Brisbane Ranges National Park
An excursion and fieldwork resource for schools

Congratulations for taking the leap outdoors!

Excursions and field trips are an important part of the educational experience for students, offering hands-on, concrete experiences that are important for reinforcing key concepts taught in the classroom.

Our aim is that every student leaves a park or reserve with a greater appreciation not only of its unique values, but how these are connected to other places and larger issues, and a desire and the know-how to get involved in making a difference.

Our excursion/fieldwork resources aim to help students:

- develop a sense of wonder, curiosity and respect for our parks and the people and environments they support
- develop their knowledge of their own locality and region and how places are connected
- understand the changes that are occurring in our parks and what strategies are being employed to manage these changes
- consider some of the complex interrelationships between the physical environment and the flora, fauna and fungi that live in our parks
- become informed, responsible and active citizens who contribute to the protection of our special places.
This resource is designed to provide teachers with ideas for planning exciting and experiential learning activities out in our beautiful parks, reserves and waterways.

We would love to hear about ways we can improve this resource to support teachers who take their lessons outdoors. Please contact education@parks.vic.gov.au with your feedback.

Why visit?

Wildflower brilliance in spring! A short drive from the heart of the city of Geelong, and 80 kilometres west of Melbourne, Brisbane Ranges National Park is the perfect location to see the rock structures that created the landscape, a wealth of native plants and a diverse range of wildlife, demonstrating the importance of areas with little human impact. The Brisbane Ranges National Park was burnt in 2006 and the revegetation that has occurred since provides an excellent case study for the effects of fire on the landscape.

The extensive parklands surrounded by prolific birdlife make the Brisbane Ranges an ideal spot for picnics and walks. Spanning 8718 hectares and rising 440 metres, Brisbane Ranges National Park is a part of the range stretching from Bacchus Marsh in the north to Maude in the south. Steep valleys and gorges dissect the eastern part of the park, while the western section is more undulating. Rock climbers scale the eastern slopes at Staughton Vale.

For teachers

This self-guided excursion is designed to be linked to the Victorian Curriculum for the subjects of geography, science and history, but can be enjoyed by a wide range of students who want to explore, discover and learn about our parks. It is suitable and scalable from Levels 5–10. Some suggested linkages to the Victorian Curriculum are provided below:

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<th>Subject</th>
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<tr>
<td>Geography</td>
<td>5–6</td>
<td>Factors that shape places and influence connections</td>
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For additional information on the park, download the visitor guide or visit the Brisbane Ranges National Park webpage for additional information including facilities, management plans, maps and images.

The field trip outlined below is through Anakie Gorge and can be done in 1–2 hours provided students are dropped at one end of the walk and collected at the other, or you can opt to spend half a day completing multiple activities. Overnight accommodation is available at Staughton Vale if required.

Before you go

Make sure you have reviewed the information provided for planning an excursion at http://parkweb.vic.gov.au/learn for safety and permit requirements and have checked the facilities available.
For activities such as bushwalking (including overnight camping) and rock climbing, group sizes are generally restricted to 16 people or less (including leaders). Multiples of 16 are acceptable where campsites cater for larger groups. For appropriate group sizes please refer to the Adventure Activity Standards.

All groups are required to let us know you’re coming. Please complete a Group Activity Statement downloadable from http://parkweb.vic.gov.au/learn and email to: groupactivities@parks.vic.gov.au at least four weeks prior to arrival. This will assist us to alert you to any park closures, storm damage or management activities such as planned burning or pest animal programs that may affect your visit. It also forms part of your group’s emergency management plan and provided quick access to emergency contacts, should your group need assistance.

You will be visiting a national park that is an important home to many species of plants and animals, some found in only a few other areas, and others nowhere else in the world! Please remember to keep to the paths, don’t pick or take any vegetation and take your rubbish home with you.

Collecting data

We encourage you to gather primary data during your excursion to support a truly immersive and hands-on experience. Pictures, drawings and records of sightings are all easy to take and don’t require a research permit. If you’d like to do something that involves moving off the paths, including transects or quadrats, please complete an application for a research permit.

