

Imagine Mike Munro walking into Abracurrie on our next trip to the Nullarbor and uttering these words -

“Lloyd Robinson, This is your Life!”

Well, permission has been granted by Peter Ackroyd and Lloyd Robinson (as co-authors) to reproduce this article in the ISS Newsletter from VSA's 'NARGUN' Vol. 22 no.10 . A few paragraphs by Dave Dicker fill a couple of holes within the article that provide a story to match any of those Australians who have appeared on “This is your Life”.

Enjoy reading and being mesmerised by Lloyd's adventures and in caving.



Lloyd scanning the karst in the Northern Territory – taken by Pru Wellington from New Zealand

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Forward by Peter Ackroyd

Like you, I am impressed with Lloyd's exploits and would encourage modern cavers to learn more about the achievements of our caving pioneers. This was my intention when I first asked Lloyd to give the talk to VSA in September 1989 and I taped it (with Lloyd's permission of course) for later editing and publication in Nargun.

Summary of a talk presented to the Victorian Speleological Association by ASF President, Lloyd Robinson on 6th September 1989

Some Post War memories of Caving and Expeditioning in Australia

by Peter Ackroyd and Lloyd Robinson

Introduction

Lloyd Robinson was born in Alstonville, northern NSW, in late 1927, son of a dairy farmer who had been in trench warfare and gas attacks in WW1. In December 1936, Lloyd's father, advised by doctors to move to a cooler climate, bought a general store at Marulan near Goulburn, NSW.

Growing up in the country meant that Lloyd learnt to shoot, ride, swim and generally make the bush his home. The nearby Bungonia Caves to the south of Marulan provided Lloyd with his first caving experience - visiting *Grill Cave* [B-44] at about 12, using candles and a reel of cotton.

In December 1942, with World War 2 seemingly set to go on forever, the family moved to Wollongong, NSW. Lloyd, like most other youths, looked forward to the day that he turned 18 and could join up. Lloyd's father, however, knowing the horrors of war, took him to Mt Keira Colliery for an interview and subsequent apprenticeship. Coal mining was classified as an essential service and no coal miner was permitted to join the

armed forces. Whether Lloyd's father planned this or not became irrelevant - the war ended just before Lloyd's 18th Birthday.

Early influences

Entering the Wollongong workforce from "outside" was not easy. Union pressures were strong and the region had suffered many serious underground methane explosions resulting in much loss of life, causing the workers to close ranks. Consequently, Lloyd and his brother visited their old friends at Marulan, taking their bicycles to Moss Vale on the train, then, riding to Marulan. It was not uncommon for trips to be made to Bungonia Caves by bicycle from Marulan.

At the end of the war an ex-commando returned to his old job at Mt Keira Colliery. He had been a member of the 2/2 Commandoes, Sparrow Force, which had fought behind Japanese lines for two years in East Timor. The commando's tales of the extensive caves in East Timor, used to the Australian's advantage in their guerrilla campaign against the Japanese, appealed to the colliery apprentices greatly. However with restricted transport, low wages, few holidays and school three nights a week, there was little that could be done to take the interest further except for occasional trips to tourist caves. Nevertheless, the seeds of an explorer of caves in far off places were sown, to await germination.

The first trips

The chance came in the late 1940s when hard earned wages were spent on motorbikes. Petrol rationing would remain in force until almost 1950 but, despite this, trips ranged far a field to caving areas known only from sketch maps produced by Paddy Pallin (Colong, Tuglow) or, in one case, from an old Shell road map (*Big Hole*).

Information was very scarce! Some cave locations, taken for granted today, had become 'lost'. The massive disruption caused by the population shifts during the depression, then the loss of many thousands of young country people during the Second World War, meant that oral histories had become disjointed, or lost altogether. Sydney's Mitchell Library was in disarray and the lifting of the wartime controls was slow, resulting in much of the information needed to relocate caves and air photos we know today simply did not exist in the late 1940's and early 1950s.

So with increased mobility, a yearning to explore caves but limited knowledge of locations, an early aim became the bottoming of the 150 feet first pitch in *Drum Cave*, Bungonia. Everything had to be able to be carried on motorbikes. Moreover, petrol rationing forced the apprentices to supplement their fuel with paraffin oil and kerosene. These fuels were not effective until the machine was warmed up on petrol, and even then, only when travelling at more than 50 miles an hour (80 kmph). The use of such fuels also caused early reboring of the motor.

