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BHPA Incident Report: GBR-2022-24615

INCIDENT

Aircraft Type:	Little Cloud Urubu 26 (95-115kg). Serial no. 2K20-Urubu-26-107. Gin Bobcat Harness. Serial no. 0317.VBC 0168
Certification:	EN 926-1 load tested only.
Manufacture Date:	Glider manufacture date June 2020. 78 hours use logged by Pilot A.
Location:	The incident occurred at a site near Barton on Sea in Hampshire. OS Grid Ref. SZ247928. The site is a south facing sea cliff with a height of approximately 30m above mean sea level. The incident occurred at an area of the cliff that is situated in front of the western end of Barton on Sea Golf Club.
Date and Time:	7th July 2022. Approximately 17.30 BST.
Type of Flight:	Ridge soaring.
Persons Involved:	Paraglider Pilot A
Injuries:	Fatal. Severe chest injuries.
Nature of Damage:	Damage to paraglider consistent with the nature of the incident.
Pilot's Rating/Licence:	Pilot A held a BHPA Pilot rating, attained in March 2019
Pilot's Age:	66
Pilot's Experience:	Pilot A joined the BHPA in May 2018. They attained their BHPA Club Pilot rating in June 2018 and their Pilot rating in March 2019. Pilot A was a member of the Wessex Hang Gliding and Paragliding Club. Pilot A attended a BHPA Coach course in November 2018 and acted as a coach for the club before allowing the licence to lapse in 2021. Pilot A kept a detailed flight logbook. The logbook shows Pilot A had a total of 307 flight hours at the time of the incident, spread over approximately 300 flights. Pilot A had experience flying a variety of different gliders and had flown in Bulgaria, Turkey, France, and Spain. Pilot A had considerable experience flying at Barton on Sea. Of the flights logged, over 130 of the flights were at Barton.

Information Sources: Witness statements, Met Office aftercast, Wessex Hang Gliding and Paragliding Club sites guide, and glider inspection report by an independent expert.

1.0 Synopsis

Pilot A and Pilot B arrived at the site known as Barton on Sea on the afternoon of 7th July 2022. Pilot B took off at approximately 5pm and began soaring the sea cliffs in the light southerly winds. Pilot A was joined by Witness A (also a paraglider pilot) and the two chatted for approximately 20 minutes while watching Pilot B soaring the cliffs. Having watched pilot B gain approximately 30-40 feet in height above the cliffs, Pilot A took off and headed east along the cliffs. Witness A watched the two pilots for a few minutes before returning to his vehicle and heading home. Pilot B was above Pilot A as both pilots had turned and were heading in a westerly direction along the cliffs. At a point adjacent to the western edge of Barton on Sea Golf Club, Pilot A's glider turned violently right, into the cliff side. Pilot A was then dragged up and over the edge of the cliff, coming to rest on the grass on the edge of the golf course.

2.0 History of the flight

On the afternoon of Thursday 7th July 2022 Pilot A and Pilot B arrived at the paragliding site known as Barton on Sea in Hampshire. At approximately 5pm, Pilot B launched and began to soar the cliffs in the light southerly wind. Pilot A was joined by Witness A (also a paraglider pilot) and the two chatted for approximately 20 minutes while watching Pilot B soaring the cliffs. Witness A described how Pilot B was initially quite low and expected them to land on the beach, before eventually gaining height to be about 30-40 feet above the top of the cliffs. At approximately 5.20pm, Pilot A, who had seen Pilot B gain height, decided to fly. Pilot A launched their Little Cloud Urubu paraglider and turned left in an easterly direction along the cliffs. Witness A watched Pilot A and Pilot B for a few minutes and describes how neither pilot had gained much height. Witness A then returned to their vehicle and added that both pilots appeared to be flying safely, as they drove away.

Having been flying for approximately 10 minutes, Pilot A was flying in a westerly direction in the area in front of the golf course. Pilot B was flying in the same direction but was higher and therefore looking down on Pilot A's wing. Pilot B describes how Pilot A had been "*…scratching along close to the cliff only just able to maintain enough height for the wing to be above the cliff top*." Pilot B goes on to describe how they saw Pilot A's wing turning suddenly towards the cliff followed by a cloud of rising dust. Witness B, who was walking along the cliffs with their spouse, describes how Pilot A was below the level of the cliff top when the glider turned into the top edge of the cliff. They go on to describe how Pilot A was dragged up with force on to the top of the cliff.

Witness B called the emergency services and began to give CPR to Pilot A, aided by a passing cyclist. An ambulance arrived after approximately 10 minutes, followed by an air ambulance. Pilot A was declared dead at the scene at 6.12pm

3.0 Focus

Based on the information available, the Investigation considered the site, the weather conditions, Pilot A's experience, Pilot A's equipment and the actions of Pilot A.

