



Eucryphia

ISSN 1037 – 2032

Number 120– August 2012

Robertson Environment Protection Society – to promote the protection and enhancement of the Robertson Environment
PO Box 3045, Robertson NSW 2577 www.reps.org.au

REPS Meeting

Speaker: Felicity Roos, Primary Industries NSW

Friday 10th August, 7.30pm

**Robertson Community Centre
Caalong Street, Robertson**

SOIL – What? Where? And most importantly WHY?

I graduated from the University of Sydney with a degree in Land and Water Science (Hons). For the last 2 years I have been working for the Department of Primary Industries on projects looking at increasing farm efficiency (water & nutrients) and running workshops on soil biology and carbon.

I'm going to talk broadly about soil: what it is, its role and importance to agriculture and ecosystems (beyond getting stuck under your nails), the role carbon plays in all of this, and why everyone should know something about soil!

Soil is a thin skin that coats the entire land surface of the earth varying considerably with location, altitude and climate. It is a complex and fascinating chemical, physical and biological system, and to understand how it works you have to understand how all the different aspects interact and how they can be influenced.

Soil is essential in the mobilisation of nutrients so that plants can access them, in breaking down pollutants, in cleaning our water, in regulating air temperatures, and in supporting all the life on earth.

Soil is a very broad and detailed subject and we still have an awful lot to learn, particularly about soil biology. You may have heard researchers say that we know more about Mars than we do our deep oceans here on earth; well we know more about the deep oceans that we do about our soil! Though, hopefully, I'll be able to answer your questions.

In the meantime this talk by Ichani Wheeler, 'The Good Carbon Story', while focusing on soil carbon, covers some of the key functions of soil and its importance to life on earth.

<http://tinyurl.com/cmzwb5d>

If anyone has any burning questions they'd like answering feel free to fire them off to me before Aug 10th and I'll make sure I have an answer for them on the night.

My e-mail is: felicity.roos@dpi.nsw.gov.au



All welcome, informal discussion, light refreshment, gold coin donation

Upcoming Events

Thu 2nd August – Australian Plants Society 'Plants of the Burraborang Valley' Dr Beth Stokes, 7.30pm, CWA Hall, Moss Vale, pg 8

Sat 4th August – NPA Walk, pg 8

Wed 8th August – Working bee, Robertson Nature Reserve, pg 8

Fri 12th August – REPS Talk 'Soil – What, where and why,' Felicity Roos, 7.30pm, Community Centre

Sat 25th August & 29th September – REPS Caalong Creek working bees from 9.30am, pg 8

Some verse in tune with our topic this month,
thanks to Bob McInnes for this contribution.

By G H Gibson – ‘IRONBARK’

Jones's Selection

You hear a lot of new-chum talk
Of goin' on the land.
An' raisin' record crops of wheat
On rocks and flamin' sand.

I 'ates exaggerated skite,
But if yer likes I can
Authenticate a case in which
The land went on the man.

Bill Jones 'e 'ad a mountain block
Up Kosciusko way,
He farmed it pretty nigh to death,
The neighbours used to say.

He scarified its surface
With his double-furrow ploughs,
An' ate its blinded hearted right out
With sheep and milkin' cows.

He filled its blamed intestines up
With agricultural pipes,
An' lime an' superphosphates – fit
To give the land the gripes

Until at length the tortured soil,
Worn out with Jones's thrift,
Decided as the time was come
To up an' make a shift.

One day the mountain shook itself
An' give a sort of groan,
The neighbours they was a lot more scared
Than they was game to own.

Their jaws they dropped upon their chests,
Their eyes they opened wide,
They saw the whole of Jones's farm
Upend itself and slide.

It slithered down the mountain spur,
Majestic-like an' slow,
An' landed in the river bed,
A thousand feet below.

Bill Jones was on the lower slopes
Of 'is long-suffering farm,
a-testin' some new-fangled plough
which acted like a charm.

He'd just been screwin' up a nut
When somethin' seemed to crack,
An' fifty acres, more or less,
Come down on Jones's back.

Tw'as sudden-like, a shake, a crack,
A slitherin' slide, an' Bill
Was buried fifty feet below
The soil he used to till.

