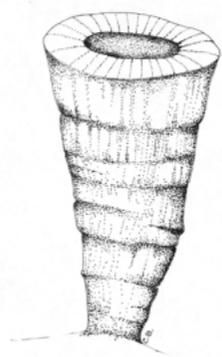


The red sandstone crops out at the top of the rise as a series of overhanging ledges. ‘Galls’ (appearing as rough lumps) can be seen embedded in some of the rocks. Quartzite layers, which would have overlain these rocks, have been eroded away.

7.2 to 7.0 Creek crossing (3) The cliff face ahead and to the left shows the contact between the Bonney sandstone and the Wilkawillina limestone above it. The thick-bedded sandstones result from the deposition of tidal sand and river deposits; the overlying redder siltstones above were deposited in slightly deeper tidal waters.



Archaeocyatha, an early sponge or coral-like animal about 500 million years old. The rounded top, or random sections, show in rock surfaces.



Rock Sida (*Sida petrophila*) tall herb; in some seasons can cover whole hillsides.

6.6 Creek crossing (4).

6.4 to 6.2 Creek crossing (5).

6.0 to 5.8 Creek crossing (6).

5.6 to 5.4 There are Mt Lofty Grass-trees near this creek crossing (7) — this is the start of the gorge through Wilkawillina Limestone and its winding channel means that there are many creek crossings. Large water washed boulders in this section of the creek may well display fossils of the coral or sponge-like *Archaeocyatha* in them—the first animals with ‘skeletons’.

5.2 Creek crossing (8).

5.0 to 4.8 Creek crossing (9). The trail is now largely in the creek bed.

4.4 Checkpoint 2—on south-western side of the gorge at entry to small gully.

If you have not yet seen *Archaeocyatha*, continue on down the creek for about 200 m; on the northern side a large angular boulder displays many *Archaeocyatha*; other good examples are in the rock wall a few metres further on.

Return to Checkpoint 2. The white rock here represents the lowest layers of the Rawnsley Quartzite; the upper

layers were removed by erosion before sediments of the Wilkawillina Limestone were laid down.

Walk south up the small gully in red Bonney Sandstone.

4.0 to 3.6 *Continue left following a small gully uphill.*

3.4 The contact between Wonoka Formation and Bonney Sandstone is nearby—as earlier (at 2.2 km) Summer Red Mallee is associated with it.

3.0 Route is now over Wonoka Formation again; the low shrubland includes Rock Fuchsia, Lobe-leaved Hop-bush and Corkbark.

2.4 Checkpoint 3—saddle below viewpoint.

Walk 150 m up hill to viewpoint Checkpoint 4.

Checkpoint 4—hill top with topogram.

Find the fine views over the eastern plains

Walk back down to Checkpoint 3.

2.4 to 1.2 There is a gradual descent down this steep side slope of Wonoka Formation siltstones and limestones; like most hills of Wonoka shales the slopes are almost treeless, but carry the Rock Fuchsia, Lobe-leaved Hopbush and the character plants Rock Sida and Shrubby Twin-leaf.

1.0 An industrial site in the distance to the north-west is associated with past extraction of barite.

0.8 Trail crosses a slope of siltstones and shales, with a scattering of trees—Bullock Bush, Native Apricot, Dead Finish, and Fuschia Bushes. Deep drainage channels add interest.

0.0 Little Bunkers Trailhead, Checkpoint 5 — located at roadside.

Flinders Ranges Walks

- ♦ have been established in protected areas to provide visitors with experiences of the Ranges
- ♦ trail maintenance and interpretive leaflets at the trailheads are provided by the voluntary Walking Trails Support Group
- ♦ support in kind and donations are welcome
- ♦ enquiries and comments via the website
www.walkingtrailssupportgroup.org.au
- ♦ donations via BSB 065132: Account 10111714
- ♦ more downloadable information on geology, plants, animals and culture is available on the website and in *Explore the Flinders Ranges* a definitive guidebook by the Royal Geographical Society of South Australia, AND from
- ♦ *Flinders Ranges Walks* App on Google Play and Apple Store.

Flinders Ranges Walks

Wilkawillina



Coloured sandstone hills

There is a new set of views in this walk which is located in The Bunkers on the eastern side of the Ikara-Flinders Ranges National Park. Ten-Mile Creek follows Wilkawillina Gorge through the range and runs across the eastern plain to drain towards Lake Frome.

