

STEP News No.7

October 2009



STEP Events Calendar

October 2009

Every Thursday morning in Oct from 8 to 11.30 am
Working Bee and morning tea on the STEP site at the
Arboretum.

Special events in October:

- 24 October - Friends of the Grasslands and Friends of the
Aranda Bushland visit STEP site 2.30 to 4.00 pm
- 31 October - Working Bee with FOG to plant Block 100
8am - 3pm. Come and help for a couple of hours or stay
all day and have a delicious lunch.

November 2009

Every Thursday morning in November from 8 to 11.30am at
the Working Bees and morning tea on the STEP site at the
Arboretum.

**STEP AGM 2009 will be held at the Cottage on the
events terrace at the Arboretum on Saturday
7 November 2009 from 5-7 pm.**

The STEP Annual Report, the notice for a Special Meeting and
the AGM Agenda are on pages 9,10&11 of this newsletter.

**Max Bourke will give a talk on Arboreta of the World on
Nov 7 after the AGM.**

Why not come along to a STEP working bee?

We are enjoying our first spring. Planting and planning ecosys-
tem highlights for Block 100 are in full swing. At the beginning
of October we established a routine that we follow each week
and will continue until the weather gets too hot, in mid
December. Each Thursday morning we meet on the STEP site at
8am. See box on this page for details.



Volunteers from Conservation Volunteers Australia, ACT Branch and STEP members enjoying a break during a
STEP working bee in May 2009. **[Story on Page 5.]**

Geology, Soil and Water Flows: digging into the Soil Survey for the STEP site.

By the STEP Reporter

Mt Painter is a few kilometres to the north west.

STEP Block 100



There are 16 hectares of endangered Yellow Box Woodland adjacent to the STEP site.

Google Map

showing a large area of the Canberra International Arboretum and Gardens.

Peter Fogarty, a certified professional soil scientist, was engaged by the ACT Government in 2005 to undertake a soil survey and evaluation of the 250 hectares comprising the Canberra International Arboretum and Gardens. (Fogarty, P. Soil Survey Canberra International Arboretum and Gardens. November 2005). The report contains valuable information about water flow, water retention and soil properties for the STEP project. Two out of the fifty one soil samples forming the basis for the Soil Survey results were taken on Block 100 — the STEP Site.

Fogarty's report relied on earlier work by Abell (Abell, R. Geology of the Canberra Region 1:100,000 Sheet. Bureau of Mineral Resources. 1990) for the geological history of this area of Canberra Region. Abell suggested that the Green Hills area (as this site was previously known) is part of the Mt Painter acid volcanics, a geological unit formed during a period of sub aerial volcanic eruptions during the Silurian era, about 438 million years ago. Fogarty argues that the strong red colours in much of the soil at CIAG are caused by the deposit of a single thick layer of magma that flowed from these eruptions. (Ed. A sub aerial eruption occurs beneath the sky, in the open air; and in geological usage, the word means taking place on the earth's surface, as opposed to subaqueous (under water) eruptions). Fogarty suggested that the uniformity of the parent geology from which the soils on the CIAG site are derived means that the soil distribution is not complex.

Fogarty's results suggest that there were five distinct Soil Units within the CIAG site : in Soil Units 1- 4 geology and

terrain exert a strong influence on soil distribution and soil properties. However, in the case of the samples that compromised Soil Unit 5, the soil properties differ. Fogarty suggests twelve percent of the CIAG site, including the area in which the STEP Block is, fitted the profile for Unit 5 soil distribution and soil properties.

Fogarty suggests that the soil properties in Unit 5 locations result from deposits of soil and organic material flowing in water and are derived principally from hillside erosion. In these zones drainage is prone to shallow flood flows following major rainfall events and low lying areas of the terrain are likely to remain waterlogged for periods of weeks after rainfall events. These areas are known as the convergent zones of the landscape.

The excess water drains slowly down the valley in the upper more permeable soil layers. The Soil Survey observations about soil stability for Unit 5 locations where the soil was exposed to rainfall and run off indicate that the soil is coherent and generally stable.

A reminder that STEP Membership subs are now due for 2009 / 2010.

Please send your subscription to:

STEP Membership Officer
PO Box 987 Civic 2609

Please include membership form: see back page of this newsletter.

Geology, Soil and Water Flows: digging into the Soil Survey for the STEP site.

By the STEP Reporter

Cont'd from page 2

This information is useful in view of the decision to create a small ephemeral wetland at the lowest point on the STEP site and to create a chain of tiny collection areas down to the wetland. It is also encouraging the Committee to develop a water flow management system on the site as an essential element important for this type of terrain.

Three tables below summary of some of the analytical data presented in more detail in Fogarty's work.

Table 1

Soil unit 5. *Distribution and Properties*

Occurrence: A minor unit (32ha) scattered throughout the site.