Structuring your excursion

This fieldtrip is to Anakie Gorge. Either begin at Stony Creek Picnic Ground, entry from Geelong-Ballan Road along Switch Road, or from Anakie Gorge Picnic Area, entry off Staughton Vale Road along Gorge Road. Both picnic grounds provide facilities and space for groups. The walk through the gorge is one hour of easy walking on paths that are generally well formed, so it is recommended that students are dropped at one end and collected at the other – starting at Stony Creek Picnic Ground follows the slightly downhill flow of the water.

Before leaving Stony Creek Picnic Ground, a short walk (10 minutes) to the Lower Stony Creek Reservoir reveals the first concrete dam wall built in Australia (1873–4) and at the time the third in the world. At the beginning of this walk there is a Cinnamon Fungus Hygiene Station. Cinnamon fungus http://parkweb.vic.gov.au/park-management/environment/weeds-and-pests/cinnamon-fungus is an issue in the park and this is the entry point to an unaffected area. People are asked to clean the soles of their shoes to prevent transferring the disease. Groups will need to allow time for each group member to complete this task. At the sign for the Burchell Track to the left a short, but steep, climb goes to a view beyond the reservoir wall; the track to the right goes to the base of the dam wall.

On leaving the picnic ground to walk through Anakie Gorge (a one hour walking one way), it is soon obvious that the walk is along the floor of the gorge. Intermittent evidence of water, reeds and stepping stones across the gorge floor indicate seasonal water flows. Along the way the steep sides of the gorge can be glimpsed through the vegetation. In places the undergrowth is dense reflecting the regrowth after the 2006 fire. Rocky outcrops along the walk reveal the sedimentary layers in the folded rock structures.

Interpretative signs along the track outline the history of the landscape, vegetation types, and tell the story of the pipeline carrying water to Geelong.
Learn and Discover

1. Landscapes and landforms

The Brisbane Ranges mainly consist of sedimentary rocks of early to mid-Ordovician age (505 million years ago). At this time, the sea was much higher than the present level and most of Southern Victoria was submerged. The sediments were deposited by underwater avalanches from the continental shelf to the ocean floor. These avalanches deposited hundreds of metres of sand, silt and mud on the ocean floor. As deposition of sediments continued over time, the underlying Ordovician sands, silts and muds were compressed forming sandstone, siltstone and shale.

The next major event in time that resulted in the Ranges' current day appearance occurred about 380 million years ago during the late Devonian, a time when the earth experienced extensive plate movement that compressed, buckled and folded the Ordovician sediments. At the same time, molten magma melted through the sediments to the east of the Ranges. The magma soon cooled and has since been exposed as granite, forming the You Yangs to the east. About 4 million years ago, central Victoria experienced considerable faulting. The Rowsley, Hanover and Meredith Faults uplifted the Brisbane Ranges above the plains to the east. During this time, Western Victoria was volcanically alive, as lava flowed from Mt Anakie, covering the Werribee Plains and areas towards Geelong, and lava from Mt Wallace covered the plains to the north-west.

2. Water in the landscape

Since the extinction of the volcanoes, the Brisbane Ranges have continually been eroded by wind and water systems such as Little River and Stony Creek, cutting steep sided valleys into the Ordovician rocks along their winding course. The eroded Ordovician rocks and overlying sediments have been deposited as river sands at the base of the Ranges and dispersed out over the basalt plain.

The Lower Stony Creek Reservoir, built in the 1870s, supplied water to Geelong and the district via a timber pipeline through Anakie Gorge. The original pipeline was replaced with a metal pipeline in 1960, which can be seen along the walk. The Anakie Gorge walking track was originally built to service the pipeline and the retaining walls along the track are of historical interest. The reservoir was decommissioned in 2001.

