

Environment Institute of Australia and New Zealand State of Native Plants in the ACT – 20 August 2014

(Summary of presentations, by Karen Groeneveld)

I attended this forum on behalf of the Orchid Society, because of the Society's interest in becoming more involved in local orchid conservation issues. I had anticipated information on how our native plants and local ecosystems were faring. Instead, the majority of the day's presentations focussed on efforts being made by a variety of groups to monitor the status of vulnerable vegetation systems across and beyond the ACT, and the contribution that monitoring makes to efforts to protect and conserve plant species. Orchid species were referred to in passing where they are vulnerable or endangered, but none of the presentations focussed specifically on the state of orchid flora in the ACT. Despite this, most of the projects discussed have significance for orchid conservation.

The day commenced with an overview of the Commonwealth and Territory legislative protections enjoyed by plants and the key elements of their administration, including the role of the ACT *Commissioner for Sustainability and the Environment*, and the requirement to produce a *State of the Environment Report* every 4 years (the next is due in 2015).

The environmental protection legislation is complex and constantly in flux, with a range of overlapping Acts having evolved over the past 35 years. Much of it is currently under review to reduce duplication. I won't bore you with the details – if you want these, a copy of the *ACT Environmental Law Handbook, 2ed*, is now available in our Society library for you to look at. However, to illustrate the point, the following is some of the minefield of legislation that impacts on plant protection in the ACT:

- The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* & Regulations 2000 sit on top;
- Also at Commonwealth level are recent amendments to the Social Security Act, which implement the Green Army Program and clean energy regulations;
- The ACT Nature Conservation Act 1980. An exposure draft for amendment of the Act was issued in 2013;
- The Heritage Act 2004 & Amendment Bill 2013 (ACT legislation?);
- The ACT Planning and Development Act 2007 (incorporating the Territory Plan);
- The Planning and Development (Bilateral Agreement) Amendment Bill 2014; this was seen by the presenter as improving some protections (such as strengthening the role of the environmental Conservator), but weakening others (allowing exemptions for Environmental Impact assessments);
- A new Tree Conservation Act.

One concern raised by the presenter (Hannah Jaireth from the ACT Heritage Council) was that the ACT Environmental Defender's Office is no longer being funded. This body was responsible for funding the legal handbook previously mentioned, and donations are being sought for updating the book (edoact@edo.org.act).

In his keynote presentation, Bob Neil, the ACT *Commissioner for Sustainability and the Environment*, spoke about findings from recent State of the Environment reports, and about his role and powers, which allow him to conduct additional ad hoc investigations in response to public concerns – he can provide recommendations to the government that must be responded to. In particular, he spoke about the 2009 Grasslands Report and the 2011 Canberra Nature Park Investigation. Both found significant challenges for grasslands and parks as a result of the proximity to the urban environment, with key pressures including: weeds, grazing (including by kangaroos) and fragmentation resulting from urban development. In addition, management practices (such as

mowing, weed control and planned burns) are often outsourced, resulting in a mish mash of management regimes, often dependent on the knowledge and values of contractors. Both reports found native grassland ecosystems in a poor state and provided three key recommendations:

- increase community awareness of the value of native grassland flora and fauna; and
- improve management regimes in order to:
- improve the condition and resilience of grasslands (including resilience to climate change).

Improved monitoring of populations, including their response to planned burns, was seen as critical in improving management. Monitoring is currently not strategic or systematic and is subject to budget constraints, and there is an urgent need to implement a strategic monitoring framework.

When asked about the impact of planned burns, Mr Neil responded with the belief that Autumnal burns (at least) were beneficial to grasslands ecosystems, and were certainly better than mowing, which reduces the resilience of native plants and increases competition from weeds. He conceded that monitoring of the impact of planned burns has only been undertaken in a few areas along Ginninderra Creek.

[Author's comment: The issue for those of us concerned about orchids in these ecosystems and parks is an apparent lack of understanding by managers that terrestrial orchids have specific needs that are different from many other grassland species. Except where an orchid species is classified as threatened and is the subject of particular attention to protect it, the needs of terrestrial orchid populations more generally are being lumped together with grasses, herbaceous plants and woody shrubs. This may be because the presence of terrestrial orchids in the landscape is transitory and they are rarely the most prominent plants. Whatever the reason, management plans that encourage regular mowing and burning are likely to increase the pressures on orchid populations, which are already heavily impacted by the pressures of urbanisation and habitat fragmentation.]