Geology	Alluvial sediments derived principally from hill slope erosion.
Terrain slope	Alluvial flats formed in areas of convergent form with small catchment areas, non-channelled.
Drainage	Prone to shallow flood flows following major rainfall events. Remain water logged for periods of weeks after rainfall events.
Soils	Bleached mottled yellow chromosol.

Table 2

Soil Morphological Properties	Soil Sample 22, taken from STEP site ¹
Soil Type	Bleached mottled yellow chromosol .
Depth	1.3 metres + (one of the deepest sites on CIAG sites)
Texture	Fine sandy loam top layer and light clay in lower layer.
Moisture	Moist
Consistency	Firm
PAWC ¹	High (1720) (Refers to capacity associated with Fine Light Sandy Clay Scale 1- 190).

¹ PAWC refers to Plant Available Water Capacity

Articles for the next STEP Newsletter

If you have an article you would like to contribute to the next Newsletter please send it to: limestone@grapevine.com.au



Photo above: The STEP Banner on the water tank at the south eastern corner of the STEP site. (Courtesy of Geoff Robertson).

The STEP banner was commissioned by STEP this year for the CIAG open day. It was designed by Laini Shorthouse. It was used as the backdrop the media to photograph behind the speaker's lecture. Now it has become a permanent sign on Block 100.

Table 3

Analytical Results for Unit 5 Soil Properties

1. Due to limited distribution of Unit 5, two sites were sampled to provide a representation of analytical properties.

2. Topsoil pH is slightly acidic and subsoils neutral to slightly alkaline. The soils have a low cation exchange capacity in the top soil and upper sub soil. (Cation exchange capacity (CEC) is a useful indicator of soil fertility because it shows the soil's ability to supply three important plant nutrients: calcium, magnesium and potassium).

3. Organic carbon is low in the topsoil, and corresponds with observation that the organic rich A1 horizon¹¹ has been lost due to combined impact of site preparation for pine planting, and the earlier bush fires. The level of nutrients is low to very low in the top soil and very low in the subsoil.

¹¹ Refers to top layer of soil to about 0.300 metres.

Bulbine lillies and everlasting daisies on STEP Block

The spikes of the Bulbine Lily began to appear in the STEP garden in late September. Their yellow flowers are just visible so they are right on time. Seeds for local wild flowers and grasses were embedded in the covering of mulch that CIAG spread for us in June 2009. We are expecting lots of surprises to appear now that the wet spring weather has arrived. Our working bees are targeting the removal of broad leaved exotics and the crop of wild oats invading the site.

A Report on the STEP Wetland Project

by David Shorthouse and Cathy Robertson

In July this year, STEP members Cathy Robertson, David Shorthouse and Warren Saunders met on site with Chris Johnson from Cullity, Lathlean and Taylor and members of the CIAG Project Team to discuss a diagram for the construction of the ephemeral wetland drawn up by Chris Johnson. Later STEP representatives met with the Arboretum Project Team to simplify the Architect's design by splitting the wetland construction away from the construction of the service road and the culverts. STEP saw this as a way to expedite and simplify the tasks needed to construct the wetland to ensure it is built before summer 2009.



View of progress at STEP Wetland September 2009

Meanwhile Warren Saunders, from Seeds and Plants Australia, identified the water flow patterns on the site after rainfall. Most importantly Warren marked the line of the creek and the locations for a chain of tiny ponds, or water collection points, for slowing down the water flow along the creek lines on the site, to ensure a gentle flow of water into the wetland at the lowest collection point, next to the service road. STEP has placed small stones along the creek line to provide a drainage line. David Shorthouse has simplified the dimensions for the wetland to 45 metres long, 5 metres wide and 0.2 – 0.65 metres deep from the shallowest to deepest point.

On 28 August the Arboretum curator, Adam Burgess, arranged the first stage of the wetland. An excavator operated by a skilled driver worked with David Shorthouse to scrape the site and form the shape needed for the wetland. A roughly rectangular-shaped free form area that blends in with the natural slope of the STEP Block was created. In the base of the wetland, topsoil was removed to a depth of 200mm deep and then the area was excavated a further 200 mm to create a container with an undulating surface creating various depths for the wetland plants. The total excavation to provide a 500mm deep depression is approximately 400mm from the existing surface level. The result of the o

excavation work is a small wetland with an organic shape that looks as natural as possible. At a later date, four shallow scapes were excavated along the creek line and some minor alterations to the wetland edge were made using a small, tracked scraper.

In early September, the wetland was micro-shaped to ensure water flows in the right direction. There are now a series of small ponds along the base of the wetland.

Rocks delivered courtesy of the Arboretum have been located to form pleasant groups, sitting places for visitors to the wetland and border markers along the track next to the STEP forest. It is not possible to do much work along the road side until the road construction is completed. The existing maintenance service track along the western boundary of the STEP Block will need to be raised. The reason for the length of raised track is so it meets the existing contours at either end and allows the positioning of a culvert to drain excess water from the wetland.

When this section of road is raised it will create part of the dam for the western side of the wetland. No date has been scheduled for the roadwork at this stage.

