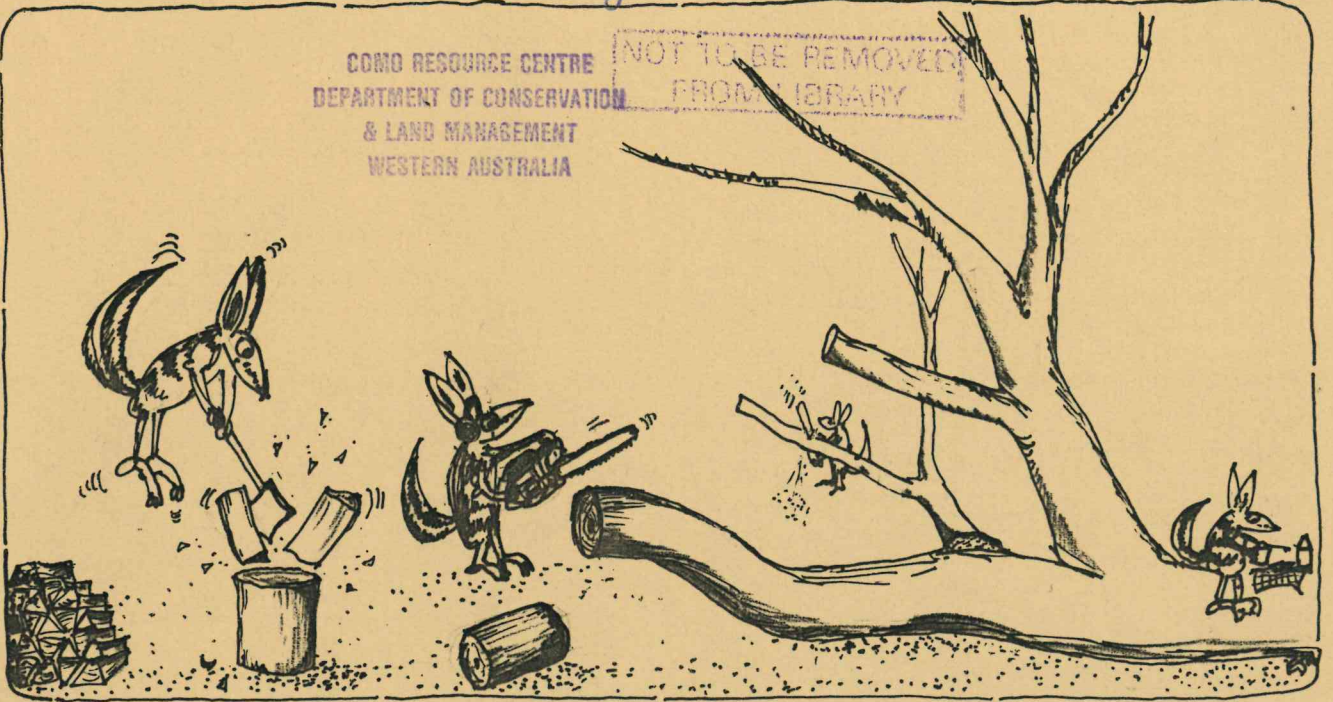


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FORESTS DEPARTMENT
- 9 MAY 1983
BUNBURY

RECREATION NOTES

FORESTS DEPARTMENT
WESTERN AUSTRALIA
EXTENSION BRANCH

Autumn 1983

Since the last issue of Rec. Notes there have been some changes in the Extensions crew.

