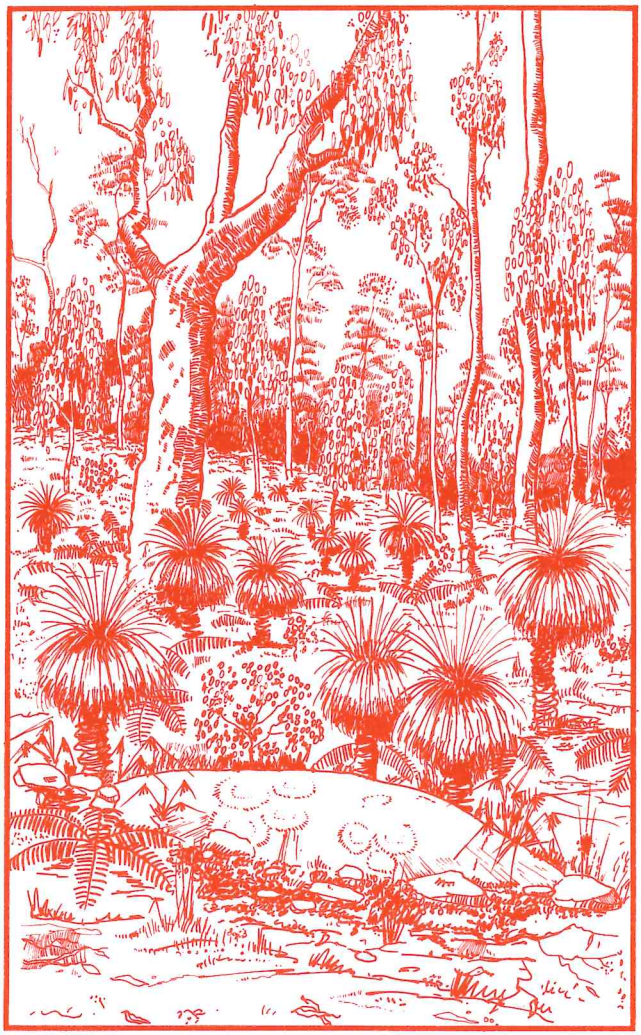
LESLEY NATURE TRAIL



Department of Conservation and Land Management, W.A.

WELCOME TO LESLEY NATURE TRAIL

This trail and adjoining picnic area have been developed by the Department of Conservation and Land Management. The trail features forestry techniques and tree species important to the northern jarrah forest industry.

The trail is approximately 1.5 km long and, at a leisurely pace, will take about 45 minutes to an hour to complete. Points of interest along the way are marked by numbered pegs.

Please help us maintain the best features of this walk for all to enjoy, by not picking wildflowers or damaging vegetation.

