



In This Issue...

- Message from Chairman Dick
- Water Quality and Tree Health
- Revegetation Program, Part 4
- News Release
- High Water Flood Images

Water quality and Tree health

Elliot Dwyer (RC Eastwood)

The Australian Landscape Trust's aim to establish a sustainable environment at Calperum is addressed in research to determine the relationship between underground, lake and creek waters and the health, condition and resilience of the vegetation.

Vegetation on the floodplain survives in an environment of low rainfall, saline

(Continued P2)



*Ian Coat checks damaged well at Lake Merreti
March 2017*

Message from Chairman Dick

Well, summer is over, as is the high water around Calperum. While life will be easier for us as the temperature drops a little, life for the flora and fauna in the wetlands will improve greatly from the inundation of the floodplains. Walking out just about 150m behind the shearing shed and



seeing the water over the track was a wonderful experience. However, now is the time for us to maximise our value to Calperum environment, and the programmes we support and undertake.

During the summer a number of us have been active, with both David Gooley and Elliot Dwyer setting the standard in planning work and work parties, and managing the bookings for accommodation to suit. It is wonderful to see a few new clubs making bookings, some as a result of the conference visits last year. I am also very pleased to see the number of school bookings increase from last year. I not sure how many we can fit in without improving the student facilities. A particular welcome to RC Seaford, and their support for their local students in arranging a visit to Calperum in June.

We have spent a lot of time over the last months seeking grants to support some improvements. So far we have met with Minister Geoff Brock, and at some stage in the near future will host Geoff on a visit to Calperum when he is working in the Riverland area. In addition, *(Continued P2)*

Calperum News

Is issued periodically and is intended to provide up to date information about Rotary at Calperum. Please let us have the stories and photos of your times at Calperum

(From P.1)

soils and saline shallow groundwater aquifers. Vegetation, particularly for deep-rooted trees is reliant on periodic flooding by the river to replenish soil



Pictured, are Ian Coat (Rotary Club of Magill Sunrise) and Elliot Dwyer (Rotary Club of Eastwood) monitoring groundwater quality during the recent high levels in Lake Merreti.

moisture. Flood events also fill the floodplain lakes, providing renewed breeding opportunities for birdlife.

Calperum Station has experienced more than a century of heavy sheep grazing, deforestation and diminishing water flows, all contributing to degradation of the land. The programs of water, tree health and wildlife monitoring support ALT research and will assist them to restore a "natural" and sustainable environment and healthy ecosystems.

Pictured, are Ian Coat (*Rotary Club of Magill Sunrise*) and Elliot Dwyer (*Rotary Club of Eastwood*) monitoring groundwater quality during the recent high levels in Lake Merreti. Standpipes which line the wells, isolate groundwater from surface waters.

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(From P.1)

his office is working to arrange a meeting with Education Minister Susan Close to discuss funding for school activities at Calperum. This work continues, and hopefully we will be able to support Calperum in improving facilities in the next year or two. My thanks

to Don Will and Bob Arnold for their ongoing work here. They have been ably assisted by Jo Podoliak from RC Blackwood, and Bob's granddaughter, Jen St Jack.

Rotary International President Elect, Ian Riseley has been active in challenging Rotarians world-wide to focus on tree planting to improve our world environment. Our committee and Calperum have accepted this challenge. Don Will is the convenor of this programme for the district, and you will hear a lot more about this in coming months and coming district events, particularly the Mt Gambier conference. *(See P6 for the News Release Ed.)*

We plan further improvements to Rotary House in the near future, with an extra bathroom being our highest priority. Plans for this are being developed, along with some examination of the drains, and hopefully we will be in a position to move on this soon. My thanks to all

of the people working on this. An extra 'indoor' bathroom will add to our comfort on cold winter nights, when the effects of red wine are becoming too urgent to ignore.

As mentioned in each newsletter, please make contact with me, or any other Calperum Committee member to talk at your club, or to answer any questions you might have in regard to the property, or to your possible involvement in the many opportunities that exist for you to have a great time, to meet new friends, and to improve our environment and the educational programmes that Calperum offers.

