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case study series  
MAPUTALAND—PONDOLAND—ALBANY HOTSPOT

Case Study: Biodiversity Agreement

# WWF-SA Water Balance Programme

The WWF-SA Water Balance Programme is an innovative initiative that allows private companies to balance their operational water use by investing in the clearing of invasive alien plants that consume large amounts of water. The programme chose to focus on biodiversity stewardship areas, where alien plant clearing would form an incentive to landowners and ensure that the alien clearing was part of a long-term conservation approach. This is an example of Biodiversity Agreements, a flexible type of biodiversity stewardship based on an agreed management plan. The programme helped to establish three new Biodiversity Agreements on land with high biodiversity value in the uMngeni catchment.



## Background

The uMngeni River has ecological, hydrological and economic value. It supplies water to 45% of the KwaZulu-Natal population, including the important economic, urban centres of Pietermaritzburg and Durban. The upper reaches are particularly significant for ecosystem service delivery and biodiversity conservation. These areas host threatened grassland, wetland and forest ecosystems, which provide habitat for a number of threatened species such as cranes. The uMngeni River catchment falls within the Maputaland–Pondoland–Albany biodiversity hotspot and has been identified as part of the KwaZulu-Natal Midlands Key Biodiversity Area. This area forms a corridor between fragments of highly threatened ecosystems. The health of the upper catchment has implications for water quality and quantity for downstream users.

One of the primary threats in the catchment is the extensive footprint of invasive alien plants, particularly the woody species along the watercourses. These plants, mostly introduced from other continents, use large quantities of water (thereby affecting water flows and hydrology), increase the impact of fire and flood events should they occur, reduce habitat for indigenous species, and negatively impact on biodiversity. Thus, the South African node of the Worldwide Fund for Nature (WWF-SA) saw the need for a platform that enables business and industry, significant water users, to help address this national challenge by taking ownership of their own impacts through reducing their water demand, and by making an investment back into water provisioning ecosystems in relation to the size of their direct water use.

As such, the WWF-SA Water Balance Programme used the water lost to these plants to create a quantifiable approach to determine the proportionate investments water users should consider making into catchment health in order to balance their operational water use. The programme focuses on priority catchments in three main areas: Mpumalanga/northern KwaZulu-Natal, Western Cape, and the upper reaches of the uMngeni catchment.

A **Biodiversity Agreement** is a type of biodiversity stewardship agreement based on legal contracts between landowners and the provincial conservation authority, which include an agreed management plan. The agreements provide a mechanism through which landowners commit to well-defined roles and responsibilities in the management of their land, thereby also addressing some of the potential underlying causes of alien plant infestation through better land management practices. Biodiversity Agreements were chosen because they present an easier and relatively flexible biodiversity stewardship option in comparison to the formal declarations of Protected Environments or Nature Reserves. However, Biodiversity Agreements may serve as a stepping stone to formal declarations at a later date.



## Action

In the uMngeni catchment, the WWF-SA Water Balance Programme saw an opportunity to use the resources provided for alien plant clearing as an incentive and reward for landowners willing to participate in biodiversity stewardship. This approach would realise additional biodiversity gains, while ensuring the longevity of the alien plant clearing investments made, since the biodiversity stewardship agreements require landowners' ongoing commitment to alien plant eradication.

While this approach of integrating the alien plant clearing efforts with biodiversity stewardship commitments is a beneficial one, it did result in additional challenges being faced, increased WWF-SA responsibility required and greater time delays experienced. For example, significant assistance was required from WWF-SA in both the search for appropriate sites, and then to facilitate the biodiversity stewardship declaration process on behalf of Ezemvelo KZN Wildlife.

### Alien plant clearing

The alien plant clearing in the uMngeni catchment was funded through Nedbank's commitment to the WWF-SA Water Balance Programme, which sought to balance Nedbank's operational water use of approximately 550 000 kl by investing R9 million over 5 years. This investment was split between the programme's three implementation areas and resulted in a clearing target of 144 condensed hectares (summed area of completely invaded land) of alien plant clearing in uMngeni catchment.

Before any clearing can occur, the landowner is required to commit contractually to maintaining the areas to be cleared. WWF-SA coordinates the initial clearing and provides two follow-up treatments to deal with regrowth and encourage the re-establishment of the natural vegetation. The clearing is then achieved through either a contractor being appointed to conduct the clearing, or through supporting the landowner to conduct the clearing using their own staff. The WWF-SA Water Balance Programme is supported by the Department of Environmental Affairs' Working for Water Programme – the national alien plant clearing initiative – which provides free herbicide assistance to the programme.





## Achievements

One of the highlights of the WWF-SA Water Balance Programme in uMngeni is the farm Ivanhoe, adjacent to the Umgeni Vlei Nature Reserve, of which an 843 ha portion has been declared a nature reserve as a result of WWF-SA's assistance. Three additional sites in the upper catchment have agreed to sign Biodiversity Agreements, committing them to conserve the natural habitats and species on the properties, and manage the area in accordance with an agreed Management Plan. In total, 2 707 ha will be secured under biodiversity stewardship in the upper uMngeni as a result of this project, well over the original target of 2 000 ha. By the end of the project timeframe, over 140 condensed hectares of alien invasive plants will have been cleared in the uMngeni catchment. By linking alien plant clearing with biodiversity stewardship, and with the support of both private companies and private landowners, this successful programme has managed to achieve a number of conservation goals.

### For more information about this project, please contact:

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