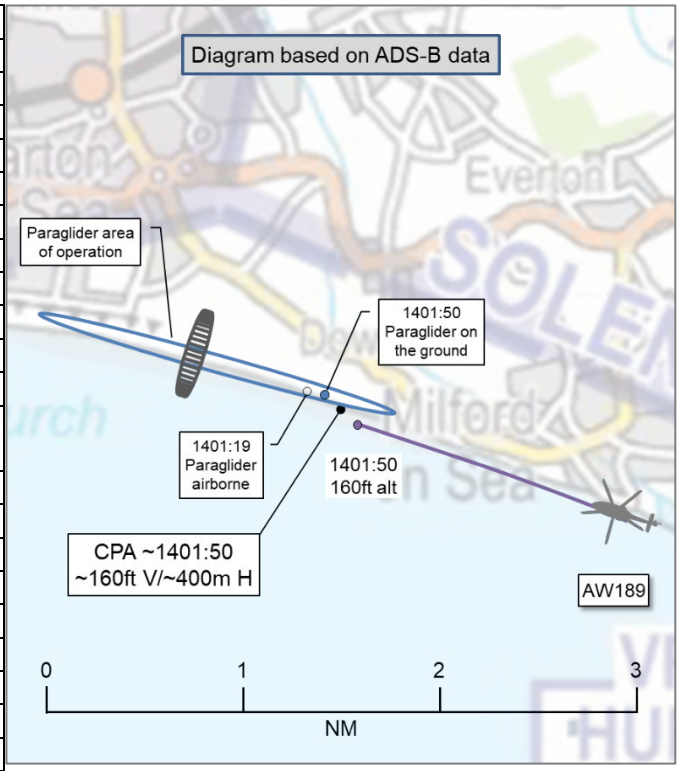
AIRPROX REPORT No 2022142

Date: 16 Jul 2022 Time: 1402Z Position: 5044N 00138W Location: 1.5NM W Milford on Sea

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Paraglider	AW189
Operator	Civ Hang	Coast Guard
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	N/A	Bournemouth
Altitude/FL	NK	NK
Transponder	Not fitted	A, C, S+
Reported		
Colours	Blue, red	Red, white
Lighting	Not fitted	Landing/search, position, anti-col
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	250-300ft asl	200ft
Altimeter	N/A (NK hPa)	QNH (NK hPa)
Heading	090°	~260°
Speed	12kt	-60kt
ACAS/TAS	SkyEcho	TCAS II
Alert	N/A[1]	None
Separation at CPA		
Reported	0ft V/~30m H	200ft V/300m H
Recorded	~160ft V/~400m H	



THE PARAGLIDER PILOT reports seeing a white and red helicopter 2km to the east, travelling west. They initiated a rapid descent to land on the beach prior to collision or experiencing the effect of the helicopter rotor wash. They had flown the cliffs around Barton on Sea and Highcliffe for approximately 1hr with 4 other paraglider pilots, all of whom had also launched from Barton on Sea. They had informed Bournemouth ATC at 1015hrs of their intention to fly paragliders from Barton on Sea as far east as Milford on Sea and as far west as Highcliffe. They were not warned of any other aviation activity. They were also operating [an electronic conspicuity] device with ADS-B out that was switched on and in full working order. The conditions provided for excellent visibility and there was a sea-breeze of approximately 14mph. At approximately 1415hrs, they were flying their paraglider eastwards towards Milford on Sea. At this time they were the only paraglider at that location, the others being in the Barton on Sea area. They spotted a helicopter to the west and to the front, flying low just above cliff height in their direction and at the same height. They estimated that they were on a collision course, although there may have been up to 20m horizontal separation. It was noted that the helicopter would have passed upwind. However, regardless of the estimated separation, the threat to the paraglider and pilot was from the rotor-wash of the helicopter which, at only 20-30m separation, would have caused the canopy to collapse and for the pilot to fall to the ground, which would have been fatal. The paraglider pilot noted that even at 1NM separation upwind, helicopter rotor-wash can have a significant effect on a paraglider. They initially attempted some manoeuvres to highlight the canopy to the helicopter pilot, but it maintained its height and direction. They then decided to conduct an emergency landing on a narrow strip of beach by using an approved rapid descent technique, but which is not advised as a technique when close to the ground. In this situation, they had no other choice so maintained this technique all the way to the ground. As they touched down, the helicopter passed approximately 200ft above at approximately 20-30m horizontal distance. The rotor-wash collapsed the canopy towards the shore side. They observed the helicopter to be red and white in colour which they assessed to be a

[1] No display fitted.