Dick

Please contact me, at 0418106673 or dickcuttle@gmail.com for more information or to arrange a guest speaker about Calperum

The Revegetation Project at Calperum Station

David Gooley (RC Mitcham)

This is the fourth in the series of articles by David Gooley on the Revegetation Project at Calperum Station.

The revegetation of the Semi Arid Woodland (SAW) at Calperum Station was started in 2008 by Dr. Peter Cale. For the first 5 year plan, 13 sites were chosen for planting. Article three discussed Sites 1,2,3 and 5. Here sites 6 to 13 will be described.

Site 6.

This site is different from the other sites. It was planted in July 2012 with 48 *Myoporum platycarpum*. The site was within a fenced exclusion zone. Watering was by 19mm irrigation pipe and drippers. The water was pumped from Ral Ral Creek. Guards were fitted to assist in creating an improved local environment for the seedlings. A survey in April 2013 found 5 plants alive. The site was replanted. I have not revisited the site since the replanting due to other priorities.

Site 7.

This site was planted early in the program in May 2010. 72 plants were planted, each shielded with a guard but no watering system. It served to provide information on the need to provide a watering system to achieve a suitable survival rate of seedlings. In July 2012, the site was surveyed revealing 16 plants alive. (22%)

The guards at the dead plants were collected for reuse at another site. Taking into consideration the abnormally wet years of 2011 and 2012 and comparing with the high (>80%) survival rates of Site 2,(watered by irrigation), this low survival rate drew the conclusion that watering was required. Watering has been done on all sites of the SAW since. I have not visited Site 7 since 2012. I would like to visit this site in 2017 to, at least collect the 16 guards for reuse, and also survey the site. I expect the 16 plants will be alive and some will have possibly outgrown the guards, which will need cutting off the plants. Dr. Cale may have already had the site surveyed and the guards removed.

Site 8.

A small site in the south western area of the SAW. I know nothing of this site and have never visited it. It was planted in 2012. This site and site 10 are adjacent to the Mallee and these two are important in the goal of "connecting the Floodplain to the Mallee".

Site 9.

Another small site, adjacent to site 7 on the track from the office to Grid 2 on Old Wentworth Road. I know nothing of this site.

Site 10.

This site is a large site adjacent to site 8 on the south western area of the SAW.

Site 11.

This site is a large site on the western side of Old Wentworth Road. Its position was chosen to join with Site 2 (across Old Wentworth Road) to link the Floodplain to the Mallee. Unfortunately this site suffered by being planted in spring of 2012, after the winter rain finished. The spring of 2012 was

This is the fourth in a series of articles, written by David Gooley of the Rotary Club of Mitcham, covering the revegetation program of the Floodplain and the Semi Arid Woodland at Calperum Station. The author went to Calperum Station in 2009 on a weekend visit where he was introduced to the diversity of the restoration and conservation project at the station. He was particularly enthused regarding the revegetation part of the project. The success of the planting of the seedlings is not only determined by the seedlings themselves and the weather (rainfall and temperature) but also flooding, grazing by animals, both native and introduced, and introduced weeds among other things.

dry and relatively cool. To assist in the root development of the seedlings, the watering was held back somewhat. At the time, the watering frequency was considered to be adequate, but unfortunately survival rates were low.



Callitris Gracilis reshooting in early 2014
producing new growth after being "stressed"
during the dry period of 2013.

Added to that, there were now over 30 shuttles (1000 litre tanks) in the system, each requiring to be refilled after their emptying to water the plants. The shuttles were refilled from a shuttle on a trailer towed to the sites from the office complex (refill point for the trailer shuttle) by one of the vehicles. This required many man hours with each shuttle taking over an hour to refill, and as the distance to travel from the refill point increased so too did the time. There was 1 trailer shuttle in use. A second trailer was provided in 2015 by a donation from Rotary District 9500 through a grant request by The R.C. of Prospect and constructed by Rotarian Neil Webber of the R.C. of Berri.

I do not know the current survival rate of this site.

The guards were removed from this site in May 2016 and taken to the Rotten Lake site.

