



What has changed in twenty years of grassy landscape conservation?*

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Abstract: *The ultimate aim is the management of grassland communities to enable them and their constituent species to survive and flourish in the wild. (James Ross, 1993)*

This talk is an introduction to the forum, and will outline its aims. The emphasis of the forum is on achievements, including research, co-operation and networks. I will review the grassland conservation issues that were identified at a nationally focused workshop on natural grasslands held in ACT in 1993, as well actions that were prioritised as necessary to 'recover' grasslands. I will look at how some elements of recovery have been achieved, and why some priorities have changed. Many priorities differ from those we envisaged in 1993 – but some priorities are the same. What are we still struggling with? The talks at this forum will give us opportunities to consider which of the goals expressed 20 years ago have been reached through our 20 years of effort. At the conclusion of the forum we will consider together whether we are now closer to achieving the aim expressed by James Ross, and whether it is still the *ultimate* aim.

Welcome to you all! The committee of Friends of Grasslands (FOG) decided to hold this forum to celebrate the 20th anniversary of FOG. The forum fits three of our aims: advocacy, communication and working with people for the benefit of native grassy landscapes. During the 1990s there was a flurry of national conferences on grasslands, like this, but since then, although there have been other conferences, workshops and similar gatherings, there have not been many chances for groups of people from a fairly broad spread of regions and types of work to sit down together.

First, I would like to acknowledge and pay my respects to the Indigenous families on whose land we are meeting today, and on whose land we will be during the field trip at the end of the forum. In particular I want to acknowledge that the landscape at the time their land was taken is that to which many aspire, as the desired state or benchmark against which we compare current condition. Their legacy of understanding of their country should not be forgotten or ignored, but needs to be celebrated and integrated into current on-ground action. Tomorrow a member of the Nggunawal people will formally 'welcome us to country.'

We gratefully acknowledge support for the forum from several organisations in a range of different ways. Some helped financially and others have given in-kind support, and they are listed at the front of this set of forum papers.

The aim of this forum is to consider the governance, and the stakeholder input, and the values, and the multi-use of grassy landscapes. We want to demonstrate how people are involved in the conservation of grasslands and grassy ecosystems in a whole range of different ways.

My aim in this talk is to give you some context, and I will start by considering some history of grassy ecosystems conservation efforts, so we can see where we have come from when we consider grassy landscapes in 2014. Mostly I am drawing on information from Victoria and the ACT, and although that will leave out some aspects I think it gives a comprehensive picture.

History

In the early days in the ACT, urban development occurred below 650 m above sea level, mainly for pragmatic reasons to do with providing water reticulation to service residences. Nevertheless it was Walter Burley Griffin who defined those hills, ridges and buffers as being important areas in terms of our landscape and our heritage. As a result, but largely coincidentally, many areas of excellent, good and poor condition woodland and other



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ecosystems were retained. In several areas set aside for future use but never developed grasslands were also retained. The best example of this is the small grassland in Barton which for years we called 'St Mark's Grassland' because it was where the Anglican Cathedral was going to be built. By the time the building came to be planned the values of native grassland had been identified, so the decision was made by the church body to build elsewhere. That highly diverse grassland has been kept as is, and is actually celebrated as a component of the cultural and natural environment.

Until the 1980s the grasslands in the valleys were considered degraded native pasture, or 'sheep paddocks', with little recognition of their native diversity, mostly thought of as cleared and degraded, and not of any natural value – fine for farming and building on but not for conserving. In 1928 in the ACT photos were taken of early Canberra (the Mildenhall collection of photos, <http://www.naa.gov.au/visit-us/exhibitions/discovering-mildenhalls-canberra/index.aspx>). The three here show South Canberra (top photo), and then the Majura Valley looking east (photo below), and then North Canberra looking west (bottom photo). The grasslands in north Canberra and south Canberra have since been built over, but they were obviously grassy plains prior to development, and you can see the scattered trees that clearly mark the ecotone between Box–Gum (Yellow Box – Blakely's Red Gum) and the grasslands. Only the Majura Valley effectively still remains as grassland, though the airport and various other developments are there now. The tree lines in the photo of Majura Valley are still in the same place now as they were then, demonstrating that even with all the changes the tree line has not changed.