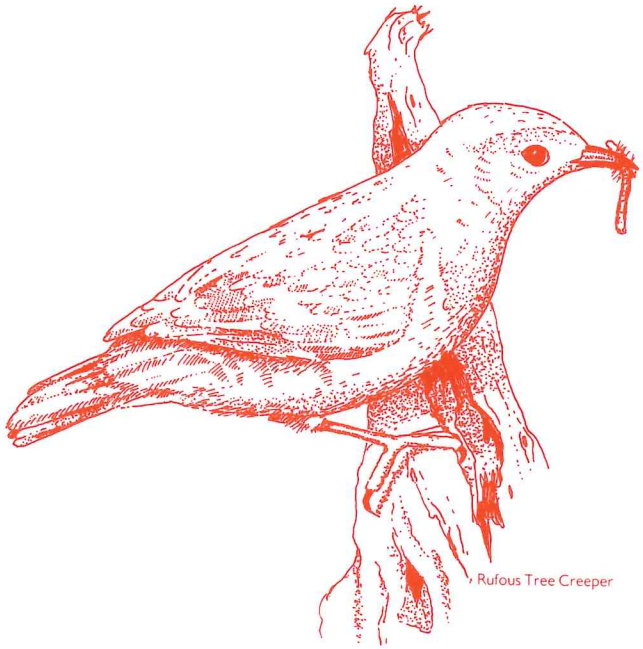
Superb Wren

INTRODUCTION

A forest is a complex biological community of living organisms, which is continually changing. To the casual observer, the jarrah (*Eucalyptus marginata*) forest of the Darling Range may seem virtually unaltered from year to year, but nature is never static and new continually replaces old. Left untouched, the jarrah forest would most likely continue to provide trees in perpetuity. However, the trees in a virgin forest are not always of commercial value to man. Old trees usually suffer rot and fire damage and their large size hinders the development of younger, more vigorous trees by blocking out essential sunlight.

The principal objective of forest management is to ensure that State forests continue to fulfil community needs and a wide range of uses. The production of timber is one of the most important uses of a forest, and the forester can create conditions that favour more vigorous trees. Selective felling or the removal of individual trees creates small openings. In these openings the jarrah life cycle can be renewed.

After the first winter rains in May and June, seed that has fallen from nearby trees begins to germinate. Up to a million young seedlings per hectare may develop. Because of intense root competition, the activity of natural parasites and the dry, hot summer climate, less than 1% of these survive past the second summer.



Rufous Tree Creeper

PEG 1

Look for a lignotuber

Look closely at the small seedling near your feet. The woody lump, very near to the ground, is its lignotuber. In its first year, jarrah produces a small lignotuber at the base of its stem. This woody structure is an organ of food storage and regeneration, and contains a store of living buds. From this swelling, several dwarf shoots will emerge to give the jarrah an appearance of a low multi-stemmed shrub. This reservoir of buds allows the shoots to renew if the seedling is destroyed by fire or other causes. Over several years, the lignotuber becomes larger and the plant produces a single vigorous stem known as a dynamic shoot, which becomes the trunk of the new tree. This could take up to 20 years to develop, depending on environmental factors.

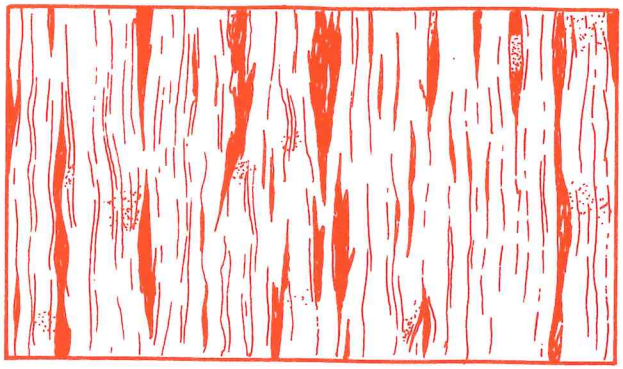
Jarrah lignotuber

PEG 2

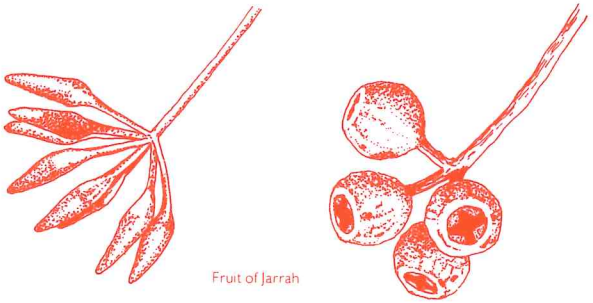
The young jarrah tree

Once a single shoot has emerged, the young jarrah tree will continue to grow into a pole unless damaged by insect attack, fire or frost. The jarrah tree is characterised by grey stringy bark and a straight trunk which can reach a height of 30 metres and gain a 2 metre diameter. It is very adaptable, and can grow in a variety of sites, but grows best in deep, well-drained gravels.

