



Courtesy Beau Money



Creative Commons

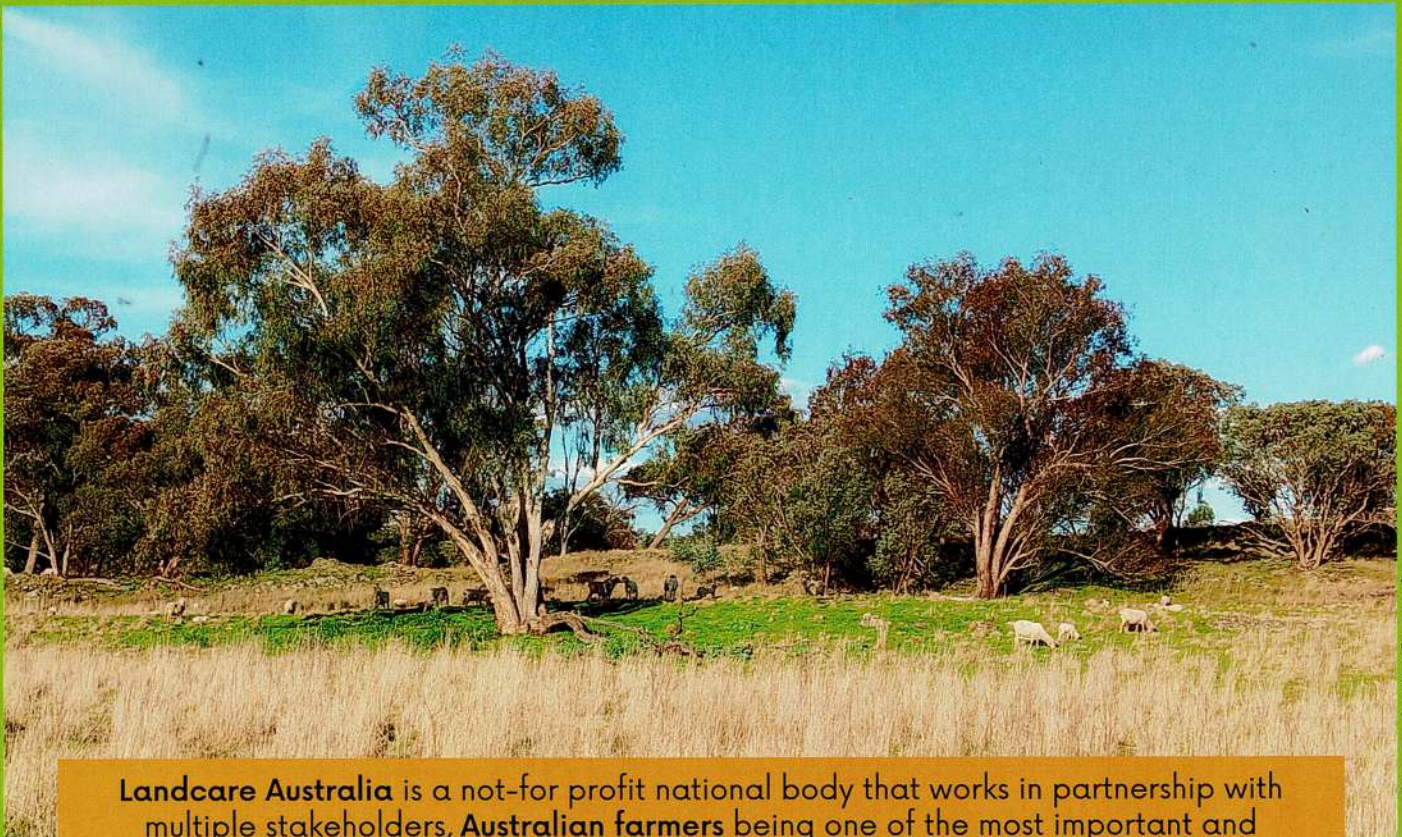


Courtesy Annette Cavanagh

CARING FOR THE LAND

SUSTAINABLE AGRICULTURE

*bringing farmers and conservationists together to
resolve environmental issues*



Courtesy Annette Cavanagh

Landcare Australia is a not-for profit national body that works in partnership with multiple stakeholders, **Australian farmers** being one of the most important and diversified. What makes Landcare unique is the people. Established in 1989, it has now evolved with a membership of many thousands of people across Australia, bringing farmers and conservationists together to resolve environmental issues.

