

HUT NEWS

"Nature Conservation Saves for Tomorrow"



Butterfly migration

by Christine Davies

In the upper Blue Mountains we recently saw a mass migration of Caper White Butterflies. The butterflies started to pass over the Mountains on Sunday 28 November. The migration continued on Monday 29 and Tuesday 30 November, with a few individuals on Wednesday 1 December. The greatest numbers were in Wentworth Falls on Monday 29 November.

On Tuesday 30 November callers to ABC radio reported seeing huge numbers of white butterflies in Sydney, flying north in the northern beaches area. Apparently strong nor westerly winds had blown them off course and onshore winds had prevented them from being blown out to sea.

This butterfly migration is an annual event in the upper Blue Mountains. Each year sometime between 22 November and 5 December many thousands of butterflies fly over in a north-easterly direction. Where are they coming from? What are they going? Nobody knows!

Caper White Butterflies lay their eggs on the plants of the Cappariaceae (Caper) family which grow in the arid regions of north-western NSW and south-western Queensland. The caterpillars must have leaves of this plant genera to survive, but the adult butterflies are migratory and travel to areas where this food plant is not available, including the Blue Mountains. The butterflies are seen over much of Australia. Mass migrations are also seen in Adelaide.

Caper White Butterflies pass through Blackheath between late September and late October. These butterflies travel generally in a south westerly direction and feed on the nectar of the Prostanthera flowers in my garden. During the recent northern migration some of the butterflies paused to feed on the Callistemon flowers. More about butterflies on page 3. Photo from CSIRO.



Radiata (Elphinstone) Plateau again under threat

Radiata (Elphinstone) Plateau, approximately 2 km west of Katoomba, is the remaining undeveloped peninsula-plateau of the south-western escarpment between Katoomba and Blackheath. The landowner, Transcendental Meditation Organisation, proposes to sell off Radiata Plateau as three separate parcels of land with permissible building areas in each. This will inevitably lead to applications for development.

The Plateau's extremely high conservation value includes outstanding escarpment topography, unpolluted and uncompromised swamps and water catchments, the perilous Ben Esgate and Black's (of local Aboriginal significance) Ladders from the Plateau down into Megalong Valley, about 30 rare and significant plant species with some sites meriting International Conservation Significance, a rich arboreal fauna, over 50 bird species and niche habitats of major importance.

Fragmentation of Radiata Plateau by ANY development would result in the loss of its high conservation value.

In the period 1990-1993 the Radiata Plateau was threatened by a development proposal by the Transcendental Meditation Group. The development application was ultimately withdrawn due to the sustained opposition of more than 15 environmental and like-minded organisations. We understand that Bob Carr, Bob Debus and The Greens all opposed the development. At that time the then Upper Blue Mountains Conservation Society proposed that the Greiner State Government reserve and protect the "Great Southern (Western) Escarpment" between Katoomba, Blackheath and Lithgow. This region, which included Radiata Plateau, was to comprise the scenic rim of the Blue Mountains National Park. Regrettably, even Stage 1 (Katoomba-Blackheath) of this proposal foundered, but directly as a result of this short-sightedness we are again faced with protecting Radiata Plateau and, in due course, gaining protection for the "Great Southern (Western) Escarpment".

Please write/fax our Local Member, Environment Minister Bob Debus (107 Macquarie Street, Springwood 2777, fax 4751 1245) and support our appeal for him to:

- Have an Interim Protection Order placed on Radiata Plateau as a matter of urgency.
- Arrange for the NSW State Government to purchase Radiata Plateau for inclusion in the Blue Mountains National Park. This will ensure the total protection of the whole of Radiata Plateau and will upgrade the status of the World Heritage Blue Mountains.

For more information contact Brian Marshall, phone 4784 1148, email Brian.Marshall@uts.edu.au

Plastic Bags .. Just say NO! by Christine Davies

Following our article last month, Meredith Brownhill has sent the following suggestions how we can avoid using plastic bags:

Use cane shopping baskets. Use bags made from hemp, sisal, flax, cotton—any material that can go into your compost heap when the bag is worn out ... the worms will love it! Use cardboard boxes. Take your own glass jars or paper bags when buying food at stores like the Food Co-op at Katoomba. Only buy goods in containers that have a recycling logo on the bottom of them. Buy your own brown paper bags from a packaging supplier. They are really quite cheap and very useful. See 'Paper Product Disposable' in the yellow pages.

