

# **Water, Climate or Coal**

**Undermined Inc opposes significant damage to the environment**

**Undermined Inc**

**David Eden, President**

**2021 February 15**

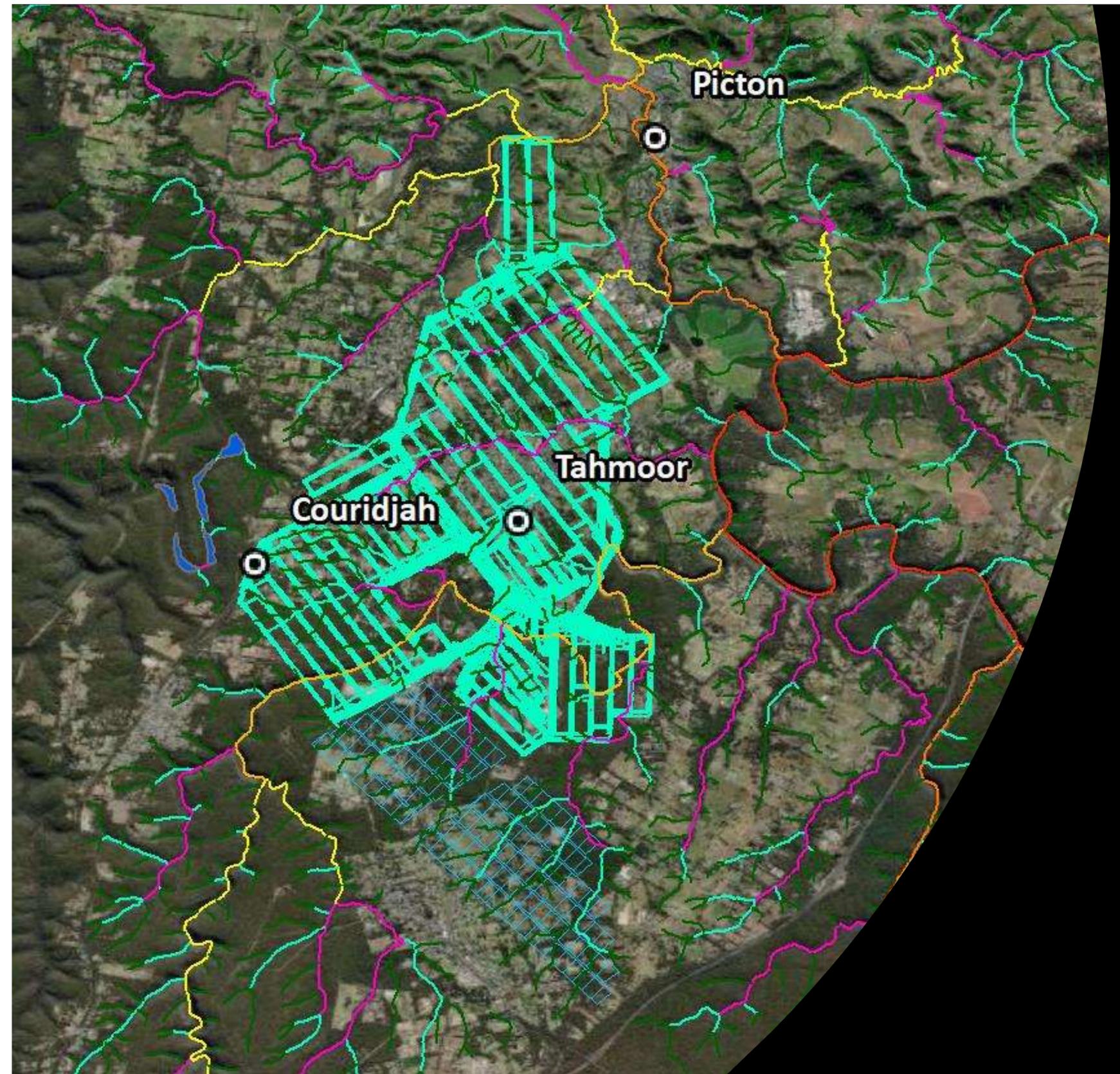
**Atmospheric carbon dioxide 411ppm**

# Reasons to refuse the SIMEC proposal:

## Mine design does not balance the gross scale of environmental damage

- **Drying:** the SIMEC mine design maximises extraction of the valuable coal resource where there will be unacceptable surface subsidence, water loss, drying, loss of heritage significance and loss of biodiversity.
- **Green House Gas (GHG) emission:** Scope 1 and 2 Green House Gas emissions of 28 million tonnes from this project will not be captured or offset.
- **Unacceptable risk increase:** climate change has already increased the frequency of unacceptably hot weather, bushfires, drought and extreme rainfall events.
