Linking Landscapes Symposium
Bendigo, May 2017
Biolinksalliance.org.au

Biolinks Alliance
Connecting Central Victoria

Symposium Presentation No. 5

The Babbler Project – linking people and land

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Summarised by Peter Mitchell

This talk is about a long-term conservation project that began with one species – the Grey-crowned Babbler – and grew from there. Grey-crowned Babblers birds conform to the CSIRO model put forward by Veronica Doerr at this Symposium; they usually do not move more than 1.5km from their natal ranges and don't like crossing gaps of more than 100m in their daily search for food.

Grey-crowned Babblers were once very common across much of Victoria but have declined by about 50% of their former range and by 95% of their former population. In central Victoria, they were common in the towns until about the 1940s but are now extinct in nearly all of those localities.

Babblers were an initial hook for funding to look more generally at declining species in farming landscapes. Two years of funding from the Australian Government enabled Doug and others to look at the ecology and begin thinking about the conservation of the babblers. The research aimed to provide the science to underpin conservation action.

The area around Violet Town included a "good" district with a high density of babblers and a "poor" district 10km away along the same ridge of land. The districts differed in the amount of tree cover (including roadside vegetation), in the size and number of gaps, and in the density of large trees that are an important foraging resource for babblers. The poor district had fewer babblers and smaller group sizes, their breeding success was poorer and they raised fewer young – a demographic consequence of habitat loss and fragmentation.

Grey-crowned Babblers are one of 35-40% of Australian land birds that breed communally and their breeding success is linked to the number of birds – parents and helpers – in the family group. Groups of five had a high probability of raising young.

A review of literature showed that group size has declined in Victoria and southern NSW over time, which means reduced breeding success and reduced population viability. Looking at the habitat drivers of this change, the number of babbler groups was plotted in different landscapes across northern Victoria (drawing on work by Andrew Bennett, Jim

Radford and others). Landscapes with more tree cover had larger populations, and the larger populations had larger group sizes. In these better landscapes, birds had more chance to disperse between groups and recolonise nearby patches (as predicted in the CSIRO model).

The Violet Town studies led in 1992 to the development of a model for on-ground conservation programs. The model indicated that habitat loss and fragmentation led to reduced habitat quality so that there are not enough resources to retain birds in family groups and immigration is reduced. As family group size declines, so does breeding success – a negative spiral. The aim of the project was to reconnect landscapes – bring birds back together again and improve habitat quality and hence the foraging resources available at a local scale – to improve their chances of survival and increase reproduction.

The project focused on one group at a time by protecting, connecting and improving the habitat within a range of 500 to 1000 metres using habitat protection and revegetation methods familiar to everyone. Although working at the individual group scale was a realistic approach, the challenge was to bring this up to a scale that is meaningful for populations. Since the mid-90s, the project has been delivering lots of small projects and we now have habitat that can sustain babblers.

In 2008, the sites occupied by babblers in 1995 were revisited (with University of Melbourne researchers). In sites where habitat work had been done, there was a higher persistence of babbler groups, breeding success was higher and groups raised twice as many young as groups where there had been no habitat work. This was a gain of one bird per group as a result of habitat work – a meaningful gain in a species where group size is so closely linked to breeding success.

This result required the collective effort of multiple works at multiple sites, the paddock scale becoming the sub-population or population scale that makes the difference. For example, maps show the 40,000 ha Sheep Pen Creek Land Management Group area north of Violet Town. In yellow are the different types of landcare works including salinity and erosion revegetation and some babbler works over the past 25 years. Added to this (in blue) are the babbler project sites, mostly linear works to widen roadside vegetation where most babbler groups live and fencing to protect patches. Trust for Nature has covenanted private land (in orange) to boost the estate of protected land in the district – there is now more private than public protected land and the estate is growing. Overall, the population and group sizes have improved and the risk of extinction is now reduced.

Collective efforts by other groups across northern Victoria are having similar success. The lower Loddon population around Kerang is improving with efforts by North Central CMA and local landcare groups, and babbler numbers and group sizes are increasing in association with the Regent Honeyeater Project in the Lurg Hills and the Superb Parrot Project at Barmah. All this shows that we can make a difference and that it is important to work at the population scale.

BUT most remaining babbler populations in Victoria are small (fewer than 5 family groups) and that applies to 80% of the populations left in Victoria. It is only the relatively "bigger" populations (more than 20 family groups) that are stable or improving. So conservation efforts focus on the bigger populations. From a conservation perspective, it is sad that the others are going but it is not worth putting effort and resources into the smaller populations.

In the early 2000s, the babbler project around Violet Town grew into the broader Longwood Plains Biodiversity Plan that focused on conserving all elements of biodiversity. This plan covered 14,000 ha between Seymour, Murchison and Euroa. The area does not have a lot of tree cover but does have lots of creeklines and well-vegetated roadsides. The planning identified the conservation assets, threats, goals and objectives, and actions. Sites for protection, restoration and revegetation in key gaps in the landscape were mapped. Landholders were approached and agreed (blue dots on map) or did not agree (red dots) to do conservation work; many of the red dots later converted to blue, a good lesson.

Results are demonstrated in the map of a 3,000 ha area near Euroa with the existing public land plus works on waterways plus environmental grants (roadside buffering, protection of small patches and revegetation organized by the Longwood Plains Biodiversity Project) plus covenants on private land by Trust for Nature. Overall, 1,800 ha of the 14,000 ha target have been protected and 1,000ha revegetated. This is a big step in a landscape that started with 5% tree cover. Monitoring of woodland birds (supported by WWF) has shown gains in abundance of woodland birds in creeklines , modest improvements in larger woodland patches and obvious gains in sites revegetated from paddocks.

Again, the message is that you can improve and restore landscapes. It depends critically on the actions by individual landowners but, to be meaningful at scale, it needs to be bundled up with a strategic plan. This Symposium is a recognition of all these types of projects that are happening across Victoria.

The lessons for conservation are:

1. Every individual action makes a difference, even at the small scale of plantings in home gardens.
2. The scale and focus of conservation works should be meaningful. The differences in vegetation between the "good" and "poor" districts in the babbler project is also reflected in the much higher diversity of woodland birds in the good district. Work by Andrew Bennett, Jim Radford and others have shown that lifting vegetation cover in districts to thresholds of 10% or 30% make a key difference in the bird diversity in landscapes.
3. Permanent protection of private land is crucial. Under the Convention on Biological Diversity, there is a target of 17% for all ecosystems to be conserved in permanently protected areas. A map shows large areas of Victoria well below that target despite 45

years of land use planning. There is good evidence that biodiversity and threatened species do much better in protected areas than in other land tenures.

4. We are continuing to lose habitat across Victoria, much of it due to systematic changes through urban development and the expansion of cropping with the millenium drought.
5. All country landscapes are important. We have a view of the best landscapes for conservation but we have to acknowledge that landscapes are what they are and we have to improve all of them to the extent possible. For example, cropping and pastoral landscapes need different conservation actions but doing something in all of those landscapes is important. In cropping areas, even shelter belts a few metres wide along fencelines is enough to provide shelter for birds such as robins, silvereyes, chats and more.
6. Finally, people are pivotal.