

"KIANGA" & "SUNPATCH" EMERALD HILL, GUNNEDAH

Supporting Local Native Wildlife & Biodiversity on Farm

WHERE DID WE START?

"In a dustbowl, devoid of trees ..."

Twenty-one years ago (2000), when Wayne and Ingrid Yeo took over 'Kianga', 30km west of Gunnedah, they were faced with an almighty challenge. The property, formerly used for growing wheat and then sheep and cattle, had been overgrazed and the bare soils were compacted and 'dead'. Five mature paddock trees were all that remained of the native vegetation on neighboring farm 'Sunpatch' which they acquired in 2014.

The Yeos immediately commenced a program to revegetate and rehabilitate their land, starting with the planting of native trees and bird-attracting shrubs in their house paddock.

Despite most of the natural bushland in the local area being cleared for agriculture, Emerald Hill is known for its koala population. The Yeos' tree planting was greatly expanded and they have undertaken several other thoughtful strategies to enhance on-farm biodiversity and habitat.

Today, they operate a working Charolais stud while offering a refuge for wildlife. Recognising both the production and environmental benefits, enhancing their land for biodiversity is part of their farm plan.



PLANTING NATIVE VEGETATION IN CORRIDORS

As participants of the local 'Saving our Species' (SOS) project, the Yeos planted 600 native seedlings in corridors across both properties in 2018. Seventeen different koala food and shade tree species along with shrubs (for the understorey) were included. Species included: Bimble box, Yellow box, River red gum, White box, Blakely's red gum, Tumbledown red gum, Mugga ironbark, Grey box, Lemon-scented gum, Wilga, Kurrajong, Belah, Native olive, Wonga vine, saltbush, Weeping myall and Dwarf sugar gums.

The diverse tree rows have offered many benefits; serving as a windbreak, buffer zone (reducing biosecurity risk) and mitigating the effects of flooding by stabilising the soil. The corridors provide habitat for pollinators and pest controllers, attracting a diverse array of native birds and insects (including beneficials).

Corridors are regularly monitored and plants replaced as necessary. Aside from koalas, they offer habitat for reptiles, birds and insects. To this end, large rocks, hollow logs, dead timber and understorey plants are intentionally left or added.

In all, about 1,500 trees and shrubs have been planted over the years across the two landholdings totalling 90 hectares (224 acres)



ENCOURAGING NATURAL REGENERATION

Restoring ecological health on farm has included the protection of regenerating native seedlings. A fenced laneway (off the edge of the dam) was widened to support the creation of a Bimble box woodland, ensuring there will be young replacements for the old growth timber in close-by bushland remnants. Livestock exclusion has been essential for promoting seeding, germination and resprouting of many native plants.

Young wilga trees and Western Boobiella have germinated from seeds spread by birds. Wilga is a dense, shady tree which is of value for koalas and nocturnal birds.

AVOID 'CLEANING UP' PADDOCKS

Dead and fallen timber, bark, wood chips and leaf litter all contribute to a biodiverse ecosystem. Trees lost to drought, borers or lightning strike attract decomposers like termites and other bugs that provide food for birds and echidnas. Logs and hollows can become homes or breeding sites for small marsupials, reptiles and microbats.

Clumps of shrubs and spiky bushes provide protection for small birds.



FENCING OFF THE FARM DAM

Excluding livestock permanently from the farm dam has had numerous benefits for biodiversity and production. The cattle are now watered from troughs in each paddock (with water pumped from the dam). (Studies suggest that higher quality water for livestock can produce up to a 10% improvement in performance**). Fencing off the dam has been accompanied by increased vegetation being established along the dam edge and wall; further improving water quality and offering valuable habitat. Two man-made islands offer a 'predator-free' safe haven for water birds to nest, as well as offering habitat for turtles, frogs and native ducks.

** ABC online article. Transforming the typical Australian farm dam into an ecological wonderland (Posted 2 May 2021)

A HEALTHY ECOSYSTEM BEGINS WITH HEALTHY SOIL

Several strategies have been undertaken to build soil health over time, including growing different forage crops in rotation, interspersed with cattle grazing using a cell grazing system. The Yeos have adopted minimal tillage; aiming for 'zero til'. They are frugal with chemicals, aim for year-round ground cover and facilitate landscape rehydration via a system of swales and ponds that help manage run off, reduce erosion and minimise weed seed dispersal.



THE BENEFITS OF BIRDS !

The Yeos have noticed a substantial increase in the abundance and diversity of native birds visiting or taking refuge on their farms; 128 species have been identified and recorded. Not only do the birds bring vibrance to the landscape, but they offer benefits to production; ibis and ducks have been observed feeding on locusts, and white necked heron, hawks and eagles feeding on mice (though minimal baiting around the house and sheds was required during the 2021 mice plague).

Like insects, many birds assist agricultural production by offering pollination services for crops and pastures.



WATER FOR WILDLIFE

Access to water is a crucial component of the biodiversity program. There are three arboreal drinkers** installed in mature eucalypts, offering safe access to water for koalas, small marsupials, such as possums, as well as birdlife, frogs and bees. Feral pests, like foxes, are unable to access them.

** The 'TREE TROFF' drinker was designed and perfected by local farmer, Rob Frend.



"Our goal is to enhance the environment and support the survival of native birds and wildlife"
Ingrid Yeo, 2021

CONTROLLING PEST ANIMALS & EXOTIC WEEDS

Feral cats pose a serious threat to native wildlife. Traps are used to help manage the problem. 'Hard chipping', a selective herbicide and minimised soil disturbance through continuous ground cover have been used in combination to manage weeds. Swales and collecting ponds have reduced the need for herbicides as weed seeds, arriving via run off, are collected and contained rather than dispersed.

KEY POINTS

- Supporting biodiversity is part of an overall farm plan
- Incorporating native trees and shrubs benefits both wildlife and production
- Habitat value is provided by standing dead trees, large old living trees, fallen logs, leaf litter, rocky areas and a diversity of native plants along with nearby permanent water
- Improving riparian assets (including farm dams) into healthy functioning ecosystems will have positive impacts
- Resist 'cleaning up' paddocks
- Exclude grazing to encourage bushland regeneration
- A sustainable farm enterprise incorporates the restoration of natural ecosystems



Words by Penny Milson, Local Landcare Coordinator, Liverpool Plains Region.

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