GEOLOGY

Welcome to Burrowa-Pine Mountain National Park, a place to experience the undiscovered

There's an unexpected surprise in this hidden corner of Victoria. Rising abruptly from the banks of the Murray River to a height of 1062 metres, Pine Mountain is reputedly one and a half times the size of Uluru.[1] That's about 321 buses, or 708 Eastern Grey Kangaroos.

Neighbouring Pine Mountain is Mount Burrowa, and together, these two impressive peaks make up Burrowa-Pine Mountain National Park, listed in the IUCN category II (National Parks) of the United Nations' List of National Parks and Protected Areas.

There's something for every type of explorer – discover opportunities to bushwalk, camp, picnic, climb, four-wheel drive and bird watch.

The area is known for its diverse and rich vegetation, some species found nowhere else in the world, so remember to tread lightly and appreciate your surroundings.

Walks of interest

There's a range of walks to choose from, from a short stroll all the way to a four day trek.

- Cudgewa Bluff Falls
- The Lookouts Walking Track
- Rocky Knob Walk
- Pine Mountain Summit Walk

For more trail information, updated changes of conditions, and bushfire safety, visit the Parks Victoria website.

Mount Burrowa and Pine Mountain - same National Park, different geological story

Considering the close proximity of Mount Burrowa and Pine Mountain, you may be surprised to learn of their geological differences. Mount Burrowa (pronounced boo-ro-wah) is the remnants of a gigantic caldera or collapsed volcano. At 1300 metres, it's around 240 metres higher than Pine Mountain and is made up of a hard volcanic rock called Jemba Rhyolite.[2] The softer rock on the surface has long eroded away leaving the hard rhyolitic summit peak behind.

Opinions differ on exactly when Mount Burrowa was formed, but much of the literature suggests it's a more ancient geological formation than Pine Mountain. The difference in geology between Pine Mountain and Mount Burrowa is believed to contribute to distinctly different vegetation, soil and ecosystems. While both mountains might experience a dusting of snow on their peaks each winter, Mount Burrowa has a slightly more alpine environment than Pine Mountain – an extra 240 metres will do that.

That's a nice boulder

Considered a monolith (a single gigantic rock), Pine Mountain is made up of a unique type of pink and grey granite known as 'leucogranite.'

Leucogranite is an igneous rock from the plutonic family, this means that unlike lava or basalt (which form after erupting through the Earth's crust) leucogranite cools and solidifies beneath the Earth's surface.[2]

Today, Pine Mountain is largely covered by vegetation, humbly disguising its significance as one of Australia's largest rocks. Visitors and explorers of Pine Mountain can spot large areas of exposed granite, delighting in the remarkable pink hues and geological significance.

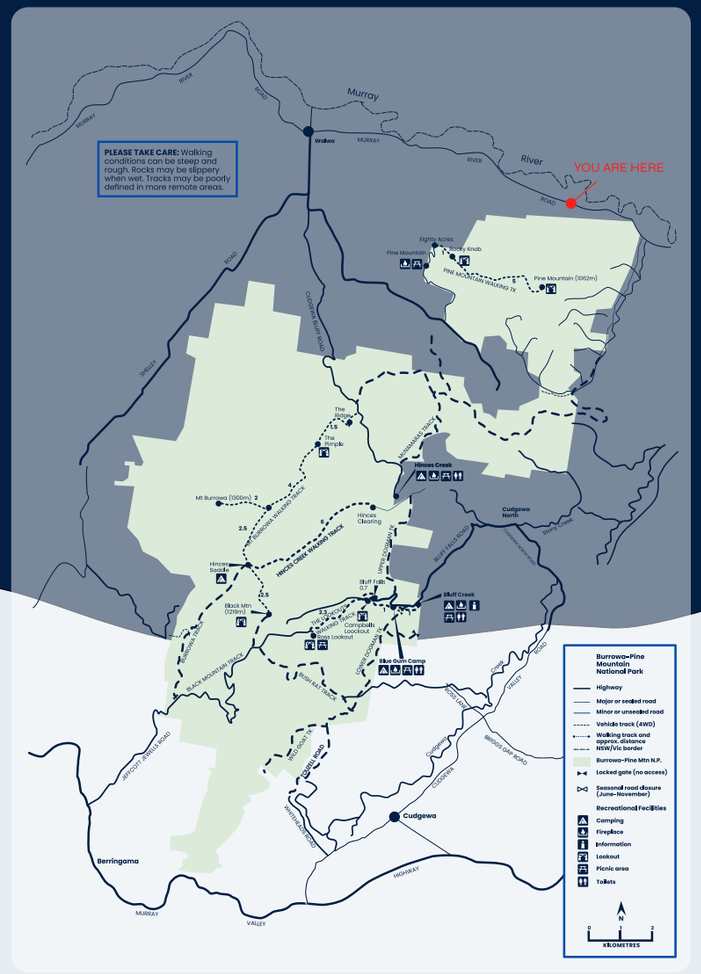
Formed way back in the Devonian Period...

...when life on land was just beginning. To put in perspective just how old Pine Mountain is, the giant monolith you see today was formed in the Devonian Period (around 405 million years ago).[2] Often called the 'Age of the Fishes', this was a time when sea life prevailed, the first vertebrates were just beginning to appear on land, and all the Earth's continents made up Pangea (the ancient supercontinent).

The mountain itself is the weathered remains of a mass of molten magma that accumulated over many millions of years on the bottom of an ancient seafloor off the coast of Pangea. During the Devonian Period, the rising magma pushed up the sea floor, but the molten rock never broke through the surface.[2]

Interestingly, for plutonic rock to properly cool beneath the earth's surface, the overlying layer of marine sedimentary rock must be at least one and a half to three kilometres thick! For this reason, marine sediments containing 'graptolite fossils' (animals once abundant in the world's oceans) could once be found within the overlying rock of Pine Mountain and can still be found in the hills nearby.[2]

Today, the kilometres of marine sedimentary rock that once formed the sea floor and covered Pine Mountain has eroded away, leaving the solidified granite rock we see today.



A diverse range of soils lie beneath your feet

A variety of soils occur throughout Burrowa-Pine Mountain National Park depending on the topography, elevation and bedrock material.

Weakly bleached gradational soils dominate the steep montane slopes and plateaux, while undifferentiated sandy loams are found on the steep dry slopes. The basins and plateaux consist of crumbly reddish gradational soils, while red duplex soils form on the undulating slopes.[4]

The geological and topological differences have resulted in distinctly different ecosystems – each mountain supporting similar but also different plant species and ecosystems.

Citations:

1. Parks Victoria. (2008). Burrowa-Pine Mountain National Park Visitor Guide.
2. Research compiled by John Murphy (Thowgla) for the MLLS Tumbarumba Songlines Project (2018). Pine Mountain & Mount Burrowa Upper Murray.
3. Scott Thompson, Parks Victoria.
4. Victoria. National Parks Service (June 1996). Burrowa-Pine Mountain National Park - Management Plan.

Mount Koziuszko, New South Wales	2228 m
Mount Bogong, Victoria	1986 m
Mount Burrowa, Victoria	1300 m
Pine Mountain, Victoria	1060 m
Mount Mittamatite, Victoria	1000 m
Mount Elliot, Victoria	917 m
Uluru, Northern Territory	863 m
Wermatong Mountain, Victoria	775 m

Elevation in metres

Speckled Warbler
Pyrrholaemus sagittatus