



STEP NEWSLETTER: December 2016.

PO Box 440, Jamison Centre, 2614.

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From the President

If you were unable to attend STEP's AGM on 27 November here is the committee for 2017 :

President – Judy Smith, Vice-President – David Shorthouse, Treasurer – Ross Dalton, Public Officer – Andy Russell, Committee – Bill Handke, Jens Svensson, Lainie Shorthouse, Heather Green and Terry Murphy. We welcome Heather and Terry as new to committee positions and look forward to working with them.

The year to come presents many challenges and opportunities. A significant challenge is dealing with tree and plant losses due to the excessively wet Winter and Spring. Work has been done on the lower paths to try to stop erosion in times of heavy rainfall.

Opportunities are present with the propagation of our own plants from seed, our submission to the Dahl Foundation (Eucalypts Australia) for funding for a shelter/display space near The Clearing, the plan for a bush tucker trail, the siting of an augmented reality and a soundscape display at STEP, new "lean over" signage as information for visitors, a new eucalypt brochure to be printed and a general STEP information brochure (requiring a final edit). All Science Coordinators at high schools in the ACT and Queanbeyan have been contacted by letter inviting them to visit STEP. Year 9 students study Ecosystems in Semester 2 as part of the National Curriculum and we believe we have much to offer to supplement student learning.

All of this signals a very busy and productive time for us.

Best wishes to you all over the Christmas and holiday season and I look forward to working with you in 2017.

Judy Smith (President)

Annual Report 1 July 2015 – 30 June 2016

“Amongst the newly growing forests in the Arboretum is one of the best kept secrets, a regional botanic garden called STEP (Southern Tablelands Ecosystems Park)” (quote from Blog: canberragreenspaces.com)

The year covered by this report has seen another period of progress for STEP and consistent commitment by STEP volunteers as we continue to develop our regional botanic garden for the southern tablelands. More plantings, more visitors, more activities linked to the display of trees and flowering plants now established at Forest 20, National Arboretum Canberra. Our endeavours were recognised in August 2015 when we received a Commendation (Environmental Education) certificate at the annual Keep Australia Beautiful, Sustainable Cities Awards.

The regular attendance of our volunteers at the weekly working-bees has allowed continued development of the STEP garden, and enables a gradual transition from the initial development phase into a maintenance and new initiative phase. A landmark for the year was the November visits by delegates attending the national conference of the Australian Native Plants Societies. Although the four visits were in very hot and blustery conditions our hard work in the months leading up to the Conference paid off as the central garden section looked beautiful with many understorey plants in bloom.

At the end of the reporting year over 280 squares have been planted with 180 understorey species. In addition to the 16 species of eucalypts, 8 other tree species have been added.

Key milestones and activities for the year to 30 June 2016 include:

- As previously reported our weekly Working Bees continue to be the back-bone of STEP activities. Attendance on Thursday mornings averages 12-15 each week, totalling over 2000 hours of effort, equivalent to about one full-time gardener over the year. Added to this the STEP committee, newsletter editor, and work on other STEP tasks kept the organisation running efficiently. Membership of STEP has grown to 91.
- On one Thursday in May 2016 the STEP working bee was largely devoted to assisting Greening Australia Greening plant trees and understorey plants in one of the 18 plots located in the woodland adjacent to Forest 20. The combined plantings are an effort to kick-start recovery of the vegetation, and in turn the woodland will be a valuable educational resource that complements STEP's regional botanic garden.
- STEP has been part of an ANU student-learning project in a course designed to develop skills in working with clients on a real-life project. This came about through the good offices of STEPper Richard Jones who is a course adviser. The students have been

building a new web-site that meets our needs, and will bring us up-to-date and assist our web-master maintain a stable, accessible presence in the World Wide Web. Full operation of the new web-site is expected during the latter half of 2016. Forest 20 and STEP are frequently referred to on the public access website 'Canberra Nature Map'. We are grateful that we have members who contribute records and photographs to this useful website.

