

Safety Bulletin 15

St Bees

Safety Bulletin 12 contained the following statement: “Over the years there have been a fair few accidents on the coastal sites, most of them involving experienced pilots. Most involve 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. As the site officer has stated (often!) “people have that familiar 'it's just the coast' mentality and because the air can often be so lovely and smooth we overlook that obvious danger”. Catherine nicely summarises the problem: “Surely it [St Bees] and coastal sites are inherently more dangerous. Put simply, you just can't land in any field, on the path up, across the farmer's wall or do an escape run to the side- as you often can on the inland western sites”

In mid-February, a group of pilots descended on St Bees Head to prove the point. The full thread can be found at <http://www.cumbriasoaringclub.co.uk/forum/viewtopic.php?f=20&t=4755> . Brian Doub provides a full, frank and highly informative analysis of the events from his perspective as well as a summary of where he feels he (and other pilots) went wrong on the day. He identifies several factors which conspired to force him and others to land on the boulders but in essence it was a failure to react to a change of wind direction.

Part of the discussion focused on the effects of a changing wind direction on ridge lift. It is intuitive (hopefully) that the further the wind direction moves away from 90° to the face the less effective the ridge lift. What might be less appreciated is the relationship of the drop-off in lift to the steepness of the ridge. Rick Livingstone unearthed a useful explanation.

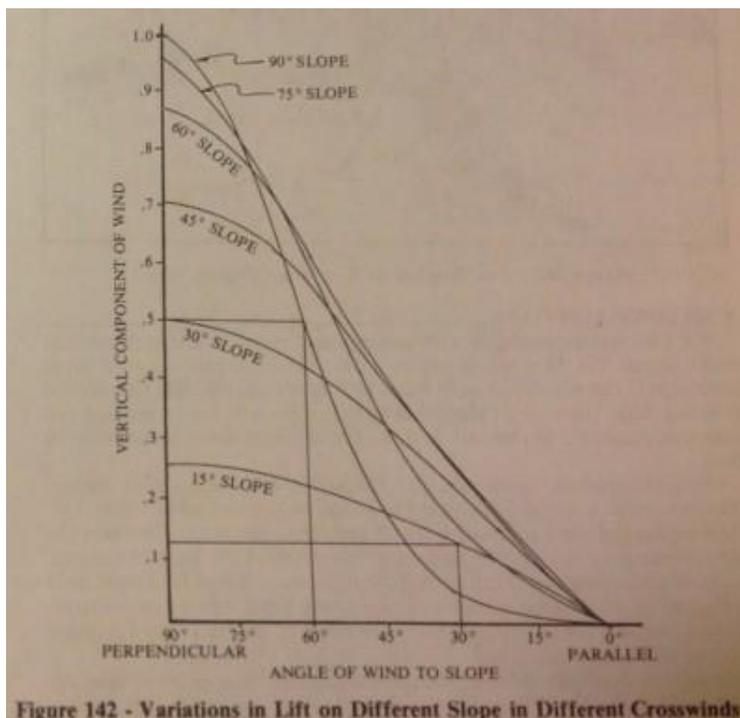


Figure 142 - Variations in Lift on Different Slope in Different Crosswinds

When the wind is crossing the face of a mountain, less lift is produced because the airstream is partially deflected sideways as well as up. The steeper the slope the greater the horizontal deflection and reduction in lift. Hence the lift on a vertical cliff (or very steep cliff like St Bees!) is more sensitive to direction than a gentler slope. The graph illustrates the effect for different wind directions/ slope angles. A vertical cliff will lose half its lift if the wind is 30° off the hill.

This creates a double whammy for a paraglider pilot soaring St Bees Head, particularly if conditions are marginal. As the wind backs, its vertical component decreases (i.e. you start to lose height) the horizontal component increases (i.e. you lack the penetration to get to a safe landing). Bummer! Looking at Brian's track on the forum, his max into-wind speed of 14 kph illustrates the point.

So, what to do?

The key lesson is to keep a very close eye on the wind direction. Be sensitive to any change. This is true for any site but St Bees (and our other coastal sites) are particularly unforgiving in this respect. As a rule, if you drop to ridge height, don't attempt to scratch. You should top or slope land or head for the safe landing area.

