

HUT NEWS

"Nature Conservation Saves for Tomorrow"



Groundwater series

In September Hut News, Rosemary Lathouris dealt with some reactions of 'the Public' to the domestic and commercial use of groundwater and asked for information on domestic water bores. Please continue sending this information.

October Hut News contains the first of a series of seven articles dealing with groundwater in the Blue Mountains.

The articles will contain some terms that may be unfamiliar to some readers. The first time a technical term appears, it will be italicised and its meaning will be clear from the text and/or the accompanying Figure. Because the articles are sequentially developed, it will be useful to keep them in case it becomes necessary to clarify a term or concept from an earlier article.

Blaxland waste facility update

by Brian Marshall, 21/9/04

On 31 August, BMCC decided to proceed with the developmental approval process for extending the Blaxland Resource and Waste Management Facility. Council concurrently endorsed an approach to Waste Services NSW as part of developing a comprehensive waste management plan with an increased focus on recycling and alternative waste technology (AWT).

The decision was strongly criticised by RATS (Residents Against The Super-tip) in the Blue Mountains Gazette (8 Sept, page 3). The essence of their criticism was that Council had deferred action until the remaining tip-life was too short to allow proper consideration of alternatives. RATS' accusation of procrastination is to some extent justified. Nevertheless, by deferring action Council has benefited from changing attitudes to waste disposal and improvements in AWT.

In August, BMCS told Council that the Society will develop a position on the Blaxland proposal when the EIS becomes available in late Sept (at the earliest). The Society concurrently advocated that Council adopt smaller rubbish bins, make the City of the Blue Mountains a plastic bag free region, pursue more efficient sorting and recycling of waste, and expand the kerb-side mulching program.

Katoomba landfill is expected to reach capacity in about four years. Council has assured us that there is no planned expansion beyond the current boundary of Katoomba tip. However, Council will shortly call tenders for an EIS related to building a waste transfer station on the site, once the landfill function is finished.

Because the Blaxland extension only offers a limited breathing space (about 15 years) and developing an AWT system has a protracted lead-time, Council was asked what is *currently* being done to identify and implement AWT.

Council replied that, apart from analysing the potential successes and known failures of AWT in Australia, it has commissioned a report on the various AWT systems in terms of their costs, benefits and potential application in the Blue Mountains. It will also inspect the new \$70M Waste Service AWT plant at Eastern Creek landfill, the enclosed composting systems in Port Macquarie and Melbourne, and the new \$60M 'bio-reactor' landfill at Woodlawn (near Goulburn). Council will be represented at the NSW waste conference where AWT systems will be a key topic.

Provided that the EIS satisfactorily addresses the questions asked about the Blaxland extension, it will probably be approved and implemented. Should this happen, Council must not waste the breathing space. Researching the parameters of AWT is necessary, but moving from research to the implementation stage is essential. The philosophy of *'Why face a problem today, if it can be put off till tomorrow?'* must not prevail.

Environmental education

At our monthly meeting at the Conservation Hut on Friday 29 October the topic for discussion will be environmental education.

Speakers will include Joe Banffy who is principal of Warrimoo Public School and a passionate advocate of environmental education. The incorporation of the environmental education program **Earthkeepers** into the school's curriculum has resulted in a greater awareness amongst pupils of how their actions impact on the environment.

As part of an ongoing bush regeneration project, on National Tree Day 60 students planted 200 indigenous species. Another achievement has been the installation of ten solar panels. Not only will the school save a large amount of money in energy conserved, but also assist the environment by tapping into solar energy and reducing the amount of fossil fuels used to generate electricity.

The monthly meeting at the Conservation Hut, Wentworth Falls on Friday 29 October starts at 7.30 pm. Visitors are very welcome.

"Blue Mountains World Heritage"

By Alex Colley and Henry Gold

A review of this beautiful, informative and very readable book, published by the Colong Foundation, can be found on the insert page of this newsletter in **Reading Matters**. Profits from sales of "Blue Mountains World Heritage" go to the Colong Foundation for Wilderness.

The book is priced at \$50 and if ordered direct from the Colong Foundation office it will be mailed to you post free. This will mean that Colong will receive its full value instead of losing some \$30 in wholesale and retailing costs. You can use the enclosed flyer to place your order.

Lawson nursery: open morning

Our Lawson Nursery is holding an open morning from 10am to 12 noon on Saturday 30 October. A FREE sausage sizzle and cuppa will be ongoing. Drop in! Eat, drink and become acquainted with the Nursery.

