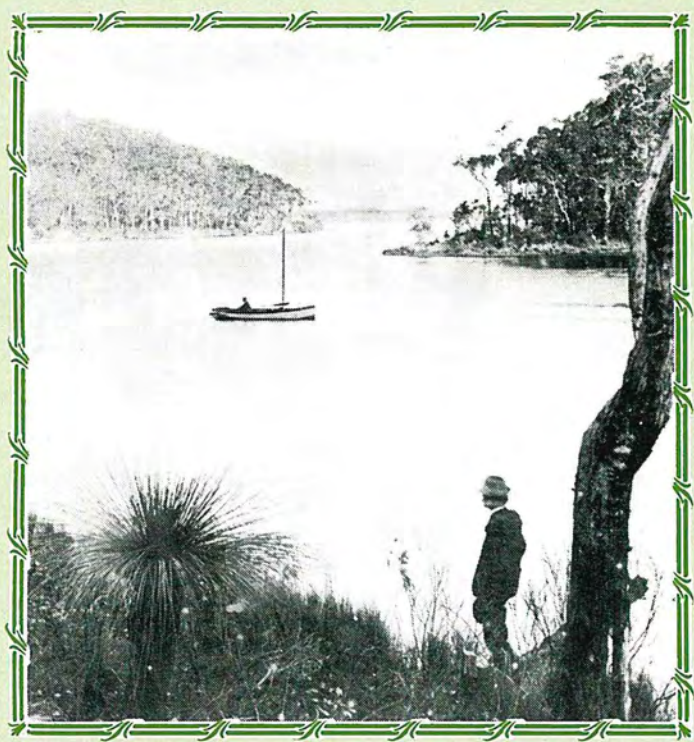


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Finding the magic



SIX DRIVES IN THE PARKS AND FORESTS OF WALPOLE



where karri meets the coast

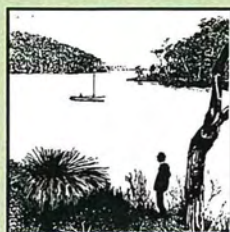


Conservation and Land Management
Western Australia

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HOW TO USE THIS BOOK

There are many facets to Walpole. To include all these on one drive route would overwhelm, overload and probably get you lost along the way.

Instead six drive routes have been chosen, each one focusing on a particular aspect of Walpole's character:

INLETS
TINGLE
OCEAN
SOUTHERN FORESTS
KARRI
WILDERNESS

All drives are loops that start and finish from Walpole's tourist information centre at Pioneer Cottage. However, you can tailor your own tour route by using the regional map and the drive notes.

The length of the drive, standard of the road, map of the route and recreation opportunities along the way are listed for each. Background information on each drive is also given. In winter, some sections of the drive may be closed, and alternative routes are marked on each drive route.

Drive trails are marked like this in the forests and all roads shown on your maps are well signposted in the forest.



Alternative travel routes are suggested between the major towns. Each route has a special focus and they are recommended for people wanting to explore the byways and not the highways. While the distance is not much greater, the travel time is longer. Most roads are well formed gravel and not sealed. This information is shown on the regional map.

Please note that not all forest tracks are shown on your brochure map. If you want to detour from the main drive routes you should obtain a CALM 1:50,000 map for \$6.00 from CALM'S Walpole office.



SIX SCENIC DRIVES IN THE PARKS & FORESTS OF WALPOLE - A SUMMARY

DRIVE 1

INLET DRIVES:

A glimpse of the land of inlets and rivers, framed by towering karri and tingle forests. The chance to get out and walk, paddle, fish or watch birds.



DRIVE 2

TINGLE DRIVE:

An introduction to three rare and restricted eucalypts, the red, yellow and Rates tingle, that grow in the karri forests of the steep Frankland River valley. This drive loops through the Valley of the Giants, named for the massive size of the tingle trees. Lookouts and walk trails along the route help you get a "feel" for this massive forest.



DRIVE 3

OCEAN DRIVE:

A trip to the rugged coastline bordering the Southern Ocean. Depending on the weather, there may be a soft breeze or a salty blast blowing, but in either case an exhilarating and fresh experience awaits, especially at Conspicuous Beach. The rare, red flowering gum grows along this route.



DRIVE 4

FERNHOOK FOREST DRIVE:

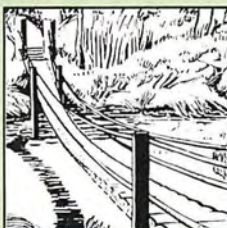
A travel route that passes by 14 tree species and 50 or so forest types, growing naturally in a patchwork mosaic that makes up the southern forests. Sweeping views from two lookouts unfold the patterns of these forests. Part of the tour is in the new Frankland National Park.



DRIVE 5

KARRI DRIVE

A drive that travels the length of the Shannon River basin and follows the patterns and processes of the karri forest. The character changes as you travel from the coast to the heart of the karri region at the old Shannon townsite.



DRIVE 6

WILDERNESS DRIVE

A drive and a walk that is like stepping back in time to see forests, landscapes and rivers as they must have appeared to the Aboriginal people who travelled and lived in this region and to the sealers, explorers, cattlemen and settlers who began to arrive in the 1800s. A taste of the unchanged wilderness of Walpole.

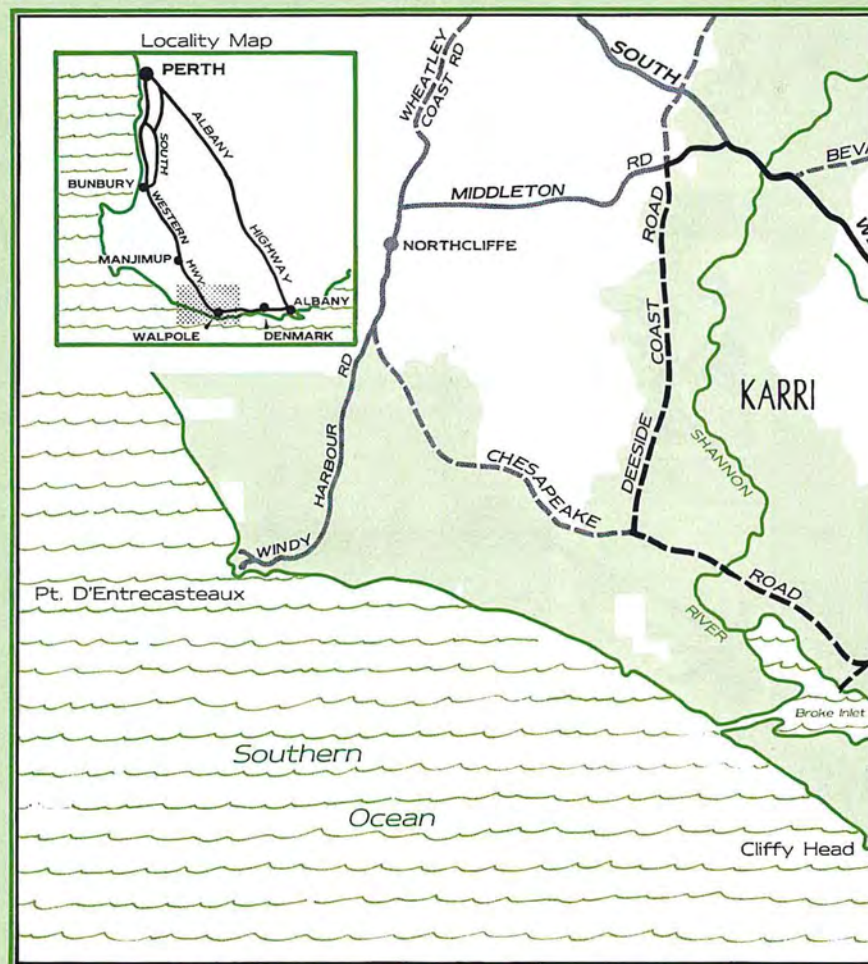


WALPOLE IN A NUTSHELL - AN INTRODUCTION

Aboriginal people first lived and moved through these parts more than 20 000 years ago. The first Europeans were the seafaring explorers, who sailed along the south coast of WA in 1622. Strong winds and the lack of visible safe anchorages discouraged them from closer exploration, but sealers and whalers in the early 1800s spoke in glowing terms of sheltered inlets, huge trees and great deep rivers.

These reports brought William Preston and his party to officially explore the Walpole Nornalup area in 1837. Four years later William Nairn Clark and his party rowed into Nornalup and described the areas around the Deep River and the Frankland River.