Quality and quantity of produce, along with profitability, are important aspects for all farming enterprises. **Increased profit margins with sustainable and healthy farming CAN be attained.** The quality and retention of water, fertility of soil, nutrition of yields, and the whole ecological spectrum can be improved with applicable strategies.

Some STRATEGIES and their RESULTS are provided here

STRATEGIES

- **Rotationally graze** stock in various paddocks instead of having set stocking rates
- Be prepared to **sell some stock** and to **supplement feed** depending on paddock feed availability
- **Harvest and store excessive fodder** in preparation for unforeseen lean times

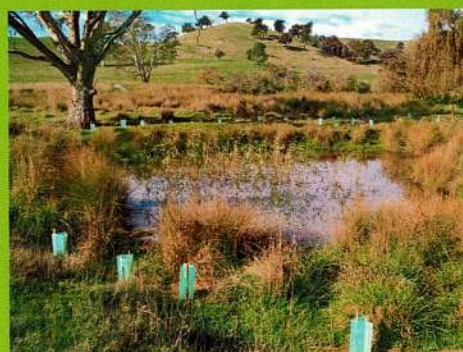


Creative Commons

- **Limit top soil humus disturbance** and retain crop stubble in preference to burning off
- Monitor and regulate both **soil pH levels** and **plant nutrition requirements** (Spreading lime has a neutralising effect on acidic soils)



Courtesy Pat McVeigh



Courtesy Chris Coburn



Creative Commons



Courtesy Rod Cavanagh

- Sow pasture varieties containing some **deep-rooted perennials**
- **Crash graze** with intermittent long spells to encourage plant root development and **organic matter** within the soil – the 'kick-start' mechanism for **microbial activity** within the soil



Creative Commons

- **Use natural fertilisers** as much as possible, e.g. composted manure, soft rock phosphate, organic foliar spray, and **use less chemical fertilisers** (Superphosphate can substantially help in establishing pasture, but excessive use creates an unnecessary and expensive build-up of phosphorous. The sulphur component turns the soil more acidic and, through chemical reactions and leaching, it also tends to deplete the soil of many important elements. The **leaching of both sulphur and nitrogen** [mainly from soluble nitrogen fertilisers], along with some **chemical spray residues**, can contribute significantly towards serious **toxic scenarios** e.g. blue-green algae that destroys water quality and aquatic life)
- **Limit the use of chemical sprays and chemical parasitic control** for stock (Although targeted as a 'spray-out' for direct drilling of pasture and crops etc. and for specific weeds and pests, the toxicity of chemical sprays can have adverse effects upon living things including **insect pollinators** and **top soil microorganisms**. Also, the residue of chemicals used for stock parasite control, found in manure, can have devastating effects upon **dung beetle activity**)



Creative Commons

- **Retain areas of indigenous flora** by guarding against overgrazing, fertilising and disturbing these specific areas
- **Fence around old trees** to prevent stock abuse, and **allow regeneration of seedlings** (Much of the fencing required for stock control can be of low cost, and removed when revegetation programs etc. are established)

- **Construct vermin-proof fencing** where applicable
- **Implement vermin control programs** for foxes, rabbits, feral cats, pigs, goats, deer, feral dogs etc.
- **Implement noxious weed control programs** for blackberries, Paterson's curse, gorse etc.