Meredith suggests that the Federal Government could impose a tax on all plastic that is not recyclable and this tax could be put into a fund for repair of the environment.

More people are using the green shopping bags sold by some supermarkets. An article in the Sydney Morning Herald mentions that these bags are becoming quite "trendy". I bought a nifty little black "enviro-bag" from Franklins. It cost less than \$1 and is very useful.

There are many other plastic wastes that also have a devastating effect on wildlife. An article in *Nature Australia*, Summer 2004 tells of the Flesh-footed Shearwater colony on Lord Howe Island dying of ingested plastic. Skeletons of the birds have been found with a pile of plastic still in the ribcage. According to the article "a study in 1997 showed that 44 percent of all seabird species ingest plastic".

In the Readers Digest plastic check-out bag manufacturers are asking "why pick on them?" True, their product is not the only threat to our environment, but 20 million Australians using and disposing of 6.4 billion plastic check-out bags every year is a symbol of our wastefulness and lack of care for our environment. Not using them would be a good start!

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Monthly Meetings

There will be no monthly meeting in December. Next month on Friday 28 January 2005 the guest speaker will be architect Nigel Bell who will speak on 'Ecodesign'.

This year we have had good meetings with some excellent guest speakers. Unfortunately attendances have been low.

Please put aside the last Friday of each month (except December) to come along to the Conservation Hut at Wentworth Falls to hear an interesting guest speaker, meet other members and find out what the Society is up to. The meetings start at 7.30 pm.

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GROUNDWATER

Article 3: Groundwater recharge and discharge.

By Brian Marshall

The Blue Mountains region is characterised by an assemblage of aquifers and water tables (Fig. 3.1). Where the ground surface forms its upper boundary an aquifer is *unconfined*. Where an impermeable layer forms its upper boundary the aquifer is *confined* and *artesian* or *sub-artesian* conditions (Fig. 3.1) are possible. The main or *standing* watertable may have a complex geometry depending on the distribution of aquicludes, and recharge and discharge sites. *Perched water tables* form where isolated saturated zones overlie low permeability layers within the aerated zone (Fig. 3.1). They commonly, but not essentially, lie above the main watertable.

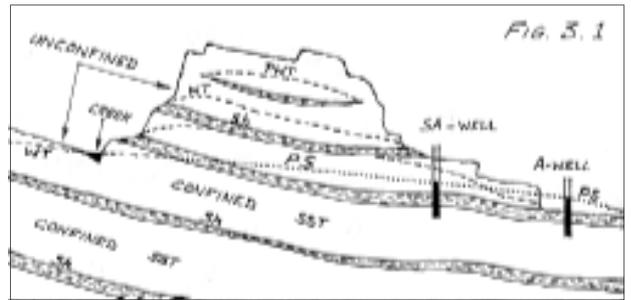


Fig. 3.1 Confined and unconfined relationships of sandstone (SST) aquifers and shale (Sh) aquicludes; also shows the main (standing) watertable (WT), a perched watertable (PWT), the pressure surface (PS) (the level to which water rises up a stand-pipe under artesian [confined] conditions), and artesian (A) (PS above local ground level) and sub-artesian (SA) (PS above aquifer but below ground level) wells.

Recharge sites can be natural or 'engineered' (artificial).

For an unconfined aquifer, recharge percolation is dominantly vertical and natural sites are the overlying land surface and *influent* portions of creeks and ponds (i.e. where the creek bed or pond bottom has some permeability and is at or a little above the watertable—Fig. 3.2). Engineered sites typically involve returning 'used' water to artificial basins of large surface area and permeable floors, within natural recharge regions.

