















RECREATION NOTES

FORESTS DEPARTMENT WESTERN AUSTRALIA EXTENSION BRANCH

SPRING 1982



RecNotes has had the positive effect of stimulating Forests Department staff to record some of their observations regarding camping and allied activities.

These observations provide us with some of the information needed for site planning in lieu of a detailed recreation survey. Along with Tony Raven's (RecNotes, Autumn) and Brian Moss' (RecNotes, Winter) articles we include an item in this issue by Ian Old concerned with Recreation Visitors to the Harvey Division during the Easter Break 1982.

Other items appearing in this issue are:-

An Old Problem and a New Pollution

Please contribute your thoughts and ideas for future issues.

EDITOR

Recreation Visitors To Harvey Division Easter Break 1982 By: F.R. Ian Old

During the Easter Break of April 1982, officers on-call were sent out to look at fire control problems thought to be caused by campers. Most campers had taken adequate provisions to ensure safe fires and others were quietly reminded of the Bush Fire regulations. A follow up patrol on the Monday afternoon encountered only two campfires and two barbecues unattended and burning (near Stirling Dam). Considering that approximately 25 camp sites were observed around the dam this showed a good public response to fire control.

The most astounding discovery gained from these patrols was the great number of people observed camping for the long weekend. Conservative estimates, based on four people per vehicle, put the numbers at:

- 200 people at The Old Hoffman Mill Site
- 130 people around Stirling Dam
- 70 people along the Harvey River (between Harvey and Stirling Dam)
- 300 people camped <u>outside</u> the caravan park at Logue Brook Dam

700

These numbers do not include the overnight marroners who travelled to Stirling Dam, Harvey River etc, from established campsites in the coastal towns, nor do they include the campers along the Murray River, around Waroona Dam, near the Brunswick River or scattered throughout the rest of the division. Similarly, they do not include the people from Myalup or those who may have used the coastal State Forest Strip for camping.

Recreation and Camping within State Forests are currently under review. The suggested option of establishing camp sites would appear to be a momentous job of construction and maintenance from these figures, and the scattering of campsites suggests a need for strict policing if such sites are established.

Recreation and Forest Education Potential in the Goldfields Region By: Denise Allen

Early in August this year the Kalgoorlie and Esperance areas were visited together with staff from the Goldfields Office to assess the opportunities available for a recreation and forest education programme in this region. Much of the time was spent inspecting Departmental arboreta and forest reserves, as well as facilities provided by other organisations. In this manner an idea of what was already available and where future development by this Department could best be channelled was obtained. An assessment report has been completed and now awaits Departmental discussion and approval.

Recreation and Forest Education Potential in the Goldfields
Region By: Denise Allen

A copy of same is available in the Como Headquarters library.

Tree Planting on State Forest By: Denise Allen

The declaration of the 'Year of the Tree' has seen a resurgance of interest in tree planting on State Forest. This comes from a number of organisations, both sporting bodies and service groups, who periodically use State Forest for their own particular interests, The Northern Region was host to two such planting efforts this winter. The first was carried out in mid-July by the W.A. Orienteering Association, at a picnic site in Jarrahdale Division known as Lesley.Lesley is also the starting point of one of the Association's courses. As part of their contribution to the 'Year of the Tree' a number of orienteerers planted approximately 60 trees on this site, in positions specified by the Department. Apart from improving the aesthetics of this site for other forest users, this exercise has given the orienteerers a genuine interest in the well being of the area.

Another tree planting bee was carried out a week later; this time at Dryandra forest in Narrogin Division. Planting efforts were concentrated around the Lions Club Village, where a total of 620 trees and shrubs made their new home. With a continuous stream of volunteers during the day, and good winter rains less than a week later; both tree planting efforts are assured of success.

Stockton Open Cut A Forests Department Recreation Development Plan By; Brian Moss

The Stockton coal mine was originally opened as a shaft mine in 1927. After producing 2,750,866 tons of coal it was decided that to gain the full benefit of the coal seams, open cut mining would be more viable.

