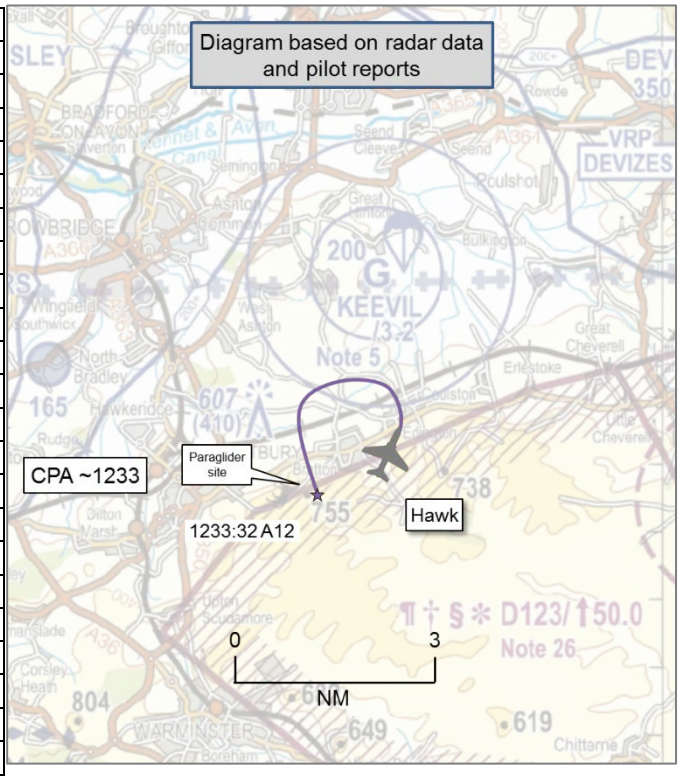
AIRPROX REPORT No 2018012

Date: 26 Jan 2018 Time: 1233Z Position: 5116N 00208W Location: Bratton Camp launch site[1]

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	4 x paraglider	Hawk T1
Operator	Civ Pte	RN
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Traffic/Basic
Provider	N/A	Boscombe
Altitude/FL	NK	1200ft
Transponder	Not fitted	A, C, S
Reported		
Colours	Various	Black
Lighting	Not fitted	HISLs, nav
Conditions	VMC	VMC
Visibility	NK	20km
Altitude/FL	1000-1500ft	1200ft
Altimeter	Not fitted	QNH (1012hPa)
Heading	Various	113°
Speed	Various	300kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	20m V/30-60m H	'100-200ft'
Recorded	NK	



THE 4 PARAGLIDER PILOTS' reports were submitted by the Safety Officer of the Avon Hang-Gliding & Paragliding Club, as follows:

A paraglider pilot was at about 1000-1500ft when a fast-jet went past, initially over Salisbury Plain about 1-2 miles to the right of them. The jet then swept round to its left, over Bratton town, kept turning left until he was directly on a collision course with the paraglider pilot, and flew past about 20m below and slightly to the left, perhaps 30-60m. The jet also just missed someone who was behind. The paraglider pilot noted that he would have been directly into the sun from the fast-jet pilot's perspective, so doubted the pilot had seen him. The paraglider pilot landed immediately afterwards as he was 'a little shaken'.

A paraglider pilot was flying at about 1100-1200ft, facing east at the far end of Bratton camp (from the horse). There was a gaggle of paragliders about 3-400m further east, some lower and some higher than him. The aircraft passed left to right apparently through the gaggle; it appeared to be slightly higher than him. There were paragliders above and below the aircraft.

A paraglider pilot was at around 1500ft, just downwind of Bratton village. He heard a jet and witnessed it in a steep-banked left turn. To his surprise it then straightened up and flew straight towards and then through the whole group of paragliders.