In 1845, a group of Englishmen, led by Dr Henry Landor settled on the Deep River. They planned to catch and salt fish for export and to graze



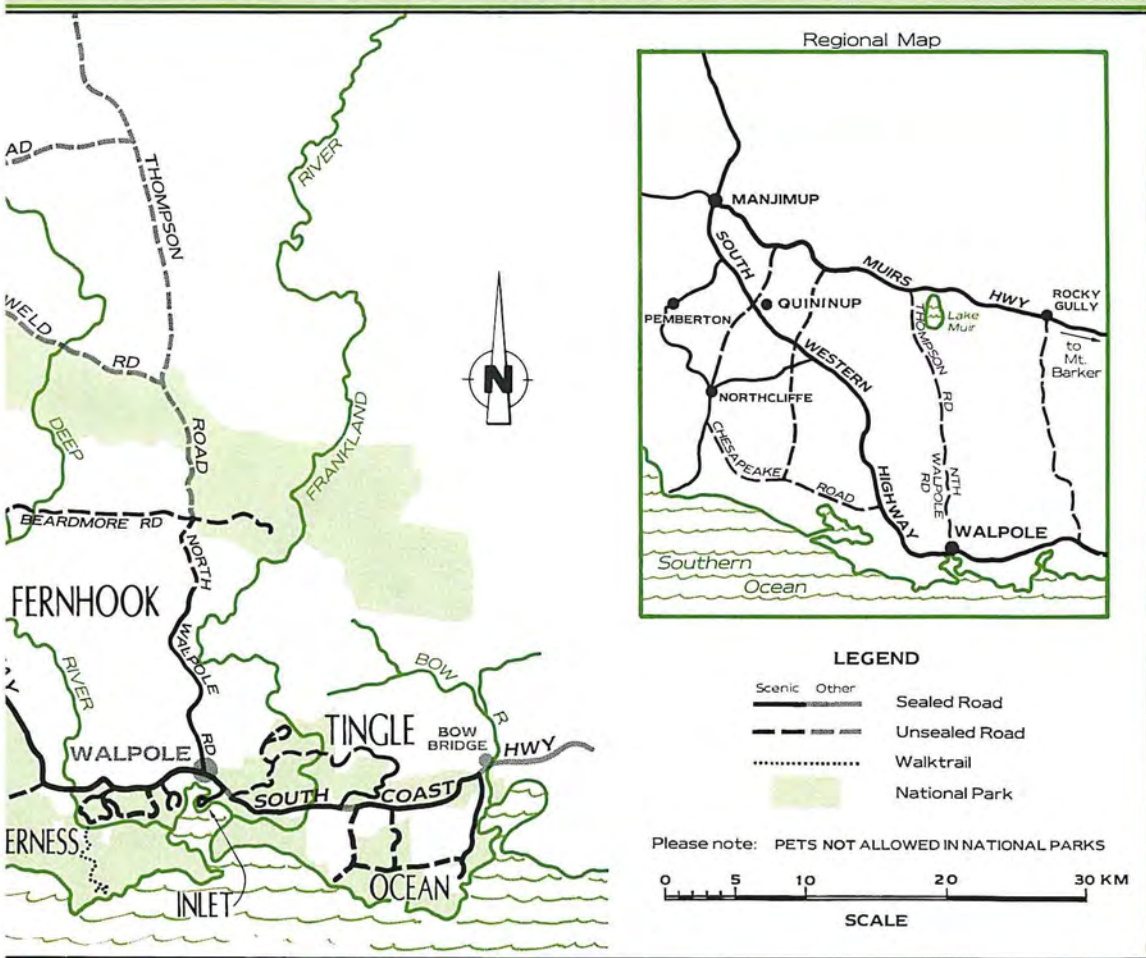
cattle and horses. Within a year the venture failed and the men went their separate ways.

Permanent settlement followed in 1910 when a Frenchman, Pierre Bellanger and his family took up land beside the Frankland River and the following year an English family, the Thompsons, settled at Deep River.

The rest of the district was opened for agriculture through land settlement schemes in 1924, 1927 and 1930.

The original town, on what is now Pioneer Park, began as a tent, tin and bush pole shanty when the 1930 land settlement began. At first called Nornalup, the name was changed to Walpole in 1934.

Despite loneliness and hardship, the little settlement developed and grew to form the basis of the district today - a special place providing peace, tranquility and timelessness, nestled in national parks and towering forests.



I NLETS - KNOLL DRIVE AND REST POINT ROAD

These drives give the traveller glimpses of the inlets, framed by towering karri and tingle trees.

After driving, the tour can be repeated by boat, this time on the inlets, instead of around them.

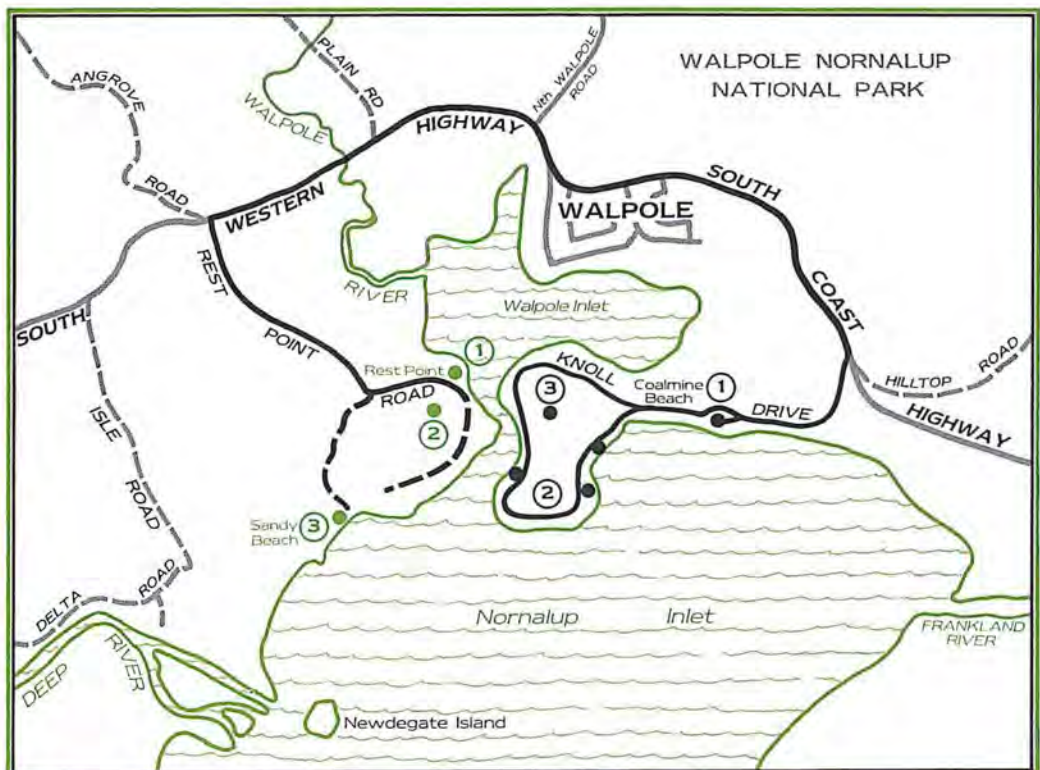
There are two inlets at Walpole. The town overlooks the shallow (at most 1m deep) Walpole Inlet which is fed by the freshwater Walpole River. The second, Nornalup Inlet, is larger and deeper (up to 5m) and fed by the freshwater Deep River and the saltier Frankland River. The Deep and the Walpole Rivers have a forested catchment, while 54 per cent of the Frankland headwaters have been cleared for farms, making the run-off water salty.



Inlet view from the knolls

The estuaries are joined by a natural one kilometre long channel, bordered by steep granite hills and rocky shores. These are known locally as 'The Knolls', and are covered with dense karri forest.

Other channels have been dredged to allow boats to navigate from the town jetty to the ocean



bar. This is one of the few inlet bars of the southern coast that remains open to the sea all year round. The estuaries are always tidal, salty and full of fish, both marine and estuarine.

Many fish species (37) are known to use the estuary. Black bream, whiting, trevally, herring and juvenile WA salmon are the tastiest and the ones you'll probably have the best chance of hooking. The open inlet mouth, the mixing of fresh and salt river waters, river deltas and two large inlets provides a great variety of marine habitats and a great range of fish.

Former Premier Sir James Mitchell, a holiday-maker to these parts in the 1920s, closed the inlets to professional fishermen and net fishing. This is still the case today.

Keep an eye out for the Pelican, Black Swan, Black Duck and Grey Teal, which use the waters as a stopover, while the white breasted Sea Eagle uses the tall karri on the knolls to build a nest and survey fishing prospects.

The drives are short, full of character and changing landscapes and give a great overview of unique Walpole.



...William Nairn Clarke, who first explored the Frankland River in 1841, probably describes the experience as well as anyone.

'The sail up was truly delightful. The river actually appeared to be embosomed amongst lofty wooded hills, with tall eucalypt trees close to the water's edge, and crowning the summits of these high hills thus casting a deep gloom over the water and making the scenery the most romantic I ever witnessed in the other quarters of the globe.'

(Diaries of Exploration, Battye Library, W.A.)

CHARACTER

1. Where karri meets the water's edge.
2. Views and access to the double inlets, estuaries of the Deep, Frankland and Walpole Rivers.
3. A chance to get wet or paddle the water's edge. Waterski, fish, windsurf, sail or boat.

DRIVE 1

DISTANCE: 12km loop Knoll Drive.

ROAD CONDITION: 12km sealed.

Recreation opportunities along route.

1. COALMINE BEACH

Peppermint woodland to the edge of the beach. Shallow water for safe swimming. Sandy cliffs and views to the mouth of the Nornalup Inlet.



2. KNOLL PICNIC SPOTS (3)

In karri forest, on top of granite knoll, views of inlet through trees or on water's edge.



3. KNOLL WALK TRAIL SYSTEM

Through lush karri forest. Sea Eagles use tall karri for nesting eyries.



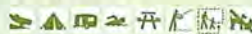
DRIVE 2

DISTANCE: 12km (not a loop).

ROAD CONDITION: 10km sealed, 2km gravel.

1. REST POINT CARAVAN PARK

A holiday atmosphere reminiscent of the 1920s. Views of karri over the 1km channel that links Walpole Inlet to Nornalup Inlet. Walk trail links Sandy Beach.



2. RESTORED SAWPIT

Historic site, dating back to the 1860s. Sawmillers who sailed from Albany rowed across the Inlet, cut the timber and took it out by sea, cheaper than building roads through the forest. Reconstructed in sheoak and jarrah forest.



3. SANDY BEACH

On the edge of the inlet, backdrop of tingle, jarrah and karri. The walk follows the water's edge to Rest Point.



