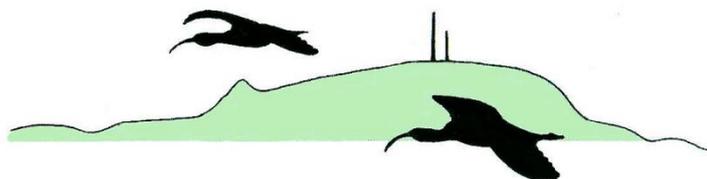


ORANGE FIELD NATURALIST AND CONSERVATION SOCIETY Inc



NEWSLETTER MAY 2018

NEXT MEETING

Thursday, 10th May, 7.30pm

SPEAKER: Col Bower

**TOPIC: The conservation status of
vegetation in the central west**

**VENUE: Orange Community
Information and Services Centre.
(Next to Senior Citizens Centre.
Enter from Woolworths carpark.).**

No Committee Meeting this month

EXCURSION

Sunday, 13th May

Koolewong Arboretum

Meet at 9am

at the Orange High Bus Bay

Bring morning tea and binoculars.

Please Note

Our website is having technical difficulties at the moment and we are working with a new provider to get it up and running again.

Next Meeting

Col Bower is a former President and an honorary member of the Orange Field Naturalist and Conservation Society. Since retiring from NSW DPI, he has been running a botanical consultancy company in Orange. He will be talking to us about the state of play for conservation for the vegetation in the Central West.

Next Excursion

Cilla will be leading the excursion to Koolewong Arboretum and, after an early picnic lunch, stop in at Heifer Station Creek TSR as well, finishing by 3 pm.

Last Meeting

Summary by the editor

with corrections from Ron Smith.

Ron Smith, former seismologist, made a fascinating presentation on earthquakes. The

main causes of earthquakes are the movements of the continental plates relative to each other, driven by convection currents in the underlying molten parts of the earth. The main plates are relatively stable. The Australian plate, for example, is moving northwards as one solid lump and does not have much in the way of volcanic or earthquake activity. However, the northern edge of the plate is colliding with the Asian plate and is forced under it, termed convergent or thrust movement. As it moves, it causes compression earthquakes to release the pressure of the collision. A different type of earthquake occurs at the southern edge of the plate which is in the sea off Antarctica, which is also a fairly stable large plate, but at the edge the two plates are separating, known as divergent movement. A third type of earthquake occurs at the side of the plate where the two plates slide past each other, termed a transverse or slip movement. This kind of quake is common in New Zealand where the Australian plate slides past the edge of the Pacific plate.

Each movement causes the release of three kinds of pressure waves, P waves (primary or push waves) which are vertical, S waves (secondary or shake waves) which are horizontal and L waves (long waves) which move in a reverse coil fashion. Each of these travels with a different frequency and at different speeds. The P waves are measured by an instrument mounted vertically while the S waves are measured by instruments mounted horizontally, usually one north-south and a second east-west. The time between the arrival of the P waves and the S waves gives a measure of the distance from the centre of the earthquake and the direction of the movement in the S waves gives an indication of the direction from the measuring station that the quake occurred. Combining the data from at least three seismological stations allows the location of the quake to be measured very precisely. The L waves are more difficult to measure and need very sophisticated machines to do so. Because of the way in which they move and their frequency, L waves are the ones that cause buildings to sway and are

capable of doing serious damage. Seismological stations are also able to detect blasts and it was during the 1960s that a network of stations was set up to monitor for nuclear blasts being carried out in secret by various nations. These send out pressure waves in all directions and the readings are quite different from those sent out by earthquakes.

The S waves, because of their sideways movement, can also cause damage and it is these that cause buildings to sink when the shaking of the ground causes it to turn into a sort of mush incapable of supporting heavy structures built on it. This was a feature of the last big earthquake in Christchurch where whole suburbs turned to mush and houses sank into the mud. Landslides in Japan are also the result of this type of wave.