STEP volunteers have commenced planting sedges and grasses along the sides of the wetland. The creek lines and the four tiny ponds along the creek lines have been planted. STEP volunteers have also done some chemical weed control with back-packs and some hand weeding to clear the broad leafed weeds from around the wetland and down the creek line.

There are still a few issues to be addressed to finish this stage of the wetland. Firstly, the Irrigation System on the STEP site is not yet operational and this will need to be ready for summer 2009/10. There are a few broken pieces of pipe that need fixing. The wetland plants may need some water to establish them this summer. Secondly, it is necessary to keep the trucks off the wetland site in this period until the service road and the culverts are built.

Photo of STEP wetland October 2009

By Jenny Andrews, STEP member and Secretary of Friends of Aranda Bushland.

Volunteers from Conservation Volunteers Australia come to work on the STEP project, May 2009.

Clare, Jasmine and Hadda are three young women in their late twenties who were travelling with Conservation Volunteers Australia (CVA) in May 2009. **Clare** is from Taipei, Taiwan where she is a sales representative with a manufacturing company that exports sewing machines and white goods to India, Israel and many other countries. When Clare finishes the program in Australia, she will travel to join CV programs in the USA and New Zealand. **Jasmine** is Australian. She grew up in Tasmania and has studied acupuncture and aromatherapy. She is interested in growing and understanding the uses of Australian plants. She hopes her journey around Australia will bring her into contact with local plants for bush tucker and bush medicines. She wishes to meet knowledgeable like minded people who can support her interest.

Hadda is an occupational therapist and works for a health organisation in Israel. Before coming to Australia, she had completed another conservation program with Conservation Volunteers in India.

After some hard work at the STEP working bee on a lovely Saturday in May, seven tired conservation volunteers went home to their CVA Guest House in Ainslie for a well deserved rest and some food. After dinner, a smaller group of three set out on foot to walk to Limestone Ave, for tea and a chat. It was a great night to be with a group of international travellers because the semi finals for the 54th Eurovision Song Contest was on TV. As everyone knows, this contest can be simply hilarious. When the girls arrived, we quickly made our introductions and then all of us plonked down on the living room floor in front of the TV to watch and chat.

We were not disappointed. Groups of hopefuls from Moldova, Hungary, Norway, Greece and Turkey, Romania, Sweden etc. gave us examples of mad hair, crazy clothes, really bad taste and worse music. Over a strine cuppa, drinking water became a topic of international comparison. Israel's representative announced that although Israel exports effective technology for purifying drinking water, this has not been introduced for home consumption: Israeli gardens are dying and water restrictions are tough. Climate change has reduced Israeli rainfall to record lows. Housing is unaffordable for young people and so they spend a lot of money on lifestyle and personal toilet, tending to undermine environmental conditions.

Clare, from Taiwan joined in with information indicating that Taiwan has a problem with drinking water too. She said that it is not possible for the Taiwanese to drink the water from their taps. So in Taiwan, water purifiers are used for all domestic consumption, whilst home water tanks store water collected specifically for garden usage.

Our discussion moved from the general discussion about global issues like water, to focus on the goals that these young women were pursuing through their travel and work with CVA. Jasmine explained that she wants to work on conservation projects that will give her new knowledge about collecting seeds, germination, growing and harvesting plants and learning about their medicinal and culinary uses. She explained that she can't decide whether she is more interested in growing and harvesting than in the production of native herbs and vegetables. She was very interested in examining and describing the eucalyptus flowers and gumnuts in the vase on my coffee table.

Hadda is interested in becoming a successful business woman with a focus on occupational therapy and using new methods that involve outdoor therapy. She would like to start a practice of this type that would involve social work, probation, mental health, educational psychology and occupational therapy programs. However there is little supervision or accreditation available for this type of practice. By travelling with conservation volunteers, she is recharging her own energy levels, having time to reflect on her aspirations and developing ideas and skills for an outdoor therapy program that would bring her patients in contact with sustainable practices and a new healthy life style.

Clare is interested in being a business woman in the Real Estate industry. When she finishes her year of travel she hopes to join with her cousin in a partnership to launch a real estate company in Taiwan. Judging by her interest in the environment, she hopes to bring some effective strategies for sustainable living and sustainable housing as a result of her travels.

STEP wishes to recognise Conservation Volunteers Australia ACT Office for their support and looks forward to more opportunities to work in partnership in the future.

Winners — Australian Tourism Awards for Excellence

Conservation Volunteers Australia and NSW National Parks & Wildlife Service were awarded the 2008 Australian Tourism Award, Ecotourism Category for the [Montague Island](#) Nature wise program. This is the second consecutive Australian Tourism Award win for this fantastic conservation tourism partnership. Conservation Volunteers Australia was also recognised as a finalist in the Sustainable Tourism Award category. The award recognition is a testimony to the significant role tourism can play in conservation.

