

HOW TO BE A BETTER PILOT

CFI Tim King continues his series aimed at the beginner paraglider pilot

NO 8. SO YOU WANNA FLY THE CLIFFS?

Cliff flying for the first time can be a little daunting. To the uninitiated, running off a cliff may seem more akin to base jumping than paragliding. Although this is not the case, there are certain peculiarities of coastal cliff flying that need to be looked at. If it is your first time at a new cliff site seek good local knowledge first, to discover any hazards that may not be obvious.

When identifying the hazards that are associated with this type of site, the immediate one that springs to mind is the state of the bottom-landing option. A high tide may well eliminate, or certainly limit, your options dramatically. Check out the local kitesurf shop - they normally have some free tide tables for the year - or bookmark them on your phone. It could save you a bit of a drive next time you go flying.

Remember that a spring tide (largest tidal range - full or new moon) will come in faster and higher than a neap tide. If you don't have your tide tables and arrive at the site, you can easily identify which way the tide is running by seeing if the shore in front of the sea is dry or wet (providing it hasn't just been raining). Some coastlines, even if the tide is low, may still present hazards such as groynes, boulders and even sunbathers. Whilst the latter may seem very alluring, object fixation on the black bikini whilst setting up for finals may not be such a great idea!

Coastal cliffs can 'hold' more wind than inland sites. This is because in front of the cliff is a smooth open expanse - the sea. There is no

mechanical turbulence produced in front of the cliff - but do pay attention to harbour walls or raised beaches - and thus the air is flowing very smoothly. Silky-smooth flights can be experienced and very relaxing flying can be had.

Because the lift is usually very uniform and the air generally stable there is often a concentration of pilots at very similar altitudes, and wake turbulence from other gliders will be in abundance. If you fly behind and slightly above another pilot, just squeeze some pressure on the controls and avoid the collapse. If close to the cliff, move out slightly to accommodate a possible drop in altitude from the turbulence.

Coastal areas can have rapidly changing weather conditions. The sea can be a good indicator of an increasing wind. If the sea starts chopping up or 'white capping', the wind is of a strength which is usually top end for a paraglider. Do not confuse wind chop with tidal rips though. It is also possible to easily recognise incoming frontal systems. Look out, too, for a lowering cloudbase and low orographic cloud which may quickly obscure your visibility.

Rotor may exist at the top and bottom of a cliff. Rotor often exists at the very base of the cliff if the wind is strong enough, and can be at a height where a deflation or surge would be bad news.

When the wind is strong enough to soar well, rotor will almost certainly exist downwind of a sharp-edged cliff. Cliff take-offs are thus commonly situated on a section of the cliff that has eroded to

form a more rounded edge, or where a bowl or hill exists that is set back and slightly higher than the cliff edge. This will ensure that you will be taking off and flying through laminar air all the way to the cliff edge. Beachy Head in Sussex is a good example of this. The cliffs being as high as five or six hundred feet, by the time you reach the edge you really do get a good rush. It can be quite spectacular despite a safe, easy take-off.

It is also possible to take off at the base of some cliffs if there is a good breeze and a suitable sloping section at the foot of the cliff - although it's a good idea to know how windy it is at the top first. Your glider is seven or eight metres higher than you, so when inflated at the foot of the cliff the wing could well be in enough lift to take off and soar across the cliff face, climbing to the top. You will need to stay in close to the cliff face, so make sure you appreciate the span of your wing! If the lift is good then ease out, away from the face, as you near the top to avoid being blown back if it's windier than you thought.

Top landing, like the take-off, is often in a fairly small and restricted area. Your landing approach must be in smooth air all the way from cliff edge to touchdown. It is possible, if you are losing lift, to slide the glider in for a top landing right on the cliff edge, but this is really for experts only - dropping the wing over the edge on landing is not cool.

If you have lost lift and are going to bottom land, make your decision as early as possible. Low turns over the water could leave you short of the beach with fatal consequences. A downwind landing on

Never lose track of the state of the tide



Position yourself just above the edge or slightly in front of it



Beware other hazards the beach may present



shingle or sand is a better option than a water landing. A classic error here is to try and turn into wind too late; the turn takes you over the sea, leaving you short of the beach resulting in a water landing. Water landings are almost invariably fatal.

When you are soaring along the cliff, position yourself just above the edge or slightly in front of it. If the wind increases, simply fly further out. Be aware of the cliff face changing orientation to the wind, and beware of sections that may jut out far enough to generate rotor or sink - fly further out at these points to maintain lift and smooth air. Any gaps in the cliff can cause an increase in wind speed and a drop in lift as the air venturis through.

A cliff will typically produce a good deal of lift. For example - if a 15mph wind is smack on a 50-degree slope, the air can rise at approximately 1,000ft per minute. A vertical cliff experiencing the same wind speed in the same airmass could well exert 1,300ft per minute. The lift band on the cliff may, however,

not extend as far out from the hill as that of the gradual slope.

You will need to assess the airmass that you are going to fly in as it can have dramatic effects on your cliff flying. If the air is unstable the lift will be good. If, however, the air mass is very stable you may well be reading 15mph on take-off but still sink down to the bottom. The wind that you are feeling is the horizontal wind above the cliff; the wind hitting the cliff itself finds it easier to slide along it and therefore produces little lift.

The lapse rate on the day will also have a great effect on cliff flying - relatively warm sea and cold air can give rise to quite strong thermic activity. Some of the best lift on coastal cliffs can be experienced in the autumn when the sea is still relatively warm yet the first frosts are lurking. A good lapse rate can occur, and on rare days you can even see the thermal 'trace' on the surface of the sea and excellent climbs can be had.

Concrete walkways and pebble beaches can also heat up to add to our fun. Have you noticed that sometimes when the sun goes in on the cliffs the flying can improve? It's the complete opposite to what you're looking for inland for thermal generation.

Cliff flying can be a whole lot of fun... as long as you remember to take into consideration these differences from your regular inland hill sites and apply them well.

Top Tip: Make sure the bottom landing area doesn't disappear.

Tim King is CFI of Sky Paragliding (www.skyparagliding.co.uk). An earlier version of this series of articles appeared in Skywings in 16 parts between October 2003 and June 2005. The present series has been substantially revised and updated.



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