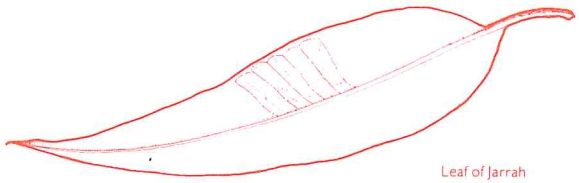
Jarrah is a strong and durable high quality timber. With its attractive dark reddish-brown colour it is a beautiful furniture timber.



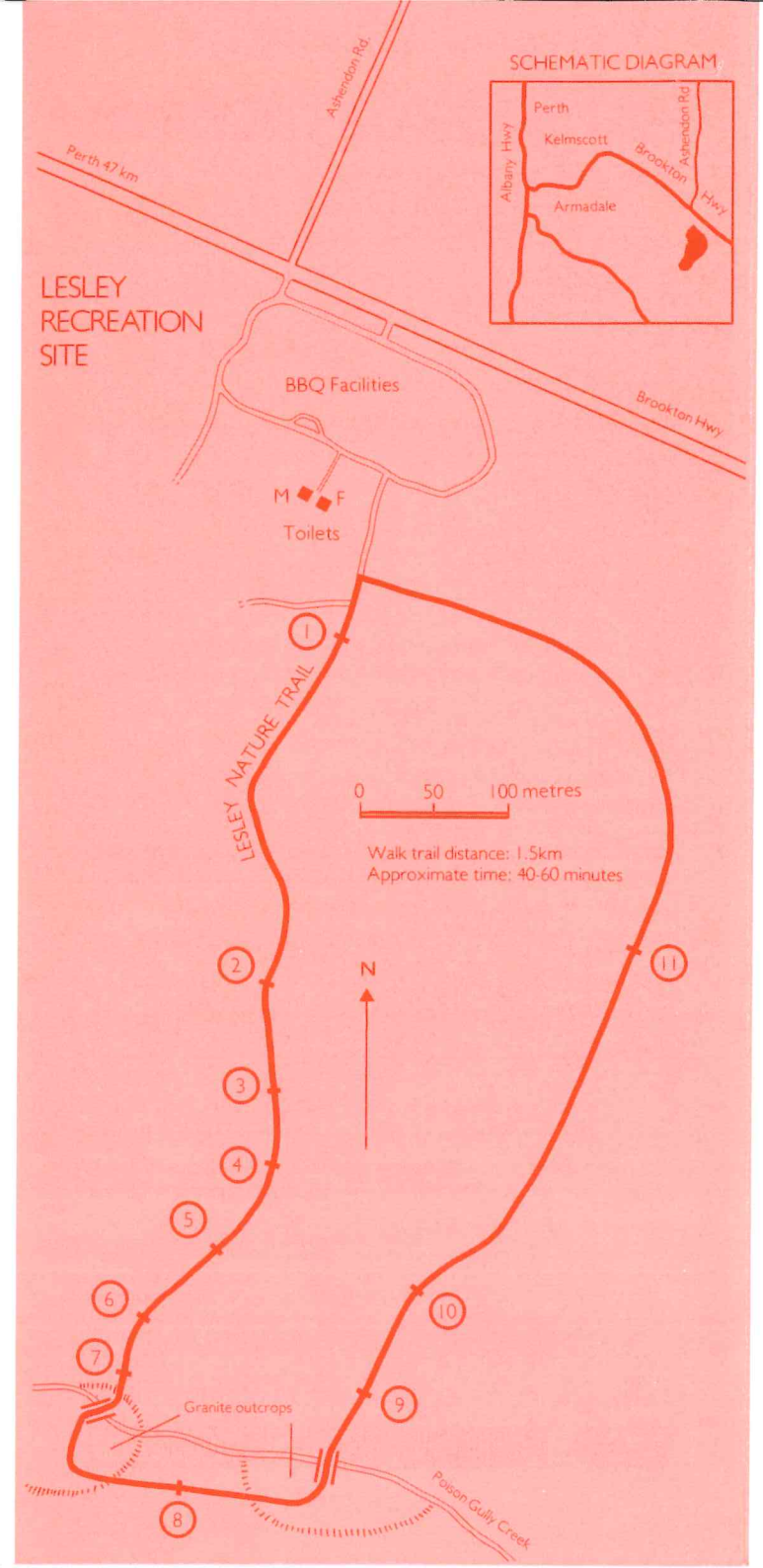
Bark of Jarrah



Fruit of Jarrah



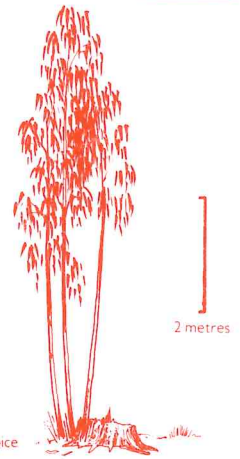
Leaf of Jarrah



PEG 3

Find a coppice ring

Many eucalypts, including jarrah, may regenerate by coppice shoots from a stump. These form when the mature tree is damaged by wind or storm, or when it is cut down. These shoots grow from dormant buds on the stump and will eventually develop into small trees. In time, the original stump may rot away, leaving a ring of offspring showing where the parent tree once stood.



Jarrah coppice

PEG 4

Which trees do you think are "non-merchantable"?

Not all trees, even those of the same species, develop into a form that will be useful for timber. Some may develop large, heavy limbs and crooked trunks, while others may have been damaged by intense wildfire or insect attack. These trees are termed "non-merchantable".

PEG 5

Find the tree which has been ringbarked.

Some non-merchantable trees are removed to make way for young regrowth. Others are retained as food and shelter for wildlife and to stabilise soil.

