The UKZN Sandstone Sourveld Research Programme: research collaboration between the University of KwaZulu-Natal and eThekwini Municipality

The UKZN Sandstone Sourveld Research Programme recently celebrated the completion of the first year since its inception, following the signing of a Memorandum of Agreement for a joint Research Programme between the University of KwaZulu-Natal's School of Life Sciences and eThekwini Municipality's Environmental Planning and Climate Protection Department. The Programme focusses on environmental management, specifically biodiversity conservation within KZN Sandstone Sourveld, in the face of global changes that include the impacts of a changing climate. KZN Sandstone Sourveld is currently classified as critically endangered and endangered by EKZNW and SANBI, respectively. Its distribution is entirely within KZN extending from Kranskop near the uMvoti River in the north to the Mtwalume River in the south. In the EMA, this ecosystem is found in isolated localities between iNanda Mountain and uMbumbulu. Scientists estimate that within the eThekwini Municipality approximately 73% of this vegetation has already been lost through transformation for agriculture and development, with only 0.2% being under formal protection within the province of KwaZulu-Natal. This veld type has high species richness, especially forbs and high rates of endemism (e.g. *Berkheya umbellate,* a forb species endemic to KZN) coupled with vital ecosystem services (e.g. a source of medicinal plants, ground water recharge and storm water attenuation).

To successfully conserve this ecosystem type, it is critically important that an understanding of suitable management practices are developed and then implemented. UKZN Researchers are carrying out a wide range of studies within KZN Sandstone Sourveld; this includes research into invertebrate genetic diversity using novel techniques like DNA barcoding. They are also investigating the impacts of development pressure, how neighbouring communities can sustainability benefit from these grasslands in terms of the ecosystem services that they provide and their economic value. The programme is also attempting to understand how the ecology of KZN Sandstone Sourveld will be impacted by climate change. A flagship project involves the tracking of crowned eagles *(Stephanoaetus coronatus)* to better understand their survival rates within an urban metro, their foraging behaviour and the value of the Durban Municipal Open Space System (D'MOSS). This also includes an analysis of prey items taken to nests, and is likely to result in a live webcam being used to publicise the programme.

The development of research partnerships between local governments and their academic institutions represents a win-win situation where the power of research institutions can be harnessed to develop both capacity and knowledge that is useful to the local government, and in this case, is being used to generate knowledge to combat the impacts of climate change within an ecosystem based adaptation framework.