No-one in Australia made lightweight ladders that could be transported easily by motor bike, so a letter was sent to France to enquire about the manufacture of 'electron' ladders. When the plans came, the light 3mm wire and half metre spacings of the rungs were viewed with alarm by the Colliery's rope splicers - "only fit for clothesline!". They convinced the budding cavers to use 3/16 (5mm) galvanised wire and rung spacings of 15 inches (380mm), later reduced to 12 inches (300mm). Rungs were cut from 'Durallium' - warplane aluminium tubing. Two ladders of 55 feet each were constructed. These did not reach [the bottom of Drum], so further lengths, of a more manageable 30 feet were constructed. When the cave was finally bottomed, it was a disappointment - it didn't go.

The neophyte cavers formed a loose group called the Wollongong Speleological Society to give them some standing when approaching landowners, and to help in dealing with the police. Travelling groups of young men were not common then, and were viewed with suspicion by the local gendarmes.

Using Paddy Pallin's maps, a party of six canoed the Wollondilly River in the early 1950s (before the construction of the Warragamba Dam), stopping to trek overland to the Colong Caves - the best wild caves they'd yet seen.

The Big Hole [15P-2]

After the ending of petrol rationing in 1950, the small group, ranged further afield, often only two people, on

one bike. Information was still scarce and many times they would follow up farmer's glowing reports of huge caves only to find a shallow depression or a sandstone overhang.

The Big Hole is a classic case of a major feature 'lost' to the then present generation. It was first noted because it appeared on a Shell road map belonging to one of the group. Enquiries to Shell's mapping section drew a blank – they simply put it there on older maps because there was an empty region on the map at that point. No road led to it and they had no information about it. Some enquires the group made at Braidwood mainly regarding access to the Shoalhaven River for a canoe trip to Nowra, did turn up one clue. A few farmers confirmed that a substantial hole was reported to exist somewhere to the South.

Later on in 1954, with a few holidays to spare, Lloyd accompanied by the late Russell Badans made a reconnaissance trip south of Braidwood in search of the elusive hole. They called in at each farmhouse beyond the Ballalaba Bridge. One lady, in response to their enquiry, said that, if her son had returned from the War, he could have taken them straight to the Big Hole a poignant reminder of the loss of life in the War. At Krawaree they were told to try 82 year-old Mr Hindmarsh, just the other side of the Shoalhaven River. Mr Hindmarsh lived alone in his small house still able to look after himself, and keen to take the boys to the *Hole* if he'd been younger. However, he was able to give a fair bit of detail about the *Big Hole*.

Originally, about 1880, the hole had been smaller at the top, the sides undercut and it had a small stream flowing across the bottom. As a boy he [Mr Hindmarsh] had watched his father and others cut trees from around the rim so they could watch them crash and splinter to the bottom. After all the trees had been felled in this way the sides began crumbling and the edges migrated back to the next line of trees. The rubble piled at the bottom and covered the stream up. The Big Hole had been descended in his day by using a miner's windlass and a bucket made of a 44 gallon drum. Getting people in and out safely at the top was difficult - some people yelled to be hauled back up as soon as they started to descend. Once, the Big Hole was used as a prop for a mining swindle. Prospective investors were shown the hole and even lowered down it if they wished.

Mr Hindmarsh did not believe that anyone had been down the hole after the turn of the century and that there was now little interest in it. He reckoned it to be 300 feet deep. He pointed out where the whole was from his verandah, gave them some rough directions then left the two young explorers to it.

Lloyd and Russell took their bike as far as they could to a campsite then set out to cover the hill shown to them on foot. They criss-crossed the side of the hill Mr Hindmarsh had told them to go, but to no avail. Eventually, tired and disgruntled they went to the top of the hill to take a photo - using the still hard to come by Kodachrome colour film. Upon taking the photo the pair headed down to the campsite in the twilight and almost fell down a enormous hole. It would have been easy to walk straight into it. The next morning they took photos of the Big Hole and headed back to Wollongong. During a later visit a partial descent was made to enable the depth to be accurately plumbed so that the correct length of ladder could be manufactured. The Big Hole was then descended.

The major expeditions

The three Potts brothers and the two Robinson brothers were the main driving force in the early 1950's. They went on long hikes, built their own canoes and canoed all the nearby rivers. In June 1955 Bob Potts and Lloyd went halves in a short wheelbase, softtop Landrover. They overhauled it with enthusiasm then in July 1955 set off in search of Lassiters Gold Reef – the long way.

