

# WETLANDS

## High mountain splendour: Ingula joins the list of globally-protected wetlands

*The Ingula Nature Reserve, a spectacular mountain wetland and refuge for vulnerable birds and other wildlife has become South Africa's 27th protected area listed as a Ramsar Wetland of International Importance, writes Tony Carnie.*

CF Pienaar



There is a very distinct line high up in the Drakensberg mountain range that determines the future of almost every water droplet that falls here. If drops of rain fall on the north side of this line, most water will coalesce into the streams and rivers that eventually tumble westward into the Atlantic Ocean via the Wilge, Vaal and Orange rivers. But if rain falls on the other side of the mountain line, the drops will flow southwards into the Klip and Thukela rivers to eventually empty into the Indian Ocean on the other side of the continent.

Not surprisingly, this watershed line also forms a provincial boundary between the Free State and KwaZulu-Natal and plays

a crucial role in inducing orographic rainfall, where moisture drops from the clouds as they climb upwards to the towering Drakensberg Escarpment.

More recently, this lofty line has assumed another surprising role – alleviating the Eskom power crisis. Due to the sharp drop in altitude between the Free State and KZN, this area was seen as a perfect spot to build a new kind of Eskom power station, which harnesses the power of water.

Known as a pumped storage scheme, the system involves storing water in a big dam at the top of the hill and then

releasing it into a dam at the bottom of the hill. The power of the water racing down a concrete tunnel is captured to drive turbines and generators to produce electricity during times of peak demand. Then, when power demand is low, the water is pumped slowly back up the hill again, to repeat the process.

The principle is relatively simple. But when Eskom announced plans in 1998 to build the new power scheme in the Ingula area, north of Ladysmith, it triggered immediate concern by conservation groups worried about the implications for the unique high mountain grasslands and wetlands in both provinces.

And for good reason.

Subsequent studies have shown that the wetlands and grasslands near Ingula are a haven for birds and other forms of wildlife, many of them vulnerable species, which are running out of living space in a country where large areas of land have been developed, degraded or put under the plough. Happily, however, a compromise was reached to protect this unique area through a partnership involving Eskom and two conservation groups, BirdLife South Africa and the Middelpunt Wetland Trust.

And now, just over two decades later, the Eskom-owned Ingula Nature Reserve has been granted global recognition and listed by the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, an international

treaty for the conservation and sustainable use of wetlands. Also known as the Convention on Wetlands, it is named after the city of Ramsar in Iran, where the convention was signed in 1971.

South Africa now has 27 wetland sites listed under the convention, covering a surface area of 571 089 hectares. They include areas such as Langebaan, Lake St Lucia; the chain of five coastal lakes at Kosi Bay; the Orange River Mouth and the remote Prince Edward Islands.

Elsewhere in the world, there are now more than 2 400 Ramsar Sites covering more than 2.5 million square kilometres. This network of Ramsar Sites is truly global, and includes coastal and inland wetlands of all types. The countries with the most sites are the United Kingdom, with 175, and Mexico with 142. The first site added to the list was the Cobourg Peninsula in Australia, designated in 1974. The largest sites are Rio Negro in Brazil (120 000 square kilometres) and Ngiri-Tumba-Maindombe in the Democratic Republic of Congo and Queen Maud Gulf in Canada (which each cover over 60 000 square km). Others are as small as one hectare.

The Convention has several mechanisms to help member parties designate their most significant wetlands as Ramsar Sites, and to take the steps necessary to manage them effectively and maintain their ecological character.

Back at Ingula, the journey towards Ramsar status began about



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*The Drakensberg escarpment forms an orographic barrier – with high rainfall on the seaside, and a rain shadow inland.*

20 years ago, soon after Eskom entered into negotiations with BirdLife and the Middelpunt trust on ways of limiting or mitigating the impacts of inundating two large wetland areas to form the new Bedford and Braamhoek storage dams. This decision to cooperate and form the Ingula Partnership followed a protracted period of appeals, legal challenges and a hearing in the High Court.

As part of the Environmental Authorisation conditions for Ingula, Eskom was asked to purchase adjacent farms containing sensitive wetlands and grasslands to compensate for the residual impacts on wetlands and ecosystems that would be lost during the construction of the power station. Following further engagement with landowners, Eskom bought more than 8 000 hectares of land in the vicinity to establish a new nature reserve that was formally established in 2013, three years before the new pumped storage station was commissioned.

More than 341 species of birds have been recorded on the Ingula Nature Reserve, including a number of priority species – the White-winged Flufftail, Blue Crane, Grey Crowned Crane, Wattled Crane, Secretary Bird, Martial Eagle and the Southern Bald Ibis. One of the rare plant species found at Ingula is the African Weed Orchid (*Disa tysonii*).

Ingula is also home to 34 mammal species, including Aardvark, Chacma Baboon, Blesbok, Bushbuck, Bushpig, Caracal, Dassie, Grey Duiker, Black-backed Jackal, Rough-haired Golden Mole, Large Grey Mongoose, Water Mongoose, Yellow Mongoose, Oribi, Cape Springhare, Cape Clawless Otter, Striped Polecat, Porcupine, Common Reedbuck, Grey Rhebok, Mountain Reedbuck, Serval, African Wildcat and a number of small rodents.

