

REDCLIFFE AERO CLUB

AIRCHAT



No. 19 Autumn 2019



1969 - 2019



**CELEBRATING 50 YEARS OF PROFESSIONAL AVIATION TRAINING
CHARTER AND QUALITY AIRCRAFT HIRE**

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From the club president

Hello Everyone and welcome to the first AirChat for 2019. The first quarter is under our belt and the Club is progressing forward given the weekly challenges in providing pilot training. One of those challenges has been the weather. It's either been too wet or too windy and now we are playing catch up.

Meanwhile, planning for celebrating the Club's 50th anniversary is well underway. Saturday July 13th has been chosen as the major event day. We are hoping to catch up with many former members and employees who have moved on to bigger and better things in the aviation industry. Invitations to the celebration will be sent to as many of them as possible. We are also inviting dignitaries from our local community to attend and naturally hope that many of you current members, your families and friends will also join us.

We are planning a fly-in by other aero clubs on the Saturday afternoon. Although not open to the general public, the clubhouse will be open to all invited visitors and guests, with food and drinks provided from a selection of gourmet



food trucks. We will have live music into the night, several short speeches and a special sunset flight to the Moreton Bay islands using the Club's and Members' planes. There will also be special commemorative T-Shirts and caps available for purchase.

Other events coming up are the Club's monthly BBQ's, the Flyaway program and the very popular ANZAC Day Dawn Patrol and BBQ breakfast.

Members, there are plenty of events planned for this commemorative year so get in contact with the Club and get involved. Please help our Club celebrate this great milestone of 50 years.

Happy and Safe Landings

Mike Cahill
President



CEO update

Dear Members

The weather is slowly improving and consequently there has been a flurry of training activity, including by our VET students, in the last month at the Club. We are also in the process of improving the training that our various instructors can offer. As I've reported in past AirChat issues, we have had a significant drain on our instructor and charter pilot resources over the last couple of years, losing instructors to airlines, Air Services and CASA. Upskilling of our current instructors takes significant time to achieve, however you should start to notice an increase in our ability to offer advanced training such as instrument rating training, Night VFR and design feature training.

We are currently preparing for the reregistration of our Registered Training Organisation. This must be done every three years. One of the items identified in our recent independent third-party audit in the lead up to reregistration was a need to update our constitution. The current constitution has had a number of minor updates over the years however it needs to better reflect the Corporations Act and a raft of Acts and Rules associated with the Registered Training



organisation and VET Student Loans. To this end, the Board has been working on a completely overhauled Constitution and a Special General Meeting will be held on Wednesday 8th May 2019 at 6pm in the Club Rooms to discuss and ultimately approve the new constitution. One of the significant changes identifies the need for all Directors to meet the 'fit and proper person' test required by various pieces of federal legislation. If you can't attend the meeting, I'd encourage you to fill out a proxy form.

I encourage you all to visit and make use of your Club's facilities, aircraft, and simulators and to participate in the flyaway and social program. I look forward to seeing you around the Club throughout the year.

Best regards,

Stephen White
CEO

ANZAC Day Dawn Patrol



Join us for our annual
ANZAC Day service,
followed by a dawn patrol
along the coastline to Noosa
Heads at 500ft, returning
over water at 1000ft.

Service commences 5:15

Wheels up 5:45

Hot breakfast at the club
7:30



Editorial

Dear Reader

Welcome to the first edition of AirChat for 2019. Given that this year is the club's 50th anniversary I decided it was time to find out a bit more about its past. How did it come to be? Who did what and when? How much effort was required? How have things changed? Life member Ron Ennis has been part of the club for almost as long as it's existed. He's been club secretary and president as well as AirChat editor. He has an archive of AirChat magazines going back to the early 1970s, such as the ones shown to the left, and lent them to me for research purposes. It's a treasure trove of information and I've extracted a few stories from them and scattered them through this edition to give you a feel as to how the club and its members operated in 'days of yore'. Ron has documented some of the history of the club and a few of his fondest memories in an article in this edition. It helps us to better appreciate the work required to get it to where it is today and the great facilities we have inherited. It also highlights the fun that was had over the years which, after all, is the reason we're here. Another Life Member, Phil Ware, also shares a few of his memories and photos from the early days.

Bob Tait has operated his theory school at the western end of the apron at YRED for the past 11 years. His background in teaching aviation theory goes back much further, to the 1960s, and he's shared his knowledge as a regular contributor to aviation magazines for decades. Bob is now providing some of those contributions, called 'Attitudes', to AirChat, as his practical tips are just as relevant today as they were back then.

Also in this edition, Bryan Galvin describes a recent Flyaway to the Amberley RAAF Base. It was a rare opportunity to land at this normally 'off limits' aerodrome and visit the heritage museum. Sam Keenan also provides an account of a flyaway to Childers.

Mike Cahill, Sam Keenan and I visited the Avalon Air Show this year and Mike has written a summary and provided some of his amazing photographs of the event.



Aviator Bob Rowe recently became involved in a charity called 'Ski for Life' who organise an annual skiing relay on the Murray River. Being water shy, Bob wasn't planning to ski but rather to act as an aerial co-ordinator. He recounts how he used his Cessna 172 to provide logistical assistance over the three day event in March.

Stephen Limkin saw an opportunity to participate in the Outback Air Race last year and, with just over two months for preparation, organised a plane and sufficient sponsors to fly from Brisbane to Broome and back again. He had a steep learning curve but learned a lot and had a great time flying across the continent.

Lucas Gozzard is one of our VET students. He describes the training process VET students follow and how his training is progressing. It should be interesting reading for would-be students as well as anyone who just wonders what being a VET student is all about.

Colin Smith works with Remote Piloted Aircraft (RPA), commonly known as drones. He describes how his company uses RPA for survey and other work and the efforts they are making to avoid conflict with other air space users.

Thanks to all contributors to this edition and remember, send your contributions for the next AirChat to: airchateditor@redcliffeaeroclub.com.au

Philip Arthur
Editor

Recent achievers

Congratulations to all our students who recently completed a milestone in their training at RAC. The whole club wishes you all well for your future endeavours in aviation.

Jimmy Duong



Luke Fredriksen

First Solo

Keneth Clark

Jimmy Duong

Luke Fredriksen

Louise Jane Graham-Micett

Hesham Saleem Abdulkader

Declan O'Donnell



RPL

Daniel Esparon

Declan O'Donnell

William Read

Adam Zarb

PPL

Ian Nye

Brent Wilkinson

MEA Class Rating

Michaela Allison



Ian Nye



Daniel Esparon



Adam Zarb



Brent Wilkinson

Ken Clark



Declan O'Donnell



Will Read



Upcoming events

Our flyaways continue to be great fun and a great way to meet like minded aviation fanatics. Recently we've been to Amberley and Childers and we've got a whole lot more events planned for the clear days ahead. Keep yourself informed as to what's coming up by joining our Flyaways Facebook group and tell us where you'd like to go. Click on the link below:

<https://www.facebook.com/67groups/678739008989427>



Meanwhile, note down these events in your diary:

25 April ANZAC Day Dawn Patrol and BBQ breakfast

4 - 5 May Wings over Illawarra air show Wollongong, NSW

17 - 19 May Annual Celebration of Aviation Rylstone Airpark, NSW

18 May Straddie Breakfast

25 - 26 May Moree Flyaway

15 - 16 June Annual Club Winery Flyaway to Stanthorpe

22 June Moree Aero 70th anniversary fly in Moree, NSW

20 July Straddie Breakfast

22 - 28 July EAA AirVenture Oshkosh, USA

27 July Opera at Jimbour Jimbour Station near Dalby

17 August Straddie Breakfast

7 September Airlie Beach Air Show Shute Harbour

14 September Outback Food, Wine and Music Festival, Longreach

20 - 22 September AirVenture 2019, Parkes, NSW





Find out first hand how ATC works by attending the next

Pilot Info Night at Brisbane Centre

Enquire re dates by email to:
BNEpilotinfo@airservicesaustralia.com

And don't forget our happy hour and barbecue at the Club from 5:30pm on every first Friday of the month.

Best steaks in South East Queensland!

All members, friends and family welcome.

Check the Club website or Facebook page for details.



The monthly Friday evening BBQ is a great way to end the week

BOB TAIT'S AVIATION THEORY SCHOOL

Phone 07 32040965 bobtait@bobbait.com.au www.bobbait.com.au



Home study texts books with free support through our on-line forums



On line Exam Preps all subjects
CPL Performance on line

Full time classes for
CPL and IREX CASA exams

Curly's corner

by Phil Ware

A life member of the Club with a long and illustrious career in the RAAF and Air Traffic Control, Phil (Curly) Ware is always keen to share his knowledge and experience to demystify ATC for the rest of us.



Phraseology - Never be afraid if you cannot remember the exact phraseology. Controllers are not sitting there with an assessment form but rather want you to understand and comply with what they tell you to do, which could be “climb to, descend to, turn left/right, contact Centre on ...” and so on. The controller is there to ensure your safety and provide any assistance as required. ATC staff work for AirServices Australia, not CASA. They are Service Providers, not Regulators.

Controlled Airspace - As a simple analogy it's bit like your house. The neighbourhood kids can ride their bikes up and down outside on the footpath, and don't need a clearance from you to do that. However, they do need a clearance from you to come onto your property, or into your house. When they do come in, say to watch TV or play with your kids, they must comply with expected behaviours. You do not expect to find them with their hands in your wife's jewellery box in your bedroom - that's not part of their clearance. So too when flying in controlled airspace. Comply with the terms of your clearance, and if in any doubt, just ask or clarify with the controller.

Clearances - Around Redcliffe, you need a clearance to get into Brisbane Approach's airspace. The 125.7 Brisbane Centre frequency is like a 'doctors receptionist'. You go into the waiting room, tell them who you are, wait until the doctor is free, and are told when to go in. With ATC, you are first asked to squawk a transponder code so they can identify you. Once identified, your identification is passed to the Approach controller on 124.7 (Approach North) or 125.6 (Approach South). When your clearance is available, Centre will tell you to call “Approach” on the appropriate frequency. On frequency transfer you should always state the name of the station you are calling (to ensure you are talking on the correct frequency), your call sign and your altitude. For

example: “Brisbane Approach, IVW, maintaining One Thousand Five Hundred, request clearance.”

Clearance Not Available - “Remain Clear Of Charlie” is a phrase you will hear when you call for a clearance and it means “remain outside of C Class airspace until you receive your clearance”. “Clearance Not Available” could mean “Clearance Not Available Right Now”. These phrases are used to remind you not to come into controlled airspace until you receive your clearance to do so. The phrase was instigated because some pilots thought that as soon as they were talking to ATC they had their clearance (as in class D airspace such as at Archerfield or Sunshine Coast).

Penetration of Controlled Airspace - If you accidentally penetrate controlled airspace without a clearance, tell the controller as soon as you are aware of it so that you don't become a 'bonnet mascot' for a Boeing or Airbus, or some other heavy machinery motoring through the sky. The controller will then separate you from other traffic that you would not be aware of.

