

July, 1976

THE GRANITE BELT NATURALIST  
MONTHLY NEWSLETTER  
OF  
THE STANTHORPE FIELD NATURALIST CLUB P.O. Box 154,  
Stanthorpe, Q, 4380.

OFFICERS & COMMITTEE 1975/1976

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	Mr. Maurice Passmore
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Geology Officer	Mr. M. Passmore
Youth Officer	Mr. John Stevenson
Bushwalking Officer	Mr. R. McCosker
Committee Members	Mrs. Jean Harslett
	Mr. Errol Walker

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ACTIVITIES

MEETINGS -- 4th Wednesday of each Month in the C.W.A. Rooms at 8 p.m.

OUTING S -- Each Sunday preceeding the 4th Wednesday.

ANNUAL SUBSCRIPTIONS

Single - \$1.50

Family \$2.00

PROGRAMME

FIELD OUTINGS -- JULY

CAMPOUT -- Date -- July 24th & 25th, 1976. Place -- Lake Broadwater, Dalby.

Cars will travel independently from Stanthorpe district to Dalby where we will meet on the Western side of the bridge in Drayton St. to be ready to move on to Lake Broadwater at 10.30 a.m. Those arriving after this time are to proceed to Lake Broadwater as per map on the last page of this newsletter.

NEXT MEETING --

Date -- July 28th, 1976 In the C.W.A. Rooms at 8 p.m. ANNUAL & GENERAL MEETING

AFTER MEETING PROGRAMME -- \*\*REMEMBER LAST YEAR\*\*

Slides by members to be shown by R. McCosker.

Don't forget to hand your slides in to Robin or the Secretary Joan a week before the meeting if possible.

Supper will be served at the conclusion of the evening and members are asked to bring a "plate".



July, 1976.

GENERAL MEETING MINUTES

June 23, 1976.

Present 20.

Apologies 8.

The President extended a welcome to all present.

Minutes - The adoption that the minutes as published in the magazine be accepted was moved by W. McCosker and seconded by M. Passmore. CARRIED.

Corresp.- Inward correspondence was received from Dept. Parks & Wildlife re new parks at Cairns, Innisfail and Sarina, a welcome to Herbie Possum as Dept. Symbol. Magazines from Warwick Waker Vol. 3 No. 11, Q.N.C. Vols 85 & 86. Outward was forwarded to QOS & Monthly returns to Adult Education Tmba. Moved by F. Wilkinson and Seconded by Mrs. M. Marsden. CARRIED.

Financial- Mrs. D. Archer moved that credit balance of \$36.25 be received and that Account to Rover Scouts \$3.00; Postage \$13.35 be passed for payment. Seconded F. Wilkinson. CARRIED.

Outing - Outing to Rokeby was cancelled due to rain.

Next Outing - This will be to Lake Broadwater Dalby and will be a campout on July 24th & 25th. Cars will travel independently to Dalby where we will meet on Western side of the bridge in Drayton St. to be ready to move for Lake Broadwater at 10.30a.m. Those arriving after this time are to proceed to Lake Broadwater as per published map. This early start will allow time for setting up of the camp and to be ready for the activity planned for the afternoon. Indications are for a very interesting weekend. A request is being made that members all wear name tags.

Next meeting- This will be the Annual meeting as well as the general. Nominations for office bearers are to be handed in before the meeting.

Rest programme - "Remember Last Year" shown with members slides will be the feature and if desired slides may be left with Secretary beforehand. To finish the evening supper will be held and members are asked to bring a "plate".

Business - To show our appreciation to Mr. & Mrs. J. Bennie for their hospitality to us for the July Campout the meeting agreed that they be presented with one year's membership as honorary members. Moved by J. Stevenson and seconded by D. Archer. CARRIED.

-- There being no further business the meeting closed at 8.40p.m.

Speaker - Mr. M. Passmore provided us with a concise but very informative talk on the origins of some of today's creatures and in relation to the eras they were formed. Thank you, Maurice, we are waiting for more.

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BIRD VIEWING AT CUNNINGHAM GAP by Milly Marsden.

We were fortunate to be able to camp recently at the Cunningham Gap National Park in company with ardent bird watchers. We walked along the bank of the small creek on the first afternoon and the following day walked to the top of Mount Mitchell. We, unfortunately, were not able to join in the Club's outing to this area and even now we do not know what the view is like from the top. After the long hike up, we arrived to find fog around the top area and by the time the summit was reached, it was really pouring with rain. We will see the view from the top at some future time.