There are a number of different scales for measuring earthquakes, the most popular and well known being the Richter Scale. Earthquakes measuring up to 3 on this scale can often be felt but don't do any damage. Once the quake reaches 4 or more, there is the possibility of damage to buildings particularly from the S and L waves.

Ron then spoke about local earthquake activity, particularly in the Cadia area. Because the Australian plate is being pushed northwards, it is under stress and mining activity, particularly on the scale of the Cadia Mine, causes some of this stress to be released, causing earthquakes. Other factors contributing to the activity at Cadia include a natural weakness at the boundary of the igneous volcanic region around Mt Canobolas and the presence of sedimentary limestone nearby. Ron considers that what was happening at Cadia was good in the sense that the pressure is being released through numerous small quakes rather than waiting for one major release which could be very damaging. There have been 55 quakes recorded in the Cadia area since 1960 with only two reaching 4 on the Richter Scale. The biggest was measured at 4.3 and led to the recent closure of the mine while it was inspected for damage.

The presentation ended with details of a number of websites and apps which can be used to record recent earthquake activity including the Geoscience Australia website, (<http://www.ga.gov.au/earthquakes/>) which has a wealth of information about earthquakes including a map of where they have occurred recently with linked details of location, date and severity.

A question about tsunamis was raised at the end of the talk and Ron explained that the sort of earthquakes that trigger tsunamis are when the earth moves vertically causing displacement of large quantities of water. The waves which result travel through the water and cause huge surf waves when the sea becomes shallower near land. Transverse quakes move sideways so do not displace much water and do not produce tsunamis. It is therefore unlikely that an earthquake in New Zealand will cause a tsunami towards Australia. There are now satellite tracking systems that monitor the oceans for tsunamis. Linking these with the seismological data pinpoints where tsunamis may have been initiated so monitoring can be accurately directed. Tsunami warnings are issued following detection of an earthquake but are often withdrawn when the quake is identified as not producing P waves.

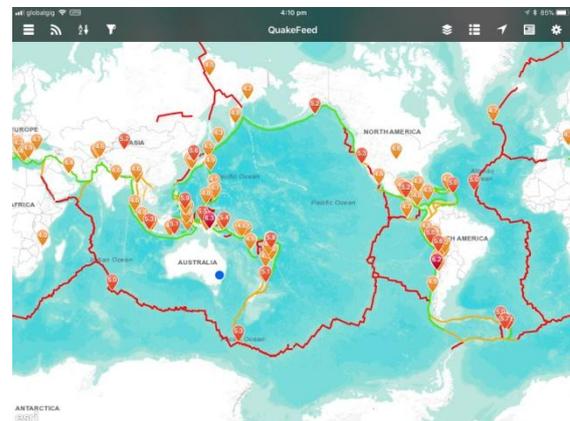


Image from the iPhone app showing the world's earthquakes in the 7 days before our meeting. The red lines are the margins of the tectonic plates.

Last excursion

A well attended excursion travelled out to "Tunbridge Wells" near Cadia to look at some of the heritage remnants from the early mining activity in the region (see photos at end of newsletter). We were guided by **Nedra Burns**, Manager of Health, Safety, Environmental and Social Responsibility, and **Jack Bowen**, Environment Advisor, along with **Graham Brown**, the former owner of "Tunbridge Wells". The visit was facilitated by **Rosie Pritchard**, Senior Community Relations Specialist, and coordinated by **Peter Toedter**.