Readbacks - Basically a good rule is to read back any instruction that contains numbers, such as altitude, QNH, next frequency, and of course the route details you are given in your clearance (waypoints and altitude). If you don't do readbacks correctly the controller will ask you to repeat the incorrect or missed parts of the readback, so they can be sure that you know where you are to go and at what level. Also don't read back unnecessary stuff like reporting points as it just clogs up the frequency. An ATC frequency is not the place for an attack of 'verbal diarrhoea'. My worst day in ATC was caused by a pilot giving a long discourse on weather when I desperately needed to turn an aircraft for separation but couldn't use the frequency because he was transmitting on it.

Safe flying, Curly

OzRunways Presentation

Following our monthly club BBQ on Friday 5th April we enjoyed a presentation and Q&A session by staff from OzRunways. The event was aimed at informing and keeping us up to date with the latest improvements on this EFB software that has changed the world of so many aviators over the past 10 years. Now that EFBs are approved by CASA as on-board maps (provided you have at least one backup) the Apps provided by OzRunways or their competitor AvPlan have become a “must have” in the cockpit and each provider is continually improving their offering in an attempt to stay one step ahead of the other. OzRunways is still a small company with only 11 or 12 employees with head office in Adelaide and representatives in Melbourne, Sydney and Perth but they punch above their weight on the technology they are delivering. A relatively young team, they claim to have a nimble and dynamic company culture that allows them to respond to customer requests quickly, incorporating suggestions from aviators to improve the software on a continuous basis.

It was a very interactive evening with the questions flowing freely, and being answered promptly and clearly, as they covered general navigation, flight planning, submission of flight plans directly from the App, their new ‘Smartbrief’ feature including all the weather and a host of other features that many of us were unaware of. There was something new for everyone to learn and as the features were displayed on the Club’s large screen TV we were able to try them for ourselves simultaneously on our tablets and smartphones. All in all, it was a great way to learn and feel more confident with using the software for improved situational awareness both before and after departure.

OzRunways are keen to hear from users about their experience with the software so that they can fix any glitches that we find or improve the overall performance and range of services provided. We were invited to contact them directly with any comments, queries or suggestions at any time.



From the archives - 1989

A Message from the Club Patron

Air Commodore John Jacobs



Back in 1951 RAAF pilots were trained in Tiger Moths, Wirraways and Airspeed Oxfords. "How primitive!" do I hear some club members exclaim, especially those not born at that time.

We'll be assured that the Tiger Moth was an ideal basic trainer with a long established reputation. One great feature was that the new pilot really felt the thrill of flying - head out in the open air, protected from the chilly Victorian winter by leather helmet and goggles, enclosed in Sidcot flying suit and wool lined boots just to stay comfortable, and conversing with the instructor through those irritating Gosport tubes.

Ah, those were the days. The comforting throb of the Gipsy Major, the wind singing in the wires, and the frantic voice of the instructor in the front seat - "58 knots, 58 knots, not fifty-bloody-nine !!!".

We were normally expected to go solo before 10 hours, and any trainee who had not done so by 15 hours found himself on the way to East Sale to become a navigator. Those of us who passed "flight grading" then advanced to aerobatics, smartening up such techniques as forced landings, and even learning powered approaches instead of the standard glide.

The fuel tank on the Tiger was situated in the centre of the upper mainplane, above the front cockpit. The fuel gauge was a floating indicator which bobbed up and down in a vertical glass tube mounted on top of the tank. When the tank contents were low, the indicator dropped out of sight behind a layer of black crud which over the years became deposited inside the glass tube.

Anyway it was accepted that we could programme three one hour periods without a refuel. We used to change pilots with the nose into wind, engine ticking over and a trainee or two on the wingtip to hold the aircraft from wandering away. No brakes or parkbrake on the Tiger

One afternoon, when I had 27 hours total, I was assigned the third period for solo aerobatics and spins. Mindful of the time elapsed, I completed the manoeuvres toward the end of the hour and headed back to Point Cook from the training area. Of course, by this time the fuel guage float was completely hidden behind the black stuff in the bottom of the glass tube, but this was normal, so why worry?

Suddenly - silence! And the prop is disconcertingly stationary. Thinks! What have I been taught? Adopt the glide, 58 knots, trim, switches off, look for a suitable paddock, (why does this have to happen to me?), assess wind velocity, plan the forced landing circuit.

Amazingly the forced landing went along so precisely that I could hardly believe it when I touched down smoothly in the selected paddock near Werribee without misjudging or hitting anything. There was a moment of panic when a groundloop looked to be the only way to stop running into the far fence. Then I remembered that I didn't know how to groundloop! Fortunately we rumbled to a stop a few yards short of the fence.

An overflying Wirraway reported my plight to Point Cook tower and before long a rescue party arrived. A can of petrol for the tank, and the instructor flew the aircraft back to the base, only two miles away.

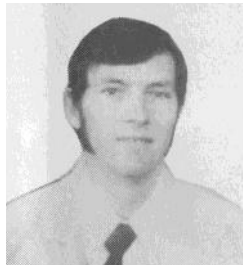
Of course I was on the mat the next morning in front of the C.F.I., more apprehensive of the penalty to be awarded than I had actually had been about the forced landing. Imagine my surprise and relief when I was merely admonished for not returning to base before the fuel exhausted.

Only years later, when I became an instructor, did I realise that I escaped serious repercussions because the forced landing was so successful causing neither damage or injury. Yet no-one would give me a pat on the back since the root cause was my own imprudence in fuel management.

I learned from this one, becoming extremely fuel conscious throughout the rest of my flying days. The lesson is clear - you make a mistake, but don't make the same mistake twice !

RAC moments

by Ron Ennis



I started learning to fly in December 1967 at Archerfield, in the days before there was an airfield at Redcliffe. My Dad drove me there because I was too young to drive, but I could fly an aeroplane solo - go figure!

The inaugural meeting of the Redcliffe Aero Club was held on Thursday 30th October 1969 at the Seabrae Hotel meeting room. In September 1970 the club was incorporated as a company and John Pike was appointed Chief Flying Instructor in December 1970. The first Club aircraft, a C150 VH-RZK was purchased in March 1971.

In 1971 I heard there was an airstrip at Redcliffe. Me, being a local lad born and bred, I had to go look. I drove down the dirt track that they called Nathan Rd and there was nothing at the end. I

kept going and ended up getting bogged in the mud. I found out that was the airstrip! It had recently been raining heavily and the strip, forged on the mud by Norm Thurecht, consisted of gravel and shell grit. Norm wanted the strip so he could land his recently purchased Cessna 337 (or 6) there.

Norm built the first hangar on the aerodrome that is now occupied by Antique Airways' Tiger Moth. The concrete floor still has the circle of concrete that Norm had a turntable on (supposedly from a WW2 tank) so he could turn his plane around in the hangar.

The aerodrome in 1976





The dirt track called Nathan Road

After that the big hangar (now Heliflight) was built and then the row from Antique Airways to the road. The Aero Club members built the hangars, ¼ share each for their own aircraft, and the Club built and owned the one now owned by Ian Silvester which houses his 210 and Mike Cahill's Cirrus.

I joined the Club in 1972 I think and became Hon Secretary after a year or so. My first flight at RAC was on December 20th 1972 in C150 QKS. The Club owned C150s QKS and RXH and cross hired other aircraft and instructors from Norm Thurecht's Redcliffe Flying Services. The Club purchased a Cherokee 180 in 1974, which was a big step up.

In those days, the CFI was Bob Smith, a great guy who was unfortunately killed in a plane crash in PNG shortly after leaving the Club to further his career.

I received my restricted licence in April 1974 in

KQS and my unrestricted in 1977 with then CFI John Young in RXH. I vividly remember going through Amberley and couldn't hear any transmissions - there were no headsets in those days and crappy radios on both sides. The only way to do it was talk, pull the throttle, listen and hope you didn't lose much height before you could throttle up again.



Norm Thurecht



The first club house was roughly where the windsock is now. It was originally the office from Thurecht's sawmills which Norm donated. Over a few working bees we constructed another hut next door. Later we connected them with a verandah, which was a great place to relax, have a beer or three, and critique the landing skills of the pilots.

As the aerodrome expanded, the club house was moved to its current location, housed in the old Margate Bush Children's Home, which was donated by local developer David Eban (deceased). The clubhouse was refurbished and opened by the Mayor of Redcliffe in November 1978.

This was a big step up in space, with a dedicated bar, club room and training offices. It was also the place of many Sunday afternoon drinking sessions, in days before .05. Fourex Freddie (Damien Farrell, now deceased)

was usually the MC, and proceedings were often adjourned to continue at a Redcliffe pizza joint. With us always looking for ways to expand the entertainment, there was even the odd strip show.

Alas, this clubhouse was torched by some cretin in the 1980s. Fortunately, however, that enabled us to replace it with the building we have now.

Old clubhouse bar



The Great Flood of 1974

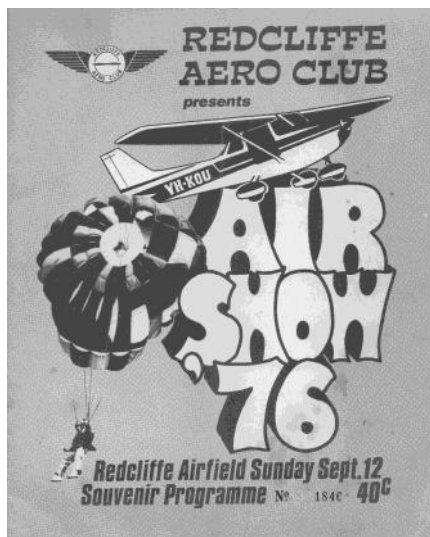


This photo was sent in by Alan Betteridge, an RAC student pilot in the 1970s. Alan writes: "This was the RAC clubhouse in January 1974, during the flood of that year. It was so wet that people were catching mud crabs on the movement area! As the airstrip was not sealed at that time needless to say the flight hours for January were poor to non existent. At the time I was learning to fly thus the pic. The training must have been ok as I now have over 1300 hours and haven't killed myself yet, or even given passengers any scares!"

Notable memories

In 1978 we had to relocate our operations to Brisbane airport for four weeks during the initial sealing of the strip. The Feds used to subsidise aerodrome improvements 50/50 in those days. I think the local councils used to fudge the real costs, and ended up getting the improvements done for nothing. That's probably why the Feds pulled the plug on the scheme about 20 years ago.

We used to light the strip with filthy kerosene lanterns for night flying in the days before PAL runway lighting. CFI Roger Tognolini was a master at night landings. He hit a cow on takeoff in an Arrow one night. Scratching the cow, the Arrow just made it around the circuit with major starboard wing damage. Nobody ever claimed ownership of the cow.



We organised air shows in 1974 and 1976 with Mustangs, Porters, Caribous, Pitts etc. We had Queensland's first pylon racing comp (around markers on boats in the bay). Ron Versace (deceased) won it in his Mooney but we all reckoned he bent the throttle doing it.