Discover how the Nursery is run, the basics on growing native plants and the value to the Society of a successful operation. If you missed the native plant sale at The Hut you will be able to buy direct from the Nursery.

The address is 25 Livingstone Street, Lawson (off Honour Avenue). It's in the Lawson industrial area, behind the offices of Mount Hay Technology.

NSW Govt: making development easier

Craig Knowles, the Minister for Infrastructure Planning and Natural Resources (DIPNR) has announced major changes to the planning system. His reported aim is to "minimize complexity, duplication, red tape and lengthy assessment times". One of the proposed changes is to standardise Local Environment Plans across NSW.

A discussion paper on "Standard provisions for local environment plans in NSW" can be found on the DIPNR web site www.dipnr.nsw.gov.au. The major principles are that there will be: a standardised format; standard zones in which it would be mandatory for councils to permit certain uses; "core" clauses and standard definitions.

Certainly a removal of unnecessary inconsistencies and a myriad of plans that need to be looked at would be an improvement. But would these changes improve on-ground environmental performance? The Society has not finalized a response, but some main issues identified are: (cont. page 3)

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Welcome to new members

Andrew Macdonald, Wentworth Falls
Paul Ryder, Leura
Louise Bridges, Katoomba
Kirsten Hartshorne, Middle Dural
Werner & Julie Neuman, Mt Riverview
Judith and Nick Hall, Blaxland
Allan & Annette Glenn, Mt Victoria
Margaret Potts, Wentworth Falls
John SP King, Blaxland
Lucy Mark, Springwood
Christopher Allport, Hazelbrook

Bushcare

The Valley of the Waters Bushcare Group meets at 9am on the 2nd Saturday of every month. Tools are provided. Bring morning tea, gloves and drinking water. Contact Karen 4757.1929.

MEMBERSHIP ENQUIRIES

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Phone 4757.2694

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Post: PO Box 29, Wentworth Falls 2782

GROUNDWATER

Article 1: What is groundwater? By Brian Marshall

When precipitation (mist, rain, hail, snow) occurs (Fig. 1.1):

- part runs off the roof, driveway, other hard and impervious surfaces, and steep slopes, into the stormwater and/or sewerage systems;
- part evaporates – the road 'steams' after rain on a hot day – the soil rapidly dries out on hot/windy days;
- part goes into the soil (*infiltrates*) and continues percolating downward.

This leads to a simple balance that can be summarized as:

$$\text{precipitation} = \text{infiltration} + \text{run-off} + \text{evaporation}^*$$

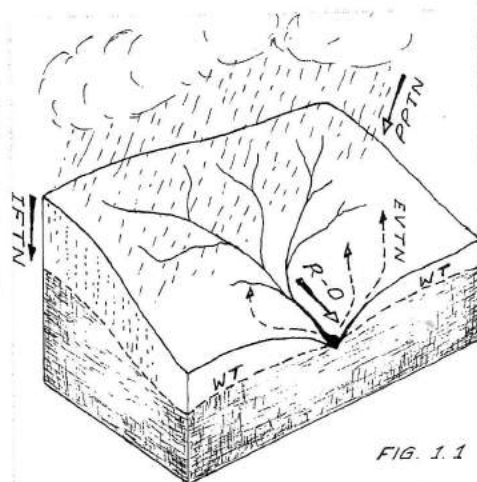


FIG. 1.1

Fig. 1.1 Relationships between precipitation (PPTN), infiltration (IFTN), run-off (R-O), evaporation (EVTN) and the watertable (WT).

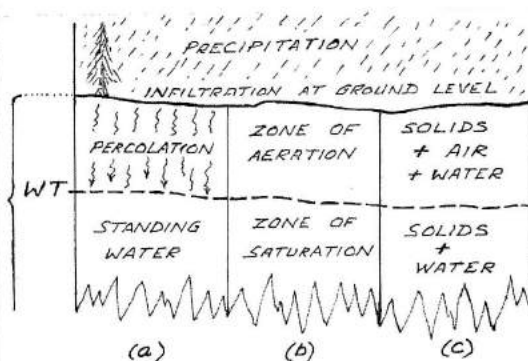


FIG. 1.2

Fig. 1.2 Groundwater characteristics above and below the watertable (WT).

Where the porosity is linked (i.e. water, with or without air, is a continuous phase within the soil or rock) the ground is *permeable*; where not linked or very poorly linked (i.e. water, with or without air, is a discontinuous phase) the ground is *impermeable*.

A permeable material (e.g. sand, gravel, sandstone, conglomerate) allows the rapid passage of groundwater, both laterally and vertically. If suitably confined by less permeable materials, a permeable layer stores water and is termed an *aquifer*.

