

## **August - September 2008**



*Dave Shorter in his LS-8 at Kingaroy*

This newsletter is distributed by email to current Lake Keepit Soaring Club members, including recent Short Term Members. If others would like to receive this bi-monthly newsletter advise the Editor. Equally, if you are not a member or do not wish to receive it, email the Editor to take your name off the list.



## Lake Keepit Soaring Club Inc

Airfield and Clubhouse: Keepit Dam via Tamworth NSW  
 Mail address: 234 Keepit Dam Road, Lake Keepit 2340  
 Phone: 02 6769 7514 Fax: 02 6769 7640  
 Email: [enquiries@keepitsoaring.com](mailto:enquiries@keepitsoaring.com)  
 Internet: [www.keepitsoaring.com](http://www.keepitsoaring.com)

Manager	Jenny Ganderton	02 6769 7514	<a href="mailto:manager@keepitsoaring.com">manager@keepitsoaring.com</a>
President	Ron Cameron	02 6721 0081	
Vice President	Tim Carr	02 9801 7979	
Secretary	Ian Roache	02 9387 1882	
Treasurer	Dave Shorter	02 6656 1979	<a href="mailto:treasurer@keepitsoaring.com">treasurer@keepitsoaring.com</a>
Committee Members:	John Clark	02 9997 2842	
	Vic Hatfield	02 6765 7050	
Airworthiness Officer	Ron Cameron	02 6721 0081	
Chief Flying Instructor	Nick Singer	02 4365 5485	
Instructors' Roster	Peter Sheils	02 6762 1377	
Chief Pilot	Dennis Stacey	02 6760 8538	
Tugmaster	Phil Anderton	02 6785 2764	
Tug Pilots Roster	Phil Anderton	02 6785 2764	
Membership Secretary	Ian Sawell	02 9896 4961	<a href="mailto:membership@keepitsoaring.com">membership@keepitsoaring.com</a>
Webmaster	Chris Carr	02 6761 2286	<a href="mailto:webmaster@keepitsoaring.com">webmaster@keepitsoaring.com</a>
Bookings Manager	Tim Carr	02 9801 7979	<a href="mailto:bookings@keepitsoaring.com">bookings@keepitsoaring.com</a>

## Contents

		Page
Cover photo	Dave Shorter at Kingaroy	1
Club Officers		2
Editorial	The Editor	3
A Visit to Kingaroy	Harry Medicott	4
Member Profile		
... Ian Barraclough	Geoff Neely	6
Wave in a South Wind	Geoff Neely	8
On Raptors and Vortices		
	via Garry Speight	10
Hailstone facts	Dave Shorter	11
Book Review	<i>Pilots Touring Guide</i>	
	Review by Ian Roache	12
Book Review	<i>Advanced Soaring Made Easy</i>	
	Review by Dave Shorter	13
Coming Events		14
Instructors and Tug Pilots contact numbers		14
Instructors and Tug Pilots Roster		15



## Editorial

### AGM

The Annual General Meeting will be held on 13 September after the day's flying .... as usual the Club will put on a BBQ afterwards.

### Tuggies Ball

The Tug Pilots Panel will meet on Saturday 13 September. Notwithstanding all the incorrect information in my last Editorial on this subject the Tuggies Ball will be held the night before on the Friday night at the usual location ... book with Steve Hedley.

### Keepit Safari

Another Keepit Safari is planned for this year ... **Sun 30 Nov to Sat 6 Dec**. We are now up to seven gliders planning to attend ... contact me if you want to chat about what is involved. The idea is to end up each day somewhere different from where you launched ... and not a paddock! And above all, the idea is to have fun.

### Tugmaster

Phil Anderton has taken over from me as Tugmaster of the Club. I am sure he will receive the same support that I have enjoyed for these last many years. Good luck Phil.

### Member Profile

When he started his series of Member Profiles for Keep Soaring, Geoff Neely said that he would not ask others to do something that he was not prepared to do, and did a Profile on himself to start the series. Now it seems that I am caught in his web!

### Pilots Touring Guide

I admit to being self serving by including in this issue a Book Review of the *Pilots Touring Guide*, which is something I have put together over the last two years. It is being published as a companion volume to the AOPA Airfield Directory ... the *Airfield Directory* contains operational details of 2,200 airfields in Australia ... the *Pilots Touring Guide* contains planning information for 235 destinations in Australia.

Ian Barraclough

Editor

([ian.barraclough@bigpond.com](mailto:ian.barraclough@bigpond.com))

## BPay available for Payments to Club

**Treasurer Shorter**

Some people may prefer to use BPay as a method of paying money to the Club – this facility is now available and provides a good secure option.

Note Biller code for bPay is 2026, and Ref no is 121 593 479.