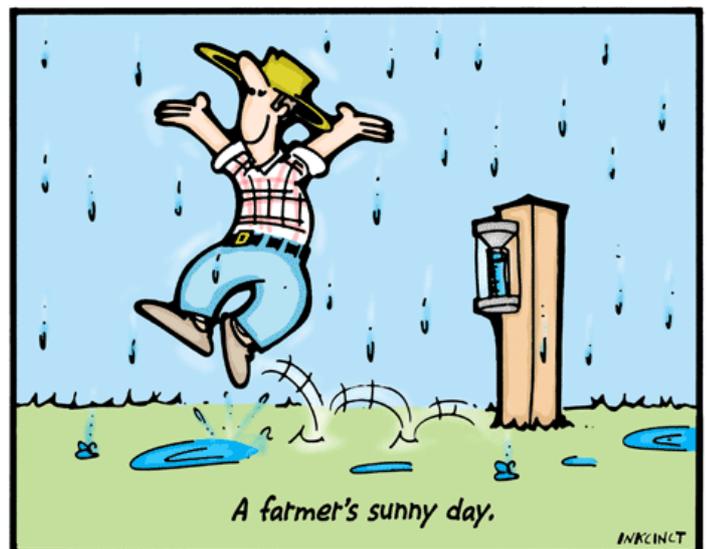
One moment Bill was standin' up
A-owning all that land,
The next 'e's in eternity –
A spanner in 'is 'and.

They never dug up no remains
Nor scraps of William Jones –
The superphosphates ate the lot,
Hide, buttons, boots and bones.

For this 'ere land wot Jones abused
And harassed in the past
'Ad turned an' wiped 'im out, an' things
Got evened up at last.

From this untimely end o' Bill
It would perhaps appear
That goin' free-selectin' ain't
All skittles, no, nor beer.

So all you cocky city coves
Wot's savin' up yer screws
To get upon the land, look out
The land don't get on youse.



www.inkcinct.com

June REPS Speaker Night

Notes by Karen Guymer and Georgina Persse

Clean Energy Forum Friday 8 June 2012

David Tranter (Discussion Leader) welcomed REPS members and guests.

CarbonKids

Karen Guymer, a *Scientists in Schools* volunteer with Robertson Public School, is helping students and staff to develop and implement the CarbonKids program. It is supported by CSIRO Education and includes planning and implementation phases. CarbonKids aims to introduce the science of climate change to students and encourage them to take practical steps to reduce the carbon pollution of the school. Activities can be as varied as setting up a worm farm and vegetable garden, reducing electricity and gas consumption or planting a forest to sequester carbon.

A 2012 plan has been developed that will involve the planting of native shrubs and grasses in new garden beds, to attract butterflies. Other activities include 'walk-to-school' days and communication with the P&C and the broader community through the school newsletter. The school community can find out what is happening at Robertson through Wikispaces, an internet-based communication tool. Stage 3 students will be introduced to the program in Term 3 or 4 with the curriculum unit *Understanding climate change*.

CTC@Robertson

Monica Engel spoke about the energy efficiency gains made at the CTC through the installation of insulation in the ceiling and the conversion of lights to compact fluorescents, which had benefits and disadvantages, and a shorter lifespan than anticipated. The CTC also installed a 1.5 kW PV array on the north-facing roof, with the generous support of Cilectric Pty Ltd and David RW Cooper Pty Ltd.

The Forum Panel

The panel members were introduced: Mike Meldrum (CANWin Renewable Energy Working Group Leader and member of REPS), John Hughes (CANWin Renewable Energy), Chris Stevenson and Larry Osterhaus (Off-grid local landholders/REPS members) and Manuel Cilla (Cilectric), an expert in solar installations and energy efficiency. Following introductions, David Tranter opened the discussion and invited questions from the audience.

Q. *"The issue of energy generation is not that complicated, however, what is the best method of storing the energy?"*

Manuel Cilla responded: - Batteries are the most convenient and are getting cheaper. Within 5 years off-grid systems could be using totally recyclable lead acid batteries. Flat plate organics are coming through more research on electric cars. Lithium batteries are hard to recycle, so large numbers of batteries in a community could be a problem. They are recycled in Europe! The lead acid industry has good recycling facilities. (Manuel Cilla ran his house for 7 years using Prius lithium car batteries; however it cost him \$7000 to get rid of them as they had to be exported to Switzerland). In the commercial sector, battery sets are designed to last around 5 years. If available, it is better to use the grid as a storage facility. Sodium batteries are a hot battery, and typically run at 200°C and have a 40-50 year life span, so this type of battery has potential.