Coast Guard helicopter. It then continued towards the Bournemouth area at the same height although it appeared to move further out over the sea. They were later informed that 3 of the paraglider pilots at Barton on Sea had also conducted the same rapid descent technique to avoid the rotor-wash as the helicopter passed.

The pilot assessed the risk of collision as 'High'.

THE AW189 PILOT reports that NOTAMs were checked during the pre-flight brief. No hazards were identified for that area. Threats were discussed and, knowing GA traffic would be busy, the crew briefed for eyes-out when possible. Proceeding west along the coast, looking for likely training decks, all crew were eyes-out as per SOP for low-level operations. A paraglider was spotted to the right of the aircraft, landing on the beach, and therefore not considered a threat. Bournemouth ATC advised of paraglider activity further along the coast to the west which was spotted and kept clear.

The pilot assessed the risk of collision as 'None'.

THE BOURNEMOUTH CONTROLLER reports that the AW189 pilot was given a Basic Service and transit along the coast. They informed the pilot that there was paragliding activity along the coast and the pilot acknowledged this information. The pilot left the frequency at 1430 and did not mention being in proximity with a paraglider or that they intended to file an Airprox.

Factual Background

The weather at Bournemouth was recorded as follows:

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METAR EGHH 161450Z 17010KT 120V220 CAVOK 24/13 Q1025=
METAR EGHH 161420Z 15009KT 090V180 CAVOK 23/12 Q1025=
METAR EGHH 161350Z 16009KT 120V190 CAVOK 22/12 Q1025=
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Analysis and Investigation

CAA ATSI

At 1359:30 the AW189 pilot made their initial RTF call to Bournemouth radar, "*We're on a beach patrol, we're Hurst Castle this time, 1000 feet on 1025, looking for a Basic Service, entry into the zone, coastline westbound, 500 feet and below"* The controller responded, "*standby*".

At 1400:00 the controller issued the pilot with a clearance, "*cleared to transit westbound along the coast, not above 2000 feet VFR, QNH 1025.*" The clearance was readback in full and the pilot was instructed to, "*squawk 7377, Basic Service whilst outside*." The pilot read back the squawk (Figure 1).

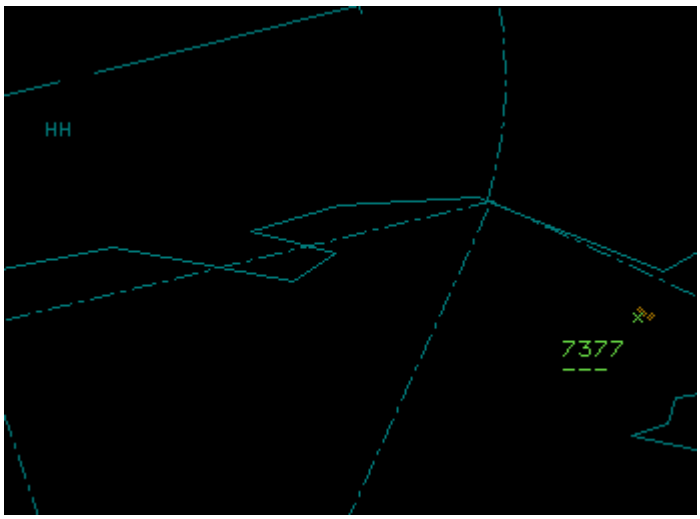


Figure 1 – 14:00.00

At 1400:31 the AW189 and its track history disappeared from the area radar. The Airprox was reported to have occurred at the position marked by the white cross in the screenshot below (Figure 2). This position is 2.5NM northwest of the position of the AW189 as shown in Figure 1 above.

