



Take care when diverting

I saw your piece on Grootvlei Mine and the Blesbokspruit in the recent *Water Wheel* (Project Progresses to Reduce Ingress at Grootvlei, May/June 2006). If, in fact, Blesbokspruit is diverted, somebody should really look into its impact on the mobilization of trace metals from the wetland due to resultant change in chemical conditions (especially that of uranium).

Dr Alakendra Roychoudhury, Cape Town

So many scientists so many opinions

Ek het Robert Blyth se brief oor klimaatsverandering, en spesifiek reënvalpatrone, in *Water Wheel* (Mei/Junie 2006) met groot belangstelling gelees.

Ek is hoegenaamd nie 'n weerkundige nie, maar het oor die jare interessante standpunte hieroor van kenners gehoor. Tydens 'n besoek aan die US Water Conservation Laboratory in Phoenix, Arizona, 'n woestyn/semi-woestyn gebied, in 1983 was die navorsers se hooftema dat die geweldige lae koolstofdioksiedkonsentrasie in die atmosfeer die grootste beperkende faktor in gewasproduksie is. Veral in gebiede met lae reënval word beide

opbrengste en watergebruiksdoeltreffendheid baie verhoog deur verhoogde koolstofdioksiedkonsentrasies in die atmosfeer.

Hulle het vir my die groot positiewe effek daarvan in veldproewe met katoen gaan wys. Hulle het ook vir my 'n afskrif gegee van 'n klein artikel met die title: "What did the Phoenix scientist say to the American Academy of Sciences? – Keep an open mind". Daar was by die artikel 'n cartoon van 'n mannetjie met 'n ritsluitter, half oopgerits, dwarsoor sy voorkop.

In 1995 was ek by 'n vergadering van die werkgroep van die World Reference Base for Soil Resources (waarvan ek lid was) in Kiel, Duitsland. 'n Paar manne het daar aangekom van 'n voorafgaande vergadering oor die veragte invloed van aardverwarming. Iemand wou by een van hulle weet wat die slotsom van die vergadering was. Die antwoord was eenvoudig dat daar soveel standpunte was as wat daar wetenskaplikes was maar die media rapporteer net een kant.

In the laat 1980s het 'n wetenskaplike uit Israel deur middel van historiese data gewys dat die lande van die middelbreedtegrade, soos die Sahel en Suid-Afrika se somer-reëngebiede, baie hoer reënval gaan kry as aardverwarming plaasvind. 'n Klompie jare

gelede is daar kort voor Kersefees 'n program hieroor op 50/50 uitgesaai. In die program is historiese reënvaldata van Prof Tyson se groep vir Suid-Afrika oor historiese temperatuurdata vanaf Amerika aangepas. Die twee stelle het perfek oor mekaar gepas. Die probleem is natuurlik dat die gebiede en lande van die hoë breedtegrade, soos Suid-Afrika se winter-reëngebied en Noord-Amerika en Europa, ver minder reën gaan kry en eintlik woestyne word.

Prof Giel Laker, Pretoria

'Us' vs 'them'

The letter in the May/June 2006 edition (*Climate Change Research Still Foggy*) refers. While peer review is often a robust process I am at a loss to understand the vitriol and the cheap shots employed in his letter regarding climatology, climatologists, the Water Research Commission (WRC) and environmentalists. Who are the "us" that climatologists are playing games with "to get more research funding?" Why the implied slur on the referees, typically senior scientists, who assess proposals put to the WRC for funding?

Regarding the "challenge to climatologists" – what exactly does he want the climatologists to do? Simply say "Whoops – sorry guys we actually did not know what we were talking about and we must thank Mr Blyth for putting us right"? Does he have evidence that the increasing CO₂ levels in the atmosphere have nothing to do with human activities? Is he aware that present average temperatures and atmospheric levels of carbon dioxide and methane have no parallels in the last half million years? I also reject with contempt the implication in the last sentence regarding the demand that "environmentalists and climatologists need to...play open cards with the public" – one thing one cannot do in science is lie or conceal evidence – you will ultimately be caught out. Unfortunately for Mr Blyth this requires evidence not bluster.

Prof AT Forbes, KwaZulu-Natal





Groundwater article ‘misleading’

Your groundwater article “Licence to Limit” (*Water Wheel*, March/April 2006) is highly misleading in many respects.

The statement that “almost 95% of boreholes drilled in the country will require licensing” is entirely false. The borehole yield allowed under the General Authorisation (GA) is in many cases more than two orders of magnitude higher than that suggested in your article.

The GA (m³/ha-a) should be multiplied by the number of hectares of property in order to arrive at the volume permitted under that authorisation. Farms of hundreds and even thousands of hectares are common in this country. In making the statement quoted above however, it was assumed that all properties in South Africa are only one hectare in size.

The effect this has is illustrated in the following example. Where the GA is 400 m³/ha-a, a borehole yield of 12,7 ℓ/s

(24 hours per day, 365 days per year) is permitted on a 1 000-hectare farm without a license. On a small 100 hectare farm 1,3 ℓ/s (24 hours per day 365 days per year) is permitted. In this case your article would have quoted less than 0.06 ℓ/s (10 hours per day on only 200 days per year) as being permissible without a licence in both these farms cases. Your article then uses this faulty logic, as a basis to conclude that nearly all boreholes drilled in this country will require licensing.

Other misleading aspects of the article relate to Schedule 1 use.

Your article correctly explains that it is permissible to abstract groundwater for Schedule 1 use even if the volume used exceeds the General Authorisation. This is precisely so that small groundwater users can access reasonable quantities of groundwater without the administrative burden of a licensing process. It was, however, incorrectly suggested in the article that windpumps

erected after 1998 will require a licence. Windpumps are most commonly used to abstract groundwater for stock watering and (reasonable) domestic purposes. This type of use is classified as “Schedule 1” use and therefore does not require any Departmental authorisation.

One cannot simply conclude, as your article does, that the volume permitted under General Authorisation is too conservative if it is less than that required by Schedule 1 users. This situation invariably occurs in situations where there are small properties (e.g. smallholdings). It is in this circumstance that there is in fact a very real danger of overexploitation because borehole density can become too high. As a result the recharge area to each borehole is inadequate to sustainably supply the volumes required by the Schedule 1 users. Contrary to your articles assertion that the General Authorisation limits are too low, the Department will in fact need to be vigilant to ensure that overexploitation does not take place in these circumstances.

Yes, there is no doubt that the national General Authorisations set by the Department can and will be improved upon using more detailed local information. In the interim, however, the combined application of the existing GA’s and Schedule 1 use are in practise nowhere near as restricting as your article makes out.

Mike Smart, Cape Town

Mine-water project inspiring

This is to congratulate you on the article on mine-water reclamation (*the Water Wheel*, May/June 2006). Very inspiring, at least the mines have something to contribute back to the environment and meeting mankind’s potable water needs.

Ike Herbst, Swaziland

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