The next question was about the feed-in tariff. Most residences typically have peak demand in the mornings and evenings while peak solar energy is produced in the middle of the day, so the solar cycle is opposite to the use cycle. Endeavour Energy (for example) has argued that electricity generated in the middle of the day, which is the peak solar output, is useless to them and so they will not pay for it (AGL pays 8 cents and Origin 6 cents per kwh).

Renewable Energy

Matthew Hardwick from *Momentum* (Hydro Tasmania) was introduced and he explained their role in the supply of renewable energy to Tasmania, South Australia, Victoria and most recently New South Wales. Hydro Tasmania is now linked into the NSW grid and its renewable energy is being sold at around 20 cents per kilowatt hour, through a bulk buying scheme. *Momentum* guarantees that the energy you use from the grid (for example through Integral Energy) is replaced by their renewable energy. There was some concern expressed from the group about the maximum supply from this source and the pressure to build more dams on rivers once this was reached. Matthew explained that for small to large users, there was an incentive to sign up to this supply of renewable energy, as, for the first 12 months to 3 years, users would be protected from price rises due to the introduction of the carbon tax, CPI and increased network costs. They have estimated that on 1st July power bills will go up by 10-19%. He also advised about consumer

protection through EAL (Environmental Analysis Laboratory) and the NSW Ombudsman, for consumers wishing to examine the credentials of retail energy suppliers.

Local Off-Grid Examples of Renewable Energy

Chris Stevenson then explained that for their new house the grid power had to be brought in around ½ km and the cost was estimated at \$50 - \$80 K, and that they could install solar power for \$40,000. Initially they installed a static array; but this was not adequate, and after 2 years they increased the energy output by 30-40% by installing an on-ground tracking system. However, during prolonged cloudy weather, they still need to use a generator to supplement supply. The panels installed were 2,000 watts (1600 amp hours of storage) and in the future they will expand by another 2000-3000 watts. They don't have solar hot water; they use LPG for that, and so their energy use is approximately one third gas and two thirds solar.

One set of batteries failed after 7 years of storage, and to replace these with 2200 amp hours of battery storage cost \$8,000. A new generator was also required and that cost an additional \$10,000. Their inverter runs at 10 amps, so they are always careful with their energy use. The solar panels are now losing their effectiveness and they do not understand why.

Post-Forum Addendum: "One thing I forgot to mention was that our solar system suffered a severe lightning strike in February 2010 which necessitated the replacement of the inverter and other components.

Also, the problem was not discovered for several days as Lynn was away in Sydney at the time. She returned home to a dark house and a putrid fridge (was not impressed). I was overseas at the time also. Meanwhile, the power system was out of control with the batteries overcharging and virtually boiling (gassing). We suspect that this shortened their life as they were replaced eighteen months later.

The fall-off in the effectiveness of the solar panels may also be attributable to the lightning strike but yet to be confirmed. Also we suspect the charge controllers may have been damaged. This also is being followed up. It is a shame as things were going so well up to then. It was an unforeseen pitfall of a stand-alone system but we are not about to give up."

Larry Osterhaus and his partner, Penny, have lived within the Budderoo National Park for around 30 years, with an off-grid system. Larry started with a huge lead battery bank in 1991 in the work shed. The manually moveable solar panels now generate around 3.8 kWh and he has installed a 1 kWh wind generator to supplement the solar supply. They have no back up supply. They have used 1000 amp gel batteries in the house for 25 years.

He stated that, to operate off-grid, you need to know how much power individual appliances use. The house supplies all their needs and allows them to use all their appliances, including electric blankets for 2 people 3-5 days per week, plus the occasional visitors. In misty weather the batteries run down and they revert to candles.

On the inverter there is an automatic shut off switch to protect the batteries. They turn off the fridge at night. With the rebates available at the time, the whole system cost him \$22,000. The total cost was estimated at \$55,000.

Larry installed a "Glockman Pump", designed and created by Ralph Glockman from the Bega Valley. It is 22 years old, runs 24 hours a day and can pump water a total of 180 feet on a rise of 5 feet over 10 metres. This pump requires no electricity or petrol and uses the power inherent in the flow of water. The minimum flow requirement through a 10 meter pipe is a drop of 1.5 meters. This provides sufficient power to pump water up to a 110 meter head. With each power stroke it pumps 50 mm of water. This may not sound like much but because it operates 24 hours a day and 7 days a week the volume is substantial; for example it will fill a 24,000 litre tank in 8 days.