- **Self regulation is inadequate:** this IPC is the last and only chance to ensure irreparable damage will not happen.

- **Dr Philip Pells** will address this IPC on geology and hydrology on Wednesday.
- **Thirlmere Lakes** are the **blue** colour 700 metres west of longwall mining in 2001.
- Lake Couridjah is the middle of five lakes, normally the deepest with a maximum water depth over 6 m before mining and the closest lake to Tahmoor Coal Mine.
- Past mining is **turquoise** and the **darker green** is mining proposed by SIMEC.
- This and the next three graphics in our Undermined presentation are from the Environment, Energy and Science (EES) 2021 Progress Report on the Thirlmere Lakes Research Program.



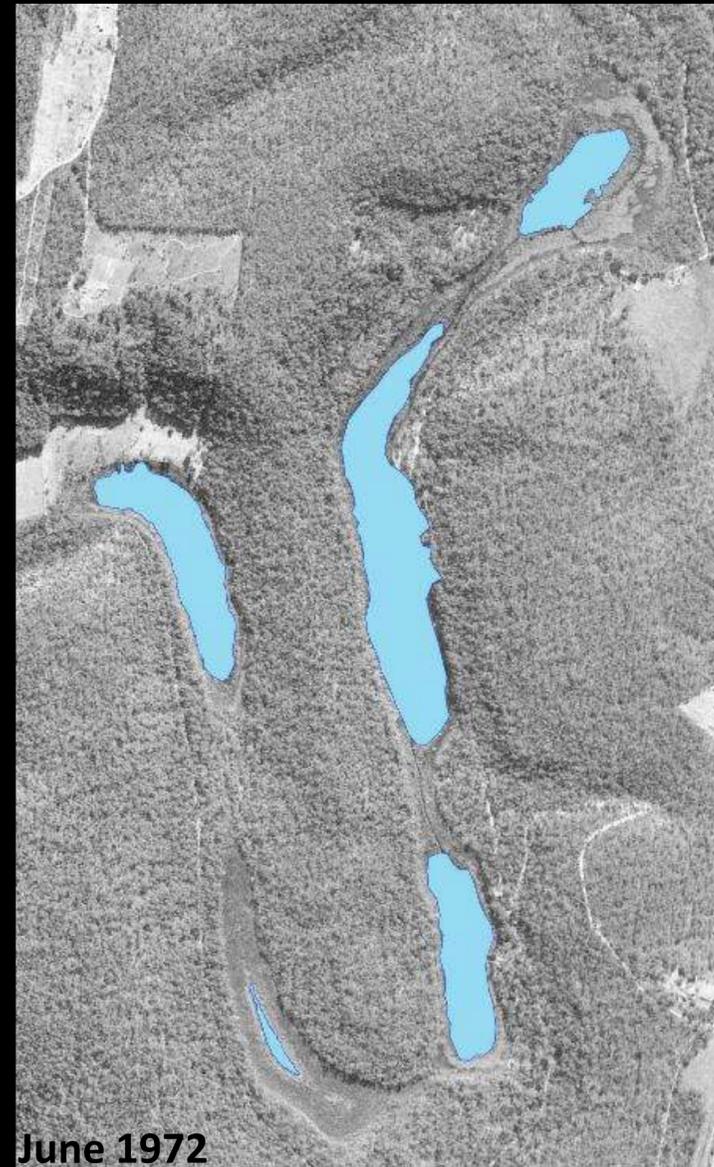
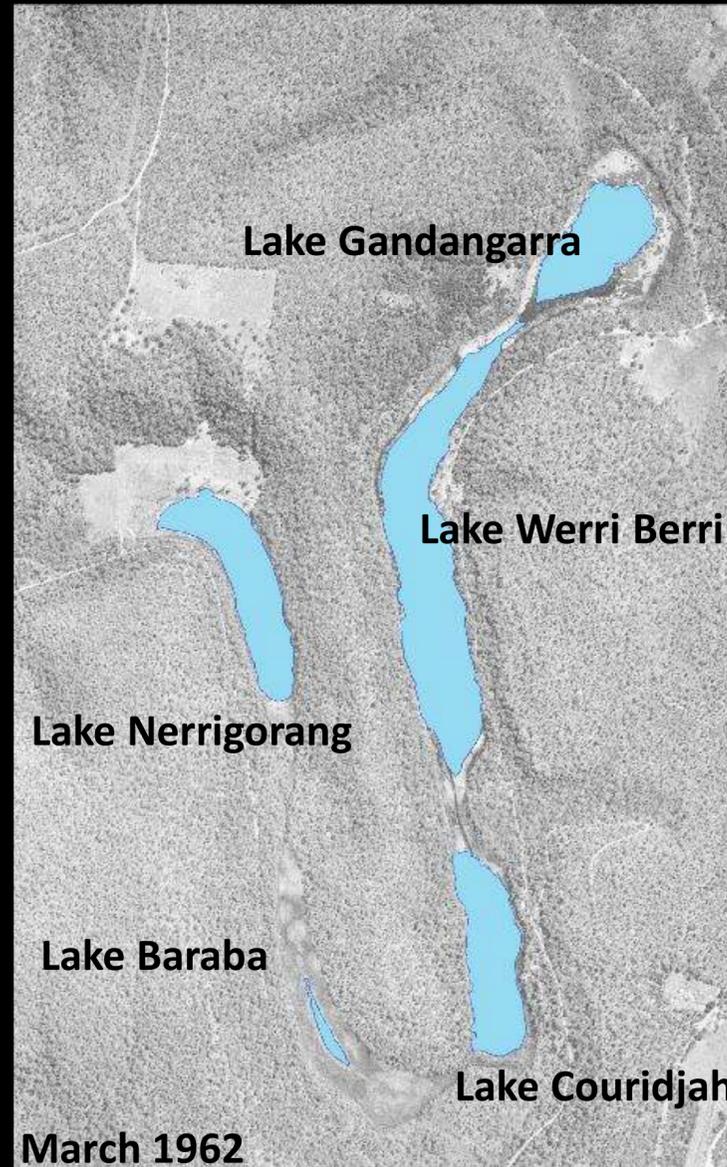
# Why drying is important