In addition, the nature reserve has 69 recorded species of butterflies and 29 species of reptiles, while the endemic Sungazer lizard (also known as 'ouvolk') is found on adjoining properties.

*“Only a little more than 10 percent of the world’s wetlands remain; they are our most endangered ecosystem, and we can’t build back better without them.*

*The time has come to give wetlands protection and ensure the wise use they deserve: Our lives could depend on it.” - Martha Rojas Urrego, Secretary General of the Ramsar Convention on Wetlands*

Carina Pienaar, the Ingula Grasslands project manager for BirdLife SA, says the organisation is proud to be part of a project that has received international recognition as a model for how industry and conservation organisations can work together for the benefit of the natural environment. “BirdLife South Africa has been an integral partner in ensuring that consistent monitoring of avian biodiversity has taken place throughout the



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*The grasslands of Ingula are dominated by Eragrostis curvula, Tristachya leucothrix.*

construction of the Ingula power scheme.”

The research and monitoring opportunities at Ingula Nature Reserve since 2003 had led to valuable discoveries about the seasonality of bird species’ presence on the site, as well as their habitat and climatic requirements. “When the scheme was originally proposed, BirdLife South Africa objected because it was feared that the habitat for the Critically Endangered White-winged Flufftail at this site would be forever lost.

“However, in ensuing negotiations with Eskom, it became evident that more could be achieved if we were to work together on the environmental aspects of the project. The milestones reached in first obtaining national protection for the wetlands and grasslands, and subsequently international recognition through the recent designation as a Wetland of International Importance, has proven that environmentally sustainable development is possible, if opposing parties should choose to embrace collaborations.”

Barbara Creecy, the national Minister of Forestry, Fisheries and the Environment, has also welcomed the latest Ramsar declaration noting that it falls within the Northern Drakensberg Strategic Water Source Area (SWSA) and is also a National Freshwater Ecosystem Priority Area made up of hillslope wetlands, pans/depressions and floodplains.

“Despite their significance to human life, wetlands are threatened nationally and globally. The 2018 National Biodiversity Assessment found that at least 79% of South Africa’s wetland ecosystems are threatened. That report emphasises the role of rivers, wetlands and their catchments as crucial ecological infrastructure for water security and often complementing built infrastructure,” she said.

Creecy says her department has invested more than R83 million in the rehabilitation and maintenance of at least 75 wetlands in the current financial year, coordinated through the Working for Wetlands Programme.

“Since its inception in 2004, the Working for Wetlands Programme has rehabilitated over 1 749 wetlands countrywide, thereby contributing to increased healthier water supplies

improving the economic benefits of natural and agricultural habitats. This has also created more than 40 274 jobs and skills development opportunities for South Africans.”

Eskom says the Ramsar listing is the culmination of many years of hard work by the Eskom team in partnership with BirdLife and Middelpunt trust.

“While the Department of Environmental Affairs required Eskom to conserve the unique wetland and high-altitude grassland area, Eskom went the extra mile and ensured the formal protection of the 8 084 ha with the formal declaration as a Nature Reserve.”

“The Ingula partnership has received international acclaim as a pioneering example of how industry and non-government organisations can cooperate towards achieving conservation sustainably.”

In 2019, the Ingula Partnership also won the Stewardship category at the South African Wetland Society Annual Awards. It is also registered as an internationally Important Bird Area (IBA). Ingula is made up of two adjoining sections, the upper part in the Wilge River catchment of the Free State and a lower section in the Thukela River catchment in KZN.

Perched at an altitude of between 1 260 and 1 900 metres above sea level, the land mainly consists of dry grassy plains – which are partly cultivated and irrigated – interspersed with extensive wetlands. It is situated along the northern-most part of the

Drakensberg mountain range, where the crest of the escarpment forms an orographic barrier - with high rainfall on the seaside, and a rain shadow inland.

Eskom notes that prior to initiation of the Ingula project, much of the land was degraded and in poor condition due to decades of poor farming practices. Erosion threatened a large marsh further downstream and the Free State Department of Tourism, Environment and Economic Affairs spent close to R1,3 million on wetland protection measures.

While the continued erosion and degradation of the area through overgrazing and agriculture has been halted, there is still a significant amount of work to be done on historic erosion and wetland restoration in the main conservation area.

Large areas of alien vegetation have also been cleared and Eskom has purchased equipment to combat fires that often occur in the region and has also undertaken to mitigate against fish hybridisation and potential inter-basin transfer of fish between the separate Vaal and Thukela catchments.