Bird viewing at Cunninghams Gap continued --

I'm sure, but our day was one of continual joy. We saw so many beautiful and interesting things during our walk and the birds, on both days, were a delight to ear and eye. We had the following identified and we were really amazed at the number.

Pied currawong	Noisy Miner	Whip Bird
Black Backed Magpie	Bell Miner	Spotted Pardalote
Yellow Tailed Black Cuckatoo	Crested Pidgeon	Wedge Tail Eagle
Sulphur Crested Cuckatoo	Whit checked Honey Eater	Yellow Tailed Scrub Wren
Scaly Breasted Lorikeet	Black Duck	Wee Bill
Cresmon Breasted Rosella	Rainbow Lorikeet	Satin Bower Bird
White Naped Honeyeater	Variegated Wren	White Throated Tree Creeper
Kookaburra	Little Lorikeet	White Browed Scrub Wren
Mud Lark Pee Wee	Lewin Honeyeater	Green Shirk Thrush
Spur Winged Plover	Grey Fantail	Red Browed Finch
Red Wattle Bird	Golden Whistler	Yellow Robin
Welcome Swallow.	Pallid Cuckoo	Spring Checked Honeyeater

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FOSSILS

Talk given by Maurice Passmore at our last meeting.

Fossils represent the preserved remnants of former life and are only to be found in sedimentary rock. The chance of this happening for any one individual is obviously small, but it also varies with the environment. Land dwellers obviously have a much slimmer chance of being preserved than those living in the sea, but can usually be found from a swamp environment. In the sea, floor dwellers must have a better chance than those that swim, & micro-organisms are easier to preserve than large animals.

When we consider all these factors we can see that what remains is only a small sample of the world as it was in those times, and we must utilise knowledge of our present environment to build up anything like a true picture. If one reflects upon the number of different species of plants and animals that are on earth today, and then multiply that by 600-million years of the fossil record, the problem of reconstructing the past assumes gigantic proportions. No wonder there are arguments over interpretation!

The attempt to sort out the underlying order of this mass of information produced the first arguments between science and religion. Nevertheless if we are to understand anything about palaeontology some explanation of these principles is essential.

The first is THE PRINCIPLE OF SUPPOSITION, which states that in any undeformed sequence of rocks, each bed is younger than the one below, and older than that above. This may appear obvious but it involves the assumption that these layers were not deposited simultaneously, which leads us to the PRINCIPLE OF UNIFORMITARIANISM. This is the theory that the earth has developed by uniform and gradual process, and it was this that was violently opposed by many theologians who supported the idea of catastrophe and creation.

The central theme of Uniformitarianism, as proposed by Hutton and so ably defended by Lyell, can be summed up thus:

Amid all the revolutions of the globe the economy of Nature has been uniform, and her laws are the only things that have resisted the general movement. The rivers, and the rocks, the seas and the continents, have changed in all their parts, but the laws which direct those changes, and the rules to which they are subject, have remained invariably the same.

Another keystone is the PRINCIPLE OF FAUNAL SUCCESSION asserting that groups of plants and animals succeed each other in a definite and determined order, so that



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Maurice's article on "Fossils" continues --

any period of time can be recognised by its respective fossils. It also assumes that if an animal becomes extinct it will have disappeared for ever.

Applying these principles we can start to sort the information and set up some sort of sequence. Originally, there being no means of determining the absolute age of the rocks geologists set up their own time scale, based upon fossil evidence. The first very noticeable feature is the presence of three very distinct changes which form the basis of the eras. These have puzzled geologists ever since, and have yet to be wholly explained.

The Eras are then divided into Periods, which are the fundamental units of the geological time scale, and I am sure you have all encountered it by this. Of course modern technology has greatly refined this but the original time scale remains. The most obvious thing about it is the difference in the absolute time each period represents, but as men like Lyell did not even know of the existence of the atom when the scale was envisaged, this is understandable.

The Periods are further subdivided into EPOCHS, and these are more commonly used for recent times, where the knowledge is naturally greatest.