## The drying of Thirlmere Lakes since about 2000 shows what we don't know

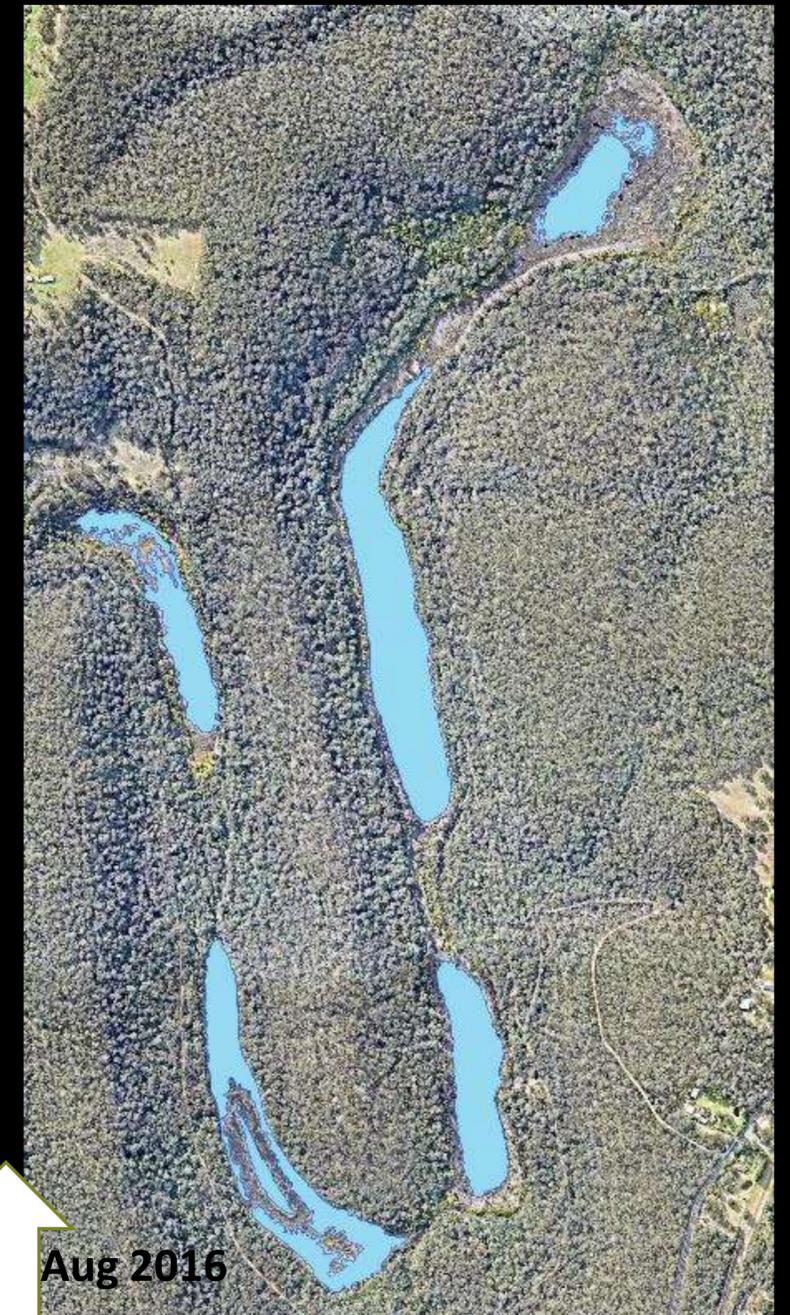
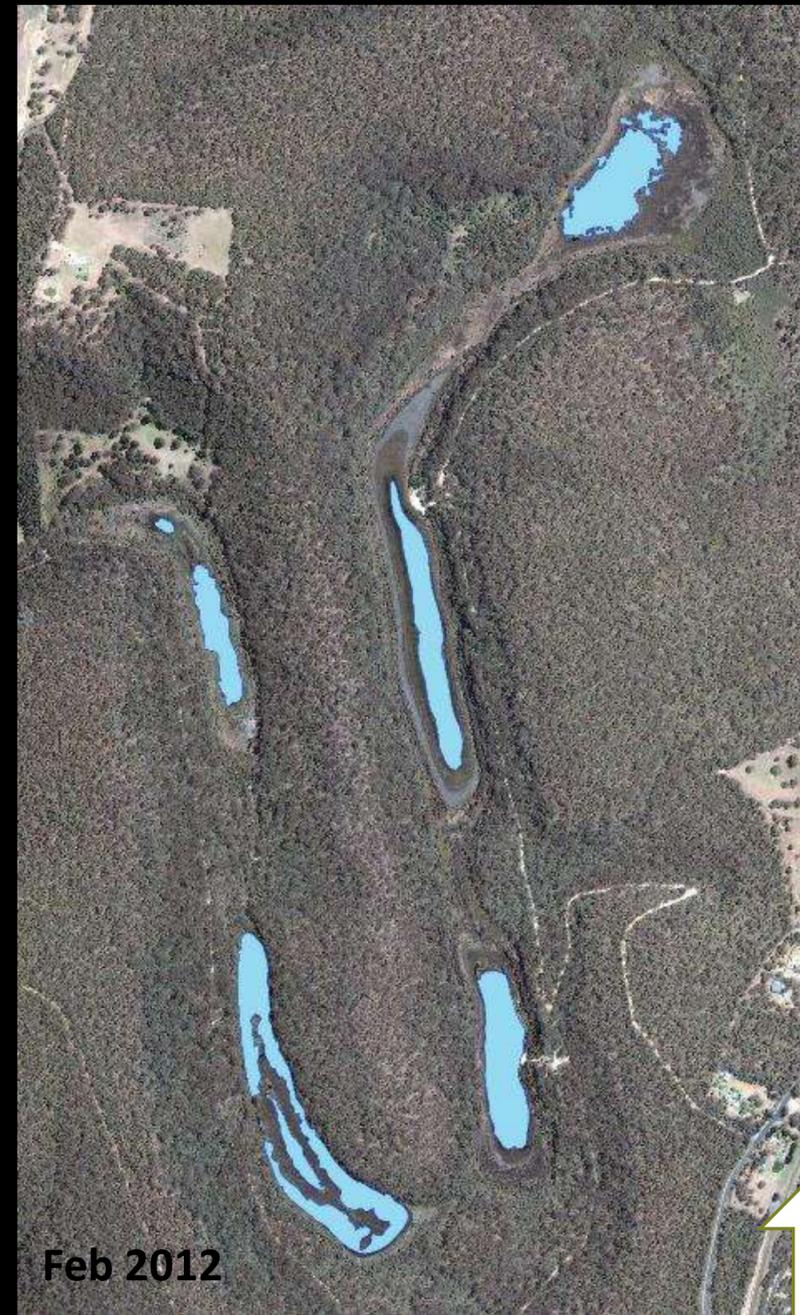
- The 70 members of community group Undermined ask why Thirlmere Lakes started drying when underground mining got closest and the mine “produced” water trebled in volume.
- Has rock fracturing to the east reduced water flowing west so Lake replenishment is less?
- Is climate change the major cause of lake drying? Is mining contributing to climate change?
- Will the next bushfire be so bad that it burns the water retarding **peat** lining the lake bottoms?
- Can we rely on the NSW government to regulate GHG emission affecting the climate, to limit surface drying, to enforce licence limits on waste water produced by coal mines?
- We have had the Riley Inquiry in 2012. Now the NSW government is spending \$1.9 million on scientific research, yet we still do not have a measure of mining's contribution to drying.



