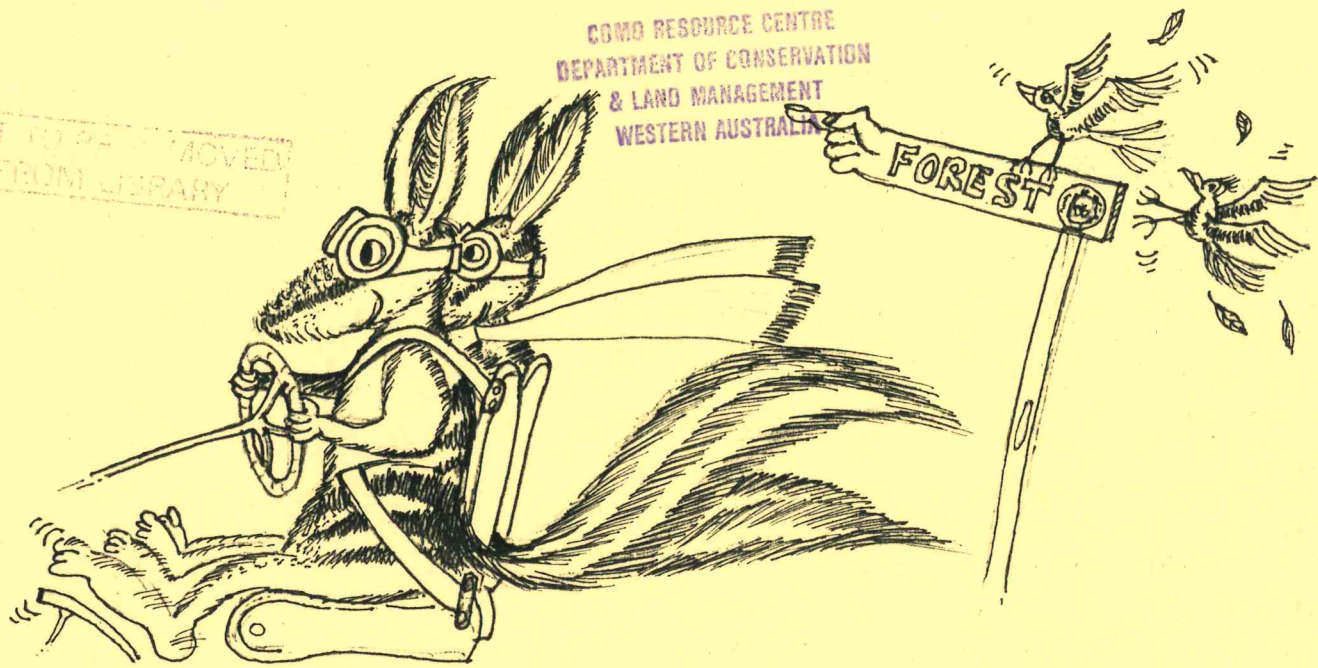


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WESTERN AUSTRALIA



RECREATION NOTES

FORESTS DEPARTMENT
WESTERN AUSTRALIA
EXTENSION BRANCH

Autumn 1982

FORESTS DEPARTMENT
18 MAR 1982
BUNBURY

In response to our request in the inaugural issue of Recnotes for interesting articles from the field, the following - from Tony Raven at Dwellingup and Paul Marsh at Gnaragara - were received. Should you wish to reply to any of the questions raised in this issue or feel that you have something of use to report on recreation, do not hesitate to contact anyone in the recreation advisory group. The editor for the next issue will be Peter at Bunbury.

Murray Valley At Capacity OR 'To Camp or Not to Camp - That is the Great Unresolved Question' by A.D.F.O. Tony Raven

The summer of 1981/82 has not been memorable from the standpoint of good weather. However, regardless of indifferent weather, Dwellingup Division has had to contend with huge hordes of campers utilising the Murray River recreation area. The problem was highlighted by the Australia Day holiday long weekend events.

Australia Day 1982 fell on 26 January but, as is the fashion, was celebrated on the weekend of January 30 to February 1. Our spotter detection system was operating efficiently. Reports of camp fire smoke amidst camps inside Murray Valley Pine Plantation reached the Duty Officer on the Saturday morning. Upon investigation, it was discovered that 8 separate campsites with open fires were established inside the pines, opposite Baden Powell Water Spout picnic area. These were a spillover from Baden Powell which was jam-packed with people, tents, etc. Further investigation revealed a similar scene at the other established picnic areas and utilization of every other bare patch for "illegal" camping.

The questions I wish to pose are the following:

1. Do we cater for this obvious demand for CAMPING areas?
2. How do we do it? Large numbers of small sites, or a small number of large sites?
3. We can't exclude people from the Murray Valley Pine Plantation therefore:
How will we treat the pines?
Can they be used for camping?
4. What are the carrying capacities of riverine recreation areas?
5. Are we exceeding them at present sites?

Food for thought! If anyone has any constructive suggestions we'd all like to hear about them. EDITOR.

Recreational Facilities and Development in Walpole by A.F. Paul Marsh

The history behind the development of recreational facilities in the Walpole Division would be no different than most other Divisions.

Where people have found an attractive, scenic, quiet spot to have a BBQ, picnic, fish, swim or marron, recreational facilities have developed. During my stay in Walpole, I had an opportunity to become involved in a number of projects including:

- Wye Plains
- Fernhook Falls
- Mt. Frankland
- Walpole Saw Pit
- Valley of the Giants and,
- Nut Road Lookout

The following two examples are typical of the work we did.

Mt. Frankland

Mt. Frankland now is very pleasing to the eyes. Not too long ago no facilities at all were provided here.

Now we have at the BBQ and parking area; a BBQ, table, seats and proper parking facilities. The old towermans hut, and adjoining water tank were fixed and painted, the toilet which was very old was pulled down and another built in its place. A boom gate was also erected to stop cars and caravans from going up the mountain.

Leaving the actual BBQ site, the walk to the top of Mount Frankland is very pleasant. Although uphill all the way we made things easier for all concerned. Cement steps were constructed from the bottom rock face to the top of the Mountain. About the middle of the climb some steel ladders were installed because the climb was otherwise impossible.

The figures do at this stage evade me, but some tonnes of sand, cement and blue metal were all carried up the Mountain for the step construction.

Everything was carried - the cement mixer, water, and even all the steel supports and fencing wire for the security fence.

While walking from the BBQ area to the top, the climb takes you above the tops of the giantkarri trees, and once there the sight is magnificent.

The Walpole townsite, farms, the ocean, and numerous land marks as far as Denmark, Rocky Gully, Porongurups, Windy Harbour and Manjimup can be seen.

The one small job that did not get done while I was at Walpole was the placing of the panoramic photographs on top of Mt. Frankland.

Valley Of The Giants

Due to the publicity that the Giants receive, many people visit this area. Local indication at the time suggested that the poor quality of the road and the lack of signposting were resulting in visitors becoming lost. To counteract this we graded the roads periodically, had men slash scrub on the roadsides for better vision and constructed many signs.

While we were making the direction signs we also decided to make signs with the local tree species and their common names on them. This, by all the feedback received, was our greatest achievement. Tourists and sightseers then had a reason for stopping on the side of the road looking at trees and feeling their bark texture, etc.

At the BBQ sites, we upgraded roads and parking areas, established many more BBQ settings with tables and seats, added more bins, and started the first of many potential walk trails.

The Giants area is highlighted with many very large, hollow butt tingle trees which have, in the past, been ravaged by fires

Conclusion

The potential of this region to be a Departmental showpiece is astronomical. Sweeping views; karri, jarrah and sheoak forests; bush tracks; flora and fauna; cascades, falls and fishing in rivers, provide the visitor with numerous opportunities.

Due to lack of funds, the men that worked on recreation had to be keen and have an inherent interest and pride in what they were doing. After some trial and error we settled on 1 overseer and 1 employee to do the majority of the work. They were overseer Merv Smith and Forest Workman Peter Brenton. The signs for this division were routed by Colin Parry.

Finally with no real guide lines the work progressed; questions were asked both locally and inter-divisionally and the job was done as best we could, with the end result being very pleasing.

Following recent discussions in the Central Region we have felt it necessary to summarise the role of the Recreation Advisory Group so that it can be circulated to all members of the individual divisions.

Recreation Extension Officers : Works Programme

1.0 General Role

To advise and assist divisions and regional groups on all aspects relating to the planning, development and management of recreation areas and facilities throughout State forest.