The CSC guide for St Bees is probably the most comprehensive we have. All the hazards encountered on the day are covered in the guide. It is recommended reading for anyone flying there, before flying rather than as an interesting part of a post-accident analysis.

Pre-Flight Checks

Incident on Carrock 4 Feb 2018.

A busy Sunday on Carrock, snow on the ground, lots of cheerful banter, what could possibly go wrong? What indeed! Graeme Stephenson reports:

"I did a thorough and full pre-flight check, fully clipped in ready to launch. It was busy around me with other pilots higher up the hill, lower down and left and right of me. The ground was snow covered and a key concern was making sure not to run into hidden rocks and divots when launching so launching space was at a premium.

A friendly chap who'd just top landed wandered through the group of waiting pilots suggesting it might be better to launch higher up at the summit.

I decided to take his advice so in preparing for the 250ft climb to the top I unclipped my leg straps so I could walk uphill more comfortably and safely over the snow carrying a posyed up glider. (CSO:At this point we all know what's coming!) At about 100ft below the summit a well known CSC coach launched well gaining height immediately so I decided to jump into the vacant space.

I laid my glider out again stepped back and began to re-pre-flight -check but it was quite busy in this area and I was distracted by 3 friendly colleagues. The first said he was waiting for me to launch then he'd have this launch spot too. Then another couple of friends distracted me with friendly banter. At the same time a good cycle of wind came through, so I decided to launch - as soon as my feet were off the ground I

realised I hadn't re-clipped and my leg straps were undone!

Thankfully I had not disconnected my waist strap which includes a vertical strap that connects to the seat plate. I could feel this in my crotch holding me as the rest of my legs dangled. Still feeling precarious and very concerned for my safety I immediately decided to head away from the hill to landing. I didn't want to try and slope land as it was too busy and some people were scratching.

I just kept my calm and patiently and uncomfortably bled my height off with figure of 8s and a couple of 360s. I did try and push myself further back in the harness a couple of times but it didn't feel safe to push the risers as much as felt necessary to push my body weight backwards."

Failure to carry out pre-flight checks is a commonly reported cause of incident/accidents. As in this instance, there are usually exacerbating circumstances. These often include, as in this case:

- An interruption or distraction in the pre-flight/launch process. In this case the jolly banter will have been a distraction.
- Unclipping or unfastening items of equipment, typically helmets and harnesses and omitting to refasten.
- Pressure to launch. In this case a sudden and possibly fleeting launch opportunity.
- Undoing the harness to facilitate movement, usually in similar circumstances to this incident.

As Graeme reports, all ended well thanks in part to the harness incorporating a crotch strap and his remaining calm. There was some forum discussion on the subject of how best to get into the harness in similar circumstances. Anyone having a view or experience on this is welcome to post on the forum however the sensible safety advice is to focus on not getting into the situation and considering a failsafe harness. Also, we should all be aware of our duty not to distract pilots at critical times in the launch process.

Spring Conditions – Yes, it's that time of the year again!

Pilots (except the very new) will be familiar with the annual exhortation to be prepared for Spring conditions and all that implies. The latest issue of SkyWings carries a succinct summary (page 10) which is worth a look unless of course you are "supremely confident" in your state of readiness and that of your equipment. In essence the advice is:

- Spring conditions can be gnarly and boisterous. Pilots are likely to be rusty so take extra care in assessing the conditions and allow wider margins.
- Preparation for the new season includes ensuring all your equipment is in a serviceable condition, up to date and you remember how to use it.
- Consider a ground handling session before you commit to aviation. It will provide a health check for you and your equipment. This is best not done on a launch where the temptation to hook the first spring thermal might prove irresistible and destructive.
- Low airtime pilots should avail themselves of the assistance of a club coach.

Bulletin 12 contains a full account of the events of 22 April last year and the potential for Spring Conditions to spoil a seemingly perfect flying day.

<http://www.cumbriasoaringclub.co.uk/documents/sfy/sfy377.pdf>

Well, that's it for now,

Fly lots, fly safe!

CSO