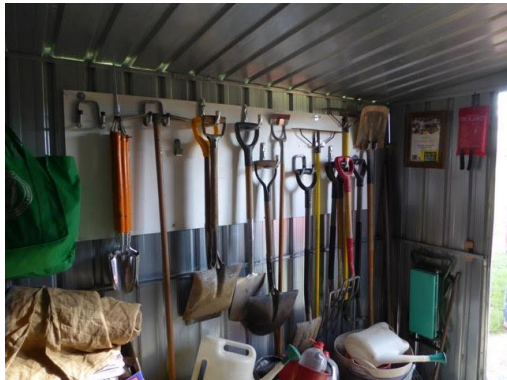
- STEP continues to develop its relationship with the Arboretum's administrative staff and management team. STEP participated in a review of management of the Arboretum's 100 forests and the Arboretum Strategic Planning Consultation, and joined the Forest Management Advisory Group. Discussions have commenced with the Arboretum's management about locating a 'bush tucker trail' in Forest 20 which would be supported by the ACT Government's reconciliation plan.
- Several on-site and office meetings have been held with the new Operations Manager and Executive Manager. Liaison about STEP's project at Forest 20 and several on-site development activities continues to be positive and mutually supportive. During the year Forest 20 was connected to the Arboretum's path system, had welcoming signs at the entrances to Forest 20, and is regularly included in guided walks starting from the Village Centre.
- STEP's links with the Friends of the Arboretum are formalised with membership of the Friends Council. A seat has been installed in Forest 20 as part of the Friends' invitation to the community to sponsor seats within the forests, trails and grounds of the Arboretum. STEP continues to benefit from tax deductible donations made via the Friends of the Arboretum. Ray White Real Estate Belconnen, donated \$500 in August 2015 as part of its support for community based organisations. We appreciate this support as it assists us to generate greater awareness of Southern Tablelands ecosystems.
- Visitor initiatives this year include participation in the training of new guides for the Friends' walks program. STEP assisted with the first National Eucalyptus Day (23 March) and are preparing to host walks arranged for Wattle Day (1 September). It is hoped that these two celebrations will become annual events for Forest 20 and STEP. School children and other groups continue to visit Forest 20 as part of the Arboretum's schools program.
- STEP volunteers bring diverse skills and interests to our working bees to developing new plantings, maintaining existing plantings and improving paths, drainage and presentation of the entire STEP project. Without their dedication and enthusiasm our Regional Botanic Garden for the Southern Tablelands would not exist.

David Shorthouse

STEP shed passes workplace health and safety check.

The Arboretum's management team recently inspected the STEP shed to ensure it complies with their workplace health and safety requirements. STEP had already put in place some reorganisation of our tools, shelves and other equipment, however we passed.

Following up on discussions with Arboretum staff, STEP has now added a noticeboard to the inside face of the door, so it faces outwards when we are there. This noticeboard includes official health and safety notices, as well as some STEP information



Willi Singleton has been instrumental in getting the shed in order, providing hanging space for our tools, maintaining mowers and other tools, and generally smartening up our shed. Thank you, Willi, a great job, as the photos evidence demonstrates.

A wet winter/spring at Forest 20

As elsewhere, Forest 20 has endured a very wet period over the winter and into spring, although as we go into December, the effects of this are lessening.

There has been some damage to our regional botanic garden: physical, through erosion of gravel paths, and continuously wet mineral paths; botanical, in the form of deaths of some trees and understorey plantings unable to cope with waterlogged soils; and loss of morale amongst STEPpers as we have dealt with the changed circumstances.



However, our STEP volunteers have rallied magnificently, repairing paths, and adding roll-overs to divert water, digging channels to enable better surface flows, removing dead plants, but replanting elsewhere, weeding an explosion of unwanted plants that were lying as seed waiting for wet conditions. There are also several springs apparent, presumably fed from water held under the car-parks above us.

STEPpers initiate our own propagation project.

Under the careful guidance of STEPper Terry Murphy, the Thursday STEPpers have started to learn how to propagate our own plants. Seed collected over the last year was germinated by Terry, and brought to our working bees in July for potting up. Over 3000 plants (dubbed STEPlings) were taken to STEPpers homes for growing on before planting out.

