Safety Bulletin 12

This Bulletin focusses on the events of 22 April. Every year around now warnings are sounded about the hazards associated with Spring conditions. Usually pilots' negative experiences amount to some rough flights and perhaps a change of underwear. This year we received a very practical demonstration of the potential for disaster. Fortunately, both pilots emerged, whilst not unscathed, not seriously injured. Both described their experiences on the forum. Chris Greenwood's graphic description of his cascade should be required reading for pilots preparing themselves for XC flying in the Lakes. Tim Oliver's descent to the fell side lasted less time than it's taken you to read this paragraph!

If all this talk of scary thermals and hard landings has put you off then you could head for a safe day's soaring on the coast. Or perhaps not! See below.

Once again, I'm grateful to those members who are willing to expose their experiences for the benefit of all. I have attempted to summarise the forum discussions and focus on the key lessons. If you feel I have omitted something important or misrepresented an issue please let me know. As I always say, this Bulletin does not represent closure.

22 April 2017

The forecasts for 22 April 2017 pointed towards a perfect day at Barton. Sunny, light north westerly and better still it was a Saturday. The latter fact combined with the power of social media ensured that around thirty gliders turned out for what for many the first promising XC conditions of the season. This perspective was validated by Jaysen Metcalf's record breaking flight. Others had more mixed fortunes. Two experienced Lakes pilots, Chris Greenwood and Tim Oliver were unfortunate but thankfully, whilst battered were not seriously injured. Both have posted accounts of the incidents for which we can be grateful. The subsequent discussions were wide ranging. I have attempted to deal with both incidents in parallel focusing on the key lessons but pilots may well benefit from the unabridged versions contained in the forum threads at
http://www.cumbriasoaringclub.co.uk/forum/viewtopic.php?f=17&t=4418 and
http://www.cumbriasoaringclub.co.uk/forum/viewtopic.php?f=20&t=4421.

Conditions.

Conditions looked good, certainly from the valley it looked like a perfect day with beautifully formed cumuli spaced appropriately around the sky. Chris reports that conditions were strong but smooth and enjoyable with no significant turbulence prior to the main event. However, a more general consensus seems to have been rough or very rough conditions both over Barton and more generally from Tinto to Ambleside. Jaysen reports: "I have to admit to 2 asymmetrical collapses over Haweswater but they popped out quickly with little input and I had plenty of height. The thermals seemed to have very sharped edges but the further I got the thermals smoothed out."

Ed Cleasby summed it up nicely: “The last 8 -10 days, when it got flyable up north, we have had predominantly an Arctic (occasionally continental) airmass, strong sun and high instability. All this leads to strong thermals, bullet cores, very sharp edges and basically some very testy flying.

Chris Greenwood.

“I thought last Sunday was a more difficult day than the forecast and the sky indicated. Although obviously not difficult for some, especially those called Jaysen. I was at the wrong end of the ridge when the first gaggle got away and it was a good hour later before I found a good climb out. It was at times strong, I can’t say how strong because for some reason my vario didn’t record the flight, but smooth and enjoyable. I stayed with the lift and drifted back slowly before setting off on glide towards a promising looking cloud. My track took me just east of Haweswater towards Wet Sleddale. I was at 2,200’ ish in sinking air but reasonably confident I’d connect over the in-sun rising ground (Scalebarrow Knott?) under the cloud I was heading for.

Up to this point I’d encountered no significant turbulence at all. After a long smooth glide I hit a few small bumps and got ready for the vario to start beeping when I got a big asymmetric and spin. I like to think I fly actively and have flown in strong conditions many times but there was no warning and the glider went big time. I think I maybe overcorrected and then spun the other way before trying to press the reset button by stalling it out. Eventually after much thrashing about I got the wing into a stable tail-slide but I think now realise that I didn’t quite go completely ‘hands up’ to let the glider dive and recover and it spun again. I then repeated the mistake by which time I’d lost too much altitude for the reserve so focussed on trying to get the wing flying. I didn’t and piled in but got lucky, didn’t hit anything too hard and kept my sticky out bits onboard. My harness is ripped and my helmet scuffed and chipped. Wing is fine – it’s on the market shortly.