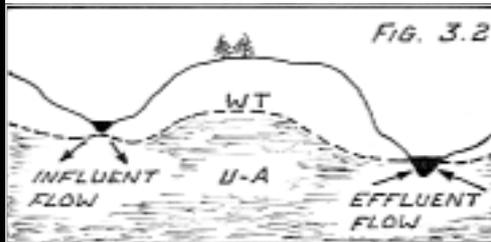


Fig. 3.2 Relationships between the watertable (WT) and ground surface in an unconfined aquifer (U-A) showing influent flow from the creek to the WT and effluent flow from the WT to the creek.

For a confined aquifer, water will not permeate down through the upper aquiclude, so the recharge site must be where the aquifer is unconfined (Fig. 3.1). Because this can be distant from the discharge region, replenishment of the water resource is achieved through lateral permeability and takes a long time. For example, in an artesian basin where recharge to discharge is 500km and lateral permeability is 1m per day, the time would be more than 1300 years!

Discharge sites can be natural or 'engineered'.

An unconfined aquifer discharges naturally through springs, swamps, and *effluent* portions of creeks and ponds (i.e. where the bed or bottom is lower than the local watertable—Fig. 3.2). Engineered sites include pumped wells (for mineral water, irrigation, stock, gardens, golf courses and the manufacturing industry), open-cut mines and extractive industries quarries, deep foundations for high-rise construction and tunnelling.

A confined aquifer can discharge in the same ways as an unconfined aquifer, but in a high-pressure artesian system the water may punch a hole through the aquiclude to form a blowout spring (Fig. 3.3). Engineered sites include artesian and sub-artesian wells (Fig. 3.1), mining operations (particularly underground) and, less commonly, deep foundations and tunnelling.

The watertable expresses a *dynamic balance* between natural recharge and discharge. It is dynamic because normal seasonal variations in temperature (affects infiltration, evaporation and transpiration) and precipitation (affects infiltration) cause the watertable to fluctuate and influence the discharge rate.

Engineered discharge (and recharge) disturbs the natural dynamic balance. Steady-state flow may ultimately develop, albeit with a lower watertable, when the engineered and natural discharges are balanced by natural recharge. This is sustainable from the water-balance viewpoint, but some swamps may dry out, springs may stop flowing, and creeks and rivers will have reduced flows. Hardly sustainable from an environmental viewpoint!

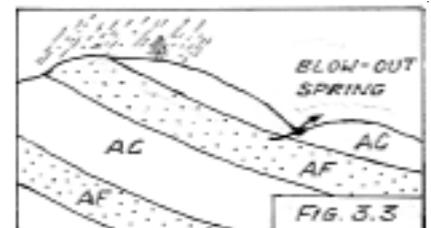


Fig. 3.3 Blow-out spring; high artesian pressure in the aquifer (AF), ruptures the aquiclude (AC).



October Creek in November by Liz van Reyswoud

The Thursday Interpretive Walkers spent a wonderful morning visiting the Bogey Holes and October Creek near Mt Wilson early this November. The walk was led by Dick Turner whose wide knowledge of the trees and plants is legendary. The drive out to the beginning of the walk was beautiful with Hakeas in flower on both sides of the road, and an occasional waratah adding an intense contrast to the scene. The majority of the Hakea flowers were white, but we spotted a couple of pink ones as well.

Christine told us that the creek was named October creek because the surrounding bushland was a mass of flowers in October. I can't imagine that it could have been any better than it was in November.

We set off down the fire trail which was substantially eroded, but still tiny little flowers poked their heads up in amongst the hard clay and stones. Tiny *Mitrasacme* flowers seem to be suspended, their stalks are so fine. 'Mitra' is because the tiny white flower looks like an ecclesiastical mitre – and 'acme', of course, means summit. Amongst these were also Black eyed Susans, which belong to an entirely Australian genus, a bright flower with four rosy-mauve petals, the dark anthers forming the black eye. Popping up everywhere were the bright eye-catching flowers of the Native Iris. The sides of the roads were white with *Conospermum* and *Epacris*, interspersed with our favourite *Boronia*. Huge areas of the roadside were covered with the prostrate *Grevillea laurifolia* with its red toothbrush flowers.