# A Pictorial History of Lake Water Levels

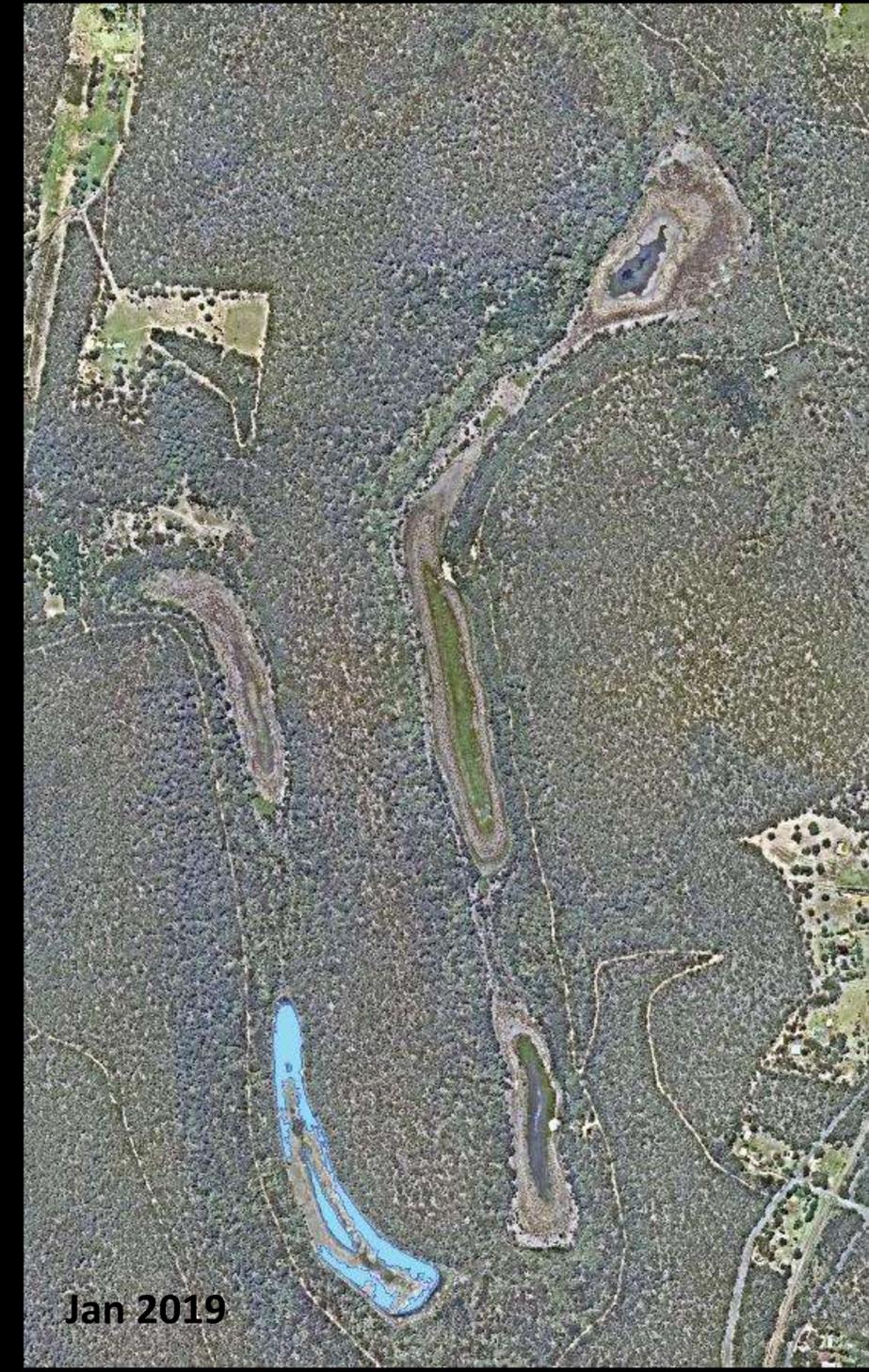
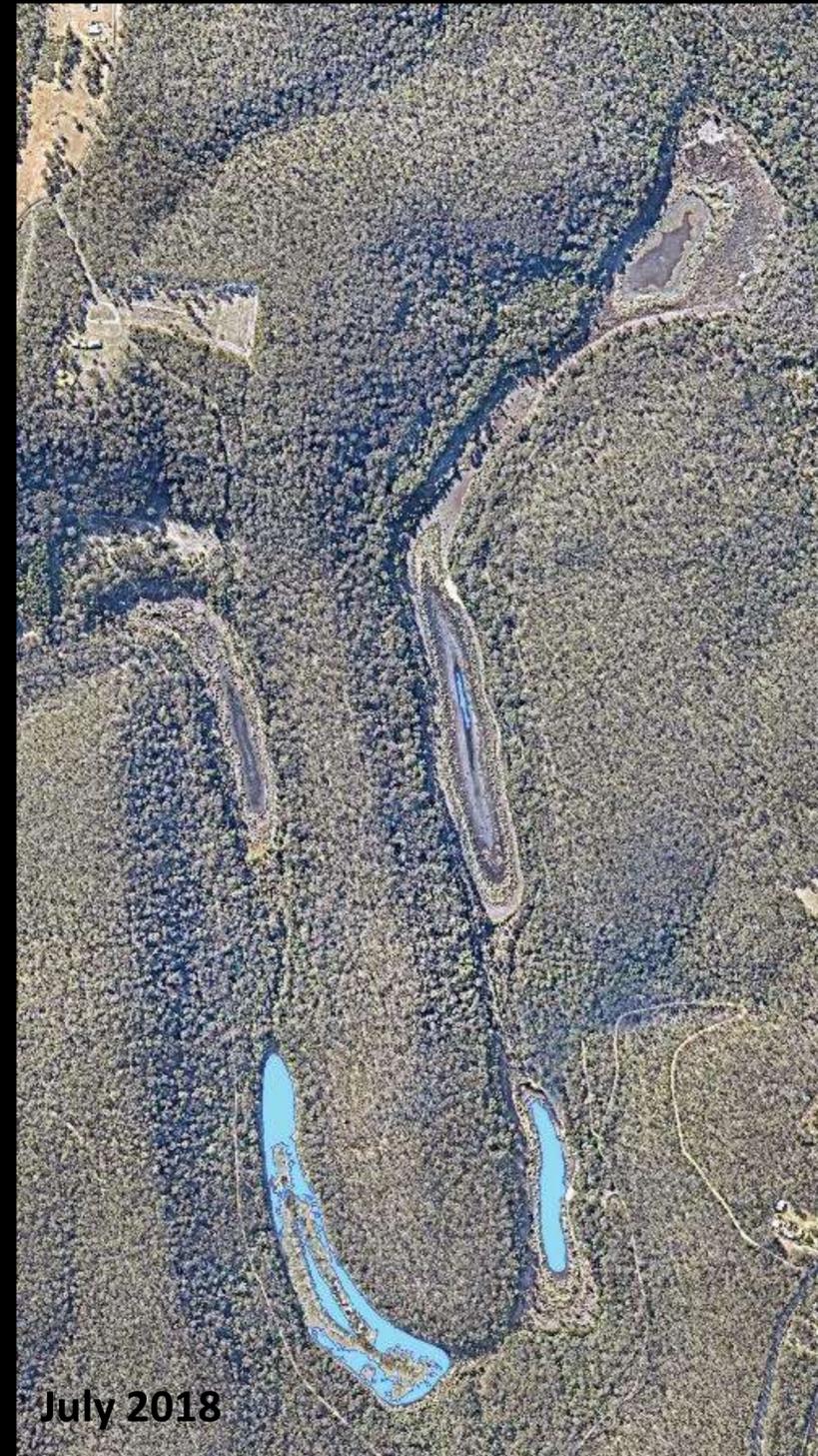