A paraglider pilot was preparing for flight at Bratton camp when he witnessed an Airprox between a Hawk and multiple paragliders. The Hawk tracked approximately 360° out of D123 in a descent from about 3000ft (below cloudbase) and carried out a descending left-hand turn back onto a heading of approximately 180°, levelling at 1500ft above the valley floor to track back into [Salisbury Plain Training Area] SPTA airspace. Soon after rolling wings level outside D123, the Hawk passed 3-5 paragliders that were operating in the area overhead Bratton village (about 1nm to the northeast of Bratton Camp

[1] Also known as 'Westbury' and 'White Horse' paragliding site.

launch). The paraglider pilot immediately called Salisbury Air Ops who he assumed would be working the Hawk and asked if the pilot was aware of the paragliders operating at Bratton Camp. The Air Ops assistant replied 'Probably not'. About 10sec later the paraglider pilot overheard the Hawk pilot call Air Ops on the radio and report the paragliders. [He overheard that] the Air Ops assistant then received a further call from a Helimed callsign, operating in the valley to the north and, becoming busy, rapidly said goodbye and put the phone down. The paraglider pilot noted that he is a flight-test engineer with operating experience in multiple fast-jet types including Hawk, Alpha Jet, Tornado and Gripen in low-level, ACM, ground-attack and GCAS trials roles, and was confident of his assessment of the Hawk track and positions described.

THE HAWK PILOT reports conducting Close Air Support in D123 (SPTA) when he had a near miss with 4-5 paragliders in the northwest part of the area. He was descending to low-level to set up for an attack run, levelled at about 1200ft, and upon rolling out to the southeast flew directly through the middle of a group of 4-5 paragliders at the same altitude. He immediately pitched up at 6g and climbed to 6000ft. He contacted both 'Salisbury Range' and Boscombe Radar (providing a Traffic/Basic Service in and out of the areas). He then elected to terminate the training and return to base. Upon landing, Salisbury Plain Range Control was contacted and they informed him [he recalled] that the paragliders were in fact within the confines of the D123 area and routinely launch from a site on the northwest boundary. The pilot noted that he was operating under an extremely high workload in a very small danger area.

He assessed the risk of collision as 'Very High'.

THE SPTA OPS OFFICER reports that an initial telephone brief was conducted on the morning of Friday 26th Jan 2018, between the SPTA Deputy Training Safety Officer and the Hawk pilot. The Hawk was booked in from 1210 to 1255 and the brief only covered points pertinent to flight within the SPTA Danger Areas. It did not cover 'tactical information', which was the responsibility of the JTAC. The following pertinent aspects were briefed [amongst other information]: D125 active to 30,000ft amsl with live firing (to remain clear). Warminster Danger Area (WDA) on the western side of D123 active with small arms firing to 2,500ft amsl (to remain clear, especially at low-level); low-level avoids within SPTA; possible gliding and microlight sites close by but not within SPTA, but not specific sites; D123 normally only 250ft agl to 15,000ft amsl (but D123 notified up to 20,000ft to support Hawk activity); and Boscombe Down to provide ATS. Due to only 2-radio fit in the Hawk, it was agreed that, if required, the SPTA Ops Officer would contact the Hawk pilot via Boscombe Down (Salisbury Ops have a direct landline to Boscombe Down). An update brief was conducted at 1215hrs on R/T. The key points were repeated and WDA was updated as now 'cold' from 1108hrs. The SPTA Ops Officer returned to duty at 1230 after having received a comprehensive brief on the range activity. He was informed that the Hawk pilot was on frequency with the TACP, the low-level route was closed to facilitate low-level ops, the WDA was cold, and D125 was active to 30,000ft amsl. Approximately 15mins into the duty, the SPTA Ops Officer received a telephone call from a paraglider pilot operating from 'the Whitehorse site' saying they had a jet flying at low-level through their gliders. At the very same time, the Hawk pilot called on the SPTA frequency stating he had encountered paragliders at low-level to the north of the SPTA ranges, within the range itself he thought. The Hawk pilot stated it was too dangerous for him to continue and he departed. He also recommended that a following Hawk not operate in the area due to the danger of the paragliding activity. The SPTA Ops Officer had to put the phone down on the paraglider pilot because he then received an R/T call from a Helimed callsign, which was a priority. As the Hawk pilot cleared the SPTA, the SPTA Ops Officer received a landline call from the Boscombe Supervisor who informed him they had not seen the paragliders on radar and so were not aware of the activity at the Whitehorse. The SPTA Ops Officer emphasised that he did not state or imply that the paragliders had been operating within the SPTA Air Danger Area. Paragliders are only permitted within the Air Danger Areas if other activity allows, and on this occasion it did not.