Many presentations related to plant surveys and the development of database tools for vegetation and weed management, although there were a few about revegetation. Presentations are summarised below, with links to databases and resources referred to:

- Rob Armstrong discussed a recent plant census that involved sampling and statistical analysis of some 4000 plots in the upper Murrumbidgee catchment from the Victorian border, north to the Abercrombie River. This census classified plant communities and explored their distribution throughout the region. Paper published in *Cunninghamia* 2013 (13:1)
- Steve Taylor discussed threats to native vegetation from environmental weeds, highlighting that the rate of new weed incursions seems to be increasing, and that weed control projects are budget-dependent, as they rely on contracted labour. Nonetheless, he sees new mapping technology and the potential to employ unmanned aircraft for aerial spraying, as beneficial. The ACT government is proposing to employ drones to spray weeds in inaccessible places. See <http://rmax.yamaha-motor.com.au/> for more information (or google "Yamaha weed spraying" – brings up news articles).
- Jane Roberts, from the Jerrabomberra Wetlands Committee, spoke of a recent survey of plants and plant communities in the Jerrabomberra Wetlands. Conclusion? – it's not all weeds!
- Margaret Kitchen, from the ACT government Conservation Research Unit spoke about their statutory role in monitoring threatened species, and the Vegetation Mapping project currently being undertaken. The vegetation mapping project aims to provide science-based information for environmental conservation and policy planning purposes. It uses interpretation of aerial

photography and 3-D mapping technology to map plant communities and changes to them. Mapping of Namadgi and northwards will be undertaken over the next couple of years (pending funding). The focus of threatened species monitoring is on the 35 species of animals and plants that are listed as threatened in the ACT. This includes 9 plant species and 2 plant communities (temperate grasslands and yellow-box woodlands). Monitoring of threatened plant species aims to identify long-term trends and changes, and Margaret emphasised the need for long-term monitoring to determine real population trends. By way of example, *Prasophyllum petilum* was used as a case study – monitoring over a 12 year period has shown that the population demographics are annually variable, and that the species ecology of the ACT population differs from the Tarengo population. The conservation research unit currently works in partnership with the ANBG (seed collection, germination & propagation) and Greening Australia (translocation of plants). For more info see <http://www.environment.act.gov.au/cpr>

- Mick Clifford provided a demonstration of how to use the ACT Government's interactive mapping service (ACTMAPi) to access information on flora and fauna sightings in the ACT. Although this looks like a useful tool, the videos used to demonstrate the search techniques were very hard to follow; apparently there are tutorials coming. For more info, see: <http://www.actmapi.act.gov.au/spa.html>
- Michael Mulvaney and Aaron Clausen from the ACT Parks and Conservation Service spoke about the potential for extinctions amongst Canberra's more uncommon plants, including orchids that are specialists and already have restricted habitat requirements. They believe it is essential to locate and protect important populations and to assist with this they want to recruit the knowledge of the Canberra community. They have developed the *Canberra Nature Map* to allow members of the public to report sightings. The idea is that you take a photo with your smart phone and upload it – the website uses the inbuilt GPS location device in smart phones to record the location of the sighting. The database is smart enough to restrict public access to the location details for vulnerable species, but still make location data available to the researchers. Each reserve in the ACT has a moderator, to check the identity of species (e.g. Rosemary Purdy is the moderator for Black Mountain and Tony Woods is moderator for Orchidaceae). The presenters believe that there is potential for reserves outside the ACT to be added to the database in the future (eg Mt Jerrabomberra). This sounded like a really exciting project, and there is plenty of focus on orchids, so please check it out and give it a go: <http://canberranaturemap.org/>
- There was a report from the National Herbarium on the latest *Census of Vascular Plants in the ACT*, undertaken by the Herbarium in 2012 (Brendan Lepschi was scheduled to speak but was unavailable). The speaker stressed the importance of survey work, and that all records are supported by a herbarium voucher, lodged at the Australian National Herbarium. For details see: <http://www.cpbr.gov.au/cpbr/ACT-census-2012/index.html>
- Hugh Wareham, the CEO of Greening Australia (GA), provided a summary of projects being undertaken in the ACT. He highlighted the importance of community engagement and partnerships with government, corporate interests and landowners. GA considers it important that projects are backed by science and good data collection is a priority. He commented on how the focus of projects has shifted over the years from 'trees' to 'whole of habitat' and building understorey diversity. Some interesting new projects were mentioned, including a bush tucker garden in Aranda and connecting prison inmates with country, amongst others.
- Lori Gould, also from Greening Australia, spoke about work they have been doing on 'whole of paddock rehabilitation', to improve shelter for stock, reduce salinity, weeds and erosion, and to bring back birdlife. This has involved fencing off remnant vegetation and monitoring remaining

trees, whilst managing grazing and sowing fodder crops between rows of trees. These are long-term projects, with paddocks often being rested for up to 5 years. The result – significantly increased stock productivity, due to improved pasture, more shelter and a reduction in parasites.