Needless to say we earned our name of the "Thursday Dawdlers" as we took three hours to reach the large clearing underneath the pagoda style rocks. (It only took us ½ hour to climb back out). On the way we had a wonderful view over a valley edged with pagodas. The clearing was populated with *Eucalyptus mannifera* ssp. *gullickii*, a Scribbly Gum which has smooth white powdery bark and we found flakes of chert in the rock shelter on the edge of the clearing.

I have found two meanings for Bogey – an Aboriginal word – meaning in one interpretation "to bathe" and in another "swimming holes". Whatever, it is a wonderful place, ideal for picnics or even camping, as we saw evidence of many wombats. Thank you Christine and Dick for the regeneration of our spirits from that morning. (Photo: *Eucalyptus mannifera* ssp. *gullickii* in clearing near October Creek.)

Farewell from Lloyd Jones

Your vigilant editor, in view of my departure to Lismore, has asked me to give a brief outline of my association with the Society. It commenced about 1980.

I've always been something of a fringe member as any service I gave was interrupted by my lengthy stays in Tasmania, several long trips to the Centre and some overseas ventures. However ghosts of more steady workers with whom I was associated flit through my mind and I feel some homage is their due.

The Society did not have the numerical or political clout as at present but those members were pioneers of the conservation movement and kept the candle flickering. Their names I feel deserve a mention: Isobel Bowden, Alan Strom, Graham & Judy Kerr, Eric & June Blick, Mick & Jill Dark, Winsom Gregory, Nancy Douglas, Beryl Cooley, Ewart & Betty Collings, Reg & Dulcie Toseland, Beverly Thompson, Keith & Beth Sherlock Ron Campagnoni, Rachel Makinson, Bob & Ruth Jones, Greta & Frank Vanry, Olive & John Noble. There were many others sadly I've forgotten.

The running of the shop and the bushwalks were instrumental in

maintaining social cohesion. Everybody knew each other.

But times change and conservation and environmental matters have become deep and complex. I hope the strength and enthusiasm of the present membership can be maintained.

I do thank the Society for the interests and friendships it has provided me. Farewell to all. *Lloyd Jones*.



(drawings by Lloyd Jones)

More about butterflies

An edited version of an article prepared for the City of Marion Council Magazine, *City Limits* Spring issue 2002 can be found on the internet (http://users.chariot.net.au/~erg/caper_migration.htm)

Each year Caper White Butterflies fly south during late spring from their breeding grounds in the North Flinders Ranges and the inland areas of NSW and Queensland, eventually reaching the suburbs of Adelaide.

The article describes the amazing November/December 1999 migration when many thousands of Caper White



Butterflies passed through Marion, a suburb of Adelaide.

The butterflies came from the north-east, flew out to sea where many of them perished, then turned west, inundated the southern Fleurieu Peninsula, "hanging in the bushes and settling on the ground like snow" overnight, then headed back north-northeast. Flights extended to Kangaroo Island and even reached southern York and Eyre Peninsulas.

"Where the migration went after Adelaide is not known. It is assumed they flew along the east side of the ranges and headed back northeast to where they originated from. If they originated from inland NSW it would have been a round trip of 1300 km through Adelaide, but if the origin was Queensland it would have been 3000 km and comparable to the migrations of the large brown Monarchs (Wanderers) in North America."

"Other butterflies are also known to migrate in South Australia and they usually do so in spring, flying in a general south direction. These migrations now occur almost unnoticed due to the reduced number of butterflies taking part in the migration, caused by the loss of inland breeding habitat. Historically, they once migrated in huge numbers, with the Painted Ladies once being so numerous as to darken the sky in Victoria!"

Unfortunately I don't have the space or the licence to indulge myself and fill this newsletter with butterfly stories, but if anybody who hasn't got access to the internet wants to read the Marion Council magazine article please phone me on 4787 7246 and I'll post you a copy. *Christine Davies*.



Elphinstone—Leave Alone

by Wyn Jones, Blackheath, March 1990

Before the scars of pick and axe,
The plateau stood aloof
Scattered masonry of an ancient time,
Some say unnamed feet found Black's Ladder
The way to Megalong,
As birds migrated, and climbed the split cliffs
To better feed,
Wrapped in mist crowded banksia heath.