THE SPTA SENIOR AIR OPS OFFICER reports that he was not present for the incident but had been fully briefed and had spoken to a member of the Avon Hang-gliding/Paragliding Club who told him the incident occurred over Bratton village, which is adjacent to but outside D123. The Hawk's was a standard booking and sortie, and all procedures were followed correctly from all involved. The procedure for this type of sortie is that once initial contact has been established, and the pilot briefed,

he is handed over to the TACP for the duration of the sortie once Air Ops have confirmed the booked area is clear of any other traffic. A pilot will often elect to remain in contact with Boscombe Down ATC if he requires a service when positioning outside the danger areas. The brief includes 'avoids' and other pertinent information but does not specifically mention the gliding site to the northwest as they are not aware whether the site is active. The site is marked on 1;50 000 scale mapping. A new LoA had recently been established with the club, which grants access to a small portion of the danger area upon booking and dependent upon there being no known activity in the area, but this was not in force at the time of the incident. The possibility of club members accidentally drifting into the range had been discussed and it was established that there was a clear demarcation and that club members were well aware of the geographical limits to which they could fly. The Hawk pilot states in his report that Air Ops stated the paragliders were operating within the range but this was not the case. It was not stated, and SPTA Ops had no knowledge of their exact position at any time. During the sortie, SPTA Ops staff monitor the area to ensure that no unauthorized aircraft penetrate and are in contact with the TACP to provide a warning should this occur. SPTA Ops staff do have access to an SSR feed from Boscombe Down and can listen to R/T traffic on UHF and VHF.

THE BOSCOMBE RADAR CONTROLLER reports that he was providing a Traffic Service to the Hawk pilot on handover from Swanwick. The Hawk was expected by SPTA, to work in D123 up to 20000ft. The Hawk pilot was initially coordinated against other traffic and, once clear, was released and proceeded inbound to D123 at 15000ft. The Hawk pilot was warned of his close proximity to D125 on his initial set up in D123 but his subsequent profile kept him clear. The Hawk pilot remained at high-level for some time before informing him that he was descending to low-level within D123. The controller warned the pilot that he was responsible for terrain separation, which he acknowledged. Soon after observing him descend, the Hawk pilot pulled up and informed the controller that he had encountered several paragliders in close proximity, within the northwest corner of D123 at about 1000-1300ft. The controller had not observed any returns other than from the Hawk within D123 where he had reported the incident. The Hawk pilot then climbed higher and requested a handover for return to base.

Factual Background

The weather at Boscombe was recorded as follows:

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METAR EGDM 261228Z 34009KT 9999 FEW012 07/04 Q1020 BLU TEMPO SCT015 WHT=
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Analysis and Investigation

Military ATM

An Airprox occurred on 26 Jan 18 at approximately 1230hrs UTC, in the vicinity of Bratton village, between a Paraglider and a Hawk operating within D123. The Hawk was receiving Traffic Service from the Boscombe Zone Controller. Radar replays did not show the Airprox.

When the Hawk pilot reported the Paragliders to the Boscombe Zone Controller, there was no correlating traffic visible on the radar screen, hence no Traffic Information had been provided.

The Low Flying Booking Cell (LFBC) operates to guidelines detailed in the Civilian AIP ENR 1.10 as follows:

5.3.1 Recreational Aerial Activities

5.3.1.1 The LFBC invite notifications concerning certain recreational aerial activities planned to occur at or below 1000 ft agl. Such notifications will be granted warning status under CANP and will be promulgated to military aircrew. Notifications are only required, however, when 5 or more gliders, hang-gliders and paragliders, free-flight balloons, microlight aircraft or model aircraft will be operating:

(a) From a site not listed in the UK AIP for such activity; or
(b) from a site listed in the UK AIP but outside the published operating hours of the site, where these are detailed.