So that’s what happened. Why did it happen? I guess it was just a hard edged thermal and crap pilot input. I’m not very current and not very talented and you put those two together on a strong spring day and it’s not good. I landed (crashed) about 1/2km away from another pilot I walked out with and he said it was really rough just in that area.”

Tim

“After taking off from Barton, I was frustrated not to be able to build enough altitude to get away. I worked the ridge for a couple of hours but I was just not connecting.
I eventually decided to work my way up to High Street, over to Harter Fell and then set off down Long Sleddale, which runs SE out of the Lakes toward Kendal. The wind was at my back. I was below the ridge level and kept closely tucked in to the sunny east ridge hoping to take advantage of any thermals running up the valley side that would extend my flight.
Half way down the valley I dropped below the upper tree line. The valley side was steep so I pushed out a little to get a bit more height above the trees. I was probably about 30ft above the trees and I knew I

could push out further as I lost more height.
Then WACK!
Without warning, I got a big collapse on the right side (valley side). What happened next was so fast, I have had difficulty trying to visualise and analyse it. I have a few half memories. Looking up for the wing, but it was initially behind me. As it came into view seeing lines with half a twist. The wing surged toward the horizon. A falling, half pendulum half spiral through trees – All VERY rapid. It's weird, but I can distinctly remember a flash thought - I am not going to impact, I am going to hang in the trees - my wing is going to be f***ed! I was wrong. I came down hard in a clearing. My wing was not even snagged on a tree. The impact was part on my back and part on my side. I remember the "ooff" sound as it knocked the wind out of me. I was incredibly lucky as I had impacted onto some forgiving turf. There were rocks around and I missed them all.
I am unhurt apart from bruising in my right knee, which I think hit against my left knee. The central cell of my wing has a long split close to a seam.
Reflections on this.
I don't think I had time to react any better than I did after the initial collapse. There was no time to sort anything out and I was too low for a reserve, even if there had been time to think about deployment."

The subsequent discussions circled around the causes of the accidents and how the outcomes could be or could have been mitigated.

Discussion

There was much to discuss but dealing first with the causes, the straightforward answer is Spring conditions. Flying in strong thermals, bullet cores, with very sharp edges is a form of Russian roulette. In such conditions, collapses are to be expected. Even if a pilot is taken by surprise by the conditions, as Mike Cav points out, 'all pilots should be constantly assessing the risk of all their decisions during the flight'. Rosie Darwood took a pragmatic approach: "I found some rough bits on Saturday too. took a big collapse over launch on the edge of a thermal I think. It shook me up a bit and had to fly out front for a bit to calm down. Made me more conservative for the rest of the flight which shortened my xc".

This amounts to very sound practical advice. I offer five points for consideration:

1. If you or the pilots around you are experiencing rough conditions, gain height. If you aren't going up and staying high then fly out from the ridge to at least ensure your glider has more height to sort itself out.
2. If you set off XC then you need to make allowance for the higher risk of a potentially catastrophic collapse. Chose a course that maintains maximum separation from the ground perhaps even at the expense finding the best thermal sources – you choose!
3. Just because pilots around you are more experienced than you don't assume they are having a lovely time. They may well be bricking it! Be wary of the lemming effect of dutifully following a line of gliders into the unknown without making your own assessment. (Although following is probably preferable to leading the way!)
4. There's no disgrace in saying bugger that for a game of soldiers, I'm going down. There have been many times when I've forced myself to battle on only to hear from other, better pilots, on

landing that they only battled on because I had. (Some will be secretly gratefully you provided an excuse to land)

5. It's only a game.

Mitigation

Flying XC in Spring conditions increases the likelihood of a potentially catastrophic collapse. There are measures we can take to reduce mitigate the effects.

Equipment.

Glider Type. Unsurprisingly given Chris's comment that he was considering moving from a 'hot' B to a low EN B the arguments around glider choice were resurrected. This is an important but strangely divisive area that has been well aired in previous forum threads and Safety Bulletins. The subject is covered in depth Safety Bulletin 3.
http://www.cumbriasoaringclub.co.uk/documents/sfy/sfy363.pdf

Harness. Both Chris and Tim credit their choices of harnesses with mitigating the severity of their injuries.