Larry made the point that all modern electrical equipment (such as an electric blanket) is available to off-grid users. The fact that they have no generator backup underlines the fact that the system is more than adequate for their needs and having to resort to candlelight is a rare occurrence; eg maybe two or three times a year.

Manuel Cilla made the point that people just don't know much about electricity and how much an appliance uses and how to manage their energy use more effectively. There are analog meters with a needle that shows how much power an appliance is drawing, and the digital Wattson meter, which has yellow, green and red lights, costs around \$200 and is a highly visible demonstration of power use.

Jane Maxwell and Karen Guymer observed that this could be demonstrated to pupils at the school.

Lighting Discussion

Larry Osterhaus asked about LEDs (Light-emitting diodes), a semiconductor light source used as indicator lamps in many devices and increasingly used for other lighting. LEDs present many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved robustness, smaller size, and faster switching.

Mani said that LEDs will eventually replace fluorescent light bulbs and are equal or better than halogen down lights, as they use 5-6 times less power. He has been testing 20-30 different brands and care needs to be taken on brands, as around half are no good (ie cheap Chinese ones for \$5). Good brands are available for about \$90 and these have a 5-year guarantee and should last up to 30 years). Good ones are expensive, but the prices are coming down. LEDs give instant light as opposed to fluoros, and so can be installed with sensors, removing the need to switch them on and off.

Ed. (Have a look at the [NewScientist](#) article in June 2012)

Other Items

Mani described smart power boards suitable for television/entertainment systems that can be purchased at Big W. You can shut everything down using the remote control, except the TV monitor, which uses minimal power, as the TV is plugged into one part of the power board, and the other components are plugged into the other part of the power board. This saves money if these items are usually left on standby. He also explained the inefficiencies of current solar hot water systems, and why they don't work so well in winter. They are designed so that they don't get too hot in summer, as otherwise they would turn into boilers and potentially become explosive. (Note: The Tranters have had a Beasley system for 25 years with no significant problems. In winter, the sun takes the chill off the stored water allowing subsequent days to "top up" the temperature.)

Mani also explained that we need a champion in the energy industry to really push for renewables. The average price of electricity to produce is only 2.7 cents per kilowatt hour. Transportation costs are the most expensive components of energy supply and this is reflected in our electricity bills. The energy industry needs to be decentralised through such

alternatives as solar farms to produce electricity through **power purchase agreements** (PPA), on the low (11KVA) part of the grid. The PPA is a guarantee that someone will buy the electricity for a number of years (for example, \$0.08 - \$0.10 for renewables). Costs have come down markedly for solar energy. In 1980 it was about \$45 per watt, now it is \$1 per watt.

In Morocco they are building 30 megawatt solar thermal plants, and there are new technologies emerging in the storage of energy, eg molten salts, hot water, batteries, moving gravel uphill. Beyond Zero Emissions has excellent information about such renewable energy systems on their website.

John Hughes described with the aid of a box of parts how the smart-driver from a Fisher & Paykel washing machine can be adapted with other bits and pieces to make a wind powered, vertical axis, 'helical' shaped wind turbine. These turbines are quiet and can use wind coming from any direction and produce one kilowatt per hour in a 6m/second (13 miles per hour) wind. A demonstration of the making of this rotor can be viewed on the CANWin web site under "Home Wind Generator". The parts can be sourced from second hand washing machines at Reviva (Resource Recovery Centre Moss Vale), and he envisions Mens' Sheds getting involved in their manufacture.

Mike Meldrum (Group Leader CANWin Renewable Energy Working Group) mentioned that other Working Groups are focussed on Energy Efficiency and Community Engagement.

CANWin produces a regular monthly email report and has begun a quarterly Magazine (\$6 per issue) which is free for members. The June issue features solar power. Annual Subscription \$22.

CANWin hosted a Clean Energy Future Workshop for the community on 20 Nov 2011. The working group holds monthly meetings with the objective of looking at available and appropriate renewable energy opportunities for the Shire, and is researching wind, solar, micro-hydro and bio-energy, to provide accurate information to the community. The group has very competent people and they hope to produce a project for the Shire within twelve months or so.