5.3.1.2 BHPA Members may seek avoidance status when operating from one of the BHPA listed sites on weekdays (as also listed in the UK Military Low Flying Handbook). The LFBC must be notified by 2000 hours (local time) the day before flight, Monday - Thursday and by 1600 hours (local time) on Friday for the following Monday (excluding PH). Notification after these times will attract warning status only. The LFBC should be informed as soon as possible if the activity is cancelled.

There is no archived correspondence between the paragliding club operating at Bratton Camp and the LFBC for the day of the Airprox, and no NOTAM was issued pertaining to the paragliding activity, thus denying the Hawk pilot, Salisbury Ops and Boscombe Down ATC situational awareness.

UKAB Secretariat

The paraglider and Hawk 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]. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right[3]. If the incident geometry is considered as converging then the Hawk pilot was required to give way to the paragliders[4]. If the incident geometry is considered as overtaking then the paraglider pilot had right of way and the Hawk pilot was required to keep out of the way of the other aircraft by altering course to the right[5].

One of the paraglider pilots filmed the event[6]; a screenshot of part of the encounter is provided below:

Occurrence Investigation

The RN Occurrence Investigation provided a number of GPS derived screenshots of the Hawk's ground track, 2 of which are reproduced in part below with the track highlighted:

[2] SERA.3205 Proximity.
[3] SERA.3210 Right-of-way (c)(1) Approaching head-on.
[4] SERA.3210 Right-of-way (c)(2) Converging.
[5] SERA.3210 Right-of-way (c)(3) Overtaking.
[6] https://www.youtube.com/watch?v=La1MmWomAS8

Comments

Navy HQ

The RN Hawk T1 is operated as a single-seat aircraft with the primary means of navigation being a map and stopwatch. A GPS, which is only cleared as a secondary aid to VFR navigation, is 20 years old and only a monochrome display unit.

The Salisbury Plain Danger Area is surrounded by numerous GA landing sites; without the benefit of FLARM or TCAS the see-and-avoid principle is the primary MAC mitigation conducted by all aircrew. This sortie was therefore planned to remain at height as much as possible, with low-level (Not Below 250 ft) to be conducted only within the confines of D123 given the protection it affords as segregated airspace. In this instance, the pilot was attempting to stay within the confines of the danger area whilst descending to low-level in order to prosecute the attack as requested by the FAC; this action led to the unintentional spill-out through the BHPA/paraglider site.

BHPA

The BHPA is most concerned that this Airprox occurred at one of the UK's prime paragliding sites which has been in use by paragliding and hang-gliding pilots for many years.

The BHPA notes that Salisbury Plain Training Area Ops briefed the Hawk pilot on *"possible gliding & microlight sites close by but not within the SPTA; but not specific sites."* The flying site on the northern edge of D123 (and commonly known as 'Westbury White Horse' to free-flyers), has been in use since the 1970's. The BHPA suggests that in future, SPTA should brief military pilots that this specific site is very popular in suitable weather conditions on any day of the week and is one of prime importance to the local free-flying community.

The BHPA feels that the statement by Navy HQ of a fast-jet capable of flying at over 500 knots only having a primary navigation system of map & stopwatch coupled with a secondary system of a 20-year old, monochrome GPS display unit might be considered inadequate in today's congested airspace and could have led to the Hawk pilot believing that the paraglider pilots were inside D123 when, in fact, they were not. Having spoken to the Avon Club & Thames Valley Safety Officer regarding this Airprox, the BHPA was informed that almost all the clubs' pilots now fly with various, low-cost, modern, moving-map GPS displays which accurately give position, track, altitude and a host of other information. These instruments coupled with local pilots' knowledge regarding the proximity of this flying site to D123 and therefore the dangers of incursion, means that free-flying pilots are probably more acutely aware of where they are than a fast jet pilot unfamiliar with the area using ‘antiquated’ navigation instruments.

