

PO Box 586 Moama 2731
T +61 (0)3 5480 0755 F +61 (0)3 5480 0233
E enquiries@nuffield.com.au W www.nuffield.com.au
A.B.N. 33 092 327 396

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Cooperation needed to restore rangelands

International expertise on rangeland restoration has much to offer Australia's pastoralists and the many other stakeholders with an interest in the future productivity of nation's vast rangelands.

It's an all too common scene for Australia's many rangeland farmers – fragile topsoils disappearing with the wind, and increasing erosion around bare creeks and rivers, accelerated by fast-flowing water on those rare occasions when they run at all.

West Australian beef producer Ben Forsyth has returned from a three-month Nuffield Scholarship tour with new ideas to remedy these problems on rangelands properties, including on his own – Three Rivers Station, near Meekatharra.

Mr Forsyth's Nuffield Scholarship, sponsored through the Lady Southey Scholarship program supported by the Sidney Myer Fund, allowed him to visit Namibia, South Africa, the US and Argentina to investigate strategies for rehabilitation and regeneration in semi-arid environments.

His travels convinced Mr Forsyth that greater cooperation among stakeholders is the only way to successfully halt erosion of rangelands, where human intervention has accelerated natural attrition by thousands of years.

This includes developing alliances to strengthen international collaboration and generating greater cooperation among pastoralists, indigenous groups, mining companies, government and environmentalists.

This revelation became apparent in South Africa, where Mr Forsyth was introduced to the World Overview of Conservation Approaches and Technologies – a network of soil and water conservation specialists that explores and promotes erosion control knowledge from around the world. He plans to extend this network to include Australia's rangelands and is also looking at ways to increase cooperation among stakeholders who have a vested interest in the rangelands.

"Rangelands represent 86 per cent of the Australian continent, and the magnitude of the restoration required is beyond the scope of individual pastoralists alone, who in many instances have inherited accelerated degradation as a legacy of inappropriate government policy and farming practices," Mr Forsyth says.

"The US is dealing in yards of top soil and in Namibia they are talking feet, but in Australia only inches remain in some areas," Mr Forsyth says. "The state of rangelands I see in Australia is far graver than the conditions I observed overseas. Ours is a much older, more fragile landscape and it is being dehydrated as a result of water erosion. We have fewer second chances and we must make the right decisions."

In Australia, past relationships with grazing lands have been exploitive, he says. In recent years there has been a slight move from a lock-up conservation mentality to a focus on sustainable production.

"The tools required for ecological sustainability are available, but they must be tailored to Australian conditions and implemented under industry-driven catchment-size projects. Rangelands are dynamic systems and they need to be managed on a catchment-scale.

"We need to increase the number of catchment projects 10-fold and to replace the current shotgun approach with more coordinated activity that draws on national and international expertise," Mr Forsyth says.

His own family property, the 526,000-hectare Three Rivers Station, takes in the headwaters of the Gascoyne River, where the North, Middle and South Branches of the river meet to form a single, larger stream. But even so, with a 230mm annual rainfall, the river only runs every few years, generally following coastal cyclone activity.

Mr Forsyth says when it does run, erosion along the riverbank results in a faster flow of water that cuts into the floodplain, accelerating erosion, rather than gently spreading out to water the floodplain and recharge the watertable.

Using strategies he has already trialled, and successful variations he saw demonstrated in Africa during his Nuffield travels, Mr Forsyth plans to line eroded areas of the river to protect them or install structures upstream of eroded areas to diffuse the energy of water flows and prevent further erosion.

He says depending on what type of structure you use, it can also trap debris from flowing water, including sediment, gradually stabilising and reforming the eroded areas. Mr Forsyth says he has used branches from invasive woody weeds and shrubs along the river to create a kind of “beaver dam” for this purpose, but in Namibia he saw whole trees cut down, netted together and used in this way, and also “rakes” – steel prongs embedded in the riverbed, resembling an upturned rake.

However Mr Forsyth says government regulations in Australia generally prevent the installation of structures along watercourses to re-establish floodplains, although the strategy is practiced in other arid countries.

“If the regulations were amended, a considerable proportion of the current runoff could be used to rehydrate the rangelands by re-establishing the pre-pastoral floodplains and water levels without impact on river flow,” he says.

During his time in South Africa, Mr Forsyth also visited farmers to investigate controlled rotational grazing systems. “At several of the sites I visited overseas, grazing livestock was the only tool recognised to have had a positive impact, by stimulating soil activity for regeneration, eliminating weeds and incorporating ‘rest’ in the plant growth cycle. This is a major breakthrough for pastoralists.”

It’s a strategy he intends to implement as he gradually rebuilds his herd, after destocking during recent drought years.

“We have the potential to expand our 2500-cow herd to a 5000-cow herd through rotational grazing, revegetating the landscape with native grasses and controlling erosion to ensure greater infiltration of rainfall and river flows.”

He says he has been fortunate at Three Rivers that local kangaroo numbers fell significantly not long after his initial floodplain restoration work and destocking. This eased grazing pressure and has resulted in native grass seeds – dormant for more than 60 years – reshooting, bringing back a critical mass to the Three Rivers pasture base.

While in the US Mr Forsyth also met Professor Fred Provenza, the Utah State University rangelands expert who founded the Behavioural Education for Human, Animal, Vegetation and Ecosystem Management program (BEHAVE). He was impressed by the program’s approaches for controlling ‘woody weeds’ and other undesirable species, techniques such as imprinting animals to predetermine their appetite for specific weeds. “BEHAVE is also exploring animal tolerance to toxins in plants and their natural ability to overcome mineral deficiencies,” Mr Forsyth says.

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For more information: Ben Forsyth 08 9981 2932, mobile 0427 551 114, email benforsyth@wn.com.au

A high-resolution photograph of Mr Forsyth can be downloaded from www.coretext.com.au/communications_images.php Please contact Catherine Norwood at Coretext Communications (03) 9670 1168, cnorwood@coretext.com.au if you have any problems accessing images.