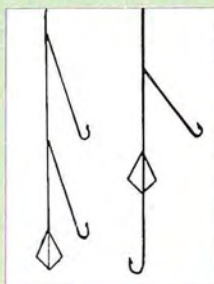


BY HOOK OR BY SINKER

Tips from Terry Goodlich; a Ranger who keeps his freezer well stocked.

Fish are abundant around Walpole - whether you choose to fish from a boat, off the coast, from the coastal beaches and rocks, or in the inlet and rivers (either by boat or from the shores and banks).

BOAT FISHING

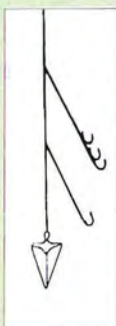


The unprotected oceans of the south coast are unpredictable and dangerous. Sudden weather changes can whip up rough waves and heavy swells very quickly. Negotiating the Nornalup Inlet mouth can be treacherous. Ocean fishers rarely need to venture far from shore, as fish are plentiful.

TYPES OF FISH: Dhufish, snapper, queen snapper, samson fish, blue groper, shark, sweep, salmon, tuna, harlequin fish, sergeant bakers, skippy, herring, whiting, nannygai and other reef fish.

BAITS: Octopus, squid, small whole fish, mulies, white or blue bait.

BEACH FISHING



Beach and rock fishing can be dangerous. King waves are common. Access to the coast can be difficult without a 4WD vehicle. Several areas accessible by 2WD car are; Mandalay Beach, Conspicuous Cliffs and Peaceful Bay.

If using a 4WD vehicle on tracks, remember to reduce tyre pressure to 18-20 lbspsi to drive on sandy areas, keep to established tracks, bring all rubbish back with you, be aware of tide times, as you can be caught on some beaches by high tides.

Some 4WD tracks cross private property; please seek permission to use them.

TYPES OF FISH: herring, skippy, whiting, flathead, tarwhine, salmon, stingray, blue groper, shark, mulloway, samson fish and occasionally snapper.

BAIT: white and blue bait, mulies, rock crabs, strips of fish, squid, octopus, prawns.

** If cleaning fish on the beach, please throw heads and so on back into the water.*

INLET AND RIVER FISHING (NO NETS PERMITTED)



This type of fishing can be great family fun. Walpole/Nornalup Inlet, Broke Inlet, and Irwin Inlet contain many varieties of fish. The Frankland and Deep Rivers contain the wily black bream. Most rivers and brooks also contain marron, which may be caught subject to seasonal restrictions.

Whether using a small boat or fishing from any of the numerous jetties, rocks or coves, you can almost guarantee fresh fish for tea.

TYPES OF FISH: black bream, tarwhine, whiting, flounder, flathead, salmon trout, herring, pilch, cobbler, stingray, small sharks. Crabs are also caught in season.

BAIT: prawns and shrimp, octopus, white or blue bait, cockles, rock crabs.

HINTS: Inlet - an incoming tide can be very productive when inlet fishing.

THE WRECK OF THE MANDALAY

Mandalay Beach takes its name from the Norwegian barque "Mandalay", wrecked in 1911 off the coast between Chatham Island and Long Point.

The ship left Delegoa Bay, in Africa, for Albany and as she sailed across the Southern Ocean off the coast of WA a strong southerly gale swept the ship to shore. Captain Emile Tonnessen and his crew managed to keep the vessel clear of Chatham Island, only to be confronted by Long Point. Realising it would be impossible to round the point

in the gale, Captain Tonnessen decided to beach the vessel. All lives were saved and, despite the rough seas, the crew managed to get most of the provisions ashore.

Members of the Thompson family found the crew and took them to their home at Tinglewood Lodge.

Ironically this was the Captain's final voyage before retirement. His 46 years of seafaring had been free of mishaps. The Mandalay wreck rises out of the sands every 10 years or so, as the beach erodes and builds up. You might be lucky...



T INGLE DRIVE

Walpole is a special place for trees. Here, four species of eucalypts grow within a 4km radius of each other and nowhere else in the world. Tingle Drive introduces you to three of these rare and restricted eucalypts; red, yellow and Rates tingle. (The fourth, red flowering gum, can be seen along Ocean Drive.) The drive also passes through towering karri and gnarled old marri that loom in the steep yet fertile valley soils of the Frankland River.

There are over 500 species of eucalypts or gum trees in Australia. The name *Eucalyptus* is Greek, and means "well covered"; the flower bud has a little cap protecting the flowers.

To distinguish between each type of eucalypt you have to peer at the flowers, leaves, gumnuts and bark for clues to the tree's identity. Check with the tree spotter's guide in this book for some pointers that might help you pick out the tingles. Look out for red, yellow and Rates tingle trees.

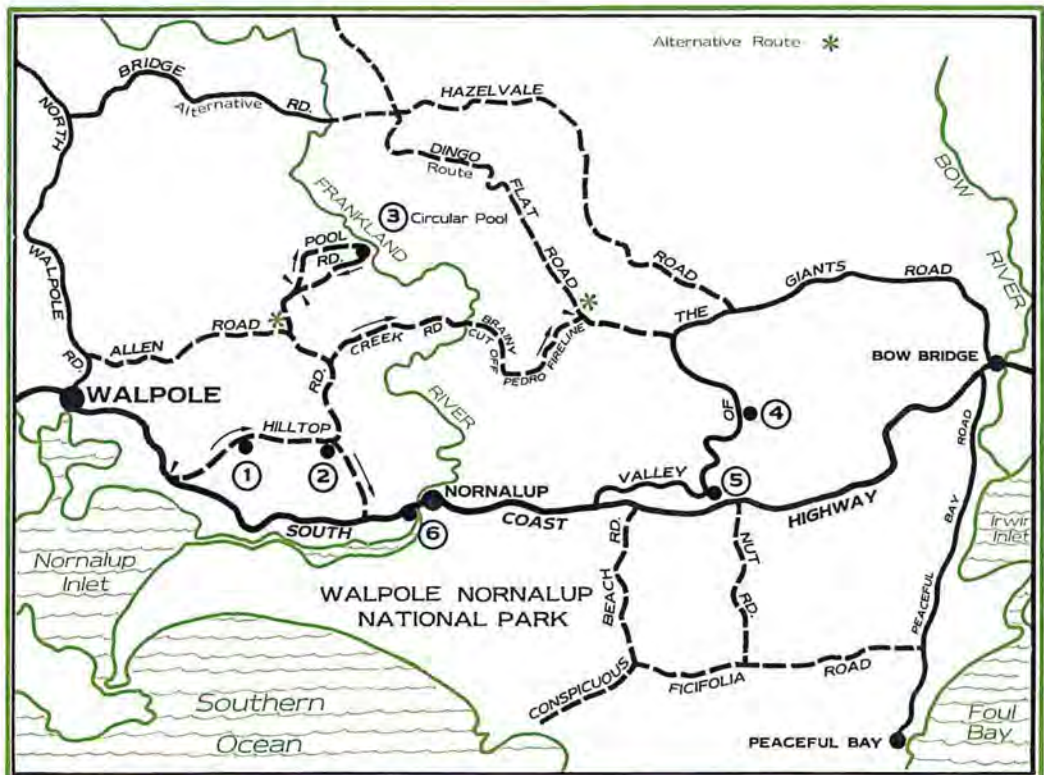
As you travel these tingle forests you will see

Pygmy possum



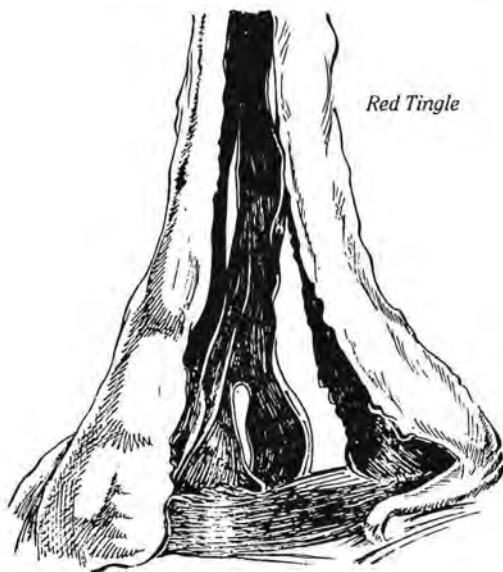
signs of fire. Blackened tree trunks, carpets of wildflowers sprouting after fire-induced germination, leafy side-shoots on many small and large trees and hollowed out tree trunks.

A tree can survive this seemingly massive trunk injury because the living part of the tree is



just below the outer bark rather than the centre.

Most of the stag white tree skeletons you see are the result of the 1937 bushfire, started by lightning during a wild summer cyclone. The fires raged for 200 miles around the south coast. Bernard Bellanger, a member of the first family to settle in the Walpole region (1910) at Nornalup, records this event in his book *Champagne and Tingle Trees* (1980).



"As the fire approached the northern extremity of the Nornalup National Park, it developed into what is known as a 'crown fire', which occurs when the heat becomes so intense that three separate sets of flames appear. The first forms high in the sky and is made up of burning gases and the swirling debris of dry bracken and leaves; the second, sometimes a quarter of a mile or even further behind, races through the tree-tops; the third roars through the undergrowth made tinder-dry by its two evil companions in the vanguard. This last set of flames can be well behind the other two. A crown fire seems to destroy the uppermost branches of even the tallest trees, permanently. I have often been asked why most of the upper branches of the trees in the National Park are so

CHARACTER:

1. Three rare and restricted eucalypts, the tingles.
2. Deeply incised Frankland River valley.
3. Towering pristine karri.
4. Forest survival after wildlife.