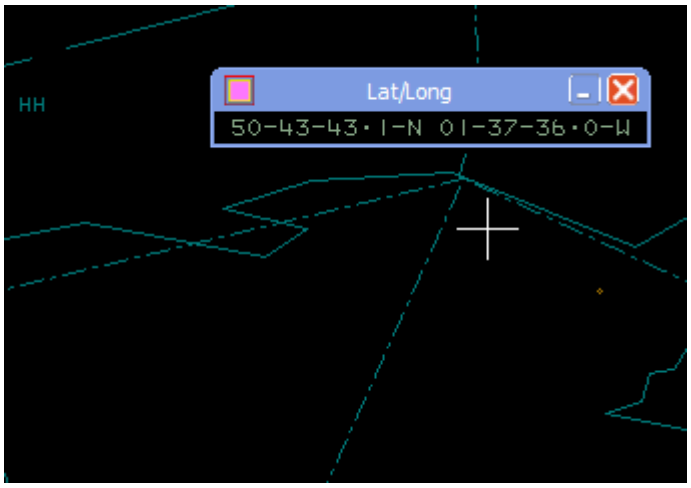


Figure 2 – Airprox reported position

At 1407:40 The controller warned the pilot, "*Keep a good lookout, paragliding along the coast*." The pilot responded, "*paragliding copied, thank you*."

At 1422:50 the AW189 pilot advised the controller that they were about 4 miles south of Hengistbury Head and heading back into the Solent to continue training. They thanked the controller for the service and continued en route.

Figure 3 – Positions of Hurst Castle, Milford and Hengistbury Head circled in red

Summary

The paraglider pilot was not in communication with the controller and was not showing on their radar display. As such the position, heading, altitude and intentions of the paraglider pilot were not known to the controller.

The controller was aware of general paraglider activity operating along the coast and passed a generic warning of this activity to the AW189 pilot.

The AW189 pilot said in their report that they had spotted a paraglider landing on the beach and didn't consider it a threat. They went on to say that ATC had advised them of paraglider activity further along the coast to the west, which they spotted and kept well clear.
There was a single warning of paraglider activity passed to the AW189 pilot and this was 7min after they had advised the controller that they were at Hurst Castle, intending to transit the coastline 500ft and below. It is possible that the Airprox had already occurred by the time the warning was received.

UKAB Secretariat

The paraglider and AW189 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2]

The British Hang Gliding and Paragliding Association gives the following advice[3] regarding the use of the Civil Aircraft Notification Procedure (CANP):

> In addition to checking Notices to Airmen (NOTAMs) for restrictions and warnings, you should submit a CANP to warn other pilots of your intentions. This is particularly important if flying Monday - Friday.
>
> The procedure is primarily designed to warn military low flying aircraft of our activity, but in 2014 the system was expanded, and CANPs are now published as NOTAMs. This allows civilian as well as military pilots to see where we are likely to be, although our ceiling will always be limited to 2,000' AGL.
>
> CANP bookings are now handled by Low Flying Coordination (LFC) at the Military Airspace Management Cell.
>
> The procedure itself is very simple. You should aim to submit your notification to Low Flying Coordination (LFC) by 8.00pm Monday - Thursday and 3.00pm on Friday. This lead-in time is essential to get your notification published in time. You probably won't know exactly where you are going the day before so it is permissible to nominate 2-3 sites at the same time. Notifications made after this time may still be accepted, but there is no guarantee that they will reach other pilots in time.
>
> All notifications now generate a WARNING of 2nm radius. Other pilots may still decide to fly through the NOTAM but they should be aware of your activity.
>
> …
>
> The LFC is manned Monday to Thursday 7.00am - 8.00pm and Friday 7.00am - 3.00pm. It is acknowledged that CANP therefore doesn't really work for flying Saturday - Monday am.

A diagram of the Airprox was constructed using ADS-B data. Although the AW189 passed adjacent to the paraglider, the Airprox was deemed to have occurred whilst the paraglider pilot was still airborne, i.e. just before 1402 as the paraglider pilot was landing.

Bournemouth Airport Occurrence Investigation

Executive Summary

At 1415 on the 16th of July 2022 an Airprox reportedly occurred between a Coastguard helicopter and a paraglider. The helicopter [pilot] was in receipt of a Basic Service from Bournemouth Radar at the time, however, they made no reference to an encounter with another aircraft. The occurrence was brought to the attention of ATC by a request for information from the UK Airprox Board. Paragliders do not paint on the radar display nor do they have radio contact with ATC. Notification had been received from Wessex Hang-gliding and Para-gliding Club of their intention to operate. The controller advised the crew of the helicopter that there was paragliding activity taking place on the coast. The reported location of the occurrence was just outside the Bournemouth CTR in Class

[2] (UK) SERA.3205 Proximity.
[3] https://www.bhpa.co.uk/documents/safety/canp/

G airspace. The relative positions of the two aircraft at the time of the incident is unknown to the investigator.