To reduce the man hours and provide shuttles for reuse, the watering at the first planted sites ceased in 2013 because the surviving plants were growing well and the shuttles and the irrigation pipes were collected.

Site 12.

This site is a large site with 5 shuttles. It is adjacent to the Old Wentworth Road on the western side, shortly after entering the property over Grid 1. This site experienced similar difficulties as Site 11, being planted at the same time under the same conditions. The soil at this site was observed to be quite hard, quite compacted.

The survival rate was low, with some lines being replanted in 2013. With the dry conditions of 2013, survival rates were also low.

Site 13.

Again a large site on both sides of Old Wentworth Road, with a shuttle on each side of the road. Planted also in late 2012, it suffered in the dry spring of that year. The shuttle on the eastern side of the road was replanted in early 2013, resulting in a low survival rate but better than 2012.

At the end of 2013, the overall survival rate of the 13 sites was about 45%. This is considered to be satisfactory.



Callitris Gracilis after being eaten by goats

Conclusions

Guards

At site 2, guards were initially placed around all plants from 2010. During 2013, the guards were removed from the first planted sites for reuse. (many plants had outgrown the guard). The dry conditions of 2013 brought the native and introduced animals closer to the river and the plantations where they ate the plants. Plants in the newer sites were still protected, to some degree, by a guard and were not eaten as badly. Hence guards are placed around all plants. The shade cloth fitted to the guard is of benefit, helping to reduce the direct sun and the wind on the plant.

In Site 3, some of the plants were enclosed by a large guard, both in area and height. These plants still have these guards fitted and have not suffered from any eating by animals, and are growing even if their natural shape has been destroyed.

These guards are relatively expensive and it is not possible to fit every plant with these, but it shows that by keeping the animals away, the plant will grow well.



Volunteers weeding in 2012

Watering

Watering has been found to be of significant benefit. Site 7 was planted with guards but no watering support. After 2 years the survival rate was 22%. Comparing that survival rate with that of Site 2 with watering support, >80% survival, watering became essential. The difficulty is the refilling of the shuttles, which has been eased somewhat by the donation of the second trailer.

To further ease the burden, some of the later sites, planted in 2015 and 2016 are watered from a pipeline from Ral Ral Creek.

Site 4, called Rosie's Dam (at the dam in Rosie's Paddock) will be discussed next time.

Weeding

The introduced weeds are a significant problem in some areas. Volunteers have been mapping significant weeded areas on the station to identify the areas of most concern and to help with the planning for control or eradication. The Match Head Plant *Psilocaulon granulicaule* is often found under trees where it has grown well over the years and excluded the native plants and grasses.

Volunteers have been mapping significant weeded areas on the station to identify the areas of most concern and to help with the planning for control or eradication. This is relatively easy with a hoe or by hand but the root must be removed or regrowth will occur after a good rain. Onion weed (*Asphodelus fistulosus*), Salvation Jane (*Echium plantagineum*), Ward's Weed (*Carrichtera annua*) and African Boxthorn (*Lycium ferocissimum*) are weeds of concern. Volunteers may also be asked to remove these weeds.

Site 3.

Rosie's Dam, where I have spent many hours, will be discussed next time.

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NEWS RELEASE

**This is an article which is intended to feature in the
April edition of RDU**

MESSAGE TO ALL AUSTRALIAN ROTARIANS and FRIENDS

THE RISELEY FOREST at CALPERUM

Districts 9500 & 9520 take up Rotary International President Elect Ian Riseley's tree planting challenge and have committed to create the "Riseley Forest" at Calperum, a former sheep station of 240,000 hectares on the River Murray, now run by the Australian Landscape Trust for environmental purposes that the two districts have been involved with for the past **20** years. It is the largest environmental project in Rotary within Australia and many thousands of trees have already been planted by Rotarians since 2000, and we have many more to plant.

Seedlings will be propagated in the Calperum nursery from seeds collected locally, over the coming months for planting at stage one of the project throughout May to September 2017 – the ideal planting season. Stage two will be over the same period in 2018.