DISTANCE: 44km loop.

ROAD CONDITION: 21km sealed
23km gravel.

In winter, Sapper's Bridge may flood. An alternative route is marked on the drive route (52km loop, 40km sealed and 12km gravel.)

RECREATION OPPORTUNITIES

1. HILLTOP LOOKOUT

Views through tingle and karri across the forest, Frankland River, south to the coast.



2. TINGLE TREE WALK

Short trail to giant tingle passing through karri and tingle forest.



3. CIRCULAR POOL

Rocky bar rapids and large pool on Frankland River forest setting.



4. VALLEY OF THE GIANTS

Tingle forest at its biggest.



5. GIANTS PICNIC SPOT

Small picnic spot surrounded by karri and tingle trees.



6. NORNALUP BRIDGE

Frankland River in karri setting.



dead, and when I reply, 'That was caused by the 1937 crown fire', I have then to explain just what a crown fire does."

In 1987 another wildfire roared through part of this forest, yet you will see no bare wastelands after such catastrophes. The forest has a number of 'strategies' (see p.15) that enable plants to survive or quickly recolonize after a fire, although fire favours some plants more than others.

FORESTS VERSUS FARMS - AN EARLY STRUGGLE

Early explorers and settlers assumed that any soil that grew such phenomenal trees as karri and tingle must be exceptionally fertile. They were wrong, and farmers in the Walpole district struggled until phosphate fertilizer came on the market after World War II. The struggle for forests and farms has been a changing balance.



Tingle Drive passes through country cleared of forest by the area's first settlers, the Bellanger family who arrived in 1910 and carved a farm on the slopes near Nornalup. In 1910 the forests along the Frankland River were listed by the National Reserves Board and gazetted as parklands.

In 1924 and 1927 respectively, two group settlement schemes began in the Tingledale and Hazelvale districts. English migrants arrived by boat to take up land in these pristine forest areas. Most knew little about farming and one can only imagine their dismay when confronted by dense, impenetrable bushland and forests of giant trees.

Jack Edmonds, an early settler of the Tingledale Group Settlement, tells of the time in 1929 when he was one of the gang constructing the road through the Valley of the Giants. A number of the huge tingle trees had to be pulled out and he recalls that one took two men ten days to remove.

This, Jack says, was by no means the biggest tree in the road's path. The procedure was to dig right around the base of the tree and through the roots, which could be a metre thick, and then to pull it over with a horse-operated tree puller, using 1¼ inch wire rope. A shovel, an axe and lots of perspiration were the only tools of trade.

Fernhook Drive passes through farms that began as part of the 1930 Land Settlement Scheme in Walpole.

In the early part of this century there was a tremendous drive to open up the country for farming. This scheme was actively opposed by the Minister for Forests and the Conservator of Forests, who fought hard to reserve high quality forests from clearing.

Nowadays the tremendous drive is for conservation and reservation, the pendulum swinging the other way. Nearly half of the remaining karri forest is in parks, reserves and zones that will not be cut and the remainder is managed to ensure what is harvested is regrown on a sustained yield basis. The karri forest that remains is forever.

Skeleton-like ring-barked forest giants still stand in paddocks as proof of the past struggle; forest versus farms.

FOREST FIRE STRATEGIES

OF FRUITS AND NUTS

The fruit of many forest plants (eg. the eucalypts) are hard, woody and highly fire-resistant. The heat of a fire helps to ripen the seeds inside these fruits, and often causes the casing to split. Over the next couple of days, the seeds drop out onto the newly-exposed soil. The 'honkey nut' of the marri and the large, woody fruits of the banksias are good examples of fire-resistant fruits.

BARK - A COAT FOR ALL SEASONS

Most larger forest plants have thick, protective bark which resist all but the fiercest fires. The eucalypts and sheoaks are good examples. The common blackboy doesn't have bark; its trunk is made of a dense matting of burnt leaf-bases. After a fire, the new crown grows on top of the burnt remains of the previous one, so the blackboy increases in height with every burning.

EPICORMIC BUDS

Epicormic buds are special leaf-buds just under the bark of the trunk. After fire damage to the crown, these buds shoot out from the bark as clumps of foliage, so the tree can carry out its essential functions while the crown recovers. They are most striking in marri and karri, looking like a lacework vine climbing up over the trunks.

ROOTSTOCK - A BASEMENT PANTRY

Many forest trees have an underground rootstock, or lignotuber, which sends out new shoots if the old trunk is badly damaged. These shoots, sometimes called suckers, may in time usurp the old trunk if it cannot recover. Otherwise, once the old trunk is functioning sufficiently, the suckers may deteriorate, die and eventually fall off. Blackbutt and jarrah are vigorous examples of rootstock growers.

OCEAN DRIVE

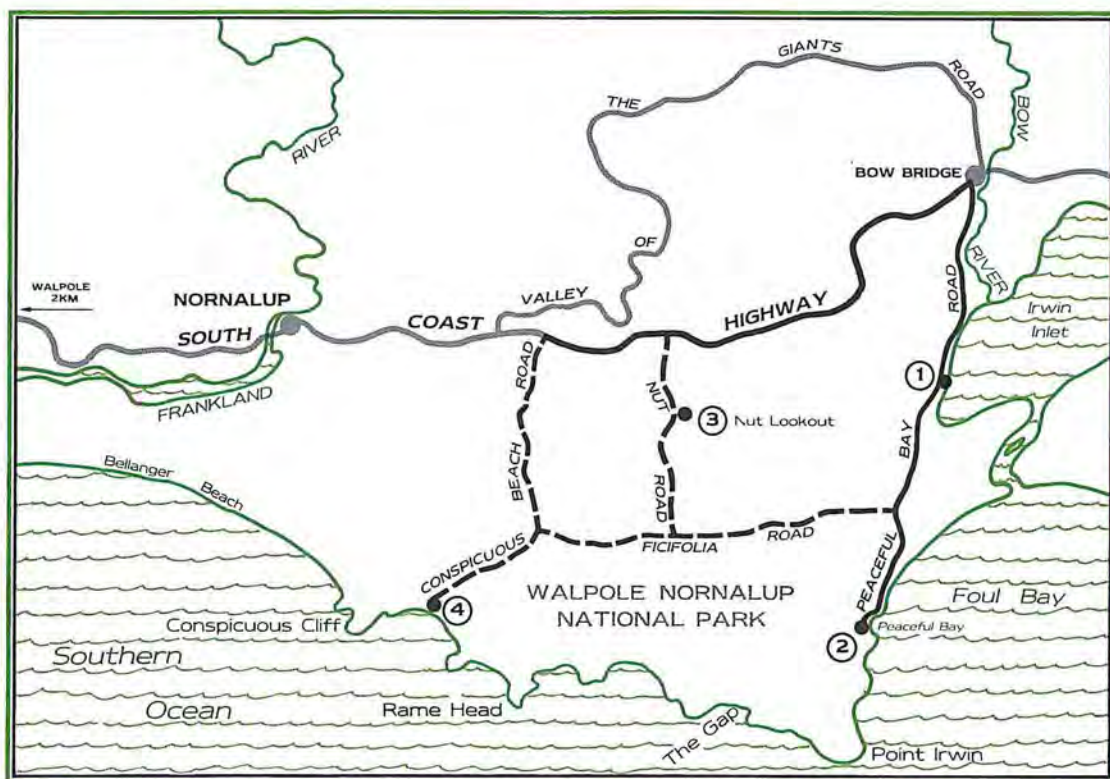
The mighty Southern Ocean has carved a rugged coastline around the Walpole region - a favourite place for people of all ages, through the eras.

Although Europeans first saw this part of the continent 350 years ago, they did not set foot on it until 200 years later. From their ships, the brown and dark green land seemed arid and inhospitable.

As early as 1622 a Dutch ship, the Leeuwin (Lioness), sailed from what is now Cape Leeuwin across to King George Sound. They called the continent Leeuwin's land. In 1627 the Gulden Zeepaard (Golden Seahorse) sailed along 1000 miles of coast from the Cape to Streaky Bay in S.A. They called the continent Nuytsland after Pieter Nuyts, a Dutch East Indian official on



board at the time. In 1791 the first Englishman, Vancouver, who was with the Discovery and the Chatham, set foot on King George Sound and proclaimed the western part of Australia for the British Crown. In 1792, Admiral D'Entrecasteaux sailed by in the Recherche and Esperance and in 1801 Matthew Flinders was busy in these parts, mapping the entire coast of Australia. On his way





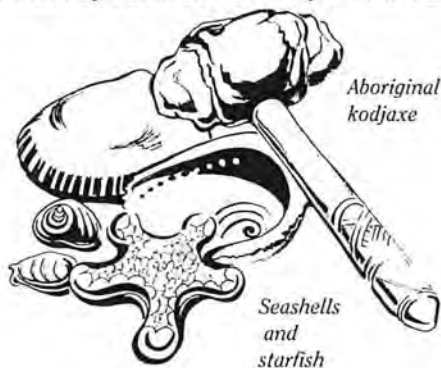
home he was captured by the French, who stole his maps and published them in Paris.

American and French sealers and whalers plied the coast in the early 1800s. In 1826 Albany was first settled. The settlers had great difficulty eking out a living from the land and also looked seawards for a living. Trading in seal skins began but indiscriminate destruction virtually wiped them out. With

whale products bringing good prices on European and American markets, the whaling industry grew. The first whaling effort was from Middleton Beach, Albany, in 1833. Although American and French whalers using ocean-going vessels pushed out the locals operating from shore, whaling was probably the most important local industry until the end of the 1850s.