With regards to the Military ATM's statement that there was no archived correspondence between the paragliding club and LFBC that day (i.e. a CANP or NOTAM), the BHPA was informed that an inexperienced pilot did submit a CANP but never received a confirmation email due to a possible submission error on the pilot's part. Unfortunately, he was sufficiently inexperienced not to enquire as to why he hadn't received a confirmation email. As a result of this action and the Airprox, local BHPA clubs have tightened up their Standard Operating Procedures with respect to CANP and NOTAM submissions.

This incident and the accompanying video footage has been widely viewed & discussed amongst the BHPA's flying community and has, yet again, raised awareness regarding free-flying pilots' vulnerability when operating close to military training areas and other areas where military fast-jet, low-flying takes place. The CANP/NOTAM systems have their relevance as well as some shortfalls but BHPA pilots are becoming more aware of their usage and educated in their methods of submission.

Summary

An Airprox was reported when a Hawk flew into proximity with a group of paragliders at 1233 on Friday 26th January 2018. All pilots were operating under VFR in VMC, the Hawk pilot in receipt of a Traffic Service from Boscombe Radar and the paraglider pilots not in receipt of a Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from all the pilots, radar photographs/video recordings, GPS derived track information, reports from the operations personnel and air traffic controllers involved and reports from the appropriate ATC and operating authorities.

After first discussing the location of the Airprox, members agreed that the paraglider pilots had not been operating within the lateral limits of D123 and that the incident had occurred in Class G airspace just to the north of the danger area. Members then discussed how 2 groups of operators (the paraglider pilots on the one hand and the Hawk pilot, SPTA Ops and Boscombe Down ATC on the other), could end up operating in close proximity unaware of each other. Members noted that paragliders had been operating from that site and military fast-jets had been conducting practice attacks in D123 for decades, and yet in this instance the required SA was not communicated to any of those likely to be affected. Some members wondered whether repeated activity had led to complacency, and others felt that the danger area had considerable limitations in its ability to accommodate fast-jet target runs safely. It was also noted that a member of the Avon Hang-Gliding & Paragliding Club had attempted to file a CANP but unfortunately was not successful.

Some members wondered whether the Hawk pilot had assimilated that the paragliding site was there, given that he had not been specifically informed of it during the range brief and that, although it appeared on the 1:50,000 map and low-level chart (see diagram), it could easily be overlooked in a high-workload sortie that would presumably have included target runs from a number of IPs and directions. In this respect, some members commented that the TACP should have been aware of the site and, given its likely activity in the conditions pertaining, could have deduced that it might be active and should have warned against using that IP/target attack direction on that day. After considerable further discussion, members agreed that this incident had come about due to sub-optimal communication rather than the Hawk pilot's navigation (for which the RN maps showed that the Hawk pilot did not technically fly over the site's location, albeit greater avoidance would have been merited). Frustratingly, the Hawk pilot did not know that the Bratton Camp paragliding site was active; members agreed that this was contributory and resolved to recommend that, 'The Avon Hang Gliding

& Paragliding Club and SPTA Ops refresh their LoA to cover usage of the Bratton launch site and how that information is conveyed'.

Turning to the Airprox itself, the Board agreed that the Hawk pilot would have been operating under a considerable workload, that he was not restricted to operating within the confines of D123, and that his not being previously booked into the Low-Flying System was not germane because retrospective booking was also permitted. There was no doubt that he was concentrating on achieving a successful target run, and that had he been aware of or seen the paragliders earlier he would have avoided them. As such, it was agreed that the cause was effectively a non-sighting by the Hawk pilot. Turning to risk, members also agreed that the Hawk had flown through the group of paragliders and that the paraglider pilots would not have been able to materially increase separation if on a direct collision course due to the Hawk's speed. The Board therefore agreed that collision had only been avoided by providence.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively a non-sighting by the Hawk pilot.