First they went to Brisbane, then west to Roma where they first learnt about black soil plains. Upon arriving in Mt Isa, they realised that an increase in funds was necessary, so it was back to work in the mines for a month. During this stay, each weekend was spent at Camooweal Caves with the (now defunct) Mt Isa Speleological Club. Lloyd was impressed at the speed these lads could open up the caves at Camooweal using explosives, readily available from the mine.

From Mt Isa the pair travelled out to Ayers Rock, then beyond. The locals told them that they were the fifth vehicle ever out there. After some time in the desert, they returned to Adelaide, then home.

The next trip was to be via canoes that they had built themselves. They took the train to Albury, their canoes in the guard's van, then hired a truck to take them to just below the Hume Weir. They put into the Murray River in October 1955 in one of the highest river levels recorded and paddled downstream for almost three months. At one point, below Mildura, they found themselves 40 miles inland, according to the map. They

were feted at many of the major towns – no one had done anything like this before. They reached the ocean at Goolwa on 6th January 1956. They'd covered more than 1,400 miles. A Landrover needing an overhaul and no money meant it was back to work in 1956. In May 1956, Lloyd suffered a serious electrical burn which hospitalised him for several months and left him with a disabled right hand. Bob Potts got married. Activities declined somewhat during the year. After convalescing, Lloyd bought out Bob's share of the Landrover, overhauled it and in October 1957 set out for Western Australia with Bert Broadhead, a 'survivor' of the original group, both were foundation members of the Wollongong Speleological and Expeditionary Group.



The Western Australia Years

Between October 1957 and mid 1958 Lloyd was in Western Australia examining the caves of the Nullarbor, Jurien Bay and exploring *Augusta Jewel Cave*, *Easter Cave* and other major WA caves.

Augusta Jewel Cave [AU-13] is Western Australia's most famous cave and when Lloyd, accompanied by Cliff Spackman and Lex Bastian, explored it and realised its great significance they were in a quandary. How could it be protected? They consulted the late Bill Ellis who referred them to the local Member, Stewart Bovell, later Sir Stewart. They were advised to make a splash – newspaper coverage, special tours, letters to the Government, anything to ensure that its significance was recognized by the people in power.

The latter part of 1958 was spent back in Wollongong as a member of the Wollongong City Fire Brigade waiting for the granting of the contract for Cliff Spackman and Lloyd to prepare the *Augusta Jewel Cave* for tourism.

In December 1958 Lloyd returned to WA to start the development of *Jewel Cave* with Cliff Spackman. Lloyd, Cliff and Lex Bastian approached the status of celebrities because of their discovery, and for a few months Lloyd was a face recognized in the crowd. However this soon passed, but the lasting effect of the trio's actions was that the *Jewel Cave* was spared the degradation that the once fabulously decorated *Moondyne Cave* [AU-11] had suffered.

Ever on the lookout for new ways to discover caves, Lloyd became interested in the geologists' seismic surveys. These employed an explosive charge placed in a central location, and a grid pattern of geophones set out to pick up the 'reflections' from the blast. These signals could be interpreted to help locate ore bodies. While blasting the entrance to the *Jewel Cave* in 1959, Lloyd set out geophones and, with a simple set of earphones, learned to differentiate between solid limestone and known caverns. He then started setting the geophones in other areas and in this way the main caverns of *The Labyrinth* [AU- 16] were pinpointed.

Some months of searching were to pass however, before they stumbled onto the strongly draughting, but otherwise insignificant entrance to the mile long cave.

“ZUYTDORP”

Notes by Dave Dicker

Also in 1958, Lloyd was invited to take part in Phil Playford's expedition to identify and investigate the wreck of the Dutch East Indian "Zuytdorp", which was wrecked off the West Australian coast near Geraldton in 1712. Artefacts and other evidence collected before and during the 1958 expedition, pointed conclusively that the wreck was indeed that of the "Zuytdorp". Unfortunately, the rough seas did not permit the expedition divers to investigate the wreck site itself at the time. Lloyd's function on the expedition was to investigate any caves in the vicinity for survivor occupation, (it was evident that there were some survivors of the wreck) and well as looking after some resupply logistics.

