



biodiversity case study

▶▶ boost your farm's health by preserving remnant vegetation



project: to preserve remnant vegetation, wildlife and habitat while running a profitable farming enterprise
property: Mt Russell, 1800 acres, Winter: cereals and chickpea. Summer: grains like sorghum and corn
location: West of Toowoomba, via Mt Tyson, on the Darling Downs in southern Queensland
undertaken: 2003 and ongoing

Pictured left to right: Janet and Mac Patterson, Alison Goodland (QMDC), Dot and Bill Goodman

the Pattersons and their conservation history

Janet and Mac Patterson balance the sustainable production of their crops with the protection of remnant vegetation communities and some 'endangered/of concern' habitat values. As long-term participants in the Land for Wildlife program, the Pattersons respect the habitat values of their land and have seen their previous farms benefit from a nature conservation status.

Land for Wildlife is a voluntary program which aims to encourage and assist landholders to provide habitat for wildlife on their property. It is a way of publicly acknowledging and recognizing the nature conservation values and management program of your property. The Pattersons' previous properties, 'Trevanna Downs' and 'The Flock', both in the Goondiwindi district, were registered with Land for Wildlife in January 2001. A photograph of the property gates, including a Land for Wildlife sign, interested a Japanese company that imported corn from Australia. The buyer wouldn't have recognised Land for Wildlife; but the sign indicated that *something* was being done to conserve the environmental values of the land.

This demonstrated to the Pattersons that nature conservation can have implications on their selling power and marketing. While the Pattersons are big nature lovers, all decisions still need to come back to the need to make a living, balancing business and nature conservation.



Above: The hill at Mt Russell, where many diverse regional ecosystems exist.





making a change

'Mt Russell' has a 200 acre patch of land on a hill that has been relatively well preserved. Before the Patterson's owned 'Mt Russell', there had been sporadic grazing on the area and the previous owner had begun to clear 3-5 hectares of the understorey leaving just a few mountain coolibah, red ash, kurrajong and belah.

The Pattersons wanted to preserve the 200 acres of intact remnant vegetation and chose to register the property in the Land for Wildlife program.

The characteristics which qualify properties for admission to the Land for Wildlife program cannot be rigidly defined. However, properties will be assessed on one or both of the following criteria:

- managed in a way that clearly pursues the maintenance and enhancement of native habitat
- managed in a way that attempts to integrate nature conservation with other land management objectives.

Box 1: Fauna found at Mt Russell include:

- Chequered swallowtail *Papilio demoleus sthenelus*
- Black shouldered kite *Elanus axillaris*
- Nankeen kestrel *Falco cenchroides*
- Superb fairy-wren *Malurus cyaneus*
- Striped honeyeater *Plectorhyncha lanceolata*
- Wallabies, several species
- Apostlebird *Struthidea cinerea*
- Noisy miner *Manorina melanocephala*
- Willie wagtail *Rhipidura leucophrys*

Ideally, to be a Land for Wildlife property, you would have a patch of remnant vegetation or an area you are revegetating with an eye to registration. Once the owners feel that the land is of a reasonable structure or quality, they can register for Land for Wildlife. Ideally, the farming land would also be being managed with sustainable practices. The Pattersons are minimum till farmers, retaining stubble, and they work on a controlled traffic system. The farming land is divided into zones and there is a strict rotation between the zones.

Box 2: Flora found at Mt Russell include:

- Currant bush *carissa ovata*
- Myrtle tree *Canthium oleifolium*
- True sandalwood *Santalum lanceolatum*
- Maiden's wattle *Acacia maidenii*
- Fairy grass *Sporobolus caroli*
- Wallaby grass *Danthonia longifolia*
- Soap bush *Alphitonia excelsa*
- Mistletoe, various species
- Kurrajong *Brachychiton populneus*

'Mt Russell' was admitted into Land for Wildlife in mid-2003. To preserve the remnant vegetation on the property, no additional funding was needed for two reasons:

- The crops on 'Mt Russell' stop at the base of the hill and as there are no cattle, no fencing off was required.
- There was no area that needed to be manually revegetated – it would naturally revegetate itself.