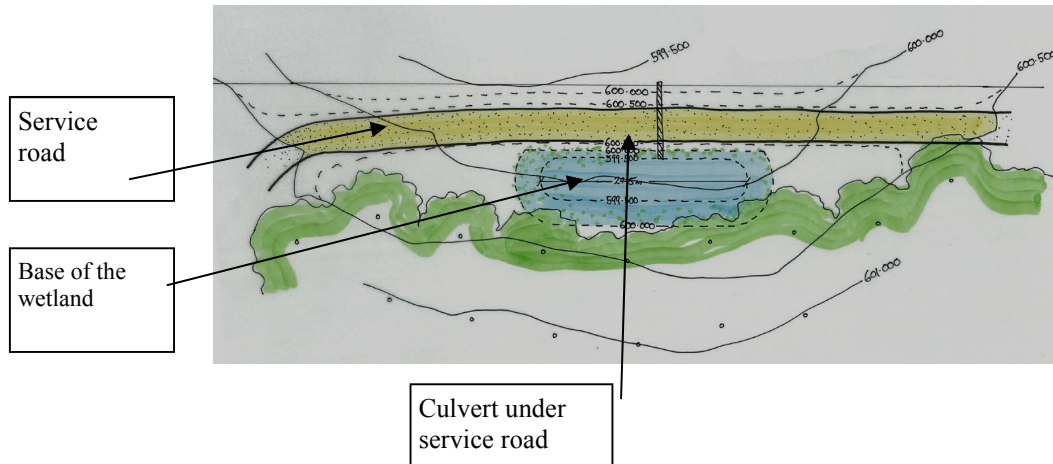
For more information go to:

<http://www.conservationvolunteers.com.au>

The photo on the front cover of this issue shows a group from Conservation Volunteers Australia and STEP members together on the STEP site in May 2009.

Water Flows into STEP Ephemeral Wetland

By Willie and Winnie Woodduck



A diagram of the STEP Ephemeral Wetland.

Prepared by the CIAG Architects. The diagram shows service road and the proposed road culvert.

The purpose of creating the STEP Ephemeral Wetland is to attract birds, native fish, frogs, insects and small reptiles, such as skinks and blue tongue lizards to the STEP site. When completed, the wetland is intended to be an ongoing sustainable habitat for small wild life, with temporary surface water storage, intermittent water flows, a rockery, and plantings of small shrubs, grasses and reeds. It will be small and compact in size but it should still be very effective as a habitat area.

The ephemeral wetland is an important stage in the STEP project and to ensure its success we need to have ongoing management of the water flows on the STEP site. We are supporting a living experiment to develop a better understanding of water management systems that might occur naturally in the Australian landscape.

A wetland ecosystem is described in the literature as land inundated with temporary or permanent water that is usually slow moving or stationary, shallow, can be fresh or, brackish or saline, and where the inundation affects the plant and animal communities and the type and productivity of soil. Perhaps the best known example of an ephemeral wetland in the Southern Tablelands region is Lake George. Lake George has an evaporation rate three times that of its precipitation rates, and it is only in periods of above average rainfall when creeks fill and empty into the Lake, that the Lake fills.

On the STEP site, we have already observed water lying in shallow pools at the lowest part of the site, but lasting no more than a week or so. The pools are filled by run off from the higher areas of the site, after light rain falls in the spring and autumn.

The temporary nature of these pools fits the definition of an ephemeral wetland: they are short lived, temporary and impermanent. However, exactly how often and how long the pools of water will remain will be interesting — and a subject for monitoring and keeping records.

We have also noticed a series of such events, over the last 24 months or so, and believe there is a distinct pattern of occurrence. We expect this will change over time, as the planting of the STEP Block progresses and we introduce more contouring across the site using small rocks, mulch and understory plantings of shrubs and grasses.

The tree planting and the thick layer of mulch impregnated with grasses and the wild flower seed that we have planted on the STEP site is already changing the way that the water moves across the site. Warren Saunders has identified the narrow, distinct drainage lines running down the slope of the site. As mentioned previously he also identified additional sites for a chain of tiny ponds where water collects before moving more slowly down to the next level on the site.

At our Thursday morning working bees, we have begun to line the channels where the water flows with stones and plants. For example, we have planted *Poa labillardieri* - Large Tussock Grass along the banks of the wetland. *Poa* Lab is an attractive large tussock grass with grey-green leaves to 80cm high and wide. This is a very hardy perennial, accepting most conditions including wet areas, frost down to around minus

7°C and dry periods. It is suitable for this site because it prefers full sun. Its plum-like flower heads is attractive to birds and butterflies. We have planted a Southern Tablelands local race (germinated from seeds collected by Seeds and Plants Australia). We expect it will be attractive and hardy and is suitable for use not only along the channels and borders, but in pond gardens as well. We have also planted *Lomandra longifolia*, *Juncus* spp. and sedges such as *Carex* spp. We are planning to develop a number of different ecosystem types on the STEP site. With time, we hope these ecosystems will become habitats for a diverse range of living organisms to interact with their immediate physical, chemical and biological environment. It is part of the STEP vision to develop a site for all the major ecosystem types including grasslands, woodlands, forests and wetlands.