Old clubhouse



CASA/DoT/DOA/DCA failed three PPL tests on the one day because their testing officer didn't like the way the club was teaching short field landings (my Dad was one of those who he failed). John Young, our CFI at the time, challenged the DCA guy to a test – they both strapped into the C150, and out they went. The day ended up with the DCA giving them all their licences. After that I think John Young was a marked man. He was one of the very few A Grade instructors in those days, and he retired, never to fly again, within a couple of years.

John Young's stolen aircraft routines in the air shows were spectacular but his best trick was flying backwards in RXH one day in a stiff westerly wind!

We had many progressive dinners at members' homes in the early days. The ladies auxiliary was very much active back then. Ton (deceased) and Bev Van Iperin were the main instigators.

I remember helping fish the Club AC150 aerobat out of the swamp east of 07 after an engine failure due to a broken cylinder. Flinders organised planks and we pushed/pulled the thing back to the aerodrome. PAX were fine and the insurance paid, so all good.

We had some eye opening committee meetings in the old days. They could get quite heated. One of the first ones I attended had Pat Kelly (deceased) kicking Norm Briggs (now over 90 and still comes out to the aerodrome) in the shins shouting "What would you know, you're only a bloody public servant!" I wondered what I was getting myself into. Of course they were mates, but you had to get used to Pat's Irish temperament.

There were also some midnight naked dashes down the runway and back. Dunno what first



IVW in the swamp

prize was - I didn't look and never participated.

We repainted RXH out in the paddock when it started to look a bit (lot) tired. The club had a real boost in 1978 when John O'Keeffe and a partner bought a brand new C172 VH-JOK to put on the Club line. My Dad bought a brand new Warrior VH-PZW and also put that on line. I remember at the time Illawarra were advertising a Mustang (WW2 types) for the same price (\$30,000). I asked him to get that instead, but he reckoned that it would cost too much to run and the Club wouldn't cross hire it. A house was about the same price back then, so I suppose he made a prudent financial decision at the time. If only! Alas, in 1985 PZW was planted into the levee bank at the end of RWY 07 and written off (no one hurt). It was replaced shortly afterwards by FRF, which is still here.

I also remember the endless oil sealing of dirt Nathan Rd. For the first couple of weeks after it was done, there was sump oil splattered over the whole car. But it kept the dust down I guess.

One time we pulled the wings off one of the 152s and carted it down the road for a promo at Kippa Ring Shopping Centre.



Kippa Ring Shopping Centre display

The 'Redcliffe Control Tower' at the time was an old Connie tail gantry that Norm Briggs acquired from Brisbane airport, complete with roof which we added to it. Eventually it rusted away.

We also had Australia's best flight training simulator for its time. It was named SRN82 after its creators (Steve Hibberd, Ron Ennis, Norm Briggs 1982). It was apparently valued at \$20,000 and was fully DCA IFR approved. Almost cost a couple marriages, that one. I wonder where it is now?

There have been a few incidents over the years too. VH-BJE upended when another pilot (not Woc) was doing touch and goes in it I think about 8 years ago. It had been raining heavily for days previous and the grass on the north side of the runway was



VH-BJE upended



Simulator

long. The wheels hit a hidden low patch filled with water, the tail was a bit high and it was 'all over red rover'. There was no damage to the pilot, and the insurance paid for a bulk strip and a new prop.

The accidental theory specialist

by Philip Arthur

Bob Tait has spent more than 40 years teaching aviation theory and writing aviation theory training manuals. From his school at Redcliffe Aerodrome, he has taught thousands of student pilots and received numerous awards for his flying skills and passion for aviation and education. During the 1990's Bob wrote articles for various publications to educate GA pilots. Some of these articles, still as relevant today as when they were written, will appear in upcoming editions of AirChat, starting with this one. For those of you who don't know Bob, here's a bit of a background.

Bob Tait was keen to learn to fly since he was a young child, although no one in his family or their circle of friends had any aviation experience. Growing up in Innisfail in far north Queensland, he dreamed of being an aviator and often hung out at the local airfield to watch the planes and catch glimpses of the pilots he worshipped. He had been planning on leaving school at 16 to get a job but with some encouragement from a science teacher he completed high school and went to teachers college. His first flying lessons were funded by a part time job at the local newspaper when he was 17. Those first lessons in a Tiger Moth from the North Queensland Aero Club cost only 4 pounds 10 shillings (\$9) per hour but even that was a bit much for a student of limited means. Lack of an income meant that further training had to wait until he graduated but his first pay cheques as a teacher were quickly converted into flying lessons. After obtaining his CPL with the Townsville Aero Club, and while teaching at Ingham State School, he completed his Instructor Rating then progressed to Test Officer Approval, Aerobatic Test and Training Approval for Low-level Aerobatics and Air Shows, Formation Flying Test and Training Approval and Instrument Rating. He started instructing part time and eventually bought a Cherokee from the aero club and set up his own company at Ingham. After obtaining his instructor rating and test officer approval, Bob was teaching and testing students from all over Australia while continuing his "day job" as a high school maths and science teacher. After a while he noticed that many of his students, while quite capable of flying the aeroplanes,

were falling by the wayside because they were failing the theory exams. "I thought that was a pity, so I called upon my professional teaching skills and began teaching the theory to my students free of charge. When others heard of it, they began asking if they could come to my classes too. Finally, so much time was demanded that I began charging. When I did, even more students turned up!! I had accidentally become an aviation theory specialist. The demand for face-to-face theory training grew rapidly and became a significant income stream."

The company grew, providing flying training and charter, especially to the mining centres, and in 1968 Bob resigned from the Education Department and started flying full time. The school eventually moved to Brisbane and in 2008 the present day school was established at Redcliffe, only a few hundred metres from RAC.

Over this time Bob has become a bit of an icon in the aviation theory world, instructing thousands of students, many of whom went on to become airline pilots.





"Quite a few of my former students became QANTAS captains and a number of them attended my 70th birthday celebration at my hangar in Redcliffe not long ago. In fact, many of those have even retired, making me feel quite old!"

Bob thinks the best thing about teaching new pilots is seeing them realise their dreams. "It's often the theory that is holding them back. Our in-house courses have helped many to understand the subject matter properly but the books and our internet presence, including e-texts and practice exams, have extended our reach beyond Queensland to all over Australia and overseas including to Hong Kong, the UK and Africa. A constant stream of thank you messages from hundreds of pilots I have never met makes the effort very rewarding. Every now and then, we get a visit from a pilot who is passing through Redcliffe. They just drop in to say hello. Nice to know that they take the trouble."

And what were the best things Bob experienced during his aviation career?

"There were too many to mention. As far as instruction goes, my favourite students were those who came in from 'out west'. Usually from homesteads, slow talking salt-of-the-earth characters who were an absolute pleasure to teach. With heaps and heaps of common sense, they looked upon the aeroplane as just another farm implement. A good example of the difference between education and intelligence."

Bob found it a natural progression after learning to fly to progress to aerobatics.

"In the Tiger Moth days, you had to do spin recoveries before you were sent solo. I wanted to explore the edges of the performance envelope and loved aerobatics. I did a lot of performing at air shows as I'm afraid I'm a natural-born show off! Air Shows are really quite easy — you just stay low, trail some smoke out the back and make lots of noise and the public are generally happy. Aerobatics competition however is quite a different matter. There it's all about precision and seeking perfection in manoeuvres. I got involved in competition aerobatic flying in a Decathlon and later a Pitts Special. I especially enjoyed training up-and-coming pilots for competition flying. Some went on to win state and national championships."

Ten years ago Bob put on an aerobatics display for the RAC's 40th anniversary celebration.

"Gerry Dick donated his Citabria for the display that was done between 1500ft and 300ft directly in front of the RAC clubhouse. We had to obtain CASA's permission first and a senior member of the Australian Aerobatic Club (and international aerobatic judge), Dave Pilkington, had to be present."

Gerry Dick and Bob at the RAC 40th Anniversary



Bob would like to believe that general aviation in Australia is still going strong. However the growing separation of CASA from the real world of general aviation bothers him at times.

"We don't need an 'us-and-them' mentality. I think it is good that CASA are getting about more and holding their safety seminars. However their policy formulators should be out talking to the GA public, not just the policy implementers. Policy implementers simply implement policy while policy formulators are the ones responsible for formulating policy and they are the ones who need to understand how to improve the GA industry. More consultation with the 'coal face' of the industry is required and less effort should be wasted on implementing policies that, in the end, do nothing to improve the functioning of the industry."

Bob believes that GA has changed beyond all recognition since he began flying.

"The thing I miss most is the fellowship that was so much a part of flying in the past. Even the CASA (then called DCA) examiners and inspectors were happy to have a beer

and tell jokes at the end of the day's flying. The theory examiners also were all on a first-name basis and conferences in Canberra had a social aspect. Pilots often stayed at the flying school all day to enjoy the company of other pilots. I think aero clubs such as RAC play a very important part in fostering this atmosphere now."

And what advice does he have for people who want to learn to fly?

"Just do it! Choose your school carefully though. Go and visit the school and suss it out. It doesn't take long to absorb the atmosphere. Choose the school that you feel most comfortable with."

"Existing pilots who want to improve their flying skills or lapsed ones who want to get back into it should just go back to the aerodrome. Soak up the atmosphere and talk with current pilots. If you have been away from flying for a while, you will find quite a few changes have taken place. Go to some social gatherings and listen to the conversations going on. Maybe even con a back seat some time. If the bug is still alive, it will bite!"

Bob's life in aviation was featured in an edition of ABC Radio's Conversations Program. You can listen to the program by clicking on the link below:

<https://www.abc.net.au/radio/programs/conversations/conversations-bob-tait/8622762>



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Attitudes

by Bob Tait

Murphy's Law



OK Murphy – I know you're out there somewhere!

Isn't it amazing that of all the laws of science that apply to aeronautical knowledge, one of the most applicable is not mentioned at all in any aeronautical knowledge syllabus? Like all of the best laws of science, Murphy's Law states a principle so simple that one feels amazed that nobody ever thought of it before. What did we do - who did we blame, before Murphy came up with his philosophical gem?

"Anything that can go wrong will eventually go wrong if you keep trying long enough."

Aviation abounds with examples of Murphy's Law - in fact it's near impossible to get through a day without seeing it in action. At best it can be irritating, at worst it can be tragic. A good example of Murphy's Law can be summarised by the statement:

"We won't bother tying the cargo down - I'm not going far."

There is a kind of twisted logic to this idea. It assumes that Murphy's Law will not apply during a short flight. It's very similar to the "I'm only going to the corner store so I won't bother fastening my seat belt" idea that was once common among drivers of motor vehicles. Unfortunately the formula for kinetic energy, one half the mass multiplied by the velocity squared, contains no term which considers the distance travelled before the impact. If you hit a post at 60 km/hr it doesn't matter whether you have travelled 100 metres or 100 nautical miles. The damage done is the same!