In 1979 Charlie Chan surveyed 20 grassland sites for his Masters thesis, with Richard Groves (Chan 1980), some of the first work in ACT that recognised these grasslands as naturally treeless. But at the same time when people were surveying an area for development they were failing to distinguish the ground flora and instead were concentrating mainly on conserving areas with trees and shrubs. However, during the 1980s there were surveys of grassy ecosystem flora and fauna, especially of Striped Legless Lizard, Pink-tailed Worm-lizard, Button Wrinklewort and Small Purple Pea.

An important report that came out in 1984 was the *Ecological Resources of the ACT* (NCDC 1984), which gave highest priority to the need to protect lowland grasslands and woodlands on lower slopes and adjacent to reserves. That was really the first time these ecosystems were recognised as an entity at the broader scale.





However, probably the most important occurrence was the native grasslands workshop convened by the Conservation Council in 1991. That defining workshop, *The ACT's Native Grasslands* (Falconer 1991), brought local people together to discuss the status of grasslands, how to raise their profile and ensure they were considered in future decisions about land use. This workshop, I think, attracted the right group of people that were interested and motivated to address the issue, and it paralleled some of the work that was going on elsewhere. It really was the start of a boom in work that was being done.

Meanwhile, Victoria was 20 years ahead of ACT in its recognition of grasslands. (For this information about Victoria I want to acknowledge *Action Statement no. 182* (Department of Sustainability and Environment, undated), which gives a very good history.) Impacts of land use changes on the western basalt plains had been recognised before the 1970s, and there were studies of floristics and management, mainly in areas near Melbourne and railway reserve easements, in the 1970s and 1980s. A key paper was *An Assessment of the Conservation Status of Native Grasslands on the Western Plains, Victoria and Sites of Botanical Significance* by John Stuwe (1986) which described his assessment of the grasslands on the western plains and sites of botanical significance. Reserves such as Moormung Woodland near Bairnsdale were set aside because of their values as long ago as 1958, and in the 1980s grassland reserves were established at Laverton North (40 ha) and Derrimut (150 ha).

But things were happening in Victoria in the 1990s which were making life difficult and more awkward. I think this quote from Action Statement 182 (page 5) is very telling:

Sheep and cattle grazing became less profitable prompting moves toward more intensive agricultural practices. ... Native grasses that had persisted under low grazing regimes were cleared and destroyed.

At the same time, the management of railway easements was changing from burning to herbicide use to manage the biomass as a cost cutting measure. Clearly these were big changes from how those areas had been managed in the past, raising questions about how their condition would change.

Recovery actions in south-eastern Australia

From the early 1990s there was great deal of action in south-eastern Australia, focused initially on the natural grassland and later on grassy woodlands – and particularly on the Box–Gum woodland on the deeper more fertile soils. Recovery actions were undertaken often with Commonwealth support and funding, and included development of strategic plans, reservation, including establishment of reserve networks; legislative protection for grasslands and grassy ecosystems; surveys; research; and education.

Commonwealth funding was probably more generous than it was previously, and certainly was more generous than it has been since then. I have no actual figures on how much was spent on grassland recovery, but tallying up what is known it included: \$1.75 million in Tasmania for the 'Non-forest vegetation project', with matching state funding; close to \$1 million in the ACT and surrounding region in NSW over a six or seven-year period; a devolved grant of \$500,000 to the World Wildlife Fund that was passed on as large and small grants to many private and government groups; and more money in Victoria. It is likely that the total would have been \$5 million or more spent on grasslands in 10 years from the mid 1990s. It was an exciting, extremely productive time to be involved.

That level and type of funding made it possible to carry out extensive surveys in ACT, NSW, Victoria, Tasmania and South Australia, to undertake research and importantly to fill extension positions. That meant there were people on the ground across south-eastern Australia who were able to write strategic plans, liaise with landholders and government, go out to sites and undertake educational work. During this time the main work undertaken was in six areas: strategic planning; reservation; legislative protection; networks; communication and education; and research.



Strategic planning

In ACT we were funded to write a recovery plan in 1992 for lowland native grassland (Sharp 1992); it was revised and updated in 1998 after we had greater information about the distribution of sites, their condition and associated species within them (ACT Government 1998). We also developed strategic plans for lowland woodlands (ACT Government 2004) and grasslands more generally (ACT Government 2005). In other states similarly, recovery plans were prepared for other grasslands and grassy ecosystems.

I want to draw your attention particularly to the aim or goal stated around that time, because I think that it is important to keep it in mind throughout this forum.

The ultimate aim is the management of grassland communities to enable them and their constituent species to survive and flourish in the wild. (James Ross, 1993)

The quote, the ultimate aim, was expressed by James Ross in 1993 here in ACT at the first 'national' forum on natural grasslands (Ross 1995). How does this stand up now?