It is still very important that you identify the payment with your name or pilot ID code so we can credit your payment to your account. (The details of sending account name are not always transferred by the sender bank.)



## **A Visit to Kingaroy Gliding Club**

**Harry Medicott**

Wendy and I have just spent some time at Kingaroy where Wendy was attending a meeting of the women's group who will be running the National Sports and Club Class Nationals later this year.

For the interest of those who may not be familiar with Kingaroy, it is a city probably about the size of Gunnedah located a two and a half hour drive north west of Brisbane. It is undulating country famous for growing peanuts. We stayed in a tourist cottage on Bethany, the farm of the late Sir Joe Bjelke Peterson now run by his son. Good gliding country with the dark red paddocks often generating strong thermals. They get wave off the Bunya mountains 30 km to the west usually during the cooler months when the westerly winds predominate

The airfield is also very similar to the one at Gunnedah. The local gliding club is very fortunate in that they have the use of buildings and a bellman hangar left over from WW 2 and still in reasonable condition. The club pays no rent but with the assistance of other aircraft users, drives the council supplied slasher and does the morning inspection required of all major airfields, namely making sure there are no obstacles on the runways. Aren't they fortunate? A great gliding site and relatively close to a capital city. It must cost our Club and its members \$15,000 p.a. to lease, maintain our airfield and provide our facilities.

We flew the club's Duo Discus, a new one which replaces one a few years old. The club also has a nearly new Discus as well as an Astir. Launching is by a Cessna 150 with a 180 hp. motor. It also owns a Pawnee in excellent condition as well as an ASK 21 and perhaps other gliders.

There were about 12 gliders flying the weekend we were there and they organised their usual thing by setting a task; most of the gliders fly around together competitively. With this regular practice it is not surprising that they have 4 pilots representing Australia in overseas competitions this year. Concern about damage means the club will not do paddock retrieves so outlandings, except for airfields, means de-rigging.

Once a month they have a four day weekend which is always well attended. Local tug pilots can help out on other weekdays by pre-arrangement.

On the financial side they charge \$65 per hour for the Duo Discus and club members pay only for the first three hours. Sharing a wonderful glider for a day at a cost of \$100 is very popular.

The Jantar is interesting. They have an excellent safety record and don't insure it apart from 3rd party claims. Most accident claims relate to two seater gliders and I am sorry to say, usually have an instructor on board. The Jantar is available for bulk flying, unlimited hours, for \$500 p.a. It is very popular with two pilots not infrequently having to share it. A retired pilot has donated a Libelle which the members will smarten up and include it in the bulk flying scheme.

The members attribute part of the club's success to the Cessna 150/180. It has proved very reliable over the ten years or so they have had it. Being a metal airframe, maintenance is low and hundred hourly inspections cost about \$700. It uses about 20% less fuel per launch than a Pawnee. They claim they make at least \$10,000 p.a. profit on its operation. The club charges on tug tacho time and 2,000 ft. launches cost about \$30. There is no daily membership charge.

All their equipment seemed to be in immaculate condition. The instruments work, there are no visible scratches on their finish and no cracked canopies. As most of the gliders are packed pretty



tightly in the bellman hangar, I guess they are pretty careful with their glider handling. They have a dedicated group of pilots who assist with maintenance.

Membership was \$100 p.a. for many years. They put it up to \$200 last year but due to protests are looking at reducing it this coming year.

The club does not do much training. The Queensland coastal clubs do quite a bit of training and when their pilots wish to experience better conditions and cross country flying they move to Kingaroy and the other Queensland clubs about a two and a half hours inland, Jondaryan and Warwick.

All clubs do things a bit differently and it is interesting to look around and study just what goes on at other airfields. Queensland is the success state so far as gliding is concerned at the moment. However, always remember that at Lake Keepit we have one of the very best gliding sites in Australia,

### **A Word from Vic Hatfield**

At the request of John Hoyer, I attended a fund raising dinner to assist George Barton financially to represent Australia in skeet shooting at the Olympics in Beijing. This was held at the West Tamworth Diggers Club. Our Club had been asked to donate a glider flight to be auctioned and the proceeds would help financially. Approx 200 attended and some had to be turned away at the door. It was a very successful fund raiser; you may have seen it on the TV news.

Items to be auctioned included, 9 holes of golf with the Club Pro, \$1,000 of advertising on Ten, same on 92.9, paintball, paragliding, skeet shooting with George, other items and our glider flight. LKSC had good exposure and the auctioneer gave us a good rap.

The flight sold for \$400, (paragliding went for \$300!). Coincidentally the fellow who bought it was on my table, a local named Kerry Schofield. He said he had always wanted to 'have a go' and sounds very keen to become involved. John Hoyer said he would assist with the cost of the tow. I will also make sure he gets a good long flight. This was a good exercise in publicity for us and we may attract a new member.

