



**UMCCC Forum 2012
Connectivity Conservation and Corridors
Connecting Environment, People and Production**

Summary Proceedings and Outcomes

1. Perspectives on corridors and connectivity

The Forum commenced with Ian Pulsford providing a broad overview of the importance of connectivity conservation for sustainable landscapes and some key elements in the landscape that provide connectivity. He showed several examples of major connectivity corridors being developed overseas and in Australia, and outlined the key planning features for corridor/connectivity projects to be successful.

Three speakers then presented case studies or discussed corridors from the following perspectives:

- Rod Mason—Aboriginal/cultural aspects
- Veronica Doerr—biodiversity aspects
- Jeremy Wilson—primary production aspects.

The speakers had been asked to address four questions: What is a corridor? Why are corridors (and connectivity) important? When and where are corridors needed? What makes corridors effective in achieving and/or maintaining their values?

Rod talked about traditional Aboriginal corridors that ran both north-south and east-west through the upper Murrumbidgee region. These corridors “came from somewhere and lead to somewhere” and all had stories associated with them. Rod indicated these corridors functioned as routes for travel and places for ceremony as well as providing all the plant and animal resources people needed for survival—the corridors were effectively “highway supermarkets”. He discussed how Aboriginal people, through their land management, were essentially primary producers in a natural landscape, assisting the growth of trees and animals. He stressed the importance of sharing knowledge about, and implementing, traditional land management practices, such as burning, and the value of corridors as teaching places.

Veronica clarified the conceptual differences between corridors and connectivity. She defined biological corridors as large swathes of land where most of the natural processes providing long-term support to species and ecosystems still happen (despite natural areas being intermingled with other land uses). Connectivity is the mechanism by which these natural processes can still occur. Veronica explained how the corridors—connectivity approach shifts conservation goals from a focus on species to a focus on processes in landscapes of interacting patches. She outlined the biological values of corridors and features considered to make them effective in maintaining these values.

Jeremy told the story of his farm in the Yass area and how his need to produce food and make an income from this led him to realise he needed to “fix the landscape and protect what we had”. Activities to achieve this included planting trees in recharge

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areas to address salinity problems, doing earth works to redistribute water and increase water infiltration along natural drainage lines, and planting corridors of trees to manage wind problems. He discussed the importance of these management activities taking account of the complexity of the farm's land features, and of different types of connectivity, such as water and salt, and cattle tracks and dams. His fixing and protecting approach has turned his property into a multifunctional landscape in which overall farm productivity has improved.

Questions and general discussion followed the presentations. The following common points emerged from the four speakers:

- Corridors and connectivity are needed in largely fragmented 'messy' landscapes comprising a mixture of protected areas, remnant patches of vegetation and isolated trees (that may act as stepping stones) in an otherwise agricultural landscape.
- Providing corridors and connectivity in the landscape is not just about planting trees. Existing assets (such as vegetation remnants and isolated trees) need to be protected and maintained, and may require associated degradation (e.g. of soils, drainage lines, understorey) to be fixed, and the natural ecology of areas to be 're-booted'.
- Corridors and connectivity operate, and must be integrated, at different scales—from broad landscapes at a national scale to regional to local landscapes. Funding opportunities for on-ground connectivity actions vary considerably between these scales.
- Areas providing connectivity (e.g. between protected areas or other large areas of native vegetation) through the use of remnant patches (core areas), corridors and isolated trees, need to be multifunctional and provide multiple benefits. Such areas are often called 'matrix management areas' (see Figure 1). Their multiple benefits include sustaining native species and natural ecosystems, producing food and fibre (primary production), and maintaining or providing the opportunity for cultural practices.

