



Adopt Moreletaspruit/ Neem Moreletaspruit Aan

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WATER – Essential to Life

It seems unbelievable when one looks at our “Blue Planet” but only 1% of the Earth’s water is easily accessible fresh water. Salt water makes up 97% of all water on Earth and about 3% is fresh water. Of this fresh water about 69% is frozen in ice caps in the Antarctic and Greenland and 30% is in ground water, leaving 1% as surface water in rivers, lakes and dams. This is why catchment management is so very important!

Heritage Water Tour

Interestingly, Pretoria was established where it is, not because of surface water but because of the strong supply of ground water. Some members of the Adopt Moreletaspruit Forum were privileged to see places not usually open to the public on a Water Tour arranged by Anton Jansen of the Tshwane Building Heritage Association and Christine Hartdegen of UNISA on 10 March, a rainy morning after the hot dry summer. We met in the Groenkloof Nature Reserve to see **The Fountains** which supplied early Pretoria with all its water for the first 75 years and to this day consistently supply the city with pristine spring water, about 18 million litres per day from the Upper Fountain and 24 million litres per day from the Lower Fountain. The two fountains are 800 metres apart and separated by a syenite dyke which is impenetrable and forces the water to rise out of the dolomite formation. A structure has been built over the Lower Fountain (*left*) to protect it from contamination.



Thin streams of water can be seen coming through the sand under the water. The water from both fountains goes to a Mixing Chamber and then to supply the city centre.



The historic Pump House (*right*), built in 1902 by the British to pump water to Roberts Heights (now Thaba Tshwane) is still in use.

Groenkloof Nature Reserve has been a declared protected area since 1895 which safeguards this water. Recent reports that the

CoT plans to allow development in the reserve for commercial gain are very disturbing. Any development could impact negatively on this invaluable and absolutely pure ground water and also the surface water as the reserve forms part of the upper reaches of the Apies Catchment. Ensuring any city’s water supply begins with protecting the land that surrounds springs, rivers, streams, lakes and dams.

From there we drove to **Grootfontein** some distance above Rietvlei Dam.



Out in the countryside we came upon an impressive domed structure (*left*) built over the fountain. Inside, the water was crystal clear and could be seen coming through the sand and rocks in places. More than one person felt that it was a magical or holy place! Some of us drank the water which tasted sweet and pure and is absolutely pristine. Eight million litres per day is piped by gravity to below Rietvlei Dam where it is mixed with the purified Rietvlei water and then piped to the eastern suburbs.

Rietvlei Dam was constructed by hand and using mule carts and ox wagons to cart the soil during the Great Depression in the thirties. Water is obtained from six springs and five boreholes and today the dam supplies 40 million litres a day. The Water Purification Plant (*right*) below the dam wall (*left*) was opened in 1934. The Rietvlei Nature Reserve forms a protection zone around the dam, boreholes and springs.



This ground water supplies about 7.5% of the city's water today and the rest comes mostly from Rand Water. Our Moreletaspruit also contributes as its water flows into the Roodeplaat Dam. From there some of the water goes to the Roodeplaat Treatment Works and is then piped to the northern suburbs. For more detailed information consult the book "Hydrogeological Heritage Overview: Pretoria's Fountains – Arteries of Life" by Matthys Dippenaar, available free of charge from the Water Research Commission.

Schools Poster Competition

Anneli Kuhn, Louise Kritzinger and Judy Scott-Goldman of our Forum have been very busy for the last few months organising a Schools Poster Competition in partnership with Christa van Schalkwyk and Eugenie Novellie of the JNF Walter Sisulu Environmental Centre (WSEC) in Mamelodi, Fanie Nel of the Dept of Education Tshwane South, Rand Water, Atterbury, Wild Route Environmental Consultants, the DWS and the CCBC. The



WSEC on 25 February, teachers had a workshop where they received a pack of excellent river-related material from Rand Water, and were inspired to guide their learners to find out about the value of urban rivers for communities (*photo left*).



competition is for schools in the catchment areas of the Moreleta, Pienaars, Moretele and Edendale, which drain into the Roodeplaat Dam, plus their associated tributaries, streams and wetlands. Learners in four categories: grades 1 – 4, 5 – 7, 8 – 9 and 10 – 12 are asked to design an A2 poster which shows understanding of factors in a catchment which affect water quality and water ecology and proposes solutions for keeping our local rivers healthy. Posters will be judged on the ingenuity of the ideas and also on artistic composition, creativity and presentation. At the launch at

Atterbury came on board as sponsors. Anneli Kuhn and Judy Scott-Goldman (*centre*) discuss the prizes and venue with Zahn Hulme and Adelene van der Westhuizen of Atterbury (*far left and right*). The posters must be submitted by 3 May and the prize-giving will be held at the Atterbury Theatre on 4 June in celebration of World Environment Day (5 June). An exciting programme is planned for the morning. Afterwards the posters will be displayed for a week at the Glenfair Shopping Centre. For

further information contact Judy Scott-Goldman at jgoldman@internext.co.za or Fanie Nel at fanusnelgde@gmail.com

Citizen Science Morning with members of the British High Commission



In December 2015 the chief scientific advisor of the UK, Prof Robin Grimes (*centre in left photo*) was in the city to attend the African Science Forum arranged by the Dept of Science and Technology and expressed a wish to see the citizen science tools developed by GroundTruth in collaboration with WESSA with funding from the British High Commission and meet some of the citizen scientists who carry out aquatic assessment. Ntswaki Dithale of GroundTruth, which contributed to the development of

the miniSASS test, and members of the Adopt Moreletaspruit Forum hosted the morning in Serene Valley. Many interesting people attended: from the British High Commission, Friends Groups, Resilim (Resilience in the Limpopo River Basin funded by USAID) and Nature Conservation students from UNISA and Rhodes. It was an opportunity for much enthusiastic discussion and networking! Anneli Kuhn and Judy Scott-Goldman bought the new tools, the Clarity Tube and Velocity Plank, to use along the Moreleta.

Friends Groups/Vriendegroepe

Vriende van Faerie Glen NR het verskeie aksies geleeds teen indringerplante en ook 'n miniSASS geleentheid vir Nasionale Waterweek gereël. Regs: Vincent van der Wiel met die Vloei-snelheidplank wat gebruik word om die diepte van die water en die spoed van die stroom te meet.



Links: foto van 'n minnow kokerjuffer (minnow mayfly).

Diana van der Wiel het met 'n spesiale kamera pragtige fotos van die invertebrate geneem.



Vriende van Moreletakloof NR het verskeie uitstappies gereël, o.a. 'n boomuitstappie saam met die Dendrologiese Vereniging; ook om na skerpioene en spinnekoppe te kyk. Jeannie du Plessis (*links*) mentor 20 natuurbewaring studente van UNISA om praktiese ondervinding op te doen, insluitend in die beheer van indringerplante. Sy het ook opleiding deur Colleen Todd vir hulle gereël in waterkwaliteitstoetsing d.m.v. die miniSASS-metode.

Friends of Colbyn Wetland N R had an early morning bird walk (*right*) led by Philip Calinikos for World Wetlands Day. After the bird walk the many excited (and knowledgeable) children learnt about wetlands.

Friends of Serene Valley had a Bird Walk and clean ups of the river.



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Facebook Group – Adopt-a-River Moreleta

The Facilitation Team/Die Fasiliteringspan