Reference:

Playford, P The Wreck of the "Zuytdorp", 1958

Between 1960 and 1964, Lloyd spent 20% of his time in WA, and 80% in Wollongong, NSW. The time in Wollongong was spent in the search for Bendethera caves. These were [re]found by Lloyd and Jim Gould in October 1960. Initially walking in, then using a very rough council track, with grades reaching 42⁰ in places, the crew battled their land rovers up to the caves, the locations of which they'd discovered from "Limestone Deposits of NSW". The Bendethera efflux was irresistible and digging commenced straight away. Being miners, it was not too long before a petrol powered generator had been hauled up to the cave in pieces, then reassembled. The mining operation included the generator, drills, shoring, muck carts and plenty of bang. The dig was finally abandoned in 1972 with a strong stream still pouring out of a, by now, moderate cave.

(Dicker, 1979).

Wyanbene, helium balloons and aven photography

Always something of an inventor, and captivated by the towering 376 feet aven near the far end of *Wyanbene Cave* [WY-1], Lloyd lead a group of Illawarra Speleological Society cavers to explore it by remote methods. Using plastic sheathing as supplied to dry cleaners, a cylinder of helium gas dragged labouriously in through the 3000 feet of stream passage in Wyanbene Cave, and various bits of photography gear, Lloyd led several expeditions to this aven in the early 1970's.



Up to three balloon 'sausages' about 12 feet long each, were sent up with their payload of batteries, camera and flash unit on a very fine woven 0.15 mm thread. At first, a shutterless camera was sent up consisting of nothing more than a lens, a black painted Balsa wood box and a clip-on back to hold a single sheet of cut film. This apparatus was sent aloft, the flash fired by remote means and then retrieved in complete darkness – a tricky manoeuvre. Despite the cost in terms of weight, a new camera with a shutter was added, fitted with a solenoid to provide remote control. A series of successful flights were undertaken with the whole balloon

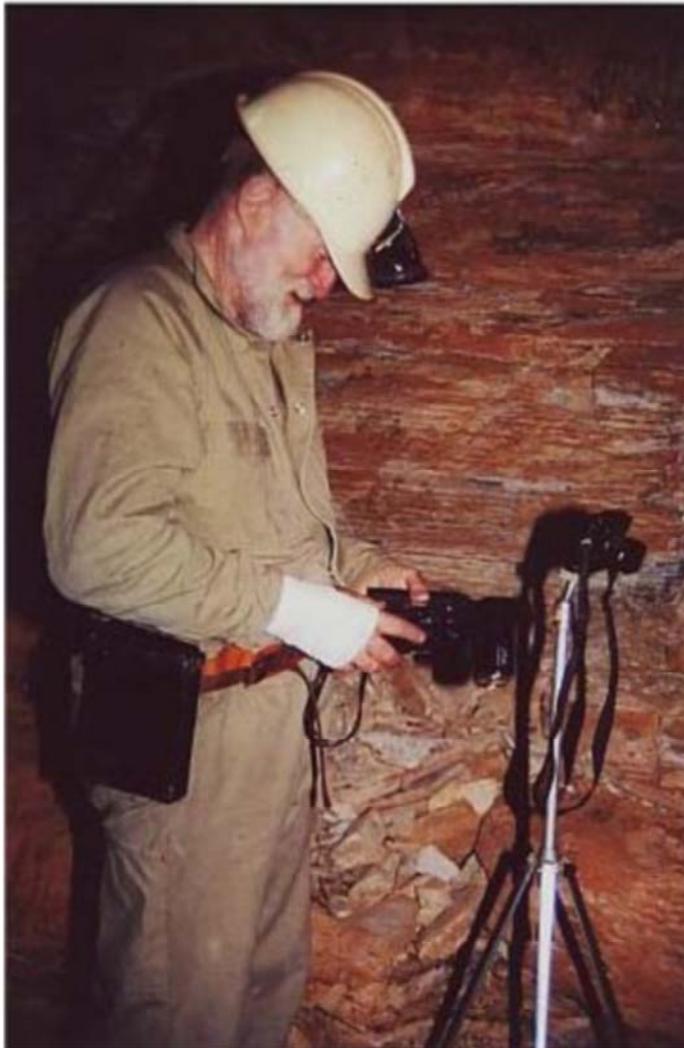
at one stage drifting completely out of sight somewhere near the top of the aven. Several photos, in black and white were taken, some aimed directly downwards, which illustrated the immense height of the Gunbarrel aven.

