

A HEALTHY LANDSCAPE MEANS GOOD BUSINESS FOR FARMERS

The key is integrating agricultural and natural systems to benefit your production.

This brochure provides some practical ideas on how you can further integrate nature and agriculture on your farm. The added bonus is that you will also be enhancing biodiversity.



SO WHAT IS BIODIVERSITY ?

Biodiversity describes the range of living things that surround you, including everything from plants and animals (even your crops & stock) right down to the microbes and bacteria in the soil. It includes the variety and combinations of species and how they interact to provide the natural functions your agricultural system relies on.

BIOLOGICAL DIVERSITY PROVIDES MANY BENEFITS

Without biodiversity we would not have the varieties of cultivated plants and animals, medicines, fuels and other products that we use and wear everyday.

A biodiverse system is essential for healthy, productive soils and clean water. It influences the availability of nutrients, and the cycling of water and energy. Microorganisms enrich soils, native insects and animals provide benefits, such as pollination and natural pest control. A biodiverse system provides habitat for these species.

Biodiversity often provides features which make a place unique to us or give us

enjoyment and a sense of place, eg old trees around a homestead. These values are important to us and our quality of life.

Human activities have changed biodiversity, benefiting some species and disadvantaging others. Maintaining and enhancing biodiversity is a way of assisting those which have been disadvantaged.

EVERYONE CAN PLAY A ROLE IN ENHANCING BIODIVERSITY

Everybody can maintain and enhance biodiversity and reduce impacts by incorporating biodiversity management into their day-to-day farming decisions. Understanding the interaction between agricultural and natural systems is important. Even the most modified agricultural systems provide biodiversity. Opportunities exist within irrigation bays and channels, the house garden and even the front drive.

The following foldout provides some practical ways to support biodiversity on your farm so you can benefit.

BIODIVERSITY FACTS AND FIGURES

- A colony of a thousand small bats living on or around your farm will eat more than a tonne of insects in a single year.
- There are 3000 or more species of native bees in Australia, which pollinate plants and enable reproduction.
- A colony of termites can move tonnes of plant matter in a year, releasing nutrients to the soil.
- When rice bays fill with water hundreds of tortoises enter the bays from irrigation channels to eat slugs, snails and bugs that thrive there.
- About one fifth of the native animals in the Riverina depend on tree hollows for shelter and breeding. It takes 120 years for a hollow to form.
- Tens of billions of frogs are produced in Riverina rice bays annually.
- Stock routes and roadside reserves are important for protection of local vegetation. In NSW their total area roughly equals the area protected in National Parks and Nature Reserves.

HOW DO I INTEGRATE BIODIVERSITY INTO MY FARM BUSINESS?

PRACTICAL BIODIVERSITY SOLUTIONS

WHERE DO I START?

"You might be surprised how much biodiversity already exists on your farm".

- A good place to start is by identifying what you already have and what you would like to achieve.
- Developing a plan will help guide you. Contact one of the cooperative organisations on the back of this brochure for assistance.
- Your neighbours may also be interested in enhancing biodiversity - speak to them about how you can complement each other.

WHAT NEXT?

"You might realise you're already protecting and enhancing biodiversity".

- The "Practical Biodiversity Solutions" provide suggestions on the types of things you can do today.
- Start with areas on your farm that already provide good habitat and choose actions that easily fit in with your farm management.

HOW WILL I KNOW I AM MAKING A DIFFERENCE?

"Notice the positive contribution you have made".

- By taking photos and using a diary and maps, you can discover the amazing changes that have taken place.
- If you have been linking all your actions to your farm management, you may notice an improvement to your bottom line.
- Share your achievements with family and neighbours.



Use locally native species when planting

1. AROUND THE HOUSE AND SHEDS - HOUSE GARDENS CAN BE AN IMPORTANT REFUGE

- Expand the house garden and plant different species of native shrubs and trees.
- Use mulch to minimise water use.
- Reduce feral cat impacts by desexing pets.