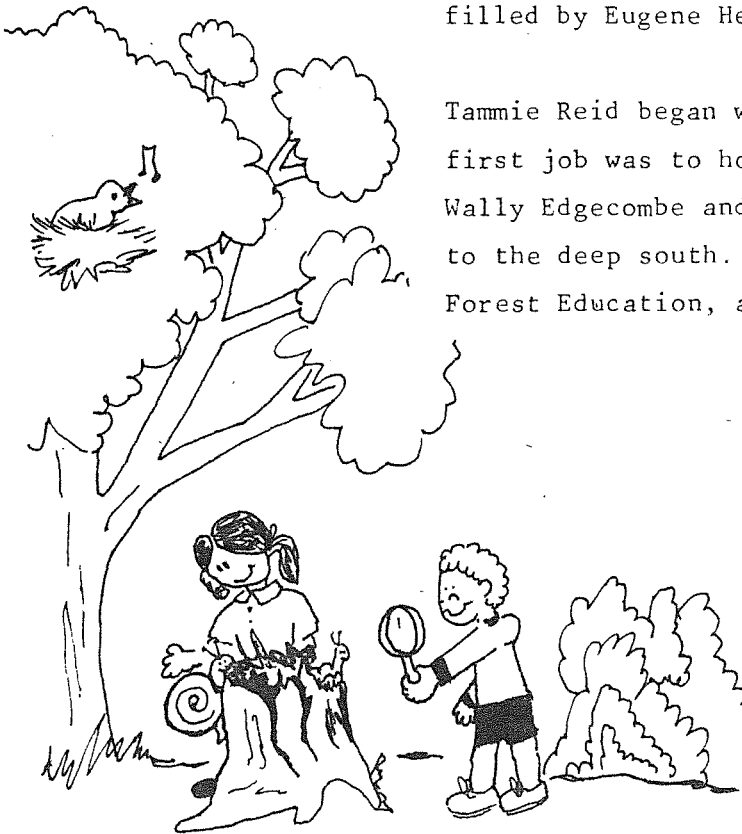
As mentioned previously, Drew Giffiths has headed off to Canberra to study for a Diploma in Forestry. His position has been temporarily filled by Mark Dalton who will be working in the areas of



- answering public enquiries within the Metro. area.
- presenting education materials to
- preparing models and graphical materials for display and publicity
- provide assistance in the seed store.



Another loss to Extension Services is the transfer of Denise Allen. Denise leaves a large gap, her role of Northern Region Recreation/Extension Officer being partly filled by Eugene Herbert and Wayne Schmidt.



Tammie Reid began work with Extensions in January, her first job was to hold the fort in Karratha while Wally Edgecombe and family headed for a change of climate, to the deep south. Tammie's duties are now involved with Forest Education, a quick rundown;

- Education in forestry matters, aiming at the public in general and school children and teachers in particular.
- Production of promotional material for use by departmental staff.
- Extension role of advice to public enquiries.

THE NEXT ISSUE WILL SEE A REPORT FROM BOTH THESE PEOPLE.

ANZAAS CONGRESS
PERTH 16-20 MAY, 1983

Various Forests Department personnel will be contributing papers to the above congress. Eugene Herbert and Wayne Schmidt will be participating in section 23 : PSYCHOLOGY, within the concurrent session;

Landscape Assessment : Perception, Analysis and Implication for Management.

Their paper is titled:

"MANAGEMENT IMPLICATIONS OF LANDSCAPE ASSESSMENT IN THE FORESTS OF SOUTHWESTERN AUSTRALIA"

ABSTRACT

In 1978 a forest user survey was undertaken throughout the western margins of State forest. This survey combined questionnaire and observational data to obtain preliminary information as to where and how forest visitors were using the forest resource.

For this study, selected survey data was analysed to interpret user preferences for a number of landscape attributes and types. A variety of these landscapes were then sampled photographically and presented to a random sample of psychology students for preference testing. Subsequent statistical analysis was used to identify the underlying content domains and the relevance of this information to Forest Landscape Management is discussed.

Papers in this session will be presented on Monday, 16 May at 2.00 p.m., venue yet to be declared.

RECREATION SCHOOL

As many of you will now know, a recreation training school will be held in Pemberton from the 25th to the 27th of May inclusive. It is planned that this course will become part of the regular series of courses run by the department each year, and will eventually be attended by both staff and gang members. The first school is aimed specifically at divisional recreation officers.