At Peaceful Bay, salmon fishermen take up residence annually in February. They wait for the annual migration of salmon from eastern states waters to spawn off the South-West coast. The salmon are netted as they school up on their journey.

Peaceful Bay was once part of a large coastal grazing strip from Nornalup to Denmark used by the Hassell family for summer grazing for their cattle. The route from the Cranbrook district to the coast was known as Moriarty's stock route. It was made by one of the Moriarty brothers and an



CHARACTER:

1. The south coast, sweeping beaches, rugged headlands and the mighty Southern Ocean.
2. Rare and restricted red flowering gum.
3. A favourite place for people of all ages.

DISTANCE: 57km loop

ROAD CONDITION: 44km sealed
13km gravel

RECREATION OPPORTUNITIES

1. IRWIN INLET

Paperbark-lined inlet, water birds and black bream.



2. PEACEFUL BAY

Shire lease area. Protected bay, rocks for safe fishing. Sanddunes and rocky headlands to explore.



3. NUT LOOKOUT

Sweeping views of the coastal plain to the Southern Ocean. Red flowering gum grows along this section, flowers early in the new year.



4. CONSPICUOUS BEACH

Rugged headlands, salt-sprayed beaches and coastal cliffs.



Aboriginal named Booker and is still marked on the maps, although no track exists today.

In the early days of land settlement schemes, Peaceful Bay was a favourite haunt of the settlers, who often gathered for picnics at the protected beach.

The Peaceful Bay area was probably visited by Aboriginal groups who travelled the coast in summer for shellfish, crabs and fish. There are signs of a stone quarry and old campsite and tool remains on the shores of Foul Bay.

Today, people come to the coast for much the same reason as the Aboriginal people of 20 000 years ago; for summer enjoyment, fishing and wildflowers. The peaceful pursuits of life. Even the seals and whales are returning.

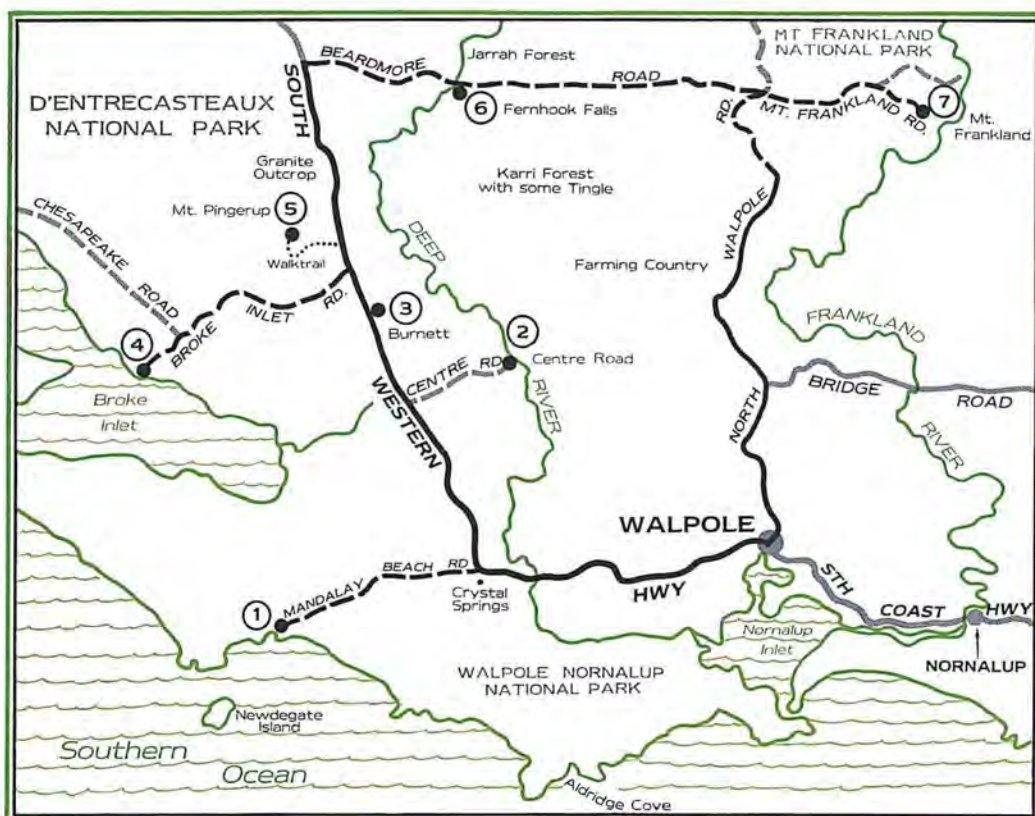
FERNHOOK FOREST DRIVE

On the Fernhook Drive you will see the complete range of forests that grow in the lower South-West. You will pass at least 14 tree species and travel through 50 or so forest types that occur in a patchwork mosaic over State forests and national parks.

The trees you will see are karri, jarrah, marri, blackbutt, bullich, peppermint, paperbark, banksia, yate, yellow and red tingle, Warren River cedar and sheoak. Refer to the tree spotter section of this brochure for help!

A sweeping bird's eye view from Mt Pingerup and Mt Frankland show the patterns of different vegetation types.

Geologically, prominent hills and ridges have been forced upward and have blocked old rivers and creeks. These valleys, filled with layers of poorly drained, highly leached sands, have formed treeless flats and bottlebrush ti-tree swamps, often high above the coastal plain.



Paperbarks and stunted jarrah, able to stand soggy conditions, ring the edges of these wetlands, with karri growing on the ridges and hills rising above the flats. Karri also exploits the red loams, freshly eroded around the bases of the high granite outcrops such as Mt Frankland and Mt Pingerup. You can't miss the rich red soil on the edge of road cuttings.

Where the Deep River and Frankland Rivers have sliced a V-shaped valley through the landscape, there is fierce competition for the deep fertile valley soils. Karri and tingle tend to dominate these sites, but some of the region's highest quality jarrah grows in the Deep River valley system and around the Fernhook recreation site.

Rainfall, soils, landforms and events such as logging and fire determine where an individual tree grows. The same species can grow in different vegetation groups. For example, jarrah in the southern forest grows on at least 17 site types and karri is grouped into 14 distinct units. There is a complex pattern and interaction between plants, trees and animals.

Fernhook Drive covers this forest mosaic of different tree species and forest types.

CHARACTER:

1. The changing patterns of the jarrah, tingle, karri and marri forests. Two mountain top views of these patterns.
2. Deep River Valley.

DISTANCE: 71 km loop

ROAD CONDITION: 48km sealed

23km 1st class gravel

RECREATION OPPORTUNITIES

1. MANDALAY BEACH

Peppermint and yate woodlands, coastal heath, some coastal karri.



2. CENTRE ROAD PICNIC SPOT

Nestled on the banks of the peppermint and jarrah shaded Deep River.



3. BURNETT

Granite rock and good views, ti-tree swamp and jarrah forest. Picnic spot set in sheoak grove.



4. BROKE INLET

Wetlands, karri knolls, inlet and jarrah forest.



5. MT PINGERUP

Spectacular views of bottlebrush flats and karri islands and the coast. Old tree tower, granite rock and karri forest. 1½ hour walk.



6. FERNHOOK FALLS

Jarrah, freshwater river, waterfall (winter), peppermints, blackbutt.



7. MT FRANKLAND

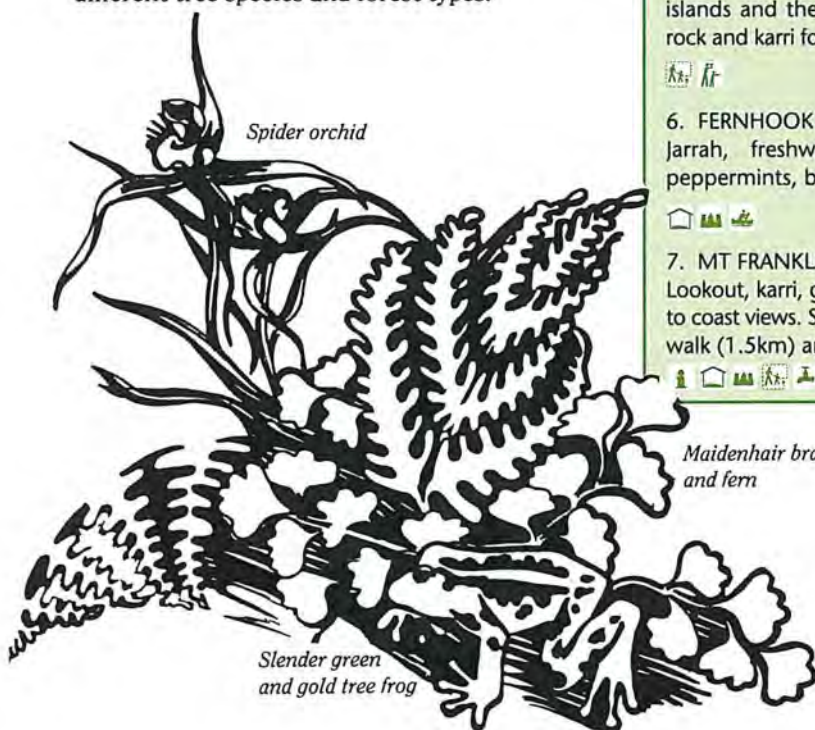
Lookout, karri, granite outcrop, spectacular forest to coast views. Summit walk (1km) and Rockwood walk (1.5km) around the base of the mount.



Spider orchid

Maidenhair bracken
and fern

Slender green
and gold tree frog



KARRI DRIVE

Karri is one of the largest living things on our planet. One tree can weigh over 200 tonnes, grow to 90m tall, use 170 litres of water a day, yield 1kg of honey each season, take nine people holding hands to span its girth and do it all in 200 years. A massive living thing....and it all begins with a seed this size *.