Thirty year old seeds successfully germinated for the STEP forest.

STEP recently visited Sarah Fethers, the Seed Bank Manager at the Australian National Botanic Gardens (ANBG) to interview her about the germination process, and the provenance of 40 *E. delegatensis* seeds, that the Seed Bank has agreed to germinate for STEP.

The Seed Bank is one part of the Living Collection of the ANBG. The ANBG is currently the custodian of one of the largest collections (in terms of species) of seed of Australian native species with about 4,500 accessions from 2,300 taxa. It houses its own collection of seeds of threatened species which acts as a form of ex situ conservation, for the preservation and reintroduction of threatened species. The Seed Bank consists of a fully equipped laboratory, a drying, cleaning and packaging area and a freezer (minus 18 °C) for seed storage.

It supplies seed for approved projects at other botanic gardens, universities and similar institutions. It does not supply to private individuals.

Sarah explained that seed banks are increasingly being seen as an important conservation tool for maintaining the diversity of the Australian Flora. Large quantities of genetic material can be stored in a very small space in a seed bank. She said that this can be demonstrated by comparing the amount of space taken up by 10 *Eucalyptus* seeds with 10 *Eucalyptus* trees. Seeds can be stored for very long periods of time if the conditions are suitable. Seed provides genetic diversity not found in cloned material (cuttings).

She said that many plants cannot be propagated from cuttings and must be propagated from seed. Emphasis is placed on threatened species. There are two main types of seeds based on their storage characteristics. Orthodox seeds which can be dried and stored frozen. Recalcitrant seeds are those which cannot tolerate severe dehydration and so cannot be preserved using these traditional methods. The ANBG Seed Bank only stores orthodox seed. Sarah said: "In January 2009, STEP requested forty seedlings of *E. delegatensis*. We have successfully grown twenty. The seeds were sown on the 20/01/09 and spent the first 10 weeks in cold stratification - darkness, moisture & experiencing temperatures of between 2- 4 degrees Celsius." She said that during this period, the seeds were placed in petrie dishes with towelling/filter paper/seed/filter paper on top and each petrie dish then covered with aluminium foil to exclude light. The only time the seeds experienced light was when moisture/contamination levels were checked fortnightly. Sarah said that on the 31/3/09 the seeds of the three collections were placed onto agar and placed in incubators with diurnal temperatures of 15- 8°C and 25 - 10°C and 12 hours light & 12 hrs dark.

Interestingly the success rate was equal in both alternating temperatures. However, one collection failed to germinate and seeds, although full, were soft, and so they were discarded." On 15 September the seedlings were put into 40 mm tubes. See photo, below.

Sarah also provided information about the provenance for the germinated seeds, extracted from the Australian National Herbarium database. The ten seedlings germinated from the first collection were collected by Helen Thompson & Peter Ollerenshaw on the 29th Oct 1986. The locality for this seed collection was the Brindabella Range, 11.7km from Piccadilly Circus towards Mt. Franklin. The seed was collected from tall open forest; other vegetation present was *Eucalyptus fastigata*, *Daviesia mimosoides* and *Senecio* sp. The tree from which these seeds were collected was approx 19m in height.

The ten seedlings germinated from seeds in the second collection were collected by R. Jackson & T. Macartney - Snipe on the 25th January 1979. These seeds are thirty years old. The locality for this seed collection was the Brindabella Range, 1km SE of Bull's Head Chalet on Bendora Road. The tree from which these seeds were collected was about 30m high.

For information about obtaining seed from the ANBG see <http://www.anbg.gov.au/anbg/permits/plant-release/>. Applications for seed of species listed as threatened under the EPBC Act are assessed separately at <http://www.deh.gov.au/epbc/permits/species/index.html>.



***Eucalyptus delegatensis*.**

The tree of the month.

This splendid tree is named after the town of Delegate which is a little border town with a population of only 450 people in the south east corner of New South Wales. To get to Delegate you take a partially dirt road from Bom-bala. The road runs through Delegate and continues to Orbost in Victoria's East Gippsland. According to the locals, the road has changed little since it was established by a number of explorers who moved through the area looking for suitable grazing land and bringing herds of cattle into the fertile plains of East Gippsland in the 1840's.

The common name for *E. delegatensis* is Alpine Ash. It grows from 15 to 90 metres tall.. It has rough bark which is brown to dark grey in colour persistent on the lower half of the trunk. In other parts of the trunk the bark is smooth, grey, sometimes with insect scribbles. It loses bark in long strips in late summer and autumn, revealing creamy white new bark. The branches are spreading to ascending. The tree has white pendulous flowers.

E. delegatensis usually occurs at relatively high altitude, about 900 – 1500 m above sea level. The Brindabella and Juana Ranges are its most northern occurrence. It extends to eastern Victoria and is common over a wide area of Tasmania. Plants are found where there is deep, moist well drained soils through out the year. Flowers produce much pollen and a heavy nectar flow, resulting in a very strong flavoured honey. It is one of Australia's most important commercial timber trees, with yellow brown to pink brown timber that is used widely in the building industry.