# A Pictorial History of Lake Water Levels



Real time water level monitoring starts 2014

# A Pictorial History of Lake Water Levels



# Aboriginal heritage

## “Without water, you lose the heritage”

- Do the rubbing, sharpening or grinding grooves in Redbank Creek and Myrtle Creek have an Aboriginal origin?
- Our photograph was taken in Redbank Creek 200 metres downstream from where the IPC inspected remediation work last Tuesday 9 February 2021.
- It was a First Nations person who said: “Without water, you lose the heritage.”
- Undermined says biodiversity and Aboriginal cultural heritage loss would be significant, passed by one generation on to future generations. The SIMEC Application is not consistent with the principle of inter-generational equity.



# Climate change is forcing us to revise our risk assessment

- Bushfire risk is increasing. Professor Penny Sackett will present the issue of climate change on Wednesday.
- Green Wattle Creek fire 2019 December 6 at Oakdale occurred earlier in the fire season because of climate change.
- This photo shows David and Malle Eden's carbon sequestering 1998 tree plantation burning.



- My family had 18 years to prepare for the 2019 fire. This photo shows our neighbour's property going up in flames.
- Extending Tahmoor South would emit Green House Gases making climate change worse, increasing the risk of bushfires and drought.



- Our dam helped save other properties nearby when the Green Wattle Creek fire struck in 2019.
- As well as warming, other changes to our climate include increasing weather variability, less rainfall on average, occasional more intense rainfall events (floods) when it does rain and longer droughts.
- Even with conditions to offset GHG emissions, in a hotter world how much bigger will dams have to be?
- How much more effective will bushfire preparations have to be?



# Inadequate management

## Project refusal is required rather than adding more conditions

- Water produced by the Tahmoor mine results in white, dried salt deposits lining the banks of Bargo River. Existing mining conditions and “adaptive management” have not prevented river pollution. Dr Ian Wright will describe the mine’s pollution of Bargo River tomorrow.
- Injecting cement and inflexible plastic into subsided, cracked and dried creeks is not “rehabilitation”. Unless water seals remains flexible, they are not durable.
- DPIE has not recommended offsetting greenhouse gas emissions from Tahmoor South.
- SIMEC applied to extend its mine before the scientific results of investigating Thirlmere Lakes have come in, failing to apply the latest science and best practice to its mine design and environmental predictions.
- Are there low expectations? Why did South 32 ask DPIE to assess their Dendrobium Mine extension, so inadequately planned that South 32 intended to dry upland swamps? Why would SIMEC offer such this environmentally damaging proposal for your consideration?

