Airspace Classification Review - Cotswold Region Final Findings Report 2022

CAP 2359

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Overview of our final findings

Summary

1. As part of the UK Civil Aviation Authority's (CAA) airspace classification review procedure[1] a detailed investigation of airspace usage and classification within the Cotswold Region has been conducted and engagement undertaken. This report reflects a final view of our findings and recommendations in this region.

2. This document draws together the insight set out in both our initial Cotswold report (CAP 2235)[2], which captured what we knew about the region ahead of our analysis work, and our Draft Findings Report (CAP 2315)[3].This final report has been supplemented by the insight received in response to our engagement feedback on CAP 2315, and our further analysis of airspace usage, as well as the follow on conversations held with our representative stakeholder groups. We have also presented our findings to the relevant airspace control authorities (ACAs), working closely with them to determine an appropriate way forward.

3. Whilst the CAP 1991 filters resulted in a significant amount of airspace being out of scope for our review, our collation and scrutiny of the issues in this region has provided us with a wealth of evidence and information on how the airspace is utilised, by whom and when. Most importantly, we have been able to highlight areas of concern and have identified ways to address them.

Our impact stretches beyond changes to airspace classification

4. Stakeholders' focus will naturally be upon the changes we are proposing to make to airspace classification, but it is important to convey the cumulative positive impact that the other findings and associated outputs of our Cotswold review will have. These don't feature in the Final Plan:

   - Our work in improving communication between stakeholders, encouraging them to consider and understand each other's wants and needs, will foster a better sharing of airspace. This has stimulated positive and constructive debate at meetings, particularly those where a significant cross section of stakeholders are represented.
   - We have built a strong working relationship with the MOD. After we commenced our investigation of the Cotswold region, MOD launched a UK wide review of extant defence airspace structures against current and future requirements.

[1] Procedure for the CAA to review the classification of airspace CAP 1991, November 2020

[2] Airspace Classification Review – Cotswold Report 2021, CAP 2235, August 2021

[3] Airspace Classification Review - Cotswold Region Draft Findings Report - CAP 2315, January 2022

Through this review, the MOD has identified a number of volumes recommended for disestablishment and is working with us and the CAA's Airspace Regulation team, to determine the most efficient means of making this happen.

- Our close work with the CAA's Infringement Team and UKAB, highlighting areas of concern and reinforcing their education work, promotes safety and encourages good airmanship. Contrary to views expressed during some of our engagement within the Cotswold region, the Infringement Coordination Group does not take a highly punitive approach to the cases. The Group reviews all cases under a Just Culture and all decisions are focussed on providing education and guidance to assist in understanding how the situation arose and ways to prevent it from happening again. With this in mind, we hope that our Education section (para 214 – 226) is informative.
- Our recommendations of improvements to the quality and representation of aeronautical data in the AIP and on charts should assist with flight planning. Our findings from this region were fed into the AIP Review and along with input from MOD, the hours of applicability of Government Aerodrome ATZs have now been reviewed and will be clearly detailed within the AIP. (See para 17 & 131 below). We have also passed on responses from our most recent survey suggesting that non-permanent ATZs be depicted differently to permanent ones. A Working Group will be established to further investigate this.
- We have procured a new Airspace Analyser tool, which combines current and historic airspace use with safety and other flight information data to give us a coherent view of how airspace is utilised. Enhancements to the tool allow us to focus on specifically defined areas of interest and filter traffic by a multitude of factors, giving greater credibility to our scrutiny of airspace. This tool is now being used to support other areas of the CAA, such as the Airspace Infringements team, in their work.
- We have also taken ownership of, and revamped the process for, the FCS1522 Refusal of Service form, and now thoroughly investigate each one received, in a bid to assess effective management of airspace, taking appropriate action and reporting the findings back to the individual who filed the report.

5. Through our Cotswold review, it was clear that transforming the culture of airspace change was required, to one where ACAs must justify the need for existing airspace, rather than state why they want more controlled airspace. We have therefore sought to hold them to account with regards to their airspace management obligations.

6. When we have been unable to amend the classification of airspace due to the filters set out in our procedure, we have shared our findings and passed on survey responses to airspace change sponsors; with evidence required that these have been considered as their ACP progresses. By doing so, we can help to ensure that airspace is appropriately planned, with all users' needs considered in the process.

Our Final Plan and other recommendations

7. In CAP 2315, our Initial Plan listed two volumes of airspace identified as warranting further investigation and having potential to be taken forward to the amend phase of the CAP 1991 process. We also identified volumes where a positive change might be made via other mechanisms.

8. Upon further investigation and through ongoing engagement with the ACAs, we are now able to state which volumes we will be progressing through the CAP 1991 process, which ones will be addressed using other policy mechanisms and those where, on further review, no change will be made. This is our final plan of volumes where a change could be made" (our "Final Plan").

Our Final Plan

Volumes to Amend under the CAP 1991 Process:

Daventry CTA 6. This volume will be taken forward to the amend phase of our process.

Volumes where positive changes can be made via another mechanism:

RAF Lyneham ATZ. This will be disestablished and removed from the AIP.

Restricted Areas: R154 / R155 / R322. These will disestablished via a CAP 1616 Level 0 airspace change.

Areas of Intense Air Activity (AIAAs): We have passed our findings to the Off Route Airspace Team within Airspace Regulation who will instigate a UK review.

Update on the volumes identified in our Initial Plan

Daventry CTA 6

9. We will be taking this volume to the CAP 1991 amend phase.

Cotswold CTA 8

10. Despite significant work analysing this airspace and understanding the planned changes we are unable to progress a change to Cotswold CTA 8 through the amend phase of the CAP 1991 process.

11. Much of the airspace surrounding Cardiff Airport is currently involved in significant airspace change, through its involvement in the broader FASI-S programme. Notwithstanding the fact that our CAP 1991 filters put this airspace out of scope, we continued to look for a way to make the classification of the lower portions of Cotswold CTA 8 fit for purpose.

12. NATS' General Manager[4] at Cardiff was extremely willing to work with us and try to identify a way ahead, whilst remaining cognisant of their active airspace change proposal (ACP), however, with the airspace providing containment for several northbound SIDs out of Cardiff and Bristol, it was not possible to take this volume forward. We discussed SID truncation and also whether there would be value in amending the classification of the lower portions to Class E or D, but with so much change underway through the ACP it was deemed not to be appropriate.