An old method used to kill a tree was ringbarking. In this operation, a strip of the outer living wood of the trunk, which transports water and nutrients, was removed, and the tree eventually died.

Methods used today include notching, where the tree is injected with chemicals, and cull felling, where the tree is removed and used as firewood or fencing material.

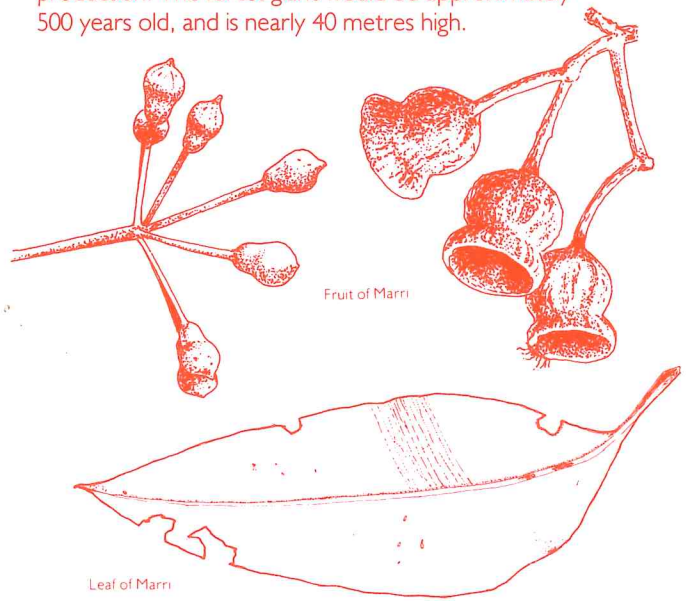
PEG 6

How tall is the marri?

Another common tree of the jarrah forest is marri (*Eucalyptus calophylla*). This tree is easily recognized by its large gumnuts and the red gum — kino — oozing from its trunk. This is caused by insects boring into the heartwood and releasing the marri's characteristic red sap.

Bark of Marri

Marri wood is not as highly prized as jarrah for timber production, but it does produce fine quality pulp for paper manufacturing. It is also a good species for honey production. This forest giant would be approximately 500 years old, and is nearly 40 metres high.



Fruit of Marri

Leaf of Marri

PEG 7

Look out for the stream!

The trail now crosses a small stream known as Poison Gully. A shrub called "York Road poison" (*Gastrolobium calycinum*) grows in this valley and is toxic to stock all year round, hence the gully's name.