2.0 Specific Responsibilities

2.1 Broadscale Planning - assist the regional planning officer and divisional recreation officers in the preparation of recreation land use management plans. The role of the extension specialist in the area of planning is likely to vary from region to region, but may involve the following aspects:

- * Development of planning methodology;
- * Recreation resource assessment;
- * Provision of data on recreation demand and supply;
- * Consultation in the preparation of recreation management strategies;
- * Liaison with other government departments and interested organisations

The ultimate responsibility of plan development will however rest with the regional groups and divisions whose responsibility it is to implement such plans. Thus, the role of the Extension officer in broadscale planning is seen as being primarily an advisory one.

- 2.2 Recreation Surveys - plan, organise and assist in the periodic collection of data on recreation use throughout State forest. Surveys on recreation activity will be planned in consultation with both operations staff and other organisations such as the Department for Youth, Sport and Recreation or Department of Tourism who may benefit from the interchange of such information.
- 2.3 Site Inventory and Assessment - annually inventory and assess Department recreation areas and facilities. It will be the responsibility of Extension Branch to update, collate and disseminate such information to divisions and regional groups to assist them in the preparation of yearly recreation development and maintenance programmes. In this regard, the regional Extension officer will liaise directly with divisional recreation officers in carrying out detailed site assessments.
- 2.4 Detailed Site Planning and Design - in consultation with divisional recreation officers, prepare plans for all upgrading and new site development work to be funded and implemented. Plans will specify in detail work to be carried out and specifications to be adhered to.
- 2.5 Site Plant Implementation - advise and assist divisional recreation officers in implementing planned recreation site development/redevelopment works. The role of the Extension specialist is that of an adviser with the divisional recreation officers being responsible for actual job supervision.
- 2.6 Site Maintenance - liaise with the divisional recreation officers to ensure that a satisfactory standard of site development and maintenance is achieved.

- 2.7 Preparation of Estimates and Divisional Works Programmes - assist divisional and regional groups in setting recreation development priorities and preparing annual divisional estimates for work to be carried out. Estimates should be based on site inventory/assessment information and detailed site plans with Extension staff providing details on work required, materials, etc. Costing and programming of work will be the responsibility of the division.
- 2.8 Preparation of Guidelines and Standards - prepare and disseminate design guidelines and specifications covering such aspects as recreation site planning, site furniture, signs, etc. Extension branch will serve as a "clearing house" for new ideas/innovations and will seek to encourage staff at all levels to submit new ideas and concepts.
- 2.9 In Service Training - periodically conduct training courses on recreation site planning and development for selected professional and field staff officers. In addition, Extension branch will assist divisional recreation officers in the field training of gang workers whose responsibility it is to carry out recreation development. The initial training target will be to hold training sessions/courses for all divisional recreation officers at the end of the 1982-83 financial year.

3.0 Communication and Liaison

In order to achieve more effective communication between operations and specialist staff in the area of recreation planning and management, Extension branch intends to initiate the following programme:

- * aim to liaise with divisional recreation officers on a monthly basis or more frequently if required;
- * contact divisions prior to making any field visits or carrying out any survey work;
- * seek more active involvement in regional leaders meetings; investigate the feasibility of sitting in on such meetings as an observer on a regular basis;
- * distribute a recreation news summary report to divisions and regional groups on a quarterly basis. The intention of the news summary will be to keep operations staff informed of the activities of the regional Extension officer and to provide a regular reminder of recreation work to be carried out by both Extensions and operations staff;
- * seek out and maintain contacts with persons in other government departments, organisations, clubs, etc., who are in any way involved in or concerned with recreation in State forest.

Floods! January '82

As you all know, the unusually high January rainfall resulted in major flooding of many of the Southwest's rivers. Of particular note was the 'Blackwood flood' which engulfed a wide area of farmland adjoining Boyup Brook, Nannup and Bridgetown, as well as several Forests Department recreation areas and a few hundred hectares of pine plantation. Although stock losses were high, and many houses, roads and bridges were severely damaged, the recreation areas sustained only minor damage - a coating of mud, the loss of a few '44 gallon' garbage bins and the blockage of some access roads. Thanks to the foresight of Forests Department staff at Margaret River, the loss of several tables at Sue's Bridge was averted by shifting them to higher ground. Several sites along the Collie River also "went under", but once again damage was only minor.

Congratulations

Congratulations to the gangs, recreation officers and O.I.C.'s in the Southern Region. Their work in the recreation areas has been nominated by the Manjimup Shire Council for the "Sir David Brand award for Tourism".

Equipment

Have you got a slide presentation coming up shortly? If so, maybe Extension Branch can help you. We are not in the business of writing your talk for you, but we can provide you with material to make it a little more interesting. This branch has a large range of slides covering most facets of the forest and the forest industry. Should you require any of these could you please advise Cliff Winfield (Como) or any of the Recreation Advisory Group, at least a month in advance, with an outline of your talk.

The Department also has a number of self explanatory displays which have been used in the past. These include

- a tree planters guide
- recreation planning
- what is landscape planning?
- sandalwood
- technological advances in computer mapping
- agroforestry
- pine life cycle

These are also available from Extension Branch, Como.

Should you require any films, a list of film titles and a short abstract on each is available in the appendices attached to this issue.

Recreation Information Series

A recreation information series is being developed by Extension Branch. It will consist of a range of interpretive pamphlets, including information brochures, nature trail guides and self guided car tours. Several of these pamphlets are in preparation at the moment and should be ready for use within the next few months. An information brochure for Brockman Sawpit and a guide pamphlet for Lesley Nature Trail are available with this issue. A new self guided car tour of the Bunbury Region is awaiting publication, whilst the Pemberton, Manjimup and West Manjimup tours are being revised prior to reprinting.

Extensions Branch staff don't have endless ideas and don't wish to write all the Departments interpretive material, so contributions in the form of suggestions or pamphlet texts are more than welcome.

The Need for Standards

Anyone who has ever spent any time in the forest will agree that many of the Department's signs and recreation facilities leave a lot to be desired. There is no blame to be laid here, the simple fact is Divisions have been left to 'do their own thing', without any regional or departmental supervision. In order to rectify this problem the Recreation Advisory Group is in the process of developing specifications for a range of park furniture including: signs, tables, seats, shelters, toilets, BBQs, bins, barriers, bridges and platforms. When complete, these specifications along with other forest recreation information will be compiled in a "Forest Recreation Manual".

To enable divisions to make immediate use of what is already available, Recnotes will become the initial dissemination point for all this information. The following two articles on Symbol Signs and Recreation Site Furniture re: specifications for table designs, can be applied to your divisions today!

* Remember, if you have any new ideas or constructive criticism of the designs and specifications cited, your comments would be most appreciated.

Symbol Signs

In 1979, the Forests Department bought the copyright to the sign manual produced by the Queensland Department of Forestry. Our purchase gave us the right to use the facility and recreation symbols presented in the manual (see the cover of the Recreation Notes for examples of these symbols).

The purpose of the symbols is to replace wordy signs and be understood by both english and non-english speaking recreationists. They can be used as warning signs or along main roads or to direct people to various facilities at the site itself.

The Forests Department has just procured the artwork for a number of these symbol signs, namely -

bush hiking	forest drive
walking track	open fireplace
no trail bikes	no fire allowed
horseriding	cooking place
viewing point	picnic area
boat launching ramp	sheltered picnic area
self guiding trail	parking
caravans	male toilet
no caravans	female toilet

It is planned that these symbols be screenprinted onto aluminium and be used to replace written signs wherever possible. The signs will be produced in two sizes - 300 mm x 300 mm - for alongside roads as warning signs, and 150 mm x 150 mm - for directing people to facilities once they are at the site. A maximum of three symbols will be used on one sign alongside roads. These will represent the main facilities to be found at the approaching site and will be placed 400 m from either side of the recreation area.

The symbol signs have not yet been made up as it is uncertain how many of each are required. Divisions can aid in this matter by letting Wayne at Como know how many of each symbol and of what size are required for their sites. If this information could reach him by mid - April, production of the signs would be speeded up greatly.

* If you wish to see a copy of the Queensland sign manual, contact Wayne, Denise, Peter or Rae.

APPENDICES

Recreation Site Furniture

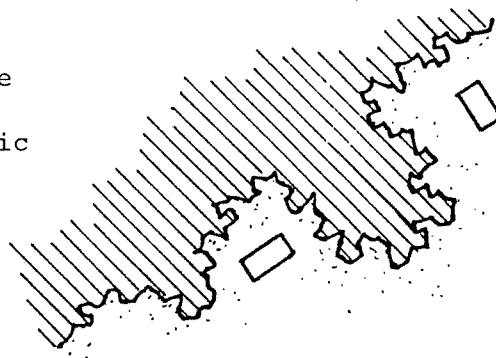
Forest recreation facilities have been traditionally provided to enhance the public's enjoyment of State forest and to assist in protecting the environment itself. As with other types of recreation development, attention to detail is required to construct and install site furniture which is functional and attractive.