The Kimberley Ranges

Lloyd's first trip to the caves of the Kimberley Ranges, in WA, was in 1977. Lloyd, along with David Dicker, has now participated in seven expeditions to the Kimberleys spending most time on the surveying of *Mimbi Cave*. Lloyd's most recent visit (1989) to the 13.5km long *Mimbi Cave* [KL-5] was distressing. Lloyd found that the 'enlightened society' had been there, with their spray cans of paint.

Lloyd climbing an area in the Gregory Karst – taken by Pru Wellington from New Zealand

Photography



Lloyd setting up his new camera gear taken by Debbie Hunter of Tasmania

In the 1940s, 64 ASA film was the normal black and white film to use; 125 ASA black and white film was considered high speed. There were some faster but the quality was poor.

The only colour film was the hard to obtain Kodachrome with a film speed of 10 ASA. It was only available in 20 exposure rolls. In 1945 Lloyd was able to obtain a single roll of Kodachrome and it stayed in the camera for six months before it was exposed.

For cave and cavern photos the only lighting that could be considered for colour film was Phillips PF100 blue flash bulbs. These globes cost one quarter of a week's wage each and in the main, one had to go to Sydney to purchase them in small lots.

A cave shot, using the 'expensive' globe, involved some planning to avoid failure. Bungonia was the only place Lloyd could reach with petrol rationing so this is where all the early cave photos were taken. Saturday night was reserved for the one or two cave photos that would be taken on a weekend trip. It was not uncommon for a bulb to explode when fired – an expensive failure.

Lloyd's inventions

Apart from the aven photography equipment manufactured for *Wyanbene Cave*, Lloyd has been a prolific inventor. The 'sump snooper' was invented following his visit to the still pools of Camooweal caves. The device would submerge, go into a sump, be instructed to come up at intervals and, if in air, take a photo; if not, resubmerge, go further and try again, and then to return. Unfortunately, despite a huge effort to get it to the working stage, it was never used in a cave and the sump snooper still, as far as he is aware resides beneath his late parents' house in Wollongong.

Despite being invented by members of the Cave Exploration Group of South Australia, the Diprotodon is a device synonymous with the name of Lloyd Robinson. First invented by the eccentric caver, the late Captain J Maitland Thomson, refined and miniaturized by the late Alan Hill and then brought to the pinnacle of effectiveness and ease of operation by Lloyd, it was based on an essentially simple principle. Granulated magnesium burns with a white light of such intensity as to enable photographs to be taken of the largest of

underground caverns.

Captain Thomson's device was based on a cumbersome, manually pressurized portable fire extinguisher. Partially filled with magnesium powder, it was pumped up the valve opened and the resulting stream of magnesium directed over a carbide flame. It was smoky, hard to control and possibly dangerous but some fine photos of Nullarbor caves resulted from its use.

Alan Hill, of the Cave Exploration Group of South Australia had access to a large supply of finely divided magnesium powder possibly originating from the Woomera Project. The grains of this powder had a very low angle of repose – they flowed quite readily. A "Brasso" can fitted with an old style motor cycle petrol valve was fitted with the powder, the pressure was supplied by a large balloon blown up in the cave and a protective shield was placed around the nozzle. The air valve was opened, the can was inverted, the air took magnesium granules out to the nozzle where a carbide flame ignited the stream. More photos of the Nullarbor's largest chambers resulted.

Lloyd took Alan Hill's basic plans from the 1966 CEGSA occasional paper No 4 and added refinements to provide a fully controllable high intensity, even, white photographic light. To improve the 'pick-up' of magnesium by the airflow, an air relief valve was built into the base of the can to ensure a steady stream eliminating the 'fluter' experienced by earlier users which made their devices difficult for movie work (see footnote).

Lloyd's description of the operation is interesting.