13. Another significant factor is the DVOR rationalisation programme, which will decommission the BCN DVOR in late 2022 / early 2023 and will require both Bristol and Cardiff, through the FASI programme, to implement new departure routes.

14. Cardiff Airport encourages and welcomes any comments on their active proposed airspace change, via the consultation process as part of its CAP 1616 airspace change proposal (ACP-2019-41)[5]. The Airspace Classification Team's findings will be submitted to Cardiff and, when their change proposals are being assessed, the CAA, via Airspace Regulation, will seek confirmation that our findings have been factored into their plan and decision making.

South Cerney

15. In CAP 2315 we highlighted our findings relating to South Cerney drop zone, its infrequent activation, and the perception by many operators flying in the vicinity, that it is permanently active up to FL150. This belief contributes to funnelling of traffic as pilots unnecessarily route around the airspace.

16. MOD accepted that the drop zone has historically been little used but confirmed to us that it does have plans to utilise the airspace for higher altitude para-activity going forward. Therefore, it will remain in the AIP and remain activated by NOTAM. The ambiguous representation of this information within the AIP (ENR 5.5 Sporting and Recreational Activities) is acknowledged and this has been passed to the CAA's AIP Review Working Group to implement a more clear and unambiguous representation of this information. We will monitor MOD activity at South Cerney and review our findings one year after the publication of this report.

RAF Lyneham ATZ

17. Whilst currently only activated by NOTAM, the MOD has agreed that there is no justification for this ATZ to remain on the charts. The ATZ has been disestablished and is in the process of being removed from the AIP and will therefore no longer feature on airspace maps and charts (ACP-2021-083).

[4] Air navigation services at Cardiff Airport are provided by NATS Services Limited

[5] Detail on Cardiff Airport's ACP, including all relevant material, can be accessed on the CAA's Airspace Change Portal, here: Airspace change proposal public view (caa.co.uk)

D147 (Pontrilas)

18. In CAP 2315 we highlighted in our initial findings that this Danger Area did not appear to warrant H24 status. We did, however, acknowledge that our analyser tool would not pick up ordnance, munitions or explosives (OME), nor any aerial activity operating without electronic conspicuity. We asked MOD to investigate usage, to justify its upper level of 10,000ft and the requirement for its activation to remain as H24.

19. Detailed description has been provided to us of operators utilising D147. In 2021, a minimum of 260 sorties were conducted within D147, with the upper altitude dependent upon the type of training. There has been an increase in UAS flying at various heights and paradropping activity is anticipated to increase. Quoted range safety distances for OME warrant a 10,000ft upper limit. Crucially any of the activities can be requested at very short notice due to imminent operational requirement.

20. We are satisfied that the lateral and vertical dimensions and hours of operation are therefore justified and no change to this airspace volume will be progressed.

Restricted Areas: R154 / R155 / R322

21. As set out in CAP 2315, these three decommissioned nuclear power plants, operated by Magnox, have associated restricted airspace which is no longer required. R154 and R155 are both located within the vicinity of the Severn Estuary and within the Cotswold Region. R322 is in Anglesey and outside the Cotswold Region, however, it makes sense to tackle the three areas together.

22. We are still awaiting the safety data from Magnox. Once this is received, we will be in a position to commence the removal of the three restricted airspace areas as a joint undertaking, under the CAP 1616 Level 0 ACP process.

Areas of Intense Air Activity (AIAAs)

23. This region of focus has part of the Shawbury AIAA and the entirety of the Oxford AIAA within it. We sought stakeholder opinion on whether these constructs add value for aviators in terms of improving situational awareness or whether they simply add clutter to a busy VFR chart.

24. We have passed the responses on to the Off Route Airspace Team within Airspace Regulation, who will conduct a review of AIAAs across the FIRs.

Full Report: Introduction

Purpose of this report

25. This is our Final Report into the Cotswold Region, undertaken as part of the process to review airspace classification in the UK[6]. It summarises the activity we have conducted since the publication of our Draft Findings Report (CAP 2315) in January 2022, to finalise our review of airspace activity within the region. **This report contains our final position on the Cotswold Region and is intended to supersede our Draft Findings Report.**

26. This report sets out the engagement we have held with relevant stakeholders on airspace use in the Cotswold Region and our scrutiny of the issues raised. It then details how we have used this analysis and engagement to inform our findings on the region.

27. The report includes our final plan of volumes where a case could be made for a proposed amendment to airspace (our “Final Plan”). It also includes our findings and recommendations where alternative airspace management arrangements, or another response are a more appropriate and proportionate solution and sets out the actions to be taken.

28. This report has been prepared on the basis that the reader has knowledge of both the airspace classification review procedure (CAP 1991) as well as the related airspace change proposal (ACP) process[7] (CAP 1616).

Background

29. The UK Civil Aviation Authority's (CAA) procedure to review the classification of airspace requires us regularly to consider whether to carry out a review of airspace classification; to carry out a review (including consulting airspace users) where we consider a change might be made; and to amend the classification as we consider appropriate in line with the procedure set out in CAP 1991. This report summarises our findings from the review phase of this procedure.

[6] Procedure for the CAA to review the classification of airspace CAP 1991, November 2020

[7] CAP 1616, Airspace Change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace Information, March 2021 (updated)

Our work aligns with the broader Airspace Modernisation Strategy

30. Our work sits alongside a broader piece of work to modernise UK airspace. We regularly liaise with the team leading this work to ensure that we're aligned, and it is essential that our work does not impede theirs, and over time starts to complement or even implement it.

31. Their work aligning the UK directly to the ICAO Global Air Navigation Plan and its associated Aviation System Block upgrades will see multiple changes to enable work to achieve future aviation objectives such as trajectory-based operations. This will likely see significant changes to how commercial aircraft operate in arrival and departure and will require airspace changes to enable that work.

32. That coupled with the growing number of new types of aviation platforms, such as beyond visual line of sight (BVLOS) drones, means a new approach to airspace will be required. Wider and increased airspace integration of all users in all airspace will be key. Efforts to enable this will include alignment with ICAO standards and recommended practices (SARPS) and procedures for air navigation services (PANS) and the necessary airspace changes needed to incorporate those changes.