In the case of table design, the following considerations are important:

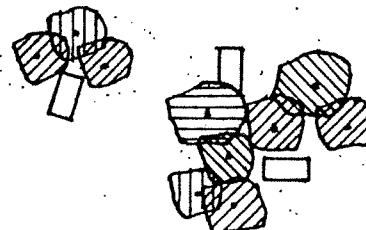
- * Tables should be both comfortable and functional. Two dimensions are of particular importance in this regard: seats should be situated 430mm to 450mm above the ground and the table top should be positioned approximately 300mm to 350mm above the seat height.
- * Table components should be fastened together with galvanised bolts or screws unless otherwise specified. All exposed bolts such as on seat tops should be countersunk.
- * Seat and table tops should be dressed to prevent injury to users and damage to clothing.
- * Tables should be of sturdy construction in order to minimise the problems of vandalism and theft.
- * Tables should, insofar as is practicable, be visually compatible with the environment in which they are placed. Such factors as the type of vegetation and size and formality of the site in which they are to be used should be taken into account. For example, heavy log tables may look out of character in highly formalised, grassed sites or in open areas where there are no large trees. Similarly, the use of many different styles of table design on the same site should be avoided, although it may be desirable in some situations to include a mixture of covered and uncovered tables where shelter is desired.

Since tables often form the centre or focal point of a group's activity in a picnic area, they should be carefully positioned to provide a degree of privacy to the users.

Where clearing is required, some trees and undergrowth can be retained between adjoining picnic units.



When the forest floor is clear, utilise existing tree clumps to provide privacy. Orientate tables in different directions and space them at varying distances. Position tables so that pleasant aspects of the site, i.e. shade, sun and views are optimised.



Another important consideration in the design and provision of tables is the use of fixed versus movable units. The advantages and limitations of both types can be summarised as follows:

Fixed Tables

Fixed tables result in concentrated use which often leads to localised soil compaction and puddling. Thus, it may become necessary to provide a hard surface to areas underneath tables where this problem occurs. Durable surfaces can be created by the use of leaf litter, woodchips, gravel, sleepers or concrete pads.

Movable Tables

Although portable tables may be subject to theft, their use offers certain advantages to both the visitor and the site manager.

- * they can be positioned to take advantage of sun, shade, privacy, wind protection, etc.
- * they can be shifted together for use by larger groups
- * they can be readily transported to other sites to satisfy seasonal use pressures
- * table positions can be altered if a particular site becomes worn

TABLE T1

This table is constructed of log rounds and rough sawn boards and is particularly suited to small, informal forest sites or forest areas where the surrounding trees are of a similar scale to the table logs.

Materials Required

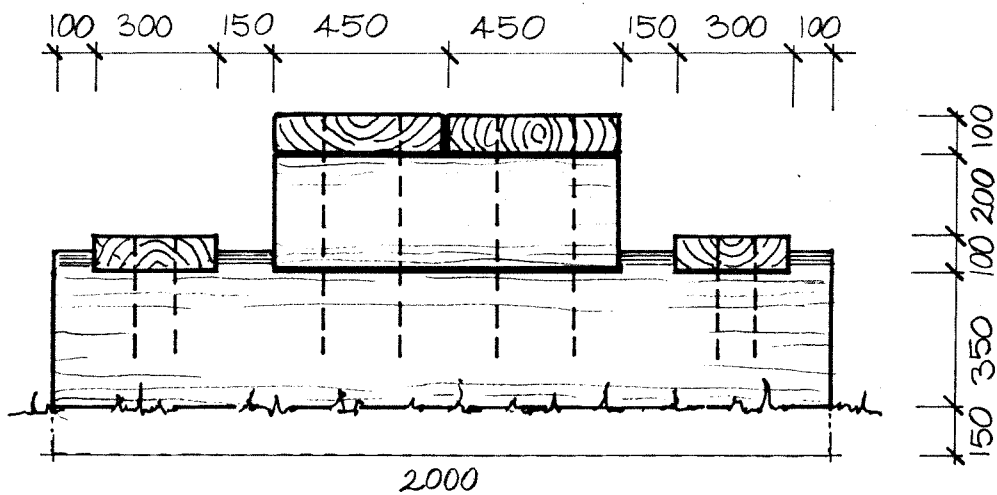
- 2 log rounds - 550 mm dia x 2000 mm
- 2 log rounds - 450 mm dia x 900 mm
- 2 rough sawn planks - 100 mm x 450 mm x 2900 mm
- 2 rough sawn planks - 100 mm x 300 mm x 2900 mm
- 8 galvanised spikes - 300 mm length
- 8 galvanised spikes - 600 mm length

Finish

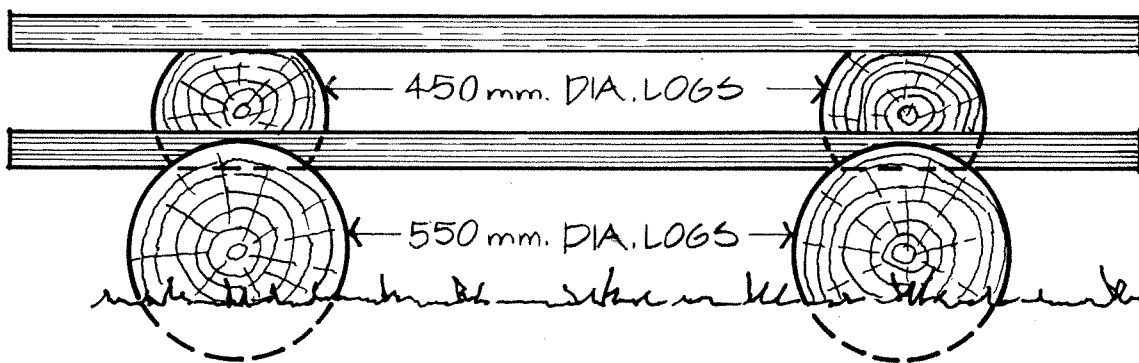
This style of table should not be painted, but allowed to weather naturally. The planks used for the table sets and top should be rough dressed to eliminate large splinters.

Designed by

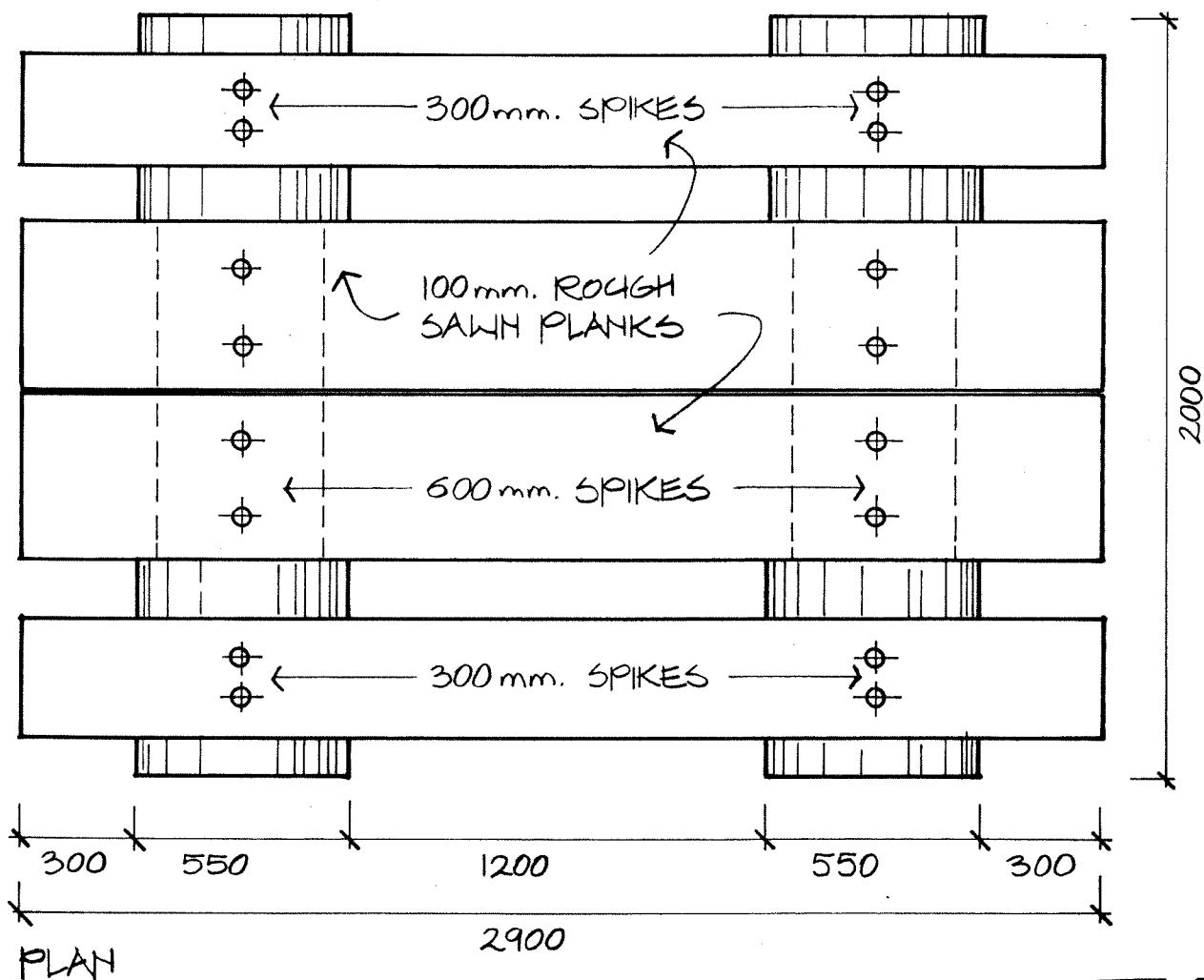
N.S.W. Forestry Commission



SECTION



ELEVATION



PLAN

TABLE T2

Readily prefabricated from sawn hardwood or pressure treated pine, this unit is suitable for use in a wide range of sites. If desired, the table can be installed as either a portable or as a fixed unit (refer to design T3).

