



LETTER TO THE EDITOR

Praise for article on Vaal Barrage

Your article on the Vaal Barrage and Rand Water is an excellent one ('Vaal Barrage, Storing Water for a Thirsty City', the Water Wheel January/February 2009).

It should provide a historical perspective that human kind needs to take a long term perspective, even beyond our own lifetimes.

There is a small typographical error in your box on Johannesburg. The Rand Water Supply Board was constituted by legislation in 1903 not 2003!

**P. Camay (Past Chairperson of Rand Water),
Fordsburg**



Letters must be addressed to The Editor and can be faxed to (012) 331-2565 or E-mailed to laniv@wrc.org.za.

SA wine sector praised internationally for going green

South African wine industry representative, Wines of South Africa (WOSA), featured among the top five on the 2009 Green List published by UK magazine *Drinks Business*.

The list features the 50 most influential drinks companies, individuals and organisations when it comes to having a "strong environmental influence over many consumers." WOSA placed fifth, just behind US President Barack Obama, with multinational retail giants, Tesco, Carrefour and Wal-Mart in the top three positions respectively.

WOSA was praised for its involvement in the Biodiversity and Wine Initiative (BWI), a project managed by the World Wide Fund for Nature (WWF) and the Botanical Society of South Africa. The initiative is a strategic

partnership between the wine industry and the conservation sector, which promotes the adoption of biodiversity guidelines and environmental impact studies.

The BWI has led to protection of significant areas of the Cape Floral Kingdom, where over 95% of South Africa's wines originate. In less than four years, 140 local wine producers have set aside 112 550 ha for long-term conservation. This is more than the total national vineyard footprint of 102 000 ha.

Source: WWF



WATER DIARY

CLIMATE CHANGE

MARCH 3-6

The Department of Environmental Affairs & Tourism is hosting a Climate Change Summit at Gallagher Estate. Visit: <http://www.ccs Summit2009.co.za>

WATER

MARCH 15-22

The Fifth World Water Forum will be held in Istanbul, Turkey. The theme is 'Bridging Divides for Water'. E-mail: m.giard@worldwater-council.org; Visit: www.worldwater-council.org

CLIMATE CHANGE

MARCH 23-26

An international conference, Greenhouse 2009: Climate Change and Resources, will be held in Perth, Australia. The conference is hosted by CSIRO in conjunction with the Australian Climate Change Science Programme. Visit: www.greenhouse2009.com

OXIDATION TECHNOLOGIES

MARCH 30-APRIL 1

The 5th IWA Specialist Conference on Oxidation Technologies for Water and Wastewater Treatment will be held in Berlin, Germany. E-mail: aop5@cutec.de; Visit: www.aspd5.com

Better hygiene could save moms', babies' lives

Simply improving hygiene practices could prevent some of the thousands of maternal and neonatal deaths which occur around the world every year, reports UNICEF.

The organisation launched its *State of the World's Children Report 2009* in Johannesburg in January. This year, the report focuses on maternal and newborn health.

Every year, more than 500 000 women die as a result of pregnancy or childbirth complications. Around 70 000 of these deaths are among girls and young women 15 to 19. A staggering 99% of maternal deaths take place in the developing world

where having a child remains among the most serious health risks for women.

At the same time, every year, some four million newborns die within the first 28 days of life from largely preventable causes. That is about 40% of all under-five deaths per year.

"Most material and neonatal deaths can be prevented through proven interventions, including adequate nutrition, improved hygiene practices, antenatal care, skilled health workers assisting at births, emergency obstetric and newborn care and post natal visits for both mothers and newborns," reported UNICEF Executive Director Ann Veneman.

"These interventions should be delivered through a continuum of care linking households to health systems. Research indicates that around 80% of maternal deaths could be prevented if women had access to essential maternity and basic healthcare services."