The open cut mine was brought into production in 1943, with the shaft mine continuing until 1960. The open cut mine produced approximately 1,544,910 tons of coal, but was forced to shut down after the cessation of government contracts.

After the shut down water started to fill the open cut, and it is now impossible to envisage the water being absent. As a result of this inundation Collie District has gained a man made lake, which is capable of supporting many recreational activities such as skiing and marroning. The approximate depth of Stockton at its deepest part is 140m so there are no problems with water depth!

The aim of the Forests Department development plan is to rehabilitate the area with shrub species and trees to increase its aesthetic value as well as develop its recreation potential.

Stockton Open Cut A Forests Department Recreation Development Plan By: Brian Moss

The Collie Division has up to date built a boat ramp and beach area at the Stockton Open Cut. At these areas we have provided the basic picnic facilities, such as tables, barbecues and bins. It is our aim this year (1982) to build toilets at the site and to further improve the facilities.

As the area is a major public recreational resource, our intention will be to provide it with the best facilities possible; while at the same time rehabilitating the damage to the area that the coal mining has caused.

Forestry and Historic Preservation By: Len Talbot

Scattered throughout the forests of the South-West, from Mundaring down to Karridale and Denmark, are scores of interesting historic sites associated with the early days of the timber and forestry industries. So far very little has been done to exploit the historic facets of these sites in our forest recreation programmes.

Interest in local history has increased tremendously over the past decade or so, as is evidenced by the number of books on the subject published in that period. Many Shires now pay an author to research and write the history of their district. Further evidence of this interest in Western Australian history is the popularity of goldfields ghost town tours; and though some of the old mining towns are now no more than a place name and perhaps a mullock dump, or a scatter of rusting iron, people are still interested in their history. It is the colourful past of such places that attracts people.

Some of the timber mill sites have histories every bit as colourful and as interesting as the goldfields towns and in some cases pre-date them by as much as forty years — a long time in a history that spans only 153 years. There is plenty of colour contained in the early days of the timber industry, embracing as it does the convict era, bullock teams, the State's first locomotives, sailing ships, and the timber ports at Quindalup, Wonnerup, Hamelin, Flinders, Rockingham, Busselton and Bunbury. All of this activity occurred at a time when the streets of almost every city in the United Kingdom and many of those of Europe were paved with jarrah and karri blocks and when the railways from Cairo to Cape Town, and of India, Mauritius, New Zealand, United Kingdom and of much of Australia were laid on jarrah sleepers.

Mundaring Division has its share of these old sites; probably the oldest being several saw pits which could date back to the 1850's or even earlier. Mason's Mill near Victoria Reservoir dates from 1864, first as a timber station for pit-sawing, then in 1870 a steam saw mill was erected there and connected with Mason's Landing on the Canning River by a horse-drawn, wooden-railed tramway.

Forestry and Historic Preservation By: Len Talbot

The story of this mill and tramway, and of the difficulties of transporting the sawn timber by barge down the shallow Canning River, is a fascinating one.

A few old half-round sleepers with adzed out rail seats are relics of another wooden-railed, horse-powered tramway that connected a mill at The Dell with the railhead at the Weir wall. This line was last used in 1911 so these old sleepers have survived fires, termites and firewood gatherers all that time. Unfortunately they are now very rotten and may be beyond salvaging. Had steps been taken earlier to preserve a few of them they would have been very interesting museum pieces now.

A row of posts about a metre high mark the site of another old mill near Chauncey Springs. This mill operated in the 1880's and for a while Moondyne Joe worked there carting timber from the mill to Chidlows Siding, until one day he shot through with the horse and dray, which belonged to the Chidlows butcher, and set himself up in the carrying business in Perth - temporarily anyway. How that row of posts has survived for a century is a source of wonder too, especially as it is so close to the highway and as no attempt has been made to protect it.