Materials Required

10 dressed planks (jarrah or tanalised pine) - 500 mm x 150 mm x 2100 mm

3 table braces/stays - 50 mm x 75 mm x 900 mm

2 table supports - 50 mm x 100 mm x 900 mm

2 seat supports - 50 mm x 125 mm x 1800 mm

4 leg posts - 100 mm x 100 mm x 800 mm

Galvanised bolts (10 mm diam)

Finish

Dressed timber with paint (suitable colours to be specified in the section of the manual covering signs).

Designed by

N.S.W. Forestry Commission

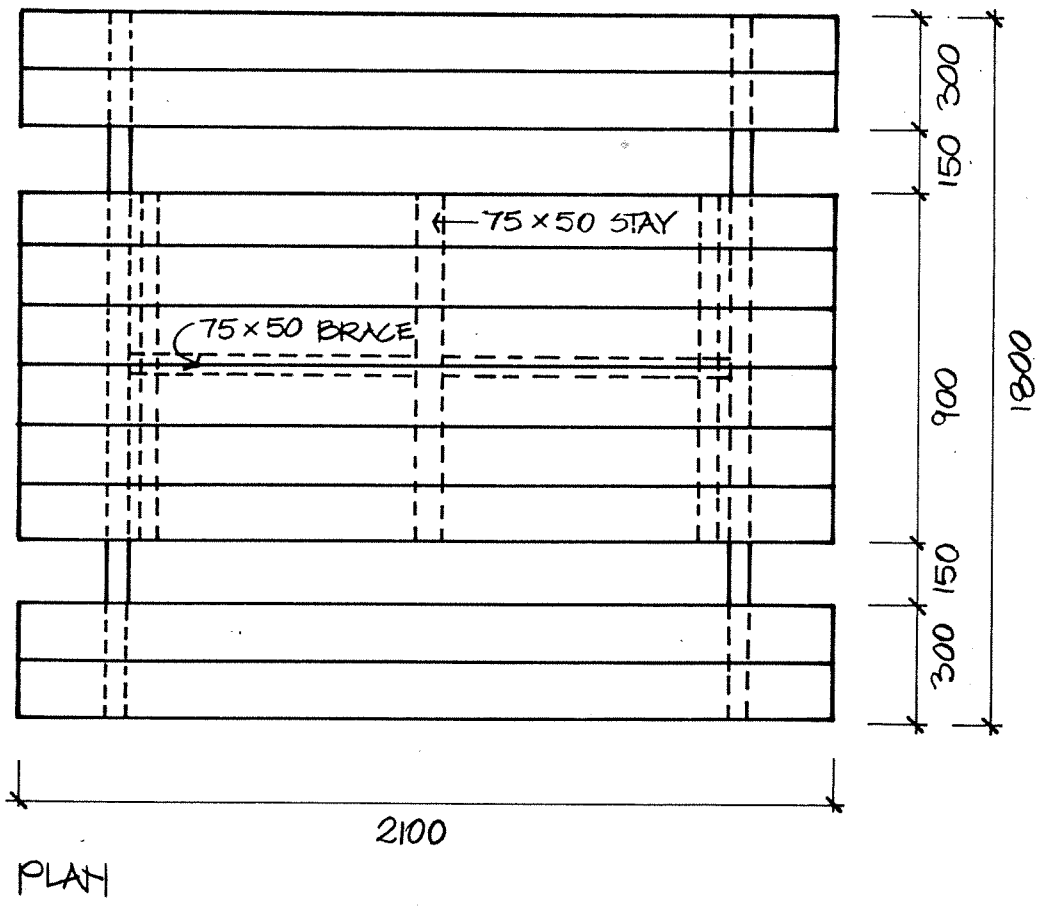
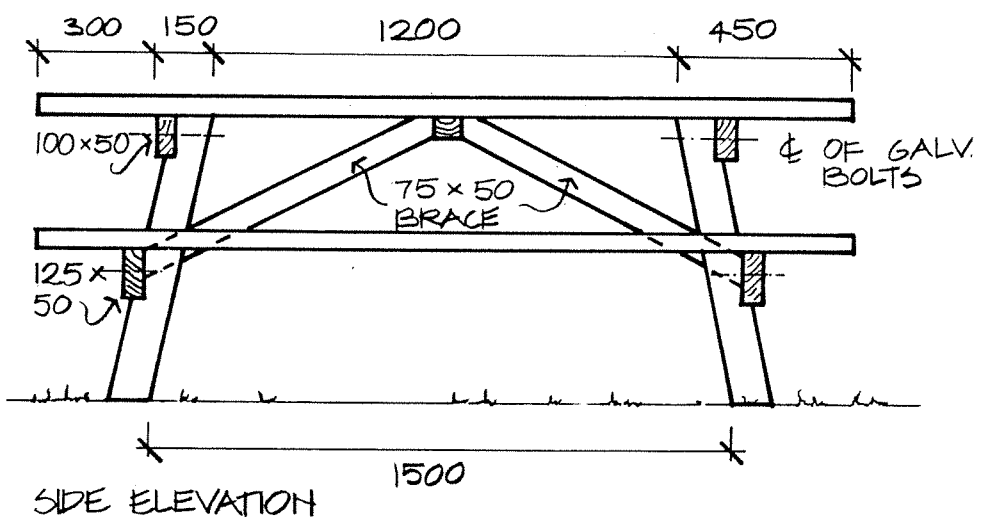
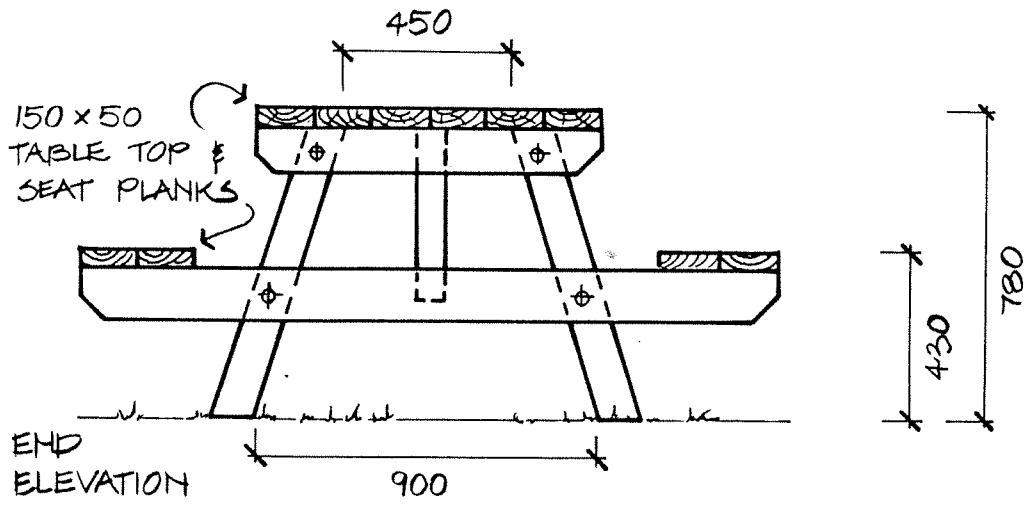


TABLE T3

Similar in appearance, although smaller in size, to the previous table (T2), this design incorporates a simple but effective vertical leg support system. The table offers the advantage of ease of construction and can be installed as either a fixed or portable unit.

