



Water KIDZ

*DIRT AT PLAY
– kids get a closer
look at rare South
African peatland*



Those who opted to get their feet wet could enter the wetland for a closer look.

On Saturday, 30 January 2016, over 120 children, accompanied by parents, youth group leaders, students and other volunteers, descended on the Colbyn Wetland in Pretoria to learn about wetlands and their role in sustaining our lives and livelihoods.

This annual event, held to mark World Wetlands Day, was co-hosted by the Water Research Commission (WRC) and Agricultural Research Council (ARC), in association with the Friends of Colbyn Valley, Centre for Wetland Research and Training (WetResT), Botanical Society of South Africa, South African Wetland Society, International Mire Conservation Group and Aquila Business Consulting, in the City of Tshwane's Colbyn Wetland Nature Reserve.

2 February marks the anniversary of the adoption, in 1971, of the Convention on Wetlands (also known as the Ramsar Convention) in the Iranian city of Ramsar, and is celebrated across the globe as World Wetlands Day. The theme for World Wetlands Day 2016 is 'Wetlands for our Future – Sustainable

Livelihoods', which aims to involve and inspire the youth in protecting wetlands for the future of our planet and its people.

Educational activities on offer at the Colbyn Wetland were aimed at children between the ages of 6 and 13, and included an early morning bird walk to spot some of the almost 150 bird species that can be found in the greater nature reserve, and 'Wetlands 101', led by local specialists Prof George Bredenkamp and Dr Piet-Louis Grundling.

This introduction to wetland science included a 'wetland awareness walk', which demonstrated the different wetland zones by looking at various soil and vegetation markers, and the construction of a simple wetland model to illustrate basic principles of wetland structure and function. Held annually since 2014, the event has been attracting ever larger numbers of children, with the 2016 turnout being the largest yet. Each year has also seen new collaborations formed with partner organisations.

A feature of this year's event was the assistance of a number of student volunteers from various institutions, including the Tshwane University of Technology's Department of Environmental, Water and Earth Sciences, and the University of

Venda's Department of Soil Science. In addition, the NGO SOAPkidz supported the attendance of children from two of the city's children's homes.

The Colbyn Wetland includes areas of peatland, a relatively rare occurrence in South African wetlands. The wetland is vulnerable to a number of impacts due to its urban location, but remains a valuable biodiversity and water resource, as well as offering the residents of Pretoria a unique educational and recreational site.

In recent years the Colbyn Wetland has received much attention in the press due to concerns over the proposed development of a park-and-ride facility on its border, and most recently was the subject of public outcry when it was suggested that it may form part

of a decision by the City of Tshwane to auction off certain areas of municipal land. However, it has since been clarified that this applies only to a small section of land south of Stanza Bopape Street and located outside of the wetland and nature reserve.

The involvement of the WRC in wetland conservation and education initiatives such as the above reflects the value of these ecosystems in providing essential natural infrastructure for managing the country's water resources. Wetlands provide significant economic, social and cultural benefits.

They are important for primary products such as pastures, support recreational and tourism activities and are also important sites for biodiversity. Wetlands help to reduce the impacts of

storm damage and flooding, maintain good water quality in rivers, recharge groundwater and store carbon.

Wetland ecology is one of the focus areas identified by the ARC for strategic research, as wetlands provide vital ecological goods and services relating to agriculture and water resources. The aim of the ARC's Natural Resource Management programme is to promote research to secure national biodiversity, the integrity of ecosystems and the efficient use of agricultural natural resources for agricultural production.

The Water Science programme at the ARC-Institute for Soil, Climate and Water (ARC-ISCW) engages in multi-disciplinary wetland research projects led by Dr Althea Grundling (Senior Researcher: Wetlands).

The importance of protecting South Africa's rare peatlands

Peat forms when low-energy flows and permanent water-logging enable partially-decomposed plant material to accumulate. Active accumulation of peat depends on a slow rate of decay in oxygen-deprived (anaerobic) conditions.

Peatlands anywhere in South Africa are a relatively rare discovery – only about 10% of our wetlands contain peat. And, once discovered, peat is often exploited as a resource, mined to use as a potting medium, fuel source, adsorbent or filter material. Flow through a peatland is often diverted or channelled and the peat is left high and dry, catches fire, and, after millennia of flow accumulation, is gone. Yet the Colbyn peatland persists, tucked away under a dense bed of reeds.

Occupying just over a hectare, the peat layer in Colbyn has been estimated to be about 7 000 years old, and is 2.4 m thick at its deepest point. The total volume of peat in Colbyn amounts to about 15 000 m³.



The best part of playing with peat is getting dirty!



The reedbed has made a remarkable recovery following some good rains.



Dr Piet-Louis Grundling explaining the workings of a wetland with the use of a wetland model.