Timeline

1359 [AW189 C/S] comes on Bournemouth Radar frequency in the vicinity of Hurst Castle VRP.
1407 APS controller advises the [AW189 C/S] of notified paragliding activity along the coast.
1415 Airprox reportedly occurs between the Coastguard helicopter and a paraglider in the vicinity of New Milton.
1422 [AW189 C/S] leaves the radar frequency without reporting any confliction with another aircraft.

Findings

The occurrence of this Airprox was unbeknownst to the unit or the duty controller until a request for information was received from the UK Airprox Board. The APS controller filed a retrospective MOR on the 11th of September which was delayed as a result of the controller being on annual leave and also some confusion whereby [the] incident was initially mistaken for [another Airprox]. As a result the information available to the investigator [was] somewhat limited, with only the RT recordings being available. The Flight Progress Strip [(FPS)] compiled by the controller records [AW189 C/S] as making contact with Bournemouth Radar at 1359, whilst in the vicinity of the Hurst Castle VRP, which is situated approximately 12NM southeast of Bournemouth in Class G airspace. At 1407:33 the following transmissions took place;

"[AW189 C/S] *keep a good lookout paragliding along the coast*"

"*Paragliding copied thank you* [AW189 C/S]"

The position of the coastguard helicopter at this time [was] unknown due to the lack of availability of surveillance recordings. Information received from the Airprox Board reports that at 1415 an Airprox between the helicopter and a paraglider took place 1NM west of Milford-on-Sea, which is located close to the Hurst Castle VRP, outside the Bournemouth CTR. The crew of the helicopter [made] no transmissions at [that] time. The next communication from [AW189 C/S] [was] at 1422:27, when they reported that their position [was] 4 miles south of the Hengistbury Head VRP and that they [were] heading back into the Solent to continue training. They thank[ed] the controller for the service and [left] the frequency. The incident was discussed with the APS controller, however, as [they were] not aware that an Airprox had taken place [they] did not recollect anything of any significance. Bournemouth Airport has a letter of agreement in place with Wessex Hang-Gliding and Para-Gliding Club whereby permission is granted for the club to fly in the Bournemouth CTR not above 1000ft subject to conditions being suitable for VFR flight and them contacting Bournemouth ATC prior to flying so that other airspace users can be advised. The permitted areas include the coastal zone within the Bournemouth CTR between the Sandbanks and Hengistbury Head VRPs and between Hengistbury Head and Barton on Sea which is also within the CTR boundary. On receipt of notification from the paragliding club of their intent to fly, a note is added to the remarks section of the ATIS display and the APS controller puts a FPS with the words 'Paragliding along the coast' in their active display. This acts as an aide memoire to notify other aircraft transiting controlled airspace along the coast of the paragliding activity as paragliders do not paint on the radar display and they do not have radio contact with ATC. In this instance, according to 'lat and long' information received from the Airprox Board, the paraglider [pilot] was operating just outside the Bournemouth CTR in Class G airspace at the time of the Airprox. In accordance with procedure, the controller advised the Coastguard helicopter crew to keep a lookout for paragliders along the coast and the crew acknowledged the information. Weather conditions at the airfield at the time were recorded as CAVOK.

Conclusion

The investigation [was] unable to substantiate the cause of [the] incident.

Comments

BHPA

The BHPA acknowledges the fact that a NOTAM had not been submitted by the Wessex Paragliding Club that day but is a little concerned that, despite the helicopter crew having "all eyes out" during their transit along the coast, they did not see the brightly coloured paraglider pilot's canopy and their attempts to make themself more visible by doing large wingover manoeuvres. When these didn't attract the attention of the crew, the paraglider pilot was then forced to do a very risky rapid descent manoeuvre and land on a tiny strip of beach. It was only then that the AW189 crew saw them landing, notwithstanding the fact that the paraglider pilot was also transmitting [an EC device] ADS-B out signal and the AW189 had TCAS II. The BHPA was disappointed to hear that it took 7 minutes for Bournemouth ATC to 'remember' to warn the AW189 crew of paragliding activity along the coast.