The three day live-in course will cover a variety of subjects from broadscale recreation planning, and the design and construction of signs and furniture, to the maintenance of completed sites. The Recreation Manual will be officially released during the school so that participants can refer to it and be reminded of the concepts and principles covered.

Guest speakers will include John Watson, from the National Parks Authority, Jim Sharp - Department for Youth, Sport and Recreation, and Ross Gobby - a private consultant.

PROMOTIONAL EXAMS

With promotional examinations again about to rear their ugly heads, it was thought that the following article would be of immense interest to those involved - particularly to those hard working recreation officers who just don't have time to discover and study the answers of the 41 questions the exam committee kindly provide. We thank Neil Sumner for sharing his information with us.

HYPERGEOMETRIC PROBABILITIES APPLIED TO LF4 PROMOTIONAL EXAMINATIONS

By Neil Sumner

Prior to the promotional examinations candidates might be asking questions such as:

"How many questions do I need to study in order to have a 90% chance of being able to answer 6 questions on the final examination paper?"

All candidates would know that questions for the LF4 promotional examinations are drawn from a syllabus of 41 (not 40) draft questions. In the examination candidates are expected to answer 6 out of 10 questions on the paper.

An answer to the above question can be found by using "Hypergeometric Probabilities".

If we imagine a population of examination questions consisting of two types:

- (a) "favourable questions" for which a candidate has studied and should know the answer;
- (b) "unfavourable questions" to which the candidate does not know the answer.

I must also define the following variables at this point.

- a = the number of favourable questions
- b = the number of unfavourable questions
- a+b = the total number of questions (41)
- n = the number of questions selected (10)
- r = the number of favourable questions selected ($r \geq 6$)

We want to know the probability of $r \geq 6$ where

$$\text{Probability} = \frac{\text{number of favourable cases}}{\text{total number of cases}}$$

Now the sample space (total number of cases) consists of $\binom{41}{10}$ combinations of the 41 draft questions taken 10 at a time.

To determine the number of favourable cases we must make two choices. First we must choose say 6 of the 'a' favourable questions $\binom{a}{6}$; then we must choose 4 of the 'b' unfavourable questions $\binom{b}{4}$.

By the multiplication principle there are thus $\binom{a}{6} \cdot \binom{b}{4}$ favourable cases, so the probability of exactly 6 favourable questions is

$$\frac{\binom{a}{6} \cdot \binom{b}{4}}{\binom{41}{10}}$$

This gives the probability that $r = 6$, what we need is the probability that $r \geq 6$, ($r = 6, 7, 8, 9$, or 10). This can be found by

$$\sum_{r=6}^{10} \frac{\binom{a}{r} \binom{b}{n-r}}{\binom{a+b}{n}}$$

when given 'a' the number of favourable questions.

A PASCAL program "finite sampling" complete with output is attached for the interested reader. This program calculates hypergeometric probabilities. Also note the procedural nature of PASCAL.

THE MULTIPLICATION PRINCIPLE:

We are going to make two choices, a first stage choice followed by a second-stage choice:

- (i) the number of alternatives open to us at the first stage is a;
- (ii) no matter which alternative we select at the first stage the number of alternatives open to us at the second stage is b.

In these circumstances, the number of two-stage alternatives or simply results, is $a \cdot b$.

COMBINATIONS:

The number of combinations of j distinct objects taken k at a time (the number of subsets of size k) is

$$\binom{j}{k} = \frac{j!}{k!(j-k)!}$$

CONCLUSION

From the output of the "finite sampling" program, an answer to the question asked earlier can be obtained. Column 1 contains "the number of questions the candidate has studied and should know the answer (favourable questions)". The next 5 columns contain the "partial probabilities" of obtaining 6,7,8,9, or 10 favourable questions in the exam respectively. The last column contains the "total probability" of being able to answer 6 or more questions on the final paper. The total probability is the sum of the partial probabilities. The columns containing probabilities have been rounded to 2 decimal places.

