Quest for biofuels ignoring biosecurity impacts – CSIRO

Important biosecurity issues are being ignored in the global push to develop new non-food crops for biofuels and industrial and pharmaceutical uses.

This is according to a report published by Australian science body, CSIRO. The report, compiled by representatives of ten developed countries who attended a recent biosecurity summit in Canberra, focuse on the broad biosecurity consequences of the twenty-first century non-food agriculture.

"The exponential growth in non-food crops could compromise conventional agriculture if it ignores issues such as the potential invasiveness of new crops, the effects of abandoned plantings of trial crops, new pests and diseases and pest management," reports CSIRO Entomology Scientist Dr Andy Sheppard.

According to Dr Piero Genovesi from the Italian Institute for Environmental Protection and Research, the European Union is becoming more aware of the risks associate with invasive species. "It is crucial that this new awareness leads to a revision of current biofuel legislation so that the biosecurity risks caused by mandatory targets for replacing fossil fuels with renewable energy are addressed."

The report stresses the role of science in developing and regulating sustainable crop-based biofuels. It also highlights the need for a global vision for future agricultural development around biofuels and international standards and certification for the industry to avoid repeating the environmental harm previous agricultural 'revolutions' have caused. The report also recognises that developing countries will need assistance to develop best management practices, protect their environment and undertaken risk assessments.

"While it is clear that biofuel-based rural industries can be beneficial, new non-food crops must meet the triple bottom line – people, planet, profit – criteria," concludes Dr Sheppard.

Samantha Setterfield

New tools to tackle wetland degradation

A new set of integrated tools to improve the management and rehabilitation of South Africa's wetlands are now available from the Water Research Commission (WRC).

The so-called *WET Management Series* of handbooks stems from the National Wetlands Research Programme, an initiative of the WRC. A number of partners contributed to the compilation of this set of tools, including the Department of Environmental Affairs, the South African National Biodiversity Institute, the Department of Water Affairs, Mondi Wetlands Project, provincial conservation agencies, universities and private enterprise.

Wetlands are fascinating and dynamic ecosystems that provide indispensable ecosystem services. They constitute about 7% of South Africa's surface area and support a range of ecosystems and services.

Because wetlands are transitional between aquatic and terrestrial ecosystems, they are vulnerable to impacts on both. In addition to direct impacts, such as draining for pastures and crops, or the construction of infrastructure such as roads that impede and concentrate water flows, there are also several ongoing impacts from pollution and erosion in catchments as well as from excessive water abstraction, loss of vegetation cover, climate change and land use change. Up to 60% of the country's wetlands have already been lost to degradation.

It is hoped that the *WET Management Series* will do much to safeguard the wetlands we have left. The series of booklets offer a sound scientific basis for planning, implementing and evaluating wetland rehabilitation, providing guidelines to develop an overall planning framework; assessing the condition of catchments and individual wetlands; assessing the functions and values of individual wetlands; evaluating the need for rehabilitation; identifying why wetlands degrade and what rehabilitation interventions are appropriate; guiding the selection and implementation of rehabilitation methods; and monitoring the success of rehabilitation projects.

To order any of these booklets (Report No: **TT 334/09** to **TT 343/09**) contact Publications at Tel: (012) 330-0340; or E-mail: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.

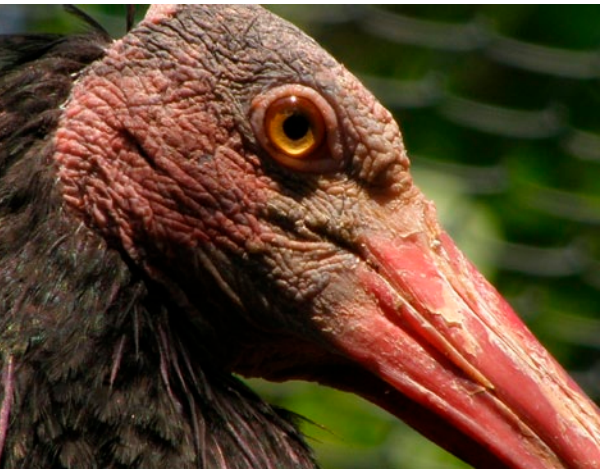
Water diary (continued)

GROUNDWATER
SEPTEMBER 12-17
The 2010 Congress of the International Association of Hydrogeologists will take place in Krakow, Poland.
E-mail: office@iah2010.org or Visit: www.iah2010.org

WATER
SEPTEMBER 19-24
The IWA World Water Congress & Exhibition will be held in Montréal, Canada.
E-mail: 2010montreal@iwahq.org

INDUSTRIAL WATER
SEPTEMBER 22-23
The WISA Industrial Water Conference will be held at Maccauvlei, Vereeniging.
Enquiries: Joey Swart (Conference Chair); E-mail: joey.swart@sasol.com

DAMS
SEPTEMBER 28-30
The 2nd Int. Congress on Dam Maintenance and Rehabilitation will be held in Zaragoza, Spain. Organised by the Spanish Society of Dams and Reservoirs in collaboration with the Ministry of Environment of Spain. *Visit: www.damrehabilitationcongress2010.com*



Global event highlights plight of migratory birds

Thousands of people in more than 40 countries across the globe participated in an UN-backed event in May to celebrate World Migratory Bird Day.