33. Dynamic airspace management will be key, such as enabling flexible airspace where the classification/status will change, based on the actual activity occurring at the time, as opposed to what is forecast.

What happens next?

34. We will now take Daventry CTA 6 through to the amend stage of the CAP 1991 process. We will work together with the airspace control authority, NERL, and other relevant stakeholders, to analyse this volume in more detail and develop an amendment to that classification that satisfies our statutory duties.

35. The amend stage requires us to undertake a more detailed scrutiny of the identified airspace volume and to develop proposals for its potential amendment. In doing so, we will run, and take into account feedback from, a consultation on our proposal, and will submit our final proposal and any associated implementation plan to the Airspace Regulation Team within the CAA for decision making.

36. On the Restricted Areas, on the receipt of safety data from Magnox, we will seek to remove these restricted areas under the CAP 1616 Level 0 process

37. For those areas which are being progressed under other policy levers outside of our team, we commit to revisiting these volumes in one year to determine what progress has been made.

Cotswold Region

Airspace Delineation

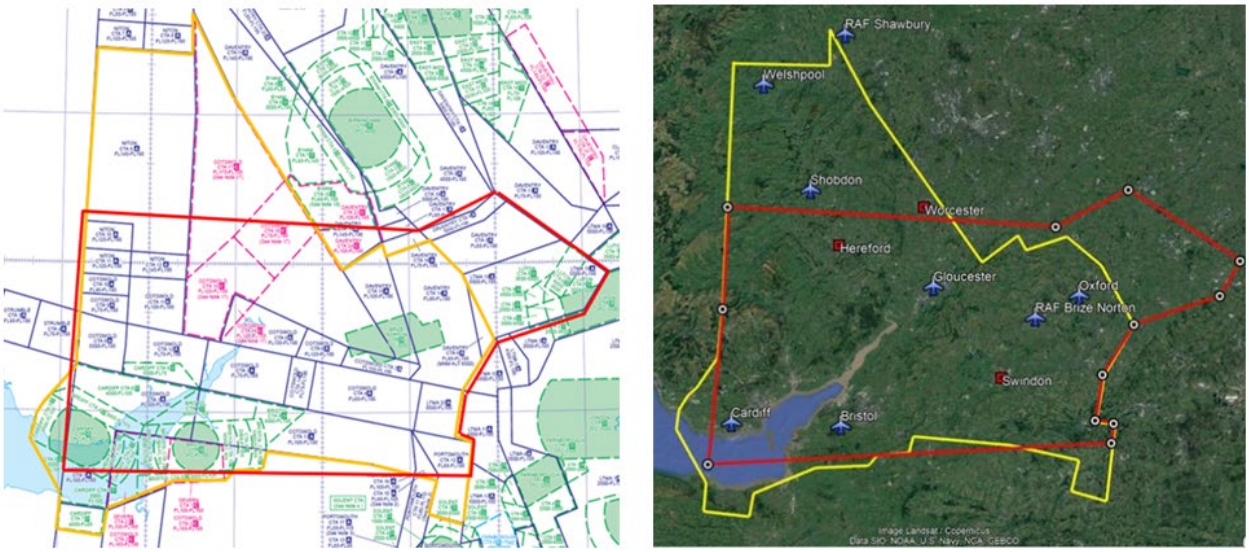
38. The volume of airspace referred to within this report is based upon the boundaries delineated by the Cotswold Altimeter Setting Region (ASR), (also referred to as "the Cotswold Region"), with some slight amendments. **Note we are not proposing to change the official boundaries of ASRs as part of this exercise.**

39. The red line in Figure 1 details the ASR as per the aeronautical Information publication (AIP) (ENR 6-1-7-1), the yellow line reflects the altered boundary for the airspace being reviewed within this report and will be referenced throughout as the Cotswold Region.

40. Alterations to the published ASR boundary were required in order to apply logic to our analysis and align with airspace boundaries:

- Extended north in to the Shawbury Triangle to incorporate the Cotswold Control Areas (CTA) CTA 15, CTA 16, CTA 17 & CTA 18.
- Eastern edge reduced. Includes Daventry CTA 6 and omits Luton airspace.
- Southern edge slightly extended to incorporate Cardiff CTA 7 and Bristol CTA 5.
- Extended to south east to include Portsmouth CTA 12.

Figure 1: Cotswold ASR (red line) vs altered boundary (yellow line)



Regional Summary

41. This region is composed of a mix of regional and local airports, numerous minor aerodromes, and glider sites. Several flying training organisations operate within the airspace and there are multiple para-dropping sites. Cardiff and Bristol airports are in the south west of the region, Gloucester Airport is in the middle and London Oxford Airport is in the north east.

42. It also contains RAF Brize Norton, the RAF's largest aerodrome, operating a range of multi-engine transport and air-to-air refuelling aircraft. Whilst RAF Benson and RAF Shawbury are out of the area boundary, their aerodrome traffic zone (ATZ) and / or military aerodrome traffic zone (MATZ) does impinge and much of their rotary operations are conducted within this airspace.

43. The Oxford Area of Intense Air Activity (AIAA) is sited in the east of the region and the Shawbury AIAA is in the north. It is a busy area for general aviation and glider activity is particularly prevalent. Airspace restrictions include several Danger Areas and Restricted Areas, gas venting sites, High Intensity Radio Transmission Areas (HIRTAs) and a bird sanctuary.

44. The region contains several areas of outstanding natural beauty (AONBs): the Shropshire Hills in the north, the Wye Valley and Malvern Hills in the centre of the region and the UK's largest, the Cotswolds AONB, in the south. Along the west side of the Cotswolds AONB is the Cotswold Edge, an 84-kilometre escarpment that rises to elevations of 300m.

Updated Safety Section

Introduction

45. Aviation safety is the CAA's number one priority and, as such, certain occurrences, incidents, and accidents are reported. This information can be used to help build a picture of how an area of airspace operates and why.

46. Airprox and airspace infringements reports are of particular interest in relation to airspace safety and airspace usage as either of these events could ultimately result in a mid-air collision. The composition and design of airspace and how it is represented will have an influence on the likelihood of events occurring.