Courtesy Chris Coburn



Courtesy Chris Coburn

- **Revegetate bare hilltops** to minimise erosion and soil degradation
- **Rehabilitate gullies with earth works/'rocky chutes'** – depending upon gradients
- **Vegetate gullies and waterways** with trees and deep rooted perennial grasses – but make them available for grazing at intervals to avoid the harbouring of vermin

- **Limit the access of stock to natural water sources** and dams etc., and implement alternative stock water-troughs to retain the best quality water possible



Creative Commons



Courtesy Chris Coburn

- **Plant trees** that are spaced apart to allow for full maturity
- **Plant indigenous understorey** liberally and intermittently to encourage native birds and insect life, and create plantations with **connecting corridors** to enhance small bird and wildlife movement
- Plant a patch of trees specifically for **firewood use and timber production**

- **Refrain from clearing patches of bush, scrub and fallen limbs** as they provide ecological refuges
- **Refrain from disturbing and grazing rocky outcrops** as these areas can harbour a delicate balance of biodiversity having indigenous fauna and flora



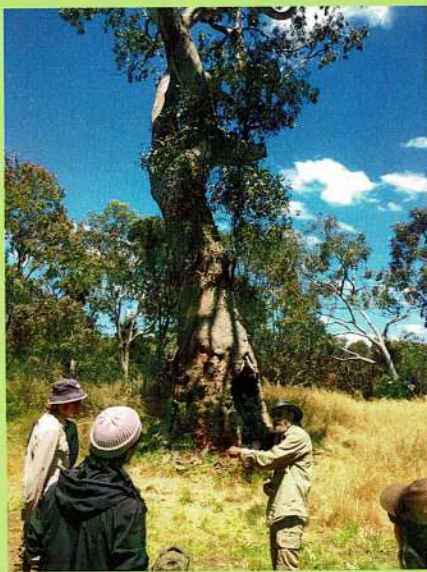
Courtesy Rod Cavanagh



Courtesy Chris Coburn

- **Reduce high fire risk areas** using 'cool burn-offs' at appropriate times of the year
- **Preserve and respect cultural sites** that are significant to indigenous people

RESULTS



Courtesy Chris Cobern

- Build-up of **organic matter** within the soil, and improved soil biology and structure with increased microbial activity and soil carbon
- The release of **vital minerals and trace elements** in the soil for greater plant nutrition, stimulated by deeper plant root penetration
- Improved **oxygen availability and water retention** in soil for pasture and crops
- **Salinity** encroachment and **underground water table** issues are rectified
- **Erosion is slowed** and curtailed on hillsides and flats
- **Reclamation of high productive land** along gullies and creek flats

- Insecticide, herbicide, and fungicide **sprays are reduced**
- The necessity of stock **parasite control** is reduced
- **Improved stock condition** with better quality drinking water, and extra shelter and shade areas
- **Healthier and more contented stock** that graze on mixed pastures, which includes some useful native grasses
- More **reliable stocking rates** even with unforeseen droughty conditions



Courtesy Judy Brookes



Creative Commons

- Better quality crops and pastures that have **higher yields**, with a higher resistance to disease
- **Enhanced production** of wool and quality meat, milk, grains, vegetables, and fruits etc.
- Improved all-round food chain for **human nutrition and consumption**
- **Less labour and fuel costs**
- **Less dollar outlay, increased chances of profit**
- **Decreased chances of devastation** caused by 'wild-fire' scenarios

- **Enhanced aquatic life** and water birds within the system of streams, wetlands, and dams
- Increased variety of native birds, insects, and the **array of indigenous species**
- Benefit of **learning and working harmoniously** with indigenous people and their culture
- Overall **upgrade of the ecology of the land and waterways** that augments sustainable agriculture



Creative Commons



Courtesy Rod Cavanagh

Sustainable Agriculture, incorporating common sense practices of regenerative farming, has become a critical part of our life, and its wide acceptance and progression is happening due to much of the national footprint of **Landcare**. Social benefits of Landcare also act as an important stimulus where community collaboration creates the opportunity to learn from one another, to undertake necessary studies and trials, and to form **ongoing partnerships for long term success**.

For further enquiries and advice, contact your local Landcare group