On the Karri Drive, you will see the patterns and processes of the karri forest and travel the length of the Shannon River basin, an entire river catchment within a National Park.

Most karri grow within 40km of the coast on red earth soils, only where rainfall exceeds 1100mm (44 inches). Because of its specific moisture and soil requirements, karri grows in a mosaic of patches rather than a continuous belt. It can

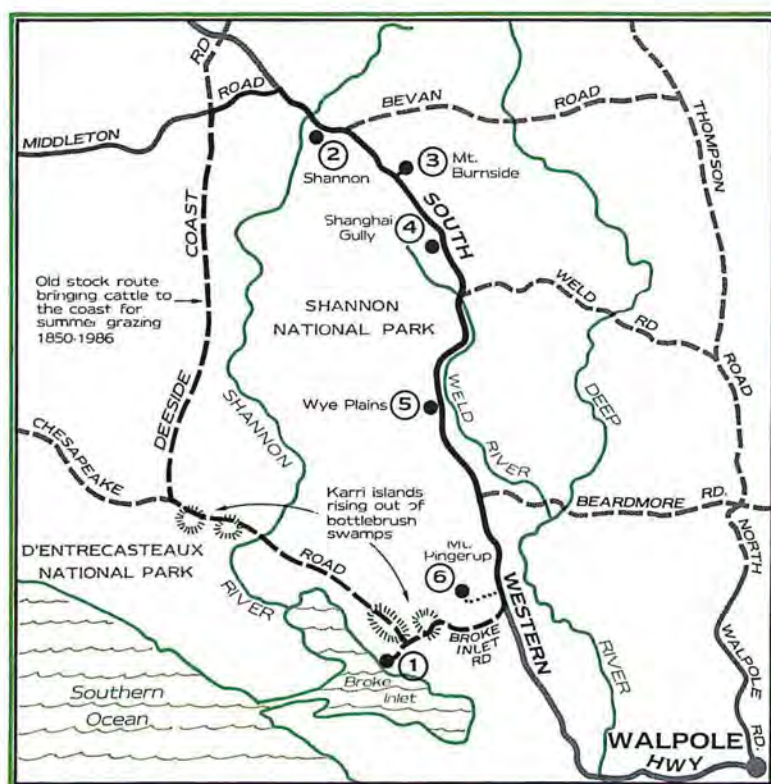
WHAT'S IN A NAME?

The Shannon River was named after a famous British frigate, commanded by Captain Philip Broke, whose name survives in Broke Inlet.

During the war of 1812, the Shannon engaged and defeated the United States frigate Chesapeake, (Chesapeake Road), commanded by Captain James Lawrence, whose last words to his crew as he lay dying on his blazing ship, were "Don't give up the ship", which has been the motto of the U.S. navy ever since.

British naval pride had been badly dented during the war, as battle after battle was lost to the heavily armed and well-trained American frigates.

The Shannon's victory made Broke the hero of the hour, and somewhat restored British prestige.



grow in pure stands or mingle with marri (redgum), or sometimes mix with jarrah and marri.

The patchwork effect is pronounced on southern sections of this drive, where pure karri groves are islands in a sea of swampy, bottlebrush flats. Here, the karri is selectively growing on the newer red earth soils weathered from the outcropping granite rocks. Pure karri and tall forest mixtures are seen on the northern sections around the highway and the Shannon recreation area.

This drive shows the constantly changing patterns of forests and natural communities.



CHARACTER:

1. A kaleidoscope of karri forest patterns and landscapes.
2. The heart of the Shannon River Basin.

DISTANCE: 124km loop

ROAD CONDITION: 71km sealed
53km 1st class gravel

RECREATION OPPORTUNITIES

1. BROKE INLET

Inlet, coastal heath, jarrah woodland.



2. SHANNON RECREATION SITE

Dam, walk trails along river and to lookout.

Detailed information on Shannon National Park.



3. MT BURNSIDE

Fire tower, granite outcrop, sweeping views of mosaic karri forest. Short walk to summit. Lookout,



4. SHANGHAI GULLY

Great photographic spot for pristine karri forest. Shanghai-shaped karri tree.



5. WYE PLAIN

Small picnic spot in jarrah forest.



6. MT PINGERUP

Spectacular views of coastal forests, karri mosaics from the top of a granite mountain.



PARDALOTES



Two types of birds you are likely to see and hear in this karri forest are the spotted and striated pardalote. Both live high up in the karri crowns, where they spend most of their time busily - and noisily - searching every leaf and twig for food. They prey on lerps, cicadas, spiders, weevils, caterpillars, native bees and other small forest creatures.

There are fewer insects in winter so the birds flock together in groups of 10-20 and patrol the tree tops trying to flush them out. Some flocks of striated pardalotes migrate inland, using the eucalypt-lined rivers as corridors for safe travel. However, these faithful birds return to the same nest every year with the same partner. The spotted birds nest in tree hollows while the striated species prefers a nest hole in an earthen bank.

WILDERNESS DRIVE

These landscapes and forests are mostly unchanged since sealers, explorers and itinerant cattlemen visited the area in the 1800s.

As early as 1845 a group of men attempted to settle the Deep River wilds. They built a camp and a vegetable garden on Newdegate Island at the mouth of the Deep River. They planned to catch and salt fish for the Mauritius market and graze cattle and horses on the coastal flats. There was tension between the group and local Aboriginals, and one Aboriginal was shot and others shot at.

Not long after this incident and less than a year since their arrival, the venture folded and the men went their separate ways, to London, Perth and Albany; back to civilisation.

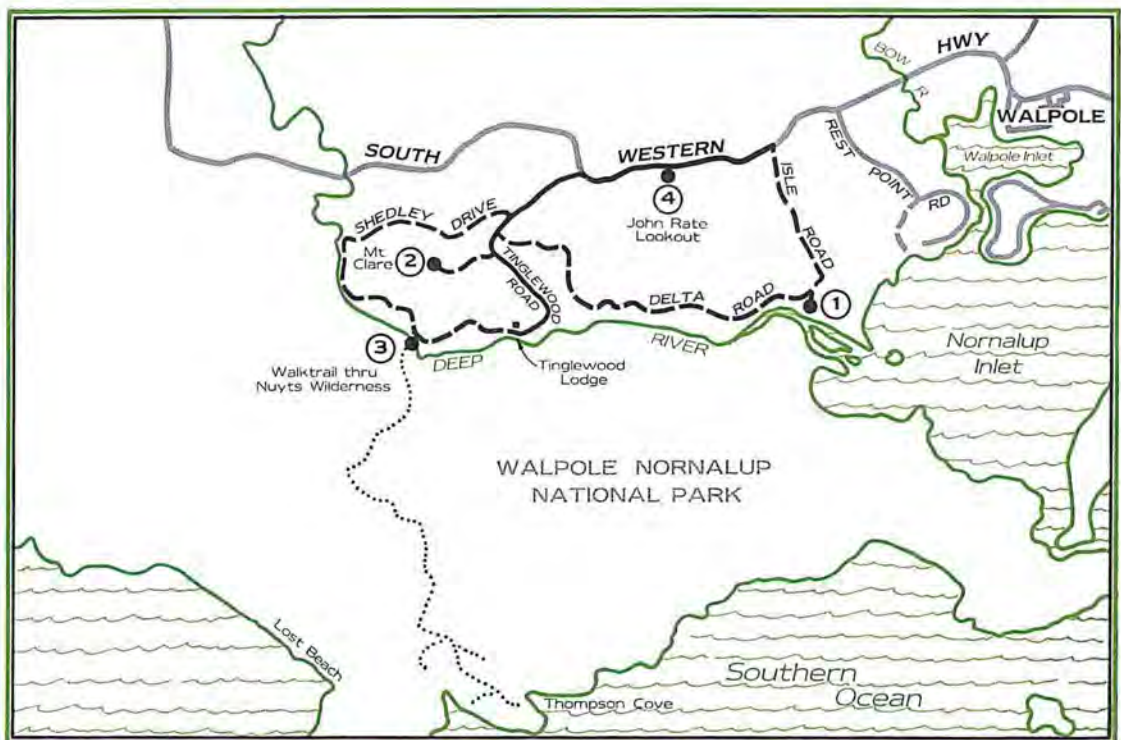
In 1911 the Thompson family arrived. They traded a home in Sussex, England, for a piece of



Nuyts Wilderness Foot Bridge across the Deep River

wilderness on the Deep River. A steam tug dropped them at the sandbar at the mouth of the Nornalup Inlet and they rowed up the Deep River and into a new life.

The Thompson's ran a guest house, Tinglewood Lodge; it still operates today although the original building burnt down in 1978. The Bellangers, on the other side of the inlet, opened their house to paying guests. It was known as Nornalup Park



Guest House, and the Swarbricks opened a guest house, the Rendezvous, and joined in the exclusive tourist business at Rest Point, today a caravan park.

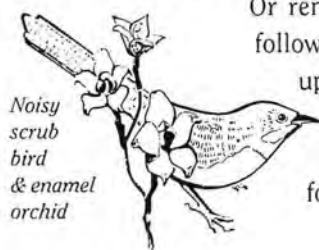
From the 1920s to 1950s the rugged beauty of this isolated area attracted Western Australia's rich and famous holiday-makers. They drove the rough tracks, fishing, boating and exploring by day and enjoying the comfort of a lodge by night.

In the 1960s roads were sealed, average income earners could afford to buy a car and holiday away from home, and air travel promised adventures abroad to the type of people originally attracted to Walpole. . .