An impermeable material (e.g. clay, claystone, shale) inhibits the passage of groundwater and is termed an *aquiclude*.

The cliff-forming units of the Blue Mountains consist of sandstone layers and intervening shale bands, underlain and less commonly overlain by thicker units of less permeable rock. The sandstones are excellent aquifers and the shales are the confining aquicludes (Fig. 1.3).

The water that percolates down through the sandy soils to reach and be stored below the watertable in the various sandstone aquifers is a groundwater resource (Fig. 1.3). This resource is *recharged* (i.e. topped up or added to) by precipitation over the sites of infiltration. It is *discharged* where the topography intersects the watertable at springs, swamps, natural ponds and creeks.

The distribution of the watertable and groundwater flow between recharge and discharge sites will be examined in later articles.

*For simplicity, evaporation is here considered to include plant transpiration

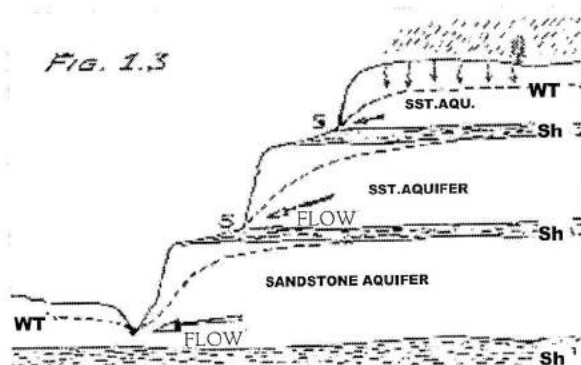
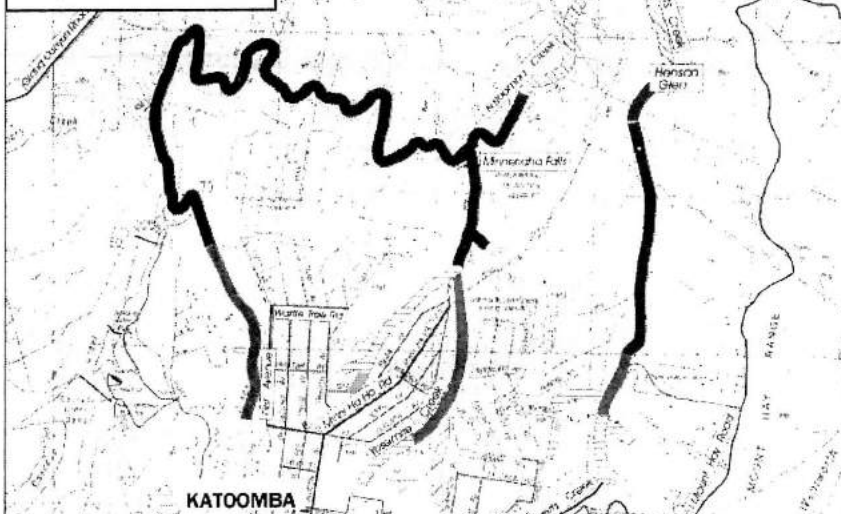
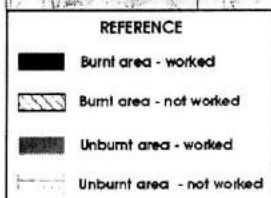


Fig. 1.3 Schematic portrayal of sandstone (SST) aquifers, shale (Sh) aquicludes, the watertable (WT) and springs (S).

Bushfires, Broom & the Grose Valley: PROGRESS REPORT

Blue Gum Forest 5.5kms from Katoomba

Massive Community Effort: During August and September there has been a massive community effort to help manage the huge Scotch Broom invasion triggered by the December 2002 bushfires along 11 km of creek-line in north Katoomba. 152 people have put in 980 voluntary hours. In all, volunteers and professional bush regenerators have together put in 4550 hours of work on this project from January through to the end of September this year. Professional bush regenerators from Council and private contractors have also worked as volunteers during community events generously sharing their knowledge of plants and techniques.



Progress so far: Another 4 kms upstream of the burned area has been targeted for treatment to ensure that weeds don't move down into the vulnerable burned areas. 15 kms in all is being targeted through a coordinated strategy.

	<u>kms of creek-line</u>	<u>number of broom plants</u>
Areas Worked	10.5	6 million
Areas not yet treated	4.5	1.8 million
Total	15 km	7.8 million

The map shows the enormous progress which has been made, but there is more to complete. Council is contributing its own staff time and using another small grant to pay bush regenerators to finish off the remaining areas. But we still need help from our State and Federal members to address the immediate crisis and to create an ongoing mechanism to effectively deal with the spread of weeds after fire.