In answer to the question, it can be seen looking at the table, (see appendix) that if a candidate studies 29 questions, he or she will have an 89% (probability = 0.89) chance of being able to answer 6 questions on the final examination paper. By reducing the number of favourable questions to 20, the candidate's chance of being able to answer 6 questions is reduced to 33%. If the number of favourable questions is increased to 37 this gives the candidate a 100% chance of being able to answer 6 questions, which is obvious as there is only 4 unfavourable questions.

GOOD LUCK!!!!

REFERENCE

Huntsberger D.V. and Billingsley P. "Elements of Statistical Inference", 4th edition, Allyn and Bacon Inc. Boston, 1979.

- And just to stop your head reeling from all those figures, here's a progress report on the Golden Valley Tree Park in Balingup.

GOLDEN VALLEY TREE PARK

It is now just over a year since the Golden Valley Tree Park was officially opened by the Conservator. Thanks to the enthusiasm of the local community and F.D. staff at Kirup, development of the park is progressing well. During the year, a general clean up of the area continued: heaps of debris were removed; the orchard pruned; new fencing completed; sheep grazing introduced; a cattle grid installed; and the 31 exotic trees planted last winter were maintained.

This year plans are afoot to begin planting trees in the "indigenous species area" of the park. Other work planned includes the development of a car parking area and the construction of additional picnic facilities.

With the continued interest of the local community and the support of the Forests Department, the Golden Valley Tree Park will become an area of significant scientific interest and recreational appeal.

CAMPING IN SOUTHERN FORESTS

by Jack Bradshaw

On Easter Sunday a spotter survey was carried out in the Southern Region with the aim of determining the number and location of camps in the forest area. The survey results are somewhat limited in that:

- (1) Individual tents were counted but as there was considerable variation in the size of groups, no estimate of visitor numbers was obtained.
- (2) People camping in vehicles were not included as they could not be differentiated from vehicles used by day visitors.
- (3) The most likely camping areas were given most attention. No doubt there were other camps in more remote locations.
- (4) The survey did not extend to the area N.E. of Manjimup or the coastal strip.
- (5) The survey was not conducted early in the morning and therefore some people may have already broken camp by the time the count commenced.

In all, 143 tents or caravans were observed. The main criteria for position appears to be access to a river, regardless of whether the area has been logged or is natural or artificial. By far the greatest concentration of campsites was along the Warren River, south of Pemberton. How many of these were by choice and how many were the overflow from the Pemberton Caravan Park is unknown. Nor is it known how much of the choice of river setting is the aesthetics of the surroundings or the domestic requirement for water.

The pattern of use substantiates the contention that recreation needs to be catered for over the whole range of the forest and not just in selected reserves. Road and river reserves appear to have special value. Adjacent recent clear felling does not appear to have been a bar to camping if the river is attractive and access is available. In fact, the majority of use was within the general category of production forest.

It is interesting to note that despite the heavy promotion for camping at the Shannon and the absence of our promotion of camping elsewhere, the numbers at the Shannon were not very significant in the total scene. Without the C.S.N.F. effort, it is estimated that only 2 camps would have used this area. It is also of interest that the C.S.N.F. working guide prepared for the Easter weekend consisted of short walks contained entirely within about one quarter of the Curtin M.P.A.

The only conflict between camping and day visitors occurred at One Tree Bridge and Glenoran Pool. Thus the proposal to establish camping areas near these sites appears to be well founded.

In summary, this type of aerial survey is considered to be a very useful method for obtaining trends in visitor use. Improvements in visitor counts could be achieved by

- (1) Categorise campsites on the basis of tent size as well as tent numbers.
- (2) Include vans and other camping vehicles in the survey.
- (3) Do an earlier run before camps are shifted.
- (4) Extend coverage to include more remote areas.
- (5) Use a ground interview system to co-ordinate with the flights in a double sampling system.