Q. Peter Glass: – *"What about small wind turbines for homes?"*

Wind generators don't work well near tall trees or buildings - they need to be out in the open.

Q: “What about buying energy from a retailer who could guarantee that the energy source is renewable?”

David Tranter and Matthew Hardwick discussed whether a bulk-buying scheme for a community would have potential, and Matthew stated that the community would have to change retailers.

CANWin member Carl Peterson from the SCA is working with Wingecarribee Shire Council to use the hydro power from the Wingecarribee dam to reduce by half the power used to pump water to Burrawang and Robertson.

David Tranter – “Shoalhaven, Kiama and Wingecarribee Shire Councils are conducting a feasibility study on wind-generated power in the Illawarra. Regional Development Illawarra concluded that wind power would be more effectively harvested in the highlands than the coast where speeds are more variable. Also, although NSW has a lower mean wind speed regime than Victoria and South Australia its potential to satisfy demand is at least as great, matching product with need.”

Another Nest

(Ed: Georgina Persse contributed this little excerpt following on from the Poetry Corner topic, last issue. And thanks to Denis Wilson for photos and additional observations on Fantail nests.)



Rufous Fantail Nest and two eggs. Photo: Denis Wilson

“The white-shafted fantail ... has an ‘elegant little nest, closely resembling a wine-glass in shape ...woven together with exquisite skill, and is generally composed of the inner bark of a species of *Eucalyptus*, neatly lined with the down of the tree-fern intermingled with flowering stalks of moss, and outwardly matted together with the webs of spiders, which not only serve to envelop the nest, but are also employed to strengthen its attachment to the branch on which it is constructed.”

- Eliza and John Gould’s *Birds of Australia*

Extract from Janine Burke’s recently published Book: *Nest, The Art of Birds*



Male Grey Fantail sitting on a nest near Robertson in January this year. Photo: Denis Wilson

I would point out the wine-glass stem which is a feature of most Fantail nests. I have never heard an explanation for this feature; presumably it helps break up the outline of the nest, a form of subtle camouflage.

Grey Fantails build their nests with cobwebs and fibre to make a silver nest.

Rufous Fantails use brown bark for their nests – the same colour as their bodies; even their eggs have brown spots.

Birds have been building in harmony with their environments for a very long time.

Denis Wilson

Poetry Corner Edited by Jonathan Persse

Rosemary Dobson died in Canberra on 27 June, aged 92. She found poems in many places – in nature, in history, in art, in life; in her heart and mind. As she wrote:

Poems are set about in the empty rooms of houses.
Windows open on clouds in the blue distance.

Cock Crow

Wanting to be myself, alone,
Between the lit house and the town
I took the road, and at the bridge
Turned back and walked the way I'd come.

Three times I took that lonely stretch,
Three times the dark trees closed me round,
The night absolved me of my bonds;
Only my footsteps held the ground.

My mother and my daughter slept,
One life behind and one before,
And I that stood between denied
Their needs in shutting-to the door.

And walking up and down the road
Knew myself, separate and alone,
Cut off from human cries, from pain,
And love that grows about the bone.

Too brief illusion! Thrice for me
I heard the cock crow on the hill,
And turned the handle of the door
Thinking I knew his meaning well.

After receiving the Book of Poems by Li Po

(for David Campbell, one of twelve poems on his death)

We walk along the dry bed of the river
In the sand the fallen needles of she-oaks
In the air the smell of dry resin
A few white clouds curling in the sky.

Rounded stones in the blue thread of the river
White, scoured, turning in their roundness
With the slight movement of poems
Settling deeper in the mind.

Not being able to find the hermit he wanted to visit
Li Po looked deeper into the landscape.
Like Li Po we lean against a pine-tree;
And looking into the landscape find your poems.

Folding the Sheets

You and I will fold the sheets
Advancing towards each other
From Burma, from Lapland,
From India where the sheets have been washed in the river
And pounded upon stones:
Together we will match the corners.

From China where women on either side of the river
Have washed their pale cloth in the White Stone Shallows
'Under the shining moon'.

We meet as though in the formal steps of a dance
To fold the sheets together, put them to air
In wind, in sun over bushes, or by the fire.