PS: a reminder about the soaring magazines, particularly ones with a glider on the cover ... leave at the clubhouse for me.

### **For Sale**

**1 Hand held IC-A20 ICOM - VHF Transceiver  
Good condition, with charger                      \$250  
John Wakefield    02 6760 8010**

#### **CITY COAST MOTORCYCLES**

262-264 KEIRA ST WOLLONGONG 2500  
PHONE: (02) 4228 7392 FAX: (02) 4226 6769  
EMAIL: [sales@citycoastmotorcycles.com.au](mailto:sales@citycoastmotorcycles.com.au)  
GEOFF SIM

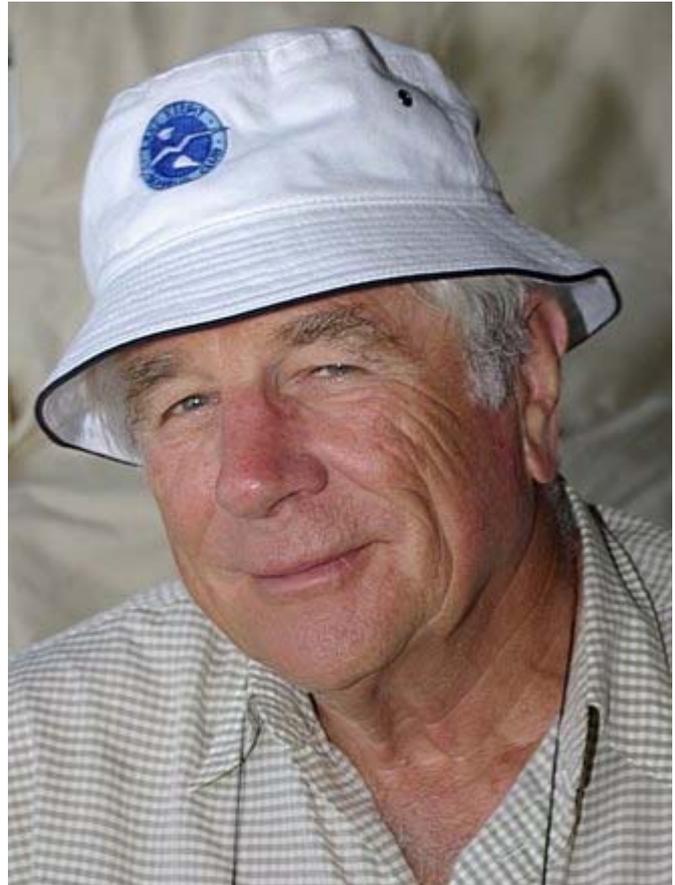


## Member Profile ... Ian Barraclough

by Geoff Neely

When I asked our Editor for an interview and profile he demurred on the grounds that it would be immodest of the Editor to talk about himself. But those whom I have already “done” will tell you I can apply torque to an arm when necessary and he was finally left with nothing more to say. I reminded him that when I began writing member profiles in December 2006 I said “I am beginning the series by blowing my own trumpet to show that I will not be asking anybody to do what I am not willing to do myself. The autobiographer at least has a co-operative subject.”

Ian Barraclough was born in Sydney. His father was a wartime instructor in the RAAF at Temora. He says: “an early memory when my father was home on leave from the war, is stumbling around the lounge room in my father’s fleecy lined flying boots that reached way above my knees, whilst wearing his leather flying helmet, with my arms outstretched and making aeroplane noises. Building and flying models soon followed.”



At school he enjoyed subjects like geography but was not a whiz at maths. He does not sing now, at least not at the Tuggies’ Ball but he once sang the foreman in *Trial by Jury* and a principal pirate in *The Pirates of Penzance*.

At school he won an Air Training Corps flying scholarship to Private Pilot standard and learnt on DH-82 Tiger Moths at the Royal Aero Club at Bankstown in 1955 when it was an all-over grass field with no radio and light signals from the tower. They sometimes waited for ‘Blackjack’ Walker to make test flights of Vampires for Hawker de Havilland.

From Shore School in Sydney he went to Sydney University for a degree in Mechanical Engineering. He won a post-graduate position with AEI at Manchester, a conglomerate of British electrical companies whose once-proud names have now disappeared. He worked for part of this time on the building of Dungeness A nuclear power station.

But not for long: firstly, he took advantage of a travel break and stopped to top up his finances by working at a factory in Hanover. At a tennis club there he met Dominique, visiting from her home in Bordeaux. They have been married for 41 years and Bordeaux is on their regular travel itinerary. He says he migrated from engineering to management consulting and then investment banking for twelve years. This took him to London, Sydney, Wellington and London again and left no time for flying. He built up a plastic injection moulding and decorating business in Sydney and after selling



that he became Business Manager and Company Secretary of the Australian Graduate School of Engineering Innovation at the Australian Technology Park in Sydney.