Not all sites have escaped the ravages of time and foresters though. Some similar items have been destroyed in prescribed burns and others levelled by bulldozers so that the area could be re-afforested with exotic trees or turned into picnic sites. To re-develop the site in this way may be a good thing to do but it is a pity that a full record of what is of historic value is not recorded first - or in the case of material things that whatever is of historical interest is not preserved.

Apart from the public's interest in these old sites, some of them would also be of value to students of history and archaeology. Groups from W.A.I.T or the Universities have carried out archaeological excavations at sites such as Mornington already and no doubt other older sites would be of value to them also.

If anything is to be done to preserve historic sites, it is essential that they be recorded in Divisional Offices, probably on H.O.C.S. so that they are considered when burning prescriptions are being prepared. Even if we don't capitalise on the historical value of these old places now, foresters of the future may wish to do so. Therefore any information we have on them is worth recording for their benefit. In some cases there are still people about who lived or worked on some of the not so old mills and it would be well worthwhile interviewing them and recording their memories of those days. Future generations of foresters will not have this opportunity.

Forestry and Historic Preservation By: Len Talbot

There is an example of this sort of thing happening now; In the bush, a short distance from the old Canning Mills site is a solitary grave that dates from 1898. A few years ago the original fence was replaced by a new one and a timber headstone erected over it, by, so I have been told, a forestry officer. Later two local bush workers wishing to protect it erected a substantial post and rail fence around the perimeter of it. There is no record of this grave in the Mundaring Office and it is only by chance that it has not been burnt in a control burn. The person who showed this grave to me said that the forester didn't want its presence made public. He may have had good reasons for that but because it wasn't recorded it could have been burnt and been reclaimed by the bush and so lost forever.

The Forests Department's motto includes 'Preservation' and 'Conservation' so surely we have a responsibility to apply that motto where historic sites occur in State Forest rather than be guilty of neglecting, demolishing and forgetting this part of our heritage.

Marrinup P.O.W. Camp By: W. Schmidt

Divisional and Extension Branch Officers are currently preparing prescriptions and plans for the rehabilitation of bauxite mining areas near Marrinup west of Dwellingup. The rehabilitation programme will ultimately incorporate a number of recreation facilities, including the development of a self-guiding forest tour which will take in various land use activities and features in the Marrinup - South Dandalup region. One such feature of interest on this proposed tour is the site of the World War II prisoner of war camp at Marrinup.

Marrinup was one of a number of internment camps, hostels and control centres set up throughout the southwest and wheatbelt to house German and Italian P.O.W's. The Marrinup facility was recorded as accommodating some 1100 P.O.W's during the period 1943-46. Many of these men were transferred to various work centres such as Jarrahdale, where some 280 prisoners were engaged in a large scale firewood production project under the supervision of Forests Department staff.

Like many small mills and forest settlements of this era, little remains of the Marrinup camp apart from the foundations of various buildings and the remnants of pathways and garden areas.

Marrinup P.O.W. Camp By: W. Schmidt

In the process of assembling background information on Marrinup, the Department has acquired a number of old army plans and correspondence, some of which will be used in the preparation of interpretive literature. Some of these documents contain personal accounts from both P.O.W's and their supervisors which provide an interesting insight into camp conditions and discipline. Several such accounts are reproduced here; please note that all names have been deleted to protect the privacy of the parties involved and their descendants, some of whom may be currently employed by the Forests Department.

'I am Camp Leader at No. 16 PW Camp Marrinup;-

In regard to PW Hostel Jarrahdale, I consider it a very good Camp and I was there when it was opened. The kitchen and Mess is very good also there is a good Recreation Hall. The meals are quite good and apart from the hard nature of the work, working conditions are quite good.

The cutting area is a long way from the Camp and PW have to walk out in the morning and walk back at night, some manage to ride on the Ration truck when it returns from the area.