Let me tell you about George

The scene is a bush strip on a tropical island in the north of Australia and George and Ted are standing beside a Cessna 206 discussing the best way to load the unusual cargo. The task is to carry a 200 litre drum of fuel across the valley to another strip on the adjacent ridge only two miles away - in fact they can see it from where they stand. As they remove the right-hand front seat, they realise that if they lay the drum on its side, it will fit lengthwise between the pilot's seat and the cabin wall.

They struggle with the heavy drum and finally manage to get it into position on its side beside the pilot's seat, with the top facing the instrument panel and the bottom facing the rear seat. Ted attempts to roll the drum to the left and right and finds that the empty seat rails offer a stable support - George smiles and nods his approval.

"Shouldn't need to tie it down, I'm only going over to the other side of the valley." The two men push the drum as far back as it will go and give it a few last rocks to reassure themselves that it is secure.

In minutes the engine has spluttered into life and the 206 taxis for the end of the grassy strip. Ted waves as the aircraft becomes airborne with the familiar rattle of prop tips nibbling at the speed of sound. "So far so good" thinks George as he manoeuvres onto a final approach for the little strip across the valley. Power back, the Cessna takes on a steep nose down attitude as full flap is applied.

The seat rails offer little friction to the sides of the drum, and the deceleration accompanying the application of the last of the flap sends the drum sliding forward. George has no chance of stopping it as it crashes into the right-hand control column pushing it into the dash. The aircraft noses over - first to vertical and then beyond. Ted watches helplessly as it crashes through the jungle canopy, sending a plume of black smoke high above the tree tops.

“ Aviation, like the sea...”

I doubt if there are many pilots who have not seen a briefing room adorned with the familiar quotation that reminds us that aviation is not in itself inherently dangerous but, like the sea, it is terribly unforgiving of carelessness, incapacity or neglect.

It seems Murphy is as much an aviator as he is a mariner!



Ensuring your load is balanced is just as important whether you're piloting a 172 Cessna or a Boeing 747. Click the link below to see the tragic result of a shifted COG in a 747 freighter in Afghanistan in 2013.

<https://www.youtube.com/watch?v=7sUWC2jfiql>

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A day at Amberley

by Bryan Galvin

Amberley Airforce Base is one of the largest RAAF bases in Australia, employing over 5,000 people and home to a wide range of RAAF squadrons and operations. Normally RAAF Amberley is closed to civilian air traffic but on Sunday 17th February, two planes from Redcliffe Aero club were privileged to fly into the base as part of a larger group of 19 GA planes from various parts of greater Brisbane. Mike Cahill, Phil Arthur, Bryan Galvin and Ashley Hodge flew in Mike's Cirrus SR22 MSF and Sam Keenan brought the family in his PA-28 BHN. The event was organised by the Royal Queensland Aero Club and we thank them for the invitation to join in.

All aircraft met at Archerfield for a pre-flight briefing and we flew from there in extended formation into Amberley. The ATC at Archerfield had a busy time getting the 19 aircraft taxied and launched in quick time, as well as managing other traffic. Despite the detailed briefing, it was interesting to see that a few aircraft seemed to do their own thing.

The flight was only about 6 - 10 minutes but it



Departing Archerfield

was a good experience to land on a very long runway (about 3000 metres) and then taxi off to be met by a ground controller who directed us to the parking area.

On the way in, we saw a range of aircraft including the F/A 18 Super Hornets, both attack and growlers. We also got to see the Airbus KC-30's, Boeing C17 Globemaster and some of the new short range C27 Spartans which replaced the venerable Caribous.

Final RWY 15 at Amberley





The reason for the event, aside from the opportunity to land at Amberley, was to visit the aviation air museum that is housed at Amberley and which is open to the public once a month. The museum has an excellent range of aircraft including an F111, DC 3, a Vietnam era Huey as well as the Bell 47 Korean war chopper (as in M.A.S.H.) to name a few. As well there were some very experienced guides who were more than happy to talk about the various aircraft and their histories.

There was food and drinks available so it made for a great day and, being open to the public, there were hundreds of other visitors who had arrived by more conventional means. The museum is a great destination, especially for children, young and old. If you are interested in aircraft, it should be on everybody's list to visit.

Because there were 19 aircraft who flew in, and because we were required to leave together, our departure was an event in itself. We had a pre-flight briefing by the RAAF and then off we went (as directed). A large crowd gathered to watch us being marshalled and directed off to the flight line for departure. Again, an interesting experience in being part of a large formation. The flight back

home to Redcliffe was uneventful though with a dozen or so planes flying back to Archerfield, all a few minutes apart, the ATC there might have been a bit busy.

It turned out to be a very enjoyable day and a positive aviation experience for everyone.

<https://www.raafamberleyheritage.gov.au/>



Beware - Runway incursions by wildlife

by Philip Arthur

A court ruling from December 2018 has highlighted that pilots are ultimately liable for damage resulting from collisions with wildlife at airstrips and aerodromes.

On 25 February 2014, a pilot flew his plane from Port Macquarie to Kempsey Aerodrome. It was a flight he had undertaken on approximately 20 prior occasions. In this instance his aircraft collided with a kangaroo on landing. He brought proceedings against Kempsey Shire Council as controller of the aerodrome, for the cost of repairing the aircraft. It went to court and the trial judge ruled in favour of the pilot, holding that Council had breached its duty of care by:

- not issuing a NOTAM informing users of the aerodrome that the numbers of kangaroos on the runway had increased to dangerous levels; and
- failing to erect a kangaroo-proof fence around the aerodrome when it knew the existing fence was inadequate.

Although the ERSA contained a comment that a “kangaroo hazard exists” the judge found the pilot was not made aware that there had been increased sightings of kangaroos on the runway during January 2014.

The matter went to appeal where two issues were addressed:

1. Whether the risk of colliding with a kangaroo was an obvious risk
2. Whether Council had a duty to ensure a fence was erected to prevent kangaroos gaining access to the runway

Was it an obvious risk?

Council monitored the runway at least twice weekly. During the period June 2013 to February 2014 the average number of roos sighted was 37 per month. In August 2013 the figure was 48. In December 2013 it was 39 and in January 2014 it was 49. 45 were observed in the period 1 to 26 February 2014. The observations as to kangaroo numbers were made early in the morning between 5:20 and 6:30am and in the evening, between 7:30 and 8pm. The majority of the Court of Appeal held there was no evidence of any significant change in the numbers of kangaroos in the early afternoon. The incident occurred between 2:30 and 3pm. Accordingly, the majority held there was no evidence the risk of collision was any higher than the background level of risk of which the pilot was aware and that Council did not therefore owe a duty of care to warn of any increased risk of collision.

Was the Council required to erect a fence?

In 2005, when CASA issued the council with a licence, an audit was carried out. That audit identified some animals as being more likely to enter the aerodrome than others, chief among them, kangaroos and wallabies. Council indicated to CASA it identified a solution in the form of an electrified fence. One had not been installed prior to the incident due to budgetary constraints and the fact from November 2011 no RPT services operated from the aerodrome. It was predominantly used by RFDS and flying clubs. That remained the case on the day of the incident. In relation to RFDS' requirements, by June 2013 the council had devised an 'on-call' system to inspect the runway prior to its use by the RFDS.



Council's position at trial and on appeal was that a fence was not a foolproof solution. Accordingly, there was no evidence the financial burden of installing a fence would have prevented the on-call checks of the runway it performed for the RFDS.

Council relied on a section of the Civil Liability Act that outlines the principle that a council's functions are limited by reasonably available finances/resources. Even though the council had argued its functions were limited by reasonably available finances/resources the trial judge had disagreed and the council was found to be liable in the initial case. The Court of Appeal, however, agreed with the Council. It determined that in this instance, where the aerodrome operated at a loss, funding the cost of the fence by the Council would have impacted present and future expenditure in other areas. They stated:

"It must be true that the resources of the authority are limited both with respect to obligatory functions and the exercise of other powers."

The case highlights the difficulties plaintiffs face when challenging councils. That is so both at the micro and macro level. Furthermore, it confirms protection applies to both councils' powers and their obligatory functions.

So, in summary, keep a good lookout for kangaroos and other wildlife when flying into a country aerodrome or strip. The CAR says that a pilot can land anywhere providing he/she is satisfied that it is safe to do so. So you, the pilot, are ultimately responsible for deciding whether or not it's safe to land. Refer to CAR 1988 Vol 3, Part 9, Section 92 - Use of Aerodromes:

https://www.legislation.gov.au/Details/F2018C00826/Html/Volume_3#_Toc530043101

More details on this case can be found at:

<https://www.statewidemutual.com.au/case-note-kempsey-shire-council-v-five-star-medical-centre-pty-ltd-2018-nswca-308/>

Thanks to Paul Leo for bringing this case to our attention.

Avalon airshow

by Mike Cahill



The 2019 Australian International Airshow, better known as Avalon, was held in late February. Sam Keenan and Phil Arthur joined me from Thursday night, staying in Williamstown, a quaint waterfront suburb of Melbourne. It's an easy drive to the air show with minimal traffic to encounter.

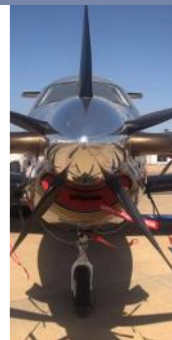


We arrived at Avalon early Friday morning. It was hot, dry and dusty, with a northerly wind blowing for most of the time, making it almost unbearable unless you were in the shade. We started to make our way through the many exhibits. With the temperature sitting in the high 30's we soon decided to check out everything inside the halls, taking advantage of the air conditioning. Eventually we had to brave the heat outside and inspect the many rows of GA, military and commercial aircraft both new and old that were on display. The flying program kicked off at 1400 hours with various displays by a USAF C17 Globemaster, C47 Hercules and the very impressive F22 Raptor. Not to be outdone, the combined airborne and ground based displays from the RAAF, Australian Navy and Australian Army showed off their arsenal of equipment. This was very impressive. The finale however was the low level flyover of the C47 Herc with all nav lights out, which was the trigger for the "wall of fire" and the best fireworks display I have ever seen. Joining the thousands on exit rows to the Princes Highway we slowly made our way out of the show and back to Williamstown.





Saturday dawned and we were in for another very hot and uncomfortable day. Sam and I made our way to the Qantas 747-400, VH-OEB "Queen of the Skies", that flew in from Sydney, making a low level approach at Avalon. Qantas arranged a special charter flight from Sydney to Avalon return at a cost of \$747 per seat, to raise money for Rural Aid. The flight was booked out. Well done Qantas! Sam and I sat on the ground under the wing and shade of the beautiful 747 for about 2 hours, taking in the live air show which was a repeat of the Friday show. I was able to take advantage of that and grab some extra photos that I missed on Friday.



By mid afternoon we were well and truly over the heat, and as we headed to the car we decided to take a helicopter flight. With a bit of gentle persuasion Sam and I had front row seats beside the captain in a Eurocopter EC 130 for a 10 minute flight over Avalon. It was good to see the size of the air show and its close proximity to Port Phillip Bay.