Germination of *E. delegatensis* seeds in wild fire.

Information in this article about the impact of fire on the germination of *delegatensis* seeds has been provided to STEP by Sarah Fethers, ANBG. She reports that most of the adult trees of *E. delegatensis* survive even severe fires, although there can be considerable later mortality associated with mechanical failure of the base of the trunk. Butt damage is common and is related to the presence of large fuel accumulations near the base of the tree. The marked increase in bark thickness with height is due to the

development of a rough fibrous bark which replaces the smooth thin bark at the base of the taller stem. The thicker bark appears to give protection to the cambium of the taller plants with undamaged crowns and also protects the basal epicormic buds of the defoliated saplings. Understorey saplings and seedlings are extremely fire sensitive. The poor recovery of fire damaged *E. dele-*



gatensis seedlings and saplings is in marked contrast to that of lignotuberous Eucalypts. *E. delegatensis* is non-lignotuberous. Lignotubers occur in some but not all Eucalyptus species. Lignotubers are a woody swelling, partly or fully underground and have been shown to contain a mass of vegetative buds and substantial energy reserves. Species that possess lignotubers are often those tolerant to fire, drought and defoliation. Those species that do not produce lignotubers are usually prolific seed producers and survive such disasters as fire with massive seedling regeneration.

Research has shown that basal re-sprouts are epicormic buds protected from lethal temperatures by soil surrounding the base of the stem. Such subterranean epicormic buds also account for most of the recovery after fire of suppressed *E. delegatensis* regeneration. Fire produces a suitable seed bed for the establishment of germinates to replace the last generation. However because of the robust nature of the mature *E delegatensis*, only a few germinates which have become saplings could escape death in the next fire and therefore have a chance of continuing their growth into the over storey.

***Petaurus australis*—Yellow Bellied Glider**

There is endangered population of the Yellow-bellied Glider on the Bago Plateau; a westward extension of the Kosciuszko highlands in southern New South Wales.

Habitat and ecology

- Lives in a den, often in family groups of two - six individuals , in hollows of large trees.
- Its habitat on the Bago Plateau consists of tall wet sclerophyll forest dominated by *Eucalyptus delegatensis* (Alpine Ash), *E. dalrympleana* (Mountain Gum), *E. radiata* (Narrow-leaved Peppermint) and *E. rubida* (Candlebark).
- Feeds primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein.
- Extracts sap by incising (or biting into) the trunks and branches of favoured food trees, often leaving a distinctive 'V'-shaped scar.
- Very mobile and occupies large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources.



back STEP news

May 2009, some of the STEP gang at the recycled table in spring 2009 thanks to the Chief Minister. Photo: left to right Tony Lawson; Lainie Shorthouse and David Shorthouse.

May 2009, STEP's proposal to maintain Arboretum Blocks 32, 33 and 34 as a natural woodland was discussed with the CIAG team. Afterwards it was agreed not to plant new forests with rare/threatened Australian species. STEP strongly recommended that there be no disturbance to these sites and that clearing and new planting should not go ahead. After a meeting on site it was agreed to manage the grasses and existing trees on Blocks 32, 33 and 34 and weed out exotic woody weeds.

June 2009, Seeds and Plants Australia Warren Saunders supplied a seed mixture of local grasses and wild flowers to combine with mulch and spread over the entire STEP site.

October 2009, STEP began to plan the management of the weeds on the site

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Photo: Margaret Ning weed spraying in October 2009

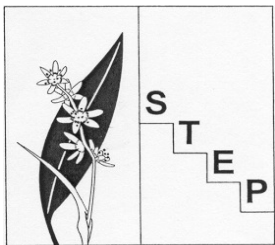
STEP is continuing with linking of Block 100 with adjacent woodland. As part of the public consultation on plans for the Molonglo valley, STEP proposed to ACTPLA and the NCA that the woodland block be added to the Arboretum or otherwise protected for its woodland values. The ACT Territory Plan, as now amended to provide for the new development in the Molonglo valley, shows this block as being retained in its natural state and not developed for housing. STEP wrote to the Minister proposing the block be incorporated into the Arboretum and/or that it be managed as a partnership between STEP and Parks Conservation and Lands. The Chief Minister responded in his letter of 1 April 2009) saying *"that the Government will work with STEP to seek the incorporation of the adjacent Yellow Box – red Gum remnant woodland into the STEP forest"*. STEP does not seek to gain ownership of the block, rather it would prefer to see the land managed in sympathy with the Arboretum generally, and with STEP's objectives for Block 100 in particular. At a meeting with Chief Minister's Department in June 2009, STEP proposed a series of measures including:

- Identify the boundaries of the block to be protected.
- Issue 'Conservator's Directions' on the lessee that reduce grazing pressure, and prevent felling of trees, removal of understorey or other actions that would cause deterioration of the woodland.
- Negotiate with the lessee for an agreement to fence the woodland block. N.B. Issuing Conservator's Directions may not be necessary if the lessee agrees to have the woodland fenced by the ACT Government
- ACTPLA withdraw the block from the current leasing arrangements.
- STEP, CIAG and Parks, Conservation and Lands meet to develop management actions (e.g. woody weed control, grazing, replacing fallen timber, signage).
- STEP undertake such tasks as are within the capacity of its members (e.g. woody weed control).