47. Other influencing factors include, but are not limited to, the amount of traffic that uses a particular section of airspace, weather, personnel training, experience, and recency. Although there may be reference to these other factors they lie mostly beyond the scope of this report.

48. In our Cotswold Region Draft Findings Report, we stated that we would look to produce an updated safety section to provide a complete and up to date safety picture of the Cotswold Region. This updated safety section includes updated figures for infringements and airprox reports, as well as an updated analysis of the region provided by UKAB. However, the summary of the analysis from our initial report remains consistent with the updated figures.

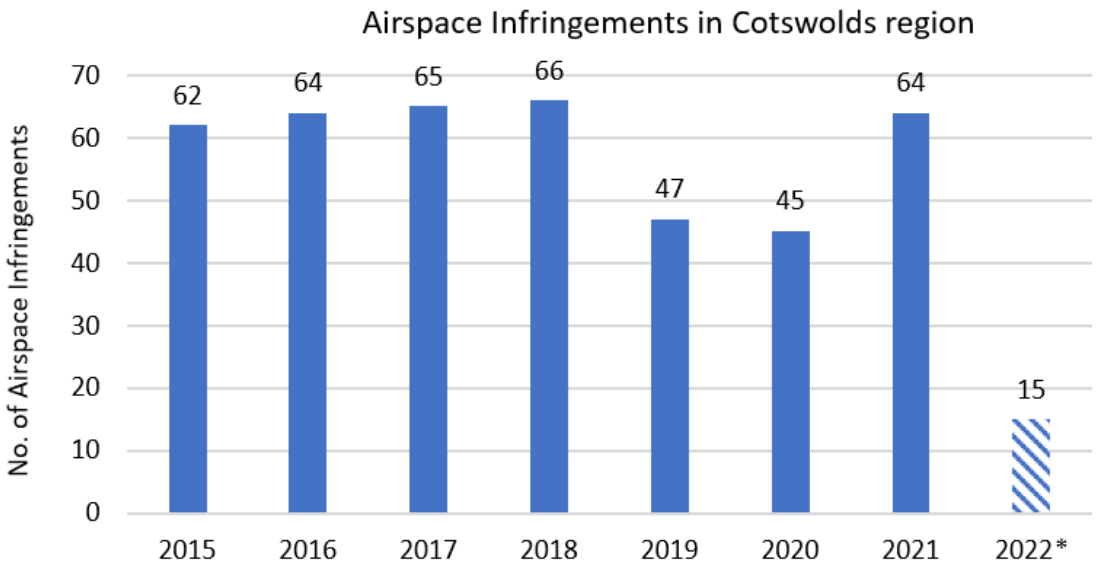
Airspace Infringements

49. An airspace infringement is "the unauthorised entry into notified airspace by an aircraft" where notified airspace is either controlled airspace, prohibited or restricted airspace (permanent and temporary), active Danger Areas (permanent and temporary), aerodrome traffic zones, radio mandatory zones, transponder mandatory zones or a combination of these.

50. Airspace infringements often result in the degradation of safety barriers which could then lead to a loss of separation between aircraft, Airprox or Mid-Air Collision.

51. In figure 2 below we can see the number of reported airspace infringements that occurred into notified airspace within our region from 2015 onwards and now includes the final figures for 2021 and the figures for *2022 as of 30 April 2022.

Figure 2: Airspace Infringements in the Cotswold Region



52. As a result of the Government imposed COVID-19 related lockdowns and associated restrictions on general aviation, there was a reduction in traffic levels for 2020, with an associated reduction in the number of airspace infringements. With the easing of restrictions in 2021, a rapid return to flying operations for general aviation was noted along with an increase in the amount of flying that was taking place.

53. Analysis of the reported infringements for this year noted that pilot skill fade associated with lengthy breaks from flying may have contributed to the increase in infringement numbers, alongside the general increase in flying activity. This is not just relevant to the figures reported for the Cotswold region, but for the country as a whole.

54. It was also noted that additional Temporary Danger Areas (TDA) were introduced in the Cotswold region for 2021 that were not present in previous years. This, combined with the factors examined above, may go some way to explaining the increase in reported infringements for 2021 in comparison to 2020 and 2019. The latter being the baseline comparison for infringement figures due to the restrictions on flying in effect in 2020.

55. The Airspace Classification Team continues to be heavily involved in CAA and airspace user group initiatives and has standing representation on the Airspace Infringement Challenge Group (AICG, formally the Airspace Infringement Working group - AIWG), Infringement Coordination Group (ICG), Local Airspace Infringement Teams (LAITs) and the Mid-Air Collision Challenge Group (MACCG).

56. This involvement allows for two-way flow of information and ideas that can be employed to reduce and prevent airspace infringements. An important part of the work that is done by the team when looking at airspace is to consider what actions can be taken and what recommendations can be made to reduce the number of airspace infringements. This cross-department collaboration contributes greatly to the classification review work and will assist us in effecting positive change to airspace.

Airprox

57. An Airprox is “a situation in which, in the opinion of a pilot or a controller, 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.”

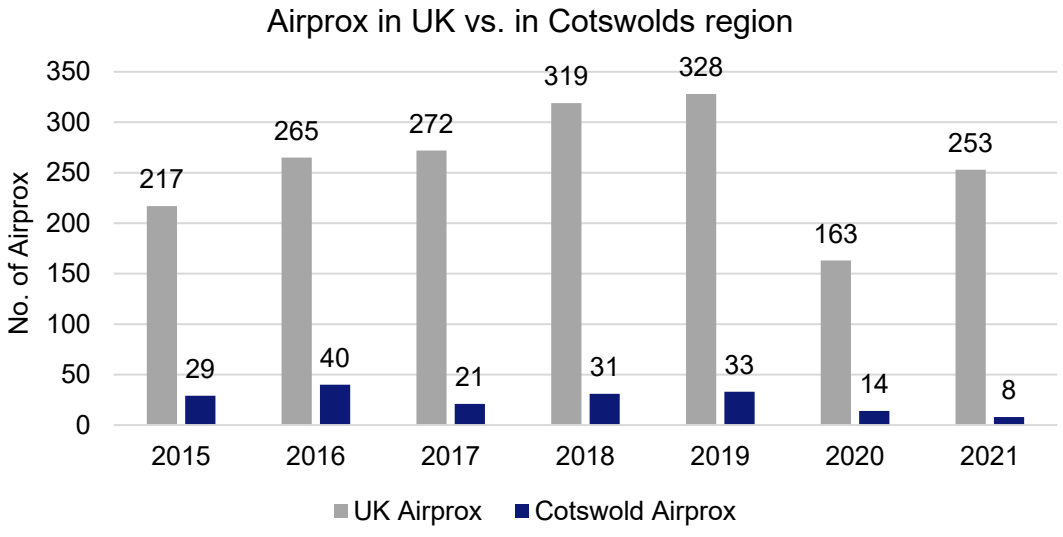
58. Each Airprox is evaluated by the UK Airprox Board (UKAB) and assigned a risk of collision category based on the table and definitions below. Risk of collision level assessments are made based on what took place and not on what may or may not have happened. There are four categories, A - D agreed at international level, and one UK category, E, as follows:

A	Risk of collision: aircraft proximity in which serious risk of collision has existed.
B	Safety not assured: aircraft proximity in which the safety of the aircraft may have been compromised.
C	No risk of collision: aircraft proximity in which no risk of collision has existed, or risk was averted.
D	Risk not determined: aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.
E	Met the criteria for reporting but, by analysis, it was determined that normal procedures, safety standards and parameters pertained.

59. Whilst Airprox prevention is ultimately the responsibility of the pilot, ANSP’s have the ability to aid prevention by providing information or instructions. When pilots are in receipt of a service from an ANSP the likelihood of an Airprox event is reduced.

60. Figures 3 and 4 show Airprox within the Cotswold area for 2015-2021. As with the whole of the UK, there are fewer Airprox in this area than there are airspace infringements. As a result of the numbers being lower, the statistics are more difficult to interpret as a single additional event will have a disproportionate effect on the results.

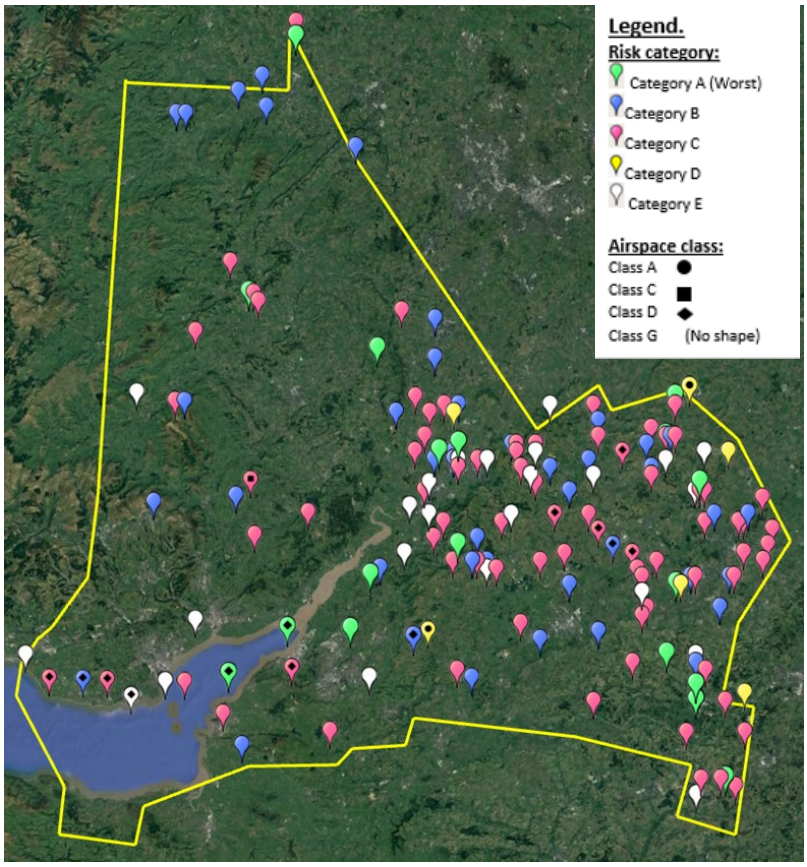
Figure 3: Airprox in UK vs Cotswold Region



61. The composition of airspace, the way in which it is used, and how traffic navigates in and around it can have an influence on the number and location of Airprox events. Airprox can happen both inside and outside of notified airspace, and, by their nature, more often occur where traffic density is higher.

62. The information presented here is for the total number of reported Airprox from risk category A-E within our region. It is worth remembering that risk of collision category E is where, although a report was made by analysis, it was determined that normal procedures, safety standards and parameters pertained. Risk category D reports where the risk of collision is not determined: this normally occurs where insufficient information was available or where the individual reports offered inconclusive or vastly conflicting information which precluded an objective.

Figure 4: Airprox in the Cotswold Region (2015-2021)



63. An Airprox is only one step away from a mid-air collision and as such they are taken seriously. The CAA, along with the UK Airprox Board and other bodies work together to assess the level of risk that exists and mitigates this where possible. In a similar way to airspace infringements, the reduction and mitigation of the risk of Airprox, and hence mid-air collision, are an important consideration of the Airspace Classification Team and as such we have representation at the Mid-Air Collision Challenge Group (MAC-CG).

64. As part of our collaborative work, UKAB have provided an updated analysis of all Airprox reports within our region that had a risk associated with them for 2021.

65. The data pool for the analysis was limited but the themes are consistent with the analysis provided for our previous report (CAP 2235).

66. UKAB observations on the risk bearing reports indicate the following:

- An Air Traffic Service better than a Basic Service is always recommended. This allows the Ground Elements' barriers to be engaged and gives the best chance of an effective Flight Elements Situational Awareness barrier.
- Pilots should plan their flights using all the resources available to them and communicate these plans appropriately.
- Pilots should look to fit a compatible EC device. There were two instances where it was fitted resulted in a Category C Airprox (safety degraded but no risk of collision).
- Pilots should employ an active and thorough lookout – be aware of areas of obscuration dictated by the ergonomics and configuration of the aircraft and be conscious of it at all times

Mid-air Collision

67. The consequences of a mid-air collision between aircraft are severe and could also impact on persons on the ground in the vicinity of such an event.