It is recommended that the system be used again and co-ordinated with all Divisions so that a forest wide estimate of visitor numbers can be obtained.

EDITORS NOTE:

Careful Jack! We seem to recall there was a recent outcry over the use of aircraft for surveillance purposes in the south-west of another State.

HIDDEN VALLEY NATIONAL PARK

Forests Department officers have been based in Kununurra for the past five years. During this time they have been involved with testing the adaptability of various native plants to the hot tropical conditions, conducting botanical surveys and giving tree planting advice and assistance to the general community. More recently the Kununurra office has been involved with 'low key' development of the new Hidden Valley National Park. This park forms a spectacular backdrop to the Kununurra township and is already popular as a tourist attraction. Chris Done, O.I.C. Kununurra, has been appointed as Honorary Ranger and sees great potential in the use of the area for educative and recreational activities.

The Park is accessible by road but otherwise has no facilities nor restrictions to usage. Consequently, some areas are showing signs of damage due to unrestricted vehicles and pedestrians - e.g. erosion and trampling of vegetation.

Hidden Valley Park has a great diversity of plant life concentrated into a relatively small area due to the diversity of landform and associated site types. The area also contains numerous aboriginal historic sites, some of continuing importance to local tribes.

With this information in mind Chris Done (in conjunction with the National Parks Authority) has surveyed an interpretative trail through a spectacular section of the Park and has better defined the existing roadway and parking system by using vehicle barriers. To this end he has been assisted by members of Extension Branch and there are now plans for the joint production of a brochure documenting the various attributes of Hidden Valley.

BIBBULMUN TRACK USER SURVEY

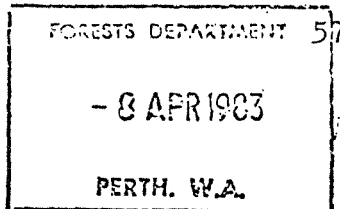


As mentioned in the Winter '82 edition of Rec. Notes, the Extensions Branch is conducting a long term user survey of the Bibbulmun Walking Track. Permanent visitor register stations have been erected along the track in Pemberton, Manjimup, Kirup, Collie, Dwellingup and Mundaring Divisions.

Completed forms are already being collected and collated from these sites.

The number of forms being returned must be encouraging to the Divisional recreation officers. As last they can see that people are actually walking (and enjoying) the track. In some Divisions, this has spurred the officer and the gangs onto greater things. This has also been greatly appreciated - as shown by the following letter.

WESTERN WALKING CLUB (INC.)



Alderbury Street,
FLOREAT PARK. 6014.

6th April, 1983.

16/5

Mr. B.J. Beggs,
Conservator of Forests,
50 Hayman Road,
COMO. 6151.

Dear Mr. Beggs,

Members of the above club have just spent a most enjoyable Easter week-end walking in the Pemberton area, and quite often along parts of the Bibbulmun Track.

The work of the Forestry Department in improving the tracks and making the bridges safer and easier to cross, particularly in the Chappell Bridge area, was very much appreciated by all.

Yours faithfully,

Noreen Thomas
Noreen Thomas,
Hon. Secretary.

ROTTNEST REVISITED

The Forests Department has had a professional interest and involvement in Rottnest Island dating back some years. Officers such as Barney White, Dick Perry (retired) and Roger Edmiston have on numerous occasions unselfishly volunteered their services to visit Rottnest for the purpose of advising Island staff on various aspects pertaining to vegetation establishment and management (at least that's their story). Following on from the success of these previous visits, the Island Board recently sought the Department's assistance on rehabilitating the area surrounding the abandoned Army Gun emplacements at Oliver's Hill.

THE SITE

The Oliver's Hill site, which overlooks the north-eastern end of Rottnest Island and the mainland constitutes an unique historical and recreational landmark. In addition to two large gun installations, the area contains an extensive network of underground fortifications and the foundations of various structures, including a former barracks. Little else remains above ground with the exception of the abandoned rail formations used to service this defensive outpost when it was in operation.