Materials Required

9 dressed planks (jarrah or tanalised pine) - 50 mm x 150 mm x 2000 mm

2 table supports - 100 mm x 100 mm x 750 mm

2 seat supports - 100 mm x 100 mm x 1450 mm

4 leg posts - 100 mm x 100 mm x 1100 mm (if unit is to be fixed in ground)

Galvanised bolts (10 mm diam)

Finish

as per unit T2.

Designed by

W.A. Forests Department, Busselton Division

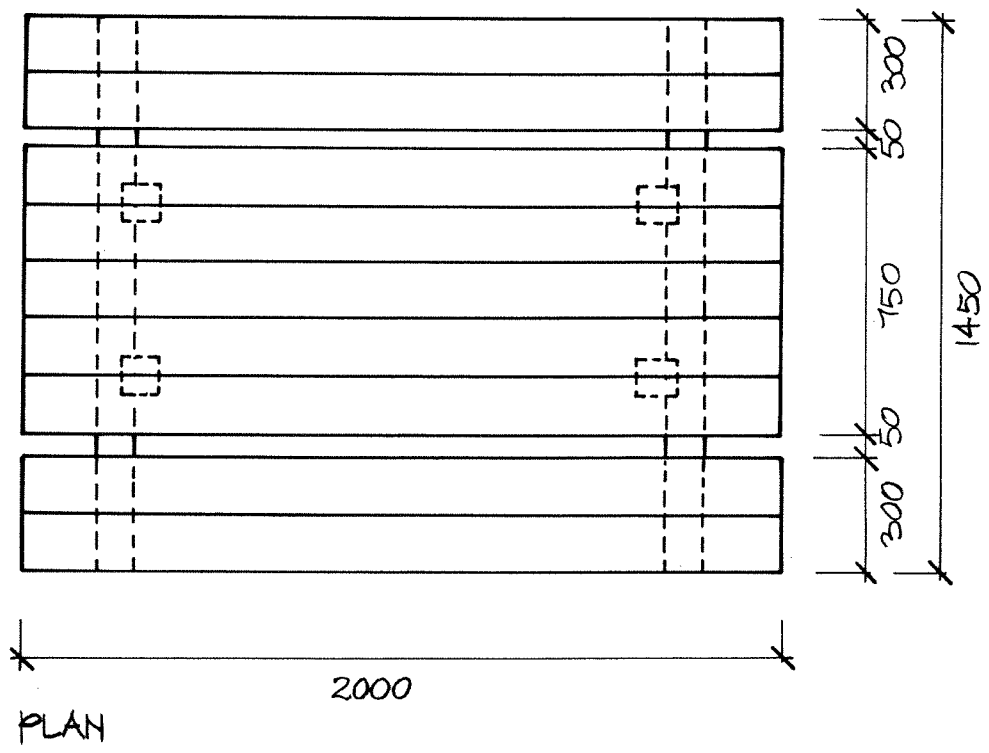
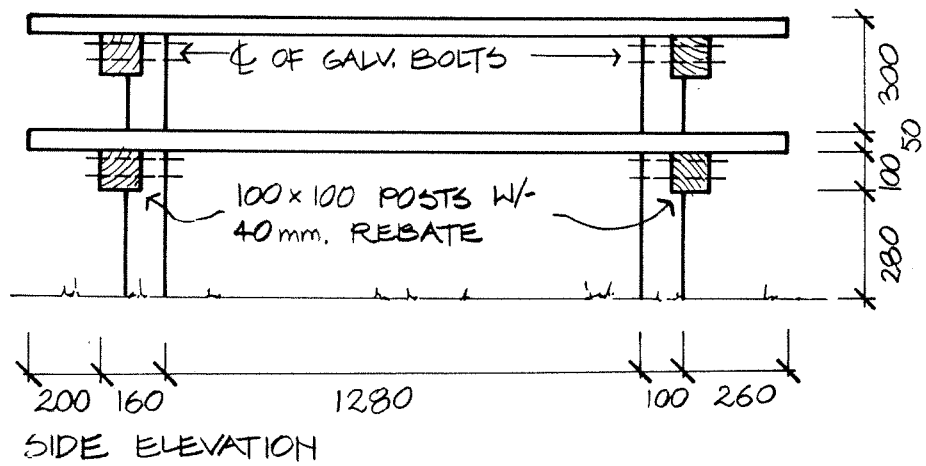
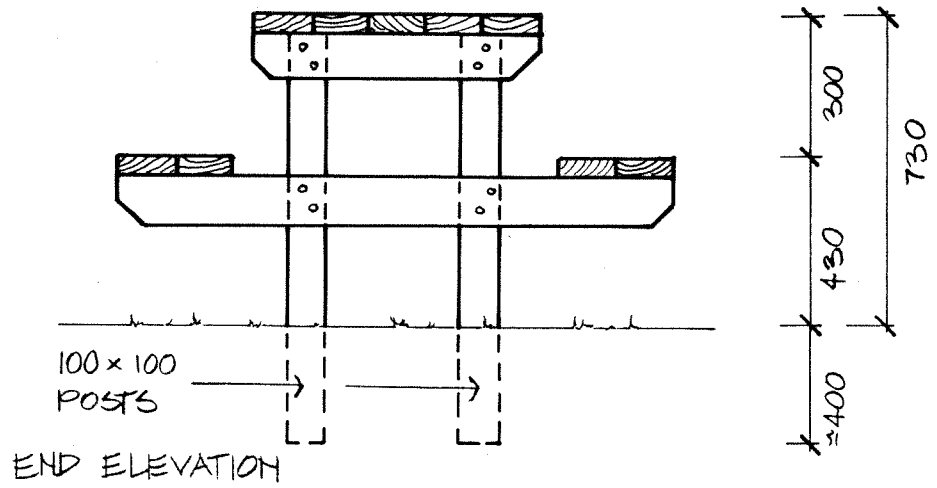


TABLE T4

This versatile and unobstrusive unit can serve both as a picnic table or seating platform. The platform top, which is secured to reinforced concrete slabs, can be constructed as either a simple rectangular shape or modified to facilitate seating as shown.

Materials Required

2 reinforced concrete slabs - 100 mm x 700 mm x 1200 mm

2 table supports - 100 mm x 200 mm x 1800 mm

8 dressed planks - 50 mm x 150 mm x 2100 mm

8 dressed planks - 50 mm x 150 mm x 600 mm

8 galvanised angle L braces

Galvanised bolts (10 mm diam)

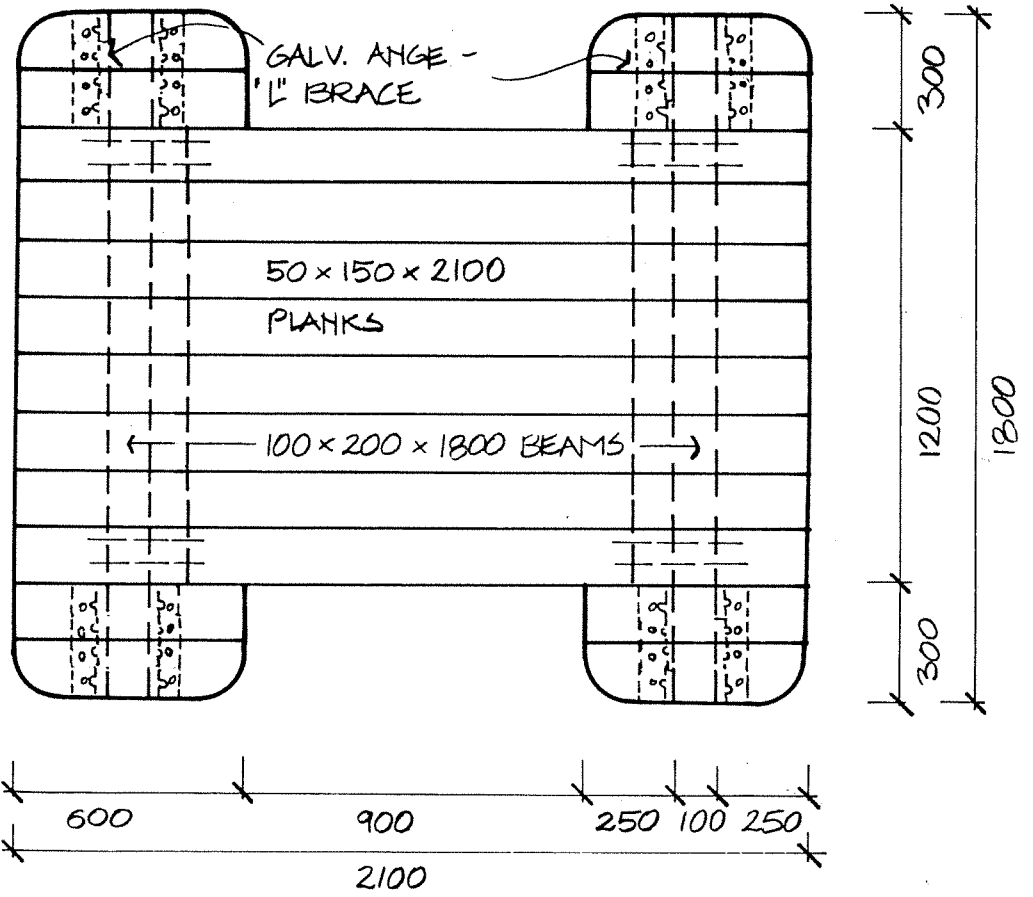
Finish

Dressed jarrah or tanalised pine; paint colour as per units T2 and T3.