3.1 The site

Barton on Sea is a coastal town in the county of Hampshire. The sea cliffs run approximately east to west along the south coast and are approximately 20 to 30m in height above sea level. The cliffs are a conglomerate formed from compressed soil and pebbles and as such are subject to erosion at the cliff edge.

Photos 1 – 3 show the cliff looking east and west from the incident site and looking up to the incident area from below.

Photo 1, looking east from incident site.

Photo 2, looking west from incident site.


Photo 3, looking up at the incident site from the beach.

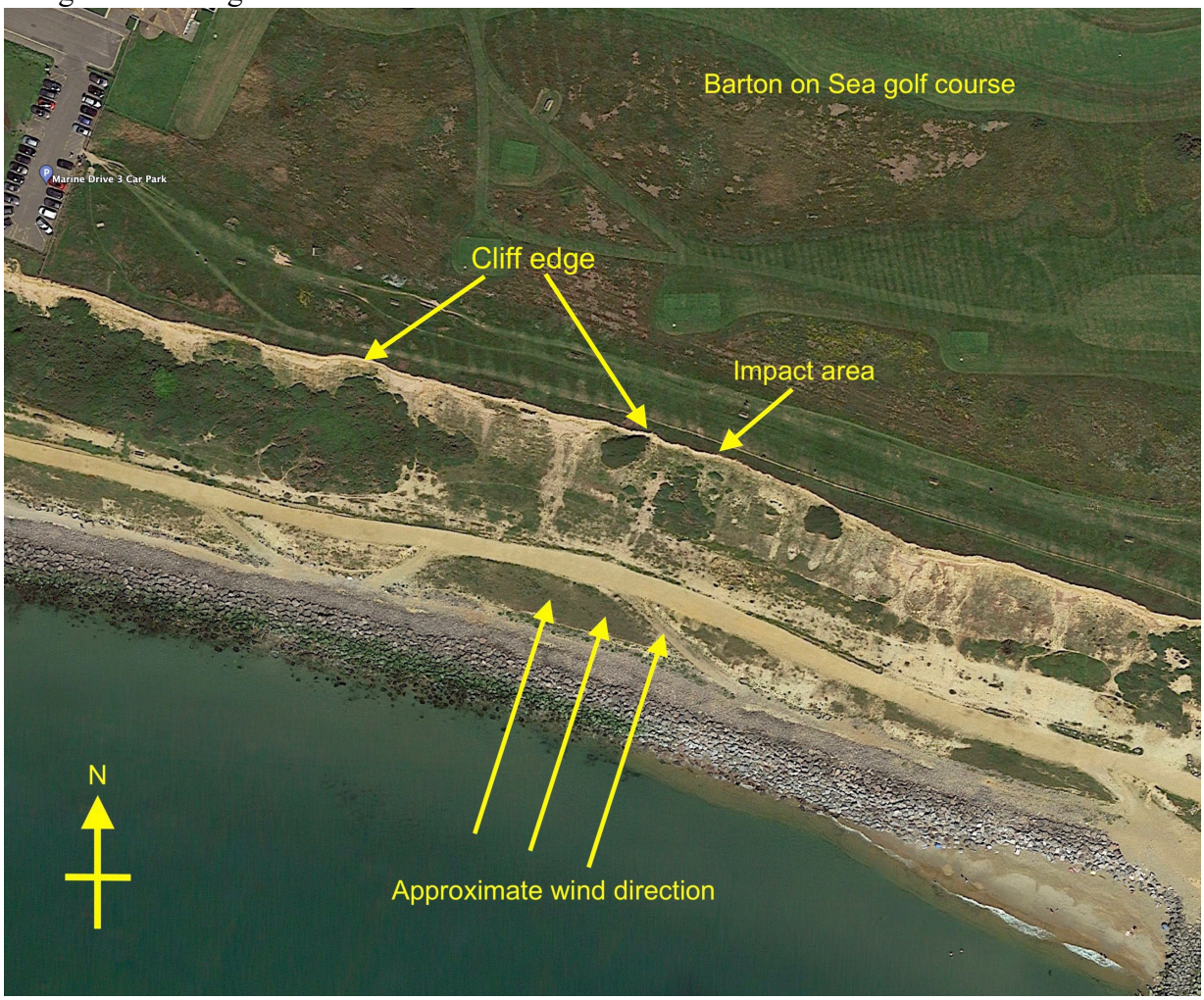
Barton is a demanding site due to the shape of the cliff top and the fact that the cliffs are relatively low in height. In lighter wind speeds, and in the absence of any thermic activity, it would be necessary for paraglider pilots to stay relatively close to the cliff face to remain airborne in the narrow lift band.
The following is an extract from the Wessex Club sites guide.