3. People on the land

The area now known as the Brisbane Ranges is located within the traditional land of the Wathaurong people, part of the larger Kulin nation. For over 25 000 years, Wathaurong communities inhabited this area and made use of the abundance of seasonally available plants and animals. Evidence of Wathaurong occupation and way of life within the Brisbane Ranges can be seen in the earth mounds, scar trees and “scatters” found throughout the park. “Scatters” refer to fragments that were discarded during the process of manufacturing stone tools. Further archaeological and historical studies are planned within the park so that significant sites can be managed and protected forever.

European settlement resulted in a decline in the Wathaurong population. Squatters took up pastoral runs around the Brisbane Ranges soon after the founding of Melbourne in 1853. They concentrated their farming activities on the fertile land to the east and south along the Moorabool River. The goldrush began in 1851 when gold was discovered in the Anakie Hills. In 1855 many gold reefs were found near what became the town of Steiglitz, with more than 600 miners in the area by 1862. The town's fortunes slumped between 1876 and 1890, revived briefly until the early 1900s and then declined to the present ghost town status. The
gold years had a considerable impact on the ranges as much of the forest was cut to provide mine props, building timber and firewood. In the 1870s, the ranges played a new and vital role – supplying water to Geelong. An area of 3000 hectares of the Brisbane Ranges was reserved as a catchment area.

Today, Wathaurong people continue to live, practice and strengthen their culture in the Greater Geelong area. The Wathaurong Aboriginal Corporation is a Registered Aboriginal Party, representing the traditional owners of the area. They ensure that Wathaurong culture and connection to place is maintained into the future.

4. A unique ecosystem
The state's richest wildflower habitat is little over an hour’s drive from Melbourne. The orchid flora is a major component of the vegetation and attracts many nature enthusiasts throughout the year. Sixty-one species have been recorded in the park, which is about one quarter of the total orchid flora of Victoria.

Brisbane Ranges National Park is rich in native flora with some 619 native plant species, about one fifth of Victoria’s total, found in the ranges. The unusual geology of the Brisbane Ranges has preserved plants that have long since vanished from other parts of the region. Plants have adapted to living in shallow soils with low rainfall and are able to tolerate large variations in temperature throughout the year. Twenty-six plant species are listed as rare, threatened or significant in Victoria. Many are either rare or remote from their normal localities. Brisbane Ranges grevillea is only found along the Rowsley Fault; velvet daisy-bush is rare and found only in scattered locations across the state; golden grevillea is found elsewhere only in Gippsland. In spring, there is a magnificent display of grasstrees, wattles, hakeas, bush peas and a variety of orchids. At https://natureshare.org.au/collections/brisbane_ranges_national_park_plants images of the plant species are described.

Keep an eye out for the mammals of the ranges, including eastern grey kangaroos, wallabies, echidnas, possums and sugar gliders. Koalas can be sighted within the park with stock originating from Phillip Island and French Island in 1957 and 1977. They are now common throughout the park. A research grid has been established in the park to monitor the koala population on a regular basis.

The Brisbane Ranges offers fantastic bird watching opportunities, with more than 170 species of native birds recorded in the park. Two species to look out for are the yellow-tufted honeyeater and white-throated nightjar. Small birds of the scrublands can be seen darting through the undergrowth.

5. Revegetation and rejuvenation
Fire has played a significant role in the Brisbane Ranges. In 1968, 740 hectares was burnt. A lightning strike in January 2006 resulted in a bushfire that ravaged the Brisbane Ranges National Park consuming over 40 per cent (6700 hectares) of the park. In the following January (2007) a further fire destroyed much of the park. The forest is still regenerating.

The landscape composition was significantly altered by the high heat and intensity of the bushfire in 2006, with relatively high plant mortality rates and a thinning of the canopy. Established eucalypt species in the area are generally fire tolerant; however, many trees lost significant leaf coverage and branches, and did not recover from the fire. The grass tree is known for its hardy tolerance to bushfire impact and generally fast recovery. Ground cover species such as herbs, grasses and hedges were burnt away to expose almost completely bare ground.
This bare ground has since been propagated in parts by competitive and fire tolerant species. It is likely that recovery will take 15–20 years.