The rocks are similar to those exposed in the Heysen Range and Brachina Gorge but the sequence is dipping in the opposite direction, as this is the other side of the great mountain range of which we see only the remnants.

However, the ancient rocks are exposed differently here providing views rich in colour with bare limestone hills displaying ranks of arching folds.

This side of the Ikara-Flinders Ranges National Park is more arid than the western side, because the ranges are lower and most rain carried by the prevailing westerlies falls over the Heysen Range. The vegetation therefore displays differences; Mulga is present in these hills and there is less Cypress-pine than

Distance and time: 11.6 km linear walk; allow 5½ hours one way.

Altitude range: 330 m (Checkpoint 1) to 470 m (hill top viewpoint, Checkpoint 4).

Access: From the Orparinna-Wirrealpa road in the Ikara-Flinders Ranges National Park.

Mt Billy Trailhead Checkpoint 1, Wilkawillina car park, which is 7 km from the road—turn-off is about 17 km from the junction with the Wilpena/Blinman road.

Little Bunkers Trailhead Checkpoint 5, roadside car park, 23 km from the junction with the Wilpena/Blinman road.

You will need two cars, one parked at Mt Billy Trailhead and one at Little Bunkers Trailhead. Driving can be reduced if there are two parties, one starting at each end and swapping cars for the return journey. The road distance between the two Trailheads is 13.0 km.

Track: Surface stony in places but grade easy; creek crossings marked by blue plates; narrow hillside track (sidling track) south of Checkpoint 3. Because water may be present, this walk is located on terraces above the creek, but crosses it several times.

For your safety

- This is an AS2156 Class 3 walk in a natural area; beware of inherent hazards, including fire
- Walk in a party of four, advise a reliable person of where you are going and when you expect to return
- Wear strong comfortable boots and take adequate food and clothing
- Take at least 2 litres of water per person, more if it is hot

Seasons come and go, and plants and animals mentioned in the notes may not always be there.