Follow up: Because of the size of the task, smaller broom plants unlikely to flower and seed this year were left to treat before spring next year (October 2005). NPWS, Council, MinneHaHa Falls Landcare Group and Katoomba Creek Bushcare Group are continuing to join forces to make sure that all the good work done so far is followed up.

Plans are underway for special volunteer events next year with another Council run Broom Blitz and NPWS Great Grose Weed Walk activities.



Bushcare groups will continue to work every month in high priority areas. Efforts to attract more grant funding for professional bush regenerators to work in the more difficult areas will continue.

Katoomba, Yosemite and Govetts Creeks are all spectacular places and deserve the special attention that the community, Council and local NPWS rangers have given them during this crisis.

Thank you to those who have got their hands dirty to help or have contacted our local members of parliament.

NSW Govt: Making development easier (continued from page 1)

Simplicity cannot be achieved by a 'one size fits all' approach. The draft Blue Mtns LEP 2004 follows a "place based" approach that allows for the local character and environmental attributes of a local area to form the basis of planning decisions. It does not fit the straitjacket proposed.

Environmental Protection Zones are a key component of Blue Mountains plans to ensure protection of watercourses, swamps, rainforests and other special areas. This will no longer be a guaranteed no-development zone! There is no provision to ensure buildings are not constructed in or close to creek-lines, lakes or wetlands.

Councils will not be able to restrict the permitted uses in zones in order to protect the local environment (but will be able to allow more development by adding more permissible uses in a zone).

Standard definitions should include a number of important environmental factors such as bushland, riparian vegetation, development-excluded land, watercourse corridor. The draft reflects very outmoded thinking. Clauses about the preservation of individual trees fail to recognise the importance of bushland.

Take some time to look at the Department's proposals and make a comment to Planning Reform Unit, DIPNR, GPO Box 39, Sydney 2001. email planningreform@dipnr.nsw.gov.au before 29th October and let our Land Use subcommittee know too. Contact Arthur Lathouris 4757 2511, lat@pnc.com.au

Don't be put off by the title ...

Council recently put a draft "Infrastructure Strategy" on public exhibition for comment. Sounds boring, doesn't it? But if you read the fine print and between the lines you will find numerous issues of great interest to us all because the impact on the natural environment.

*Should any development be permitted that will be relying on a 'pump out sewer' system, when widespread abuses of this system result in pollution of groundwater and creeks?

* Will future stormwater controls be designed to collect sediment and weed seeds, or just litter? Is there a regular maintenance program underway to ensure all drainage structures work effectively to protect creek-lines flowing into the National park?

*Will Council involve itself in ensuring an ecologically sustainable surface and groundwater supply? What effect has the increasing borewater usage on the water flowing into the creeks and the water supply dam?

* Should Council be advocating underground services everywhere in the Blue Mountains? Are there areas which should be excluded, like where the groundwater is near the surface, which occurs in and surrounding hanging swamps?

* Should Council be insisting on a maintenance agreement with Roads and Traffic Authority which controls all environmental weeds? Should all new GWH road works be able to maintain wildlife corridors?

* What is happening to make sure that the amount of waste we all produce will drastically reduce over the next few years?

The Society made a submission on these and other issues. However it is not too late to have your say. Let a Councillor know your concerns. They are expected to be debating this strategy document at a council meeting in late November. If you want further information on this contact Land Use Member Ron Withington 4757 3984 or ronwit@ozemail.com.au

"The Songlines Conversations" Australian Stories about People & Place A Live ABC Radio National Event

What place does the Australian landscape hold in our hearts? What have we got to learn from the land?

That's what oral historian, writer and radio producer Gregg Borschmann will be exploring with some extraordinary Australians including **Michael Leunig**, muse-poet-cartoonist; **Martin Copley**, Chair Australian Wildlife Conservancy; **John Williams**, ex CSIRO Chief Scientist and now member of Wentworth Group of Scientists; **Jackie French**, author/writer/presenter; **Ted Egan**, author, songwriter, poet, folk singer and current Administrator of Northern Territory; **Joan Oscar**, Aboriginal Bunuba woman from Kimberly, in a new ABC Radio National series, *The Songlines Conversations*.

The Songlines Conversations will be recorded live during Nov-Dec at the Carrington Hotel, Katoomba. You can contact Priscilla, Sales and Events 4782.1111 to obtain a program and to book to be part of the audience.

