



Friends of Pallister's Reserve

Pallister's Reserve is a 254 ha wetland reserve on Masons Road, Orford, owned by Trust for Nature, & managed by the Friends of Pallister's Reserve Inc. Established January 1990

**Oct
2025**



Open Day: Sunday, November 2, 2025

10am: Morning tea

10:15am: Talk

Noon: Lunch

1 pm: Nature Walk

— RESCHEDULED —

GROUNDWATER MANAGEMENT IN SOUTH-WEST VICTORIA



A Presentation of the Friends of Pallister's Reserve
to Celebrate National Water Week

Matthew Hudson & Natalie Craven
Southern Rural Water

Orford Hall Memorial Hall, **Sunday November 2**

Matthew Hudson is the Principal Hydrogeologist of Southern Rural Water, the agency that regulates and ensures the resilience of groundwater supplies for all of southern Victoria. A major priority for Matt is to seek "... a better understanding of the amount of groundwater that can be taken from each aquifer system without unduly affecting existing users, the environment and Traditional Owner values. This includes how we consider and adapt to climate change."

- Join us at Orford Memorial Hall, Orford for morning tea at 10 am prior to the presentations beginning at 10.15 am.
- A member's car will be leaving the Port Fairy Visitor Information Centre at 9.30am to lead visitors to Orford Hall.
- Subsequent to the presentation, attendees are invited to visit Pallister's Reserve – 5 km from Orford – to share a BYO lunch and a walk in the Reserve.
- A Trust For Nature Reserve, Pallister's is managed by local volunteers. With an area of 254 ha – a mix of native woodlands, wetland, and pasture – it provides a rare surviving example of the once extensive forests that once dominated South-West Victoria, most of which have long been cleared for stock-grazing, agriculture, and agroforestry.
- Seasonally-appropriate clothing and footwear are advised.

Orchids in October

Nick Glover photographed three orchids blooming in the Reserve.



Rabbit Orchid –
Leptoceras menziesii

Bird Orchid –
Chiloglottis valida



Wax-lip Orchid –
Glossodia major

Friends of Pallister's Membership

New Friends are always welcome! By registering as a member you contribute to the ongoing volunteer conservation work of the Friends of the Reserve.

Annual membership costs \$20 per person, and is due at the start of each calendar year. Included is an electronic copy of the monthly newsletter.

Click [here](#) for further information.

Pallisters Reserve lies in the traditional Country of the Eastern Maar and Gunditjmara peoples, who never ceded their sovereignty of the Land. We are indebted for their past and ongoing custodianship.

Meetings are held at the Reserve; usually every fourth Sunday except July and December.

Co-leaders: Julia Schlapp 0427 778 265 & Anthony Leddin 0408 333 046 Sec./Treasurer: Trevor Kennedy 5565 8692;

Minute Sec.: Nick Glover; Newsletter Editor: Ross Hicks (pallisters_newsletter@proton.me).

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<http://www.apswarnambool.org.au/pallisters/>

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Monitoring and Control of Foxes and Cats at Pallister's Reserve June–September 2025

At the September meeting Lisette Mill reported on her 3-month trial study of foxes and cats on the Reserve. Three camera traps were installed, along with two Canid Pest Ejectors (CPE), devices loaded with PAPP poison discharged into the mouth of a fox biting the bait head. Native species sometimes trigger the device, but in such a way that it does not cause death. To monitor the presence of feral cats dehydrated meat lures were also installed, along with an open cage heavily charged with cat scent.

Four foxes were photographed in July, with one additional distant sighting in early August. Foxes interacted with the CPE three times: on two occasions the CPE was uncharged, but on the third, the fox triggered the device and was dispatched.

Three different feral cats were observed in June and July, but no cats or foxes in the 7-weeks period from August 10 to September 27, tempting the conclusion that the impact of foxes and cats might be limited. However, not only was the monitoring installed at the Pallister's minimal considering the size of the Reserve, but the extended 2024-5 drought period would have likely have reduced feral populations for the time being.



Well-fed feral cat captured by a thermal camera installed at Pallister's Reserve. The cat is checking out a lure. Date: 10/6/2025.

The consensus that emerged at the meeting is that improved year-round monitoring is a priority, and that cats may be more detrimental than foxes. It is estimated that each feral cat in the bush kills over 700 mammals, birds, reptiles and frogs per year, along with almost 400 invertebrates. In addition, only cats spread *Toxoplasma gondii*, a single-celled parasite that has proven deadly for small mammals.

Lisette outlined available control strategies: CPEs and buried baits for foxes, and cages – with and without remote telemetry – for cats.

Not only is better monitoring of pest predators needed, but also improved knowledge of the native species likely to be preyed upon.

While the boundaries of Pallister's Reserve remain porous, predatory ferals can never be excluded. With regard to cats, a red flag would be the presence of resident females with young, not just because of the volume of prey consumed, but also because of the elevated potential of juveniles to spread toxoplasmosis.

Toxoplasmosis

Life Cycle

Neither a bacterium nor a virus, *Toxoplasma gondii* is a single-celled parasitic organism belonging to the *protists*, a grab-bag kingdom of typically unicellular, relatively simple organisms not belonging to any of the other five kingdoms of life: plants, animals, fungi, and two kingdoms of bacteria.