The day, held on 8 May, celebrated the beauty of bird migration and drew attention to the threat of extinction that some species of migratory birds face as a result of human activity. "The threat of extinction faced by individual bird species is a reflection of the larger extinction crisis threatening other species and the natural diversity that underpins all life on Earth," reported Bert Lenten, Executive Secretary of the African-Eurasian Migratory Waterbird Agreement and initiator of the World Migratory Bird Day campaign.

An estimated 1 227 or 12,4% of the total 9 865 bird species in the world are classified as globally threatened, and 192 of these are considered critically endangered. "World Migratory Bird Day is an opportunity to draw international attention to migratory birds around a central theme each year. The focus on the most threatened migratory birds in 2010 acts as yet another reminder to governments that more needs to be done internationally to conserve these species across their migratory ranges," said Executive Secretary of the Convention on Migratory Species, Elizabeth Maruma Mrema.

Some prominent examples of migratory birds in crisis include the slender-billed curlew, the northern bald ibis, the sociable lapwing, the waved albatross and the orange-bellied parrot, all of which are migratory and listed as critically endangered. The birds face a range of mainly human-driven threats, of which agriculture and invasive alien species are the most important. Hunting and trapping, logging, urbanisation, pollution and fisheries are also significant threats, with climate change increasingly becoming a factor.

Report a wake-up call to countries' failed efforts to secure biodiversity

The outcome of a recent study reporting on the failure by world leaders to make good on their commitments to reduce the global rate of biodiversity loss by 2010 should be used as an opportunity for countries, such as South Africa, to benchmark themselves against global progress.

This is according to South African researcher Prof Melodie McGeoch, one of the 41 co-authors of the paper, *Global Biodiversity: Indicators or Recent Declines*, published in the journal *Science* earlier this year. The paper found that specific targets made by world leaders through the 2002 Convention on Biological Diversity (CBD) have not been met, and that there is instead an alarming decline in biodiversity worldwide.

Prof McGeoch, a scientist at South African National Parks and an associated of the Centre of Invasion Biology (CIB) at Stellenbosch University, contributed insights about the influence of invasive species on global biodiversity along with colleague, Dr Di Spear, also of CIB.

Compiling over 30 indicators, including changes in species' populations and risk of extinction, habitat extent and community composition – the study found no evidence for a significant reduction in the rate of decline of biodiversity, and that the pressures facing biodiversity continue to increase. The synthesis provides overwhelming evidence that the 2010 target to reduce biodiversity loss has not been achieved.

"Our analysis shows that..biodiversity is still being lost as fast as ever, and we have made little headway in reducing the pressures on species, habitats and ecosystems," said lead author Dr Stuart Butchart, of the United Nations Environment Programme (UNEP) World Conservation Monitoring Centre and BirdLife International. "Our data show that 2010 will not be the year that biodiversity loss is halted, but it needs to be the year in which we start taking the issue seriously and substantially increase our efforts to take care of what is left of our planet."

"Since 1970, we have reduced animal populations by 30%, the area of mangroves and sea grasses by 20% and the coverage of living corals by 40%," reported UNEP Chief Scientist Prof Joseph Alcamo. "These losses are clearly unsustainable, since biodiversity makes a key contribution to human well-being and sustainable development, as recognised by the UN Millennium Development Goals.

The results from this study fed into *Global Biodiversity Outlook 3*, the flagship publication of the CBD, released in May, when government representatives from around the world met to discuss the 2010 target and how to address the biodiversity crisis.

Demand for frogs rising in West Africa

The demand for frogs for human consumption is rising dramatically in parts of West Africa. This is according to a report in the latest Bulletin of the Wildlife Trade Monitoring Network (TRAFFIC) .

In Burkina Faso, almost all frogs collected are consumed locally, with the African Tiger Frog (*Hoplobatrachus occipitalis*) the most frequently eaten species. Frogs are usually sold to market traders who fry the specimens for sale.

In Benin and Nigeria, frogs are transported to south-west Nigeria for sale. Thirty-two traders between them handled around 2,7 million frogs per year, most originating from the northern savannah regions of Nigeria and from neighbouring Benin, Chad and Niger.

In Malanville, Benin, frogs are collected exclusively for the Nigerian market. There, many fishermen have recently switched to catching frogs, not because of their higher profits, but because frogs can be sold in batches, providing a lump sum of income – around US$20 per sack.

There are already indications that this trade in frogs is unsustainable, e.g. in Burkina Faso, western Cameroon and eastern Nigeria, local people are reporting decreasing catches of frogs. While frogs are clearly an important food source in the region, currently there are no regulations in any West African country governing the harvest.

The authors have called for investigations into the farming of large species, such as the African Tiger Frog in West Africa in order for wild populations to be protected and to provide a source of local income.