Friends had been talking to this lapsed Tiger Moth pilot about gliding and he had a go at Bathurst. Michael Shirley, who was already flying gliders, brought him to an ab initio course at Lake Keepit Soaring Club. He says: “I solo’d in Bergfalke III ‘Tango Papa’ and encouraged by the canny Ian McPhee, moved up through the Keepit gliders. Did the usual AEI and instructor rating and was on the roster for a number of years. Absolutely love competition flying ... on a par with long distance cross country flying”.

“Was in the PIK20E syndicate for a number of years till Geoff Sim waylaid me with the suggestion of an ASH ... we said at the time that it was retirement planning; it turned out to be a smart thing to do”.

“Watching the finesse and skill of the tug pilots finally led me to getting my power licence back about 16 years ago and then getting a tow rating from John Wolfe”. Sharing in the ownership of the Super Cub (with John Wolfe and Chris Leon) and having it on line as the standby tug at Keepit was an inevitable step.

“So then wanting to be able to do long distance flying trips with a passenger and looking for a more powerful tug than the Super Cub, led through ownership of a C182 to the wonderful ‘go anywhere’ C185 MIE. The Private IFR rating ensured I could get to and from Keepit in bad weather”.

“An inspiring turning point was participating in the 1995 ‘Heart of Australia Tour’ organized by Beryl Hartley and Nick Hunt. I shared the Pik with Ian McPhee and we flew 6,000 kms around the Simpson Desert in 2 weeks. Average task length was just over 500 kms each day ... shortest was Narromine to Keepit and longest was 700kms from Ayers Rock to Coober Pedy. It was a ‘mind blowing’ experience. McPhee and I were to take turns day and day about, except that he was 3 days late and only caught up with the Tour in Longreach.” The Keepit Safaris have been trying ever since to recapture the rapture.

Ian has long been interested in writing – for one thing, writing memoirs for the grandchildren is something he says we should all do – and has taken more than one writing course. Bronwyn Shirley was a long-time Editor of the Club newsletter. She was followed by Michael Simcock and Ian took over from him. We can all see from the results that the newsletter is a labour of love.

His forthcoming commercial publication is the *Pilots Touring Guide*. This is about to hit the streets and distribution will be assisted by AOPA.

He has other interests and if you want to ring Ian you have to remember which are his regular golf days and at what time he and Dominique settle for their evening glass of wine. Ian and Dominique have three children and eight grandchildren. Antony is an Anglican minister, Maina has a French husband and lives at Bordeaux and Sandra, married with two children, lives in Sydney.

One of the pleasures of life is drinking *vin rouge* on the patio of their daughter’s home in Bordeaux, usually once a year, and watching the Marianne and ASH25 from the local club fly over. Ian’s French allows him to talk gliding with the local members, proving that gliding is the same the world over.



## Wave in a South Wind

Geoff Neely

I had a deadline of 30 June to remove a control pushrod from the DG400 and I had been waiting for weeks for good weather for one last good flight before winter. I got it, *par excellence*, on 15 June in wave.

The surface temperature was several degrees short of the trigger temperature indicated by the BLIP temperature profile but the forecast wind was from 170T, increasing with height in the range 30kt to 45kt. Not a recognised wave direction but I drove out anyway. On the way I saw one classic multi-layered lenticular over the southern horizon but the cloud in our area was not unusual: regular crosswind streets of strato-cumulus.

There was no prospect of thermalling into wave and if it had not been so close to the maintenance deadline I might not have bothered but I decided to motor into wind to a good height and see what happened. The surface wind was such that I seemed to pass 1,000 AGL abeam Sims's hangar.

The subsequent action all took place on a short east-west beat a couple of miles south of the highway between Carroll and the twin towers. I had to reduce power and level out under the base of a crosswind cloud street at about 5,000 QNH. After resuming the climb in the gap, I could not quite top the next cloud street at 7,500 QNH so I shut down (this takes a hundred feet or so), turned downwind across the gap and arrived about halfway up the upwind flank of a street. Sure enough weak but consistent lift took me slowly up the side until I could overlook the cloud. The lift continued into clear air; the variometer gave out a relaxed beep at a bit less than the frequency of a heartbeat and as usual in wave, this was the only indication that I was climbing, or even that I was moving in the dead calm air in invisible wave.

I spent much of the afternoon between 10,000 and 12,000 QNH and 4,000 ft above the cloud tops. The wave continued to that height but the air contained only so much moisture and the cloud formed a level base at the condensation level but the tops were limited.

I do not like flying VFR on top and the sight of an unbroken layer of cloud is one I usually only see from the window of an airliner. Many a time I have looked down on cumulus tops far below over some foreign country and imagined what it would be like in the lift below the cloud.

