

Murrumbidgee Cross Property Planning Project

Results from Flora and Bird Surveys conducted in Spring 2013

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MURRUMBIDGEE CROSS PROPERTY PLANNING PROJECT SOUTH-WEST SLOPES – JUNEE, KYEAMBA, HUMULA

OVERALL FINDINGS & CONCLUSIONS

The findings overall are positive, particularly in an intensively farmed landscape with recent catastrophic natural disasters – the millennium drought, intense storms and floods, and wild fire. Since European settlement, many species once living in this region have become extinct, and today many other species are known to be declining; threatened with extinction; or critically endangered.

Despite such impacts, the surveys of 30 sites recorded

2 Threatened Ecological Communities with varying levels of disturbance

- Inland Grey Box tall grassy woodland communities – 3 farms
- Box-Gum Grassy Woodland communities, especially White & Yellow Box -9 farms

7 species of Threatened birds

- Superb Parrots, Varied Sittella, Flame Robin, Scarlet Robin, Brown Treecreeper, Grey Crowned Babblers, Diamond Firetail

90+ total species of birds (including 3 species of exotic birds)

154 species of native plants. (& 34 species of exotic plants, incl. noxious woody weeds).

Overall, 5 major vegetation communities were recorded –

Grey Box Grassy Woodlands, Box Gum Grassy Woodlands (BGGW), Dry Sclerophyll forests (usually dominated by Red Stringybark and Mugga Ironbark), River Red Gum Forests (along waterways), and re-vegetation areas. Although White Cypress Pines grew strongly in some sites, they were an integrated part of a White-Box BGGW.

For such a rapid, ‘snapshot’ survey, these are excellent findings within intensive farming landscapes.

The most striking correlation from the data is the strong relationship between the size of a vegetation remnant that has high floristic and structural diversity, and the total number of bird species and Threatened bird species living there. The larger and more ecologically intact the remnant, and the closer its’ proximity to similar remnants, the higher the number of bird species. Importantly, the smaller, insectivorous and nectarivorous woodland birds that are currently declining in the south-west slopes and tablelands dominate the suite of bird species recorded in such remnants. This finding is consistent with scientific research throughout the region over recent decades, and can help guide species recovery strategies.

Most of these large bio-diverse remnant sites are broadly classified as Dry Sclerophyll Forests (mostly Red Stringybark / Red Box / Mugga Ironbark Woodlands) growing on less fertile soils on the ridges and slopes, merging into BGGW on the more fertile lower slopes.

As the more fertile BGGW country has generally been cleared for farming, most remnant BGGW’s have less floristic and structural complexity, and are dominated by exotic grass and weed species. Such sites often recorded a high total number of bird species, BUT few of these species were the declining insectivorous woodland birds. Instead, opportunistic and ‘generalist’ bird species dominated. These birds adapt well to the agricultural matrix surrounding them, and their numbers are not declining.

Interestingly, the Threatened Superb Parrots were recorded in both BGGW and River Red Gum sites providing sufficient tree hollows and flowering eucalypts were available, irrespective of the overall diversity of flora and structure.

The shape, age and connectivity of re-vegetation areas also affected the suite of bird species living there, with long, linear sites not inter-connected with larger remnants recording the most common birds, some exotic species, and many Noisy Miners (an aggressive native bird that out-competes woodland birds for territory).

Most vegetation communities with the least floristic diversity and medium to low structural complexity had plentiful Noisy Miners and exotic birds such as Starlings and Sparrows. Such bird species tend to prevent the declining, and often threatened, species of woodland birds from establishing their territories in these sites.

Many farmers surveyed are making significant efforts to link-up their remnant and re-vegetation areas with other remnants and mature paddock trees, both throughout their own farm and across into neighboring farms, increasing the overall landscape connectivity without adversely impacting on their productivity.

Another encouraging finding were the number of farmers conserving their tree hollows, their dead standing trees, and the litter of woody debris and large fallen timber, providing critical habitat for local animal species

The enthusiasm and vision of the participants of this project is very heartening, and bodes well for the continued conservation of the flora and fauna living on and around their farms.

RECOMMENDATIONS FOR FUTURE WORKS AND ASSISTANCE

Control exotic annual and perennial grasses, annual weeds and woody weeds with grazing strategies, while not impacting on the existing native species, and allowing the native species to set seed periodically. Grazing management over the years ahead is the simplest tool to use to achieve this -ensure the perennial native species have sufficient rest periods from grazing pressure to set viable seed, and that grazing is undertaken in such a manner as to ensure there is no bare ground, thus further reducing the ability of exotic species, and weed species, to invade. To reduce the impact of annual grasses, graze them heavily early in the season, then remove grazing once the native species begin to grow. Incorporating these grazing systems may require more fencing in the years ahead. If grazing rotations aren't possible, slashing exotic annuals before seeding is a viable option

Control weeds from scattered and isolated patches first, steadily working towards areas of dense infestations over time – as the saying goes, 'keep clean areas clean – of weeds'

Add the seed of desired native species onto conservation areas bared-out from weed death, as without any other competition, the weeds will simply grow again next year

Maintain year-round ground cover with cryptogams; living plants; dense leaf litter.

Monitor and release appropriate BioControl agents (see simple list next page) for Pattersons Curse, St John's Wort, Thistles and Blackberry.

Ensure fallen hollow logs remain on-ground and dead trees with hollows also remain. In areas with few hollows, continue **adding nesting boxes** up in the trees. Monitor if possible.

In re-vegetation sites especially, add more large fallen timber and/or rock piles

NOTE- Potentially a Fire Fuel Load issue. Strike a sensible balance between human safety and animal shelter. Determine appropriate loads of woody debris and fallen logs with RFS

Consider adding connecting 'perch poles' with indents/hollows, or rock/log piles for birds and small mammals to move from site to site with less risk of predation – these are especially important in the absence of paddock trees sufficiently close to the conservation sites. Do the same from native vegetation site to nearest watering spot.

Continue with feral animal control wherever & whenever possible as a community.

Further protect riparian areas with River Red Gum Forests – use grazing very carefully in these areas, as many are badly eroded – it is a fine balance re ground-cover, as most have high loads of exotics – Graze in early spring, then remove livestock.

Consider planting patches of native grasses, reeds, rushes, forbs and small shrubs, both at the waters' edge, and above high-water mark, to slowly increase the biodiversity of the site. Early records suggest these areas were once teeming with biodiversity.

Continue increasing connectivity across the farm & broader landscape with plantings. Where possible, increase the depth/width of plantings, reducing the 'edge effect'.

Protect old, often dying paddock trees and encourage recruits to grow around them – this may require assistance with fencing too.

Encourage and conserve areas of thick regrowth on-farm, where appropriate and where only insignificant productivity is forgone, to provide continued stepping stones for fauna (from birds to mammals) to shelter, breed and maintain their territory

Consider connecting conservation sites to nearest dams/ water-points with appropriate re-vegetation, and possible inclusion of dam into the conservation area.

**Common names of BIOCONTROL AGENTS for some
common WEEDS**

Patterson's Curse and Vipers Bugloss

Crown Weevil
Leaf Mining Moth
Root Weevil
Flea Beetle
Stem Borer

Horehound

Plume Moth
Clearwing Moth

St John's Wort

Mite
Chrysolina Beetle

Thistles (most species)

Seed-Head Weevil
Rosette Moth
Stem-borer Weevil

Blackberry

Rust fungus sp

Blue Heliotrope

Leaf-feeding beetle