Since the Army vacated Oliver's Hill and turned it over to the Rottnest Island Board, large numbers of visitors have been attracted to the area. The No. 1 gun is a stopping point on the Island's bus tour route and the area is also a popular stopover for cyclists.

In the past there has been no planned provision for or control over visitor circulation around the guns and this has resulted in increasing site deterioration, namely

- (1) *ad hoc* trail development with the consequent loss of vegetation on areas subjected to repeated trampling as a result of visitors moving around and between the gun installations. On areas exposed to the prevailing winds, or where the topography is steep, this loss of vegetation has been accompanied by substantial erosion problems.
- (2) vandalism to both above and below ground structures, mainly in the

form of graffiti. All bunkers have been sealed to exclude the public, but at least one installation (near the No. 2 gum) has been broken into and is now accessible.

DEPARTMENTAL INVOLVEMENT

Staff from Extensions and Mapping Branch have combined forces to prepare a report and plan that outlines a number of site development and rehabilitation proposals for Oliver's Hill. Proposed works include

- (1) the construction of a defined trail system which provides access to various points of historical and/or scenic interest.
- (2) design and development of a comprehensive visitor interpretation programme which will provide information on the site environment and the Army's use of this area. As part of this programme, it is envisioned that portions of the underground bunkers and gun installations will be opened to the public.
- (3) Development of support facilities including a visitor centre and kiosk.
- (4) The rehabilitation of denuded areas with indigeneous tree and shrub species using techniques developed by Messrs. White and Edmiston.

This proposed programme has subsequently received the approval and financial support of the Rottnest Island Board and a crew has been employed to implement the various recommendations. At the time of visiting, work was well advanced on the general cleanup of the site and the construction of walk tracks. Obviously as the project proceeds, the continued advice of Departmental staff will be freely offered.

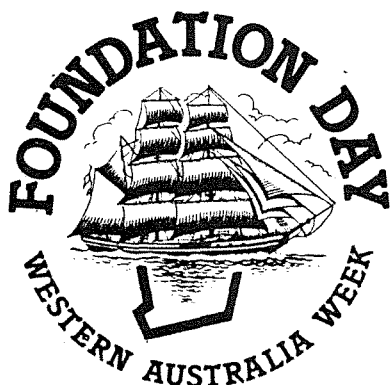
P.S. If you believe your expertise could be put to use on this project, you're welcome to join the queue. Offers of assistance should be directed to Inspector White at Como.

ARBOR DAY - A LEAF ON A BIGGER TREE

June the 10th - a Friday has been nominated as Arbor Day - Day of Trees. It is just one special day in a week long celebration organised by the Western Australia Week Foundation. 1983 has a special emphasis on Friends & Neighbours and activities like those famed street parties in Nannup are encouraged.

The day by day programme of events and ideas runs along these lines.


MONDAY JUNE 6



A toast:- W.A. Week is a State celebration. A time to pay tribute to those people who laid the foundations and to us who will shape the future of our State. This is a week of interest, enthusiasm and effort that might easily flow onto our daily lives. This year is our 154th Anniversary! A toast to W.A. MAY IT LIVE LONG AND PROSPER.

TUESDAY JUNE 7

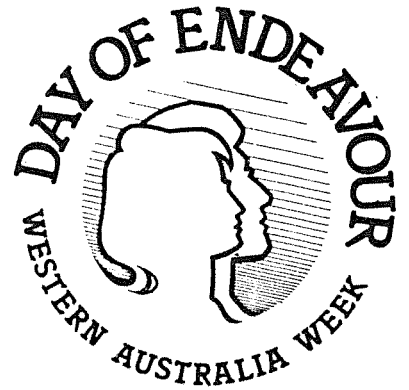


 You can contribute by wearing a smile and giving a flower. Maybe a wildflower display in the foyer - or at least a photographic display of the local wildflowers.