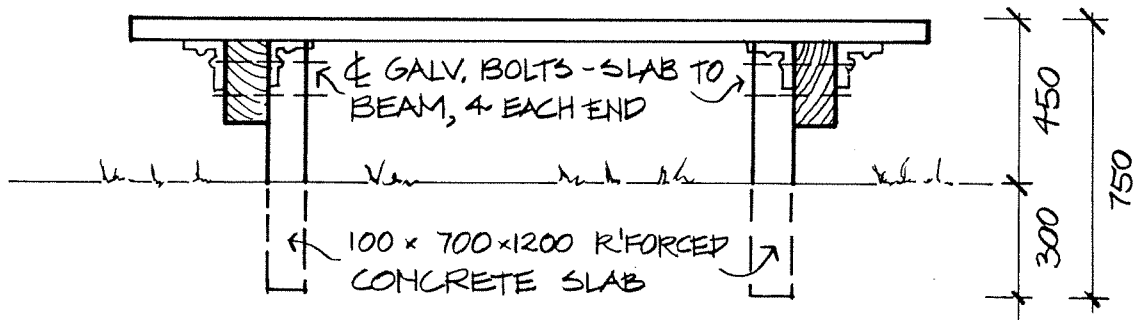
Designed by

W.A. Forests Department (E.J. Herbert)

modification of a design by FORPARK Forest Landscape and
Park contractors, Osborne Park.



PLAN



ELEVATION

TABLE T5

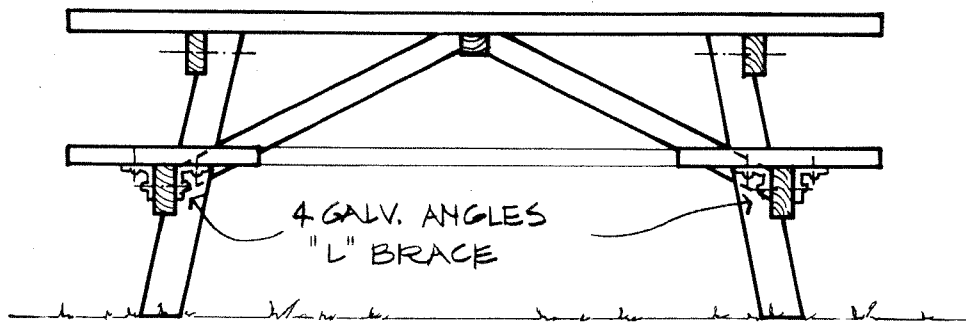
With a few minor alterations, standard table designs can be adapted for use by disabled persons. The removal of the middle section of the seat(s) as in this design will enable people in wheelchairs to use a table. Similarly, an overhang of approximately 500 mm at the end of a table will also facilitate use by non-ambulatory people. Where tables are designed for use by persons in wheelchairs, it is essential that a clearance of 750 mm between the ground and table top be provided.

Materials & Finish

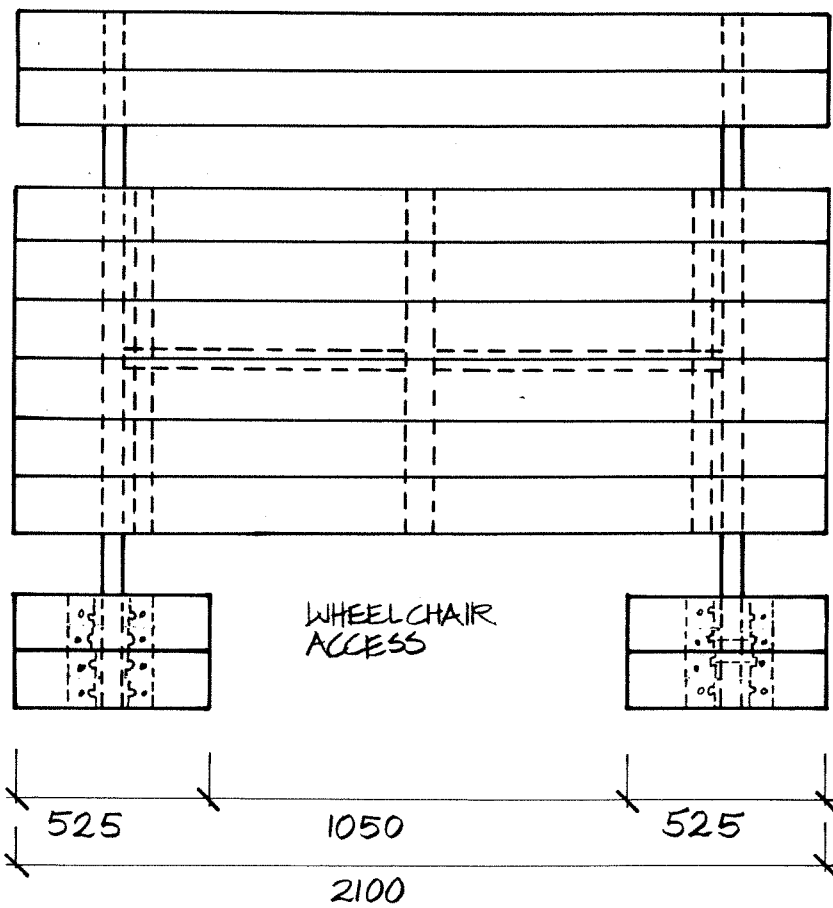
As per previous specifications (see units T2 & T3) with the exception of the seat modifications; note the use of the galvanised angle L braces to provide additional support to the seats.

Designed by:

U.S. Forest Service.



ELEVATION



PLAN

DIMENSIONS SAME AS PER T2 EXCEPT FOR ABOVE HANDICAPPED ACCESS

WHAT AM I BID FOR THIS TREE?

14 minutes

Colour

1974

A lighthearted look at the value of a tree in a park, from the point of view of a young, teenage girl; a youth; an elderly lady and a developer. How do YOU regard the value of a tree? How would someone from another world value our trees? Suitable to all ages.

KARRI WILDLIFE

27 minutes

Black & White

1971

Dr Per Christensen takes us on a tour of the karri forest to show the remarkable wildlife that can be found. This film was produced by the A.B.C. for television. Suitable to all ages 8 and over.

WELCOME TO THE DALE FOREST

There is an increasing public appreciation and interest in our State's forests. Each year, many thousands of people visit them seeking the pleasures and adventures which they offer, and a knowledge and understanding of the forests themselves — how they grow, develop and change, what they produce and how they are managed.

This trail and the adjoining picnic area have been developed by the Forests Department for your use and enjoyment. Features of interest along the trail, which are described in this guide, are indicated by numbered pegs.

Please help to maintain the trail by not picking wildflowers or damaging vegetation in any way.

A forest is a complex biological community and, like any group of living organisms, is in a continual state of change. To the casual observer, the jarrah (*Eucalyptus marginata*) forest of the Darling Range may appear to remain virtually unchanged from year to year, but Nature is never static and there is a continual progression as new replaces old. Left untouched, the jarrah forest would most likely continue to provide trees in perpetuity. However, the trees in a virgin forest, by virtue of their age, are not always of commercial value to man. Their large size also hinders the development of younger, more vigorous trees.

There are a variety of reasons for managing the forest resource, the principle objective being to ensure that the State's forests continue to fulfil the community's needs for a wide range of forest products. In a sense, forest management is simply an attempt to improve on what Nature has already provided. By using proven techniques, the forester can channel Nature's energy into forms more productive to man.

The forester therefore attempts to create conditions that favour the more vigorously growing trees. In the jarrah forest, the removal of individual trees creates small openings. It is in these openings that the jarrah life cycle is renewed. Following the first winter rains in May and June, seed that has fallen from the nearby trees begins to germinate. As many as 1 million young seedlings per hectare may develop, but normally less than 1% of these survive past the first and second summers due to intense root competition, the activity of natural parasites and the dry, hot summer climate.

Those seedlings which do survive consolidate their position by the formation of a swelling at the base of the plant known as a lignotuber. This woody structure, which is an organ of food storage and regeneration, is of great importance because of the store of living buds it contains. If the aboveground portion of the seedling is destroyed by fire, mechanical damage or other agencies, this reservoir of buds enables the renewal of the shoots of the plant.