Globally-distributed and common, *T. gondii* is known to parasitize almost all warm-blooded animals, including birds, dolphins, and fur seals. And humans. Its life-cycle is [complex](#), but the essence is that *T. gondii* matures and sexually reproduces, forming eggs – “oocysts” – in its “*definitive*” host – cats. The oocysts are then passed to *intermediate* hosts where *T. gondii* life-cycle stages within the cysts divide asexually. The cycle is completed when cats prey upon the intermediate hosts and the cloned parasites are released from the cysts into the cat's digestive tract.

The pathway for the oocysts into the intermediate hosts is through infected cats' faeces. In this way, millions of oocysts can be released, entering the soil, water, and food paths. Here they can survive – remaining infective – for months on end in favourable conditions.

Cats are the *only definitive* hosts for *T. gondii*. Without cats *T. gondii* would be unable complete its life cycle and would disappear. Although it can devastate the intermediate hosts, cats – the definitive hosts – rarely suffer from carrying *T. gondii*.

[Not all cats](#) spread *T. gondii* oocysts. Most likely are juvenile or immunocompromised cats who have recently consumed infected prey. The shedding of the oocysts continues for about 2 weeks, and then ceases. Healthy, mature cats usually develop immunity to the parasite and do not excrete oocysts. [It has been estimated](#) that less than 1% of cats may be shedding oocysts at any one time.

In nature, the primary intermediate hosts for *T. gondii* are rodents and birds, animals that felines commonly prey upon. Oocysts infiltrate the central nervous systems of mice and rats neutralizing their aversion to cats and thereby increasing their chances of becoming cat food.

Owls and falcons are the birds carrying the highest loads of *T. gondii* cysts – unsurprisingly, since these birds prey heavily upon rodents. But seed-eating birds such as pigeons and finches also are infected through different pathways.

Evolution has symbiotically favoured both the survival of the felines, and the reproductive success of the protist parasite. Cats benefit because the parasite renders their prey easier to catch. The parasite benefits because of the asexual reproduction in the intermediate hosts, which also extend the range of *T. gondii*. Indeed, infected migratory birds are considered responsible for its world-wide distribution.

Other Host Animals

As noted above, almost all warm-blooded animals can be intermediate hosts for *T. gondii*. In many cases there may be no obvious symptoms, but in others possible consequences include weight loss, weakness, full or partial paralysis, blindness, disorientation, or death: after being inoculated with *T. gondii*, all [eastern barred bandicoots](#) die within 15–17 days. (In the wild bandicoots would likely acquire the disease by eating infected

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earthworms, a major component of their diet.) Otherwise little is known of the parasite's impact on other Australian mammals. Because they evolved in the absence of any cats, native Australian mammals, particularly marsupials, [are suspected to be highly susceptible to toxoplasmosis](#).

Kangaroos, wallabies, koalas, echidnas, possums – bushy- and ring-tailed, and sugar gliders are all regularly seen at Pallister's Reserve. But for other mammals, particularly the smaller mammals – antechinus, dunnarts, native rats and mice, bats, phascogales, quolls, and other possums and gliders, – our records are either scant or non-existent. Some of these would have been regionally extirpated in the 1900s. Like wombats. It is generally assumed that a combination of unsuitable habitat, inadequate monitoring, and direct predation by foxes and cats is largely responsible for the apparent absence of the remainder. But perhaps toxoplasmosis is also a telling factor?

Toxoplasmosis is a lively area of research and as fresh insights emerge, conclusions that looked firm one decade ago are now nuanced.

Much still remains to be done. Most Australian studies to date have been confined to merely measuring seroprevalence, that is, the proportion of an animal population exposed to the pathogen. The crucial next challenge in understanding toxoplasmosis is to determine the physiological and behavioural consequences for specific intermediate host species.

Toxoplasmosis in Humans

It is estimated that about 1 in 3 humans have been affected by toxoplasmosis, acquired by ingesting unwashed fruits and vegetables or under-cooked meat, or by direct contact with cat faeces. Most – but not all – humans remain asymptomatic to being infected. Of most concern are infants born to mothers who acquire the parasite during pregnancy. Later in life, these children can suffer loss of vision and hearing, mental retardation, and, in severe cases, death.

Note: "asymptomatic" means having no *identified* symptoms, it does not necessarily imply symptom-free.

A recent [review](#) compared the prevalence of *T. gondii* infection in healthy people to patients suffering mental and neurological disorders. The study pooled the data of 21,093 study participants, 8592 neuropsychiatric patients and 12,501 healthy controls. Of the apparently healthy controls, 25% had been infected compared to 38% of the neuropsychiatric individuals.

Does *T. gondii* infection make us more susceptible to developing mental or neurological disorders? Alternatively, [mounting evidence](#) suggests that neuropsychiatric patients are more likely to be immunocompromised, thereby increasing their chances of harbouring the disease.



Pallister's members – Robert Whitehead, Ray Chandler, unidentified gent with spade and smile, and Gordon Ryan – enjoyed relocating Bill Pallister's loo in March 1994.