Numerous complaints regarding treatment have been received by me from PW from time to time. Prisoners are frequently abused with bad language at parades and at other times also.

I am well aware that some of the PW at the Hostel are not good workers but it any case blows and kicks should not be given. I have seen most of the PW who are returned from Jarrahdale and they mostly complain of harsh discipline. Some are sent to work on the roads and it appears that whatever they try to do is belittled and found fault with by the Officer. I have not heard any complaints in regards to the PW's Forestry Supervisors and most of the PW speak well of them.'

'On 2 Sep 45 I injured my right hand with a piece of tin and it was very swollen and I had to get two stitches in the wound. After two days they put me on duty for three days picking up paper in the camp. After this I was put on duty (I think it was 7 Sep 45) carrying water to wash down the Mess floor. I did not carry the water because my hand was too sore. Nothing was said to me about this, but I was put on picking up papers again. On 10 Sep 45 I was again told to pick up paper in the camp and after dinner I was told to carry some wood and while I was working my bootlaces kept coming undone and I sat down several times to tie my bootlaces and it took me a good time as I could only use one hand.

Marrinup P.O.W. Camp By: W. Schmidt

The Lieutenant came up to me and said I was not working and called me a 'bloody bastard' and after that I said I would not work any more as I had a sore hand and was unable to work.

They then put me in the guard house'.

A Mathematical Approach to Dynamically Functionalised Forest Management for Recreational Utilisation within the Framework of a Long-Term Multiple Use Perspective in the Forests of South-Western Australia.

By: David Ward

<u>Summary</u>: In considering forward planning for the future, rigorous mathematical symbolic logic can be utilised to assist in reducing the complexities of the forest-managerial decision-making process. A clear practical example within the framework of a long term management perspective involving the projected relocation of a publicly utilised outdoor-recreational facility is given.

Introduction: Over the years a considerable body of utilisable knowledge has been accumulated through experience by those involved at the managerial level of the forest executive decision making process. Some of this knowledge has been documented, although regrettably much is retained as a personalised mental inventory. This is true especially of knowledge and experience gained at the thought-action interface of academic and practical technological forestry. There could be several reasons for this apparent reluctance of foresters to express their knowledge in a literary format, but one such cause is probably the lack of managerial knowledge-acquisition input in the rigorous field of mathematical symbolic logic. This paper is an endeavour, at this point in time to indicate that even seemingly abstract academic conceptualisations can often be expressed with surprising mathematical clarity whilst maintaining total fidelity and confidentiality.

Theory: If we consider the personnel within a managerial supervisory ambit as discrete elements of a set P then:

$$P = (P_1, P_2, P_3, P_4, P_5, P_6, P_7, ...)$$

Clearly this set is isomorphic to N, the set of natural numbers, hence we can immediately say:

Which in turn gives a one-to-one mapping of P into N. Using the cyclic notation for ring permutations we see that P can be partitioned by the equivalence relation \mathcal{R} , hence the equivalence set $[\alpha]$:

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It will be seen at once that this is reflexive, transitive, and symmetric, and so meets the requirements of a management function. If we now move on to the concept of a functional group we have:

Postulate 1: $(p \circ n) \circ m = p \circ (n \circ m)$ (Associative)

Postulate 2: $\exists u \in N \ni p \circ u = u \circ p = p$ ($\exists an identity$)

Postulate 3: $\forall n \in N \ni n \quad N \vdash k n \ni o \quad n = n \quad (\exists a \quad universe)$

This simple defines an Abelian functional group, with invariant sub-groups, provided:

i)
$$gH = Hg \bigvee g \in G$$

ii) g^{-1} oho $g \in H \bigvee g \in G$

(N.B. This excludes octic groups)

Practical Illustration:

Suppose a forest managerial executive has to decide where to re-locate a public outdoor-recreational thermally-operated nutritional source preparation facility within an intensive management unit. Empirical information on the utilisation of this facility can be utilised as input data for a Frobenius equation thus:

$$y(x) = x \stackrel{\sim}{\times} c m x$$

(laplace)

From whence it can be readily seen that:

Clearly the public outdoor-recreational thermally-operated nutritional source preparation facility should be left where it is, but provided with safety-orientated accident prevention devices to obviate the unplanned stochastic carbonisation of individual proteinaceous nutritional units.