Now let us consider the major breaks in more detail. The most significant of these is that between the Cambrian and the Pre-Cambrian, when virtually no fossils were deposited. When we consider the sophistication of the Cambrian fossils (such as the Trilobites which had eyes and legs,) then life must have evolved over a very long period prior to these fossils being preserved. Why weren't fossils preserved during the earlier Pre-Cambrian? The key probably lies in the field of astronomy. The earth's composition is similar to that of the inner planets. (The outer planets are quite different, Jupiter, for instance, is virtually solid hydrogen.) However, the earth differs markedly in one aspect, and that is in the large volume of oxygen present in its atmosphere. This oxygen has most probably been released by Photosynthetic Plants and its volume would thus have increased as the plant population expanded. The significance of this build-up lies in the fact that before Calcium can be utilised to produce shell, a considerable percentage of free oxygen must be present. Thus it appears that this critical volume was reached in the lower Cambrian, which, in turn, allowed animals to produce hard preservable shells of aragonite (not Calcite which is the inorganic form of calcium carbonate.)

The commonest early forms of life in the Cambrian were the trilobites and graptolites (of which there is no comparable living equivalent). They were apparently surface dwellers of the Continental Shelf seas, and their disappearance appears to be coupled to the appearance of the first fish. It is thus presumed that the fish wiped them out.

Other forms of life that appeared and developed in the sea during the Paleozoic are the first shell fish, both Brachiopods and Bivalves, and corals and amphibians. On land the mosses, ferns, and scale trees grew in profusion, and formed the basis of most of the world's coal.

However, by the end of the Permian most of these ferns had disappeared, particularly those inhabiting the sea. Only a few species survived, but they represent the base from which Mesozoic life evolved.

One explanation of this disaster is to be found in Continental Drift as at this stage the northern and southern landmasses joined, thus destroying the very extensive Tethys Sea where most of this life was evident. The fact remains, however, that we really do not know, except that the continents were generally well above sea level.

The early Mesozoic or Triassic, naturally had a paucity of life, but by the late Cretaceous life abounded. The best known are the dinosaurs, but there are many others,



notably the ammonites (of which the pearly nautilus is an example), crabs and crinoids in the sea, and the cycads and angiosperms on land. There were even some flowering plants in the later stages, and of course, there were the early birds.

Again, for some reason, these land forms were wiped out, and again possibly continental drift is the explanation, but we cannot be sure.

The tertiary period which followed saw the rise of modern species, which climaxed in the appearance of man.

Having covered some 600-million years in a few minutes, I think I should be more specific about some groups. Firstly let's look at the species which occupy one of the most difficult niches available, namely the estuary mud. In such an environment a species has to cope with constantly changing salinity. The most obvious of these are the mangroves, which are highly specialised and have thus evolved about as far as any form of plant life. They have a highly specialised salt excretion mechanism, specialised openings to allow roots to breathe, and have developed truly incredible osmotic pressures which act as the water pump. Yet in contrast to these plants we find *Lingula*, the shellfish which has occupied the same site since the lower Cambrian. It is the oldest of all living fossils by far, is extremely simple in its anatomy, and one can only marvel at its durability.

Of all the fossils, however, the best known are the Dinosaurs and I am sure you will have seen drawings, or read about the *Diplodocus*, probably the largest animal the earth has seen. The Dinosaurs are generally considered to have been reptiles, and fall into two main groups, the Saurischians and the Ornithischians. The carnivorous types belong to the Saurischians, but the gigantic herbivorous types, such as the *Diplodocus*, belong to the Ornithischians. Most walked on their hind legs, and must have somewhat resembled goanas. However, the larger ones used all four legs, while the very largest needed support from water to control their great weight.

It is the carnivorous which fill the imagination. Just think of that 30-ft. *Tyrannosaurus Rex* chasing you through the jungle. It is the stuff nightmares are made of no doubt.

The Ornithischians were herbivores, and they contained the odd ones, such as the duck-faced types, and those with the great armoured heads with appropriate spikes etc. and some adapted to the sea, from whence they had evolved.

Modern research into this group has rather radically altered our notions about these animals, and it may be desirable to alter our classification.

The general assumption has been that all Dinosaurs were reptiles, and therefore could not maintain their body temperature at a constant level, the so-called cold blooded animals. The ability to so maintain a constant body temperature is a characteristic of all mammals, and it is generally considered that this has allowed them to dominate the world as we know it today. Predators that maintain their agility make short work of sluggish prey in cold weather, and conversely sluggish predators, such as the crocodile, cannot function outside the tropics.