Colo River, Wollemi N.P. by Ron Hyslop

The Thursday Interpretive Bushwalkers are not known for glancing at their watches and striding along to do "personal bests". We stop, look, listen and digest. Haste does not come into the equation. This did not put us off on a longer walk in August. Along with our leader Clive Heywood-Barker we set off on the 'Bob Turner Track'. The sign stipulated a three hour journey. That was a furphy, we did it in five!! Our intended return destination was the Colo River in the rugged Wollemi National Park, just off the Putty Road.

Walking conditions were ideal, sunny and mild with a slight breeze. Red and Yellow Bloodwoods predominated as we descended down through a rock chute and into a gully. Here we found numerous Christmas bushes, ferns and tea trees. Smooth-barked Angophoras, gnarled and twisted, were also evident. Flannel flowers appeared to be struggling, no doubt due to the long dry spell. The familiar continuous piping sound of the Spotted Pardalote could be heard but, as usual, hard to spot!

Two interesting observations from Clive: At the foot of a large Grey Gum (*Eucalyptus punctata*) he pointed out scats belonging to a koala and marks on the trunk indicating where he had been climbing to its uppermost branches. A little further on, and scars on a trunk made by a Yellow-Bellied Glider. After the initial marks the glider returns to partake of the sap. They also feed off nectar and insects. Shortly, in a sheltered area, we saw some lovely smooth-barked, very tall and striking Blue Gums (*E. deanii*).

The track itself had been very good. There were some steep sections, but these had been interspersed with gentle

BLUE MOUNTAINS CONSERVATION SOCIETY BUSHWALKING GROUP

Our bushwalking group provides a range of activities. Membership of the bushwalking group is available to members of the Society. For further information contact the Activity Coordinator (listed) or Bushwalks Conveyor Bob van Reyswoud. For membership enquiries contact Membership Secretary Liz van Reyswoud. Cost of insurance and affiliation fees for bushwalkers of \$15 per member is payable with your membership renewal.

Pre-School Walks, for parent/grandparent/carer with children under 6 years:

Short, easy walks, approx 1 hour, 1st Wednesday of every month, starting at 10.30am. Bring a snack and a drink. Contact Liz Riley 4787 6637 for more information or if the weather is doubtful.

Nov 03 Red Gum Park, Bullaburra. Meet at the end of De Quency Road..

Monday Leisure Walks: Usually 'Short Day' walks of 3-5 hours suitable for walkers of average fitness. Graded Medium, i.e. can include some short rock scrambles or some short section off track. Bring morning tea and lunch, plus carry at least 1 litre of WATER, 2 litres on warmer days.

Oct 11 Grand Canyon, Blackheath. Magnificent canyon walk. Meet 9.15 am Blackheath Neighbourhood Centre. ☎ Bill 4759 1692.

Oct 18 Mt Piddington, Ross Cave, Fairy Bower, Mt Victoria. Classic Mt Vic. Meet 9.15 Mt Vic railway station. ☎ Mary/Terry 4787 6918, Alan 4739 2767.

Oct 25 Thor Head, Mt Victoria. Upper mountains heath/wildflowers. Meet 9.15 Mt Vic station. ☎ Ron 4757 1526.

Nov 01 Glastonbell, Dargan. Private property wildflower walk, \$5 donation. Meet 9.15 Mt Vic station. Contact Allan 4739 2767.

Nov 08 Balzer's Lookout, Blackheath. Magnificent views of Grose Valley. Meet 9.15 Blackheath Neighbourhood Centre. Contact Bill 4759 1692.

Thursday Pleasure Walks: These easy to medium grade walks are conducted to suit the walkers on the day. Times given are approximate. Slower walkers are catered for and on longer walks there is an option of a slower group to complete a section of the walk. Phone the contact for any enquiries about the program, starting times and transport issues. NOTE: Walks to commence at 10 am unless stated otherwise.

Oct 14 Bus trip to Newnes Historic Ruins. Full day with maximum walk of 5 km. Bring lunch, etc. Some seats still available, all members welcome. Booking and payment of required. Bus leaves Katoomba Depot 8am. ☎ Simone 4757 3416.

Oct 21 Coachwood Glen and Megalong Valley. Easy walk in cool rainforest and picnic lunch at Megalong Creek. Meet Blackheath Neighbourhood Centre 10am. ☎ Joan 4782 2218.

Oct 28 Georges Heights to Zoo ferry via Clifton Gardens. Public transport to new harbourside walk through historic naval precinct and bushland, maximum distance 5km. Meet second carriage of train leaving Lithgow at 7.36 am. ☎ Simone 4757 3416. Please ring if coming, by Oct 26.