We inspected remnants of the former Cadia Village and Cemetery along with the Engine House and Chimney, now encased in a metal cage to give it support. From our vantage point we were able to look into the massive hole in the ground which was the main open cut mine

at Cadia. This mining activity literally moved mountains but the original Cadia cemetery was in the way so all the bodies were exhumed, by a team of 26 trained archaeologists to ensure it was done with sensitivity and, after analysis by Dr **Estelle Lazer** (who spoke to the society some years ago), they were reinterred in the new Cadia cemetery as part of the heritage precinct that we visited. The analyses enabled a number of the bodies to be identified based on injuries, age and sex correlated with news reports of the time. Particularly poignant are the number of young children and younger women, some of whom died in childbirth. A booklet on the heritage of the Cadia region, a copy of which was given to each member of OFNCS in attendance, includes a list of the names of those who now lie in this quiet corner of our local region. The bodies were laid to rest in the same layout as in the original cemetery but each one is now marked with a numbered rock bearing details of the person buried in that spot, if known. At the back of the new cemetery is a plot marked for "Poppy" who was a local rabbit catcher whose grave is now marked with a rabbit trap bearing his name and date of death.

The site also includes an aboriginal carved tree (or at least the remnants of one) which was also transferred to the heritage precinct from its original location on the Cadia minesite.

Report on a Briefing Meeting between OFNCS, ECCO and NPWS representatives, Orange Agric. Institute, Tuesday 24TH April, 2018.

Report by Jenny Medd

Present: Fiona Buchanan, Steve Woodhall, Jenny Medd, Murray Fletcher, Rosemary Stapleton, Cilla Kinross, Nick King, Neil Jones, Robert Alford and Jane Paul.

This meeting was held to brief participants on the Draft Plan of Management due to be released for public exhibition and comment in the coming weeks. As expected, the new plan will follow the recently revised format and be presented in two parts: the shorter legal Plan of Management document expected to remain in place for probably 30 years and a second, much more detailed document of Planning Considerations, which does not require legislation for it to be changed. Both parts need to be read in conjunction, as well as being considered alongside the NPWS Cycling Policy and their document *Sustainable Mountain Biking Strategy*.

The Draft documents are still circulating within NPWS offices so hard copies were not available at the meeting. Steve presented the documents electronically in their current form and discussion centred on mountain biking concerns, fire recovery management and time-frames for ongoing issues, with limited fresh ideas or information. Fiona and Steve were due to meet with the Mountain Biking group later the same day, having already had a similar meeting with Orange City Council. The Plan of Management and Planning Considerations documents are not expected to be released for public comment until early May. A meeting of invited participants, including some of those present above, to discuss the Fire Recovery Plan is set for mid-May.

Be prepared to read and make a submission on the drafts when they are released.

Advance Notice – June excursion

The excursion in June will be an overnight stay rather than our normal half day trip to the local region. We are hoping that we might actually meet a quoll in the wild so we are heading to Dunns Swamp in Wollemi National Park (about 2 hours from Orange) on Saturday morning June 16, meeting at the Ganguddy campground for lunch followed by a walk to the weir then hoping for a quoll sighting/viewing in the evening at Dunns Swamp. Sunday can be more guided walks, do your own thing or head home.

Accommodation suggestions for those who don't want to camp include:

- Kandos Fairways Motel (02) 6379 4406
- Franks' Breakaway Farmstay

<http://www.franksbreakaway.com.au/index.html>

- Wilderness Bunkhouse (02) 6379 6244
- <http://wildernessbunkhouse.com.au/>

You might want to book early to ensure comfortable accommodation.

Note that there are fees payable for camping in Wollemi National Park.

National Tree Day Planting planned at Bloomfield Bushland Sunday 29th July 2018

from Rosemary Stapleton, Secretary OFNCS and member of the Bloomfield Bushland Advisory Group

If you've driven along Bloomfield Road or walked along the track in Bloomfield Park you will have noticed bushland (and invasive plants) on the northern side of the road. The bushland is on health service land and a small

group of people, including health staff, have been working to have this area improved. Whilst reduction of the fire risk is important, it's recognised that having a more attractive area for walking and being in the bush will be of benefit to patients, staff and visitors. A walking track to link the health campus to Bloomfield Park has already been built and a map is being designed.

Recently the Bloomfield Bushland Advisory Group was successful in getting an Orange Credit Union Community Grant to do some planting in the bushland on National Tree Day. The funds will also be used to control some of the weeds, such as poplars, blackberries and broom. There are already some natives in the cleared area and more will be planted to add to the diversity. All the organisations on the Advisory Group will be lending a hand.