The Avalon Air Show was over for another two years for us. We drove back to Williamstown for a quiet meal and a few beers as we discussed our favourite parts of the air show. Sunday morning we had brekky at a nice local eatery in Williamstown, Phil went on to Mt Gambier, while Sam and I drove out to Tullamarine and took our respective kero burners to Brisbane. Avalon done and dusted for 2019, pardon the pun.



From the archives - July 1979

The great beer lift



How times have changed in the past 40 years. Back then there was a lot less interstate trade. Even beer was largely consumed within its state of origin. So when the Queensland breweries went on strike in 1979 just before RAC's annual Wings Dinner the organising committee was in crisis mode. How would they source a couple of kegs of beer for the night? Luckily it was Ron Ennis and his father Bob to the rescue.

While the Qld breweries were on strike we all know tons of beer was being trucked up from down South. However, no kegs were available and the cost of beer from cans or bottles for the Wings Dinner would have been astronomical.

The obvious solution was to air freight the amber fluid in bulk from over the border. Bob Ennis donated the use of VH-PZW and Nola cunningly secured the precious aforementioned fluid from one Courthouse Hotel in NSW.

So one sunny morning PZW departed Redcliffe with Bob and Ron Ennis on Board with destination Murwillumbah. Obviously greater expertise than these two possessed was needed and a short stop at Brisbane was made to embark one Norm Briggs (ex-provedore and beverage expert).

The subsequent flight to Murwillumbah was uneventful (at least the place was found) and a lift into town was secured. Our host at the Courthouse didn't know a thing about our liquid gold! Horrors!! After a bit more digging, the intrepid flyers learned of the existence of a Courthouse Hotel in Mullumbimby and a quick phone call confirmed that the boys were at the wrong pub. The nearest airfield to Mullumbimby was Tyagarah, five miles out.

So, back at Murwillumbah airfield the lads phoned the pub to arrange a taxi to cart the precious fluid to Tyagarah, coinciding with their ETA. Meanwhile the acting CFI at Murwillumbah has heard the discussion and asks:

CFI: "You three guys and two nine gallon kegs of beer going in the Cherokee?!!

Yeh, of course!

CFI: "HMMMMMM -who's the pilot?"

Me!

CFI: "You work in Redcliffe do you?"

Yeh

CFI: "As an instructor?"

No

CFI: "HMMMM!"

End of discussion.

Presumably the CFI was under the impression PZW may be overloaded, but on actual weights it was at least 20lb under its gross of 2325 lb. After a short hop to Tyagarah, the offending (or elusive) containers were at last safely stowed and lashed firmly to ensure they couldn't move, their contents were certified and the return trip to Redcliffe was carried out without serious mishap to aircraft or contents.

So, while we all enjoyed our drop or two at the Wings Dinner there were at least three guys and one gal who put in a good deal of effort to see those glasses filled.



Ken Glanville, Bob Ennis, Ron Ennis, Norm Briggs and Mike McDowall celebrate the success of the airlift

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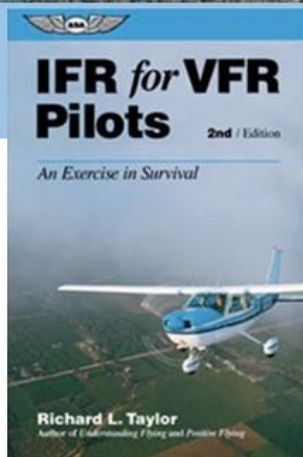


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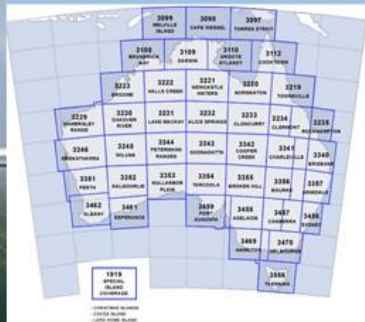


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The ski's the limit - Ski for life!

Up the river in a 172 with 21 ski boats and a bloody good reason

by Bob Rowe

Bob Rowe is the Vice President of the Mount Gambier Aero Club in South Australia. He learned to fly way back in 1985, went commercial in 1986, IFR in 1987 and cut his teeth improving his skills and gaining experience in outback SA. He was Chief Pilot for Doug Sprigg at Arkaroola in the 90's and holds the record for the number of scenic tourist flights (26) in one day at Wilpena Pound with the "trusty C206 VH-WPN". He recently began volunteering for charity Ski for Life.

I absolutely hate water, especially if my feet can't touch the bottom. I can't swim even though my parents sent me to swimming lessons in my youth. And at age 3, I nearly drowned in the Onkaparinga River south of Adelaide during a family picnic. My life experience has made me very wary of going anywhere near water. However last year I inadvertently became involved in aquatic adventures whilst mentoring a 16 year old student pilot, Mitch Watt, at Mount Gambier Airport. I met the rest of his clan, the Watt family, and was drawn in by their infectious love of everything to do with the outdoors, but especially impressed by their devotion to co-founding and growing the charity 'Ski for Life Inc.' over the past eight years.

This charity, run totally by volunteers, is a group of people committed to raising awareness of, and promoting, mental health, wellbeing and suicide prevention. Thinking big, really big, eight years ago the group developed the concept of a Ski Relay to promote their cause. They decided that the relay should travel up the mighty Murray River, the life blood of SA, along the shores of which many rural communities are doing it tough. Evidence of above average suicide and mental health issues supported the choice. Eight years on, the annual event is held every March Long Weekend plus the

Friday before.

This water based charity seriously stirred up my water anxiety, but I believed strongly in their cause. In December 2018, I was talking to the Watt family, quite openly and very honestly, about mental health and suicide, our personal experiences past and present and thoughts and their absolute devotion to this cause. We also talked about the logistical difficulties associated with monitoring more than 20 ski boats all day for three days and keeping track of them all. They include slow starts, learner skiers, mechanical problems, avoiding sand bars, opposite traffic hazards, meal and refuelling stops, and co-ordinating with community group appointments while concurrently meeting the operating schedules of the Murray River locks. Fortunately the lock operators are a little flexible for the Ski for Life boats.

"Watts Up" team just before the start of the event (Bob Rowe with ASIC card displayed)





So in late December, despite my aquaphobia, I 'jumped on board', volunteering to act as 'air command co-ordinator' in my Cessna 172 (VH-CNY - AirChat editor Philip Arthur's Mt Gambier hire toy) together with my brother Andy as crew, for the whole event, plus the lead up day and follow up day. I was careful not to mention that I have a ski boat (my brother's not mine) in my shed at home, along with 12 assorted life jackets, two towing biscuits and two knee boards. This was to be a purely air borne event for me. VH-CNY would be used for event safety, communication, co-ordination and control, plus event promotion and aerial photography.

How did we manage the operation? We first installed a Telstra 3/4G GPS tracker on each boat, so I could monitor them all on a dedicated iPad in the aircraft. Tony Brand at Horsham Aviation and his fantastic aero magicians installed and integrated a UHF radio into CNY's avionics. Many boats had UHF and we chose the river frequency Channel 24 for our air to boat communications. I bought a brilliant Bose A20 headset from Horsham Aviation, enabling Bluetooth communication with two mobile phones that we carried with us. When reception allowed, Andy and I could then have clear conversations with

boat crews, road crews, safety crews and event organizers. We also had OzRunways running on a separate iPad and, with a bit of clever and creative interconnecting, I had the whole electronic vision of boats and maps at my fingertips. **And there was no need to ever go anywhere near that bloody water!**

So how did we pay for this little expedition? I had put my big foot in my mouth and had to make sure there would be no cost to Ski for Life. Planning the event indicated a potential total of about 30 hours of flying in five days, and working on my fairly accurate aircraft costing of \$215/hr, it was going to be about a \$6500 exercise. At first I didn't know how I was going to pay for it all. However, as so often occurs in this world, I found a guardian angel in Peter Stark from Stark Aviation who provide aviation refuelling services at Parafield, Mount Gambier, Renmark, Leigh Creek, Port Augusta as well as onsite deliveries to many customers around the region. Peter and his family and staff fully support this charity and without hesitation provided me with fuel cards to access fuel at Mount Gambier and Renmark - FREE!

Event co-founder Sue Watt with son 16 year old student pilot Mitch



Many friends provided cash donation support and I set up an "Old Batteries (car, truck, tractor, mowers etc) Collection Drive" that went feral. In seven weeks collections totalled over 16 tonnes and raised over \$8000!

Finally in March this year the time had come. 21 ski boats and their crews (boat drivers, observers, skiers, ground crews and trailer caretakers) assembled at Murray Bridge on the Thursday evening, each of them contemplating towing a minimum of one and maximum of 3 skiers all the way to Renmark, over three days, yes, that's 456km! On skis!

Each crew had worked hard during the previous 12 months, fundraising within their own communities and adding their contributions to the Big Funding Pool. It holds the funds that will be distributed carefully to many community groups over the coming 12 months to help save lives.



Lunch break at Loxton on Day 2

Over the event we clocked 29.7 hours of actual flying time, burning 779 litres of Avgas and flying an amazing 5140km including 1000 tight orbits. The Cessna performed faultlessly, and by the end Andy was quite accustomed to contending with my >45 degree bank turns, whilst taking photos and preparing onboard snacks. We were consuming up to nine bottles of water per day in the 33° heat, and snacking on the delicious fruit of the region.

With 21 boats on the water for three days and approximately 280 registered participants including crew, committee and friends, plus nine different airstrips to negotiate, some quite interesting and character building times were had.

OzRunways screen shot between Cadell and Lock 3





Ski for Life boats in Lock No. 5 at Paringa

We provided essential communications, with fantastic range and reliability, to boat crews, land crews and event organizers and phone messages direct to the lock masters. We arranged assistance for a couple of boat breakdowns with help arriving within three minutes. A couple of injuries were treated, with first aid almost on the spot, arriving quicker than if we had called an ambulance.

On Sunday the relay ended with a single file skiing formation past the Renmark township, with the skiers letting go of their ropes directly in front of the Renmark Club. A fitting finale.

A highlight of the event for me was taking Ski for Life ambassador, Ben Penttingill, for a fly. Ben is 22 years old and, after losing 98% of his eyesight - overnight - at the tender age of 16, Ben learned to not just accept his new situation but to embrace it. He is now a motivational speaker who proves to himself and to others that life really is limitless. Fortunately Ben can distinguish dark from light and was able to keep the 'dark' ground and 'light' sky the correct way up, and enjoyed the sensations of flying - a fun interruption to his highly skilled blind skiing.

Look up www.benpettingill.com for more information on this amazingly inspirational young man.

And while on the subject of inspirational young men, 16 year old Mitch Watt did actually ski the whole distance of 456km this year.