Calling all groundwater specialists

The Geological Society of South Africa's Groundwater Division (Western Cape Branch) has called on groundwater experts to submit papers for the 2009 biennial groundwater conference titled 'Pushing the Limits', to be held from 15 to 18 November in Somerset West, in the Western Cape.

Session themes will range from managing resource limits and debating the limits of acceptable impacts to making decisions with limited data, pushing the limits of science and expanding the limits of understanding. The deadline for abstracts is 15 April.

For more information, go to www.kruger-associates.com/groundwaterconference2009/home/default.asp

State launches phase two of job-creation programme

Government is launching phase two of its Expanded Public Works Programme (EPWP) this month.

According to Public Works Minister Geoff Doidge R5-billion has been allocated over the medium term to scale up the programme, aimed at furthering job creation and abating unemployment. "The aim is to create two million full-time equivalent jobs for poor and unemployed people in South Africa so as to contribute to halving unemployment by 2014, through the delivery of public and community services," he said, speaking in Durban in February.

Phase two will have a fiscal incentive for public bodies to create EPWP employment by providing R50 for every person-day of work created. This will be phased in over the next two years to all sectors, provinces and municipalities.

From 2004 to 2008, phase one of the EPWP created more than 950 000 job opportunities.

Source: *BuaNews*

Partnership formed to preserve African heritage

The University of Pretoria (UP) has partnered with the Kara Heritage Institute (KHI) in order to expand knowledge and preserve the country's African heritage.

"The collaborative relationship between the two parties was born out of two distinct recognitions by both parties, reports Prof Hannes Rautenbach, Head of the UP Department of Geographic, Geoinformatics and Meteorology (GGM). "The first is that the KHI is the custodian of the unique living heritage of ancient and medieval Africa which has been preserved, inter alia, by the Queen Modjadji Dynasty, successor to the Mapungubwe and Great Zimbabwe Dynasties. The second recognition is that the GGM department plays a unique role in world-class research, development and training in

the atmospheric sciences, environmental sciences, geoinformatics and remote sensing, geomorphology and social geosciences in South Africa, the continent and beyond."

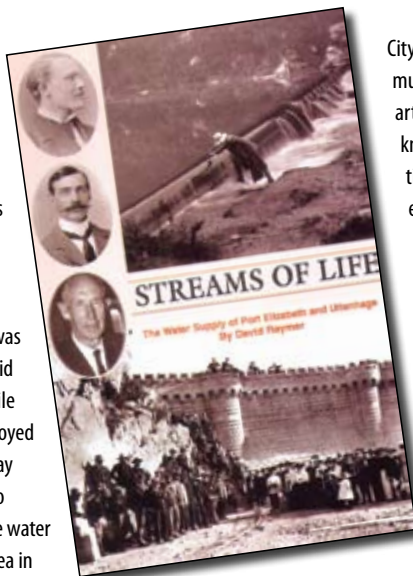
According to Prof Rautenbach, the collaboration provides a platform for the two parties to gain from each other's strength for the sake of promoting community engagement through creating awareness, training and research. The partnership has already seen the development of two projects, the first being a heritage education programme drawing around 60 youth from all provinces. A heritage education seminar is also being planned with the Department of Education and National Heritage Council to explore ways of combining heritage and indigenous knowledge systems into the school curricula.

History of PE water resource developed unearthed

A new book relating the fascinating history of the development of water supply infrastructure for Port Elizabeth and Uitenhage is now available.

Streams of Life – the Water Supply of Port Elizabeth and Uitenhage was researched by author David Raymer over 14 years while he was an engineer employed by the Nelson Mandela Bay municipality from 1980 to 2007. The book covers the water supply schemes of this area in the Eastern Cape starting with natural springs and communal wells from 1804 to the link with the Orange River Project in 1992.

The history has been compiled from official reports, brochures, files of the Port Elizabeth



City Engineer's Department, municipal archives, newspaper articles and Raymer's personal knowledge. Giving recognition to some of the early engineers and city engineers that made these schemes possible, the book contains more than 400 photographs.

