



Eastern Barred Bandicoot
Photograph: © Bob Winters



Sunshine Diuris
Photograph: © Jeff Jeanes



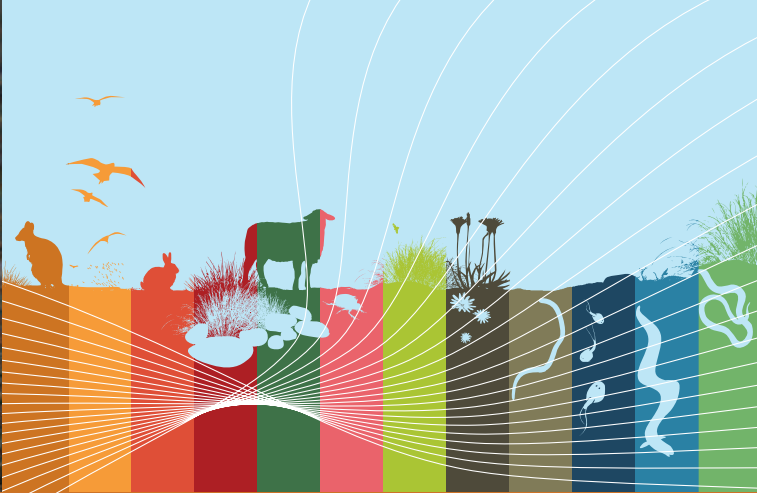
Golden Sun Moth
Photograph: © Glenn Rudolph, Department of Environment, Land, Water & Planning



Hooded Robin
Photograph: © Bob Winters



Common Toadlet
Photograph: © Bob Winters



FOOTPRINTS

An overview

The Victorian Western Volcanic Plains are the third largest volcanic plains in the world and home to some of the most critically endangered grassland, wetland and grassy-woodland communities.

Local aborigines lived on and cared for this land and, since colonisation, white people have farmed and used this land – both leaving their respective footprints.

Ecolinc's **Footprints of the Western Volcanic Plains** uses the photographic panorama image, titled **Volcano Dreaming**, as a stimulus to provide curriculum resources, materials and onsite programs to educate students about the biodiversity of the Western Volcanic Plains and to teach students about the precarious nature of the wildflower grasslands, what has happened to it, what is being done to preserve it and what students can do to help.

The panorama of **Volcano Dreaming** is divided into a set of 12 portable panels that assemble together to form a 12 metre long and two metre high photographic panorama.

Volcano Dreaming was designed, researched and produced by Peter Haffenden and Kerrie Poliness from Inherit Earth. This project was initially supported by EPA Victoria's **Inspiring Environmental Solutions** program and Victoria University. The panels can be used individually or collectively as the full image.

Footprints is a collection of work which complements the 12 **Volcano Dreaming** panels. It consists of 12 student worksheets (one focusing on each panel) and accompanying teacher notes. **Footprints** also includes additional background information, species lists, resources and answers to student worksheets. In addition, there is a final worksheet and teacher notes, which is an extension activity. The activities are suited for students in Years 4-7 and are hands-on, engaging activities that use a range of technologies. All of the student activities are designed to address Levels 4-7 of AusVELS.

Ecolinc also offers a wide range of onsite programs, outreach and field work options that complement the **Volcano Dreaming** panels as part of **Footprints**.

LINKS TO ECOLINC PROGRAMS

Panel by panel

Curriculum Resources	On-site Programs	Field Trips *
Panel 1:	A plant's world Indigenous plants Animal & plant survival	Footprints (Mt Cottrell) Footprints (Mt Rothwell)
Panel 2:	Geological Trail	Footprints (Mt Cottrell)
Panel 3:		Footprints (Mt Rothwell)
Panel 4:	Get down and dirty	Investigating salinity
Panel 5:		Footprints (Mt Cottrell) Footprints (Mt Rothwell)
Panel 6:	Minibeasts	
Panel 7:	Animal & plant survival	Footprints (Mt Cottrell) Footprints (Mt Rothwell)
Panel 8:		Footprints (Mt Cottrell) Footprints (Mt Rothwell)
Panel 9:		Footprints (Mt Rothwell)
Panel 10:	Fascinating frogs Minibeasts What's growling in the wetland? Who eats who? Animal & plant survival	
Panel 11:	Fascinating frogs What's growling in the wetland?	
Panel 12:	Classifying living things	Footprints (Mt Rothwell)

* Some Field Trips incur an additional cost and minimum numbers apply.

AusVELS CURRICULUM LINKS

In summary

Australian Curriculum (AusVELS)	AusVELS 4 (Year 4)			AusVELS 5 (Year 5)			AusVELS 6 (Year 6)			AusVELS 7 (Year 7)		
	Science	Mathematics	The Humanities (Geography)	History	Science	Mathematics	The Humanities (Geography)	History	Science	Mathematics	The Humanities (Geography)	History
Panel 1	•				•				•			
Panel 2	•	•	•	•	•	•	•	•	•	•	•	•
Panel 3	•	•	•	•	•	•	•	•	•	•	•	•
Panel 4	•	•	•	•	•	•	•	•	•	•	•	•
Panel 5	•	•	•	•	•	•	•	•	•	•	•	•
Panel 6	•	•	•	•	•	•	•	•	•	•	•	•
Panel 7	•	•	•	•	•	•	•	•	•	•	•	•
Panel 8	•	•	•	•	•	•	•	•	•	•	•	•
Panel 9	•	•	•	•	•	•	•	•	•	•	•	•
Panel 10	•	•	•	•	•	•	•	•	•	•	•	•
Panel 11	•	•	•	•	•	•	•	•	•	•	•	•
Panel 12	•	•	•	•	•	•	•	•	•	•	•	•
Extension	•	•	•	•	•	•	•	•	•	•	•	•

RESOURCES

How the materials can be used

The curriculum resources and materials can be used as a collection of work, or alternatively as separate individual activities corresponding to each of the panels.