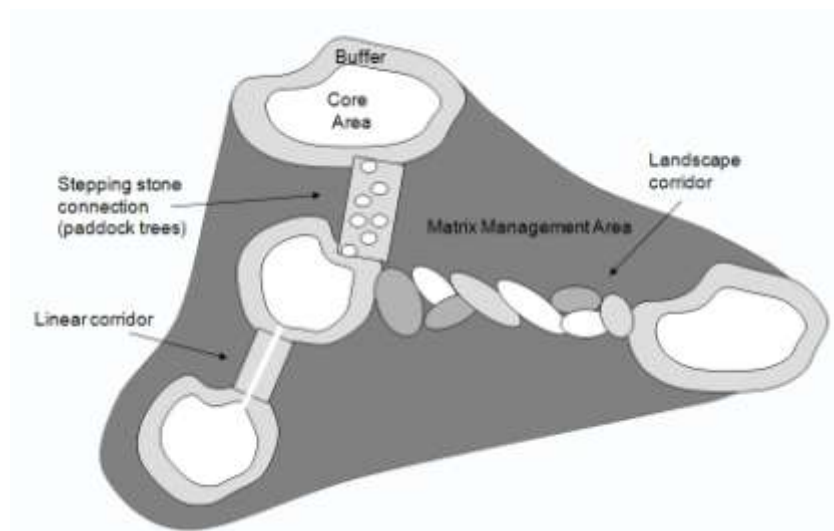


Figure 1. A diagrammatic representation of a matrix management area.

Source: Veronica Doerr's presentation.

- Because of the multifunctional nature of areas providing connectivity, clarity is required about the specific objectives for, and the desired outcomes from, their establishment and management.
- The management of areas providing connectivity should focus on the maintenance of processes, especially movement through the landscape. This ranges from the movement of people, water, stock, native animals, pollen and plant propagules on a daily/short-term basis, to seasonal migration patterns of native fauna, to allowing species and ecosystems to respond to climate change in the longer-term.
- The establishment of areas providing connectivity is best achieved by a partnership approach that can involve a wide range of individuals and organisations, who work together using processes that will best facilitate a partnership approach in planning and on-ground activity.
- Partners need to establish a shared vision about connectivity in their area/region, and plan how to achieve it, taking a long-term view because there is no quick fix.
- Partners need to share their knowledge and experience, make their enthusiasm infectious to expand the partnership network (from landholders to law makers), and educate/re-educate those who they wish to be involved.

2. The Corridor Challenge

In his headline presentation, iconic science journalist and broadcaster Robyn Williams took forum participants on a wide ranging journey that touched on many 'mini case studies' relating to conservation issues, including the challenges posed by global warming, drawing on information gleaned from his scientific colleagues from across the globe. His talk illustrated the importance of corridor and connectivity projects in a constantly changing (for whatever reasons) world.

His second theme was the importance of communicating scientific thinking and evidence-based action to policy makers in ways which can help them overcome simplistic populist approaches to environment management. He advocated building the marketing of science to policymakers into all major planning and projects.

3. Current 'best practice' guidelines for effective connectivity for the movement of native animals

Veronica Doerr outlined current best practice guidelines for ensuring the movement of native animals (especially birds and mammals such as Squirrel Gliders) through fragmented woodland landscapes such as those typical of the Upper Murrumbidgee Catchment. These guidelines are based on her research and a review of about 80 studies in Australia relating to connectivity (see www.environmentalevidence.org/SR44.html).

The guidelines for woodlands include the following and are illustrated in Figure 2:

- Maintain remnant patches of woodland at least 10 ha in size as core areas.
- Protect and plant scattered paddock trees, making sure they are no more than 100 m apart.
- Retain logs, stumps, rocky areas, and shrubs in core areas, corridors and in paddocks with scattered trees, to provide different habitats.
- Concentrate on linking core areas that are no more than 1.5 km apart (i.e. the corridors should be no more than 1.5 km long, but can be of any width).
- Maintain buffer areas around corridors, remnant patches and isolated trees where there is low nutrient input, low disturbance and some woody vegetation.