However, dinosaurs did dominate their world in competition with early mammals in the whole range of climatic conditions. Their bone structure and the very important ratio of predator to prey also suggests that the more highly evolved species were indeed warm blooded animals. Some also developed fur and feathers so as to maintain their body heat. All this suggests that the group should be re-classified on the basis of this very fundamental difference.

The group known commonly as the *Finbacks* were particularly successful in the late Mesozoic and there were some very interesting members. One notable one is *Archaeopteryx*, the first bird. Fossil evidence along these lines leads to the possible conclusion that



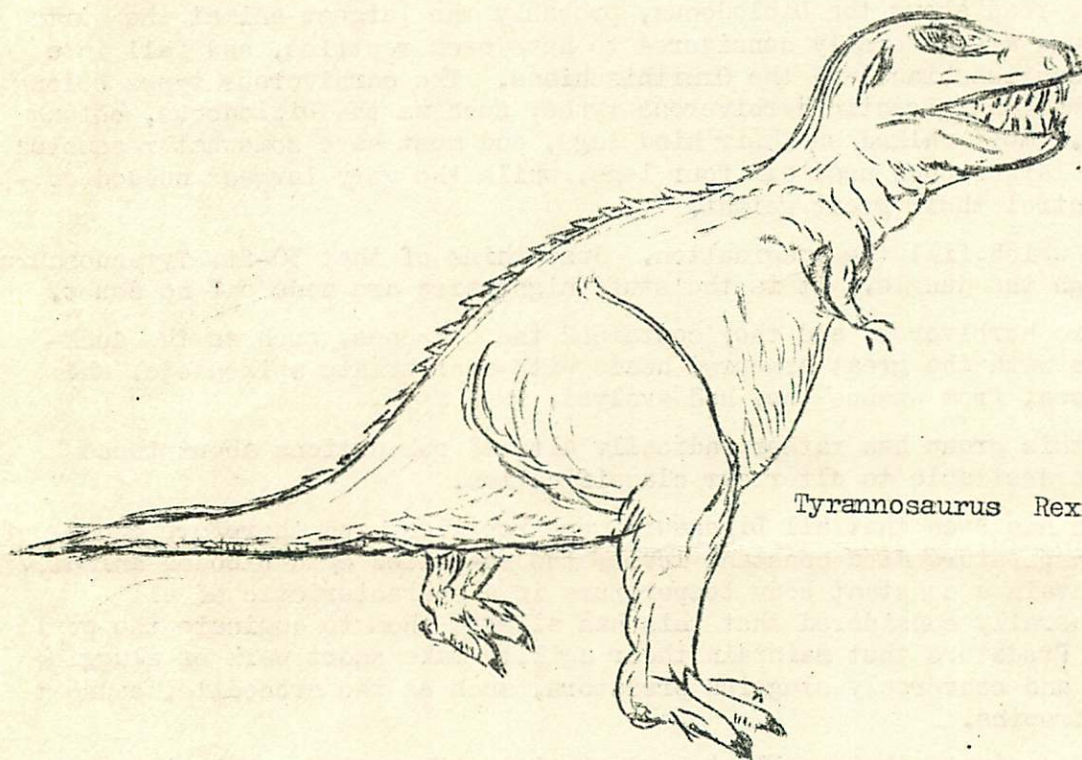
Maurice's article on "Fossils" continues -

in fact these well known monsters were in fact the predecessors of the birds. In fact it does seem rather strange that such a dominant and wide spread group should have left virtually no trace, whereas the highly successful birds would seem fitting survivors. You never know you perhaps could be feeding a friendly *Petrodactyl*.

Finally, I thought we might consider our own ancestors. One problem is that people keep finding new evidence, just as conclusions have been reached about the last major find. Leaky's major discoveries in East Africa, Olduvai Gorge, Tanganyika, have completely changed the picture, and it has become obvious that man and the apes represent two different evolutionary lines. Man was around prior to many of these animals, but as they have many features in common it does suggest a common ancestor. The Leaky finds suggested such a link until another find in Ethiopia, that predates Leaky's fossils, opened another field of speculation.

When studying these remains two factors that distinguish man are of major importance. Firstly the size of the brain, especially of the frontal area, and secondly the ability to rotate the thumb as to oppose the forefinger. What we know is that the Apes and Man probably had a common ancestor, and that *Homo erectus* co-existed with modern man, *Homo sapiens*, for much longer than was at first supposed, and was to be found in Australia as little as 30,000 years ago.

