two being a quarterly partners' sharing platform where partners give project updates and reports, with research being the highlight of the recent meetings. Day three had two parallel site visits to an alien plant management site linked with the green business value chain, and to a livestock auction.

The UCP platform has taken a new leap into the research arena, and this is helping to answer questions the partners have related to implementation: are we making a difference? These questions are linked to the 'research programme formulation' developed in 2017 under the research development innovation (RDI) project.

The meeting ended with the election of a new chairperson and co-chairs.

Environmental and Rural Solutions (ERS) will continue in its capacity as secretariat as part of its Water Source Partnership work with WWF and as SANBI Living Catchments project co-ordinator for the Umzimvubu. We look forward to their new term!

The newly elected chairperson is Ayanda Cele from WWF, with Fezile Matandela from Conservation South Africa (CSA) and Chris Jackson from LIMA as co-chairs.

uMzimvubu Catchment Partnership Wetlands Day

By Theodrine Ngaka

UCP Wetland Day participants at the Queens Mercy wetland complex.

The uMzimvubu Catchment Programme (UCP) celebrated Wetlands Day in the George Mosheshoe traditional area, in the beautiful Ongeluksnek wetlands. Some of the stakeholders that were present included SANBI, the Department of Water and Sanitation, Matatiele Local Municipality, Forest Stewardship Council (FSC), Conservation South Africa, WWF, the Department of Agriculture, Land Reform and Rural Development, and officials of the provincial Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), Department of Forestry Fisheries and the Environment, Environmental and Rural Solutions, Conservation South Africa, community representatives, and eco-champs.

Scientists recognise that there is a need to survey poorly known regions, like the Ongeluksnek area, to understand and document the distribution of various species.

The first activity of the day entailed using citizen science tools like clarity tubes at the confluence of the Kinira and Lebele rivers to determine the clarity of the water. This made the link to the World Wetland Day theme for 2022 *"Wetlands Action for People and Nature"* and highlights the importance of actions that ensure that wetlands are conserved and sustainably used. Namhla Mbona did a demonstration on citizen science tools for assessing wetland health at Queens Mercy wetland. We continued the drive through the Ongeluksnek wetlands, with stops being made to appreciate the various functions of wetlands and a reality check of the impact that land-use activities have had on the wetlands in this area.

Vusi Mthombeni, DEDEAT ichthyologist, identifying the organisms, including invertebrates, fish and amphibians.

DEDEAT ecologist Vusi Mthombeni used some miniSASS methods to demonstrate the biological components found in one of the channels. Conversations were extensive around the various wetland benefits (environmental, aesthetic, recreational) and threats were also discussed.

Matatiele's natural wealth and the potential for that wealth to sustain and support its communities were heavily discussed. The opportunities presented by the natural environment, mountains, wetlands, cultural heritage, and the uniqueness of this town, were identified. Opportunities could mean sustainable entrepreneurship, job creation, and a boost to the local community. The lessons from this day include educating community members on the importance of wetlands and how to identify and protect them. Understanding breeds innovation, and this is what is needed to create a sustainable symbiotic relationship between communities and their wetlands.

Lastly, stakeholders spoke of protecting these wetlands and having them declared as a Ramsar site: a wetland with international significance.

NOTE from Nicky McLeod: Theodrine is a Graduate Employment Programme intern of the Water Research Commission, hosted by ERS. She has just received her MSc. in Geohydrology! We are super proud of her!! As a result of the wetland day, a follow up visit by DEDEAT Eastern Cape biodiversity unit was hosted in mid-March to explore the potential for Ramsar declaration and the national Department of Forestry, Fisheries and the Environment (DFFE) office will be assessing the area in the next few months to advise.

Eco-champs collecting organisms from an oxbow area.

iNaturalist app training done by SANBI

By Amanda Kalaku

On the 18– 9 January 2022, Namhla Mbona (SANBI) held a two day iNaturalist training session, with day one comprising theory, how to take images, uploading and identifications. Day two involved a field trip up in to the muddy green mountains along the uMzimvubu watershed north of Matatiele, for practice on the iNaturalist mobile application.

iNaturalist is a social network of naturalist citizen scientists and biologists, built on the recording and sharing of biodiversity observations across the world. It is used by uploading a photo or a sound bite, giving a basic identification and it being shared on iNaturalist platform where people can see and start identifying. It notifies specific experts in various fields linked to the basic identification and spatial location when uploading.