For Raymer this was obviously a labour of love, and his passion for the field can clearly be seen. The book should make for an interesting read by history buffs,

while providing enough technical detail to keep engineers with a penchant for history entertained.

To obtain a copy, contact the author at Tel: (041) 373-0180; or E-mail: elraymer@absamail.co.za. Copies are also available from Fogarty's Bookshop in Port Elizabeth (E-mail: fogartyscc@global.co.za).

WATER ON THE WEB

www.dwaf.gov.za/iwqs/rhp/naehmp.htm

The River Health Programme (RHP) Web page has moved. Information on the RHP, which assesses the state of health of rivers across the country according to set criteria, can now be found on the website of the Department of Water Affairs & Forestry.

www.waterfootprint.org

This is the website of the newly-formed Water Footprint Network, a collaboration of global groups aimed at working towards a common approach to water footprint measurement, accounting and reporting. The partners are World Business Council for Sustainable Development at the University of Twente in the Netherlands; WWF; UNESCO-IHE Institute for Water Education; the Water Neutral Foundation; the International Finance Corporation; and the Netherlands Water Partnership.

Tilapia now SA's own bio-indicator of water pollution

Southern African water specialists can now use a local Tilapia species – instead of alien fish species – to test whether water sources are polluted by compounds that can cause hormonal imbalances. Such chemicals, known as endocrine disrupting compounds (EDCs) can subtly mimic the female hormone oestrogen and alter the male testosterone, while others disturb thyroid-hormone functioning.

Researcher Dr Marna Esterhuyse from the Botany and Zoology Department at the University of Stellenbosch recommends the use of the hardy Mozambique tilapia – which is sensitive to water pollution – over that of the alien zebrafish which is currently often used as a bio-monitor. "This work brings South Africa one step closer to its own fish model – similar to that of most developed countries – that can monitor

chemicals in water sources that cause hormonal imbalances," notes Prof Hannes van Wyk, who acted as Dr Esterhuyse's promoter.

During such monitoring, scientists analyse the tissue, study the physiology and look at the changes in the genetic levels of fish species exposed to pol-

luted water and chemicals. "Aquatic animals are good bio-monitors because EDCs are rapidly absorbed through the gills and stored in the body," explains Dr Esterhuyse.

Her toxicogenomic study focuses particularly on the interaction between pollutants and some

of the genes specifically associated with the body's endocrine systems. Due to Dr Esterhuyse's genetic test model, fish exposed to a water sample can now be examined after only a few hours.

"Research on frogs, crocodiles and some fish species shows that endocrine disturbance caused by EDCs in polluted water results in, among others, deviations in the reproductive system and in the malfunctioning of the thyroid gland," she reports. Dr Esterhuyse is now extending these studies with post-doctoral work on genes influenced by thyroid hormones.



All eyes to the sky in successful workshop

A successful workshop has been held on the development and application of global navigational satellite systems (GNSS) methodology for groundwater resource assessment.

The workshop, which attracted around 50 practitioners and featured local and international speakers, took place at the Hermanus Magnetic Observatory. It was organised by earth sciences consultancy Umvoto Africa, in collaboration with the Overstrand Municipality and the Department of Land Affairs with funding from the Water Research Commission and the Department of Science & Technology.

"The workshop introduced new scientific and technological developments in the application of

space geodesy in South Africa," explained Andiswa Mlisa, who heads up Umvoto Africa's GIS and Remote Sensing unit. "Delegates got an overview of the very latest in GNSS, the TrigNet Global Positioning System (GPS) infrastructure in South Africa, the application of GNSS and other space-geodetic techniques for measuring a deforming earth, and their application to understanding the earth's hydrosphere, atmosphere and ionosphere."