The site is classified CP+25hrs MINIMUM REQUIRED, despite looking benign, there are a good number of hazards to catch out the unwary, particularly in marginal conditions or when the wind suddenly picks up.

The cliffs are not perfectly straight but have cuts, gullies and undulations along the length due to erosion. These undulations mean that in any given wind direction, areas facing more into the prevailing breeze will provide more lift than those areas that are not.

The following diagram is a Google Earth image of the crash site from above.

Google Earth image of crash site.



The investigation found that the site was not a significant factor in this incident.

3.2 Weather conditions

A Met Office aftercast was obtained for the day in question and the summary is shown below:

Summary of findings

Across the various records available, observations for the weather around Barton on Sea at the time of the incident shows it to have been fairly settled and dry. This concurs with the forecasts that were available. Expected visibilities were in excess of 10km; reports from nearby airports at the time say at least 9999m was observed. Forecast winds were light to moderate and northerly, specifically 350/09KT for nearby airports at the time. Observed winds varied slightly with Bournemouth suggesting a more southerly direction with a report of 170/06KT at the time of the incident, this was likely the result of a sea breeze. Southampton however was reporting variable winds at 2KT at the time, though shortly before and after the winds were in the range of 330-030 in direction at 4-5KT. Cloud was anticipated to be few in the range of 2000-4000ft. Observations put it as being slightly higher, that being few at 4500-4800ft. Thermal activity in the area was projected to be moderate, up to 5000ft with no wind shear.

The Met aftercast indicates a light northerly flow over the area but with the possibility of southerly sea breezes at the coast. Evidence from the witnesses, and the fact the pilots were able to soar the Barton cliffs, indicates there was indeed a light southerly sea breeze. Witness

A stated that the wind was light and slightly west of south. Pilot B states that the wind had an easterly component while he was airborne. It is possible that the wind was fluctuating between slightly west and slightly east of south. If the wind was slightly east of south at the time of the incident, as described by Pilot B, this would result in Pilot A colliding with the cliff face with considerable force due to the downwind component.

The Investigation found that the wind and weather were not a significant factor in this incident.

3.3 Pilot A's experience

Pilot A joined the BHPA in May 2018. They passed their BHPA Club Pilot rating in June 2018 and their Pilot rating in March 2019. Pilot A was a member of the Wessex Hang Gliding and Paragliding Club. Pilot A attended a BHPA Coach course in November 2018 and acted as a coach for the club before allowing the licence to lapse in 2021. Pilot A kept a detailed flight logbook. The logbook shows Pilot A had a total of 307 flight hours at the time of the incident, spread over approximately 300 flights. Pilot A had experience flying a variety of different gliders and had flown sites in Bulgaria, Turkey, France, and Spain. Pilot A had considerable experience flying at Barton on Sea. Of the flights logged, over 130 of the flights were at Barton on Sea.

Pilot A's logbook showed they had flown over 13 hours in the month prior to 7th July. 10 of the 13 hours were at Barton. The logbook shows that Pilot A was both current in terms of flying hours, but also current on the Urubu paraglider. Pilot A's 300 hours in 4 years gives an average of approximately 75 hours per year. This would be considered well above the UK average, thought to be in the region of 30 hours per year. Pilot A's logbook shows entries for a number of inland Wessex sites and also sites in Europe. As well as giving an indication of currency, this also gives an indication of a breadth of paragliding experience in a variety of different conditions.

The Investigation considered Pilot A to be an experienced and current pilot. Pilot A's experience was not considered to be a factor in this incident.

3.4 Pilot A's equipment

Pilot A was flying a Little Cloud Urubu 26 paraglider with a Gin Bobcat harness at the time of the incident. Pilot A was within the recommended weight range for the glider. The Urubu is uncertified in terms of flight tests and has been load tested only. The manufacturer states it is aimed at pilots wishing to fly an EN-C class wing. This type of wing would be considered suitable for a pilot with the experience and currency of Pilot A. On inspection the wing and harness were found to be in good overall condition. On closer inspection two of the paraglider right side outer A and B main lines were found to have sustained damage. The paraglider was sent to an independent inspection centre for further examination. The independent inspection confirmed the good overall condition of the wing and fabric. The glider was found to be slightly outside the manufacturer trim tolerances. Overall, it was trimmed slightly slow and asymmetrically. It is unlikely that the glider trim had an influence on this incident. The inspection also confirmed the damage to the two lines. The lines concerned were strength tested and found to have been severely weakened. The AR3 (outermost main front line) broke at 29daN at the area of the damage. The BR3 line broke at 47daN, again, at the area of damage. Both lines would have been originally rated to 120daN when new. 120daN can roughly be equated to 120kg of load.

The following diagram of a basic paraglider shows the lines concerned and the area of damage.