We stretch and pull from one side and then the other —
Your turn. Now mine.
We fold them and put them away until they are needed.

A wish for all people when they lie down to sleep —
Smooth linen, cool cotton, the fragrance and stir of herbs
And the faint but perceptible scent of sweet clear water.

Reading Aloud

Low, clear and free of self your voice went on
At night you read, and for how many years
From Sterne to Kipling, Flaubert, Boswell, Proust —
Proust a whole year, and finishing you said
'One of the great experiences of my life.'
And mine, and mine.

Intent to listen, quieting my hands
With plain and purl, I followed your low voice,
Knitting unmindfully long scarves for friends
Sent off as signs of that shared calm content
Still looked for in the un-shared books I choose
Reading alone.

Well, we gave up once, stalled on Chuzzlewit.
How wrong it felt. You sensed a binding need
To take books to the end. Faced with reverses said,
'We must press on.'
From books to life, your thought:
'Forgive, learn from the past. Press on.'
And I press on.

Please send a poem on the environment, written by yourself or another person, to Jonathan Persse, Sallyhill, Burrawang 2577



Caalang Creek Working Bees

Caalang Creek Working Bees are held on the last Saturday of each month from 9:30 am onwards subject to the weather. Please come and join us for as long as you are able.

The next Working Bees will be on the 25th August and the 29th September

Meet at the footbridge in Hampden Park. Don't forget water, hat and gloves. We now have tools available, but bring your own if you can.

Queries to Steve Douglas 4271 4957 or Leon Hall 4888 2222.

Help Care for Our Nature Reserve 9:30am to noon

Next work day will be on **Wednesday, 8th August**, from 9.30am till noon or for however long you are able to stay. Please bring garden gloves. Everyone is welcome. Details Helen Tranter 4885 1394 or Ford Kristo (NPWS) business hours: 4887 8244.

Australian Plants Society (APS)

On Thursday 2nd August, at 2.30pm, in the CWA Hall at Moss Vale, Dr. Beth Stokes, Community Education Officer at Mount Annan Botanic Garden, will give an illustrated talk on the many plants which have played a role in her life, particularly the native plants of the Burratorang Valley where she lives. Plant table for discussion; afternoon tea. All welcome. Details: 4885 1394.

NPA Walk

Saturday 4 August Morton NP

Grade: 3; Distance: 13 km; asc/desc 100m. Walk commences at the top of Meryla Pass and follows the Wombat Hill lookout fire trail with magnificent view over the Yarrunga Valley to the lookout. On the return the Rebecca's View Fire Trail takes us to a lookout over the Sandy Creek Gorge.

Leader: Joan Lowe Limit: 12

Map: Bundanoon 8928 -I-S Branch: Southern Highlands

Notes: Rough track and some steep sections. Unfenced lookout.

REPS Meetings for 2012

The remaining REPS Public Meetings for this year are listed below. Talks will be publicised in the Eucryphia prior to the meeting.

Friday 10th August

October Spring Walk – date TBA

Friday 9th November Talk & AGM

December TBA

80th Anniversary Mountain Railway & 10th Anniversary of Robertson Heritage Railway Station Inc

The Robertson Spring Festival will be on the 13th and 14th of October. Lots on all around the village. For what's on see the following websites.

For trains: robertsonrailway.com.au/

gardens: robertsonopengardens.weebly.com/

ladies tractor run berrimadistrictoldmachineryclub

CTC@Robertson

Tony Williams presents the cinema talk series for the remainder of 2012. This is a new series of celebrity talks with wine, cheese and coffee served before each film screening. See CTC [website](#) for details.

Sunday 26th August *Nureyev*

Sunday 23rd September *The Cranes Are Flying*

Sunday 21st October *The Promise of Music*

Contact REPS

All those who are interested in supporting our aim are welcome to join REPS. Our aim is to promote the preservation and enhancement of the Robertson environment. We welcome contact with individuals and other community groups. For further information and subscriptions please contact: The Secretary – Georgina Persse

PO Box 3045,

Robertson NSW 2577

or President – Allan Stiles 0415 309 760

We are always looking for new contributions to Eucryphia. If you have an essay, article, poem or photograph that you would like to share with other REPS members please contact Monica Engel or Sheila McInnes.

email: monicaengel@robertsonctc.org.au

All contributions will be most welcome.

www.reps.org.au