Among a few pivotal projects was an extensive survey in 1992 throughout many of the major regions of south-eastern Australia. It was not comprehensive by any means, but it was extensive, involving a range of grassland botanists undertaking surveys and providing input, and it resulted in an important report and book (*Conservation of Lowland Native Grasslands in South-eastern Australia*, 1994) edited by Keith McDougall and Jamie Kirkpatrick. That study identified that about 1% of native grasslands remained in moderate or good condition. This is the frequently quoted figure about the demise of grasslands, sourced from that survey. Since that time there have been more extensive and more detailed surveys, identifying more sites and resurveying other sites, resulting in better understanding of the distribution and size of remaining natural grasslands and grassy woodlands. Even so, there has not been a particular change in the overall figure of 1–5% of the assumed pre-European extent of natural grassland that remains in moderate to good condition.

Reservation

Some reserves set aside earlier than the 1990s had coincidentally conserved grassy woodland, but no grasslands (these being generally below the 600 m altitude, and being prime developable land). Some of these reserved woodlands are in very good condition; some of them are in very poor condition. In the ACT in 1994 Mulligans Flat Nature Reserve was reserved because it represented an extremely important and diverse area of grassy woodland. It was the first reserve to be established specifically to protect grassy ecosystems. Four other reserves protecting natural grassland were established in 1997 in Gungahlin and Belconnen. Michael Mulvaney's paper (this proceedings) elaborates on these reserves.

In south-eastern New South Wales there are nearly 20 woodland and grassland reserves including national parks or nature reserves, Crown or Council reserves, and private land covenants. That state went from zero to about 20 reserves within 20 years. Additionally, there are areas of rural properties protected under voluntary Conservation Management Agreements.

Similarly in other states private land is being purchased for conservation, conservation reserves are being established, and conservation covenants and management agreements are being entered into. Overall, it has been amazing change in the status of grasslands and grassy woodlands, and in the understanding of the ecological diversity of these ecosystems.

Legislative protection

Since the early 1990s most states have listed natural grasslands and/or grassy woodland ecosystems as threatened. In order of occurrence, again Victoria took the lead. Western Basalt Plains grassland was listed in 1991. Natural Temperate Grassland was listed as endangered in 1996 under ACT legislation, the first ecological community to be listed in ACT after the legislation was changed to allow for listing of threatened species and communities. Grassy



woodlands were declared threatened under ACT legislation in 1997, and more than 20 species that are dependent on grasslands and grassy woodlands are also listed under ACT legislation.

The Commonwealth listed the Natural Temperate Grasslands of the Southern Tablelands (NSW and ACT) in 2000, among the first cohort of listings under the EPBC Act. There are now 17 listings for grassy ecosystems in south-eastern Australia under the EPBC Act. The White Box Yellow Box Blakely's Red Gum Woodland was listed in 2002 under NSW legislation.

In Tasmania a number of forest communities were protected in 1997 under the Tasmanian Regional Forest Agreement process and these included some woodland and grassy forest areas that fit into the category 'grassy woodlands'. Threatened non-forest communities were listed in 2009.

There is legislation to protect against vegetation clearing in many states. A major development in legislation in recent years has been 'offsets', which Phil Gibbons' paper addresses (this proceedings).

Networks

Networks linking stakeholders and sites have been established: these include Conservation Management Networks and a range of other networks that have developed, such as Kosciuszko to Coast (part of the Great Eastern Ranges project), and Protected Area Networks (see Nathan Wong's paper; this proceedings). Community networks include Friends of Merri Creek, which formed many years ago in Victoria; the Stipa Grasslands Group which began in the 1990s as a group of rural landholders; Friends of Grasslands in 1994; ParkCare groups and Landcare groups; and there are groups managing reservation by private funding which include Bush Heritage Australia and the Nature Conservation Trust of NSW.

Communication and education

Since the 1990s, national conferences, regional conferences and workshops have addressed management and protection of grassy ecosystems. There have been reports, books, booklets and field guides written for the general public and in many cases significant scientific papers made available to a wide audience. Particularly in the first 10 years there was a high level of media attention, particularly when reservation of some of these ecosystems resulted in loss of land for development, but sometimes a lot more positive than that. An important more recent change has been the increase in social research that helps to understand how people relate to and perceive grasslands, identify landholder concerns and attitudes among the general public. These help us understand better how to try and convey our aims of better conservation of grassy ecosystems. Even more recent is a much greater interest in applying traditional management.

