

Biodiversity

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*"I bought a run a while ago,
on country rough and ridgy,
Where wallaroos and
wombats grow – the Upper
Murrumbidgee..."*

A.B. "Banjo" Paterson,
Poet

Moving mountains

The grazing and agricultural lands which cover almost three-quarters of Australia aren't just important for our food and resource needs. They are also a living reservoir of biodiversity and need to be managed to protect it. Agriculture in turn is totally dependent on ecosystem processes and the biodiversity that drives them. Without the natural biodiversity which lives in rural ecosystems there would be less soil formation, nutrient cycling, natural water purification and pollination of crops.

Just one gram of soil – about the size of two aspirins – may contain up to 100 million bacteria and other micro-organisms. Labouring away in secret darkness, these tiny creatures literally move mountains. They are only about one-thousandth of a millimetre in size yet they are responsible for fixing nitrogen, preventing erosion by binding soil particles together and helping plant roots take up water and phosphorous. Farming practices which lead to increased acidity or salinity in the soil can kill this valuable micro-biodiversity, halting the important work it does.

Noah's ark in a tree

Land clearing in rural areas is a major cause of biodiversity loss. While Australia has developed major initiatives to address revegetation, and incentives for the conservation of vegetation, through the Natural Heritage Trust, this is more than offset by the current rate of clearing in some States. Our national parks and reserves are not large enough to adequately protect all ecosystems.



on the farm

Only 47 of the 209 species of endangered Australian plants live in protected areas – so there is much opportunity for biodiversity protection on farms. In one study Australian scientist Professor Harry Recher found a Noah's Ark of 1700 different insects and invertebrates living on just four species of gum trees on one farm. That's about as many as all of Australia's land-dwelling vertebrates put together.

What can farmers do to protect biodiversity?

- Use integrated pest management to minimise pesticide use. Pesticides can disrupt natural ecological processes and impact on biodiversity.
- Leave dead trees standing as homes for birds and possums.
- Fence off the dams and rivers from stock to allow native plants to grow. These will provide habitat for useful insects, frogs and birds.
- Fence off bush corridors for wildlife so they can move between cleared areas.
- Control exotic plants and animals, such as goats, cats and pigs, which compete with natives.

- Increase organic material in soils to enhance microbial

People making a difference

Brian and Lesley Mason own a 32ha orchard outside Adelaide. They have set aside two-thirds of the farm for native vegetation, growing apples, pears and raspberries on the rest. They used to use chemicals to control pests but found it worsened the mite problem and cost too much. Now they use no chemicals except codling moth spray every two years at half strength. Their costs have gone down significantly. They explain that the native vegetation provides a home for insects and insect-eating birds, which have become the pest control managers for the farm, controlling the mites naturally.

National Landcare Program

www.affa.gov.au/docs/nrm/landcare/landcare.html

biodiversity.

- Join a Landcare group or Farms for Wildlife scheme – many States offer economic incentives and expertise to help farmers

