Letters to the Editor

Young hydrologist left without professional home

I would like to bring to the attention of the hydrological community of South Africa, the outcome of an application by a young hydrologist for professional registration with SACNASP (South African Council for Natural Scientific Professions).

This person has a first degree in agricultural engineering, an MSc in Water Resources Management from WATERNET and a PhD focused on hydrological modelling uncertainties from Rhodes University. His application was rejected twice (once after an appeal) on the grounds that his undergraduate qualification is not in geography or geology/earth science. He has been informed that he can re-apply under the 'Recognition of Prior Learning and Experience' option after a minimum of 10 years continuous appropriate vocational experience.

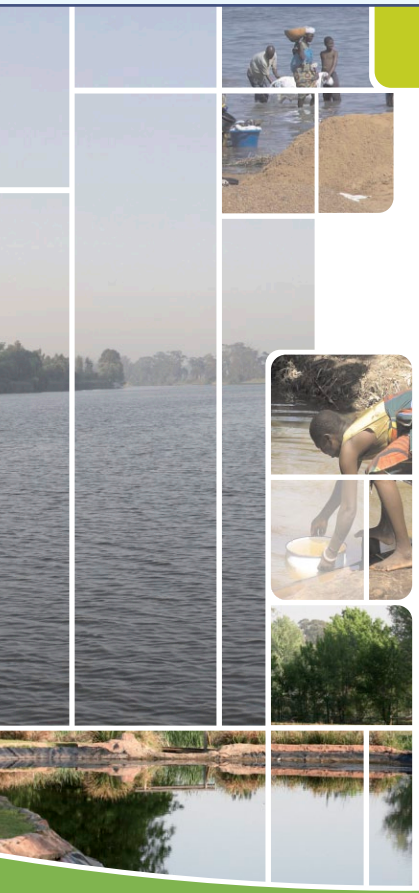
This represents a serious problem for many young hydrologists in South Africa who have been trained as scientists rather than as engineers (who obviously have their own professional body). It is also a problem from two other perspectives. The first is that SACNASP seems to be totally unaware of the training requirements for professional hydrologists and the relevance of the course material given in different undergraduate disciplines. The second is their almost complete disregard for the MSc and PhD qualifications of the applicant.

Many of us will be aware that the content of many geography courses offered in South Africa would be of little use to a hydrologist, while hydrology has always featured strongly in the course content of the agricultural engineering degree at UKZN and other universities. The implication is that hydrology is not considered to be part of the field of practice of earth science according to SACNASP and if that is the case, where do young practising hydrology scientists find a professional home?

There are many hydrologists who have trained as engineers and whose professional home is clearly the South African Institution of Civil Engineers. However, there are many hydrologists who are not engineers and yet make contributions to solving some of our water resources problems. My experience suggests that they come from different undergraduate backgrounds and that their professional capabilities are mostly associated with the field and quality of their post-graduate studies. This seems to be something that SACNASP seem unwilling to take into account.

It is my opinion that we should be encouraging young professional scientists and yet this recent experience suggests quite the opposite. I would be very interested to hear the experience and opinions of other people.

Prof Denis Hughes, Institute for Water Research, Rhodes University



SHORT COURSE ON WORLD HISTORY OF WATER MANAGEMENT
QUEST CONFERENCE ESTATE, VANDERBIJLPARK
27 JUNE – 1 JULY 2011

Course Objectives:

- Providing a comprehensive and international overview of past and present trends in water management, water-related technologies, hydrology and human interaction with the aquatic environment.
- Developing an understanding of the cultural dynamics of water in the past, the present and the future.
- Comprehending the historical antecedents of our current paradigm of water management and what can be learned from historical case studies on the basis of the knowledge and experience of several scholars from different countries and from the exchange of experiences to be generated between the participants of the course and the experts
- Providing postgraduate students in management studies, water sciences, engineering, environmental studies and the humanities with useful historical and contemporary information to integrate in their research work.

Presenters:
Experts in the field from all over the world

Important Dates:
Final closing date for registration:1 June 2011

Interested? Please contact Mari-lize Harris at sduinfo@nwu.ac.za or 016 910 3014

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Deteriorating water quality to cost country dearly

A decrease in water quality of a mere 1% may result in as many as 200 000 job losses in South Africa.

This is but one of the thought-provoking findings of an economic impact study conducted by Plus Economics on behalf of trade union UASA. The aim of the study was to ascertain and quantify the effects of deteriorating water quality on South Africa's economy. The status of the country's water has been under intense scrutiny, with major water quality risks such as acid mine drainage, eutrophication of surface water, bacterial and viral pathogens and contamination by pesticides and organic pollutants making headlines.