68. Although rare, it should be remembered that an Airprox or an airspace infringement could result in such an event.

69. There has been one reported mid-air collision in the Cotswold area since 2015 between a model glider and a light aircraft in which the model crashed and the aircraft sustained minor damage and landed safely. This event was not over a built-up area and minimal effect was felt on the ground.

Our Engagement in the Cotswold Region

Overview of our engagement requirements

70. Engagement is central to our review of UK airspace. Our airspace classification review procedure emphasises the importance of transparency and engagement with interested stakeholders throughout the process, including formal consultation. Our aim is to ensure that we undertake our review in a manner which provides equal opportunities for stakeholders to contribute to our thinking throughout the process. We do this in a way which allows stakeholders to have the opportunity to influence the outcome of the review and which demonstrates that we are participating in effective two-way engagement.

71. At the review stage, our process requires us to gather insight on airspace usage, seeking feedback both from airspace users and airspace controlling authorities as well as drawing on our own data sources. This detailed intelligence gathering is then used to identify an initial plan of volumes to take forward to the amend phase and to discuss these findings with the relevant controlling authorities to seek their early feedback.

How we have engaged within in the Cotswold Region

72. Given the scale of engagement requirement throughout the project, we purposely targeted pre-existing engagement channels for the bulk of our stakeholder engagement activity, especially where the aim is to provide broad updates on our work. We regularly attend meetings with a broad range of stakeholder groups to help promote the work of the team, update stakeholders on the progress of the work and provide more information on the airspace classification review task more broadly.

73. These meetings include:

- Airspace Infringement Challenge Group (formally AI Working Group)
- General Aviation Partnership (GAP)
- Local Airspace Infringement Teams
- Regional Airspace Users Working Group
- National Air Traffic Management and Advisory Committee
- Attendance at public fly in events
- Industry Coordination on the Airspace Modernisation Strategy
- Flexible Use of Airspace State Programme Steering Group
- CAA's Airspace Engagement Group
- Mid-Air Collision Challenge and Oversight Groups
- Infringement Coordination Group

74. We also held targeted workshops on our initial findings and invited members of the stakeholder representative groups to provide feedback to us at these sessions.

75. Our list of stakeholder groups contacted directly to attend our workshops included:

National Stakeholder Representative Groups		Larger ANSPs / ACAs/CAA
Airfield Operators Group	British Rotorcraft Association	MOD / DAATM
Air Pilots and the Royal Institute of Navigation	British Skydiving	NERL
Airspace4All	Commercial Ballooning Association	NSL
Airport Operators Association	Drone Major Group	RAF Brize Norton
AOPA	Drone Safe Register	Bristol Airport
APPG-GA	Flying Farmers	RAF Benson
ARPAS	General Aviation Awareness Council	Cardiff Airport
Airlines UK	General Aviation Safety Council	London Oxford Airport
British Air Display Association	General and Business Aviation Strategic Forum	Magnox
BALPA	Guild of Air Traffic Control Officers	UKAB
British Balloon and Airship Club	Helicopter Club of Great Britain	Internal CAA teams
British Business and General Aviation Association	International Air Transport Association	
British Gliding Association	Large Model Association	
British Hang Gliding and Paragliding Association	Light Aircraft Association	
British Helicopter Association	Met Office	
British Microlight Aircraft Association	PPL-IR	
British Model Flying Association		

76. When engaging with the stakeholder representative groups, we requested that they then use their own channels to promote the classification review work, promote the engagement workshops and, where feasible, seek feedback directly from their members to provide to us.

77. As well as the ongoing engagement with these groups we also held two specific engagement exercises as part of our review into the Cotswold region. These were open to anyone who wished to respond:

- an engagement survey to invite proposals volumes of airspace for review and to respond to our initial factual Cotswold Report (CAP 2235) on the region; and

- an engagement exercise to ensure our Draft Findings Report (CAP 2315) had not missed, misunderstood or misinterpreted any of the feedback given throughout the review process.

78. Both engagement exercises were well publicised using a targeted strategy that utilised several of CAA's communications channels. These included updates to our website, direct emails to identified stakeholders and promotion via social media. We will be evaluating the efficacy of our communications as part of our review of the airspace classification review process before we move to the next region for review.

Engagement on our Initial Cotswold Report: CAP 2235

79. As part of our information gathering exercise, we chose to invite stakeholders with knowledge and experience of operating within this airspace to propose volumes of airspace for review, accompanied by a rationale for their inclusion. We published a factual investigative report into the Cotswold Region, bringing together information on airspace composition, existing airspace change proposals (ACPs) and safety data. We requested feedback via the use of an online engagement survey.

80. To facilitate the submission of high-quality responses we held two workshops which targeted all users with experience of operating in and around the Cotswold Region. We presented the findings of our report, invited stakeholders to discuss their experiences, and outlined the type of information which could demonstrate the case for a review of a particular airspace volume.

81. We also held separate conversations with the relevant ACAs, including NERL, London Oxford Airport, Bristol International Airport, Cardiff Airport, RAF Brize Norton, and the MOD. We discussed the key issues raised in the survey, our analysis of those responses and the ACA's own experiences and issues with providing a service. We also attended the Light Aircraft Association (LAA) Rally fly-in at Sywell to speak directly to users about our review, as well as to raise awareness of the work of the team.

82. Further information on our approach to stakeholder engagement can be found in our initial Cotswold Region Report[8].

The results of our engagement on our initial factual report

83. We received 42 responses to our survey covering 29 volumes of airspace from a range of stakeholders covering fixed wing aircraft, gliders, paragliders, hang gliders, helicopters and 'other' users, including manufacturers, trainers, and service providers. The survey asked respondents to comment on the quality of the information provided in the report. The majority of the respondents found it accurate (or said they had no way to verify its accuracy) but some minor suggestions were made.

[8] Airspace Classification Review – Cotswold Report 2021: Cotswold Report V2.0 - CAP 2235.pdf (caa.co.uk)

84. Respondents were asked to identify volumes of airspace within the region for review and for potential amendment under this procedure with an accompanying rationale.