The wet spring delayed the planting out, but by the end of November massed plantings including Pale Everlasting (*Coronidium gunnianum*), Yam Daisy (*Microseris lanceolata*), Blue Devil (*Eryngium ovinum*), Chocolate Lilly (*Dichopogon fimbriatus*) have been undertaken at our main entrances and around the ephemeral wetland.



The success of this venture is largely due to Terry's experience and support throughout the project. It has enabled us to take another step towards our ecosystem recovery aim and skilling for STEPpers, and with seed gathering already starting at the end of 2016, we will be in a position for more propagation activities next winter.

Above three articles and photos by David Shorthouse

Getting back to our (Ancient Greek and Latin) roots . . .By Elizabeth Minchin

. . . in Section H. Here we strike gold: the ancient Greek noun is *khrusos* (Latinized, as are all terms borrowed from Greek, as *chrysos*). Thus yellow buttons (*Chrysocephalum*) are said to have a golden 'head' (*kephalē* is the Greek for 'head'--as in encephalitis).

There are three varieties of *Xerochrysum* in Section H: they are not only golden but also dry (*xēros*). *Leucochrysum*, on the other hand, is both white (*leukos*, as in leukaemia) and gold. This term is composed of Greek elements, but its descriptor, *albicans* ('growing white'/'whitening'--cf. albino, albumen), is Latin. Botanists are not afraid of linguistic hybrids.

In the vicinity of our *Chrysocephalum* we find *Calocephalus*: *kalos* means beautiful (cf. calligraphy, beautiful writing). This plant has a beautiful 'head'. Its descriptor is a Latin term, *citreus*, 'relating to a citrus tree/citrus wood'.

Finally, we have *Cullen microcephalum*: its head is--no prizes for guessing this one--small (*mikros*).

Butterflies at STEP

During the summer there are many butterflies at STEP. They can be seen particularly on the various daisy species, but can be found almost anywhere around the block. Some of the most likely species to be found are the following:

Caper white



Mainly white with black edges, sometimes some orange on undersides. Lives in inland northern NSW and Qld in urban areas, forests and woodlands. These are migratory butterflies and they fly mainly south and inland in November and December looking for caper shrubs and creepers, but they are also seen flying in NE direction in the ACT. Sometimes, large numbers are observed in the migrations, but only single butterflies have been seen at STEP and on Black Mountain. It has also been observed

that the Caper white flies to areas where there is no food for its caterpillars. The caterpillars eat plants belonging to the Caper family (eg Caper bushes and Warrior bushes - not found in the Southern Tablelands). Wasps and flies can eat the eggs and emerging caterpillars and birds eat the emerging butterflies.

Australian Painted Lady



Orange and brown patterned wings with white spots on upper edges and blue eye spots on the hind wings. They only live for around 53 days over summer. They are found in urban areas of NSW. Migration seen in spring in large numbers for up to 8 weeks heading south and west. Numbers are often higher when there has been high winter rainfall. Smaller numbers return northwards in autumn. Caterpillars feed on native everlasting daisies - plenty of these at STEP - *Xerochrysum*, *Ammobium* and

Leucochrysum in open grassland vegetation zone (H) It also feeds on Capeweed. Male butterflies are territorial. To find mates, they perch in a sunny spot on a hilltop in their territory and wait for females to fly by.

Common brown butterfly

Females have orange and brown patterned wings. Males look quite different with solid areas of orange and brown and have cream coloured markings on their upper wings. When these butterflies land they frequently close their wings and merge with their background as the undersides of their wings are grey-brown. They live in urban areas, forests and woodlands. Adults appear in November and December and mate with the males dying shortly afterwards. If the summer is very hot the females aestivate in cool places and delay laying eggs until the autumn. Eggs are laid on both native and introduced grasses and the caterpillars feed on these. The species was first recorded by Banks and Solander at Botany Bay on Cook's first voyage to Australia in 1770. This butterfly has been used in studies over 65 years to show the effects of man-made climate change. This species has been shown to emerge in spring significantly earlier now than in previous times.