Participants in this training included Matatiele local municipality, Conservation South Africa, Environmental

Eco-champs taking photos of species using iNaturalist app.

and Rural Solutions (ERS), three Graduate Employment Programme interns of the Water Research Commission and13 local youth Eco-champs, now contracted by ERS, with support from WWF. The group negotiated lots of mud and washed-out roads up towards the Qacha's Nek border area with Lesotho, where we took pictures as observations and uploaded on the app to be later identified by the community. It was an exciting and very enjoyable learning day.

With the help of Namhla Mbona we created an iNaturalist project for the proposed Maloti Thaba Tsa Metsi Protected Environment (MTTMPE), and this is the start of our biodiversity database for the region, as part of the uMzimvubu Catchment project which was started four years ago with help from Tony Rebelo, in an attempt to start filling data gaps in the region.

The new MTTMPE project is gaining momentum with about 432 observations, 144 species identified to date by 38 observers and 115 identifiers respectively.

For more please go to:

https://www.inaturalist.org/projects/maloti-thaba-tsa-metsi-proposed-protected-area

Building community biodiversity stewardship in the Pondoland Centre of Endemism

By Sinegugu Zukulu

The Pondoland Centre of Endemism (PCE) is an area of 1880 square kilometres. A recent study of the flora of four sites in the area, namely Mkambati, Oribi Gorge, Umtamvuna Nature Reserve and Port St Johns revealed 2 253 species of which 196 were endemic. Of the endemics only 16 occur in all four of the above-mentioned sites, indicating that each of the investigated sites contains its own specific endemics. The region has been very poorly scientifically surveyed, and new plant species continue to be discovered. The PCE is tied to the Mzikaba Sandstone Formation of which Gobodweni area is part. Nearly all species distribution is clumped and confined to certain areas that appear to have characteristics that are not shared by adjoining areas of similar topography and substrate. The large majority are almost certainly palaeoendemics.

The endemic woody plants largely occur in stream and river forests. The rivers exhibiting the greatest presence of endemics are, from the north, uMzimkulwana (Oribi gorge), uMtamvuna, uMzamba, uMnyameni, uMtentu (Gobodweni, Majuleni are tributaries), all those are under Mbizana Local Municipality. Grassland endemics are concentrated in the same geographical area. PCE has about 200 endemic species that have been recorded. There are only THREE areas of conservation within PCE, and the remaining grasslands are historically subject to heavy utilisation. The conserved areas are the Mkambati Nature Reserve (Lusikisiki), the Oribi Gorge Nature Reserve and the Umtamvuna Nature Reserve (both in KZN). Mbizana Local Municipality has no protected area within PCE.

Outside the conserved areas, the grasslands species diversity is under threat due to heavy grazing and alien plants invasion such as lantana, chromoleana, wattle and gum trees, but still retain the essential components of the veld type. In particular, the grazing lands contain plenty of refugia from pressure, such as wetlands, which retain a diverse biota. Preliminary surveys in recent years

have revealed many new species and given rise to the existence of the Pondoland Centre of Endemism. Much more research is required to complete a survey of this Centre and without doubt, further taxa await discovery. With the narrow distribution of many species, any large-scale degradation is affecting the viability of such small populations.

The PCE biodiversity hotspots is known to botanists and conservationists, but not to the local community. It is a common trend that areas of rich botanical heritage are associated with extreme poverty. It is always a challenge to ask people to conserve biodiversity when it does not create jobs for them. SANBI's intervention therefore is trying to bridge this gap through working with local youth in various catchments.

SANBI's work here is making headways to change this. SANBI Presidential Youth Employment Initiative (PYEI) programme works with local youth to build their capacity so they may become local biodiversity stewards of this rich natural heritage. This programme, which started last year, has been introducing young people to identification of endemic plants of the area. Those who are tourist guides are also helped to understand the unique rich botanical heritage of the area so they may be able to share this knowledge with tourists who visit the area. This botanical knowledge is coupled with local medicinal knowledge to help them see the importance of protecting biodiversity.

Another team has been introduced to environmental education and awareness. These young people are developing lessons for kids in the local schools so the knowledge sharing could spread to the young ones. This is also re-introducing indigenous knowledge that is being lost due to changes in both consumption patterns and disappearance of livestock herding. This includes revival of foraging for wild fruits to enhance diet. Young people are also being introduced to nutritional values of eating IMIFINO. Through this education and awareness, archaeological sites in local caves are also being identified as areas of learning to help young ones learn about the

past. The education and awareness team has put together lessons and games that include learning from the forest, listening and learning from biodiversity (earthworms, medicinal plants, animals, owls, ground hornbills etc).