Contributory Factor: The Hawk pilot did not know that the Bratton Camp paragliding site was active.

Degree of Risk: A.

Recommendation: The Avon Hang Gliding & Paragliding Club and SPTA Ops refresh their LoA to cover usage of the Bratton launch site and how that information is conveyed.

Safety Barrier Assessment[7]

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

ANSP:

Situational Awareness and Action were assessed as **ineffective** because the paragliders were not radar significant and did not appear to the Boscombe controller, who therefore could not provide Traffic Information. SPTA Ops and the TACP were also not aware of the paragliding activity and could not warn the Hawk pilot or Boscombe ATC.

Flight Crew:

Regulations, Processes, Procedures, Instructions and Compliance were assessed as **partially effective** because the Hawk pilot inadvertently entered the Low Flying System without previously obtaining clearance; had he maintained 2000' agl he would probably not have flown through the paraglider group.

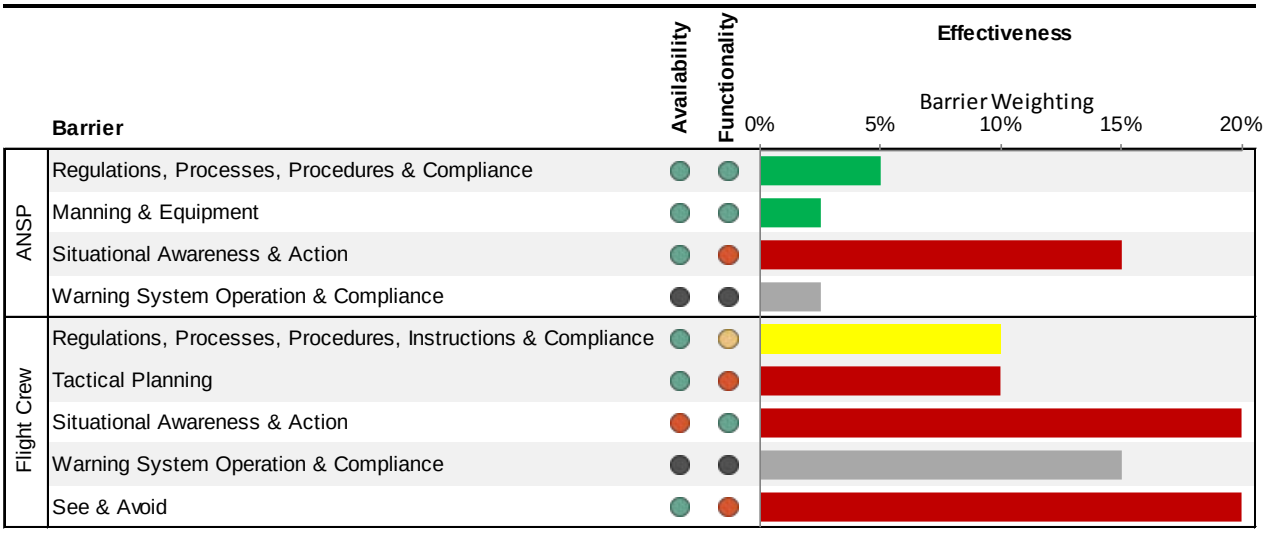
Tactical Planning was assessed as **ineffective** because the paragliding site was depicted on the Hawk pilot's map and the conditions were such that it was likely the site would be active.

Situational Awareness and Action were assessed as **ineffective** because the Hawk pilot was not aware of the presence of the paragliders.

See and Avoid were assessed as **ineffective** because the Hawk pilot did not see the paragliders in time to take effective avoiding action, and the paragliders were not able to manoeuvre out of the way in the time available once the Hawk's flight path was detected.

[7] 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: **2018012** Outside Controlled Airspace



Key:

Availability	Fully Available	Partially Available	Not Available	Not Present
Functionality	Fully Functional	Partially Functional	Non Functional	Present but Not Used, or N/A
Effectiveness	Effective	Partially Effective	Ineffective	Not present / Not Used