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Tyrannosaurus Rex

Damper Ritual continues - (from Page 7)

The smell was divine and the flavour delicious but was it beginners luck? I sincerely hope not as I had enjoyed the ritual of the damper making and will have another "go" as soon as weekend weather permits.

(Thank you "Just a Camper" for this Ritual - any one going to the Campout willing to "Ave a go" ??????????)



The Damper Making Ritual

given to me by "Just a Camper" - (Maybe some of you would like to try this out on our Campout!!!)

While camping recently with old and new friends, I expressed the desire to become proficient in the art of making dampers in the camp oven. I was totally unprepared for the list of essentials for damper making, which read as follows:- One long handled shovel, one knife (dampers must only be mixed by knife) one camp oven, one good fire maker, one fire, one lid lifter, one skewer, one recipe, damper ingredients, one (or more) time keepers, one fresh clean teatowel. As all these things were assembled I was invited to "have a go" and as this was said in the same tone as "Ave a go, yer mug", I decided perhaps I had better "have a go."

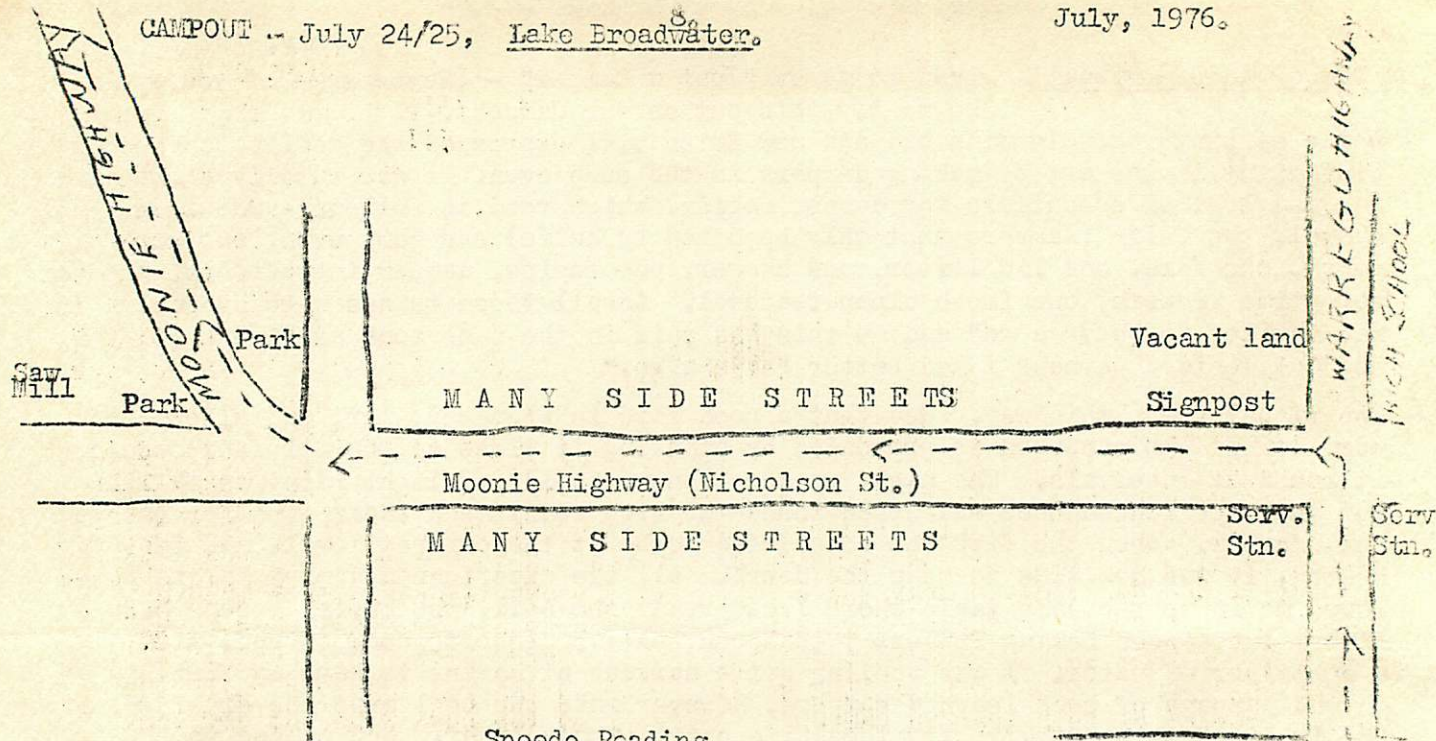
The ritual goes this way. See that a good fire is prepared, lit, and allowed to burn down. The campoven is preheated by standing it close to the fire and turning it round at intervals. The night in question was cold and light rain was falling but the experienced ones all stood round the fire and issued their tips for the perfect damper. When the fire was considered to be at the correct level, and the oven heated, it was now time to make the dough. All the experienced damper makers followed me in to the camp table where I had ready the bowl, the knife, 3 cups S.R. Flour, 1 teaspoon Baking Powder, 1 teaspoon salt, 3 dessertspoons of pwd. milk and a container of water. I was feeling quite nervous at having to have my first "go" in the company of such learned campers, however into the bowl went the dry ingredients and I sliced this briskly with the knife until it was light. Now to see to the oven. Firstly the fire had to be hollowed out to a ring of red coals (so this is what the long handled shovel was needed for - I had visions of using it to mix the dough) Then the heated oven was sprinkled inside with plain flour, the lid replaced and the oven placed inside the ring of coals. Left for a few minutes and checked, the lid was lifted and, as the flour was just turning a light amber, it was deemed to be at just the right temperature for the cooking process. Back to the table, followed by all the experienced ones, lighten the flour etc. with a few skillful slices with the knife, then add water until a light stable dough is attained. Back to the oven bowl in hand (complete with followers), lift lid, place dough in oven, replace lid say a quick prayer. With long handled shovel put red coals on top of lid, step back confidently, feeling anything but confident. All watches have been wynchronized and it is determined that the oven must not be touched for ten minutes. Ten minutes is a very long time while one stands waiting to view one's first effort at making a damper, expecially with all those experienced eyes looking on. At last 10 minutes is up and I eye those red coals, which have turned to ash in these ten long minutes, get as many off as possible with the aid of the longhandled shovel (yes it is a most essential piece of equipment) lift the lid cautiously with lid lifter, doesn't matter a bit if a bit of ash falls on the damper. Glory be! it looks as if it will really be a damper, it is the right shape and is a golden colour. Perhaps the oven is a trifle hot on one side so give the oven a half turn, replace lid, add coals again the faithful shovel is used. Decision has been made that it should be cooked within 8 to 10 minutes. At the end of 8 long minutes look again at the damper. It looks about ready so knock on top. "Anybody home?" If a hollow sound issues forth it should be cooked, so gingerly lift one side of damper to see if the bottom is cooked, then insert the skewer into damper, if it comes out clean, it should be cooked. With all the aplomb of an experienced damper maker, I elected to leave the damper in the oven for another two minutes. All the experienced ones nodded their heads in agreement, so back into the circle with the oven. I got a fresh clean teatowel, at the ready and at the end of the two minutes the camp oven was lifted from the fire, the lid lifted and my eager hands, swathed in the fresh clean teatowel, received the golden brown damper. It really was a beauty, the bottom was golden and crusty and the top just right. As the steam issued forth from the wrapped damper on this cold wet night, I received congratulations on my first damper.