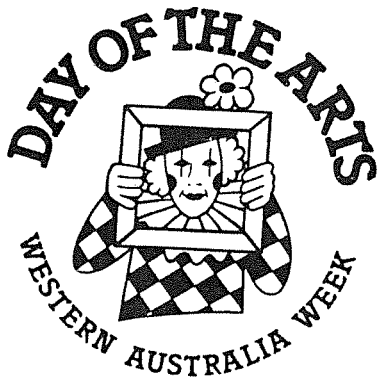
WEDNESDAY JUNE 8

A time for telling people of plans, and achievements with talks and displays.



THURSDAY JUNE 9

Be creative, colourful, imaginative. Enjoy the day by popping into an exhibition or listening to a concert.



FRIDAY JUNE 10



Popular quote - "everyday is a day of trees" but June 10th is a forester's public appearance. Arbor Day has long been significant in the feeling of the quality of life. A traditional time for organisational

groups, families and individuals and so some thought starters on community involvement.

The usual talks, slide presentation, film showings. Rec. Notes lists films available from Extensions Branch (we have 2 copies of each) perhaps circulate these to schools and organisations to arrange things for them. Just give us a ring and we'll post them.

Collaborate with clubs, shires, schools, hospitals AND:

- dedicate an avenue of trees to honour a person or event of significance to the community
- tree planting ceremonies or involvement with planting programme within the division. The more action for everyone the better.
- arrange a display of wood products and handcrafts
- run a local photographic or drawing competition or a quiz to identify trees growing in the town
- have a display on how to propagate trees. An active demonstration on grafting, tree care, establishment and maintenance
- what about a "field day" for interested members or the community to see what's happening in their area. (Also good from the point of view of friends and neighbours.)
- decorate a living tree
- locate any historic tree in the area and erect an information sign
- have an organised bush walk to identify trees and plants.

AND SO ON AND SO ON AND SO ON.

Nannup has already organised their Arbor Day (see appendix).

What are you planning?

And to finish off W.A. Week -

SATURDAY JUNE 11

Organise a cricket match, a tennis game or a game of volleyball.



SUNDAY JUNE 12



*Take time out to pause, reflect and be aware.
Share a meal, or some drinks with friends.*

1983 → GO TO IT

DINKUM DUNNIES

Bouquets to Jarrahdale division for their excellent work in constructing two dinkum dunnies at the Lesley picnic site on the Brookton Highway. Denise Allen had originally proposed development together with the upgrading of the general picnic area and nature walk. Dunny details were drawn up by Extensions Branch who admitted at the time that they had little expertise in the design of 'little houses'. These were then given to Fred Wheatley at Jarrahdale who made a number of practical adjustments and subsequently supervised their construction. We strongly advise that all our readers check out these unobtrusive and functionally aesthetic long drops when next passing along the Brookton Highway. For those of you contemplating dunny construction contact Fred Wheatley, the best dinkum dunny builder in the West!



Department of CONSERVATION and ENVIRONMENT

ENVIRONMENTAL FILMS

The following films (16mm) are available for loan free of charge.

"STROMATOLITES" (8 minutes)

Stromatolites in the Shark Bay region are rocks created by mats of blue-green algae in a process common at the beginning of the world's history but now almost extinct.

"TOMATO LAKE" (8 minutes)

A community effort inspired by the W.A. Naturalists' Club to rid a fauna reserve of an imported noxious weed.

"TREAD LIGHTLY ON OUR LAND" (24 minutes)

A general cover of the Western Australian environment contrasting the minor pressures of the original aboriginal inhabitants with those of the twentieth century man. It shows some of the environmental problems we have created for ourselves and the work of the Environmental Protection Authority and other bodies in facing these problems.

"FOCUS ON AN ESTUARY" (28 minutes)

A description of an inter-disciplinary study carried out on the Hardy Inlet, estuary of one of the State's largest rivers. The aim of the study was to determine the likely effects of ilmentite mining on the ecology of the estuary and the social consequences to the local inhabitants who at present, enjoy one of the most beautiful undeveloped areas in the South-West of Western Australia.