In 2020 the Ski for Life relay is predicted to grow by up to 50% with so much early support being shown already. And yes, I have again already offered my aircraft, me, my brother Andy and also my wife Kerry, who will join us and try and keep us two brothers under control. Haha...yes dear...good try!!

And finally, dear reader, please just spend 10 minutes and look up more about this wonderful charity that is changing people's lives.

www.skiforlife.com.au

We would love your support but, better still, come and join us next year. Together we can help make a difference. Call or email me any time.

Mobile: 0427 601 894

Email: kerrynbob@bigpond.com



Team Watt: Skiers L-R Mia Watt, Mitch Watt, Ben Pettingill

Postscript:

In January Bob met up with the Watt family practising their skiing on the Glenelg River near Mt Gambier. Tim Watt has taught over 500 people to ski but it took him four hours to help Bob overcome his aquaphobia, finally convincing him that modern wet suit life jackets ensure their wearers float and there was no risk of drowning. After one hour behind the boat Bob was skiing on two skis holding onto a training pole. The following week he was back again and was convinced to give it a try on a rope behind the boat. Which just goes to show - you can teach old dogs new tricks!



The outback air race

by Stephen Limkin

Stephen Limkin is a documentary film maker and the owner of Light Studios, who provide a range of services around film, media and post production. He is also a recreational pilot who often flies out of Redcliffe. He holds an RAAus pilot licence, RAAus Instructor Rating and a GA Recreational licence with controlled airspace endorsement. With about 80 hours under his belt, he took part in the 2018 Outback Air Race, a triennial event that involves flying from Brisbane to Broome over 12 days, as his introduction to long distance cross country flying.

I learnt to fly three years ago, mainly to overcome my fear of flying in turbulence. In that time, I have created a series of videos about learning to fly called 'Taking Flight', that led to many opportunities like flying in the USA, meeting amazing aviators and aircraft manufacturers and ultimately participating in the Outback Air Race in August 2018. The race is a GPS-based navigation time trial through the remote Australian outback that raises funds for the Royal Flying Doctor Service. In 2018 it hosted 95 competitors in 38 aircraft. As a time trial it doesn't matter how fast or slow your aircraft is. The aim is to estimate your flight time and arrive at the destination each day as close as possible to the time you nominated, after taking into account wind and other weather factors.



Adels Grove



The race was conducted from Archerfield to Broome over 12 days, and I allowed a further five days to return from Broome to Brisbane. Each leg of our trip required something new and different in terms of aviation. From short field landings and take-offs in Dingo and Materanka to navigating busy controlled airspace coming into Broome, and the tyranny of distance flying across the deserts of central Australia. I have never been so mentally challenged and fulfilled as I was on the race.

Stephen and Shannon at Archerfield

We were what you call late starters. Most participants had planned to join the race many months or even years before but our preparation began just two and a half months before the race. I had been considering a project to fly around Australia in 2019 and was put in contact with the Outback Air Race organisers who invited me to one of their planning meetings. After attending the meeting I was determined to take part in the event and decided I had to make it happen. I joined forces with my mate Shannon, a commercial pilot and flight instructor, and we began talking to different aircraft vendors to try and secure an aircraft. After 25 rejections we connected with our first sponsor, "Spidertracks", which led to other sponsors coming on board. What drew me to the race was how soon it was happening, the adventure of flying across the continent, and supporting a great cause in the RFDS.



Refuelling at Dingo

It was really difficult to get to the start line though. Shannon and I had to fight for it. Shannon kept on reminding me that if it was easy then everyone would be doing it. We were trying to line things up in a sequential order. We had to locate a plane, find a fuel sponsor and accommodation sponsor while simultaneously raising the required funds for the RFDS. However, in the end we simply said we were doing it, threw caution to the wind and made it happen. By focussing on the outcome it took the pressure off prescribing the process. We found it easier to start from the end and fit the pieces together rather than trying to do things in a particular order.



Passing over Lake Eyre

After sounding out many aircraft vendors we made contact with Errol from GAP Aviation at Heck Field who kindly agreed to supply us with a Sling 2 for the trip. Now with our aircraft type decided we started flight planning using AVPlan. On the flight to Broome we had to follow the official route, passing through Bundaberg, Longreach, Mt Isa, Adels Grove, Daly Waters, Katherine and Kununurra but could plan our own route for the return trip. Sitting in my office we worked out a rough plan (which changed after we finished the race anyway) including fuel and rest stops.



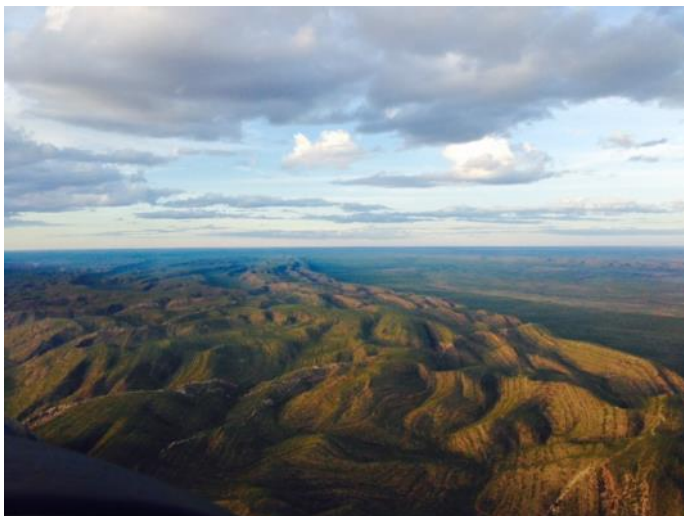
Airstrip just outside Lark Quarry Conservation Park

EFBs are great as map replacements, but we decided we needed reliable communication and that's why we decided to take Iridium satellite technology with us. When we didn't have internet access the Iridium service came into its own. Back in Brisbane we had a ground support crew who were monitoring our trip, and we could make phone calls through the Iridium network when required.

Sometimes situations might not require a search and rescue team but you do need the ability to communicate. One example from our return trip was when we overnighted at Curtin Springs near Uluru. We had been dropped back to the plane on the bush strip, pre-flighted the aircraft and taxied to the threshold when I hit the brakes because I saw something on the ground. It turned out to be a metal spike that would have punctured our tyre if we'd run over it. We spotted it in time, but if we hadn't it could have meant walking a long way for help if we didn't have the satellite communication. Having the ability to talk to our team would have meant that we could have received the help we needed in a much shorter time. Fortunately we didn't need it but it was there in case the situation called for it. You don't realise how important communication is until there is a situation where you need it urgently.



Storm near Derby



Rock formations near Adels Grove

In any adventure like this, there are always difficulties due to weather, and other external and internal factors that arise. One of the sketchiest for us was on our way into Derby. We were 10 nm away from the airfield when a storm cell developed and created a huge dust storm over the airport. We couldn't approach it and were low on fuel at the time and the cloud base was pushing us closer to the ground. We couldn't head to our alternate as the storm was heading in that direction so we ended up doing orbits, conserving our fuel, knowing it was low, until the storm passed and we could land. That situation really taught me the importance of being up to date on emergency procedures, not panicking and giving yourself permission to reassess the situation rather than making a bad call.

The biggest takeaway for me from the trip was that I have what it takes. It was the question I asked myself and I wanted to know if I could do it. Completing the trip has made me realise that we are all capable of incredible feats when we put our minds to it, and that it is only our fear and apathy that holds us back. And I should mention that I also now appreciate how big and beautiful Australia is.

Cable Beach, Broome



Find out more about Stephen and Shannon's trip on a YouTube video he made of their preparation:

https://www.youtube.com/watch?v=1ghpJ0qHspE&feature=youtu.be&fbclid=IwAR2Z1fA07BGiMXO6_-oBJQDFbTC5mn1_ZbVrpP2w7O_68hBFH1qu-Dj8UI

Life of a VET student

by Lucas Gozzard

My love and passion for flying began when I was about eight years old. I was born and raised in Brisbane and my Dad used to take me down to the public observation area at Brisbane Airport most Saturday mornings and we would sit and watch planes arrive and depart only metres away. Binoculars were in one hand and my hand-held radio scanner in the other listening to them communicate with ATC.

Although I still had that passion for flying during my high school years, I didn't elect to study the subjects which are looked favourably upon such as the highest-level maths as well as physics. This was mainly because I was afraid I might not be able to handle them academically. Funnily enough, after I completed Year 12 in 2003, I chose to study a Bachelor of Education, teaching mathematics and geography. As I grew older, concepts made more sense and became more understandable. As time went on, a close friend of mine pursued flying and ended up flying for Qantas Link, so I decided I had to pursue aviation as my career as that's what I was truly passionate about. Unfortunately, I faced two issues which were time, as I really didn't have much time to myself in my first couple of years of teaching, and finances. I'm sure most people can relate to this. I ended up taking my teaching skills into the Workplace Health and Safety field in an education capacity where I was involved in training and upskilling staff to enable them to meet their legislative obligations. I became a Safety Advisor for the Spotless Group and as a result was in a much better financial position, enabling me to pursue my flying training.

I have been a club member at The Redcliffe Aero Club since 2015. I commenced flying on a regular basis in 2016 and obtained my RPL (Recreational Pilot Licence) in January 2017. I progressed to my PPL (Private Pilot Licence) CASA Syllabus training and obtained my PPL in April 2018. I was successful in passing my RPL and PPL theory exams first go all through self-study. I chose to

pursue my training with RAC (Redcliffe Aero Club) as it was closer to home than other schools but mainly because it was a Club and provided an atmosphere where I wasn't pressured, and the staff were friendly and very approachable. They were also very professional in all aspects. Also, there are no landing fees and being a non-controlled aerodrome, you are not subject to ATC delays or restrictions.

My goal from when I started to fly was always to obtain my CPL (Commercial Pilot Licence) and pursue a career in aviation. At first it was going to be a challenge financially but when the Club announced they would be offering full-time Diploma courses under the (Vocational Education and Training) VET Student Loan scheme I thought to myself "this could be my opportunity". Another motivating factor was that I knew the staff well from the time I'd spent on my RPL and PPL and had developed a great relationship with them during my time at the Club. Even though under the VET Student Loan scheme I will have a commitment at the end to repay the loan, I realised the concept was going to ease the financial burden upfront.

The Club offers three courses:

AVI50215 Diploma of Aviation (Commercial Pilot Licence – Aeroplane)

AVI50415 Diploma of Aviation (Instrument Rating)

AVI50516 Diploma of Aviation (Flight Instructor)

The qualifications have current industry recommendations and benchmarks which need to be considered when enrolling. Since I had by CASA (Civil Aviation Safety Authority) Recreational Pilot Licence and my CASA Private Pilot Licence I had the required skill set so I jumped at the chance to apply for the AVI50415 Diploma of Aviation (Instrument Rating) which would provide me with the knowledge, skills and abilities to obtain my CPL (Commercial Pilot Licence) with CASA MECIR (Multi Engine Command Instrument Rating) endorsement.

