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Large Scale Habitat Re-establishment – David C Paton – University of Adelaide.

Originally 120 woodland birds inhabited the Mt Lofty region. 50% are expected to become extinct. 10% or less of the original habitat remains. Already 9 are extinct and 50% of the balance are declining in distribution and abundance despite broad scale native vegetation clearance stopping more than 10 years ago. Declines continue due to a lag between loss of habitat and the loss of birds. Many birds are isolated, distinct subspecies. The same applies for other fauna and flora.

To reverse the projected losses, 2 things are needed.
1). Maintain and enhance the condition of the remaining pieces of native vegetation and actively manage the biological assets of those areas, focussing on declining and threatened species.
2). Put back the habitat, not just trees, shrubs and plants.

The target is to re-establish each vegetation association to 30% of the area originally occupied. This will triple the area of 'native' habitat and create a less fragmented system. This is a long term vision due to the lack of resources (people & knowledge) and we need to learn from what we have done in the past. Habitat does not equal plants alone. We need to plan and learn how to build habitats to meet the regions biodiversity needs.

Conclusions:
1). Most revegetation works are too small to be valuable to woodland birds.
2). Most revegetation works have been done on the poorer quality land. Vegetation on the better land is of paramount importance as it provides complementary resources and better habitat for most of the declining species.
3). The planting densities and arrangements of plants on those plots revegetated are nothing like the plant densities in nearby remnants- denser, in rows and few species. In the future densities may thin, but the shapes and architecture of individual plants may be very different if grown densely initially. Less lateral branching is an obvious result.
We need to revegetate large areas of 50-100 hectares, don't plant in rows, plant lower densities – all more typical of natural systems to mimic the natural dispersion patterns for each species. We need to consider spatial arrangements – associations and dissociations of species. Establish habitat over many years to mimic natural age and size variations in plants. A commitment of time, more than weed and grazing control. We should prune, add and remove plants to build appropriate habitat. How do we know what habitat structure to plan? Information such as nature of soil, rainfall, topography and aspect all define the type of habitat that should occur on a piece of land. We should find similar areas with native habitat and map the arrangements of all plants, litter, bare ground etc. We should write a template to help design and build habitat. We can consider direct seeding or tube stock. Direct seeding is wasteful due to germination requirements but tube stock is more time consuming. We can monitor and adjust actions to gradually build the habitat. Plant, remove, prune, add, graze and then refine. We could even design specifically for key features required by desired species. Bird species do not use a piece of vegetation evenly. We can document and map the features used to favour the species. Learning to do it and include all elements to produce a self-sustaining system is the challenge. In pilot projects we can use a process known as Adaptive Management and as a project develops, the opportunity for community involvement increases.
This vision is not impossible and is already occurring at a number of sites within close proximity to the Adelaide urban landscape.