> **Tim** – "I bought my first pod harness last year and at the last minute I chose to go for one with full foam back protection rather than opt for the lighter weight options now available. Who knows?
>
> **Chris** – "I don't want to upset the owners of 'skinny' harnesses but I'm totally with you in what you say about back protection. I landed on my back. My legs and hips and most other muscles are still sore from the impact but my back is fine. The harness back pocket has a 150mm split through 2 layers so obviously took a bit of stick. But the foam protection did its job and my back is the only bit of me that's not sore… My harness weighs 5kg without reserve and in my opinion it's well worth carrying an extra kilo or two for the very real protection a 'full fat' harness offers. I love my harness.

Harness choice is a tricky area and probably doesn't get the attention it deserves. Ed Cleasby is a self-declared fan of the fat harness and makes the point that we obsess about glider ratings but tend to ignore the test ratings for harnesses. He suggests that most lightweight fans will rave about their skinny harnesses, lightweight reserves and basic shell helmets but aside from lowering the pack weight they can get called on to do a more important job. As we have now seen! Pilots are able to make informed choices when buying harnesses. The EN Test regimes and results are available https://para-test.com/reports as is advice from the dealer, reviews and 'trusted' pilots. Whilst the key factor will be protection in the event of a hard landing there are many other factors to be considered. Comfort, control, weight, robustness and price are some. Moreover, choices don't end with the purchase of your shiny new harness. Noel Holland has raised some interesting points about harness adjustment which are relevant to safety and worth

a scan
http://www.cumbriasoaringclub.co.uk/forum/viewtopic.php?f=18&t=4413&p=25747#p25747
but thankfully in the two instances under consideration it appears that the right choices had been made!

SIV

The consensus from pilots who have done SIV courses is firmly in favour. It's worth noting that at least two CSC pilots who attended a recent SIV course in Olu Deniz changed their glider or harness as a result of the feedback. However, SIV cannot be considered a panacea. Chris Greenwood's is an advocate of SIV but goes on to say: "although I've done one I forgot how to execute a manoeuvre properly under the stress of a wing in 'energetic' mode. Stalling the wing under those circumstances was very different from over water with a reassuring voice in your ear and it takes a lot of bottle to deliberately let the glider dive when you've already seen it from some unusual angles and are willing it into straight and level flight."

Rick Livingstone (who hasn't attended a SIV) expressed some doubt. "SIV may no doubt be useful but, unless you are doing it frequently, perhaps it may just be giving you a false sense of security that you can sort out a cascade and keep on trying, perhaps running out of height, instead of throwing your reserve. And I don't believe that SIV collapses are anywhere near as bad as you can get in really bad air if you get unlucky.... Until you've flown for real into some violently shite air (and that will probably only happen if you are XCing in the hills on big days) you will never really know if you have fully mastered your wing."

Brian Doub countered: "The collapses aren't as bad as in "really bad air", but the incorrect inputs by the pilot are the same (speaking from experience where I literally had to push the wing out of my way so I wouldn't fall into it). I've done two SIVs and I would do one (or two) every year if I could afford them. They are fun, the learning curve is huge and the physical and mental practice of getting your wing flying again gives you the experience and muscle memory that can save your life.

After my 1st SIV in Nepal where I got a big cravat and got it worked out just before I hit the water gave me the assurance and experience to do the same when on an XC over the greenwall where I got a cravat about 1200' above a forested ridge and fell 600' while working it out and then flew away and continued my 30 km flight. I couldn't have done that if it wasn't for the SIV course the week before. Then I had a repeat experience on a really thermic day on Wolf Crags where I calmly worked out the cravat weight shifting away from the crags.

I can't recommend SIV's enough. If you've not gone on one, please do".

Reserve Deployment.

The two accidents provided a useful basis for a discussion on reserve deployment. In response to a question Chris Greenwood replied: "Do I wish I'd thrown the washing"? Not sure. No twist, no cravats, I

should have been able to sort it out and be confident of a more predictable outcome, but for some reason got it wrong". Tim's situation was clearer, no time to react!