The application process initially involved me submitting an expression of interest form followed by attendance at a two (2) day Pre-Enrolment Information Session, that provided information to prospective students about the courses and their structure as well as the VET Student Loan scheme. An important component of that day was a Language, Literacy and Numeracy (LLN) benchmark assessment which was used to assess whether we met the minimum LLN requirements to obtain the VET Student Loan as well as the minimum benchmark standards set by the Club to enrol into a Diploma course. I met the LLN requirements and benchmarks and proceeded to a pre-enrolment interview with the club CEO and /or CFI so the Club could gauge my motivation for applying and provide further information about the courses and study expectations. Then came a week of angst waiting to see whether I was successful in being offered a position. Fortunately, I was accepted and was able to commence my course in September 2018. The course is divided into a number of phases and at the beginning of the course students are provided with a training plan detailing, for each phase, how many flying hours need to be completed, the various course components and the standard expected for each, the estimated length of time to complete and the costs allocated to the VET Student Loan. The course is 12 months full-time and so it is an expectation that students attend the Club on a full-time basis over the duration. A written record is kept ensuring that the student is meeting the required levels of attendance. The Club provides ample study space and facilities to cater for the student's needs. Instructors are on hand to ask questions and there are computer facilities available.

So far, my experience has been an enjoyable one. I have met many people who share the same passion for aviation, be they fellow students, instructors or private or commercial pilots. Although it was not strictly required, I completed all seven CPL theory subjects and passed the CASA exams before Christmas 2018. That approach has enabled me to focus solely on the practical flying this year and has eased the study pressure somewhat. I am now halfway through the course and, once again out of choice, I'm studying IREX (Instrument Rating Exam) on the side to take further pressure off when it comes time to commence my instrument rating in August. On days I'm not flying, I confine myself to

the study cave known as 'The Hut' to practise planning flights within an hour (a requirement that is intended to simulate commercial reality) or to continue with my IREX study. I'm enjoying making progress as each phase is completed knowing that the end is inching closer and enjoying the daily yarns with staff and other students. We are also given opportunities to ferry aircraft to and from Caloundra for maintenance, which really makes you feel a part of the place and provides an insight into working for a commercial operation. There are always opportunities to learn new skills such as assisting with oil and tyre changes. These are valuable skills to have when you start working for a commercial operation, particularly in more remote locations. Probably the most difficult aspects of the course so far were completing the CPL theory, the Manual Pitch Propeller and Retractable Undercarriage endorsements and planning the first CPL Nav (Navigational), for reasons such as staying focussed through all seven subjects, learning and becoming familiar with a more complex aircraft and trying to plan a five-hour navigational exercise in an hour for the first time.

Once I complete my MECIR (Multi Engine Command Instrument Rating), I plan to complete the seven ATPL (Air Transport Pilot Licence) theory subjects while I'm in the study routine as this is a mandatory requirement to work for the airlines. However, before I complete my course, I will be working hard to expand my network and seek out potential employment opportunities for my first commercial job where I will concentrate on building my hours so I can progress to the airlines. Ideally, my first job will be in charter or tourism and I'm prepared to move to where the work is.

My advice to those who are looking at applying for Diploma courses is to have a thorough understanding of what the course entails and study expectations beforehand. There are staff available at the Club to explain the courses to you in detail as well as information pamphlets. One of the best things I did was that I commenced my CPL theory subjects upon completion of my PPL to take some pressure off at the start of the Diploma course. Use whatever spare time you have to your advantage. I plan to have completed my course by September 2019 and hopefully it won't be long until I can add some bars to these white shirts.



Winter weather

by Noel Stanaway

Winter will soon be with us. With those fine, crisp, chilly mornings which seem so inviting, many of us will be tempted to head off into the wild blue yonder without even stopping to read the other weather signs. As the air is dry, cloud is all but absent. Through the summer months we have become accustomed to judging weather by the cloud formations, but now we have to go a little deeper into the details if we expect our landings to be as easy as our takeoffs.

Westerly winds have for years trapped boat owners on the eastern side of the bay and, no doubt, aviators have had their share of bumps and bounces from the same systems. Turbulence is something to be very wary of. Careful study of weather charts is the first essential in winter and where possible, a check on dew points helps to define areas of possible drizzle ahead of westerly and south westerly changes. The typical combination that causes such changes is a large high in the Great Australian Bight, on the latitude of Adelaide, preceded by a cold front, which terminates in a low pressure area around Bass Strait. High pressure systems move through on a more northerly latitude during the winter months than they do in summer, as they tend to follow the sun as it moves north in winter. Highs of around 1035 hPa are common and they have the capacity to generate winds on the surface of around

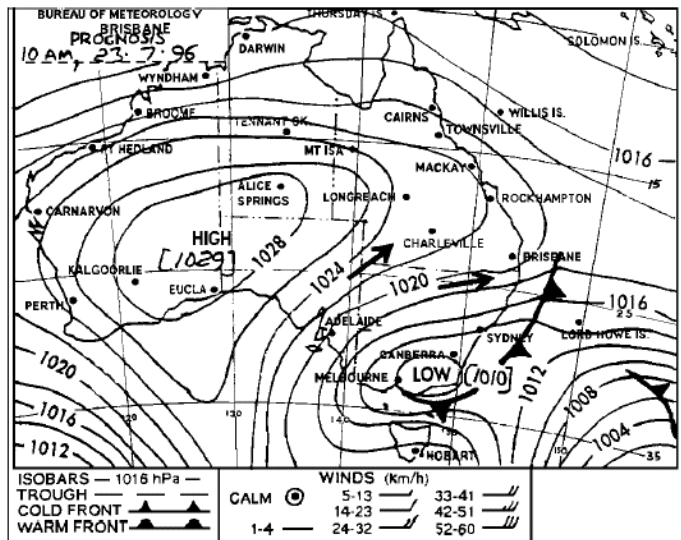
25-30 knots without assistance from any other system.

Remember, the closer the centre of the high, the lighter the winds, and the warmer the temperature. As the greatest velocity is found around the perimeter of the high, and this is the advancing edge, this is what we watch on our charts. The low which forms on the southern end of the cold front, serves two purposes, and sometimes three.

First it increases the wind generation capacity of the combined system, very much as two gear wheels mesh together and can be made to pump oil or water in a gear pump.

Second, it adds more west into the trajectory of the winds which otherwise would be from the south west.

Third, it can provide an input of cold polar air around its western flank.



This air initially travels over water to reach Victoria and New South Wales, before it is lifted over the Alps where it causes the snowfalls in that region. It chills and freeze dries the air which continues north.

Dependent on the dew points to the east of the ranges, drizzle can occur around the Downs as the cold air sinks down the eastern side. It is not uncommon for the Downs to experience a morning of drizzle during a change, even though Brisbane and Ipswich may remain fine.

Let us assume we have watched the charts for a couple of days, have checked current forecasts and have been told to expect westerlies around 25-30 knots for the day. Here we are, pre-flighted, passengers waiting, sun shining, light katabatic winds blowing from the south west at around 2-5 knots, mountain ranges clear and the valleys easily defined. What else could we need for a perfect day?

Caution...that's what!

Sounds of the trains at Petrie and Shorncliffe may be heard at the strip. Why? Because the air is so dry, there is not the moisture around to retard the propagation of the sound signals so they carry much further than normal. For the same reason the mountain ranges appear far clearer than normal, as the moisture is not there to create reflection. Westerlies could already be flowing out at the Downs, bearing in mind the expected progress of the weather pattern.

Should a brownish grey haze appear along the western side of the ranges, don't assume it's cloud.

There is a reasonable chance it's some poor Gatton potato farmer's paddock being blown toward you in the form of dust, and it takes better than 25 knots over the surface to raise dust in most areas.

Westerly winds are pressure related, and not overly affected by heating and cooling so they tend to blow all night. As they are blowing off the land, they are subject to deflection and are normally quite gusty and turbulent. So much in fact that I've had the experience in the Channel 7 chopper to be 20 feet off the Mount Cootha pad, while the pilot had collective full down, and the aircraft still wouldn't land!

Wind in itself is an insulator, and while we feel cold outside in a strong winter westerly, due to the wind chill factory, the actual air temperature is warmer than it would have been if the wind didn't exist.

Cloud is another insulator, as it traps the day's heat in the lower levels.

So there is far more to a beautiful winter morning than meets the eye and only by carefully researching the full facts can you make the best flight planning decisions.

Like boating, flying is far more fun when all the conditions are favourable.

Any fool can go out in deteriorating weather...the wise and capable sit and watch.



As well as being a pilot and Redcliffe Aero Club member Noel Stanaway was Queensland's first male weather presenter. He was a racing car driver, avid sailor and fisherman. He worked at radio station 4KQ before first joining TVQ 10 Brisbane and then BTQ 7 where he presented weather and fishing reports. He authored books about sailing and was Commodore of the Mooloolaba Yacht Club. He contributed this article to the June 1986 edition of AirChat.

Childers flyaway

by Sam Keenan

The 'Cane Country Muster' was held on the 9th and 10th March at the Isis Flying Club near Childers. It was organised by the 'Bush Flyers Down Under' group on Facebook. Bryan Galvin, Michael & Leon Gardner, and Sam, Tania, Ava & Georgia Keenan attended from RAC. Approximately 30 aircraft descending on Childers to camp for the weekend and enjoy a range of bush flying activities.

After loading our tents, mattresses, clothes and, most importantly, eskys, Piper Cherokee VH-BHN & C182 VH-ROC departed Redcliffe mid-morning on the Saturday. We enjoyed some picturesque cumulus clouds enroute to Childers, a flight of about an hour. Upon landing we set up our tents and began meeting some of the other flyers. There was already a lot of local flying activity, with aircraft coming and going from the 800m long grass strip every few minutes. After setting up we took a short flight across to Biggenden for lunch at a café and then returned to Childers.

A WAC hanging on the wall of the club house was marked with over 20 local strips within a 30nm range. The strips started at only 150m long and ranged between grass, bitumen and sand. The organisers had obtained permission for everyone to operate at any of these private strips for the entire



weekend. In the afternoon we selected a few strips suitable for the Cherokee and roughed out a plan. After take-off it was clear we were in very busy airspace as there were paints all over the OzRunways screen so we had to keep our situational awareness high. We departed from Childers and performed a touch and go at a local property, followed by Monduran. We then followed the Kolan River, Gin Gin Creek and Yandarin Creek to the coast, flying at 500ft AGL. We continued south down the coast and landed at Pacific Haven, where most of the

group had assembled. It was approaching beer o'clock by that time so on leaving Pacific Haven we made a bee(r)-line for Childers and set down for the night.





As the sun slipped down past the horizon, the kids chased kangaroos around on the now silent runway strip, whilst we settled into a few drinks and met some new people and shared our experiences. Most of the aircraft were Savannahs, with a mix of other types including a Courier, a Hornet, a modified Cessna 150, some Tecnams and Jabirus, and a few other STOL types, and of course our Cherokee 180C and Cessna 182T. With all of those machines to talk about we continued hangar flying by the fire well past last light.

