







### Mark Bonnin Walking Trail

#### Welcome to Hiltaba Nature Reserve

This Walking Trail commemorates Dr Mark Bonnin AM, one of the founders of Nature Foundation

- the “green” trail  a 2.7km, (1.35 km each way) return walk with easy grade to two waterfalls.
- the “blue”  9.2 km loop including a rocky gorge.
- a longer rougher 9.7 km “red”  loop including the gorge and climbing to the Lookout.

The different trails are identified by the colour markers on the sign posts. The distance markers show distance to the carpark if completing the  loop trail.

The  and  trails contain rough and steep terrain. All walkers should wear weather-protective clothing and strong footwear, carry an adequate supply of water (min. 2 litres per person), as well as an adequate supply of food. It is recommended to not walk alone. UHF Duplex ch6 can be used in an emergency.

#### ❖ Before you set off ...

Inform a responsible person of your proposed route and expected time of return.


**Getting started.** The Walking Trail commences 17 km from the Hiltaba Homestead. It can be reached by 2 WD in dry conditions following the directions below.


On the main road heading South from the Homestead, turn left (East) at the junction, onto the Iron Knob road. After 16.4 km, turn right on Lookout Track. The key obtained from the Manager will unlock the chain over the track. Please lock this as you pass through. One km further on, leave your car at the Car Park for the Mark Bonnin Walking Trail.



**3.5 – 2.5 km** As the trail leaves the gully, deeper soils allow a greater variety of vegetation: as well as the Spinifex one can find Mallee, Acacia, Senna, Dodonea, Eremophila, Saltbush (Chenopods) and Oleria species.

**2 km Junction of Red and Blue Trails.** After the 2 km marker, the blue and red trails separate. The blue trail continues for 1.8 km on a cleared trail directly to the car park, while the red trail climbs on a rough route to the Lookout. (2.3 km to Car Park)

If returning by the  trail, one could always walk up the rough vehicle track to the Lookout, or drive if using a 4 wheel drive vehicle.

**2 km  Trail** The ascent to the Lookout Hill proceeds through scrubby vegetation of Native Hops ( *Dodonea*), *Grevillea* and *Acacia*, through rocky terrain, with large rocks with columnar joints cutting into the volcanic rhyolite rocks at right angles to the slope.


These types of columnar joints (like organ pipes) are typical of slowly cooled thick lava flows and are seen in many other locations in the Gawler Ranges, and are especially well formed in the creek behind the Hiltaba homestead.



*Grevillea*



*Acacia*

**1.5 km  Trail** The 1.5 sign is just prior to the Lookout. From the Lookout you have a magnificent view over large areas of the Hiltaba Nature Reserve. Looking south-westwards, and then slowly turning clockwise, you can see: claypans and salt lakes, Waroona Bluff, Mt Friday and Barber Hill.

The Lookout Hill is made up of very uniform Eucarro Rhyolite which is part of an enormously thick silica-rich lava flow which erupted from a super-volcano here nearly 1.6 billion years ago.

The trail descends 1 km to the car park along the 4 w.d. track.

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**Please return the key to the Hiltaba Manager to claim your deposit.**

These notes (text & photos) are provided by Nature Foundation SA volunteers: P. James, S. Herzberg, M. Nicholls & J. Whitford.

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**7.3 km** After the second waterfall, the trail follows along the side of the hills on loose alluvial scree made up of angular lava fragments. Erosion has removed much of the topsoil, and exposed the volcanic rocks to weathering and erosion, and the rocky surfaces are difficult to traverse.



The thinner soils are covered with Spinifex (*Triodia*) species, while on slightly deeper soils one finds Bullock Bush (*Alectryon oleifolius*) with its leaves resembling those of the European olive and Black Oak (*Casuarina pauper*).

**7 km** Views across the valley towards Barry Bore and Warner Bore can be seen, with taller Eucalypts in the creek lines. In the SW, towards the township of Wirulla, the line of salt lakes along the edge of the Gawler Ranges originate from an ancient river which once flowed down this large valley called the Corabinnie depression. It also contains mobile (moving) linear sand dune fields which reflect the most recent prevailing wind direction.

**6 km** The trail continues in Black Oak (*Casuarina*) woodland

**5.5 km** One can see a large Western Myall tree (*Acacia papyrocarpa*) to the south of the trail. Myall are extremely long-lived trees and it is likely that this one is many hundreds of years old, but still in the prime of its life. This Myall, like most *Acacia* species, has phyllodes rather than true leaves. These are greyish green in colour and give the silky appearance to the foliage.



**5 km** A Native Apricot tree (*Pittosporum angustifolium*) is growing to the left of the trail. The fruit of this tree (also known as Gumbi Gumbi, Bitter Bush or Native Willow) changes from green to orange and when ripe, splits open, with sticky red seeds. An infusion of the seeds, fruit and leaves was a remedy for pain relief and cramps while a concentrate of the fruits was a bush medicine for colds, cramps and itches.



**4 km** The trail turns to the north following a rocky gorge. No path is cleared in this gorge, and walkers should take care.

The gorge provides various shady hollows where water remains long after rain. Evidence of visits by kangaroos, euros, wallabies and wild goats can be found.

## Landscapes of Hiltaba

The variety and diversity of rocks, and minerals, landscapes and landforms that are displayed at Hiltaba, reveal the majesty and drama of the eons of geological time and history.