Since this Airprox (and Airprox 2022084), various procedures by Bournemouth ATC and the Wessex Paragliding Club have been investigated, analysed, revised & implemented with a view to preventing a re-occurrence of this type of Airprox in this area. Furthermore, the Wessex Paragliding Club has now made the filing of a CANP/NOTAM mandatory, detailing the east and west limits of any paragliding activity forecast to take place.

The BHPA has long been concerned regarding the number of Airprox reports between rotor aircraft and paragliders. There seems to be an apparent lack of knowledge or consideration that some professional helicopter pilots have regarding the distance of their rotorcraft to vulnerable aircraft such as paragliders, hang gliders, microlights and small GA aircraft, specifically with respect to the effects of their rotor downwash. In our view, the ICAO definition of an Airprox: "..... the distance between aircraft, as well as their relative positions and speed, was such that the safety of the aircraft involved was, or may have been, compromised" should certainly include the predictable effects of wake turbulence and downwash. After consulting with the Coastguard S&R HQ, the BHPA's Senior Technical Manager visited them and delivered a presentation to their helicopter crews on the effects of wake turbulence on paraglider canopies following the death of a paraglider pilot due to helicopter wake turbulence in France: https://www.youtube.com/watch?v=iHqN7PQraMs. This proved to be most productive and well received.

Summary

An Airprox was reported when a paraglider and an AW189 flew into proximity near Milford on Sea at about 1402Z on Saturday 16th July 2022. Both pilots were operating under VFR in VMC, the AW189 pilot in receipt of a Basic Service from Bournemouth and the paraglider pilot not in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved a report from the appropriate operating authority. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the circumstances of the Airprox and agreed that it was reported as a result of the paraglider pilot's concern with the effect of encountering wake-turbulence from the passing helicopter, rather than from risk of collision with it. In that regard, the Board members agreed that the paraglider pilot had taken action sufficient to remove any risk of collision, risk C, but the Board also felt it appropriate to discuss the relevant contributory factors. The paragliding and hang-gliding member explained that the concern of canopy suspended pilots is that the downwash or wake turbulence of a passing helicopter is sufficiently strong to cause a partial canopy collapse, leading to a spiral dive and impact with terrain. This was of particular concern in the circumstances of this Airprox, where the paraglider pilot was operating at a low level because, whilst reserve parachutes are routinely carried, there had been insufficient altitude in which to deploy it successfully. This in turn had contributed to the paraglider pilot's decision to undertake a descent manoeuvre that had exposed them to increased risk, in an effort to maintain clearance from the helicopter's wake turbulence. Board members commented

on the impact of the French investigation into a fatal paragliding accident, highlighted in the BHPA Comment, and commended its viewing by all those who may be affected. Whilst the paraglider pilot had seen the helicopter at a late stage (**CF7**), it had been unfortunate that the 4 crew in the AW189 had not seen the paraglider at an earlier stage, their visual acquisition of the paraglider once landed being, in effect, a non-sighting (**CF8**). The Board felt that the Bournemouth controller could have passed information on the paragliding activity on initial contact with the AW189 pilot (**CF1**), albeit that it would have been generic in nature (**CF2**), referring to an area of activity. In the event, information on the paragliding activity had not been passed until about 8min after initial contact, by which time the Airprox had already occurred. The Board considered the lack of provision of NOTAM information and was concerned by the limitation of the CANP/NOTAM system being unable to accept notification of activity after 3pm on a Friday (**CF3**). However, whilst this reduced flexibility, it was agreed that some forward planning was required and urged users to 'think ahead' so that they could ensure timely notification, for the significant mutual benefit afforded. Ultimately, the AW189 crew had not had the benefit of a NOTAM to inform their pre-flight planning (**CF4**) and so, just like the paraglider pilot, had had no SA on the other aircraft before visual acquisition (**CF5**). The Board members were unanimously impressed by the paraglider pilot's decision to equip themselves with an EC device providing ADS-B out transmissions and highly commended them for doing so. Unfortunately, this had not generated an alert in the TCAS equipped AW189 (**CF6**) which, it was thought, may have been due to the very low level at which both aircraft had been operating – the TCAS perhaps detecting what was taken to be a 'ground target'. The Board agreed that the paraglider risk-to-life from helicopter wake turbulence was significant and that it was the responsibility of all those concerned to mitigate that risk proactively. The Board commended the BHPA for their proactive response and for their ongoing efforts to take the message to the helicopter community.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022142			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
3	Organisational	• Flight Operations Documentation and Publications	Flight Operations Documentation and Publications	Inadequate regulations or procedures
	• Tactical Planning and Execution			
4	Organisational	• Flight Planning Information Sources	An event involving incorrect flight planning sources during the preparation for a flight.	
	• Situational Awareness of the Conflicting Aircraft and Action			
5	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
6	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
7	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots

8	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment[4]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because information on the paragliding activity was provided about 8min after initial contact and after the Airprox had occurred.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because, although the BHPA provides advice on the use of CANP, its use at the weekend was not resolved.