Other teams are working on opening trails into the indigenous forests that would be used by tourists. This includes building anti-erosion steps that would ensure easy access and prevent erosion along the pathways. This connects biodiversity to tourism development in the local area. Some of these forest pathways go to various attractions in the local indigenous forests, such as caves and waterfalls.

There is also a team that works in a local community nursery, propagating endemic plants, which will be used to start a local botanical garden. This nursery will also be used to show local youth how to do propagation not only for these plants but also for vegetable production to enhance food security in the local area. The nursery team is also propagating seedlings that are given out to the community for food security.

This initiative is about helping the community see value in biodiversity conservation. Coming up with strategies and initiatives that create jobs requires creative minds and honest and committed partners that bring resources to enable this local community stewardship. For local communities with 70% unemployment rate, this initiative is very significant if we are to protect and sustain biodiversity.

Upper Thukela Catchment

Building partnerships with Gauteng-based corporates to support action in the Upper Thukela

By Brigid Letty & Zanele Shezi

WWF has partnered with various Gauteng-based corporates to implement activities in the Upper Thukela. This is based on the principle that work in the Upper Thukela towards restoring the catchment and securing water supply, contributes to achieving their replenishment targets – since the Upper Thukela provides approximately 20% of Gauteng's water. WWF has been engaging with a number of actors in the catchment, including WildTrust, Maluti Drakensberg Transfrontier Programme (MDTP), Mahlathini Development Foundation and the Institute of Natural Resources NPC (INR) about how they can collaborate to achieve the required replenishments.

There is a history of collaboration between Wildlands and MDTP in terms of clearing alien invasive plants in the catchment, and with Mahlathini in terms of sustainable food production. Besides the implementation activities, there is also a focus on building partnerships between key actors in the Northern Drakensberg Strategic Water Source Area (SWSA) – in particular the actors operating within the Okhahlamba Local Municipality. This clearly aligns strongly with the aims of the SANBI Living Catchments Project and thus there have been discussions with the SANBI team as well as other actors about how this can best be achieved, and how resources can best be used. This aspect of the work will be led by Mahlathini and INR who are also the Catchment Conveners appointed by SANBI through the Living Catchments Project – in partnership with the Centre for Water Resources Research (CWRR) of the University of KwaZulu-Natal.

On 16th March 2022, a field trip took place to various parts of the Upper Thukela Catchment to see the work of the

Photo courtesy of Erna Kruger

different actors and where best the interventions can be implemented. Sites that were visited included some of the home gardens and Conservation Agriculture (CA) work being supported by Mahlathini, as well as some of the springs that have been identified by Mahlathini and INR. These are sites in Amangwane and Amazizi where groups of households need support with protecting the springs and improving a system that supplies water to their homes. During the visit, farmers from Stulwane (within Amangwane) and spring-users from KwaMagaba (within Amazizi) shared their experiences with CA and springs. The visit also identified areas that are infested with wattle, and which could provide opportunities to integrate various activities including protecting springs, piloting gravity-fed reticulation systems, clearing wattle, restoring and revegetating cleared areas, introducing CA in crop lands and climate-smart approaches for home gardens, and improving the integration of crop and livestock systems. These activities will provide exciting opportunities for collaboration between actors in the catchment, and will bring tangible benefits for communities living in the catchment. The actions will also allow for learning within and across the catchments that form part of the Living Catchments Project.

Youth Learning Exchange

By Puseletso Nkadimeng & Namhla Mbona

The South African National Biodiversity Institute (SANBI) in collaboration with the Eastern Cape Parks and Tourism Agency (ECPTA) and Ezemvelo KZN Wildlife implemented a learning exchange between 155 eco-champs from upper Thukela and lower Mzimvubu catchments, who form part of the Presidential Youth Employment Intervention (PYEI) programme. The 3-day learning exchange was hosted by the Environmental Vanguard (an NGO) at the lower uMzimvubu Catchment, represented by owner of Environmental Vanguard, Sinegugu Zukulu. The host eco-champs received their guests with honour fit for kings and queens, dressed in Pondoland regalia with song and dance that sent the entire hall in vibrations of celebration. Eco-champs had prepared presentations on what their work entails within the two different catchments, focusing on what they each have succeeded in achieving and what challenges they experience on a day-to-day basis. SANBI facilitated exercises that highlighted the impact PYEI has had on the livelihoods of eco-champs, their families and greater communities. Areas of improvement were also identified through these exercises, including recommendations for solutions.

