Global Geotourism Perspectives

14

Edited by

Ross K. Dowling, Edith Cowan University, Australia

David Newsome, Murdoch University, Australia

Kanawinka, Australia

Ian D. Lewis

Published by Goodfellow Publishers Limited, Woodeaton, Oxford, OX3 9TJ
http://www.goodfellowpublishers.com

Design and setting by P.K. McBride

14 Kanawinka, Australia: setting up, marketing and ensuring the future of a large geopark

Ian D. Lewis

Geology, landscapes and waters of the geopark

The Kanawinka Geopark Setting

The Kanawinka Geopark runs along part of the southern edge of the Australian continent (Figure 14.1) where the great breakaway from Antarctica occurred. Three major geographical/geological factors make this region special – volcanoes, limestone and coastline. Kanawinka is Australia's first geopark and extends for over 400 km throughout a wide limestone region and one of the world's largest volcanic plains, separated by the long, deep and ancient Kanawinka Fault after which the geopark is named (Boutakoff 1963). The volcanic plain in the east and the limestone coast in the west form the major landscapes of the geopark. These themes link up near the Kanawinka Fault where the youngest volcanoes have pushed up through the limestone plain itself.

The western half of the geopark is a broad cavernous tertiary limestone plain exhibiting a wide range of marine erosion, aeolianite cliffs, limestone reefs and karst landforms (Grimes, 1994). It is partly covered by a series of parallel Pleistocene dune ranges and is one of the world's best preserved coastal records of sea level sequences for the ice ages forward from one million years ago (Cook *et al*., 1977). The Woakwine Cutting near Millicent reveals the complex sand layering within one of these ranges.

Tracing a westward-moving hotspot, the eastern part of the Geopark is penetrated by 300–400 eruption sites of Pliocene and Pleistocene volcanoes (Birch, 2000), the youngest of which is approximately 5000 years old. Much of central Victoria contains a far older sequence of volcanic activity dating from the Cambrian, of which the Kanawinka Geopark is the youngest phase. The eastern coastline of the geopark features large basalt cliffs, breached volcanoes and headlands where lava flows have entered the sea, leaving several offshore islands.

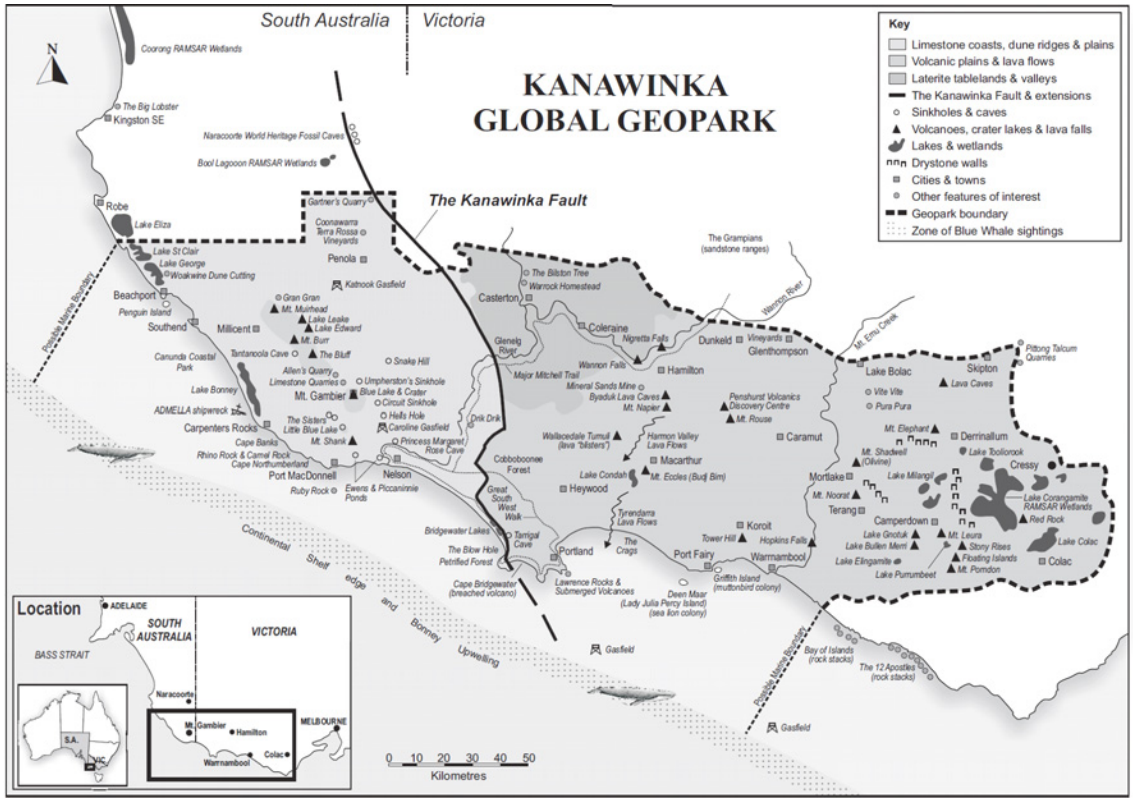

Figure 14.1: Major geological features of the Kanawinka Global Geopark

The Kanawinka Fault is of Gondwanan age, preceding both the limestone and the volcanoes, but movements along it have generated the World Heritage Fossil Caves at Naracoorte, just on the northern border of the geopark (Lewis, 2009). It can be seen as a continuous ripple diagonally across the geopark for nearly 150kms. Kanawinka is an indigenous word meaning 'The Land of Tomorrow'. This expresses the potential of the geopark and the aspirations of all those who are involved in its promotion and development.

The sea's edge is part of the Southern Hemisphere's most diverse and accessible temperate marine coastline, all of it open to the public, unlike coastlines in many other countries. The nearby continental shelf is responsible for the Bonney Upwelling, a huge krill field which is one of the world's last major feeding grounds for the threatened Blue Whale (Gill and Morrice, 2003). Tertiary limestone re-emerges along the eastern coastline in a series of dramatic marine gorges and rock stacks known as the Twelve Apostles. Offshore are the major gas fields of the Otway Basin.

A coastal highway network links all these features along the geopark almost from end to end. The geopark is accessible within several hours' drive from Melbourne to the east (a city of 3 million in Victoria) and Adelaide to the west in