Above, the Common Brown Butterfly

Common Grass Blue Butterfly

Small butterfly that is pale blue (sometimes so pale that it looks creamish brown) on its upper wings and creamish fawn on the undersides of the wings. The edges of the wings are delicately frilled and the undersides have bands of spots looking like lace. Found in gardens and fields. Eggs are laid on members of the Fabaceae family - native pea plants (eg *Cullen*, *Hardenbergia*, *Indigofera*, *Pultenea*) and clovers. One of the most common butterflies in Australia. Larvae (caterpillars) can be carnivorous cannibals if the larvae are so prolific that the food plants are all consumed. This butterfly does not migrate.



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STEP acknowledges the support of the following corporate members



Accountants and business advisors, Deakin ACT



Tom's Superfruits Store, Belconnen Markets, Belconnen ACT



Morgans in Alliance with CIMB, Sharebrokers and financial advisers, Deakin ACT



Heavy Equipment Repairers of Mudgee NSW, Leinster and Karratha WA

Common White Butterfly



This is an introduced species and is a pest on brassica (cabbage type) crops. It was first recorded in Australia in 1937. It is white with small black spots and black wing tips. Two species of wasps have been used as biological control agents and native wasps and fly parasites also prey on the larvae helping to reduce their numbers.

Other butterflies that could be seen are the Ringed xenica (brown with circular markings on the wings) and the yellow admiral (black and brown with cream coloured patches on its wings) both of which are shown below.



These butterflies and many more Birds, Butterflies, Bees, Bugs and Beetles can be discovered on the Arboretum Guides' 5B's STEP walks in December on Saturdays at 2pm and Sundays at 10am. Walks start from the Visitor Centre.

Article and photos by Jennie Widdowson

Euroa Arboretum and Indigenous Nursery, well worth a visit



Adjacent to the Hume Highway at the southern entrance to Euroa is the Euroa Arboretum. Janet and I stopped there on our way home from Melbourne recently and we thoroughly recommend a visit. Euroa is five hours drive from Canberra and about two hours from Melbourne.

The Arboretum is on a 27-hectare site. Previously used for farming, it then became a heavily compacted work site during the Hume Highway duplication phase. A group of locals persuaded VicRoads to make the site available as a local parkland when the construction work was completed. Excavation on the site allowed the formation of a large dam. This has been stocked with fish and fishing is permitted (with licences). Canoeing is another option.

Set up through a dedicated Committee of Management, a Friends Group and willing volunteers much has been achieved over roughly a twenty-year period. Working on the theme "Growing Back

the Bush” mass plantings are used as a seed source for local revegetation work. This is a community project staffed and is run by volunteers.



Facilities include a picnic shelter with drinking water, public toilets, two kilometres of walking tracks and car parking. There are quite large sections of elevated steel walkways which allow easy crossing of wetland areas.

On site propagation facilities include a large shadehouse and other buildings. The plant list on their website lists a total of 160 species that are grown. These are listed under a series of categories such as trees (30) understory shrubs (60) wildflowers and lilies (30) groundcover, herbs and climbers (16) aquatic plants (9) grasses and sedges (16). Tens of thousands of plants are grown for revegetation work. These plants are local to this area from the Strathbogie Ranges to the plains to the west of Euroa. The nursery is open to the public on Mondays. Their website also states they have a Bush Crew for hire.



Sculptured steelwork provides another highlight as shown on the left. This is one (which is near the entrance) of several examples. I understand there is another set near the picnic shelter. The grasstree is used as a logo for the Arboretum.

Their website is www.euroaarboretum.com.au



Jacksonia sp.

Cheiranthra cyanea, Finger Flower

Photos and text by Andy Russell

A thank you to Sue Genner for her work on the recent newsletters.

Welcome to new members, S Ritchie, M Oppen, W Kelman and C Kounnas

The picnic lunch which followed the 2016 AGM

A pictorial essay



Janet, Ross, Majvi and Jennie



The group



The group



Terry and Judy



Terry and Judy, Janet and Jennie



Jens, Ray and David

Photos above by Andy Russell, this newsletter was edited by Andy Russell

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