But wilderness and beauty remained for all to enjoy.

Shed the urban for a wilderness experience. Cross the footbridge over the Deep River and follow the path into the Nuyts Wilderness area where no vehicle can enter.

Or remain in the car and follow the Deep River upstream as it winds around the pristine tingle and karri forests of Mt Clare.



Noisy scrub bird & enamel orchid

CHARACTER

1. Forests and coastal heath managed for their wilderness value.
2. Deep River Valley and granite outcropping of Mt Clare.
3. Pristine karri and tingle forests.

DISTANCE: 36km loop.

ROAD CONDITION: 11km sealed

15km gravel

No caravans please

In winter the Deep River may flood Shedley Drive.

Check at CALM's office.

RECREATION OPPORTUNITIES

1. ISLE ROAD PICNIC SITE

On the edge of the Deep River delta. Picnic spot sheltered by jarrah.



2. MT CLARE

Mossy granite outcrop. Views to the coast over karri and tingle tree tops. 400m walk.



3. NUYTS WILDERNESS AREA

Suspension bridge across Deep River into wilderness area. Walk track to the coast covers many types of forest. Excellent orchids along track in spring. Short walk 3km to edge of karri forest return or longer, 15km to coast return.



4. JOHN RATE LOOKOUT

Superb views through karri forest, across the inlets to the sand bar and the Southern Ocean.



KARRI

Karri leaves are shed and replaced each year and karri bark is shed every year in late summer or autumn. For each hectare of karri forest, three tonnes of leaf and bark litter fall to the forest floor every year. If an area was left unburnt for 50 years, the litter layer on the forest floor could be several metres thick and weigh as much as 50 tonnes per hectare.

Although a karri tree produces flowers every year, it takes four years for the flower buds to develop into mature gumnuts ready to drop seed. There is a heavy blossom cycle once every four to seven years. The purple crowned lorikeet plays an important role in pollinating the karri flowers. It has a tongue designed to collect the protein rich pollen grains.

Karri (Eucalyptus diversicolor) is a very competitive tree and it is a case of survival of the fittest from the time the seeds germinate. For example, in an area the size of a football oval, 125,000 karri seeds can germinate. Twenty years later, only about 1000 of these have survived and by the end of a karri lifetime in 200 years, only 20 trees may still stand. The struggle for water, sunlight, growing space and food from the soil is intense.



KARRI CYCLES

Karri trees set seed only once every four years or so. The seed is enclosed in a hard, woody gumnut which will not open until it has completely dried out. A long hot summer in the forest will cause some seed to be released and fall to the forest floor, but this often either fails to germinate, or is overshadowed by nearby trees, and cannot glean enough light to survive.

That is, unless a fire goes through. A fierce fire will burn out patches of forest completely, and scorch the canopy from many trees. Logs lying on the forest floor will be reduced to beds of ash.

A few days after such a fire, thousands of seed capsules, dried out by the heat of the fire, will open, raining seed onto the ground.

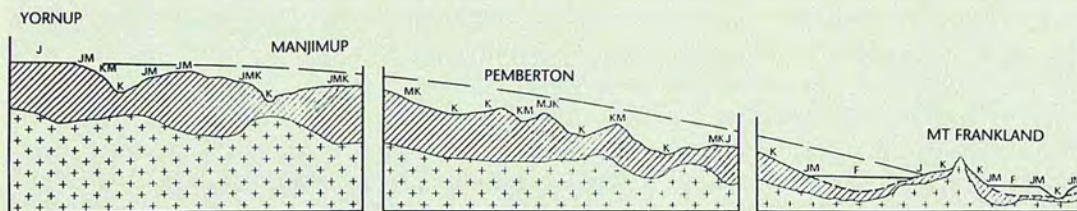
The beds of ash left behind after the fire are rich in nutrients, and form a perfect seedling raising mixture for young karri. When the first rain moistens the ash-beds, millions of karri seeds germinate and compete for the available food and light. Those that grow fastest will form the replacement forest, while the weaker ones will be shadowed out and starved.

Only the very tips of the growing karri receive much light, and most leaf and branch growth occurs there, at the top of the stem. Where the young karris shade each other's trunks, very few, or no branches, form.

In the forest, most karri have tall, slender stems, often rising for 40 metres before branching. In a field, or an area where the tree is not shaded by its fellows, the branches grow much lower down the stem.

RELATIONSHIP BETWEEN KARRI, LANDFORM AND SOIL

(not to scale)





WALPOLE - AS IT WAS THEN

In October 1930 a small community of tents and tin and bushpole shanties was established in this area, marking the beginning of the Nornalup Land Settlement, later known as Walpole.

The settlement, a scheme of the then Premier, Sir James Mitchell, was designed to foster a flourishing agricultural community that would contribute to the rural economy of Western Australia and create livelihoods for unemployed married men and their families.

Those attracted to the scheme lived in a makeshift 'main camp', located where Pioneer Park now stands, until blocks of 120 acres (47.6 hectares) of forested land were allocated to each by ballot. Then began the hard work of clearing, fencing, building a more permanent home and carving an existence from the land.

However, infertile land, indomitable forests, lack of farming skills and the hardship of the 1930s Depression beset the settlement. The settlers were expected to repay all the costs of clearing and developing the land.

Those who chose to stay in this beautiful and isolated corner of the State had to be resourceful, self-sufficient and adaptable.

Of the 100 blocks balloted, 85 were settled and less than a third of the original families stayed on.

TREE SPOTTERS GUIDE

Even when you know the names of the forest trees, telling them apart can be difficult. This guide will help you recognise the trees in this region. Many plant species thrive in these forests despite the relatively infertile soil and the long, dry summers. Precisely where they grow depends largely on soil types and moisture. In fact, the trees provide a clue to the environmental conditions of the site on which they grow.

All the species in this guide grow naturally only in Western Australia.

Each tree's most recognisable feature is highlighted so you know what to look for.



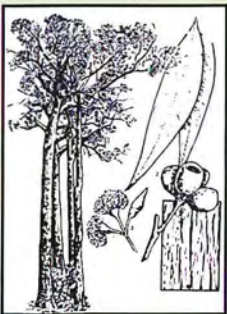
Banksia (*Banksia grandis*)

Much smaller than the forest trees, the banksia forms part of the understorey on upper slopes and grows to about 10m tall. It has long, dark green, serrated leaves which surround the pale yellow flower spikes. As the flowers die, large fruiting cones are left.



Blackbutt (*Eucalyptus patens*)

This tree gets its name from its durable bark which is often charred and blackened from past fires. It looks similar to jarrah but has a smaller fruit and bluish leaves. Unlike jarrah, it prefers fertile alluvial soil or red loam. Its botanical name '*patens*' means 'spreading open', referring to its broad canopy.



Jarrah (*Eucalyptus marginata*)

These trees have stringy dark grey or reddish brown bark, with deep vertical grooves. They grow to 40m tall on rich, well-watered soils but seldom reach more than 15m on poorer, sandy soils, as in coastal areas.

In their natural forest setting, jarrah trees grow about 5mm in diameter a year and live more than 400 years. On hot summer days, young trees transpire at least one litre of water per hour through their leaves. The botanical name '*marginata*' refers to the thick margin around the leaf's edge.



Karri (*Eucalyptus diversicolor*)

These giant trees have a pale, smooth bark which turns salmon pink in autumn when it is shed. They grow only on deep red clay loams where more than 750mm of rain falls annually.

Karri grows several metres upward each year when young, but takes longer to thicken out. The trees are mature at about 80 years and can grow up to 90m in height, making them the world's third tallest hardwood tree.

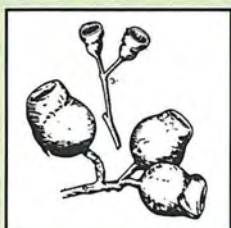
The botanical name '*diversicolor*' means 'separate colours', and refers to the difference between the top of the leaf and its underside.



Karri Oak (*Allocasuarina decussata*)

Karri oak (*Casuarina decussata*) occurs mainly in the karri forest, although it also grows mixed with jarrah and the tingles. It is small, grows under the general forest canopy and looks like a pine tree. There is often a thick, soft, needle-bed beneath groves of karri oak, where only small herbs, orchids and creepers grow. The shady needlebed makes it difficult for plants to grow.

The "needles" of the karri oak are really elongated green stems. If you look at them carefully you may see the tiny leaves which encircle the green stem in tiny ringlets. The stem can easily be broken into small segments at these leaf junctions. Both stem and leaves photosynthesize food for the tree. The karri oak tree is either male or female. The males produce the pollen, while the females produce dozens of tiny winged seeds inside woody cones. These open by heat either mid-summer or after fire and drop the seed, that must then wait for the rains to germinate.



Marri (*Eucalyptus calophylla*)

Marri trees often called redgum, have dark grey bark which forms a rough, criss-cross pattern over the trunk. They can be distinguished from jarrah by their large fruits, called honkey nuts, and the wide spread of their branches. Their leaves are also broader and have closer veins than those of jarrah. The botanical name '*calophylla*' means 'beautiful leaf'.

Marri varies in height from less than 10m in drier areas to forest giants up to 60m tall in the deep soils of the karri forest. Like jarrah, it is a long-living, slow-growing hardwood, although in the first few years, it will sprout rapidly.

From close quarters, a marri can be easily recognised by the drips of dark red gum, or kino, oozing from its veins. It is a honey tree and its

prolific white blossoms are an important food source for bees. Parrots feed on the seeds, while ringtail and brushtail possums often make their home in hollow trunks and branch stubs.