I have not had such a successful wave flight since the big one to 23,000ft over the Snowy Mountains in 1982. On that occasion there were defined lenticulars to mark the way but this time the cloud was ill-defined although there were regular crosswind gaps. The gap below me remained stationary all afternoon. The tops were cumuliform but limited in height – a field of domes protruding from the top of the crosswind bands. Strangely, there were a few lenticular-form clouds embedded in the field of cloud but limited to the same height range. All of these were out of reach upwind or downwind.

I pushed upwind towards the next band of cloud but was not confident of remaining above the tops. Had I fallen below the tops I would have had to descend on the upwind side, dash back below cloud and arrive back perhaps too low to get up again. It became a game of toying with the cloud tops while always retaining an advantage that would get me back to my known beat. I tried to follow my street to Gunnedah but the cloud, and the lift, tailed off and I came back.



My GPS groundspeed into wind was 20kt and downwind it was 85 kt. I was reluctant to circle to get a GPS wind but tried to pick the crosswind heading by turning until my groundspeed was equal to what I guessed was my true airspeed. Although I was in clear air I was always above a cloud street and could explore for lift without being carried away downwind.

The field of cloud was a beautiful sight: the lumpy upper surface extended to the horizon in all directions, with a very few lenticulars for which I could see no reason. The moon was a couple of days short of full moon and during the afternoon it rose out of the haze into crisp, cold clear air and became brighter against the dark blue sky. In the direction of the winter sun the tops were lined with light from behind, looking through my amber sunglasses like burnished bronze. The shadows were sharp and black.

There were depressions aligned downwind in the cloud mass, one a steep sided valley with cloud streaming down the sides and another a broad shallow depression such as you would see in the outback. Over Gunnedah there was a clear sector along the wind line.

The field of cloud extended as far upwind as I could see and I surmised that the wave was generated by the Dividing Range and perhaps was boosted by being in phase with the Duri Range. I could hear Warkworth gliders on the radio but there was no mention of any special weather.

Encouraged by my gloating transmissions, Jenny got Garry to launch her but she did not tow to my position and did not contact wave.

At one time the cloud looked better towards Tamworth so I called Tamworth Tower and asked for a clearance to 9nm TW. He offered a clearance not above 8,500 but I told him I did not want to come that low, thanked him and said I was clearing the area.

Eventually the lift fell off and I began that losing battle that we all know so well. Leaving it as late as I could, I skimmed over the top downwind towards home and flew to a low lenticular that had been stationary to the west of Sport and Rec. Here was more beauty. I skimmed the upwind flank but there was only reduced sink. The view into the low sun was wintry with cold-looking haze and the silhouette of the Carroll Range. I flew close to the flank of the cloud and the shadow of the aircraft in a triple halo kept pace with me like a Doppelganger.

Wisps of cloud formed behind me and I broke off and turned for home. I had been enticed further downwind than I had intended (wave and slope soaring require vigilance) but I still had comfortable height.

Below cloud I entered a different world: in contrast with clear sunlight I was now in wintry air below a broken layer of blue-black cloud bases. There were deep shadows on the ground but in places the low sun and slight mist gave a soft white light that showed up white tree trunks and the rich green of new grass.

Everybody had left the office and my calls for a 'roo patrol went unanswered but with no traffic and height in hand I was able to have a good look, land beside my car and dash for warm clothing.

## **On Raptors and Vortices**

(Article provided by Garry Speight)

Robert H. McNaught, Narrabri,  
Gordon Garradd, Tamworth,  
(both members of Tamworth Birdwatchers)

Fred T.H. Smith reports (The Bird Observer No.728p 5 March 1993) a fascinating sighting of wedge-tailed eagles deliberately flying into a willy willy (dust devil). As far as we are aware, this is only the second Australian species noted as deliberately flying into a dust devil.

In Emu, Vol. 92, pp248-9 (1992) we described such observations of galahs and suggested that it is solely play behaviour. It is perhaps more difficult to justify this in the case of wedge-tailed eagles, as they use thermals for gaining altitude and a dust devil is related to, and is in a sense just a very small, thermal. Flying into a dust devil may thus be, for them, an extreme in otherwise normal behaviour.

A slightly different observation involving yet another species was made by one of us from Loomberah near Tamworth in January 1993. An Australian kestrel was seen in level flight about 30-40m above the ground, approaching a large willy-willy of about 20m diameter. Just before reaching the vortex it went into a glide and then soared about 5m outside the vortex, rising rapidly to around 200m. By this time it was not clear whether it was still 'in' the vortex. It was flying counter to the direction of rotation of the willy-willy, which would produce maximum lift.

It would be difficult to prove that this is play behaviour in species which utilise thermals for gaining height to hunting altitudes or as a step up in cross-country gliding. To them, a dust devil may simply be seen as an express elevator! Two methods of gaining height could be utilised. Firstly by flying with the direction of the vortex, the vertical motions of the air could carry birds with it if they simply stay within the air column.