Community involvement has also changed considerably over the 20 years. There is a great deal of weeding and planting occurring in grassy ecosystems, but the community is also involved in monitoring (for example, through Waterwatch, Frogwatch, Vegwatch, rabbit counts, and kangaroo counts in ACT) and, importantly, in decision-making in partnership with government. Friends of Grasslands together with other groups such as the Conservation Council and Canberra Ornithologists Group meet regularly with government, so our involvement is not just reactive it is also proactive. I think that is a tremendous achievement. For Friends of Grasslands advocacy is a major activity, along with education and communication.

Research

Many research projects were initially supported by state and Federal Government funding. Examples include assessing management impacts on habitat and threatened and rare species; devising restoration of habitats and species; social research; and understanding agricultural and conservation interactions, as we shall hear in this forum. Research has come up with standardised techniques for survey and monitoring and for measuring vegetation condition, and the biometrics for assessing condition and ranking sites. Research has developed



alternative tracking techniques for reptiles. A classic example is the installation of tubes and tiles as artificial burrows and shelters for the species to use as refuges. Now they can be monitored simply by counting the individuals taking refuge in those installations. This is much less destructive than the old system of using netting to link pitfall traps (deep containers dug into the ground, in which the captured animals could potentially and occasionally did drown during wet weather or die of exposure in hot and dry weather). In fact the first Grassland Earless Dragon found in the Majura Valley, where they were thought to be extinct, was drowned in an alcohol-filled insect trap.

How communication has changed

Communication techniques and media have changed hugely in these 20 years. In the office where I worked in 1992, for instance, there were two computers for 10 staff. By 1994 everyone in the office had a computer, but to print we copied a document onto a floppy disk, took it to the computer beside the printer and printed it in black and white – if the printer was working. Phones of course were land lines only. Taking photos was expensive and available either as slides or prints. We wrote letters and posted them – remember those days? – and sent faxes. Presentations used overhead projectors or slides. Maps were prepared by hand, coloured in with pencils and textas, and there were little sticky lines to make arrows and circles. We had an area in the office with an enormous table for preparing hand-drawn maps. Today ... computers, laptops, tablets, Powerpoint, mobile phones with apps, cameras, SMS, internet, maps, GPS with accuracy down to 2 cm. Via email, even formal letters can be sent with electronic signatures. For surveys now we use remote electronic media extensively, leaving cameras out in all sorts of weather. With Twitter, blogs, Facebook and presentations face to face or linked there can be thousands of people interacting.

My point is that while systems and priorities have developed strongly over the last 20 years, they have also changed considerably since the goals and aims were stated in 1992–93, and I think we need to recognise that. Now we focus on adaptive management, sharing knowledge and integrating learning from Indigenous culture and practices and land manager experiences; we aim to enhance resilience to impacts of climate change – these foci were not thought of 20 years ago. Now we prefer an ecosystem and landscape approach rather than a site or a species approach. Restoration happens on a broad scale and can include translocation of species. Ideally, we run long-term integrated research projects. We plan offsets and conservation networks. Those are the sorts of priorities we have now.

Despite all the work, awareness and consideration given to grassy ecosystem conservation, areas are still being destroyed. Governments are devolving areas such as Travelling Stock Reserves, railway easements, other Crown land. Communities at risk of extinction are still not listed. Areas are still degrading as a result of disturbance or inappropriate land use. There are still too many mistakes – by weed contractors, slasher drivers, managers of roadsides or cemeteries or other important off-reserve grassy areas. The wrong species get sprayed, native species are slashed before setting seed, weed species are slashed after setting seed; heavy vehicles cause damage in sites. There are conflicts of priorities – bushfire risk versus maintenance of ecological condition.

In conclusion, consider again the aim stated above. Is it still relevant or do we need to reconsider it? Is it too simplistic, or has it guided us well over the past 20 years? Have we moved towards achieving it over the last 20 years? Can we feel that we have really moved towards better outcomes for these ecosystems and their component species? What directions should we now take? Over the next few days we will hear more about what has been achieved since the mid 1990s, and gain an understanding of where these ecosystems stand ecologically, socially and culturally, compared to 20 years ago.



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+ This record of the talk given at the forum has been checked by the presenter, but not peer-reviewed. To find out more, contact the presenter, via their institution or by email to: info@fog.org.au.