<u>Conclusion</u>: Foresters are the recipients of a rich bounty of helpful advice from mathematicians - the mathematicians await, hopefully, some small crumb of wisdom from the foresters' table.

References: Ayres, Frank(1965) Einstein, A.(1921)

Modern Algebra: McGraw-Hill Build Your Own Barbecue. Swiss Patent Office Publication.

WE RECOMMEND THAT DAVID WARD BE REGISTERED WITH THE I.U.C.N. AS A POTENTIAL CANDIDATE FOR INCLUSION ON THEIR RARE AND ENDANGERED SPECIES LIST. EDITOR

An Old Problem and A New Pollution

'The first serious attempts to deal with mobile source air pollution in the United States occured around the turn of the century. The problem was the horse. The average horse produces approximately 221b of solid waste and I gallon of urine a day. Writers in popular scientific periodicals were demanding 'the banishment of horses from American cities'. One authority wrote in 1908 that the 120,000 horses in New York City 'were an economic burden and an affront to cleanliness and a terrible tax on human life'. The solution to the problem of the horse, agreed the critics of that time, was the adoption of the 'horseless carriage'. In a city like Milwaukee in 1907, for instance, with a human population of 350,000 and a horse population of 12,500, the horse meant 133 tons of manure a day. Or, as a health official in Rochester calculated in 1900, '15,000 horses in that city produced enough manure in a year to make a pile covering an acre of ground 175 feet high and breeding 16 billion flies'. In addition, there was a serious abandoned dead horse problem not unlike abandoned auto problems. Owners of horses tended to leave the dead animals where they fell. They were even more difficult to trace than today's registered abandoned automobiles'.

From - 'Mobile Source Air Pollution - Who Won the War?'
by S. William Gouse Jr., published in the November,1972
issue(vol.4, No.1) of the International Journal of
Environmental Studies.

HOW MANY ABANDONED VEHICLES HAVE YOU SEEN IN THE BUSH?



Big Brook Karri Forest— Forestry in Action

Big Brook Forest is a few kilometres northwest of Pemberton. Every year thousands of holidaymakers visit Big Brook Forest on the scenic Rainbow Trail, admiring the wildflowers, tall trees and enjoying the chatter of birds. What they are seeing is forestry in action.

Were they to have taken the same journey fifty years earlier, a very different scene would have met their eyes—expansive vistas of blackened ground with a smudge of green here and there, heralding the rebirth of a forest. What, then, has happened at Big Brook?

A brief look at history

Early settlers were attracted to the karri forest, both for the fine timber yielded by the trees, and for the loamy soils in which they grow. They reasoned that a soil that supported such immense trees could produce bumper agricultural crops. Although the dreams of enormous crops were never fully realised, the soils nevertheless are eminently suitable for some agricultural pursuits and the difficult task of clearing the forest for farms was tackled with energy, for a while. Competition for the forest emerged in 1913 when, backed by an order for sleepers for the Trans Australia railway line, a State sawmill was set up at Pemberton with exclusive rights to the timber in the area. By 1925 the Big Brook Forest had been set aside for a State forest and management of it for forestry purposes could begin in earnest.

What happened at Big Brook?

A forest consists largely of big, mature trees that are declining in health and growing extremely slowly—in business terms, a large capital with a very low rate of interest. In areas where commercial timber growing is the aim, good forestry practice dictates that the timber from these trees be harvested and that they be replaced by younger, vigorously growing trees. The forester calls the replacement process 'regeneration.'