# Economic considerations

## Not moving on will strand mine employees in jobs that are unsustainable

- Mining jobs are well paid, because of the capital intensive nature of the mining industry.
- There are less polluting alternatives to blast furnace technology making steel. I designed air pollution collection hoods to go over carbon arc smelters at Comm Steel in Newcastle in 1972. The Gupta Family Group have already announced Liberty Steel Whyalla is investigating “green steelmaking”, to be explained by Tony Wood and Associate Prof John Pye this afternoon.
- Refusal will help mine workers to transition into sustainable employment early.
- Refusal will help the Gupta Family Group to green its steelmaking earlier.

# How do we adapt socially to environment change?

What will it take to convince us to act, to counter the effects of global warming, climate change and weather weirding?

- **Scientific knowledge** - Joseph Fourier in 1824 realised the Earth is kept warm by its atmosphere. Seventy years later, Svante Arrhenius measured just how much carbon dioxide influences this greenhouse effect.
- Are increasingly **higher record daily temperatures** enough to convince the world population that global warming is happening?
- Perhaps knowing the number of people dying from record high temperatures would be enough to shift people into mitigating climate change? The French remember that 4 867 people died from the heat in the 2003 Paris heatwave and that there were 14 000 excess deaths (compared to the usual death rate at that time of year) in August 2003 in France due to one spell of hot weather.

# What will it take in this resilient, confident country of Australia?

- Numbers of **animals killed** by climate change? Will the estimated 3 billion animals killed by the 2019 December to 2020 January bushfire sway politicians, planners, wildlife experts and governments to act on climate change?
- More **people died** from the 2019 bushfire than in the 2001 bushfire. As well as fires killing firefighters, epidemiologists and demographers calculate there were more than 400 excess deaths due to bushfire smoke pollution. Is the number of human deaths enough to galvanise us and other people to act now?
- Could we learn from **Nicholas Stern's** 2006 scientific review of economic impact of climate change? Since 2006, I think there has been consensus that mitigating early and reducing greenhouse gas emissions early will reduce the economic cost of remediating climate change.

## **Do Australians work out problems for ourselves or do we slavishly follow great minds and the ideas of powerful and popular people?**

- **Bob Hawke** when Prime Minister in 1995 pledged a 20% cut to Australia's greenhouse gas emission by 2005.
- **John Howard** wanted to reduce GHG emissions but couldn't work out how.
- **Kevin Rudd** in 2007 said "Climate change is the defining challenge of our generation."
- **Julia Gillard** in 2011, **Barack Obama** from 2008 to 2016 and **Malcolm Turnbull** even when Prime Minister struggled to bring colleagues on side.
- **Pope Francis** declared a global "climate emergency" in 2019.

- **Summarising:** 200 year old scientific knowledge has not been enough to change human behaviour. Our experience of more frequently hot and dryer weather has not been enough. Great and powerful people haven't been able to persuade all of us to mitigate climate change, and they haven't yet encouraged us to sufficiently reduce our **greenhouse gas emissions**.
- It is up to this Independent Planning Commission to weigh the scientific evidence presented to you. **Landscape scale dewatering** at Thirlmere Lakes, mine subsidence in what were natural areas not yet covered with housing have lost their cultural heritage.
- The NSW Rural Fire Service had to assist SIMEC to stop Tahmoor Coal mine site burning in the last **bushfire**. Faced with more intense bushfires due to climate change and drought, Undermined hopes this Independent Planning Commission will be more effective than a possum trying to survive a bushfire - their option is to climb higher and higher up a tree.

## **Project refusal is the scientific, logical outcome**

- Perhaps little good has come from our Covid 19 pandemic. Denying that it was a pandemic in other countries resulted in human death and slowed economic activity. Decision making informed by science appears to have worked better in Australia and NZ, saving lives as well as economies.
- This Independent Planning Commission can apply scientifically informed thinking like that used by epidemiologists to deal with pandemics, to the equally complex ecology and climate problems Tahmoor Coal presents. Both problems have many variables and inter-relationships and are difficult.
- Because you as Commissioners understand ecology and planning problems, we at Undermined believe you will use science and logic in this case to arrive at a well considered, sustainable decision.