National Tree Day is Australia's largest tree-planting and nature care event. It is an opportunity for you to do something positive for your community and the environment by reconnecting with nature. National Tree Day started in 1996 and since then more than 3.8 million people have planted 24 million trees and plants and it's still growing.

Put the 29th July in your diary and [join in and make a difference!](#)

More details of the day will be advertised closer to the date. Of course the planting will be dependent on some rain between now and July!

Nature Conservation Council

Cilla Kinross has been elected as the Western Representative of the Nature Conservation Council for 2018. This position requires her to attend (in person or by phone) monthly NCC Executive Board meetings, at which she is able to express opinions on all matters: those relating to the NCC as a group generally but, more importantly, on issues that might have some effect on western New South Wales or where the western groups might want to have a voice in the decision-making process.

Thus if you have a concern in your district that you think should be brought to the notice of the NCC board, Cilla is the person who can help you.

She will also attend the AGM at which motions relating to NCC policy and future direction are put to the meeting. If you have matters that are of a broad policy direction or priority for the NCC, then she can help with the preparation of suitable motions and, if

necessary, talk to the motion at the conference (which is on Saturday, October 20th this year).

One of Cilla's other duties is to help organise the regional conference, when it is in the West. This year, however, it is going to be held in the Southern Region, in Queanbeyan, which may be close enough for some of you to attend. Here is a blurb from NCC about the event:

"There is only one place to be on May 26 and 27 - at the 2018 Regional Conference in Queanbeyan, co-hosted with member group Climate Action Monaro."

The 2018 Regional Conference is a great day of wonderful speakers and practical workshops. It's also an opportunity to hear about campaigns happening locally and the work still to be done for nature in NSW. The themes for this year are native forest logging and climate action.

Creature of the Month

Blue ant

Diamma bicolor



Blue ant at Cadia Heritage Precinct
[photo: the editor]

A special bonus on our excursion to Cadia was spotted by Colina. It was a blue ant, *Diamma bicolor* (Westwood), which is not an ant at all but the wingless female of a flower wasp of the family Tiphidae. These beautiful insects only appear above ground for short periods in late summer to find a male and mate. The male is fully winged and dull brown to black in colour. When he finds a female he grabs her and mates with her on the wing, feeding at flowers as he goes, which also gives the female access to nectar. Once mated, she

digs back into the soil where she hunts for beetle larvae, often scarab larvae, into which she lays her eggs. The females are about the same size as bull ants but brightly coloured. The females may look like walking jewels but they carry a powerful sting and should be left alone. The species is widely distributed in southeastern Australia, including Lord Howe Island.

Other members of the family Tiphiidae have been a long time research interest for Col Bower because there are local terrestrial orchids which mimic certain female flower wasps. The orchid flower attracts the males which attempt to "collect" them, only to find themselves dumped into the flower to pick up the pollinia which they then carry to another flower, again duped into thinking it's a female wasp. *Diamma bicolor* is not associated with orchid pollination, but just imagine what the

orchid would look like if it were to mimic this female wasp.

NOTICES

1. Subscriptions.

Payment of Annual Subscriptions is due following the Annual General Meeting in February. Please send your cheque or money order made out to "OFNCS" to the Hon. Treasurer, Dr Dick Medd, OFNCS, PO Box 369 Orange NSW 2800.

Subscription rates:

Single member – \$25

Each additional family member – \$5

Concession rate (emailed newsletters) – \$12.50

Concession rate (printed newsletters) – \$25

Note: concession rate is for *bona fide* pensioners and students only

VISIT TO CADIA HERITAGE PRECINCT



Members enjoying the view over the Cadia "hole in the ground"
[photo: Helmut Berndt]



Checking out one of the information boards in the Heritage Precinct [photo: Helmut Berndt]



Visit to the Cadia Heritage Cemetery [photo: Helmut Berndt]

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