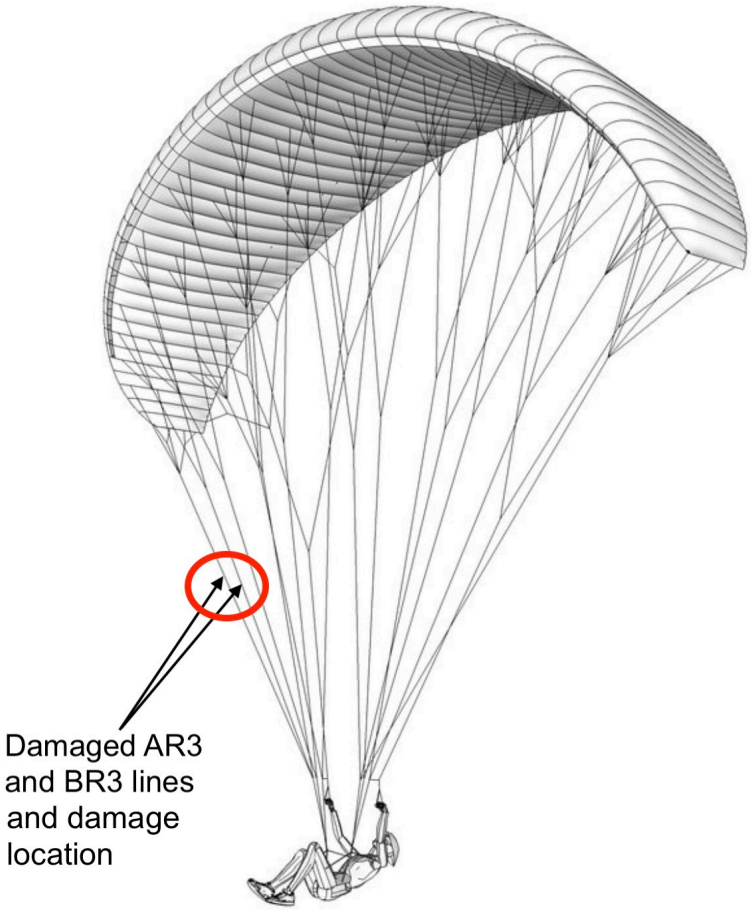


Diagram of basic paraglider showing area of line damage.

The following image shows the damaged AR3 line.

Photo showing damage to AR3 line.

The photo clearly shows the area of wear and debris, which is consistent with contact with the rough ground. It is possible that the damage was already there prior to the incident, but the Investigation found this highly unlikely, given Pilot A's experience. Pilot A would have known that such damage would render the glider unsafe and require immediate repair. It is therefore most likely that the damage was not there before the incident. It is possible that the damage was sustained as the glider was dragged up and over the cliff top. However, the

evidence suggests that it was caused due to contact with the cliff while the glider was still flying. The precise area of damage, the extent of the damage and the fact that just the outermost A and B lines were damaged is consistent with the glider having caught the cliff while still in flight. The position of the damage is also in line with the witness statement where Witness B described Pilot A as having been "…very close to the cliffs and was dipping down below the edge."

Pilot A's rapid turn into the cliff would also indicate that the glider outer lines on the right-hand side had caught on the cliff edge whilst in flight, causing the glider to turn quickly and dynamically into the cliff. In the light winds present it is highly unlikely that the rapid turn was the result of a departure from normal flight caused by turbulent air.

The Investigation found that the Little Cloud Urubu glider was not a factor in this incident.

3.1 Actions of Pilot A.

Pilot A was an experienced and current pilot who was very familiar with the Barton on Sea cliff site. It was a site he had flown more than any other during his flying career. It would therefore be reasonable to assume that Pilot A was aware of any hazards specific to the site. In flying so close to the cliff in an attempt to remain airborne, there was always a possibility of colliding with the cliff face. It is possible that Pilot A was caught out by sinking air, or by a reduction in the prevailing wind speed. It is also possible that a lapse in concentration resulted in the collision. Either way it is clear that Pilot A was flying in such proximity to the cliffs that should turbulence, a departure from normal flight or a change in conditions occur, a collision with the ground was extremely likely.

The Investigation found that the action of Pilot A, in flying close to the cliff face, was a significant factor in this incident.

4.0 Findings

The Investigation found that the incident occurred as a result of Pilot A flying in close proximity to the cliffs resulting in the glider colliding with the cliff edge. Pilot A impacted the cliff at speed as a result of the collision, sustaining fatal injuries.

5.0 Recommendations

The investigation recommends that the BHPA FSC should remind pilots, through their magazine Skywings, that if they find themselves scratching close to a steep slope or cliff face, they must be alert to the possibility of a wing tip or suspension line contacting the ground and, even if the air appears smooth, leave a significant margin for the unexpected.