Stop 1

In jarrah, a small lignotuber develops in the first year, but the growth of the seedling is slow and takes the appearance of a low, multi-stemmed shrub (Stop 1). As growth continues over a several year period, the lignotuber becomes larger and the tree produces a single vigorous stem known as a dynamic shoot (Stop 2). Once this stage is reached, which may be as long as 20 years or more, depending on environmental factors, the jarrah seedling commences a period of more rapid growth and eventually develops into a small sapling (Stop 3), unless subject to damage by insects or severe frosts.

A second way in which many of the eucalypts, including jarrah, may regenerate is by coppice shoots (Stops 4 & 5). These shoots arise from dormant buds at the base of the tree trunk and are stimulated when the tree is cut down. Left to develop, the shoots will eventually grow into small trees. In time, the original stump may rot away, leaving a tell-tale ring of "offspring" as evidence of where the parent tree once stood.

As a tree approaches maturity, it slackens off in growth and over time begins to slowly decline. This process can take up to several hundred years in the case of jarrah, a relatively slow-growing species in comparison to other eucalypts. In fact, it is not uncommon for individuals to exceed 500 years of age. In a managed forest, some of these veterans are removed and utilised to make room for more vigorous young trees. All ages of trees are represented in the jarrah forest, so that as mature trees are removed for milling into timber, others are available to replace them.

Not all trees, even those of the same species, develop into a form useful to man. Some may develop large, heavy

limbs and crooked trunks while others may have been damaged by intense wildfires or insect attack. Such defective or poorly formed trees are termed "culls" (Stop 6) and are also removed as part of the management programme, although some individuals are frequently retained to provide food and shelter for wildlife. In earlier times, the common method of disposing of such trees was by ringbarking (Stop 7). In this operation, the outer living wood of the trunk, through which water and nutrients are transported, is girdled and the tree eventually dies. The younger or better formed trees surrounding the ringbarked individual are then able to take advantage of the additional growing space and the reduction in competition for moisture and nutrients.

Similarly, the growing space between younger trees of a similar size and age can be increased by removing some individuals to provide increased area for those which remain. Foresters refer to this operation as thinning. Providing a tree has sufficient room to develop, it will eventually grow into what is known as a crop tree. Examples of future crop trees can be viewed further along the trail at Stops 12 and 13.

Another tree which grows in association with jarrah throughout the southwest is marri or red gum (*Eucalyptus calophylla*), which is readily identified by its characteristic large fruit commonly referred to as honkey nuts (Stop 8). A member of the group of eucalypts known as the bloodwoods, marri timber is of relatively low commercial value for sawn timber due to the prevalence of gum (kino) rings and pockets. However, the timber can be converted into excellent pulp for paper making, and marri is an excellent source of honey. Its shapely form and large dense crown make it a valuable shade tree on many southwest farms.

Not all areas of the forest are equally suited or capable of growing trees. As the trail meanders downslope towards the stream, notice how the forest becomes much more open, with some areas supporting only small shrubs (Stop 9). Here the soils are very shallow, as indicated by the large areas of exposed rock. In environments such as this, trees are often unable to obtain sufficient moisture and nutrients to sustain themselves. In their place, other plants such as the blackboy (*Xanthorrhoea preissii*), are able to establish a foothold and grow, due to special adaptations to drought.

Apart from jarrah and marri, there are a number of other tree species which are to be found in the forest areas near Perth. One of these, W.A. blackbutt, or yarri (*Eucalyptus patens*) grows in moist areas along creeks and rivers and produces durable timber for construction and decorative uses. Similar in appearance to jarrah, blackbutt can be distinguished from that species by its bluish-green leaves, which are longer and narrower than jarrah, and the fibrous, deeply-fissured bark of mature specimens. At Stop 10, the trail passes through the remnants of a large blackbutt. Several small saplings can be seen near this point — can you identify them?

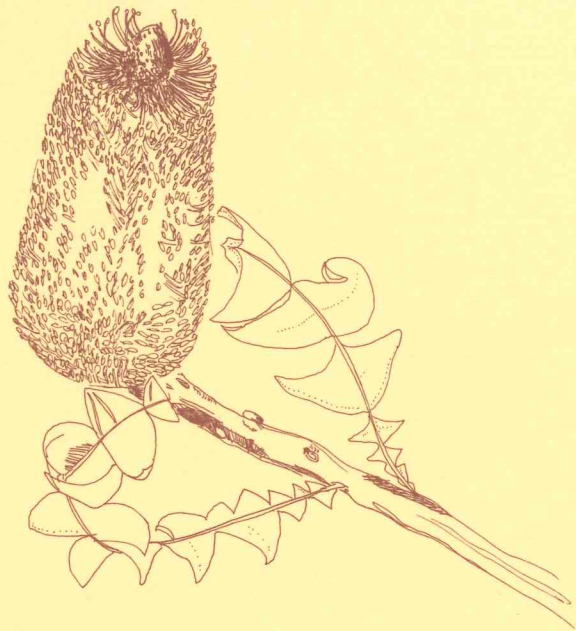
Stop 8



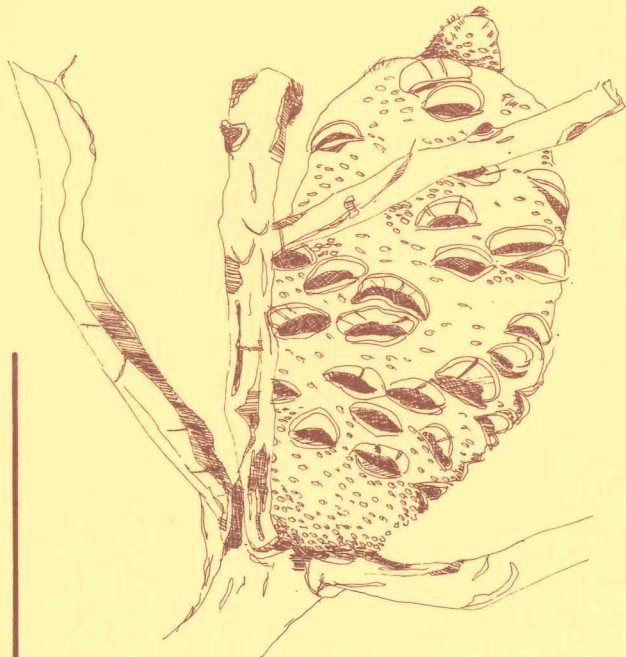
Stop 7



Stop



Stop 11



Yet another tree found growing in the understorey of the jarrah forest is the bull banksia (*Banksia grandis*). Its yellow candle-shaped flowers, large woody cone, serrated leaves and gnarled growth habit make it an attractive member of the forest community (Stop 11).

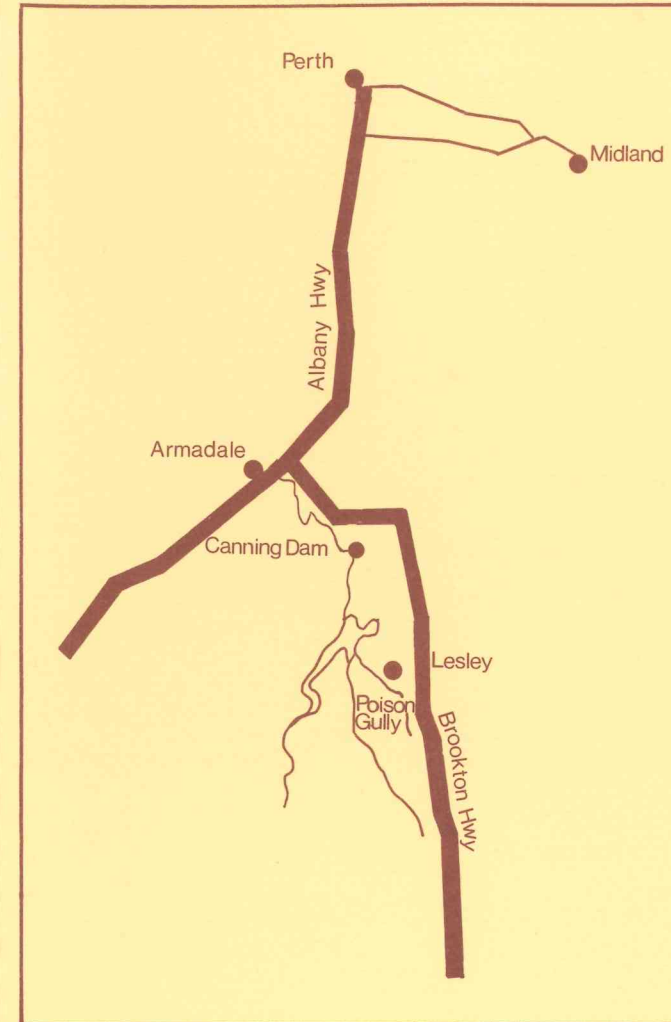
Of no commercial value, it is one of the species of plants most susceptible to the soil-borne fungus, *Phytophthora cinnamomi*, commonly referred to as jarrah dieback. The dead banksias which can be seen in the vicinity of Stop 10 have not been killed by dieback however, but by a severe wildfire which burnt over this area of forest in 1977.