The water sparkled then, as now
From out rock wells tightly squeezed for aeons,
Feet came and went silently
To Elphinstone, top of Megalong.
Undisturbed—the plateau sighed in moods of mist
And Moon and sunny climes. Then—they came.
Three white men passed the plateau by
And countless others trod Cox and Lawson's way.

The first 'Katoomba' was near here, on Pulpit Hill;
Just a stop on the first highway west, the Cox's road.
Others later came by Bonnie Doon, down Nellie's Glen
And grolvelled coal and shale beneath the plateau cliffs.
Not for long did they toil, then left
Footprints only in Valley soil.
The first tourists to Jenolan 'long the Six Foot Track
They came, they saw, they went again.

Ephemeral wayfarers, passers by
And Elphinstone stayed, alone not lonely,
Serene untouched, this remote
Unfettered tongue of land.
Somebody in the booming fifties
Scratched a little history
A little farm, chooks
And solitude, a little while.

To bigger things and bigger
Hope the plateau went
A man planted pines,
Develop hell bent.
Small they stayed,
A sad and hopeless commentary
Twenty five years they grew and stand
In three hundred million year old sand.



These failed exotic trees
Left yet another scar
In name Radiata—stuck on mapmakers' tongues
On maps to man.
The plateau struck back,
Or so it seems, the wildness to reclaim
Left alone and aloof to regain unaided, unbridled, unnamed,
A self, without man's frantic claim, itself.

Oh! Elphinstone do you need
The weight of concrete blocks and,
Flush designs on random rocks.
Now! ... upstart man
Vainly tries again
Unhappy with two false starts
Scratch the plateau,
Renew the pain.

Why must we pioneers always be?
Can't we feel and meditate
In space unseen,
Places clean, unclad
Uncluttered
By man's disgrace?
Elphinstone! Beyond the avarice and creed,
Aloof from egocentred men amiss.

Ignore this site's ignoble heir
Return to future plateau bliss!
Maker of Eagle airs,
Keeper of Mountain Ash
Secure your liquid carved crystal crags.
The last misty milestone—step to Kanangra,
Twixt Bluegum.
Elphinstone! Top of Megalong!!

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 Convenor Bob van Reyswoud. For membership enquiries contact Membership Secretary Liz van Reyswoud.

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.

Dec 13 Christmas Party, Lawson Park, near swimming pool. Walk to nearby falls, swim at Lawson pool, BBQ lunch meat/fish provided, bring salad/sweets to share. Meet 9.30, Lawson Bowling Club carpark. ☎Laurel/Norm 4784 1554.

Dec 20 Porter's Pass, Blackheath. Great views over Kanimbla Valley. Meet 9.15 Blackheath commuter car park. ☎Ron 4757 1526.

Jan 03 Asgard Head, Mt Victoria. Upper mountain heath. Meet 9.15 Mount Victoria station. ☎Ron 4757 1526.

Jan 10 Cateract Falls to Terrace Falls. Wonderful waterworks. Meet 9am Honour Ave, Lawson. ☎Bill 4759 1692. BBQ.

Weekend Bushwalks:

Dec 11 Christmas Party: St Alban's Bus Trip. Short, easy walk. Lunch at the Settlers' Arms Hotel. Menu from \$18-\$25. Meet Katoomba depot 8am, plus pickups down the mountains. The bus is full, but car pool to be arranged. ☎Bob 4757 2694.

Weekend Bushwalks will resume in January.

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.

Dec 09 Euroka Clearing to Nepean River, Glenbrook. Varied walk with descent to river. Meet car park Glenbrook Station 10am. ☎Bill 4759 1692.

Dec 16 Christmas Party at Ingar Picnic Area, off Tableland Road, Wentworth Falls. Meet 11am Wentworth Falls car park near the clock. BYOG and a plate. Wood BBQs are available. If the weather is wet or a fire ban we will go to Joan and Neville's home in Wentworth Falls. ☎Simone 4757 3416.

Walks will resume in January in a leisurely manner.