While the Pattersons don't live on 'Mt Russell', their on-site property managers, Dot and Bill Goodman, are also becoming advocates of nature conservation through their involvement with the Pattersons. The Pattersons take an active interest in recording nature sightings. One way they do this is by walking the shadelines and recording the plants with photographs and specimens. There is also a comprehensive bird list that is continually updated.



community participation

In February 2004, the Pattersons opened their farming property to 50 people interested in Land for Wildlife and nature conservation. The field day consisted of bird watching, a plant identification walk, a bush foods morning tea, a talk from a local wildlife carer and a Land for Wildlife presentation. A Birds Australia representative attended the day and added this site as an Atlas site. Atlas is an Australia-wide project on gathering information on birds.

The plant walk was pre-identified and attendees were given a list of around thirty species to discover from one very small area of the property. It brought a stark reality to the richness of species.

The invitation was distributed to Landcare members in the vicinity and other natural resource networks through World Wide Fund for Nature and the regional natural resource management body, the Queensland Murray Darling Committee. Groups specifically targeted include the Toowoomba Field Naturalists Group, Wilderness Preservation Society—people who are already very keen and enjoy nature conservation. Most attendees would be considered to be the 'converted' but hopefully they will share what they learned with their own neighbours. The day gave the Pattersons an opportunity to share their experiences.

results

The hill is diverse in regional ecosystems and there are many fauna and flora species that have been listed at 'Mt Russell'. Of most interest is the vegetation communities, of which some are endangered. For example, a brigalow/belah remnant is protected under Commonwealth and state legislation.



An endangered fauna species that has been sighted is the endangered grassland earless dragon (*Tympanocryptis pinguicollis*) (pictured left). Not a lot is known about this lizard but a university Honours project was completed to find out more. It appears to live well in the modified/fragmented environment of strip cropping typical of this area. Genetic testing may indicate that this lizard has the potential to be a distinct species only known to the Darling Downs.

Being exposed to other people and ideas is another benefit of networking through Land for Wildlife. Alison Goodland, the Grassy Ecosystems Officer who has worked with the Pattersons, believes that while Land for Wildlife heightens community awareness, the benefits are mostly very personal and promote pride in a farming business. "The Land for Wildlife sign encourages people to ask questions and this is the first step to understanding," said Alison.



future plans

Elsewhere on 'Mt Russell', previously cleared understorey on the driveway is starting to regenerate as are the small cleared areas on the hill.

There may be a future project to document the regeneration of the gravel pit and surrounds and the area where the understorey has been destroyed to see how quickly various species establish. For example, at the moment, there are a lot of bell fruit and wattles which are primary species, showing that the area is moving towards self-regeneration.

There is potential to link Mt Russell and nearby Mt Taylor. A linking strip of mountain coolibah (*Eucalyptus orgadophila*) exists but it's too open at the moment to be a true corridor. Mt Taylor is very similar to the other hills which are very open and have open mountain coolibah woodland. Mt Russell has open mountain coolibah woodland but also other species and that's what makes it quite distinct.

nature conservation – what does it really mean?

Nature conservation is the protection, preservation, management, or restoration of wildlife and natural resources such as forests, soil, and water. It is an integrated approach to maintaining habitat in a rural setting.

Conserving nature provides a number of benefits:

1. shelter, shade and wind protection for crops and livestock
2. direct income from sustainably managed forested blocks
3. habitat for beneficial insect predators of harmful insects, and rare and threatened species of plants and animals
4. sustains our natural systems which enhance stable agricultural production
5. a more attractive landscape, especially around amenities such as houses, sheds and dams
6. intrinsic values of a balanced landscape with a variety of wildlife present
7. better water quality through water filters and maintaining riparian zones
8. economic values – tourism, native industries (e.g. honey, seed collecting, wood turning)

Biodiversity contains a vast array of chemicals and social structures that could be beneficial to mankind, and we are only on the threshold of understanding them. It is one of the great unexplored frontiers and we live amongst it.