- Linda Broadhurst, CSIRO, spoke about her work on the use of genetic mapping in the restoration of yellow box populations. She studied the genetic diversity of a number of populations that had been restored through planting of seedlings. The findings showed much lower genetic diversity in the restored populations than in scattered remnant trees, with significant implications for the long-term viability of restored populations. It is important to ensure that seed used for revegetation is of high quality and genetically diverse – seed brought in to revegetate an area may not be adapted to local climate conditions and may potentially lower the quality of existing tree populations through outbreeding. The project demonstrated the critical importance of maintaining scattered, isolated trees and the need to improve the quality and diversity of seed collected for revegetation projects.
- David Hogg, with a long history of environmental consulting, is writing a book on the environmental history of Canberra, and spoke on the influence native plants have had on the planning and development of Canberra. He considered that, despite having more rigorous environmental regulation than other Australian states (with Action Plans on the management of threatened species and data collection requirements), the C’wth EPBC Act has proven inadequate in limiting the environmental impact of development activities in the ACT. He considers that spending more on management of environmental reserves, and less on environmental assessment would result in better outcomes for native plants.
- Anna van Dugteran spoke about the ACT & Southern Tablelands *Weedspotter* website. This project recognises the role that weed surveillance can play in preventing the spread of new and emerging weeds, and the importance of engaging the local community in surveillance and weed control. *Weedspotter* allows people to use smart phone apps to identify weeds and to digitally map weed sightings. It includes lists of priority weeds to watch out for, and users can record their own control efforts. *Weedspotter* is hosted by the Atlas of Living Australia and partnered with the ACT Government and 10 local councils in our region, led by Palerang Council. See: <http://root.ala.org.au/bdrs-core/act-esdd/home.htm>
- Sarah Sharp spoke about the *Vegwatch Manual* (developed by Sarah Sharp and Lori Gould, 2014, under the auspices of the Molonglo Catchment Group). There is now an expectation that monitoring of vegetation will be part of any program that aims to manage and improve habitat, including those programs implemented by volunteers and landholders. To be effective, monitoring needs to be well-designed and consistent across a region, and data needs to meet certain standards. The *Vegwatch Manual* provides a step by step guide to monitoring vegetation in the ACT and region. Suited to natural resource managers and other individuals involved in general monitoring, the methods are practical techniques that can be undertaken relatively easily with limited knowledge, skills and equipment – they are specifically designed to be understood and used by people who do not have professional training in field ecology. Supporting information, including recording sheets in Word format, are also available. Training workshops for NRM groups on use of the Manual are available by request. For more information contact the Molonglo Catchment Group: www.molonglocatchment.org.au, Email: coordinator@molonglocatchment.org.au or call 02 62992119.

The *Vegwatch Manual* is available online at <http://www.molonglocatchment.com.au/Documents/News%20Page/ACT%20Vegwatch%20Manual.pdf> (or google “vegwatch manual” to find it)
Or contact Sarah Sharp at booksales@fog.org.au to obtain a hardcopy (\$20) or CD version (\$5)

IN SUMMARY

The Forum was a full day, with presentations packed in like sardines. It's encouraging to see so much going on in vegetation research and conservation, but there's clearly room for better coordination and a more strategic framework for collaboration between the ACT, NSW, Commonwealth and local governments. Of great concern is that many projects appear subject to the challenges of short-term funding and the constraints of changeable budget priorities.

From an orchid conservation perspective, the apparent lack of understanding of orchid biology (and how it differs from grasses, herbaceous perennials and woody shrubs) by plant resource managers, and the implications for habitat management practices, is of particular concern.

Nonetheless, the raft of interactive databases inviting community contribution is an opportunity for Society members to help with monitoring and conservation of orchid species. Understanding what species we have, where they live and how populations are changing is critically important.

I think the next step is for us to consider how our Orchid Society could help to raise awareness of the value of native orchids (and the management implications of their extraordinary biology) by the broader community and those agencies responsible for implementing native ecosystem management practices. As a society, we have the ability to organise a group of members to contribute to one or more specific projects, to start to make a difference.