2. IRRIGATION BAYS – PROVIDE IMPORTANT TEMPORARY HABITAT

- Minimise pesticide and herbicide use.
- Retain stubble where practical, use pasture rotations and minimum tillage.
- Improve water use efficiency and minimise water loss to the water table.
- Offset the expansion of irrigation or other intensively used areas with an equivalent area of high quality habitat.



Revegetate along farm tracks



Have shallow & deep areas in dams to provide habitat

3. IRRIGATION CHANNELS, DAMS, DITCHES AND DRAINS

- Reduce disturbance of native plants and animals.
- Rotate channel cleaning, leaving some areas undisturbed from one year to the next.
- Revegetate channel banks with native species, plan revegetation carefully to allow for channel maintenance.



Natural regeneration is cheaper & easier than replanting

4. ROADS AND TRACKS – VALUABLE HABITAT, PARTICULARLY IN WET TIMES

- Minimise spraying, grading and cleaning alongside farm tracks to reduce disturbance to native plants and animals.
- Revegetate beside farm tracks and the farm drive to provide habitat.



Hollow trees are important for many species

5. ON FARM WATER STORAGES – MOIST AREAS PROVIDE FOR A PLETHORA OF SPECIES

- Ensure natural depressions are not used for storage.
- Build a small island in the storage that can be used as a refuge from feral predators.
- Have shallow and deep areas, making diverse habitat.



Leave fallen branches on the ground where practical

6. WETLANDS AND DEPRESSIONS - BLACK BOX AND RED GUM WOODLANDS ESSENTIAL HABITAT

- Flood depressions occasionally to rejuvenate the trees.
- Consider the timing and duration of the flooding regimes to maximise germination of wetland plants to provide major habitat.

7. WOODLAND PATCHES AND NATIVE VEGETATION – A MESSY AREA CAN BE A DENSE HABITAT

- Allow for natural regeneration (much cheaper and easier than planting seedlings).
- Protect trees that have hollows.
- Fence a corner of the paddock or a patch of trees rather than individual trees.
- Allow fallen tree branches, leaves and bark to remain on the ground.
- Avoid fertilising, cultivation, herbicides and fire too close to trees.
- Control weeds and rabbits.
- Implement a controlled grazing program for grasslands and shrublands, and don't graze continuously or "lockup" country for too long.
- Use remnant areas for collection of native seeds.
- If you plant new trees they should be locally native species and be in corridors at least 30 metres wide.



If you plant new trees aim to create corridors at least 30m wide



No farm stands alone

8. BEYOND THE FARM GATE - NO FARM IS AN ISLAND WHEN IT COMES TO BIODIVERSITY

- Reduce the isolation of habitat areas, aim for only 500-1000m between patches.
- Link up with neighbours habitat patches to increase the overall size.
- Control pests and ferals in a coordinated manner with neighbours.
- Make sure travelling stock routes are not continuously grazed to allow for regeneration and not used for firewood collection.



Talk with your neighbours



Drainage channels provide temporary habitat

COOPERATION LEADS TO BETTER OUTCOMES FOR EVERYONE



FOR INFORMATION & ASSISTANCE

Murrumbidgee Catchment Management Authority
02 6923 0479
www.murrumbidgee.cma.nsw.gov.au

Murray Catchment Management Authority
03 5881 9200 www.murray.cma.nsw.gov.au

Coleambally Irrigation Corporation Limited
02 6954 4003 www.colyirr.com.au

Murrumbidgee Irrigation Limited
Griffith 02 6962 0200 Leeton 02 6953 0100
www.mirrigration.com.au

Murray Irrigation Limited
03 5881 9300 www.murrayirrigation.com.au

NSW Dept. Primary Industries
Agriculture
www.dpi.nsw.gov.au

NSW Dept Environment & Conservation
National Parks & Wildlife Service
Griffith 02 6966 8100
<http://www.nationalparks.nsw.gov.au/>