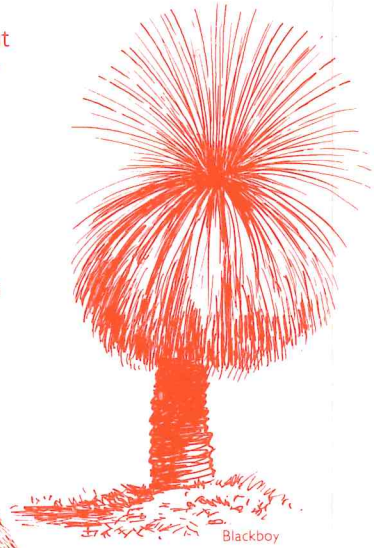
Situated within the Canning River Watershed, the stream and surrounding state forest feed the Canning Dam. No large quantities of fertilizers, herbicides or insecticides are used in the area, so the water in these reservoirs is of high quality, and needs minimal treatment before it is supplied to the public.

PEG 8

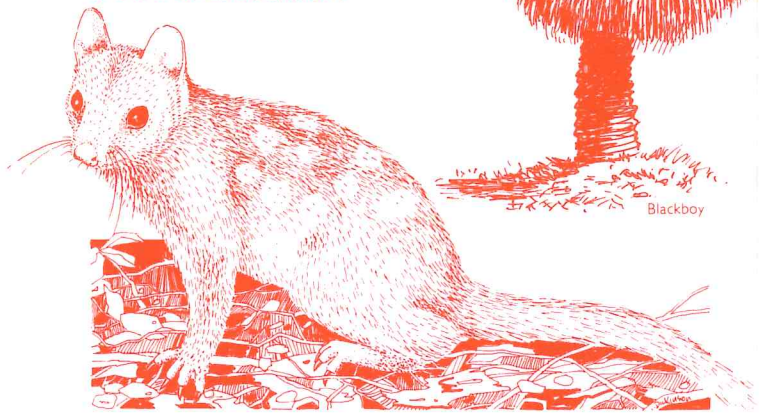
Why are there fewer trees here?

As the trail meanders along the stream you will see a decline in the number of trees, while the scrub becomes thicker. Here the soil may be very shallow or non-existent, and large areas of exposed rock appear. Trees find it difficult to obtain water, nutrients or anchorage in this environment, but other plants, such as the blackboy (*Xanthorrhoea preissii*) have adapted and thrive.

The thicker creek vegetation is a particularly good habitat for most of the fauna of the south-west. Take some time to look for some of the many birds and wildflowers of this creek environment.