The panels (individually or as a complete set) can be hired (**free of charge**) from:
Ecolinc (03) 5367 0171
Melton City Council (03) 9747 7200
Moonee Valley City Council (03) 9243 8888
Hume City Council (03) 9205 2200
Brimbank City Council (03) 9249 4000

Alternatively, you can view the panels from Ecolinc's website or the **Volcano Dreaming** website: www.volcanodreaming.com.au

For further information on the **Footprints** program, student and teacher resources, onsite programs and field trips, please go to our website: www.ecolinc.vic.gov.au

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FOOTPRINTS

of the Western Volcanic Plains

A new AusVELS program exploring biodiversity in Victoria's Western Volcanic Plains



inheritearth



<p>PANEL 1 Diversity in the plains</p> <p>Wildflower grasslands are one of the world's most endangered ecosystems. These grasslands stretch from Melbourne, across most of southern Victoria, to the South Australian border. Since European settlement much of the landscape has been altered, while some of the plants and animals have been driven to extinction. Many people and organisations are making efforts to conserve and protect these species.</p>	<p>PANEL 2 Formation of the plains</p> <p>The Volcanic Plains are mainly basalt rock and basalt clay soils, produced by volcanic larva flows and ash, between five million and ten thousand years ago. The plains consist of grasslands, open woodlands, stony rises, volcanic cones, and many lakes and wetlands.</p>	<p>PANEL 3 Impact of rabbits</p> <p>When Europeans first settled in Australia they introduced sheep, cattle, horses and crops. In 1856, near Geelong, a few rabbits were released and bred into millions in a few years. These additions were devastating to native plants and animals. Rabbits destroy native plants and contribute to erosion. Myxomatosis and other controls have been introduced with little effect, and as a result, rabbits continue to be one of the biggest threats to conservation of native grasslands and native animal species.</p>	<p>PANEL 4 Soils and testing</p> <p>The grasslands are the most dominant feature of the Western Volcanic Plains and included such species as Kangaroo Grass, Poa Tussocks, Wallaby Grass and Spear Grass. These grasslands originated on spongy soils. Soft footed marsupials, such as bandicoots, constantly turned over the soil and spread the soil organisms around, creating this soil. Today the soil has been compressed by hard hoofed animals, such as cattle which were introduced by Europeans.</p>	<p>PANEL 5 Introduced species</p> <p>The introduction of sheep in Victoria in the 1830s was the single biggest factor in early degradation of grasslands. By 1851, six million sheep were found on the plains. The hard hooves of the sheep replaced the soft footed mammals, traditional land management techniques used by Aboriginal people were altered and they quickly wiped out native plants like Murnong (yam daisy).</p>	<p>PANEL 6 Dung beetles</p> <p>Dung beetles play an important role in grassland ecology. They feed and breed in dung. Dung beetles dig holes and tunnels to feed, lay their eggs and raise their young. They bring out sub-soil and take the dung down into their tunnels. This prevents the grasslands from being covered in marsupial dung. Dung beetles are essential nutrient recyclers. When cattle were brought to the plains, the native dung beetles could not keep up with the amount of dung and so exotic species were introduced.</p>	<p>PANEL 7 Grassland fauna & flora</p> <p>Australia has had the biggest number of animal extinctions in the world in the past 200 years. Eight of those have been marsupials from the Victorian Volcanic Plains. Changes in habitat and the introduction of sheep, foxes, cats and rabbits have decimated populations of marsupials. The foraging, digging and excretion patterns of these introduced species have affected the health and existence of a range of native plants and animals.</p>	<p>PANEL 8 Protecting grasslands</p> <p>The Flora and Fauna Guarantee Act 1988 was developed to protect and manage threatened native plants and animals. The first action was to save the Golden Moth Orchid. There are many things we can do to conserve what is left of the plains. We can plant native plants in our gardens, join a local friends group or investigate what animals live in our local areas.</p>	<p>PANEL 9 Mt Rothwell</p> <p>Mount Rothwell Biodiversity Interpretation Centre is a 400 hectare property, with a predator proof fence surrounding the grassland and grassy woodland ecosystems. Here small marsupials, some of which are critically endangered, are plentiful. Management and research is conducted in consultation with government wildlife agencies and research organisations.</p>	<p>PANEL 10 Wetlands</p> <p>Wetlands in the plains, when full of water, cover up to a sixth of the land area. Wetlands are high in biological diversity, and support a wide variety of native plants and animals, which are adapted to the fluctuating water levels. Due to the variable water levels, shallow wetlands were drained and others made deeper and more permanent. This has altered wetland ecology and reduced habitat for many species. Species have difficulty travelling from one habitat to another, as the distances are further. As a result, gene pools are isolated and species are threatened.</p>	<p>PANEL 11 Eel migration</p> <p>When eels mature they swim out of rivers in Australia, including western Victoria, and head along the Australian continental shelf to seas around Queensland and Papua New Guinea, where they breed and die. The young eels take a couple of years to return to the south east coast of Australia. Then, usually in early autumn, they swim up the rivers to fresh water lakes and wetlands. Aboriginal tribes around Lake Condah developed aquaculture systems to capture the eels.</p>	<p>PANEL 12 Woodland biodiversity</p> <p>Open woodlands are scattered around the plains, particularly on higher ground and around water. Dominant species include River Red Gums in wetter areas and Grey Box and Yellow Box in drier areas. In open woodlands the trees are not very tall and the understory is made up of grasses and herbs. Most of the woodlands have been cleared for agriculture or fire wood causing a decline in habitat for native birds, animals and flightless birds.</p>
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