6. Managing the park today

In 1973, 1132 hectares were set aside as a national park. It was enlarged to 7718 hectares in 1995, including part of the adjacent Steiglitz Historic Park. Recent additions to the park area have seen the park increase to 8718 hectares. In August 2010, the Lower Stony Creek catchment area of approximately 1165 hectares was added to the Brisbane Ranges National Park making it a total of 8883 hectares. This land had minimal disturbance and had been closed to the public for about 125 years. In July 2013, an additional 22.6 hectares near the Little River Gorge was handed over to the park.

Park management activities aim to maintain or improve this habitat and protect the land and species. It’s a team effort, with rangers working alongside the Friends of Brisbane Ranges and Conservation Volunteers International to continue the revegetation efforts. One of the challenges with revegetation is that native species, such as kangaroos, like to eat fresh young shoots, so part of the work done by volunteers involves building tree guards to give the plants a start in life.

Other management activities involve the control of weeds and pest species. Rabbits have been controlled since even before the park’s establishment, however, are almost impossible to remove completely due to the surrounding farmland. Other feral (non-native) animals include foxes, cats and dogs. The existence of these species means that the small mammals that would have originally been found in the area cannot be sustainably returned.

The maintenance and improvement of visitor facilities is another part of park management. National parks are for the enjoyment and education of people, as well as to protect the natural and cultural values found within them, so it’s important to provide and maintain car parking, toilets, picnic tables and other facilities to support visits to our parks. The interpretive panels are a way that Parks Victoria seek to engage visitors to the park in learning about the place.

Friends of Brisbane Ranges work very hard throughout the year, and have a range of activities including koala conservation and weed control at Brisbane Ranges.

Discover and reflect

You might like to enhance your field trip with some activities that help students record and extend their learning back into the classroom. You might like to:

1. Take photos to create an annotated photo log or poster of your field trip to share with classmates. You could use social media to share it with friends.
2. Create a short video that helps tell one of the six stories outlined above to share with classmates.
3. Map your field trip using software such as Scribble maps or Tour Builder, annotating what you’ve learned at various points.
4. Using a topographic map found at http://en-au.topographic-map.com/places/Brisbane-Ranges-National-Park-545766/ zoom in until you have a map from the Stony Point Picnic Ground to the Anakie Gorge Picnic Ground. Describe the landscape of the gorge.
5. As you walk along the gorge, note and draw/photograph the sedimentary rock structures. Construct a series of diagrams to explain how these landforms developed.
6. Create a short drama performance to show the conditions under which the men building the dam wall in the 1870s worked and lived.

7. Using Google Earth, zoom in on the Anakie Gorge Walk and discuss why this area remains an undisturbed habitat.

8. Create a sound map of various points around the park, taking a series of 30-second audio recordings, referenced back to points on a map. Students can also record their audio observations on paper, using lines made from a central point to indicate the direction, type and frequency of sounds they hear, and whether it adds or detracts from the environment.

9. Interview the Park Ranger or Friends Group member (you could do this via skype before or after the field trip).

10. Create an annotated field sketch of the park, taking into account the different elevations and the course of Stony Creek. You might like to extend this activity further by developing a plan for new visitor facilities for the park, outlining how they help people connect with the values of the place. Consider how you might help people with special needs experience the park.

11. Discuss the role national parks play in connecting people to their environment, or influencing people personal relationships to nature.

Get active

Contact the ParkConnect team if you would like to get your students involved in some hands-on volunteer activities in Brisbane Ranges National Park.

Parks Victoria respectfully acknowledges the Traditional Owners of what is now known as Victoria. For many thousands of years they have lived in harmony with, and carefully managed the Country for which they have a deep spiritual connection. Contemporary Aboriginal people are proud of their ancestry and in addition to their inherent rights, they have spiritual and cultural obligations to ensure that their ancestral land and culture is managed responsibly and appropriately.