85. The majority of responses mentioned either MOD aerodromes, Brize Norton in particular, Bristol airspace volumes and Restricted or Danger Areas. They also expressed safety concerns such as “choke points” created by narrow gaps between controlled airspace volumes in certain areas. The most common suggestions were to increase base levels of control areas (CTAs) in the area to reduce an impact on cross-country gliding operations, to reduce the size or change the shape of certain airspace volumes, or to establish flexible use of airspace procedures instead of volumes remaining permanently controlled.

86. Survey respondents were also asked if they could suggest any other improvements to enhance the safe and equitable use of airspace in the region other than an amendment of airspace classification. Several ideas focused on simplifying the airspace structure, learning from other countries’ airspace design solutions, introducing more flexible use of airspace, changes to existing air traffic control procedures or levels of service in certain areas.

87. The survey results provided us with better insight into the concerns of the sporting and recreational general aviation community in the region, and in particular, their needs in terms of airspace design and procedures. All survey responses were considered on equal basis regardless of how many responses have been received about a single issue or airspace volume.

88. The map below provides a high-level view of where survey respondents proposed a raise in the base level or a reduction or change to the classification of an airspace volume.

Figure 5: Cotswold Region Map with Engagement Survey Areas of Interest*

**Note some airspace volumes mentioned in the survey responses are not highlighted in this map, as no changes were suggested by respondents, or the suggestion related to something other than removing/reducing the airspace volume or raising its base level.*

89. We incorporated the feedback from the survey, together with our scrutiny of the region and discussions with stakeholders and collated this information into Our Draft Findings Report (CAP 2315). This was published on the CAA's consultation page. We promoted the presence of this report and accompanying request for feedback through our regular engagement with our stakeholders.

Engagement on our Draft Findings Report: CAP 2315

90. Our procedure states that, once we have developed an initial plan of volumes to take forward to the amend phase, we should consult with stakeholders on that plan. Given the scale of engagement undertaken as we scrutinised the region, the involvement of key stakeholder representative groups throughout the process to date, and the fact that we previously conducted an open survey on our initial investigative report, which also requested airspace volumes to take forward to the amend phase, we decided that it would not be proportionate to undertake a further formal consultation on our

Initial Plan. Instead, we published our Draft Findings on Cotswold Region report and asked whether we had missed, misunderstood, or misrepresented anything. We also asked whether Areas of Intense Air Activity (AIAAs) should remain.

91. 22 responses were received. The majority of responders stated they found our report satisfactory and did not have additional comments. Others commented positively or the depth of analysis and the use of our Airspace Analyser tool. Several respondents questioned potential limitations of the tool and of our methodology. Finally, one suggested more engagement is needed with General Aviation groups.

92. We will take onboard suggestions for improvements to our process when considering our next review process. We are also improving the capability of our Airspace Analyser tool to enable us to undertake a more targeted review of volumes of interest.

93. The majority of comments received in response to the survey made suggestions on how charting could be improved to aid airspace use by all users. For example, it was proposed that permanent and 'activated by NOTAM' ATZs could be marked differently on the charts. Respondents also expressed an interest in being able to receive earlier and clearer notifications when military airspace volume is activated. Respondents also questioned the current structure of class A airspace and questioned whether it was feasible to raise the base level of less utilised Cotswold CTAs.

94. In response to our question on the usefulness of AIAAs, the majority of the respondents agreed that they provided no use for pilots and some suggested that they increased chart clutter. Only a few suggested they should remain in some of the current areas. Only three responses stated AIAAs are useful for flight planning if they are current and not excessive. We have passed these comments to the Off Route Airspace Team in the CAA who will instigate a review of AIAAs across UK FIRs.

95. We have taken the results of our engagement survey and conducted significant further scrutiny of the area using our analyser tool. This insight has been used to inform additional targeted conversations with the ACAs of the volumes of airspace which were identified within the Initial Plan. This has enabled us to determine whether there was sufficient cause to take the volumes through to the amend phase, or whether alternative recommendations could be proposed. The outcomes of those discussions, combined with any additional insight from our survey responses, are set out in the Findings section below.

Our Analysis using our Airspace Analyser Tool

96. The Airspace Analyser tool has been developed for the Airspace Classification Team by a third party. It utilises both historical and “live” data supplied by Plane Finder, providing a platform to enable this data to be filtered and interrogated to gain evidence-based insight into how airspace is being utilised. Historical data and a live feed are available, giving the ability to collate aircraft track samples and examine individual flights. This functionality allows the CAA to carry out its own investigations as well as validate insight that we receive through other mechanisms such as mandatory occurrence reports (MOR), ACP or airspace review feedback. The traffic data has been overlaid with safety data including internal airspace infringement locations as well as airprox data supplied by the UK Airprox Board (UKAB).

97. It is important to understand the limitations of the data that is within the tool and of the tool itself. The data is supplied by Plane Finder which records aircraft that are visible to their detection systems. It is the case that not all aircraft that operate in the airspace are visible on the tool. Aircraft are detected and recorded using the systems below, they are:

- ADS-B (Automatic Dependant Surveillance-Broadcast)
- FLARM: A system that calculates and broadcasts aircraft position and future flight path
- MLAT (Multilateration, using multiple radar heads and Mode-S transponders).

98. These electronic devices transmit information that, when within the coverage area of the appropriate receiver, mean they will appear on the tool. Aircraft that do not carry these devices will not be visible to our tool, these aircraft would appear as “primary only” on a “traditional” radar system.

99. The majority of commercial air transport services carry equipment to make the aircraft ‘detectable’, hence a very high percentage of these are visible on the tool. Similarly, most gliders and some light aircraft carry FLARM, so many are displayed. There is however a significant number of light aircraft and older military aircraft that are not equipped in this way and will not be detected or recorded. Therefore, the number of aircraft displayed on the tool will be the minimum meeting the selected search criteria.

100. This analysis has enabled us to form a good picture of how the airspace in the Cotswold Region is currently used, by whom, when and at what altitude, and has helped to influence and shape our discussions with ACAs and airspace users

101. In addition, through our intense use of our analyser tool we have been able to identify improvements to enhance the functionality of the tool and enhance its capability for future reviews by the Airspace Classification Team and by other CAA teams.