Field trips were a highlight for many of the youth, specifically the 25 participants who were led by Namhla Mbona who introduced them to citizen science tools. The tools

demonstrated were the velocity plank, clarity tube, mini-SASS and iNaturalist app, and detailed discussions were held showcasing and educating the youth on the benefits of using these tools. The eco-champs were inspired to learn that those who did not go to higher institutions of learning had alternative options to be of benefit to their communities and environment using these tools. Namhla and the team demonstrated how eco-champs can develop their skills, such as knowing how to use the tools and knowing what can be done with data generated by the tools. Citizen science tools could generate data to fill data gaps identified in their areas. The tools also provide an opportunity for the youth to engage and network with other stakeholders, using information that they themselves have generated which is relevant in their specific catchment.

The last day started with a musical performance from an elderly woman named uMamNtshangase who gracefully performed three songs playing a traditional Pondo instrument indigenous to the amaPondo clan. The day was filled by presentations. Guest speaker Gogo Sibeko, who is a traditional healer, spoke on the "spiritual and cultural aspects of natural resources". Pearl Gola spoke on "working in teams". Representatives from the Department of Forestry, Fisheries and the Environment, Tinyiko Shabalala and Sibusisiwe Nxumalo, spoke on "opportunities within the environmental sector" and SANBI's Viwe Balfour gave a brief presentation on what PYEI is and its purpose and prospective opportunities.

Considering the number of participants within the programme and the challenges experienced by the administrative teams in coordinating the programme, the value derived by the eco-champs has been through equipping the youth with alternative options to what is available through formal education. SANBI has contributed to bettering the lives of youth through learning and training, monetary contributions, provision of tools and alternative technologically driven ways of working. A networking platform was created for youth to speak to each other about themselves.

Reflections from the upper uThukela Youth in Conservation – Presidential Youth Employment Initiative

By J. Loza & A. Mqadi

Youth from the Upper uThukela (Northern Drakensberg, KwaZulu-Natal) under three Traditional Authorities – AmaSwazi (12), AmaNgwane (11) and AmaZizi (17) are currently participating in a short-term employment and capacity building initiative under the Presidential Youth Employment Initiative (PYEI) through a collaborative agreement between SANBI and Ezemvelo KZN Wildlife. The initiative is aimed at creating employment opportunities for youth and contributing to the development of the next generation of black biodiversity professionals. This article captures stories from the various Eco-champs reflecting on the recent Learning Exchange between Lower uMzimvubu and the upper uThukela Eco-champs held on 7 – 11 March 2022 at Khumbuza Community Hall, Amadiba Village, Eastern Cape.

1. What has become clearer to you that resonated with your meaning of being an eco-champ in your catchment?

Lethiwe Mbhele – AmaZizi: "*My being an Eco-champ means collecting information on nature, livestock as well as interacting with the community on environmental matter for the community to appreciate nature conservation*"

Zameni Hlongwane – AmaNgwane: *"To us it means to take care of nature and we do nature conservation awareness within the community. The Eco-champ is an ambassador for nature conservation in their community creating awareness and appreciation of nature by the broader community."*

Andiswa Khoza – AmaSwazi: "*Eco-Champ to me is a person who learns about nature and use that information to empower the broader community."*

Sinethemba Ndlovu – Pietermaritzburg: *"Being an eco-champ means sustaining the environment, meaning as an eco-champ I am responsible to conserve natural resources such as water and to eliminate polluting water including natural springs and rivers. As an eco-champ I am responsible to convey the message to the communities to practice sustainability and to embrace our natural resources. Self-admiring because if you have self-love it makes it easy for you to love nature and to take care of the environment because a human being is part of nature."*

2. What did you learn from SANBI, Department of Forestry, Fisheries and the Environment, and other eco-champs?

Ntombifuthi Dlalisa – AmaZizi: *"We learned to work as a collective and have self-confidence with groups as it is important in nature conservation. We also learnt about different medicinal plants that grow in the lower uMzimvubu catchment."*

