Balance in the bush

**Q** HOW will we conserve species diversity?

**A** ARID land ecosystems are often overlooked. There is a common misconception that there is nothing there but arid lands host a huge variety of plant and animal life. Australian arid lands are not only characterised by their low rainfall; the rainfall is very sporadic, resulting in long drought periods with occasional flooding rains. The very low amount of available water means that plants and animals are highly adapted to survive the harshness of their environment.

As with other ecosystems, species in arid lands are under heavy strain due to human activities; in this case the introduction of grazing animals. Introduced grazers remove plants through browsing and their hard hooves churn up the soil, making it difficult for plants to re-establish themselves. The stress placed on plants due to grazing reduces seed output by plants and this then reduces the number of seeds in the soil, further reducing the number of plants that can establish.

My PhD is focusing on the role of fallen logs in arid lands of South Australia. I have found that fallen logs increase soil nutrients, trap seeds and enhance plant establishment and growth.

I have also been introducing log-like structures (large PVC pipes) and studying their effect on soil and plant properties.

Studies such as these are very important for not only understanding how ecosystems function but also to find new ways to rehabilitate and restore degraded areas, it is common practice across the world for humans to remove logs, either standing or fallen, for firewood.

This has resulted in a large reduction in the number of logs distributed across the landscape. This reduction in logs causes concern, as not only are logs an important habitat for many animal species – particularly insects – but we now know that fallen logs play an important role in the establishment of plants in arid lands.

In order to conserve species diversity and restore degraded arid lands we need to continue to increase our knowledge of how ecosystems work.

This way we learn, such as the effect of fallen logs, can be incorporated into management schemes for the rehabilitation of our native ecosystems.

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**DID YOU KNOW?**

- Australia is the second most arid continent on earth; Antarctica is the first.
- Arid and semi-arid lands cover 70 per cent of Australia’s land mass.

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**SHERADYN HOLDERHEAD**

HUMOUR and unwavering support set Craig Griffin’s science labs apart from the rest.

The Modbury High School chemistry and biology teacher said despite using a “very traditional” style of teaching throughout his 39-year career, it was important to make sure students were entertained otherwise they were at risk of tuning out.

“The main thing about my teaching is humour. I can’t stand seeing students bored so I endeavoured to introduce as much humour as I can in lessons,” Mr Griffin said.

While humour was not a facet of Mr Griffin’s own high school science lessons at Henley High in the 1960s, he said his “superb” science teachers inspired him to pursue a career as a science teacher. “Many of their methods I still employ,” he said. “I’m always testing the students and set homework frequently.”

Mr Griffin said he found using analogies was also helpful for students learning new concepts.

“I started a new topic with my Year 11s and rather than going straight into the chemistry of it, I spent a lesson explaining it and made up a dance called ‘wha lala’ which doesn’t exist and was made up a dance called ‘wha lala’ which doesn’t exist and was a dance between a man and three women,” he said.

“For any new concept, I try to think of something in everyday life that mirrors it, talk about that first then the science concept and you find students can understand anything.”

Lunchtime and school holidays were not time off for Mr Griffin because he said teaching driven Year 12s a demanding subject meant he needed to be accessible to provide support. Mr Griffin has been nominated in The Advertiser-State Government SA Public Teaching Awards in the category of Inspirational Secondary School Teacher of the Year. Applications are currently being assessed and regional winners will be named next month.