The fairly comprehensive BHPA advice on reserves is at
http://www.bhpa.co.uk/pdf/Emergency_Parachutes_Advice.pdf

On the question of when to deploy, it states:

With paragliders, there is a range of less clear situations where control of the canopy has been lost but may be regained. The decision whether to deploy will depend on the height that will be lost during your attempts at recovery and your initial proximity to the ground. Several pilots have been killed (and many Injured) impacting the ground while still trying to recover control of their paragliders, when their parachutes would almost certainly have saved them. The crucial point is that **any efforts to regain control of the paraglider must be secondary to the key concern of monitoring your height.** Recovering from a complete mess is very satisfying if you have plenty of height to play with; however, descent rates can be extremely fast when a canopy is spinning out of control. Don't leave deployment to the last minute. **If in doubt, throw it out!**

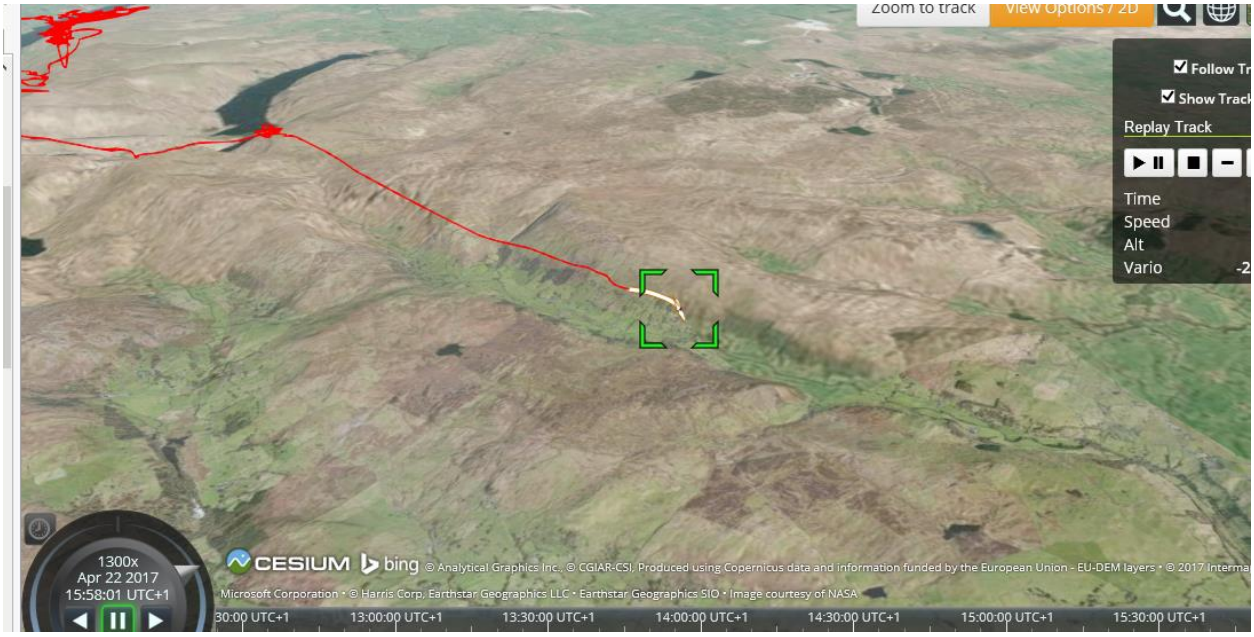
Chris Little concurs! "I think SIV definitely helps and having the knowledge of how a wing behaves when it's collapsed and how to get out of the situation; but **much more importantly being able to locate and throw a reserve.** In the lakes we probably don't have a lot of height to sort out a wing that's out of control so I think the first thought should be to 'throw'. Maybe the problem with SIV is that it focuses on teaching how to SORT out the wing and less on throwing a reserve!

Having more ground clearance is safer, but in the Lakes we fly ridges and are often low so on every flight I check the reserve handle and its location. When I skydived this was done as a matter of course on every jump and this was taught as part of the syllabus and became the main check undertaken by every skydiver before exiting the plane. I think in paragliding this should be the focus of our pre-flight check and also in-flight check!"

Chris has form and does not speak as a theoretician! His advice is underpinned by experience as described in Safety Bulletin 8. http://www.cumbriasoaringclub.co.uk/documents/sfy/sfy368.pdf (not for those of a nervous disposition)

Tracking.
The final consideration from the events of 22 April is tracking. Both Chris and Tim were carrying trackers. Chris had a Delorme In-Reach but was not using the tracking, instead relying on the 'come and get me button'. Tim was using Livetrack 24. The final section of Tim's track is shown below. The lessons are obvious. In different circumstances had the pilots been incapacitated (and in Chris's case, had his cascade not been observed by other pilots) a search would have been problematic and time consuming.