Nov 04 Furber Steps to view Katoomba Falls. Steps down into valley with possible extension along Federal Pass. Return by Scenic Railway or Scenicender, cost \$7 one way. Meet Gearins Hotel, Katoomba, 9am. ☎ Joan 4782 2218.

Weekend Bushwalks: Always discuss with the contact if the walk you would like to do is medium/hard or hard, before attending. If this is your first walk, or you are in any doubt, discuss with the contact or Bushwalks Convener Bob van Reyswoud, 4757 2694, email mcreysw@bigpond.net.au.

Oct 09 (Sat) Pipeline track, Glen Davis to Newnes. Medium/hard grade. Bus departs Katoomba depot 8am. Two walks to choose from Glen Davis, or from Newnes (3km easy). Finish after 5.30pm. ☎ Meredith 4782.4823.

Oct 16 (Sat) Lost City, Pagodas. 4 wheel drive tour. Easy. Meet Mt Victoria Station 8.30am. ☎ Annemarie 4759 3887.

Oct 23 (Sat) Mt Banks and beyond. Medium, 7hrs. Meet Mt Vic Station 8.17am for early start. ☎ Bill 4758 8545 or Don 4787 6447. Finish 4pm.

Oct 30 (Sat) Mount Solitary. Med/hard. Meet Gearins Hotel, Katoomba 8.30am. Contact June 4787 7312.

Nov 06 (Sat) Beauchamp falls. Med/hard (steep climb out). Meet Blackheath Station 8.30am. ☎ 4787 7649.

grades. Yellow-faced Honeyeaters were never far away.

We came across broad and narrow-leaved Ironbarks (*Eucalyptus fibrosa* and *E. creba*), the former grey black and flaky and spreading canopy, the latter dark grey, deeply furrowed and a sparse, straggly canopy. Spotted growing on the trunks were orchids.

We had crossed four gullies (all waterless) before we caught our first sight of the Colo. In between each one dramatic changes in vegetation had occurred. The river appeared to be a long way down. The track became steeper and zig zagged, and surprisingly

we were down in no time.

What a most beautiful, serene and tranquil spot, ideal for lunch. Swallows swooped across the water at the junction of Hungryway Creek, and some of the group cooled their feet in the water. There wasn't a lot of conversation as we soaked up the stillness and quiet of this wilderness area.

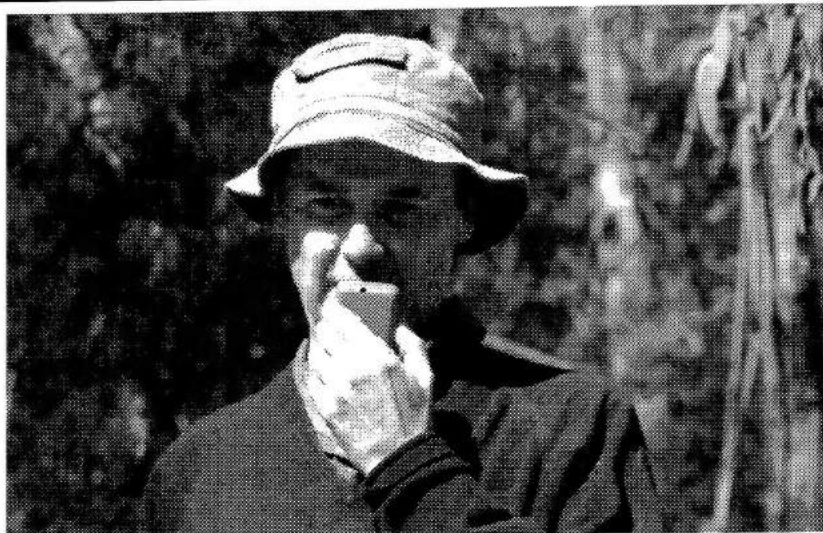
Unfortunately our time was limited and nobody wanted to think about the climb out. With a few breaks to catch our breath and have a drink we reached the top of the ridge in an hour and a half. Though tired, we all agreed a most rewarding and beautiful walk.

AH, WILDERNESS

The new volume, *Blue Mountains World Heritage*, has all the shape, size and quality of that undeniably unthreatened species, the coffee-table book. We all have 'em, gorgeous creations, but long since banished from the lounge to loiter in the guest room or to lie, lone and horizontal, on a bookshelf that will not let them stand proudly to attention. But this book is no sibling to these. Certainly it is a full 28.5cm square, has 90 photographs within its 126 pages, a spectacular dust jacket and it is beautiful. But it does not deal in static images. It is a journey, one that begins with Charles Darwin's awestruck sabbatical stroll down Jamison Creek to the Falls in 1836 and ends at Govetts Leap on 12 May 2001 with a celebration of Blue Mountains World Heritage Listing. This is a history, a reference book, even an operating manual, and an inspiration for all who love the wilderness and are willing to fight for its protection.