Discussions have been proceeding between TAMS and the Lease holder. As at October 2009, there are no outcomes to report. STEP is hopeful that progress will occur by the end of 2009.

Directions to the STEP AGM and the STEP Site

The main entrance to the Canberra International Arboretum and Gardens is at the end of Lady Denman Drive through the Tuggeranong Parkway underpass. If you are traveling along Lady Denman Drive from the city, turn right at the traffic lights before Barrenjoey Drive and continue straight ahead under the Tuggeranong Parkway overpass. The entry is straight ahead. For a map, see grid reference B6 on map 58 in the Canberra Yellow Pages, or [this link](#) for Google Maps.



Southern Tablelands Ecosystems Park - a future regional botanic garden, education and ecosystem recovery centre for the Southern Tablelands.

ABN: 60834573059

Postal Address: PO Box 987, Civic Square, ACT 2611.

Website: www.step.asn

Notice of Annual General Meeting 2009

The STEP AGM will be held on Saturday 7 November 2009 from 5.00 – 7.00 pm at the CIAG Board Room on site at CIAG (see Directions for how to find venue in box on page 9.)

AGM Agenda Welcome

Apologies

Minutes of the 2008 AGM

Committee Report (see page 11)

Financial Statement and Auditor's Report

Interruption to AGM to consider the business of the Special Meeting

Motions on notice for the **SPECIAL MEETING** are set out below.

Elections of Office Bearers

Election of Office Bearers for the positions of:

President

Vice President

Secretary

Treasurer

2 – 3 Committee Members

Nominations for these positions will be called at the meeting.

Notice of Special STEP Meeting on 7 November 2009

The Special meeting will consider the following motions that are proposed to members by the STEP committee.

Notice of motions:

1. That the STEP Committee continue with its work to construct the STEP Botanic Garden and Ecosystem Recovery Centre within the Canberra International Arboretum and Gardens (CIAG) Project.

2. That STEP continue to liaise with TAMS and the Chief Minister's Department to seek the inclusion of the small area of natural woodland and disturbed grassland that currently lies adjacent to Block 100 as part of CIAG and under the management of STEP inc.

3. That the following rule change to the STEP Constitution and Rules be made:

Parts 4 and 5 (Rules 17 – 35) of the STEP Inc Constitution (2004) be deleted and that Part 1.3 Committee and Part 1.4 from ACT Incorporated Associations ACT 1991 Schedule 1: The Model Rules be inserted into Part 4 and Part 5 with the appropriate numbering.

4. That the AGM endorse the STEP Committee decision to increase the \$10.00 membership fee for family and individual members to \$20.00 for 2010–2011 financial year, effective from April 2010.

All members and non members welcome. Light refreshments will be provided.

Guest speaker at the STEP 2009 AGM

STEP is very pleased to welcome, Max Bourke as our guest speaker this year at the AGM.

He will give a talk to the Southern Tablelands Ecosystems Park (STEP) on 'The History of Arboreta'. Arboreta began to be developed as scientific/educational/recreational facilities in the early nineteenth century. They are different to botanical parks and gardens in some respects and their creation has usually been linked to studying the way in which, predominantly, trees "perform" under differing climates and soil types. His talk traces their history from Europe to Australia with illustrations of many and how they were, and are being formed.

Max worked as a jackaroo and farm hand while going through agricultural studies, then spent time working as a grassland agronomist with the NSW Dept of Agriculture and CSIRO Division of Plant Industry. After which followed a diverse career as an ABC Science Broadcaster, senior public servant (CEO of both the Australian Heritage Commission and the Council for the Arts), followed by 12 years in the world of large scale commercial farming. He now manages a large philanthropic foundation which invests in biodiversity conservation, and sits on the Boards of The Nature Conservancy, The Australian Environmental Grantmakers Network and the Myer Foundation Environment Committee. He has worked in the private not for profit sector for much of his life and was awarded the AM for contributions to Australia's cultural heritage.

Report to Members - October 2009

Progress with establishing the STEP vision and values within the precincts of the Canberra Arboretum and Gardens has been very good in 2009. The milestones that STEP has achieved in 2008/2009 are presented in the summary on this page.

This year the Committee has four motions for members to vote on. In support of these motions (the motions are in the agenda for the Special meeting on page 10) the Committee has prepared the following reasoning for each one.

Motion 1: This motion simply seeks endorsement from the AGM for the STEP committee to continue with its current goal of establish the STEP garden within the precincts of the International Arboretum.