Further along the trail at Stop 12, an old wooden survey marker can be seen. These reference points were established during the initial assessment and mapping of the forest earlier this century. Licensed surveyors and other experienced men were employed to lay down a network of theodolite traverses and these provided the framework upon which to map and classify the forest. This work was started in 1920 and by the end of that decade, over 800 000 ha had been surveyed.

As you complete the walk back to the picnic area, see how many of the features and aspects discussed in this pamphlet you can observe. We hope your visit has been an enjoyable one. Any comments or questions you may have pertaining to this area are welcomed and should be directed to the Forests Department, Jarrahdale. (Tel: (095) 255 177 or 255 004).

PLEASE NOTE: As illustrated on the accompanying map, the trail crosses a small stream known as Poison Gully. The stream and surrounding forest are situated within the Canning River watershed and its water flows into Canning Dam. Canning Dam, along with other hills reservoirs, produce approximately 75% of Perth's domestic water needs. The water in these reservoirs is of a high quality requiring only minimal treatment before it is supplied to the public.

We are very fortunate to have water of this quality so close to our city and it is up to all of us to protect this valuable resource. You can help in this endeavour by observing and obeying all signposted regulations covering the use of and access into water catchment areas. If you are unsure as to whether or not a stream is within the catchment area, please do not hesitate to contact either the Forests Department or Catchments Section of the Metropolitan Water Board for advice and assistance in planning your activity.



WELCOME TO THE DALE FOREST



Forest Department of Western Australia



BROCKMAN SAWPIT

by R.J. Underwood

The pioneer settlers of the Pemberton district were the Brockman family, who reached the area in 1861. Their homestead, which still stands, was established near the Warren River some five kilometres north-west of the sawpit. Convicts employed by the Brockmans were the first to utilise the magnificent jarrah and karri forests found growing in the area. These men and the 'ticket-of-leave' tradesmen who followed them were the forerunners of the present timber industry which has been the backbone of the Pemberton district since the State Sawmills opened in 1913.

This sawpit is the best preserved of many which still remain in the forest nearby. It was probably dug by convicts in about 1865 to cut timber for the Brockman homestead. Other pits are located nearer the river approximately a kilometre south of the bridge which crosses the Warren River at the old homestead.

The jarrah logs and sawn flitches mounted on this site were found in and around the pit when it was discovered by forest workmen early in 1972. They are remarkably well preserved, individual axe and saw marks being plainly visible on most pieces. The saw mounted in the log is an original implement, obtained from elsewhere.

The ancient process of pitsawing was the standard method of sawing timber in the early days of settlement of Australia. Powered sawmills did not appear until about 1850, but it is unlikely that sawmill timber became available to the pioneer Pemberton settlers until many years later.

The sawyers selected their tree, felled it (sometimes across a previously prepared pit) using an axe or crosscut saw, and then cut it into log lengths. Sometimes if the site was suitable, a pit was dug under the lot at this point. Usually the log was snigged by horses, bullocks or sheer manpower to a pit nearby and put on wooden bearers spanning the pit.

One sawyer (known as the "top knotcher") worked on top of the log, his functions being to raise the saw after the downward stroke and place it onto a chalk line marking the proposed cut. The other man (or sometimes two men) stood beneath the log and supplied the cutting power. The work was arduous and, particularly for the bottom man, rather uncomfortable. He often worked up to his knees in water and was continually showered with sawdust. Some bottom sawyers would work through the day with a sugar bag over their heads for protection from the sawdust.

Mr A. Rule, in his book "Forests of Australia," gives this account of pitsawing in the early days of settlement in Australia:

"Sawing thus laboriously, inch by inch, through massive logs was certainly no child's play and sawteeth needed frequent sharpening. A tale is told of one simple sawyer who sacrificed his shirt to protect his newly sharpened saw from the dulling effect of the wind on the saw teeth. To settlers and others these sawyers were a race apart and they had their own songs reminiscent of sea shanties telling of the hardships of their calling and their victimisation by soul-less timber buyers. In 1822 the official price of sawn timber cut by convict labour is stated in government order as 7/6d per 100 feet. The same order goes on to say 'Any ticket-of-leave man who shall exact a higher payment shall forfeit his ticket of leave. Anyone refusing to work at such payment shall be placed in the penitentiary.'"

Another account in the Australian Forestry Journal of 1926 reports that pitsawyers in the Darling Ranges close to Perth in the early days

of the colony were paid four shillings and sixpence for a ten-hour day at the pit. Timber was sold at the following rates: 5" x 1" to 5" x 3" at 7 shillings per 100 lineal feet and all timber above these sizes at 40 shillings per load (50 cubic feet) at the pitside. When a demand for railway sleepers arose, one early contractor was able to supply, by pitsawing, 1500 sleepers (7' x 8" x 4") per week at a price of one shilling and eightpence halfpenny per sleeper delivered to the job.

A slightly different view of the life of the pitsawyers came in 1916 from D.E. Hutchins, an Englishman who visited Australia at that time to study forestry in this country. In his report, Hutchins said that "it was unfortunate that pitsawing has been almost abandoned for the present in Australia...the work is so invigorating and healthy that many men who cannot stand a sedentary town life could earn a healthy living by it."

One wonders how many invigorating hours Mr Hutchins had spent in a pit, pulling a seven foot saw through a four foot diameter jarrah log.

Probably some of the greatest pitsawing achievements were performed by convicts in Tasmania in their production of ships keels, planks and beams from bluegum. Some beams were recorded as measuring in excess of 48 metres long and 45 cms by 15 cms in section. Pitsawing will never be seen in action in the jarrah and karri forests again. Like the cross-cut saw, the bullock and the steam locomotive, they are a thing of the past; but they played a vital role in the early development of the country.

The reconstruction of this site is dedicated to the pitsawyer, bond or free, who was the pioneer of the timber industry of the Pemberton district.

In 1978, Brockman Sawpit was added to the National Trust's register of historic sites. Reconstruction and interpretation work at this site has been undertaken and funded by the Forests Department. Questions pertaining to the management of this area are welcomed and should be directed to the Forests Department, Pemberton (Tel: (097) 76 1200).

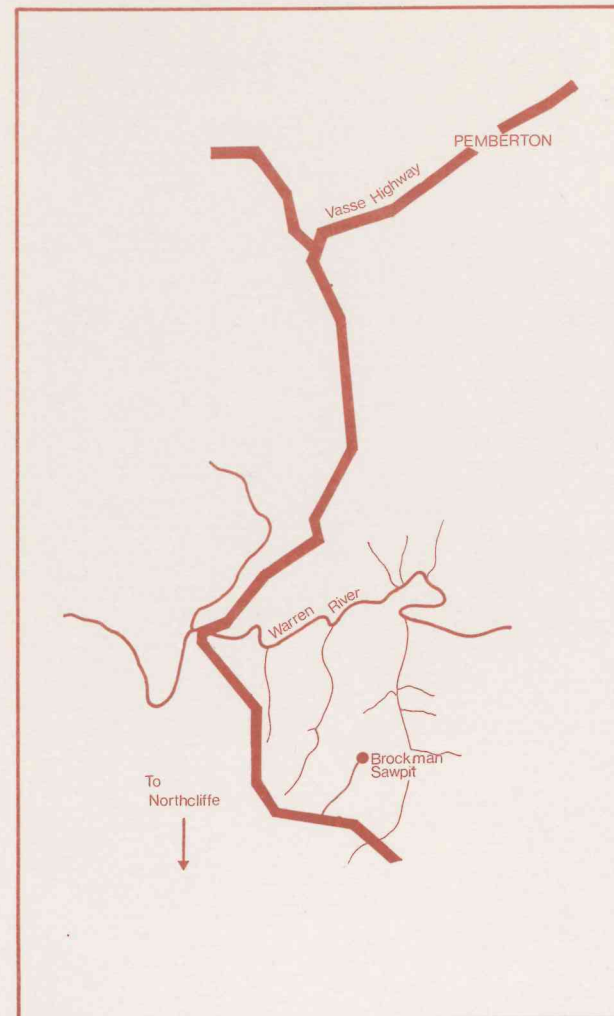


Photo of Pit Sawing near Denmark (c. 1911)

Courtesy of Saw Estate

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BROCKMAN SAWPIT



Forests Department