By the 1920s the timber industry could look back on nearly 50 years experience in cutting karri in the Karridale area near Augusta and near Denmark on the south coast. Inspection of these forests, which had been clearfelled, except for a few unsuitable trees, revealed new dense forests of thriving young karri. If it could be done at Karridale, then it could be done at Big Brook, and it was. Harvesting the mature trees proceeded and by 1930 some 2,000 hectares had been clearfelled to produce logs for the Pemberton mill. Only a few trees unsuitable for sawmilling were left standing. These remaining trees were to play an important role in the regeneration of the forest. They would supply the seed.

Normally karri seed cannot germinate when it falls on a carpet of dead karri leaves such as covers the ground in the forest. Any seed that falls on the odd patch of bare ground, once germinated, is soon smothered by the dense layer of shrubs on the forest floor. These problems were overcome in nature by periodic fires, started by lightning, that raged through the forest. Fires bared the ground, killed the shrubs (and often the karri trees as well), but created ideal conditions for the germination of karri seed, and the subsequent development of the young seedlings.

So the forester, following nature's example, used fire to regenerate the karri forest.

The 2,000 hectares of clearfelled forest at Big Brook were prepared for burning (there was plenty of fuel from the branches of the felled trees) in 1930, and a regeneration burn was planned for that summer. However, a wildfire accidentally lit by a bush locomotive did an even more thorough job, as well as laying to waste much of the surrounding countryside, and threatening for a time, the township of Pemberton.

Soon after the fire, the remaining standing trees shed their seed and this germinated the following winter. Within 18 months the new crop of karri saplings was dense enought to make walking through the area difficult.

Big Brook Arboretum

Like all dedicated workers, foresters are continually testing the value of different ideas or possibilities. A few hectares of the felled karri forest at Big Brook were set aside to test a range of tree species. Seed was imported and tree seedlings were raised in a nursery located at what is now the junction of Rainbow and Tramway Trails. First plantings in 1929 included pines from Europe, giant redwoods from California and swamp cypress from Mexico.



Regeneration burn beneath seed trees

through the plantation.

Subsequent plantings used eucalypts from the Eastern States.

Most of the European pines disliked our climate, and the giant redwoods, although very attractive trees, have not yet lived up to their name. Howeve some of the Eastern States' eucalypts performed well and one species at least satisfied the foresters' search for something better. Yellow stringybark (Eucalyptus muellerana) grew as fast as karri for the first 40 years of its life. This attractive tree produces an exceptionally durable timber. Based on evidenc from Big Brook Arboretum (and trials established elsewhere), yellow stringybark is now planted on a modest scale to provide future supplies of transmission poles to the State Energy Commission. The arboretum still exists. It can be visited a few kilometres along the Rainbow Trail, and the picnic

and barbecue facilities provided make a pleasant

spot to stop for a meal in the forest and a ramble

Big Brook karri-further development

The dense, almost impenetrable mass of karri seedlings following the regeneration of Big Brook Forest in 1930 soon began to thin themselves. The estimated 125,000 seedlings on each hectare began to crowd each other, and the weaker trees died. By 1950 the number per hectare was down to below 1,000. Left to nature this process would continue until about 20 trees remained on each hectare. However, by about age 30 the trees are large enough to provide some timber, so the forester steps in, anticipates nature and reduces the number of trees to a level that the soil can support. This 'first thinning,' as it is called, yields a moderate amount of timber suitable for the sawmill; other thinnings are chipped and used to make paper. As the trees continue to grow, overcrowding again becomes a problem and a 'second thinning,' this time yielding substantial quantities of timber for the sawmill, is done when the trees are around 60

years old. Most of the forest bordering Rainbow Trail has not been thinned. However, there is plenty of thinned forest to be seen on Tramway Trail.

Sometime after the year 2030, should karri timber still be required by the community, the Big Brook forest may again be clearfelled and the whole process repeated.