Not wishing to depart from my undertaking not to pontificate – if you are flying XC in the Lakes use a bloody tracker!



Haig Pit

Two separate incidents have been reported anonymously, both occurred at Haig Pit.

Incident 1. A small group of pilots was soaring the cliffs. The pilot reports that the wind, although of sufficient strength to soar based on his, and others', previous experience flying this site, was slightly off to the south. Having launched he became momentarily distracted by problems with his headset which he attempted to address. He turned North (down wind) to follow another pilot but sank below the top of the cliff. That pilot then turned back forcing him also to turn South (into wind) where, lacking lift, he descended to the boulders. He managed to land on a conveniently large and accommodatingly flat boulder. He was then able to extricate himself with some difficulty and a helping hand from above by ascending the wet, loose and crumbling cliff. Other than some damage to his glider the pilot was unharmed.

The pilot is experienced with a good knowledge of coastal flying. He has flown the site before and was fully aware of the pitfalls. He could handle the potentially catastrophic situation. Over the years there have been regular incidents on our coastal sites, often involving experienced pilots and changing wind conditions. This incident stemmed from a combination of factors. The wind direction, momentary distraction, and at least one other pilot obstructing the safe course of action to land on the lower tier of the cliff.

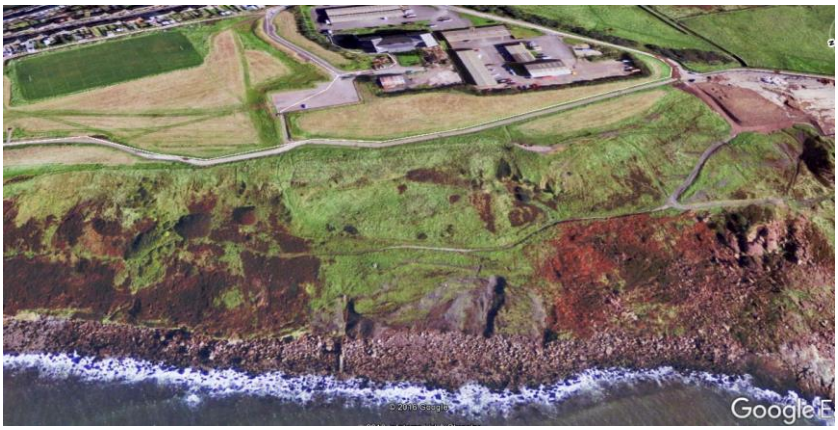
Incident 2. Rick Livingstone, coastal site officer, posted a report on a further recent incident at the Haig when a pilot lost height and got too low to top land. He attempted to 'hover in' to a potential

landing place but had insufficient airspeed and spun it in from around 20 feet, resulting in a broken scapula.

Rick points out that there are several turbulence inducing lumps on the Haig cliffs and, if the wind is off the hill, the turbulence they cause is exacerbated. Plus, the further off the hill the wind is the more it tends to run parallel with the cliff, resulting in poor lift.

As well as being hazardous if you can't top land, in strong conditions it can be difficult to get down. Getting blown back over Kells does not bear thinking about.

Please take care at the Haig. It takes no prisoners!



Over the years there have been a fair few accidents on the coastal sites, mostly unreported and often involving experienced pilots. Most have resulted from misjudging the wind strength and/or direction. Incidents have involved sea landings, railway landings, stranding on St Bees Head, being plucked off launch by strong wind and bounced off caravans, crashing through caravan skylights. Without wishing to be drawn into psychology, it may be that familiarity has created too casual and relaxed a view of coastal soaring as a safe alternative when conditions are too strong inland. Haig is particularly hazardous due to the lack of bottom landing options. The site guide has been amended to draw greater attention to the hazards.

As I write I see there is a period of settled weather approaching. Let's make the most of it and let's not be intimidated by the recent events but absorb the lessons and benefit from the very honest reports and discussion.

Fly lots, fly safe!

CSO