"First lay out all the components; the Brasso can should be full of magnesium. Blow up a large balloon and slip it over the air intake nozzle with the airflow valve turned off. If using the largest orifice, giving the maximum flow rate, fit the extender tube then slip the 'reflector' over this. The reflector is not really for focussing the light, its purpose is to protect the operator. Mounted on the reflector (usually an old motor bike or car headlight reflector) is a wire wrapped element. This is the heating element and consists of both heavy gauge (1.8 mm) element wire and fine gauge (0.5 mm) element wire. The small diameter wire has to be replaced after every session. The distance this heating element is from the nozzle is fairly critical. It should be about an inch or two, but final adjustment is a matter of trial and error. Seven or eight weatherproof matches (the kind which are half match head, half stick) are clustered around the element in a holder provided. The operator puts on gloves and glasses or goggles, lifts the Diprotodon with the Brasso can upright and lights the weatherproof match cluster with a carbide light or another match. Once the matches begin to heat the element, the air valve is turned on and the Brasso can inverted so the magnesium flows into the mixing chamber and is picked up by the airflow. The Diprotodon will 'spit-spit-spit' for a second or two until enough heat is generated and suddenly the whole chamber is bathed in brilliant white light. One inexperienced operator has dropped the Diprotodon at this point—the event is so explosive. An experienced operator keeps calm opens the air relief valve on the base of the Brasso can (which is now uppermost) and a steady white light is generated for between 30 seconds and 3 minutes depending on the size of the choke orifice fitted. This is enough time to get proper light readings and good exposures of the chamber or features being photographed. The Diprotodon can be set down for up to 10 or 15 minutes after the initial run and still be hot enough to fire up straight away for the next photograph."

Footnote:

My Diprotodon is a copy of the late Alan Hill's version having seen his demonstrated at the Mirboo ASF Conference (1966). I reasoned that it would be less smoky if burnt at a higher temperature. To this end the following additions were made:

- a) improved mixing chamber
- b) modified element structure
- c) separation of fuel into large & small magnesium granules
(plus low grade rubbish used for open air demos).

I have also made up a number of choke sizes for fuel saving in smaller caves or with highspeed film. These modifications have made my unit burn hotter. The metal shield has to be rotated during a burn or the top section would melt, despite it being made of mild steel. Much later a modified air supply was added to eliminate the flutter in light output - to help with movie work. It also had the effect of maintaining consistent colour temperature for colour photography.LNR

In 1974 Lloyd was asked by the University of New South Wales Speleological Society to accompany them to *Kubla Khan Cave* [MC-I] in Tasmania so they could employ the Diprotodon to light the Khan Chamber (Xanadu) for a movie they were making. Lloyd advised them to have a trial run beforehand. However they did not heed his advice and as a result the film was incorrectly exposed. Fortunately Andrew Pavey of UNSWSS managed some well exposed still shots and UNSWSS were able to enlarge these, display them on a screen then pan their movie camera over them to obtain their "movie film". (An example of Lloyd's photo of the Khan can be seen on the cover of ASF Newsletter 64 – taken after the discovery of the Khan and Xanadu in 1966.)

Remote Location Site Camera

Notes by Dave Dicker

This project was the result of a chance comment made on one of the earlier Kimberley Expeditions. The culmination of the design effort came in 1991, when the camera unit was installed in Mimbi Cave. The unit operated over a period of two years without attention, giving satisfactory results. It was re-loaded and left for a further year. Unfortunately, the vandals visited the site and redirected the electronic flash, so no results were obtained on its third year. Astonishingly, on recovery, the unit still operated after spending three years in an unfriendly climate.

Although the design and building of the project was a team effort, Lloyd was always the driving force.

Reference:

ISS Newsletters Vol 3 Nos 6,7,8,9:

Vol 4 nos 1,2,4: Vol 5 no 1

This summary really only scratches the surface of the vast pool of knowledge and exploration history built up by people like Lloyd. Those who follow in their footsteps, able to make use of modern equipment and techniques can only marvel at what was achieved and urge Lloyd and his contemporaries to write it down before it is lost forever.

Reference

DICKER, David (Ed)(1979) Bendethera Edition *ISS Newsletter* 2 (2).

Recent Developments

by Dave Dicker

ASF:

Lloyd was the ASF Safety Officer from 1966 to 1976, an ASF Vice President from mid 1977 to end 1978 and the ASF President for 7 years from January 1986 until the January committee meeting in 1993. He is currently the Convenor of the Awards Commission and always attends the biennial conferences and committee meetings.

Caving

Since 1989, Lloyd has been active on four Kimberley Expeditions, many significant finds being made during this period. He has also made a further two low-key visits, mainly to resolve the access problem.

He has been active on three expeditions to the Nullarbor, and is preparing for a fourth visit in 2003.

He has been active on the CSS expeditions to the Gregory National Park, in the Northern Territory over the last six years. He has been instrumental in finding several new areas to survey, and also in joining up known caves. Dorothy has been active in provisioning and general logistics for these expeditions.

Lloyd has taken a lower profile as far as the local ISS trips are concerned. However, he has encouraged several members in the art of cave photography and is still enthusiastic in projects such as recording caves at Bendethera. In 1998, Lloyd and Dorothy were made life members of ISS.

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