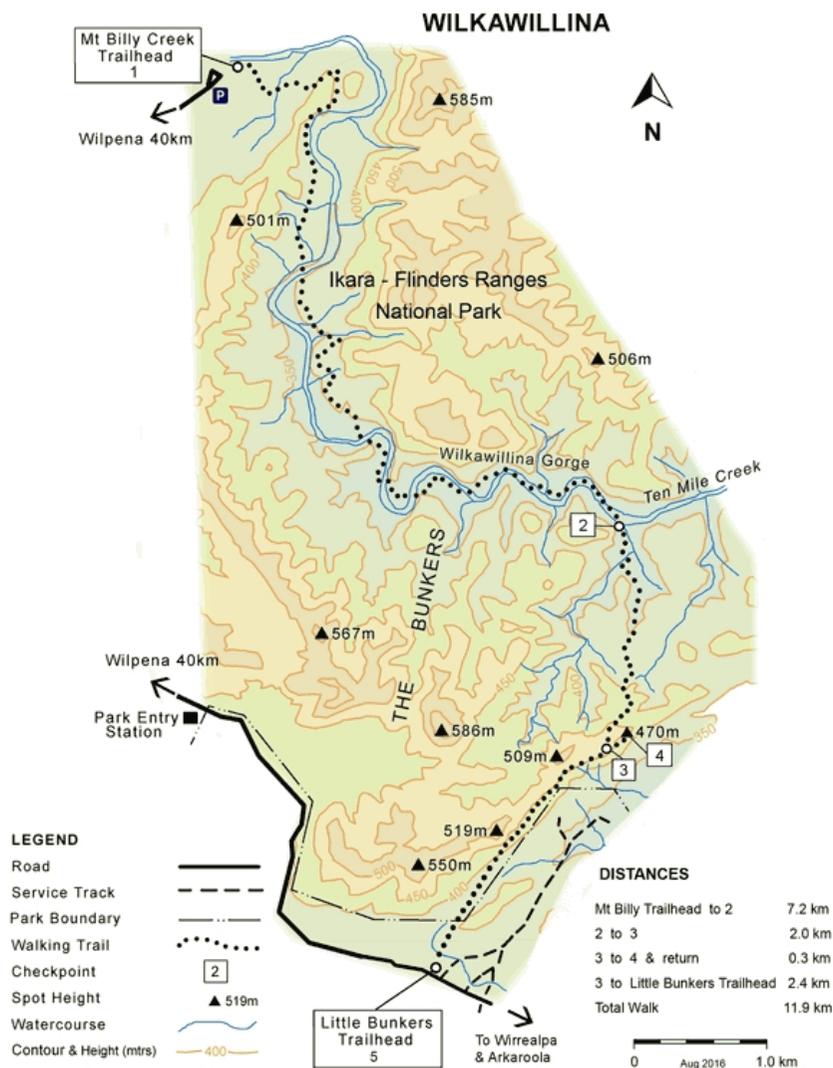


Notes read for a linear walk starting at Mount Billy Trailhead with distances marked every 200 m decreasing as you proceed.

11.6 Mt Billy Trailhead Checkpoint 1—Wilkawillina car park.

The car park overlooks Mount Billy and Moodlatanna Creeks before they pass through the hills as Ten-Mile Creek; when reedbeds of Cumbungi (Bulrush) and Sedges are in the creek they provide habitat for frogs and waterbirds; Australian Reed-warblers can then be heard carolling loudly from the reeds.

Walk down into the creek (Crossing 1), but keep to the right and climb the bank following the footpad and markers.



11.4 ABC Range Quartzite is thinner on this side of the range; this small rise is some of it.

11.2 to 10.8 The pale coloured ground is sediment of an ancient lake bed, of largely wind blown sediments deposited between 35 000 and 18 000 years ago, now being eroded into deep gullies.

While this is a natural process, it has undoubtedly been accelerated by domestic stock, feral goats and rabbits.

Cross an old vermin-proof fence line, which would have been installed many years ago to confine vermin (dingoes and rabbits) to the hills.

Walk along it in a north-easterly direction.

The pale grey silty sandstones and limestone underfoot belong to the Wonoka Formation. Red cliffs on the other side of the creek are Bonney Sandstone.

10.4 The route turns south. A grove of Mulga, with many dead trees and a few young ones, reflects the more arid nature of these hills compared with the Heysen Range.

10.25 In the saddle here, is a transition between the Wonoka Formation limestone and Bonney Sandstone. The limestone was formed by the precipitation of carbonates from sea water; in shallower water, fine silts and sands were deposited from rivers and moved around by currents. Transition zones often have layers of both rock types and intergrades between both; here there is a buff-white limestone layer, siltstones and grey sandstones.

9.8 In the cliffs on the other side of the creek it is easy to see the contact between the Precambrian red Bonney Sandstone and the Cambrian Wilkawillina Limestone above it which is weathered greyish brown. Pink and white boulders of these two rocks occur in the creek, the latter containing fossils of *Archaeocyatha*. Preserved in the Cambrian limestones is evidence of a major evolutionary leap forward, with the development of marine animals with skeletons and shells.

9.6 This river terrace is similar to some we have already walked across; they are the sediments deposited by the creek during storm floods. In this gorge they usually carry groves of bullock bush.

9.4 A patch of Summer Red Mallee beyond the marker is growing on the platy siltstones which occur at the interface between the Wonoka Formation and Bonney Sandstone.

9.1 Looking ahead across the valley you can see Mulga growing on the red sandstone, whereas Black Oak, common in lime-rich areas, is obvious on the Wilkawillina Limestone above it.

8.6 In the rock behind the distance marker are small stromatolites about 2 – 3 cm across; these domed columns of blue-green algae with interleaves of silt developed in shallow water. Some lying on their side were probably pushed over during a storm.

Cross the creek (Crossing 2).

White Tea-tree occurs here and all along the creek; it occurs commonly in all the creeks of the northern Flinders but not in the creeks on the western side of the Park, which carry only River Red Gums.

8.2 Bullock Bush terrace; the characteristic last band of buff-white Wonoka limestone under the sandstone is close to the distance marker.

8.0 to 7.8 A sandstone spur provides a good view out over the creek; looking back upstream a sheer slope of Wonoka limestone dips into the creek; the sediments would have been laid down horizontally but have since been tilted to this near vertical position by great earth movements.