(continued on page 6 at the bottom)



CAMPOUT - July 24/25, Lake Broadwater.

July, 1976.



Speedo Reading  
Miles

LIGHTS TO L.H. TURN into Nicholson St.	.4
To veer right	1.2
To Broadwater turnoff	11.9
To Lakeview Gate	18.4 Total mileage.

Route - - - - -

TURNOFF TO BROADWATER  
IS TO LEFT AND WELL SIGNPOSTED.

(Mr. & Mrs. Binnie our hosts have planned an interesting weekend and I'm sure all who go to the campout will have a very enjoyable time. There is a hut to sleep in if you don't want to take tents etc. as was mentioned in the Campout Write up in the June Magazine. A Barbeque will be set up outside on which most cooking can be done, and Jack and May are providing their H.W. system.

Saturday Afternoon a pleasant walk and look at plants & Wattle and Jack & May will be giving us a slide show on the Saturday Night. Sundays program will include seeing a small area of "Duntroon" which is just a little way up the road from the campsite and will please the "Botanically minded" and later a walk into the Lake from the Ridge and back along its edge which our "Bird Watchers" will find a real pleasure.

Cars will travel independently from Stanthorpe and meet on the WESTERN side of the Bridge in Drayton St. to be ready to move on at 10.30 a.m. to Lake Broadwater and our Camp Site.

From Toowoomba - - -

BRIDGE