Decreases in water quality – leading to reduced usability of water – will have profound effects on individual people's disposable income as well as government spending, the study found. The study forms part of the trade union's ongoing Water Security Campaign. According to Plus Economics CEO Prof Charlotte du Toit, additional macroeconomic effects of decreased water quality include a rise in the ratio of government debt to gross domestic product (GDP) to 28%, a drop of R16-billion in household spending, a drop of 1 percentage point in the GDP growth rate as well as a drop of R9-billion (2,5%) in total fixed investment. "A decrease in the quality of water will have negative and different effects on the individual economic sectors. Among our findings are that growth in the electricity and water sector will decrease by 2%, and that as many as 14 000 jobs may be lost in the financial services sector."

Du Toit also discussed the effect of a decrease in the quantity of water available on the different economic sectors. She said that if a decline in the final availability of water supply of, e.g. R10-million was assumed (which would need to be supplemented from other sources, including desalination of sea water), the study showed the following effects can be expected to manifest:

- Agricultural output will drop by R570 000
- Mining output will decrease by R1,1-million
- Manufacturing output will drop by R7-million
- Electricity output will drop by R1-million
- Tourism output will decrease by R2,3-million
- Financial services output will decrease by R4,6-million
- Community and social services output will drop by R5,4-million.

This means that the total economic output would decrease by R41,7-million. "For every one job lost in the water sector, a further two jobs are lost elsewhere," Du Toit said. Similarly, she showed how a decline of R10-million in the availability of usable water for manufacturing would result in a decrease in total economic output of R51,5-million while the decrease in employee compensation would decrease by R7,8-million as a result of a decrease in the quantity of water available.

UASA CEO Koos Bezuidenhout said the report would help South Africa to gain a better understanding of the crucial role of water and start to appreciate the real value of water in their daily lives. "The outcomes of this economic impact study are extremely useful...for the first time we can clearly see the role of water in the South African economy. As UASA has urged before, water needs to top all the agendas in the country and we need to develop a new respect for this precious commodity."

Source: UASA

Water expert wins environmental award

Touchstone Resources Director Dr Anthony Turton has won the Nick Steele Memorial Award for South African Breweries Environmentalist of the year.

The annual award, presented in November, is given in honour of the late legendary game ranger Nick Steele, and honours those who have promoted the cause of conservation and whose work will leave a legacy for years to come.

Dr Turton has been gathering information about the risks facing our natural watersheds for over ten years. While he has systematically made his findings available to both government and industry, the relevant authorities have reacted with alleged lethargy and ambivalence. In November 2008 after his presentation of findings was withdrawn from a conference for being too sensational in context, Dr Turton took his story to the media where the alarming facts about the urgency of acid mine drainage finally reached the public domain.

Dr Turton was suspended from his post at the CSIR and later resigned, and now continues his efforts in his personal capacity, raising awareness about the urgent intervention needed to save our water resources from further degradation.

Source: SAB

Eskom and WRC strengthens research partnership

The latest Memorandum of Agreement (MoA) between Eskom and the Water Research Commission is not the beginning of a partnership, but rather the strengthening of a relationship that has been built over many decades.

This is according to WRC CEO, Dr Rivka Kfir. Through this MoA, signed towards the end of last year, the two parties agreed to strengthen their strategic research ties. Eskom and WRC will jointly fund and undertake research on topics of mutual and strategic interest overcoming climate change, water resource availability and accessibility, water quality, operation and maintenance, water conservation and water demand management, as well as technology development among others.

"Eskom is currently a major user of water and water will continue to be a major resource for our future activities," notes Eskom Divisional Executive for Corporate Services, Dr Steve Lennon. "In addition, our water resources are increasingly under threat due to increasing demand and climate change impacts. As such, we need to be innovative in the way we access, treat and use water in future – and I see this partnership as a key enabler to sustainable water use in Eskom into the future."

Dr Kfir adds: "In light of water challenges facing South Africa, it just makes good sense to combine resources to the benefit of the country. The two entities will now be able to undertake research on topics of mutual and strategic interest while developing and growing adequate human resources in the water sector through growing the research capacity pool and encouraging skills transfer, mentoring and coaching."

'We can turn sewage treatment around'

The public's confidence in municipalities' wastewater treatment ability is slowly being restored.

This is according to Leonardo Manus, Department of Water Affairs (DWA) Acting Director: Water Services Regulation.

Speaking in East London at the Second Small Wastewater Treatment Systems Conference, organised by the Water Institute of Southern Africa, Manus said that, while in its infancy, the DWA Green Drop certification process was generally having a positive effect on the municipal wastewater treatment sector, with more local authorities striving to improve the management of their works. The process – an incentive-based regulatory approach to evaluate the performance of municipal wastewater services – was first implemented during 2009. During this first round of assessments less than 550 (53%) of the country's municipal sewage treatment works had enough data to be assessed, and only 7% achieved Green Drop status.

The second round of assessments is currently taking place, and the next report will be made available in the middle of this year. Manus said his team was encouraged by the fact that more municipalities were now participating in the process, and they were seeing an overall improvement in the manner in which these works were now being operated and managed. "The fact that small towns such as Carnarvon [in the Northern Cape] can turn themselves around means that it can be done anywhere," Manus said.

Manus cautioned, however, that incentive-based schemes alone were not enough to bring sustainability back to the sector. The department is still enforcing and regulating compliance, and currently there are four court cases pending against local authorities in this regard.

Other challenges threaten to derail the process, including municipalities making uninformed choices around sewage treatment technology (elaborate systems being introduced in inappropriate places), present lack of skills and capacity as well as procurement bureaucracy.

Still Manus remained positive. "We are seeing improvement, and an attitude change is definitely evident."

International limnology society recognises SA professor

One of South Africa's foremost limnologists has received international recognition for his efforts.

'Father of limnology' in South Africa, Prof Brian Allanson, was awarded the Naumann-Thienemann medal at the International Society for Limnology (SIL) Conference held in Cape Town last year. The medal – the highest honour that can be bestowed internationally – is awarded for outstanding scientific contributions to limnology and is named after the founders of SIL.

Prof Allanson initially worked in marine biology at the University of Cape Town before switching to river limnology work. Among others, he was instrumental in establishing the Lake Sibaya Research Station in northern KwaZulu-Natal. He was conjointly Professor and Head of Zoology and Entomology at Rhodes University and Director of the Institute for Freshwater Studies until he retired in the late 1980s.

His pioneering work on the structure and functioning of Lake Sibaya created a template of understanding of South African and Mozambican coastal lakes and effectively presented the only South African contribution to the International Biological programme section on the productivity of freshwaters in the 1960s. Under his leadership instrumental work was also carried out at the Vanderkloof Dam, Hartbeespoort Dam and the coastal lake Swartvlei. Many of the senior names in South African limnology cut their teeth in the Sibaya, Vanderkloof, Hartbeespoort and Swartvlei projects.

Alongside his many limnological achievements, Prof Allanson also provided many services to the national limnological behaviour. He served several terms as President of the Limnological Society of Southern Africa, and as South Africa's National Representative to SIL. His advisory outputs and services in national scientific steering committees and panels were many.

With his sometimes diverse interests and activities, and sometimes formidable reputation for scientific rigour and commitment, he holds the unique honour in having been awarded the Gold Medal both by the Limnological and by the Zoological Societies of Southern Africa, alongside the Order of Meritorious Service (Silver), of the Chancery of Orders, South Africa, for services to Science and University Education, an award bestowed on a very select few individuals by the President of the country.

Water diary

BENCHMARKING
MARCH 14-16
The IWA International Conference on Benchmarking and Performance Assessment of Water Services will be held in Valencia, Spain. Proposed themes include benchmarking and performance assessment projects; definition and establishment of performance assessment systems; decision support tools based on performance indicators; and benchmarking as a regulatory tool; among others. Enquiries: Conference Secretariat; Tel: +34 96 387 98 98; Email: secretariat@pi2011.com; Visit: pi2011.com.

EFFICIENT USE
MARCH 29-APRIL 2
The 6th IWA Specialist Conference on Efficient Use and Management of Water will be held at the Dead Sea, in Jordan. This conference will present the experiences of different countries in water demand management and their accomplishments in improving water use efficiency and dealing with the challenges of drought. Email: info@efficient2011.com or Visit: www.efficient2011.com.

WATER TREATMENT
APRIL 18-22
The 10th Specialised IWA Conference on Small Water and Wastewater Systems will be held in Venice, Italy. The conference will be held together with the 4th Conference on Decentralised Water and Wastewater International Network and the 3rd Specialised Conference on Resource Oriented Sanitation (EcoSan). Visit: wastewater-venice-2011.com.

INDUSTRIAL WATER
MAY 1-4
The Water & Industry 2011 IWA Specialist Conference Chemical Industries will take place in Valladolid, Spain. The event is the latest related to wastewater, gas and solid waste management in industry with a special focus on energy efficiency and sustainability. Visit: www.iqtma.uva.es/iwa2011.

HYDROLOGY & ECOLOGY
MAY 2-5
The 3d International Multidisciplinary Conference on Hydrology & Ecology (HydroEco 2011) will take place in Vienna, Austria. Visit: http://web.natur.cuni.cz/hydreco2011/

New CEO for engineering institution

The South African Institution of Civil Engineering (SAICE) has a new CEO.

Appointed from 1 October, 2010, Manglin Pillay is a civil engineer with a particular interest in environmental engineering. He gained experience primarily in the municipal solid waste and mining waste management sector.

Pillay spent more than a year at national government, followed by seven years of professional consulting experience. Described as 'a highly motivated and energetic leader who enjoys networking and connecting with people', Pillay joins SAICE directly from consulting engineering. He brings to the organisation qualities such as his strengths in communication, business management, business strategy and marketing.

"While we embrace transformation in South Africa, we need to simultaneously preserve the admiration and respect that the civil engineering profession has gained over many years," maintains Pillay. "Civil engineering and civil engineers are central to the sustainable economic and social development of our nation...SAICE wants to continue creating a home for civil engineers."

New book on 'jewels' of SA coast

South Africa has about 250 functional estuaries comprising five major categories.

Despite considerable diversity, estuaries represent sheltered coastal habitats that are sought-after for activities ranging from resource exploitation (e.g. fishing) to residential and industrial development. This attraction to estuaries has meant that many coastal settlements are built on or around these water bodies, which will inevitably impact on these ecosystems.

Consequently, the conservation and management needs of estuaries must be addressed by municipal, provincial and national decision makers.

A new publication by the South African Institute for Aquatic Biodiversity (SAIAB) focuses on temporarily open/closed estuaries, which are generally small estuarine systems, located mostly on the eastern and southern coasts of the country. Despite their abundance, more than 175 in total, and widespread distribution around the coastline, it was only in the 1980s and 1990s that research effort in South Africa started to focus on issues pertaining to these estuaries. According to SAIAB, we have now reached a stage where our understanding of the functioning of these estuaries has enabled the production of this booklet, *A Guide to the Ecology of Temporarily Open/Closed Estuaries*, for use by the general public as well as coastal managers. The booklet was funded by the Water Research Commission

For more information, visit: www.saiab.ac.za

Source: SAIAB

Many coastal wetlands likely to disappear this century

Many coastal wetlands worldwide may be more sensitive than previously thought to climate change and sea-level rise projections for the 21st century.

US Geological Survey (USGS) scientists made this conclusion from an international research modelling effort published in the journal Geophysical Research Letters, a publication of the American Geophysical Union. The scientists identified conditions under which coastal wetlands could survive rising sea levels.

Using a rapid sea-level rise scenario, most coastal wetlands worldwide will disappear near the end of the 21st century. In contrast, under the slow sea-level rise projection, wetlands with low sediment availability and low tidal ranges are vulnerable and may drown. However, in the slow sea-level rise projection, wetlands with higher sediment availability would be more likely to survive.

"Accurate information about the adaptability of coastal wetlands to accelerations in sea-level rise, such as that reported in this study, helps narrow the uncertainties associated with their disappearance," notes USGS scientist Glenn Guntenspergen, an author of the report. "This research is essential for allowing decision makers to best manage local tradeoffs between economic and conservation concerns."

"Previous assessments of coastal wetland responses to sea-level rise have been constrained because they did not consider the ability of wetlands to naturally modify their physical environment for adaptation" says fellow author, USGS scientist Matt Kirwan. "Failure to incorporate the interactions of inundation, vegetation and sedimentation in wetlands limits the usefulness of past assessments."

USGS scientists specifically identified the sediment levels and tidal changes necessary for marshes to survive sea-level rise. As water floods a wetland and flows through its vegetation, sediment is carried from upstream and deposited on the wetland's surface, allowing it to gain elevation. High tidal ranges allow for better sediment delivery, and the higher sediment concentrations in the water allow wetland to build more elevation.

Coastal wetlands provide critical services such as absorbing energy from coastal storms, preserving shorelines, protecting human populations and infrastructure, supporting commercial seafood harvests, absorbing pollutants and serving as critical habitat for migratory bird populations. These resources and services will be threatened as sea-level rise inundates wetlands.

Water on the Web

www.water-network.co.za

This website follows the letter of intent signed by the Water Institute of Southern Africa and the Netherlands Dutch Partnership earlier this year with the goal of creating a platform for South African and Dutch water partners to explore and expand existing initiatives and to facilitate new partnerships. The Web portal provides opportunities for networking, exchanging knowledge and building relationships between companies and organisations from the two countries.

www.wetlands.za.net

The new South African wetland website was launched at the National Wetlands Indaba 2010 in Kimberley last year. The portal not only offers easy access to important wetland information, but also allows users to take part in the great wetland debate. The portal builds on and replaces the Wetlands SA website that was hosted by Working for Wetlands provisionally until a more viable platform could be found.