Motion 2: This motion seeks endorsement from the AGM for the STEP committee to continue its current goal of acquiring the grassland and woodland on the edge of the Arboretum.

Motion 3 : This motion is a relatively small change to the STEP rules (constitution). Essentially it allows committee members to continue on the committee after serving five years. Optimistically the current long-serving committee members considered that after five years others would take up the cudgel. Unfortunately, they were a little optimistic. This motion would enable the current President, Secretary and Treasurer to continue on the committee after having served five years. Second, quorums at committee meetings and general meetings committee are higher than required for the model rules. The higher quorums in the STEP rules were again a little optimistic and have required us to cancel the occasional meeting. The changes would bring the STEP rules in line with the model rules.

Motion 4: This would lift membership fees from a very modest \$10 to a modest \$20. This would help STEP financially until it is on a more viable footing.



Membership: 54 financial members at the end of June 2009

Financial position: 1 July 2009 Credit at Bank 1099.21

Incorporation: A current certificate of Incorporation was issued on 14 November 2004.

Public Officer: Mr Andrew Russell, STEP Public Officer has ensured that the Registrar of Public Associations has received notice of the STEP Office Bearers and audited statements of the accounts as required.

STEP Accounts : The accounts have been audited by Harwicke's Chartered Accountants. (A copy will be available at the meeting).

Insurance Policy: STEP has a current Insurance Policy covering its activities.

STEP Newsletter: The STEP newsletter was distributed to members in February, April and October 2009.

STEP Website: The STEP website has been updated regularly during 2009.

Activity 1
Working bee in Dec 2008 held at SEEDS AND PLANTS AUSTRALIA to germinate seedlings for the trees to be planted in the STEP Garden on Block 100.

Activity 2
STEP held a successful opening of the STEP Project on 15 March 2009 and gain strong support from Chief Minister, Jon Stanhope.

Activity 3
Planting and enclosing the first 120 trees with tree guards completed between March and June 2009 before the winter recess. CIAG agrees to fund the cost of mulching Block 100 with embedded local grass and wild flowers seeds. CIAG fenced Block 100.

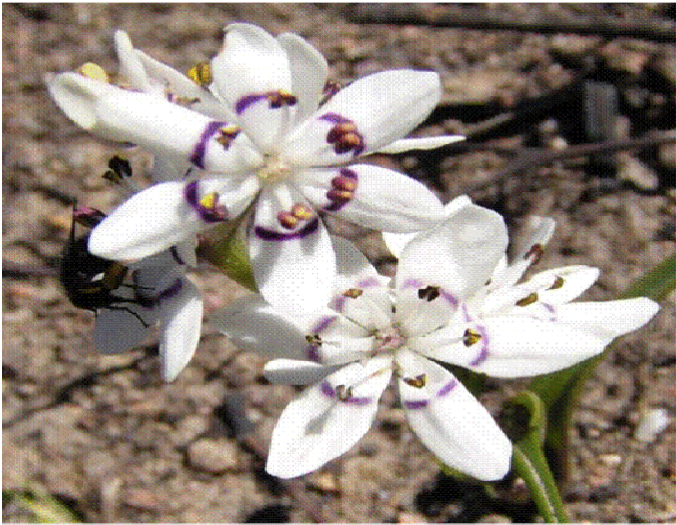
Activity 4
In May, at a supportive meeting with Chief Minister Jon Stanhope, there is agreement on ways and means to progress: the STEP Wetland, the construction of the STEP Woodland and STEP's involvement in planning a Visitors Centre at CIAG.

Activity 5
STEP finalises the plan for the construction of the wetland with the CIAG Project Team. In August work commences on the construction of the wetland. In Sept weekly STEP working bees begin to plant rocks, sedges and grasses to form the wetland.

Photo opposite: The mechanical digger gets to work on the STEP site. August 2009. Photo by David. Shorthouse



Photo of the corner of the STEP site where the picnic table is nestling under the *E. Melliodora* and the wattle.



STEP Committee in 2008/9

President	Cathy Robertson
Vice President	David Shorthouse
Secretary	Geoff Robertson
Treasurer/Membership	Andrew Russell
Committee members :	Warren Saunders
	Tony Lawson
	Paul Hodgkinson

STEP Public Officer:
STEP Communications

Andrew Russell
Tony Lawson

STEP Newsletter

STEP Newsletter Ed.
Newsletter proof reading

Cathy Robertson
Jonathon Banks and
Andrew Russell
Jenny Andrews, David
Shorthouse, Geoff
Robertson, Cathy
Robertson
Rainer Wilton.

Photos

Banner and website:

Photo: Early Nancy *Wurmbea doica*

Early Nancy is the STEP logo flower. We are hoping to see our first Early Nancy on site this spring. With the warmer weather in September, the green spikes of the Bulbines appeared and now they are starting to show the yellow buds along the spikes. We are looking forward to having many more varieties of wild flowers and grasses as the season progresses.

If undelivered please return to

Southern Tablelands Ecosystems Park
GPO Box 987
Civic Square ACT 2609