Blackboy

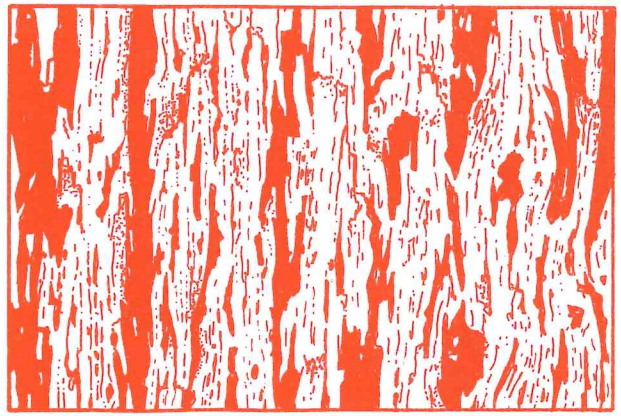


Western Native Cat

PEG 9

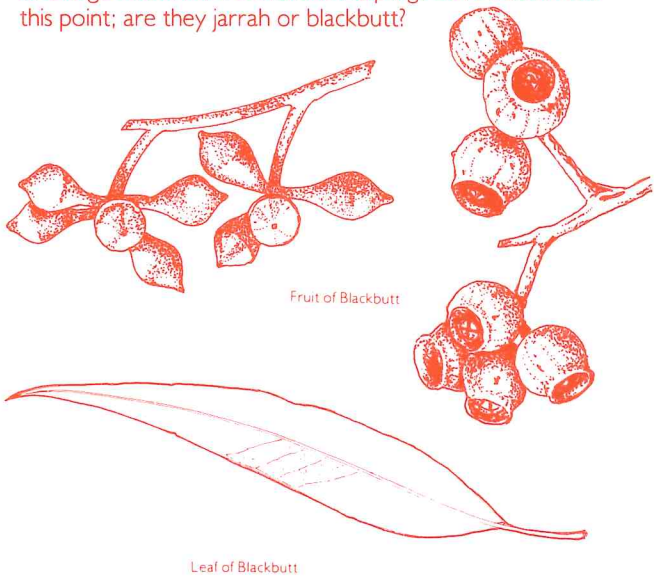
Spot the blackbutt

Apart from jarrah and marri, a number of other tree species are found in the forest areas near Perth. W.A. blackbutt, or yarri (*Eucalyptus patens*), grows in moist areas along creeks and rivers and produces durable timber for construction and decorative uses. Although similar to jarrah, blackbutt can be recognised by its drooping bluish-green leaves, which are longer and narrower than jarrah, and the fibrous, deeply-fissured bark of mature specimens.



Bark of Blackbutt

Following the trail you will actually walk through the buttress of a large blackbutt! Several small saplings can be seen near this point; are they jarrah or blackbutt?



Fruit of Blackbutt

Leaf of Blackbutt

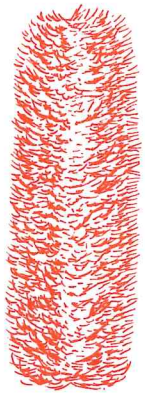
PEG 10

Bull banksia and dieback

Another tree found in the understorey of the jarrah forest is the bull banksia (*Banksia grandis*), distinguishable from other banksias by its large serrated leaves. Its yellow candle shaped flowers, large woody cone, and gnarled growth habit make it an attractive member of the forest community.

This tree has no forestry value and is one of the species of plants most susceptible to the soil-borne fungus, jarrah dieback (*Phytophthora cinnamoni*).

Dieback kills many trees and shrubs of the forest, and your help will stop it spreading. It is easily transported on car tyres, so please ensure you remain on graded forest tracks. This will help prevent the introduction of the disease into uninfected areas.



Flower of Bull Banksia

Cone of Banksia

DIEBACK
Vehicle on formed track

FIRE
Take care

PEG 11

Timber needs and the seed bank

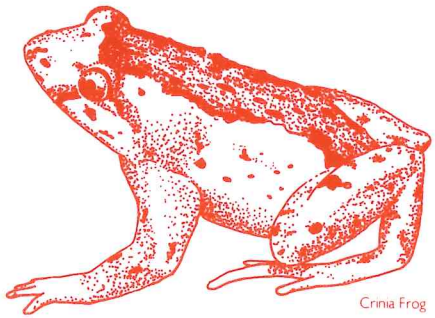
Jarrah helped build the railway network that started logs on their journey from this forest to distant ports. This local wood was highly sought after for large construction — some of the streets of London were built on W.A. timber! Now Jarrah is more prized as a high grade furniture timber, flooring material and veneer for panelling, and the future may see further specialised uses for jarrah.

This tree was left during the 1950 logging operation to provide a seed source for jarrah regeneration. The small trees which you can see surrounding this large one are the result of this forest management technique. Modern forest management ensures that for every jarrah tree removed there will be at least one young seedling ready to take its place.

How many more seed trees can you find on the way back? As you complete the walk back to the picnic area, see how many of the features discussed in this pamphlet you can see again.

We hope your visit has been enjoyable, and that you return soon.

Remember, this is your forest — please treat it with respect so that others and future generations can see it. Be careful with fires at all times; only light them in the fireplaces provided. Make sure you leave the area clean and tidy.



Crinia Frog

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