We're inviting Clubs and Districts to become engaged in this project by;

- 1 Sponsor trees. Just \$5.00 will see a seed grown to a seedling, put into the ground and then regularly watered over at least its first summer to give it the best chance to get established and go it alone.
- 2 Plan a club event, come over and get your hands dirty by helping with the tree planting – a great team building exercise.

Here's your chance as an individual, as a Club or as a District to show support for Ian's commendable call to make an Environmental difference. Rotary – Making a Difference.

As an adjunct, local schools will also become engaged in planting the FOREST in conjunction with Calperum's extensive education program to provide students with practical Landcare knowledge and skills regarding outback river floodplain and mallee country.

For more information on the project or to get involved contact
D.9520 AG Don Will at will4444sa@gmail.com,
or phone 0414 645402.

PS Whilst Ian Riseley wanted us to start planting from 1 July, the RC Murray Bridge started early, with a group of young people on a 'Camp Calperum' weekend in early March planting helping get the project started.

Calperum Rotary Bookings and Availability as at 28 March 2017

“Free” indicates other dates available to Rotary

Other dates have already been allocated to researchers, universities, community groups, Calperum programs, or maintenance

Please contact Elliot Dwyer (eadwyer@hotmail.com) for booking and related information

Month	Dates	Rotary Club
March	7-9	Flagstaff Hill
	10-13	Murray Bridge & students
	24-26	Eastwood
		<i>Remember to write an article for Calperum News on your experience</i>
April	1-30	(No Accommodation available)
		<i>Nominate your scribe to write up your experience</i>
May	5-7	Unley/Mt Barker
	12-14	Free
	19-25	Mitcham
		<i>Include photos with names and descriptions</i>
June	1-4	Campbelltown
	9-11	Seaford RC & students
	16-18	Eastwood
		<i>Send articles and photos to Rodger Hedley rghedley@adam.com.au</i>
July	1-31	(No Accommodation available)
		<i>Remember to write an article for Calperum News on your experience</i>
August	3-5	Free
	6-9	Mobilong
	11-13	Eastwood & Uni students
	14-18	Coromandel Valley
	28-31	Onkaparinga & students
		<i>Include photos with names and descriptions</i>
September	4-8	Flagstaff Hill
	11-15	Onkaparinga & Modbury HS
	22-24	Free
		<i>Nominate your scribe to write up your experience</i>
October	5-8	Stirling
	15-19	Blackwood
	30-31	Noarlunga
November	1-4	Noarlunga
	10-12	Rotary Long Term Youth Exchange
	17-30	Free (maybe hot)
		<i>Include photos with names and descriptions</i>
December	1-16	Free (but hot!)
		<i>Send articles and photos to Rodger Hedley rghedley@adam.com.au</i>

Recent Flood Photos Taken at Calperum Station



Hunchee Point Campsite. Usually a great place to camp



*Hunchee Point in dryer times
Photo courtesy of explorer.com*



*Only 100m from the old Calperum Woolshed.
The waters even threatened the homestead.*



Submerged tracks made navigating the floodplain a challenge.



At the north end of Lake Merreti - the bird hide looking a little isolated.



Early in the inundation, even the Woolpolool regulator was threatened. Later, it almost disappeared.



A drink for the Calperum Floodplain

Heavy rains over the Murray-Darling Basin Catchment in Queensland and New South Wales during 2016-17 Summer provided welcome refreshment to the Calperum floodplain. Ral Ral Creek and Hunchee Creek, anabranches of the Murray River were two metres or more above their normal sedate level.

The impact of the inflows on Lakes Woolpolool and Merreti and surrounding vegetation and ecosystems has yet to be assessed but the land, trees and shrubs are looking very refreshed.

Water levels have since retreated but during their "occupation" access to many parts was possible only by boat or canoe.

Text and photos by Elliot Dwyer

Calperum Rotary Activities

- Rotary Club Work Parties
- Health of The River Forums
- Camp Calperum Programme
- RYWELL - Rotary Youth Wellbeing
- Youth Exchange Schoolies Week
- International Student's Group
- RYLA - Rotary Youth Leadership Awards
- ROTARACT
- District Management Committee meetings
- PETS - President Elect Training Seminar
- Rotary Training Seminars

Contacts

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