The modern journey begins with Myles Dunphy's 1933 chart and proposal for a Greater Blue Mountains National Park, later to be supported by his amazing two-inches-to-the-mile maps, masterpieces of artistic drafting. They of course had no contours and cliff lines, ridges and saddles were depicted by finely detailed hatching, place names were inspiring (and have been enduring) and the bushwalker was given, not tracks, but the hardy 'negotiable routes'.

It was with his Gangerang Wild Dog Mountains map that I first ventured alone down the Bullhead Ridge to the Kowmung River in 1979, to explore the interstices of Colong and Church Creek limestone caves, unaware that that privilege had been granted me solely through the efforts of the Colong Committee.



Keith Muir, back at Govetts Leap for the initial protest rally of the recent 'Stealth' Campaign. Keith is the Director of the Colong Foundation for Wilderness which is the publisher of *BMWVH*. A dedicated, unstoppable campaigner for Blue Mountains World Heritage Area, he has been described as 'the glue that held a a ten-year effort across half of Australia together'.

Established in 1968, the Committee had in 1974 rescued the caves from destruction by Associated Portland Cement Manufacturers when the mining leases were added to the Kanangra-Boyd National Park.

Not only that, but my first night's campsite at Boyd Crossing was only possible because the Committee, in a parallel action, had in 1977 saved the Boyd Plateau from clearing of its native forest to make way for pine planting.

The protection of the Colo River and the declaration of the Wollemi Wilderness in 1999 involved the Colong Committee in 28 years of endeavour, during which period, in 1986, the Committee was renamed the Colong Foundation for Wilderness. Earlier, in 1995, the Gardens of Stone National Park was consolidated with the addition of a special area excised from the Newnes State Forest to protect the fabulously vivid slots and shadows of my all-time favourite Rocky Creek Canyon. Along the way, in 1991, the southern Nattai Wilderness was gazetted after a five-year campaign against coal and hard-rock quarrying interests. And then the crowning achievement, the successful World Heritage Campaign!

With a text by Alex Colley, and supporting contributions by Jenny Ellis, Haydon Washington and Keith Muir, *BMWVH* covers all these events with precision. It has a refreshing readability, and an unemotional balanced presentation of the issues. The book gives due recognition to those groups and individuals who collaborated with or independently supported the Foundation over the years – among others, the Sydney Bushwalkers, the NPA, the NPWS, the Blue Mountains City Council, Environment Australia and of course the Blue Mountains Conservation Society. This is not to say that the story does not have many other heroes and villains. But it is interesting that many whom one might identify with the dark side come triumphantly into the light.

The photographs by Henry Gold are simply superb, and carry the message with the same strength of purpose of Olegas Truchanas of Lake Pedder days or his 'pupil', Peter Dombrovskis of the Franklin. Henry has combined full-page colour shots with half-page grayscale presentations, and the latter seem to add that historical dimension to the book. This is appropriate as they were used in the particular campaigns. As an ardent sometime walker/abseiler/swimmer across many of the mountains, valleys, canyons, streams, waterfalls, escarpments and forests depicted I did feel slightly disappointed when (just sometimes) the exact location was not provided in the caption. Silly me!

Amid climactic celebration of the dedication of the World Heritage Area, it is salutary that the book warns us of the ever-ongoing threats – resort development, urban sprawl, nuisance air traffic, mining and logging abuse, pipelines, pests, inholdings, highways, dams and off-road vehicles.

It is a sage reminder that the job, however well done in the past, is never complete, and that a keen vigilance must be exercised by present and future visionaries, negotiators and advocates for wilderness.

Meursault



Alex Colley (left) has been secretary of the Colong Committee/Foundation since 1975, when he proposed the Greater Blue Mountains National Park as a principal objective of the Committee. He proposed the World Heritage Listing in 1984.

Henry Gold has played crucial role in many conservation campaigns with his illustrated lobby books and posters, in particular his presentation to members of the World Heritage Committee.