We awoke on Sunday and after a lazy breakfast we departed for Hervey Bay, stopping for lunch on the waterfront, then continued down the coast arriving back in Redcliffe mid-afternoon.

I'll be keeping an eye out for other events like this and will share them on the 'Redcliffe Aero Club Flyaways' Facebook page for all to enjoy. Keep a look out for them.



Some memories of RAC

by Phil Ware



I learnt to fly at the Redcliffe Aero Club, starting my training in 1982, and “found a home for life”. I’ve been a member ever since. I’ve rifled through my old photo albums and found a few memories to share with you. These piccies are from that time in 1982. At right is one of the controls of a Cessna 152, our main trainer in those days. We had three - BUE, BUQ & IVW. They were great planes to learn to fly in.



This photo is of me, aged about 40, with my instructor Spyros Potamianos, who went on to greater things. I understand he is now about to retire from Qantas after flying the A380s.



Next is a piccie of me with CFI, Roger Tognolini, who was one of nature’s gentlemen. He was a most patient instructor and everyone was saddened when his retirement day finally came, like it does with us all eventually.



The photo at right is of a departure off runway 07 in 1982. You can see the old clubhouse that was burnt down by vandals. Police apprehended the culprits eventually. While searching a premises in Redcliffe they found the Aero Club flag in the owners' possession and were thus able to link them to the arson attack. It turned out that they were 15 year olds. Subsequently an industrious committee constructed the new clubhouse using the proceeds from the insurance payout from the fire.



Next is my graduation as a qualified PPL in 1982. The Regional Director of the Department of Civil Aviation (now CASA) Owen Lawrie is on the left, and Derek Bloxham (new CFI at the time) on the right.



Finally, on the right are exterior and interior shots of the Club's first flight simulator. It was made for instrument flight training and was constructed from a wrecked twin engine aircraft, either a Baron or Duchess. Some clever people (see Ron Ennis's story - Ed) actually got it to work and it was fully approved for IFR. Club members enjoyed many happy hours playing on it and enhancing all kinds of aviation skills.



RPA operations two years on

by Colin Smith

Two years ago we featured an article about Remote Piloted Aircraft (RPA) in AirChat. Club member Colin Smith, in his capacity working for a company called Ninox Robotics, assisted in putting that story together. Ninox have expanded their operations over the past two years and Colin brings us up to speed with how the company is using RPA technology while managing safety issues related to interaction of RPA with GA aircraft.

Introduction

Ninox Robotics is an Australian owned business that specialises in the use of Remotely Piloted Aircraft Systems (RPAS) for several different applications in rural and semi-rural environments. Activities include, but are not limited to, biosecurity, survey and mapping, search (and rescue) operations and bushfire assistance.

We have come a long way since the inception of Ninox and the foundation concept of bio-security, diversifying along the way to suit the numerous different needs of a range of customers. In doing so we have altered the way we operate, during planning, execution and the product development phases.

The on-going development of the regulatory framework that governs RPAS, and in particular the beyond visual line of sight (BVLOS) concept, has sometimes proven difficult and this may continue to be the case as CASA move forward, utilising a concept that has been developed by the US Federal Aviation Authority and the European Aviation Safety Authority. The construct, referred to as the Joint Authority for Rulemaking of Unmanned Systems (JARUS) Specific Operations Risk Assessment (SORA), is based on a few (potential) harms, threats and barriers, and although quite thorough, it is still subjective. Furthermore, CASA believes it does not necessarily work in the Australian environment, as we have considerably more Class G airspace and far less densely populated areas than the USA and Europe.

CASA is preparing a checklist of BVLOS criteria in order for industry service providers such as Ninox to meet the approval standards and tie in with the SORA construct. This will mean some upgrades to the systems and processes currently employed by Ninox.

System evolution

The Ninox SpyLite RPA has been fitted out with a number of different and improved camera payloads in order to gather the required data for customers. We have also introduced the next generation of catapult launcher, in the form of a highly reliable pneumatic system. With the evolution of the airframe the weight was increased by almost 20%, resulting in some heart stopping and hair loss moments during launch with the older mechanical elastomer launcher system.

One of the anticipated BVLOS changes that CASA are likely to impose is the fitting of ADS-B transponders, allowing other aircraft and ATC to see the RPA and interrogate them for additional information. The adoption of ADS-B will be a major step forward in improving RPA safety and the safety of other airspace users. Ninox is presently in the process of having its fleet retro-fitted with ADS-B transponders and Ninox is purchasing the UAvionics Ping Station to provide ADS-B in. That technology will allow us to see aircraft out to 150nm using ADS-B and take necessary deconfliction/separation measures.

Recent operations

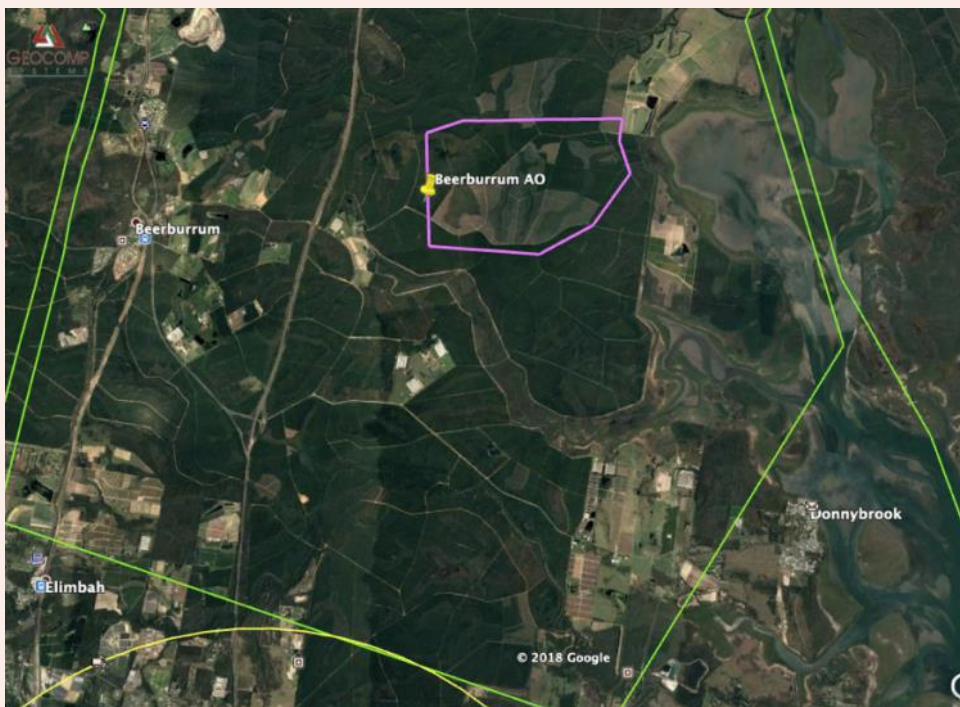
On 9th-10th April 2019 Ninox conducted several survey flights to the north of Caboolture, using RGB and multi-spectral cameras and lenses. The job was in support of HQ Plantations, who own/manage a large swathe of land that extends from just north of Beachmere right up to Caloundra, and another that extends from Noosa to Maryborough. The forest plantations are of different ages and periodically they require survey flights to be conducted for the analysis of plantation health and to monitor the growth of noxious weeds.

Flights were conducted visual line of sight (VLOS) up to altitudes of 1900 ft AMSL. Permission was obtained from CASA with NOTAM C275/19 covering the activity. As usual Ninox conducted stakeholder engagement by contacting all flying clubs and flight schools in the area, including Redcliffe, Caboolture, and Caloundra. Initially the request was for a BVLOS activity but due to changes in CASA and time constraints it was limited to VLOS. In hindsight this type of operation was the most practical way of doing things due to the complexities of operating in D629C and being right in the middle of the three busy aerodromes.

The image below shows the expanse of land managed by HQ Plantations (red polygons), the 3nm buffer applied to Caboolture and Caloundra aerodromes (yellow circles), and the proposed RPA trial area (magenta polygon near the Beerburum pin). It is anticipated that future jobs for HQ Plantations will only involve small areas of recent growth, making it considerably easier to control within a VLOS construct.



One complication, as shown in the diagram below, was the proximity of the trial area to Hazelton, an ALA in regular use by all flying schools in the region for practising emergency landings without power. The operation was further complicated by HQ Plantations' requirement for a mix of still photos and video product. The video is flown optimally at 1000ft AGL to achieve a balance between field of view and fidelity of image, while for still photos it depends on the resolution required: 5cm/pixel = 1000ft and 10cm/pixel = 2000ft AGL. Therefore a mix of altitudes was required for the different products. CASA were made aware of this requirement through the area approval application, and consideration was given to the establishment of a Temporary Restricted Area/Temporary Danger Area through the Office of Airspace Regulation. Fortunately, this requirement was avoided by the plan for thorough liaison and communication leading to adequate conflict avoidance.



Airspace management

Conflict avoidance and situational awareness was achieved through the use of VHF Airband radios, OzRunways and Flight Radar 24 Apps, and an ADS-B 'in' dongle at the ground control station (GCS). Throughout the flight the operator made regular broadcasts (every 15 minutes) to alert other airspace users of location, height and future intentions. A 10 minute notice to launch was also made prior to each launch. The respective CTAF (125.85 and 127.15) and BNE CEN (125.7) frequencies were applied and monitored throughout operations.

An observer located at the Wild Horse Lookout adjacent to the Bruce Highway was equipped with radios and the Apps mentioned above to assist with potential conflict issues as they arose. The additional observer reduced the pressure for the duty crew and afforded a much better view of the airspace from the elevated vantage point. Despite these efforts the control task was difficult due to the amount of traffic that came and went, sometimes unannounced or undetected.

While it was interesting to see the amount of traffic that showed up on the Flight Radar 24 App it was concerning and frustrating noticing traffic in the vicinity that didn't show up. Please accept my apologies for referring to RAC callsigns below as there were considerably more aircraft out there, but it is easier to relate to RAC's own aircraft and the systems they are fitted with.

We were easily able to track and deconflict with aircraft that were observed such as ROC, TRE, YRE, and IVW. Others such as SPP were not detected. On further enquiry JM from the Club explained that only aircraft fitted with ADS-B transponders are visible on Flight Radar 24. The inclusion of ADS-B transponders in RPA and all manned aircraft will improve safety and make it considerably easier to avoid conflicts in future.

Summary

The road to achieve unrestricted BVLOS operations with RPAS is still a long way off, with considerable work still to be done by ICAO, CASA and industry leaders such as Ninox, IPL and Textron Aerosonde. Technology will eventually provide a robust detect/sense and avoid system solution to enable BVLOS operations in the VFR airspace. Until then we will continue to work together with key stakeholders to enable RPA to operate safely and equitably with other users in unregulated airspace.

You can see more about the Ninox RPA operation by clicking on the link below:

https://www.youtube.com/watch?time_continue=6&v=cCQ4TYN_Wx8





www.redcliffeaeroclub.com.au

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