Another strategy would be to fly counter to the rotation and thus use lift from the wings in the strong head wind to add to the vertical motion. In both cases one would expect substantial buffering due to the wind velocity and pressure gradients from one wing tip to the other. In the first instance however, with the bird simply trying to remain within the vortex, control may be easier and the second strategy may only be used in light vortices (as in normal thermals) or in the weakened rotations around the main columns of dust devils (which the Australian kestrel seemed to demonstrate). However, the wind fields in and around dust devils can be very complex and include down-draughts, concentrate shells and even secondary (suction) vortices. This may complicate the interpretation of flight behaviour for us, but from the point of view of the bird, it simply reacts to the experienced wind field.

The 'gusto' with which the wedge-tailed eagles entered the base of the willy-willy could perhaps be explained in more practical terms than play. The eagles, coming from low over the trees, would require to gain speed before entering the vortex and would attain this by diving down towards the base. Increased speed is necessary in high and turbulent winds to prevent stalling and would be necessary in the winds of a large dust devil which approach 100kph.

Just how many bird species fly into willy-willies is unknown and additional reports would be valuable.

Interesting Facts:- The maximum size for efficient flight seems to be about 15 kg, a weight reached by some pelicans, swans, albatrosses and bustards.

## Hailstone Facts

Dave Shorter

I was fascinated by the recent program on ABC TV about the storm chasers flying around the thunderstorms of Darwin. They were researching the processes of thunderstorm development, moisture content of the inflow air and the ice crystal outflows into the upper atmosphere. The clouds being examined were said to be up to 30km high (100,000 ft) !!

The planes being used were being very careful to ensure they did not fly into the centre of the storm ... "that would probably destroy the aircraft" ... noted one commentator.

This lead me to wonder about how strong the internal updrafts in the storm could be, and I searched out some info on hail. As most of you would know, hail cycles up and down through the storm each time accumulating an extra layer of ice ... the hailstones build up successive skins like onions until they become too heavy to be supported by the updraft, and they fall to the ground.

*" Broadly, hailstones are the result of the updrafts and down drafts which take place inside the cumulonimbus clouds of a thunderstorm, where supercooled water droplets exist. Continued deposits of supercooled water cause the ice crystals to grow into hailstones that generally have passed through several stages of accretion, from the first stage (graupel), to small hail, to hailstones. The more times a hailstone is tossed up and down through the cloud, the larger the hailstone will be. Hailstones can reach a speed of 90 mph (140 kph) as they fall to the ground! "*

*"Probably, the best-documented fall of an ice chunk was April 2, 1973 in Manchester, England. The block weighed 2 kg and consisted of 51 layers of ice."*

ref: <http://tierra.rediris.es/bloquesdehielo/ambio.pdf>

*" A hailstorm which swept through the southwest of Sydney on 18th March 1990 produced hailstones of up to 8 cm in diameter. An 8 cm stone weighs about 0.7 kg and falls at 48 m/s (171 km/h)! It is not surprising then that this hailstorm caused insured damage of over \$300 million. The hailstone which fell in Kansas in September of 1970 "weighed 755 grams, had a diameter of 14 cm, and fell at about 57 m/s (i.e. 207 km/h). This speed is comparable to the highest-ever observed upward airspeed, estimated independently by aircraft and Doppler remote sensors."*

ref: [http://www-das.uwyo.edu/~geerts/cwx/notes/chap09/more\\_hail.html](http://www-das.uwyo.edu/~geerts/cwx/notes/chap09/more_hail.html).

The fall speed of hail *"is approximately given by  $1.4 D^{0.8}$  at sea level, the exact relationship depends on hail density and shape. For instance, a large hailstone of 8 cm ( $D=80$  mm) weighs about 0.7 kg and falls at 48 m/s (172kph) !"*

ref: <http://www-das.uwyo.edu/~geerts/cwx/notes/chap09/hydrometeor.html>

The terminal velocity of the hailstone is a good indicator of the ferocity of the internal air currents as the updraft must be greater than the terminal velocity of the hailstone for it to be carried up through the stormcloud.

There is considerable variability in the terminal velocity calculations by different authors, but typical estimates for the normal hailstorms we encounter are: 0.5cm diameter 40-50 kph (27kts), 1cm 70 kph (38 kts) while a 5cm hailstone will fall at around 150 kph (80kts). Ref

<http://hyperphysics.phystr.gsu.edu/Hbase/airfri2.html#c2>

Whatever the exact figure, the turbulence is horrifically strong in one of these clouds ... they are good places to stay away from.