Hiltaba Nature Reserve in the Gawler Ranges is part of the ancient Gawler Craton, formed nearly 3 billion (3000,000,000) years ago. Geological cratons (large areas of typically very old and uniform rock types, mostly granites and gneisses), make up the oldest rocks of many continental landmasses.

The Gawler Craton was wracked by two cataclysmic geologic events. The first of these was a global scale super-volcano which erupted 1592,000,000 years ago. This Gawler Ranges Volcanic (GRV) Event led to a vast outpouring of most unusual silica-rich lavas from rifts and vents within, and onto the already formed crust across a vast area. A billion years later in geological history, the second cataclysmic event was the collision of an enormous meteorite on the site of the current Lake Acraman, where the remains of the GRV super-volcano are exposed. (You can see Lake Acraman from the Barbara Hardy Walking Trail.)

The higher ground of the hills and ridges of the Gawler Ranges are composed of coarsely crystalline granites (intrusive rock types) and fine grained lavas with some bigger crystals (volcanic rhyolites). Many of these hills and ranges form Inselbergs or "island mountains" which are surrounded by valleys and alluvial plains of the much younger lowland areas. Over millions of years, the upland hilly areas have gradually eroded whilst the low-lying surrounding plains and valleys have been gradually filled with the detritus leaving a more subdued landscape.

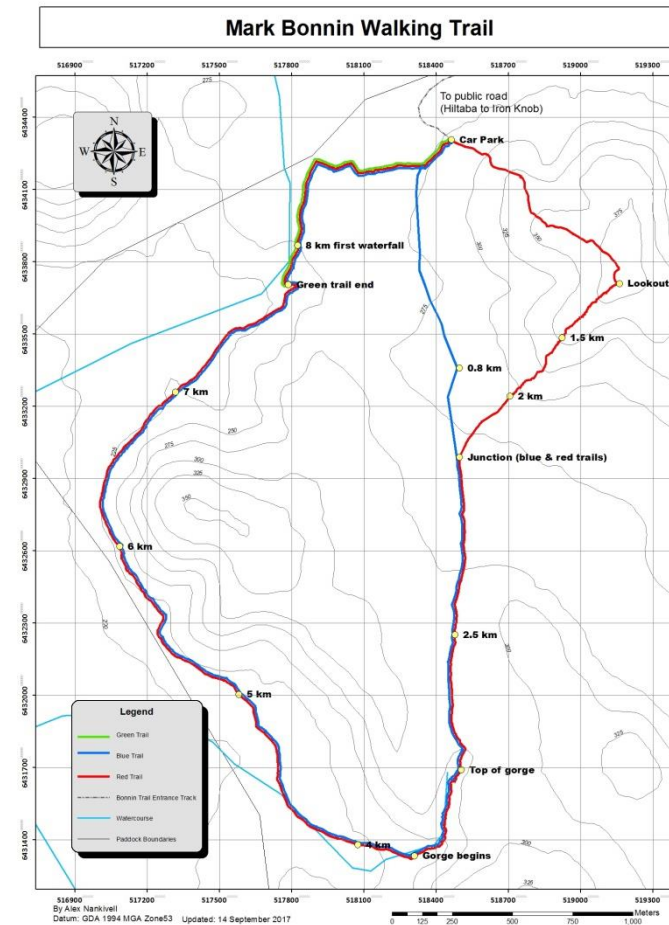
The landscape evolution at Hiltaba is strongly influenced by the weathering patterns of these granites and lavas.



Hiltaba Granite (L) with coarse crystal texture and weathered equivalent (rotted grus) (R)



Lavas – fine grained Rhyolite (red) and Dacite (grey) with large tabular feldspar (mega)crystals



## Walking Trail Notes

Notes read for the loop walk, walking in an anti-clockwise direction with marked distances (km) to the carpark decreasing as one proceeds.

**9.2 – 8.0 km** All three trails commence heading in a westerly direction, through Black Oak and Acacia woodland. As the trail descends towards the waterfalls, crossing several small creeks, the vegetation changes to include taller Eucalyptus (*Eucalyptus porosa* and some *E. socialis*). Other species here include Native Hops (*Dodonea*) and Olearia.

**7.7 - 8 km** In a small creek bed, the trail now changes to a southerly direction. Here, resistant rocks and ridges stand above the flatter valley surface, forming waterfalls when rain fills the creeks.

**The Waterfalls.** At the Twin Falls some excellent examples of the flow banded Eucarro Rhyolite are exposed. The view from the top of the northern waterfall looks south over a major creek. In the rocks making up the Falls there is an unusual N-S trending and steep dipping flow banding in the lavas. Due to the high silica content, rhyolite lava is very viscous. It flows slowly, like tooth paste squeezed out of a tube, and tends to pile up and form lava domes.

The southern waterfall reveals splendid views over the hills to the west. It is composed of very red speckly (porphyritic) rhyolite showing large tabular feldspar crystals in a fine red matrix.

On the cliffs south of the fall are two large curved joints or faults which probably led to the location of the waterfall at this point. The lavas also contain large cooling columns which dip steeply into the creek. These types of columnar joints (like organ pipes) are typical of slowly cooled thick lava flows and are seen in many other locations in the Ranges.



The **green** (easy) trail ends with a view of the second waterfall, and now returns along the same route. Only those walkers able to cross rough terrain with rocky parts should proceed.