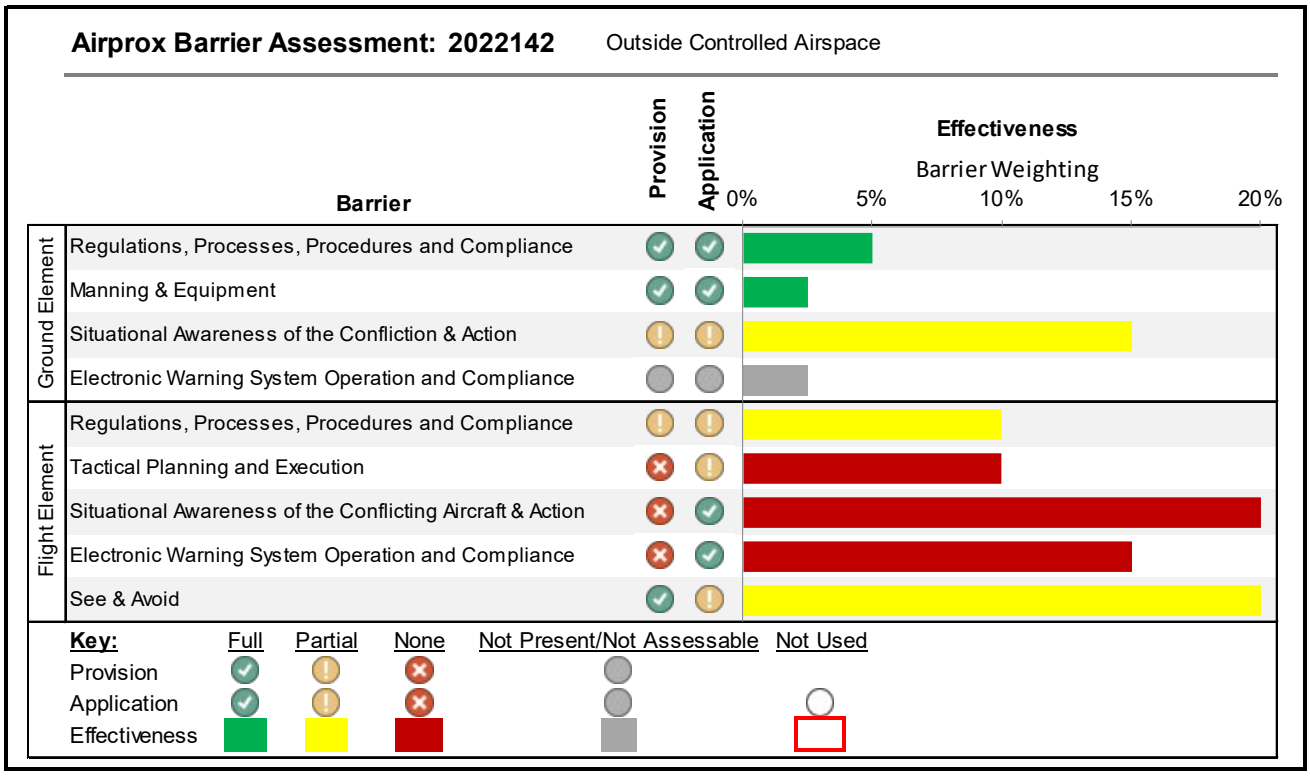
Tactical Planning and Execution was assessed as **ineffective** because the AW189 crew had no prior notification of the paragliding activity.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness on the other.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the AW189 TCAS either did not or could not alert on the paraglider ADS-B out EC device.

See and Avoid were assessed as **partially effective** because the paraglider pilot saw the AW189 at a late stage and the AW189 pilot saw the paraglider after CPA, effectively a non-sighting.

[4] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2022142
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness