

SA's biological invasion captured in new book

A popular science book that provides a readable account of the impact of invasive species on South Africa's plants and animals has been published

with the support of the Centre of Excellence for Invasion Biology (CIB) at Stellenbosch University.

Invaded: The Biological Invasion of South Africa is authored by science journalist Leonie Joubert with photographs by Rodger Bosch. The book tells the tale of how species such as pine trees, wattles, the Mediterranean mussel, the Japanese oyster, the trifid weed, Argentine ants and European wasps have traversed the borders of their natural habitat and found their way to South Africa over the past 300 years.

Unhindered by the predators and diseases which once kept their populations in check, many of these species have come to outnumber and out-compete species in South Africa in such a way that they have had a serious impact on local ecosystems, agriculture and the provision of water.

Invaded not only serves as a checklist of species that have invaded the South African environment, but also includes discussions on genetically modified crops, how to contain invasion and the management of transformed landscapes.

"The invasion biology story is not as sexy as climate change or the global economic crisis," says CIB Deputy Director Sarah Davies. "It seldom makes headline news and yet it is one of the greatest threats to our healthy environment. An invasive species is like an oil spill that can never be cleaned up because it is constantly replicating itself. It is a form of biological pollution that is so subtle and insidious that many people do not realise it is there."

Invaded is published by Wits University Press.

Millions budgeted for water supply in Limpopo

Vhembe District Municipality in Limpopo has set aside R700-million to implement water and sanitation projects this financial year.

According to General Manager for Development and Planning, Masala Makumule, projects will be implemented in the four local municipalities of Mutale, Makhado, Thulamela and Musina. "We admit that many of these areas are without tap water, but we are changing the situation for the better."

Part of the R700-million budget has already been used to start connecting water pipes from the Mutale River to serve the Helula, Ha-Mabila and Gwangwatini areas. The Mutale project, worth R14-million, is expected to be completed in January.

Source: *BuaNews*

Water demand management gets a leg up

The Development Bank of Southern Africa (DBSA) has kick-started the third phase of a regional Water Demand Management (WDM) Programme aimed at ensuring southern Africa makes the best possible use of its available water resources.

The programme, which is being implemented across the Southern Africa Development Community (SADC) region, is funded by the Swedish International Development Cooperation Agency (Sida). The development objective of the programme is to 'entrench a WDM culture in SADC that contributes to its goals of regional integration and poverty alleviation through pro-poor, efficient and sustainable utilisation of water in the region,' the DBSA said in a statement.

The Programme intends to build on the two previous phases of the programme, also funded by SIDA, which ran between 1997 and 2004. All activities being undertaken through the programme can be categorised in one or several of three types of services: support, project development, and finance facilitation services.

Support services will assist in promoting a favourable environment in which WDM actions can take place. It is envisaged that the support services will create a well informed demand.

Project development services are largely grant-based. The types of services envisaged here are



LETTERS TO THE EDITOR

Department skills lack requires urgent attention

Thank you for publishing the correction to my contribution to the article on 'Partnerships the lifeboat over troubled waters' published in the September/October 2009 issue of *the Water Wheel*. However, the title to the letter: 'Department skill shortage not a crisis' now projects the opposite view that the skills shortage in the DWA does not constitute a crisis.

While the problem has not yet assumed the paralysing proportions that have long afflicted many local authorities, it is still extremely grave. Having been eroded down to only 40% of the vital engineering posts filled, a steadily widening middle management gap and the life blood of new recruits haemorrhaging out of the organisation due to hopelessly inadequate remuneration packages speaks of a dizzying complacency.

It is already seriously impairing the functioning of a fine department and if not attended to with the utmost urgency will cripple it to the lasting detriment of the entire water sector and our economy that depends so heavily on it.

We are already in this predicament. Each year more of the scarce skills and experience are being lost to retirement and resignation and they are not yet being replaced. It is a bit like watching a train smash approaching in slow motion. Make no mistake, this is a national crisis that needs to be addressed immediately or it will make the crisis within the smaller local authorities pale into insignificance.

Chris Herold, Umfula Wempilo Consulting

Correction to article

In the article 'State of water in South Africa – are we heading for a crisis' the name of Prof Bärbel Haldenwang, Associate Professor at the Institute for Futures Research was mistakenly omitted as the author of the article. *The Water Wheel* apologises for this error.

Editor

numerous. The services include technical assistance, project proposal assistance, capacity building and training.

The Programme will be in a position to assist, where relevant, in obtaining finance (loans from local banks and/or development fund institutions), and providing supplementary funding, loan guarantees and load administration fees if appropriate. It is one of the objectives of the WDM Programme that services move from being grant-based to loan based. The project development and finance facilitation services will be offered in response to a demand for actual implementation of WDM practices.

The strategic approach of the Programme is to use grant-funding to crowd in rather than crowd out market finance. By stipulating that utilities mobilise a portion of the total investment from market the Programme serves as a catalyst for financial market participation in raising funds, even at an early stage of WDM projects. The Programme intends to support several WDM demonstration case studies in the SADC region through a 'package' approach focusing on both broader WDM reforms and individual transactions aimed at building experience and confidence between finance institutions and water utilities.

African utilities assess their performance

Learning partnerships among water and sanitation utilities in Africa have the potential to realise improved services for hundreds of thousands of the urban poor, according to a new report released by the Water and Sanitation Programme together with the African Water Association, the Eastern and Southern Branch of the International Water Association and the Global Water Operators Partnership Alliance coordinated by UN Habitat.

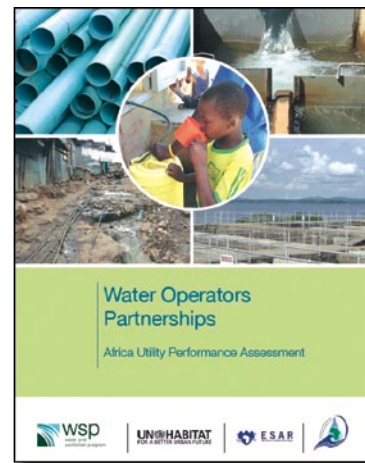
The report – *Water Operators Partnerships: Africa Utility Performance Assessment* – synthesises data collected from 134 water utilities from 35 countries in sub-Saharan Africa, including South Africa. It provides examples of utilities that are doing well as well as those which are lagging behind. The data shows that there is a wide variation in utility performance.

“We believe that efficient and financially viable utilities are a prerequisite for provision of services to the urban poor. This report provides an opportunity for utilities in sub-Saharan Africa to help each other

through identification of the stronger and the weaker utilities to improve their performance,” said WSP Africa Regional Team Leader, Wambui Gichuri.

To download the full report, Visit:

www.wsp.org/UserFiles/file/WOP_Report.pdf



A rare find in the pristine waters of the Waterberg

CSIR principal researcher and limnologist, Dr Paul Oberholster, has discovered *Ophrydium versatile* in a tributary of the Lephalale River in the Waterberg. This is the first ever recording of this species of protozoa in an African river.

A subsequent battery of tests on water samples from the river at the CSIR laboratories has confirmed the link between the occurrence of the species and the pristine quality of the water. Oberholster suggests that the distribution of *Ophrydium versatile* can be used as an indicator of possible environmental changes in rivers.

The researcher made his discovery while he was doing research in a riverine in the Waterberg as part of a CSIR study on the ecological status of rivers and wetlands in the Waterberg. “I came across unusual, jelly-like blobs, some as large as 18 cm in diameter, that were attached to a rock layer and for a moment, I thought that they were jellyfish, except that they had no visible tentacles.”

Since then, molecular taxonomic identification has confirmed the species as ciliate (protozoan). A ciliate is a single-cell organism that, at some

stage of its lifecycle, possesses cilia, short hairlike organelles used to move about and gather food. These protozoans live in colonies that are made up of jelly-like spheres. They are usually permanently attached to a solid substrate such as a rock and they have symbiotic algae inside their cytoplasm, making photosynthesis possible.

“These type of single-cell organisms live close to minimal conditions and they therefore are dependent on optimal water conditions. Our analysis of the water samples taken during our three field trips confirmed that the water was

absolutely optimal for their survival,” notes Dr Oberholster.

The conditions in which the protozoa was found matched the conditions of lakes in Europe and America where it typically occurs – with low water nutrient content and transparent conditions (low turbidity).

Will *Ophrydium versatile* in the rivers of the Waterberg be there for future generations to marvel at? “We have developed the ecological indicators that reflect the current status of the rivers and the wetland ecosystems. It has been recorded and will be

widely communicated to land owners, conservation groups and industrial stakeholders,” reports Dr Oberholster.

“My hope is that this time the environment will be taken seriously, that decision-makers will base their plans on the scientific understanding of the specific ecological situation. Our indications to date have given me reason for hope – the hope that the first recorded occurrence of *Ophrydium versatile* in an African river will not also become the last sighting.”