Mzokhona Hlongwane – AmaNgwane: *"We learnt about plants that heal, fire management and how people managed to live sustainably in caves. We learnt a lot about indigenous knowledge on how native people from the past were able to live sustainably off the land."*

Xolane Hlongwane – AmaSwazi: *"I have learnt about medicinal use of plants within the lower uMzimvubu catchment, namely Zamgumbe which has a cultural use and medicinal use. It helps you remember dreams and cleans your body. Another plant is Phakama which is believed to bring prosperity when consumed."*

Sinethemba Ndlovu – Pietermaritzburg: *"Working in collaboration, being part of the project requires teamwork. Respect subordinates – to get fruitful result of the work, respect other people and learn that people have different personalities and perspectives. To be able to do the work that is tasked to you even if you have never done that work before. Punctuality – to be on time for the meetings, to produce work in time and to obey rules. Professionalism – to work in a professional environment."*

3. What are you taking away from the learning exchange to your work or personal life?

Zama Khumalo – AmaZizi: *"We are taking away the lessons of implementing nature conservation and the use of medicinal plants which we have every intention of exercising in our communities beyond the Eco-champs program. We also learnt to be independent."*

Nhlanhla Ngwane – AmaNgwane: *"I am taking away the knowledge and skills of nature conservation which I can practice myself in the future. I am now able to go out and teach young children about nature conservation so that they are also able to enjoy nature sustainably."*

Mbongeleni Hlophe – AmaSwazi: *"Working together with other people in groups especially is very important. I may have skills that another person may not have and vice versa. Participation in groups allows for efficient ways to find solutions on nature conservation issues. Developing nurseries is also important for future generations."*

Sinethemba Ndlovu – Pietermaritzburg: *"The importance of indigenous knowledge. To treasure and embrace nature. Working in collaboration. Showing respect*

to colleagues and other tribes including culture and language. Plant identification including ecological infrastructure."

4. How do you intend using the information you have learned to your community?

Siyanda Ndlovu – AmaZizi: *"We intend to pass the information on to the community also teach members to take care of nature in a sustainable way. If we take care of nature so that it will take care of us in the now and future."*

Philisiwe Hlongwane – AmaNgwane: *"We intend on using the knowledge of how our communities can do self-sustainable farming. Learning that we should not kill snakes as they are a part of the ecosystem that is essential to our survival and biodiversity, we intend on doing awareness workshops on importance of biodiversity. Information has showed us the importance of working together with the communities and keep indigenous knowledge safe we will continue to do so."*

Andiswa Khoza – AmaSwazi: *"I intend to use the information to raise awareness for waste management in my community. We would like to start recycling initiatives within my communities."*

Sinethemba Ndlovu – Pietermaritzburg: *"Starting from home to the community, to convey the message of the importance of nature and the effect of pollution on the environment including plants, animals, and people."*

5. How is the stipend/ wage you are earning as an eco-champ helping you personally?

Cebolihle Mnguni – AmaZizi: *"The stipend is helping a lot because we can contribute to the livelihoods of our families. It goes a long way, we support our parents and alleviate some financial stress that they have. We also pay for our children's needs such as transport to school and back."*

Noxolo Hlongwane – AmaNgwane: *"Employment and the stipend earned changed my life. We are able to pay for transport for our kids as the schools they attend are far away from home. It has a positive effect on us because we can afford to buy something as simple as bread and milk for our families."*

Sanele Hlongwane – AmaSwazi: *"The wages have helped me a lot as I am able to add to my saving to pay for my tertiary fees. We are also able to take care of our kids."*

Sinethemba Ndlovu – Pietermaritzburg: *"Earning a stipend helped me to offer little support at home for grocery and to do things for myself such as buying toiletries which I did not afford to do before, and it is a critical issue especial if you are a young woman and to buy data because I am a job seeker, I need to access my emails and job applications online and to see advertised job vacancies and access to internet."*

6. What do you suggest could be done for this knowledge to reach more people?

Zama Khumalo – AmaZizi: *"We need to do nature conservation awareness workshops within the community. Awareness at schools, community halls or wherever members are easily accessible."*

Seluleko Dlamini – AmaNgwane: *"Awareness workshops that occur on the regular."*

Xolane Hlongwane – AmaSwazi: *"Going to schools to raise awareness and other places of large gathering's churches."*

Sinethemba Ndlovu – Pietermaritzburg: *"Radio broadcast, social media (poems, songs and videos)"*