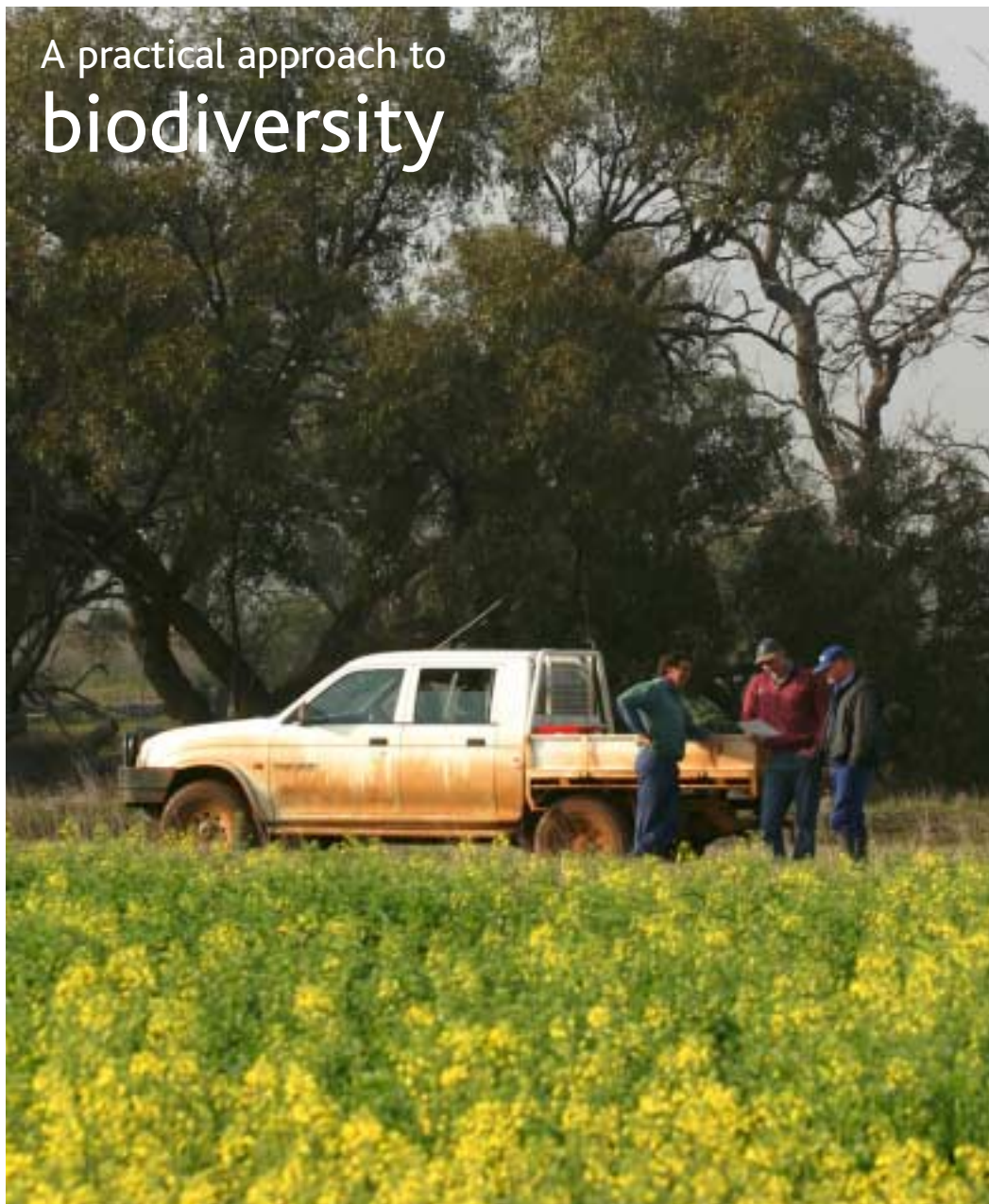
Murray-Darling Basin Commission
www.mdbc.gov.au

Ricegrowers' Association of Australia
02 6953 0433 www.rga.org.au

In the irrigation areas, there are many organisations responsible for biodiversity outcomes. Recently, a number of these organisations have worked together on a strategy for biodiversity in rice growing regions. The result is to manage biodiversity on and off farm so as to enhance biodiversity and create a healthier agricultural landscape with direct benefits on farm. The organisations listed on this page and others work together to find innovative ways to assist change and ensure the benefits.



A practical approach to biodiversity



Integrating natural and agricultural systems