"THE GREAT COASTAL DUNE SHOW" (10 minutes)

A humorous look at the threats to beach dunes through the eyes of a fictitious, commercial T.V. station.

"GROWING WITH CARE" (25 minutes)

Produced by the Mt. Newman Mining Co., this film looks at the environmental studies which surround their mining operations.

"JAPAN - A LESSON TO US ALL" (50 minutes)

An ABC "Face Australia" report on the industrialisation of Japan and some of the problems created.

"COASTAL PEOPLE" (10 minutes)

A "Committee for the Understanding of the Environment" (CUE) film. A description of the elements involved in proposed Coastal Management in Western Australia.

"SYSTEM 6 - THE FRAGILE NEST" (51 minutes)

A review of the major environmental problems of the System 6 area including the threats to our water supplies from bauxite mining and jarrah dieback disease, the effects of industrial pollution and our diminishing wildlife heritage. The film also looks at the research being carried out to solve these problems.

"COCKBURN SOUND - A PLACE FOR PEOPLE" (30 minutes)

A CUE film. It illustrates some of the environmental problems of the Sound and aspects of the present study being carried out with a view to providing a management plan for its continued multiple use.

"ON THE EDGE OF THE FOREST" (30 minutes)

The last film made by the world renowned economist, broadcaster, lecturer and author of "Small is Beautiful". Filmed in the unique Jarrah and Karri forests of Western Australia in July 1977. Schumacher at his most thoughtful on forests, fuel, mankind and all Earth's resources.

"MAKING TRACKS" (10 minutes)

This film aims to encourage all users of recreational vehicles to adopt a responsible attitude towards the natural environment and its use and enjoyment for others. The principal character is "Terry Tyre", an animated cartoon symbol of recreation vehicles. The film follows "Terry Tyre" as he goes for a ride beginning in the city and ending lost in the bush. As he goes along the film points out the damage Terry does to the environment.

"ST BARBE OF THE TREES" (16 minutes)

Richard St Barbe Barker is the man who founded the international movement "Men of the Trees" in 1922. This film moves from an appreciation of the many life-giving qualities of trees to an awareness of the threat from disease and over-felling and concludes on a positive note urging us to plant for our lives.

"WHAT AM I BID FOR THE TREE?" (11 minutes)

A highly original and delightful piece in which a cantankerous old auctioneer uses every approach he can think of to interest his clients in the tree.

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.

TOWARDS A BALANCED POINT OF VIEW 16 minutes Colour 1982

Using quarrying in the Adelaide hills as a case study in land use conflicts, the film works towards a balance between environmental costs, economic costs and the costs to the people living within that environment. A direct parallel to Perth and the Darling Ranges.

THEME	LOCATION	ACTIVITIES	DURATION
Forestry in Action	Local School	<p><u>Nursery</u>: Pine lifting and other nursery Operations</p> <p><u>Sunklands</u>: Pine planting</p> <p><u>Division</u>: Logging operations</p> <p><u>Willow Springs of Town Arboretum</u>: Simple dendrology exercise</p> <p><u>School</u>: Seedling germination and tree planting</p>	Week prior to, and including Arbor Day
Trees on Farms	Shire Office	Display on the use of trees as shelterbelts on farms. The display will be advertised, and will be manned at various times during the week to answer enquires.	Week prior to Arbor Day
Pines and the Blackwood	Lewana Park	Discussion on the history of pines in the Blackwood Valley and the various operations will presently take place in the Valley. Also a look at the activities which can be under taken around Lewana Park. Tree planting at the Settlement.	Arbor Day

Officers Responsible: Various officers will be given a particular class or activity which will be his responsibility for the week.

Liaison: With the School, Shire and DYSR will be essential in the period leading up to Arbor Day.