"We examined the use of space-based and terrestrial or in-situ observations to understand the qualitative fluxes in the water cycle. In recent years a clear relation has emerged between geodetic signals and mass distribution in the terrestrial hydrosphere," Mlisa explained.



Dr Chris Hartnady, Umvoto technical director (second from right) explains the Overstrand Municipality groundwater project and GPS monitoring system to Ian Hunter of SAWS (far right), Eric Calais of Purdue University (centre) and Mike Smart from DWAF (third from left).

Zimbabwe cholera crisis one of world's worst

About 5% of Zimbabweans who contract cholera die from the disease, according to the World Health Organisation (WHO). The organisation reports 1% as an 'acceptable' mortality rate.

At the time of writing more than 60 000 people in the country had contracted the waterborne disease, with fatalities totalling more than 3 000. Cholera is a diarrhoeal disease caused by infection of the intestine. In 5% to 10% of cases patients develop severe watery diarrhoea and vomiting from six hours to five days after exposure to the bacterium. The loss of large amounts of fluids can rapidly lead to severe dehydration and without proper treatment, death can occur within hours. Those who are malnourished or already have intestinal parasites can be at especially high risk of death.

Zimbabwe's cholera outbreak is one of the world's largest ever recorded and, according to

the WHO, is far from being brought under control. "Unless drastic action is taken by all players in this crisis, more Zimbabweans will succumb to the outbreak, and other countries in the southern African region will face the continued threat of spill over epidemics," reported Dr Eric Laroche, Assistant Director for WHO's Health Action in Crises Cluster in January. The United Nations has released close to US\$8-million from its emergency fund to help fight the spread of the disease. This allocation is being used to buy some of the most essential drugs and materials needed.

Meanwhile, more than 4 000 cases of cholera have been confirmed in Mpumalanga with close to 30 people dying since the outbreak of the disease earlier this year. The areas most affected include Mbombela North, Bushbuckridge, Mbombela south, Nkomazi, Thabachwey and Umjindi.

WATER DIARY (CONTINUED)

WATER

APRIL 1-3

The Water Africa 2009 Sub-Sahara Conference & Exhibition will take place in Accra, Ghana with the theme 'African urban and rural water challenges in the 21st Century'. Enquiries: Tracey Nolan-Shaw (ACE Events); E-mail: tnolan-shaw@btconnect.com; or info@ace-events.com

BIOMONITORING

APRIL 20-22

A course in SASS 5: a rapid method for water quality assessment will be presented by Nepid Consultants at Sabie, Mpumalanga. The course will cover aspects such as site selection, habitat assessment, equipment and safety, sampling procedures, invertebrate identification, data analysis and reporting and the national River Health Programme. Enquiries: Rob Palmer; Tel: (013) 751-1533; E-mail: rob@nepid.co.za; Visit: www.nepid.co.za

WATER LOSS

APRIL 26-29

An IWA conference on water loss reduction will be held in Cape Town. The conference is the fourth in a series of water loss reduction specialist conferences. Email: organising@waterloss2009.com; Visit: www.waterloss2009.com

DRINKING WATER

MAY 11-13

The Water Institute of Southern Africa is hosting a conference on Drinking Water Quality at the Feather Market Centre in Port Elizabeth. Enquiries: Dot Zandberg; Tel: (011) 805-3537; E-mail: conference@wisa.org.za

MEMBRANE TECHNOLOGY

MAY 13-15

The WISA Membrane Technology Division in association with the European Membrane Society will be hosting an International Membrane Conference in the Western Cape. Visit: www.soafrica.com/events/Membrane/E01.htm

HYDROLOGY

SEPTEMBER 21-23

The 14th Symposium of the South African National Committee of the International Association of Hydrological Sciences (SANCIAHS) will be held at the University of KwaZulu-Natal, Pietermaritzburg. Enquiries: Courtney Thompson; Tel: (033) 260-5490; Fax: (033) 260-5818; or Email: thompsc@ukzn.ac.za