## BOOK REVIEW

Ian Roache

### **Pilots Touring Guide**

Ian Barraclough

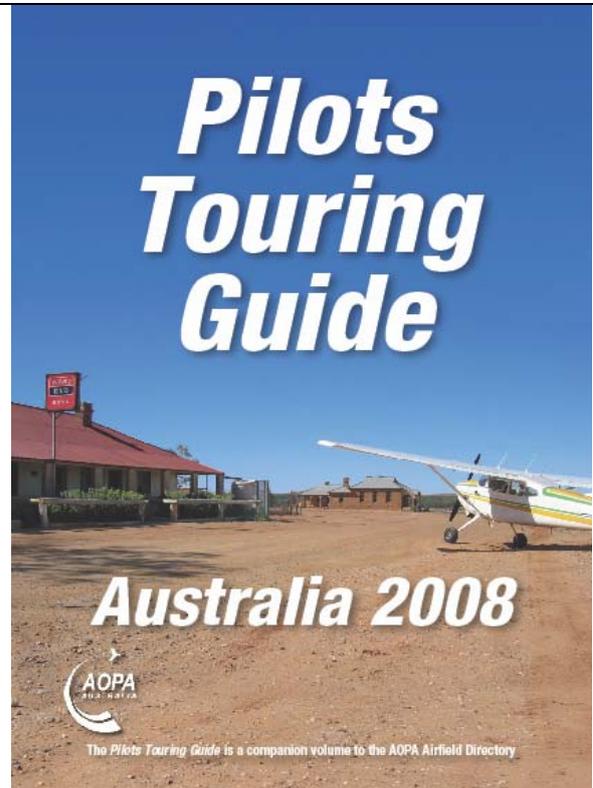
\$33 plus \$6 p&h from AOPA or the Editor

*"Pilots are always looking for new and interesting places to fly to. The Pilots Touring Guide is designed to help plan flying adventures by providing information about destinations into which a touring pilot can fly. In a word, it answers the questions of 'why go there' and 'what will I find when I do'"*

Planning is half the fun of a flying adventure. Poring over charts, drafting flight plans and wondering what there is to see and do at destinations or stops along the way, build the excitement. Finding answers to questions like what is interesting about the place, can we get fuel, how do we get into town and where can we stay, are all part of the fun and the reason for the *Pilots Touring Guide*.

In my early days of flying trips around the country, I remember arriving at some destinations and not finding a soul ... how was I going to get into town and how was I going to find somewhere to stay? In those days I expected every airport to have fuel and had a rude awakening when I found I had to buy all 204L in the drum ... and my Super Cub only held 134L.

The *Pilots Touring Guide* answers these essential planning questions ... if there is no fuel at my destination, where is the nearest place I can get it. What is the phone number of the hotel, how far is it to town and how will I get there and back? These questions are best answered in the planning stage,



well before departure.

The *Guide* contains a lift out map showing all the destinations, whether or not they have fuel as well as showing the nearby towns where fuel is readily available. The map is ideal for trip planning before transferring the track to the WAC.

The *Guide* goes on to describe the attractions of the town or property or resort or National Park and how you can get around to see them. It also has notes on the history of the destinations.

The Introduction has some useful tips and suggestions of what to do and not to do when planning a flying trip.

This first edition has over 230 interesting destinations, including farm-stays, resorts, unusual pubs and country and coastal towns. The *Guide* is a companion volume to the AOPA National Airfield Directory, which contains details of the 2,200 airfields in Australia.



## Book Review

Dave Shorter

Advanced Soaring Made Easy  
Bernard Eckey  
\$59.95 + postage from the Author

*“Nothing will improve your gliding more than time in a glider, but if you fail to learn something out of every flight you fail to make progress. If on top you want to make progress real fast you had better go and buy some books.”*

These are the words of the instructor who sent Bernard Eckey solo over 20 years ago. And as Bernard points out “Soaring skills can’t be developed overnight.”

How right he is! I remember my own first 300km flight, in a Club Libelle, which took 7½ hours. It’s taken me 15 years, 1600 hours, much assistance and advice from other experienced pilots, and many books to get to the stage where I can now do the same distance in less than 3 hours. And here is one book which gives a very comprehensive coverage of most aspects of advanced soaring, with a lot of basic fundamentals required to improve your cross country flying – whether it’s cross country distance flying, competition or just staying aloft longer – this guidance is relevant to all.

There are many other texts which cover a lot of the same material. Helmet Reichmann’s *Cross Country Soaring* is a classic, Maurie Bradney’s *Flying Further and Faster* (available from GFA) is very sound and is a compilation of training courses Maurie gave, George Moffat’s *Winning II* has one of the best chapters explaining low loss flying, and Tom Bradbury’s *Meteorology and Flight* on weather. I could recommend all of these to the serious glider pilot.