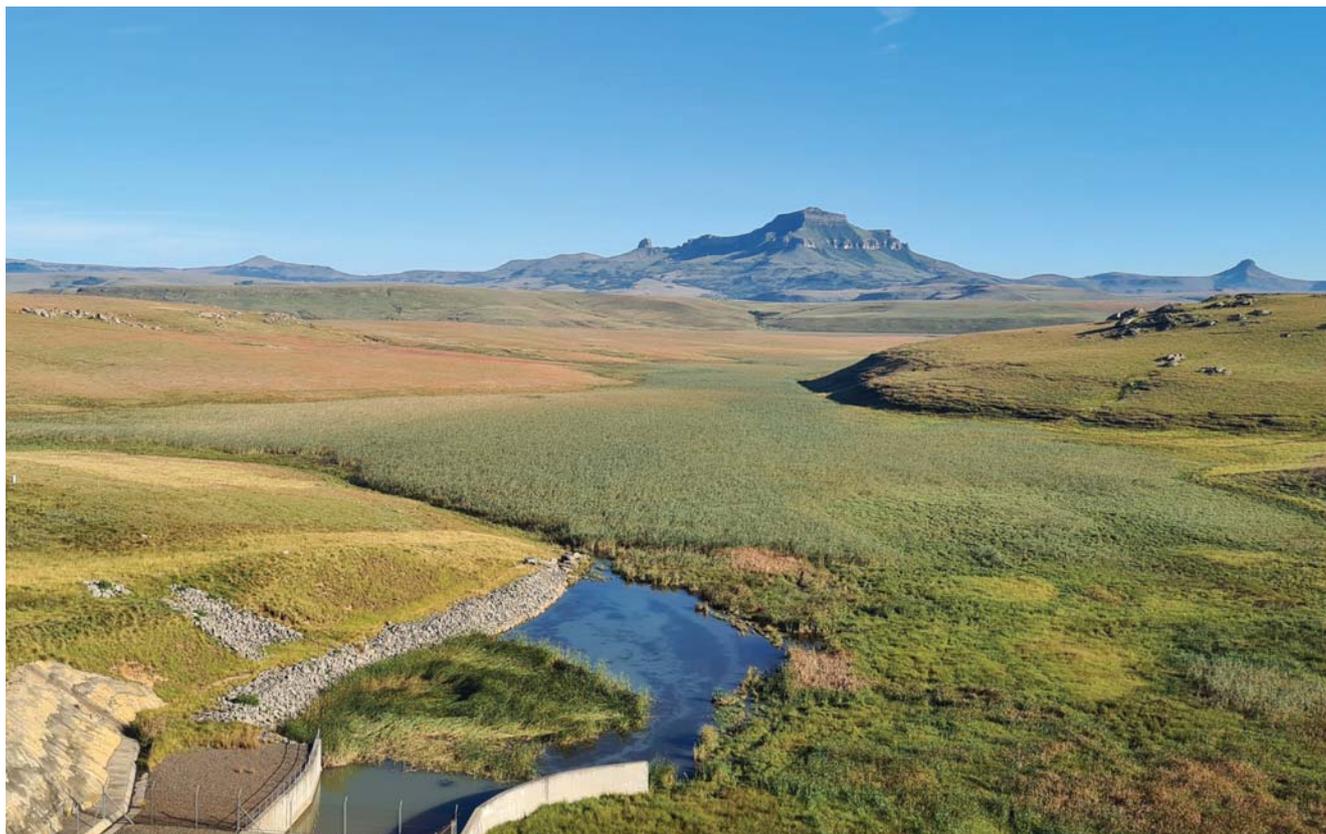
Over time, Eskom managers are hoping that Ingula will become the core of a much larger conservation area and that surrounding land owners will use make use of opportunities for tourism related activities and to enhance the biodiversity of their land.

Malcolm Drummond of the Middelpunt Wetland Trust recalls that the trust rang alarm bells in the early 1990s because it was



*The administration building and visitors centre at Ingula.*

Eskom



*Eskom and its partners have tried to integrate man-made structures with the crucial natural wetlands.*

worried about the future of the Bedford Chatsworth marsh. “As one of only nine sites in South Africa that the ‘Critically Endangered’ White-winged Flufftail is known to visit, any threat to one of these locations is of huge concern to Middelpunt Wetland Trust.

“As in any successful relationship, it has been a process of learning and earning trust and respect.” Two decades down the line, the bells are still ringing – but this time in celebration of the Ingula Partnership’s latest achievements.



*Water cascades down the Braamhoek dam.*

### South Africa’s List of Wetlands of International Importance

1. Barberspan
2. Blesbokspruit
3. Bot - Kleinmond Estuarine System
4. Dassen Island Nature Reserve
5. De Hoop Vlei
6. De Mond
7. Dyer Island Provincial Nature Reserve and Geyser Island Provincial Nature Reserve
8. False Bay Nature Reserve
9. Ingula Nature Reserve
10. Kgaswane Mountain Reserve
11. Kosi Bay
12. Lake Sibaya
13. Langebaan
14. Makuleke Wetlands
15. Natal Drakensberg Park
16. Ndumo Game Reserve
17. Ntsikeni Nature Reserve
18. Nylsvley Nature Reserve
19. Orange River Mouth
20. Prince Edward Islands
21. Seekoeivlei Nature Reserve
22. St. Lucia System
23. Turtle Beaches/Coral Reefs of Tongaland
24. uMgeni Vlei Nature Reserve
25. Verloren Valei Nature Reserve
26. Verlorenvlei
27. Wilderness Lakes