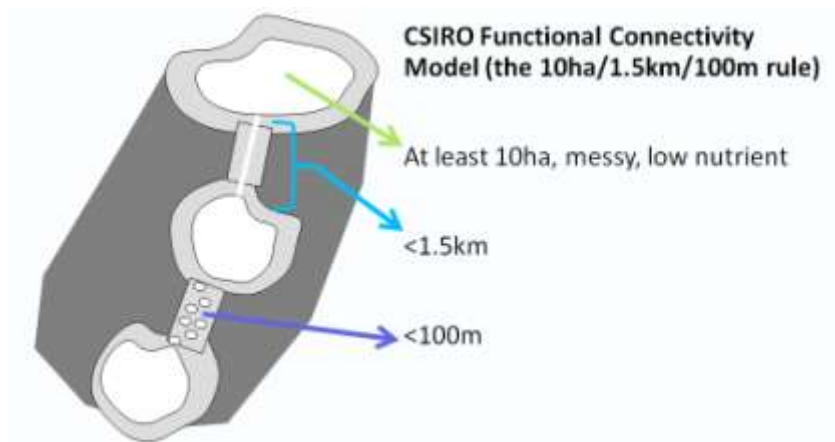


Figure 2. Guidelines for the size of core woodland areas, the length of linear corridors and the spacing of isolated trees.

Source: Veronica Doerr's presentation.

Comparable guidelines are yet to be developed for other types of ecosystems in the Upper Murrumbidgee that also warrant connectivity actions, such as grasslands and wetlands. The benchmark measures for non-woodland ecosystems are likely to be different to those in woodlands (e.g. 2 ha is considered a good size for wetlands).

4. Making it happen: improving corridors and connectivity in the Upper Murrumbidgee Catchment

Forum participants noted that many natural resource management plans or similar documents that are relevant to corridors/connectivity already exist for the Upper Murrumbidgee Catchment and that future connectivity planning and on-ground work should build on them.

What is needed?

- A shared vision and objectives for connectivity in the Upper Murrumbidgee
- A synthesis/pulling together of existing documents, and the identification of commonalities and gaps in them
- A mechanism to focus on corridors and connectivity and drive a process to

achieve agreed outcomes; this could include research partnership/s or using a coordinator

- Consistency of approach (e.g. in the management of buffer areas around the ACT)
- Coordination of activities between the ACT and NSW governments
- Coordination of activities between governments and community groups
- Resources (explore funding opportunities)
- Appropriate zoning and environmental management.

A subgroup of Forum participants volunteered to work with UMCCC to start addressing the above points.

5. Who else needs to be involved / what else needs to be done?

Forum participants identified the following as other desirable participants and actions:

- Aboriginal rangers—to help with on-ground management and education.
- NSW Department of Primary Industries—to help explain to landholders the benefits of connectivity for agricultural production.
- NSW NPWS—as a primary land holder and land manager in the Upper Murrumbidgee Catchment area.
- Peak farmers' bodies such as the National Farmers Federation and Meat and Livestock Australia—to help promote the benefits of connectivity to primary production and 'champion' connectivity work.
- Journalists—establish and maintain ongoing relations with them to facilitate reporting about connectivity activities and their benefits.
- Local champions, mentors and mentoring functions—including training and providing skills to those already involved in connectivity activities to better enable them to 'spread the word'.
- Users of Canberra open space not already involved in activities relevant to connectivity, e.g. horse clubs, walkers, trail bike riders etc—to try to broaden their understanding of connectivity and get them involved in it.
- Property developers—to get their support for connectivity by using it as a 'carrot' for selling properties/houses adjacent to connectivity areas (precedent: using the O'Connor Wetland to sell adjacent units).
- Include Connectivity Case Studies on the UMCCC web site and links to other web sites (such as Greening Australia) that include relevant information.
- Work to ensure the concept of corridors and connectivity is embedded in urban planning—e.g. through commenting on things such as the strategic review of Gungahlin in the ACT.
- Lobby for and/or support the inclusion of information about corridors and connectivity in primary school curricula.
- Use a variety of traditional and new social media (twitter, facebook etc) to spread the word about connectivity and encourage people to become involved.

6. Call for continuing action

In closing the forum UMCCC Chairman Peter Duffy thanked presenters and participants for their stimulating contributions and evident commitment to continuing action on connectivity in the upper Murrumbidgee catchment. He stressed that approaches which accommodate multiple perspectives and levels of government and community activists, while complicated and time-consuming, are the approaches which end up achieving lasting results at multiple levels. He commended the holistic Aboriginal approach to natural resource management as outlined by Rod Mason as a seriously practical, indeed essential, component of effective thinking and action.

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