IN SEARCH OF LIVING WATER

Geoffrey Smith, Blue Mountains City Council Natural Systems Team Leader, began his address with a brief overview of The Water Cycle. The amount of water in the Earth's environment never changes, whether it is as a liquid (fresh water, seawater, rain, tiny droplets in clouds), as a gas (water vapour) or in its solid state (snow, ice or hail). There is also water inside living organisms. Water continually circulates between the land, the oceans and the atmosphere. The cycle has existed since water was formed on Earth, but human activities have changed the way water moves through the landscape.

Geoffrey then moved on to describe the escalating local and indeed world-wide water shortage, with an erudite prognosis of the crisis. He cited the now crucial disturbances to the water cycle: greenhouse gases, deforestation, river over-regulation, aquifer depletion and over-population, and pointed to their inevitable consequences: glacial melting, polar cap retreat, permafrost melting, rain replacing snow, sea levels rising, pollution of waterways, siltation, cyclonic storms and mudslides. It was a pretty gloomy picture, with no obvious avenue for correction, given the attachment we all have to our way of living.

But it was a surprise when, lacking (as we all do) a solution to the problem of restoring to the world an abundance of fresh drinking water, Geoffrey should turn instead to a discussion of the molecular qualities of the compound itself. It was an even greater surprise when we became aware that the path he would choose was not that of middle-of-the-road science, but rather the more provocative trails of *Schauberger* and *Emoto*.

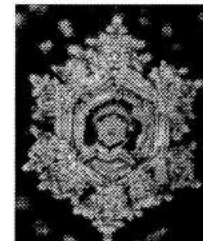
In the 1920s the Austrian forester, hydrologist, hydraulic engineer and inventor, *Viktor Schauberger (1885-1958)*, developed an entirely new view of water as the carrier of life. Schauberger coined the term "living water" as his research told him that water had a livingness, or vitality, when in its natural state. He reported that when water is forced to travel through pipes it becomes stripped of its electrons and loses its natural geometries.

He maintained that these natural hexagonal, snowflake-like geometries or *water clusters* are what are found in the healing waters around the world in places like Lourdes. He suggested that they are also found naturally within our cells at birth, but they become unclustered and unstructured due to exposure to pollutants and radiation. This loss of the original cellular geometries of the water in our cells he says is responsible for the ageing process at a cellular level, and is linked to almost every disease known to mankind.

Viktor Schauberger's research is said to reveal that water in its natural living state is in a spiralling or vortex motion and that this motion creates a livingness to water that is not found in municipal or filtered or bottled water.

Masaru Emoto was born in Japan in 1946 and is a graduate of the Yokohama Municipal University and the Open International University as a Doctor

of Alternative Medicine. His book, *The Hidden Messages in Water*, is an eye-glazing theory which sets out to show that water is deeply connected to people's individual and collective consciousness. Drawing from his own research Emoto describes the ability of water to absorb, hold, and even retransmit human feelings and emotions. Using high-speed photography, he reported that crystals formed in frozen water reveal changes when specific, concentrated thoughts are directed toward it. Music, visual images, words written on paper, and photographs, he says, also have an impact on the crystal structure. Emoto theorizes that since water has the ability to receive a wide range of frequencies, it can also reflect the universe in this manner. He found that water from clear springs and water exposed to loving words shows brilliant, complex, and colourful snowflake patterns, while polluted water and water exposed to negative thoughts form incomplete, asymmetrical patterns with dull colours.



Emoto report of crystal changes to a frozen sample of Fujiwara Dam water, before and after offering a prayer!

Emoto has always said in his lectures that he did not have any special training that led to his discovery of what is hidden in water. He says that he is only one small man doing this work—that we all have this potential in us!

But Emoto's disciples have gone so far as to say, "Our own bodies at birth are 70 percent water, and the percentage of water remains high throughout life. Also, the Earth's surface is 70 percent water. And now we have seen before our eyes the proof that water is far from inanimate, but is actually alive and responsive to our every thought and emotion. Perhaps, having seen this, we can begin to really understand the awesome power that we possess, through choosing our thoughts and intentions, to heal ourselves and the Earth. If only we believe."

It has to be reported that there was little display of such belief among Geoffrey's audience, particularly among those of us with a scientific background who have been brought up on the empirical evidence that energy can only be extracted from water as heat when its temperature is raised and as horsepower when it is drops from above.

Geoffrey went on to say that the water in our reticulated pipes is suspect, that both fluoridation and chlorination are harmful, that water left in plastic bottles is undesirable, distilled water is dead and that bore and spring water are to be treated with caution.

This left many of us depressed and in disarray, although some made conscientious efforts in the question session to turn the discussion towards solutions, particularly at a municipal level. Most of us retired to the urn, dully to pour the offending bubbling liquid onto our unprotesting teabags.

Meursault