Paperbark (*Melaleuca preissiana* / *rhaphiophylla /cuticularis*)

This tree is easily recognised by its distinctive paper-like bark, which peels and flakes in sheets, and its strange wizened shape. Found mostly in coastal areas up to 80km inland, it grows on flat waterlogged areas or on wet river plains in winter. Belonging to the ti-tree family, this small or medium-sized tree has flat, needle-like leaves and small woody seed capsules and grows to about 10m tall. In January and February, it sprouts small, fluffy, cream-coloured flowers.



Peppermint (*Agonis flexuosa*)

This species, which looks similar to a weeping willow, grows mainly as a small tree up to 12m tall or as a 3m high shrub. It grows in sandy soils near the coast or in the understorey of karri and marri forests and can be identified by its fibrous bark or the peppermint smell of its crushed leaves. It has white flowers which blossom from October to November.



Rates Tingle (*Eucalyptus brevistylis*)

Rates tingle is not easily distinguished from red and yellow tingle. You have to look for a waxy look to the leaf stalk, heart-shaped young leaves and a wrinkly look to the gumnuts. It grows in small groups or as a single tree on the nearly level areas of the flats near creeks, north-east of Walpole. This tree was only recently "discovered" by a forester, John Rate, later killed by a falling karri limb in 1969.

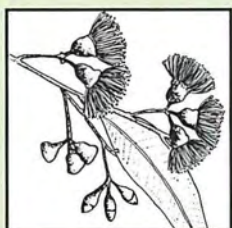


Red Flowering Gum (*Eucalyptus ficifolia*)

Every new year, the brilliantly coloured flowers of this small tree make a great show along the coast, between Walpole and Peaceful Bay. The colour varies from vermillion, crimson, orange and pink.

Although the red-flowering gum is widely cultivated as a garden ornamental and is raised in most nurseries across Australia, it occurs naturally only on the headland of Pt Irwin. Here it grows on sandy ridges, in dense thickets and looks like a small marri, with similar leaves and gumnuts and nobbly bark. Only a small tree of about 5m, it often has a short trunk with the branching near the ground.

The tree has been adopted by Walpole residents, who annually plant up the townsite with its seedlings.



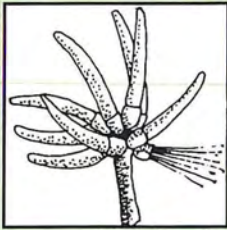
Red Tingle (*Eucalyptus jacksonii*)

Red tingle looks a lot like jarrah with a grey stringy bark, except it is much, much bigger. Although not as tall as karri it has a thicker trunk, often with spreading buttresses up to 20m, which takes nine people holding hands to span its girth. Red tingle is among the top ten largest living things on this planet. The word 'tingle' comes from an Aboriginal term and "red" is for the almost purple colour of its timber. Today the focus for this tree is for preservation rather than utilisation and all the best groups of trees are in State forest reserves or National Park. These groups grow along the lower reaches of the Deep, Bow and Frankland Rivers.



Warren River Cedar (*Agonis juniperina*)

Belonging to the ti-tree family, this tree grows in valleys or along water courses and creeks. It is usually about 15m tall with a straight trunk and tufts and clumps of leaves. When it blossoms in May, its white flowers look like icing sugar sprinkled over a cake. Aborigines used the 'wattie' as they called it, to make spear shafts.



Yate (*Eucalyptus cornuta*)

The lower trunk of yate is covered with a rough fibrous grey bark, while the upper branches are smooth and grey brown. The bark from these upper limbs hangs in ribbons. Another striking feature are the long horn-shaped buds that grow in groups of six and flower in January and February. The gumnuts have a spike that sticks out of the nut centre.

Yate has many forms. It grows in pure stands as a small mallee (multistemmed tree) on the coast to a spreading tree 30m high in fertile, moist gullies further inland.

It is a slow-growing tree, so the wood is very dense and the grain interlocked. It is one of the hardest, strongest timbers in the world and was used for wheelwright work in the horse and cart era.

Nowadays yates are left to grow in the patches and pockets that suit their needs around the karri belt.



Yellow Tingle (*Eucalyptus guilfoylei*)

Yellow tingle is a smaller tree, without the buttressed tree base, has a yellow timber and can only be easily distinguished from red tingle by the flat strap-like stalk that attaches the flower and gumnut to the stem. This is unfortunate because flowers and nuts can be 36 metres above the ground. Yellow tingle is scattered all through the Walpole karri forests and grows on the slopes and ridges of hilly country near the sea, along Nornalup Inlet and between the Deep and Frankland Rivers.

THINGS YOU NEED TO KNOW

BE CAREFUL: Your enjoyment and safety in natural environments is our concern, but your responsibility.

BE CLEAN: Place your litter in the bins provided or better still, take it with you.

BE COOL: Don't light fires, except in BBQs provided. Bring your own portable gas stove. Watch for signs about aerial burns, and fire danger signs outside CALM offices. Do not light fires on days of 'very high' or 'extreme' danger.

PROTECT ANIMALS AND PLANTS: Firearms are not permitted in national parks or forests. Pets are not permitted in national parks.

TRAFFIC SAFETY: Normal road rules apply on all forest and park tracks. Stay on the formed road and stick to the marked drive route. When stopping by the roadside, signal your intentions in plenty of time to alert any following traffic. Do not park on crests or curves or where visibility is poor. Some roads are not suitable for caravans; check the drive route notes.

After rain, roads can be very slippery. Slow down and watch for fallen limbs and trees, especially after storms. For your own safety avoid travelling on logging roads. Observe and conserve.

SIGNS IN THE FORESTS AND PARKS



BARBECUE



BOATLAUNCH



CAMPING



CANOEING



CARAVAN ALLOWED



DISABLED ACCESS



FISHING



HISTORICAL SITE



INFORMATION



LOOKOUT



MARKED WALK TRAILS



NO PETS



SCENIC DRIVE



SWIMMING



TABLE



TOILETS



WINDSURFING



WATER

REFERENCES & FURTHER READING

FORESTS AND PARKS

- | | |
|--|--|
| <i>Conservation Reserves in the Karri Forest</i> | B. White & R.J. Underwood
LANDSCOPE Summer 1988 / Autumn 1989 |
| <i>Conservation of the Karri</i> (1981) | F.J. Bradshaw & A.R. Lush,
Forests Department |
| <i>Forest Trees of Australia</i> (1984) | D.J. Boland <i>et al</i> , Nelson & CSIRO |
| <i>Shannon Park & D'Entrecasteaux National Park Management Plan 1987-1997</i> (1987) | A. Walker <i>et al</i> , CALM |
| <i>Walpole-Nornalup National Park Management Plan</i> | (currently in draft form) |
| <i>Pioneer Cottage Displays, Walpole</i> | A CALM-Walpole Tourist Committee project |
| <i>Orchids of South West Australia</i> (1984) | N. Hoffman & A. Brown
University of WA Press |
| <i>Walpole National Parks and Forests-Recreation Guide</i> (1989) | CALM |
| <i>Wild Places, Quiet Places</i> (1988)-
<i>A Guide to the Natural Highlights of the South West</i> | CALM |

CULTURAL

- | | |
|---|--|
| <i>Albany Residency Museum displays</i> | Albany |
| <i>Champagne & Tingle Trees</i> (1980) | B.J.A. Bellanger, Apollo Press |
| <i>Towards the Deep River; A Record of Settlement at the Deep River and Tinglewood</i> (1987) | L. & G. Fernie
(authors & publishers) |
| <i>Transcripts from the Battye Library</i> | Terry Swarbrick OH78
Tom Swarbrick OH79
Frank Thompson OH80 |
| <i>Aboriginal Man in Southwestern Australia</i> (1973) | D. Merrilees <i>et al</i>
Journal of Royal Society of W.A.
Vol 56, Parts 1 & 2. July 1973. |

REFERENCES & FURTHER READING

A New History of Western Australia (1981)

S.T. Stannage (editor)
University of W.A.

Pioneer Cottage Displays, Walpole

A CALM-Walpole Tourist Committee
project.

FISHING

Fishing the Wild West (1987)

R. Cusack & M. Roennfeldt
St. George Books, Perth

*The Marine & Estuarine Fishes of South West
Australia- A Field Guide for Anglers and Divers*

B. Hutchins & M Thompson
WA Museum

*Estuarine Studies Series No 2: Nornalup
and Walpole Inlets and the Estuaries of the
Deep and Frankland Rivers* (1988)

EPA Perth

And of course you can always approach
CALM Staff and residents of Walpole.

FOR FURTHER INFORMATION

CALM

Southern Forest Regional Office
Brain Street
Manjimup 6258
Telephone (097) 711 988

Pemberton District Office
Kennedy Street
Pemberton 6260
Telephone (097) 761 200

Walpole District Office
South Western Highway
Walpole 6398
Telephone (098) 401 027

TOURIST BUREAUX

Walpole Tourist Information Centre
Pioneer Park
South Western Highway
Walpole 6398

Denmark Tourist Bureau
Strickland Street
Denmark 6333
Telephone (098) 481 265

Mt Barker Tourist Bureau
Lowood Street
Mt Barker 6324
Telephone (098) 511 253

Albany Tourist Bureau
Shop 2, The Coach House
Cnr York Street and Peel Place
Albany 6330
Telephone (098) 411 088

Northcliffe Tourist Information Centre
Wheatley Coast Road
Northcliffe 6262
Telephone (097) 767 203

Pemberton Tourist Centre
Brockman Street
Pemberton 6260
Telephone (097) 761 133

Manjimup Tourist Bureau
Rose Street
Manjimup 6258
Telephone (097) 711831



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