The karri forest today

What has happened at Big Brook is being practised elsewhere today; this is how your karri forests are being managed. However, there are some differences today compared with 50 years ago.

The marri, or red gum (Eucalyptus calophylla), trees that often grow among the karri were once wasted. They are now harvested, chipped, and used for paper manufacture, along with the few karri that are unsuitable for sawmilling. When these mixed forests are regenerated, both species regrow in the new

In the days of the regeneration of Big Brook, the seed which was to form the new forest came from reject trees. Nowadays four of the very best trees are left on each hectare to provide seed. Once they have shed their seed they are felled and used for timber.

However, karri only produces a crop of seed once every four years. As a consequence it is only possible to use seed as a source of regeneration every fourth year. For the three years between seed crops, karri seedlings, raised in a nursery at Manjimup, are planted instead.

What's in it for you?

Take a trip through Big Brook Forest; you will find it beautiful and exhilarating. When you get home, take a look at the roof of your house. The chances are that the timbers in there are karri.

Let's look at some of the benefits Big Brook karri forest is providing.

- a beautiful forest offering you a unique recreation experience.
- the forest yields cool, pure water for the Pemberton water supply, and for the trout hatchery at Pemberton.
- if you fish for marron or trout you will appreciate the year-round flow of the streams, ensured by the forest.
- a home for more than 70 different varieties of birds, and 14 varieties of native animals (most are only active at night so you won't see much of them).
- in some seasons a show of flowers to make any gardener envious.
- timber for your home.
- timber and woodchips for an important export

Rainbow Trail

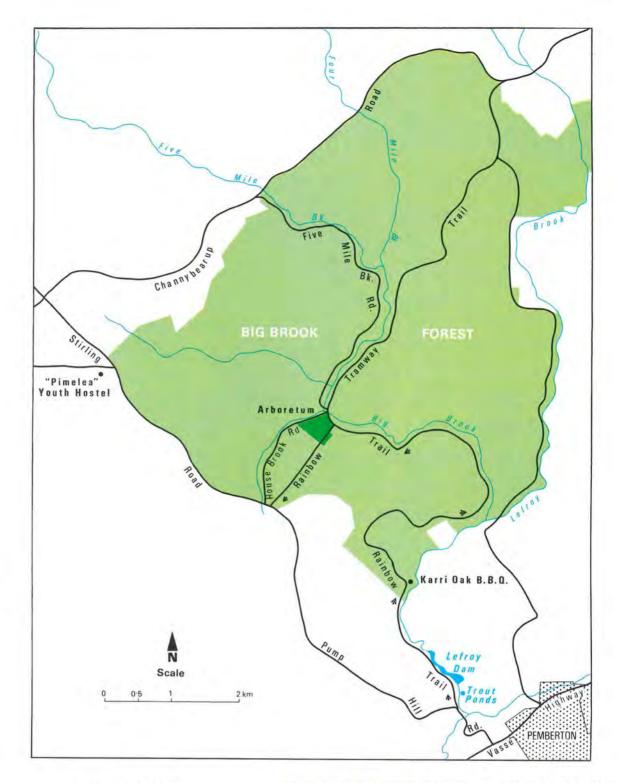
This nine kilometre scenic route follows the formation of an old steam railway line for much of its length through Big Brook Forest. Starting from Pemberton townsite, it follows Lefroy Brook initially passing the ponds of the trout hatchery and Lefroy Weir before entering Big Brook Forest.

There are many particularly picturesque areas along the trail including picnic sites at 'Karri Oak' and Big Brook Arboretum. A walk trail starts at the arboretum picnic site and circles through the arboretum and adjacent regenerated karri forest.

Produced by Forests Department Extension Service 50 Havman Road. Como. 6152.

for B. J. Beggs Conservator of Forests October 1982

Photography by Cliff Winfield.



LOCALITY MAP





Karri decorticating





Big Brook itself





Bark of Karri Oak