Where Bernard Eckey’s book shines is his all encompassing coverage of the essence of all these with the benefit of the latest thinking on best gliding practice. His approach is a very sensible “concentrate on one aspect to improve ... and master that first”.

The book is illustrated with many gliding pictures in full colour, but as Bernard is the Schleicher agent in Australia, it’s a bit tiring seeing nothing but Schleicher gliders (he can’t help himself – there are actually other gliders in Australia too).

If you have no other gliding texts, apart from the basic introductory training books, then this would be a good introduction to advanced soaring. Many of the points raised are necessarily covered in concise paragraphs, and readers would be well advised to re-read and absorb these lessons carefully.

If you master all the lessons in this book, you’d be well on your way to success.

## Coming Events

Event	Contact
2 – 16 August	World Championships in Lusse, Berlin for 15m, 18m and Open Classes
12 September	Tuggies Ball
13 September	Tug Pilots Panel Meeting
13 September	Keepit AGM
20 – 28 September	Canberra Gliding Club Wave Camp
5 – 17 October	Club Class Nationals at Kingaroy
23 - 29 November	Narromine Cup Week
30 November to 6 Dec	Australian Qualifying Grand Prix at Narromine 18m Class limited to 20 gliders
30 Nov – 6 December	Keepit Safari

## Contact Numbers for Instructors and Tug Pilots

Name	Home	Work	Mobile
Jay Anderson	02 9571 9592	02 9221 4938	0418 676 696
Phil Anderton	02 6785 2764		0427 493 107
Ian Barraclough	02 9948 7866		0428 410 010
Andrew Brumby			0404 043 386
Allan Buttenshaw	02 4944 8518		0412 217 557
Tim Carr	02 9801 7979		0414 405 544
Bruce Clark	02 4955 5041		0414 545 278
Ron Cameron	02 6721 0081	0428 659 637	0428 659 637
Rob de Jarlais	02 4677 1926		
Tony Esler	07 3350 5858	07 3881 2615	0412 770 526
Bill Gleeson			0408 443 009
Vic Hatfield	02 6765 7050	02 6766 9655	
Steve Hedley	02 9834 4178	02 9670 6733	0412 378 758
John Hoye	02 6767 1033		0427 505 233
Wendy Medlicott	02 4365 3626		
Matthew Minter	02 6785 7399	02 6742 3998	0427 455 119
Geoff Neely		02 6769 7514	0419 563 233
Peter Sheils	02 6762 1377		
Michael Shirley		02 9439 2022	0427 108 040
Nick Singer	02 4365 5485	02 4384 2101	
Garry Speight	02 6785 1880		
Dennis Stacey		02 6760 7677	
Gerhard Stuck	02 9982 5248		0428 300 370
Charlie Szpitalak	02 6777 2154	02 6777 2040	
Dave Turner	02 9489 0841	02 9620 0893	0425 269 210
Stuart Welsby		02 9686 3836	0425 266 380
Trevor West	02 6766 5618		

## Instructor & Tug Pilot Roster ... Aug - Sept 08

Date		Instructor	Tug Pilot
<b>August</b>			
Saturday	2	Vic Hatfield	Geoff Neely
Sunday	3	Peter Sheils	Charlie Szpitalak
Saturday	9	John Hoye (Panel meeting)	Garry Speight
Sunday	10	Volunteer please	Ron Cameron
Saturday	16	Tim Carr	Volunteer please
Sunday	17	Garry Speight	Volunteer please
Saturday	23	Dave Turner	Phil Anderton
Sunday	24	Nick Singer	Andrew Brumby
Saturday	30	Gerhard Stuck	John Hoye
Sunday	31	Gerhard Stuck	Jay Anderson

Date		Instructor	Tug Pilot
<b>September</b>			
Saturday	6	Vic Hatfield	Geoff Neely
Sunday	7	Matthew Minter	Charlie Szpitalak
Saturday	13	Volunteer please AGM	Tuggies Panel meeting
Sunday	14	Volunteer please	Phil Anderton
Saturday	20	Tim Carr	John Hoye
Sunday	21	Garry Speight	Garry Speight
Saturday	27	Dave Turner	Rob de Jarlais
Sunday	28	Nick Singer	Jay Anderson

**Instructors** are rostered by Peter Sheils and **Tug Pilots** are rostered by Phil Anderton.

You are responsible for finding your own replacements if it turns out you can not make your rostered day. Keep the Club Manager and Peter or Phil up to date with any change you make. When arranging your replacement remember that Level 1 Instructors must ensure that the Tug Pilot is a Level 2 or 3 Instructor.

Car Pooling: There is a Yahoo chat and message group (not officially sanctioned by the Club) for Club members. To join, either visit the chat group web page at <http://groups.yahoo.com/group/lksc> or email [pjanderton@optusnet.com.au](mailto:pjanderton@optusnet.com.au) with your email details and he will fix it.