Filters applied to the volumes

102. Our procedure contains filters that are designed to remove volumes of airspace from our review that are not viable for an airspace classification change. The filters we apply are:
    i. Airspace that is the subject of a change in airspace design
    ii. Changes with an adverse effect on military operations
    iii. Changes that would have a significant operational/environmental impact
    iv. Airspace considered in the preceding review cycle (not applicable in this review)
103. While gathering data and intelligence on the Cotswold Region, we identified that much of the airspace is subject to an ongoing airspace change proposal (ACP). Because of this it is clear the ACP filter has the biggest impact on our ability to make changes in this region.
104. The airspace volumes below have been filtered out of our review as per the “airspace that is subject to a change in airspace design” filter. The list of ACPs below is not exhaustive, but does mention the ACPs that are most predominant in our region:

Cardiff & Bristol

- Bristol FASI South ACP-2018-55
- Cardiff FASI South ACP-2019-41
- LAMP Deployment 1.1 ACP-2017-70
- Rename/Remove En-Route dependencies ACP-2020-101
- Removal of En-Route dependencies from Brecon DVOR ACP-2019-069

En-Route Airspace

- (NITON CTAs 9-12, Berry Head CTA 1, LTMA 23, Portsmouth CTA 12 & 16, Severn CTAs 1-2, Cotswold CTAs 1,2,4,6,7,9-18)
- LAMP Deployment 1.1 ACP-2017-70
- Removal of En-Route dependencies from Brecon DVOR ACP-2019-069
- SAIP Deployment 5 ACP-2017-77
- SAIP Deployment 6 ACP-2018-65
- Rename/Remove En-Route dependencies ACP-2020-101
- Manchester & East Midlands FASI North ACP-2019-77

MOD Airspace

- Change in notification of Colerne ATZ ACP-2019-52
- RAF Little Rissington airspace structure ACP-2019-45
- RAF Fairford ATZ Operational Hours ACP-2021-041

Restricted Airspace (R106, R153, D119)

- Cardiff FASI South ACP-2019-41
- Statutory Instrument 703/2021 (Not an ACP)

St Athan

- Cardiff FASI South ACP-2019-41
- St Athan ILS ACP-2018-35

105. We have gathered information and intelligence across the Cotswold Region regardless of the filters that exist. The above airspace volumes have been filtered out of our current review due to active/ongoing ACPs. However, where our scrutiny has identified useful insight relating to the utilisation of airspace within an ongoing ACP, we will formally pass all intelligence and comments we have received to the change sponsors of those ACPs as set out in under para 115 of CAP 1991.

CAA Legacy Consultation Comments Handover

106. In December 2019 the CAA launched a consultation exercise to identify volumes of controlled airspace where the classification could be amended to better reflect the needs of all airspace users on an equitable basis. This consultation provided over 600 responses, identifying c1100 airspace volumes across the UK flight information regions (FIRs).

107. At the beginning of 2021, after the CAA's Airspace Classification Team announced a refreshed approach to the task. It collated the consultation comments and passed these on to the associated Change Sponsors of existing ACPs.

108. We grouped together all the responses according to the relevant airspace volume and provided a summary of the comments along with a visual representation to illustrate the areas concerned. We also created a pack which outlined the CAA expectations for each change sponsor where they had an ACP between stages 1-2 of the CAP 1616 process. We stated in that pack, and publicly, that we expect to see evidence that a change sponsor has considered and responded to the insight provided to them from this consultation at the appropriate stage of their CAP 1616 process.

Legacy consultation comments relating to the Cotswold Region

109. The comments received that were relevant to the Cotswold Region have been included within the review. As we investigate other regions, the comments pertinent to those areas will, in turn, be incorporated.

Our Findings

110. In order to arrive at the findings below, we sought input from stakeholders via the engagement activity detailed above. We also held internal meetings to understand any supporting and related work taking place elsewhere within the CAA, in particular within the Airspace Regulation, Airspace Infringement, and Airspace Policy teams as well as the General Aviation and Remotely Piloted Aircraft Systems Unit and Airspace Modernisation Strategy team.

111. We met with MOD, ACAs, airports, and air navigation service providers in a bid to understand the cause of any issues raised, as well as to discuss any airspace usage concerns they had experienced, and to explore what worked well with current air traffic management arrangements. We also undertook significant scrutiny of the volumes listed in our Initial Plan using our Airspace Analyser Tool. This has led us to update our findings as set out below.

112. We discussed our findings with UKAB and it became very clear that many of our findings, particularly those around education, were supported by theirs. We then used our Analyser Tool extensively to corroborate or contradict what we were being told.

113. Whilst significant analysis has been conducted to arrive at the findings below, for brevity, we have opted not to include it all within this report. We have, however, made it clear to those we've spoken to throughout this investigation, that we are able to provide our detailed analysis to them, should they wish to view it.

Findings relating to Ministry of Defence (MOD)

Overview

114. The UK operates a Joint & Integrated approach to airspace policy, planning and management, and the provision of air traffic services. Close cooperation is required between the CAA and the MOD in order to ensure that the UK's airspace is managed in a safe, orderly and efficient manner.

115. A guiding principle of this approach is the fact that airspace is a shared resource. As mentioned earlier in this report, one of the filters that would render airspace unsuitable for a change via the CAP 1991 process, is where a change would have "an adverse effect upon MOD operations". Despite this, MOD has demonstrated a willingness to work closely with our team in assessing whether the airspace volumes it has control authority for, are fit for purpose and encourage equitable access wherever operations allow. The reality of this collaborative working relationship is contrary to what was suggested by one respondent to our most recent survey, who stated that the CAA is 'clearly being stonewalled in every respect by the MOD'. This is categorically not the case.

116. Linked to the Airspace Classification Team commencing its review of the Cotswold Region, the MOD independently launched its Defence Airspace Suitability Review (DASR), with one of its stated aims being to review extant Defence airspace structures against current Platforms'/Units' requirements. We understand that this review has identified a number of airspace structures which are recommended for disestablishment. The MOD are now working with the CAA to determine the most efficient means of doing this. MOD has also committed to reviewing its airspace requirements on a yearly basis to determine whether there are other airspace structures which may be suitable for disestablishment. We will continue to engage regularly and to monitor the progress of the DASR.

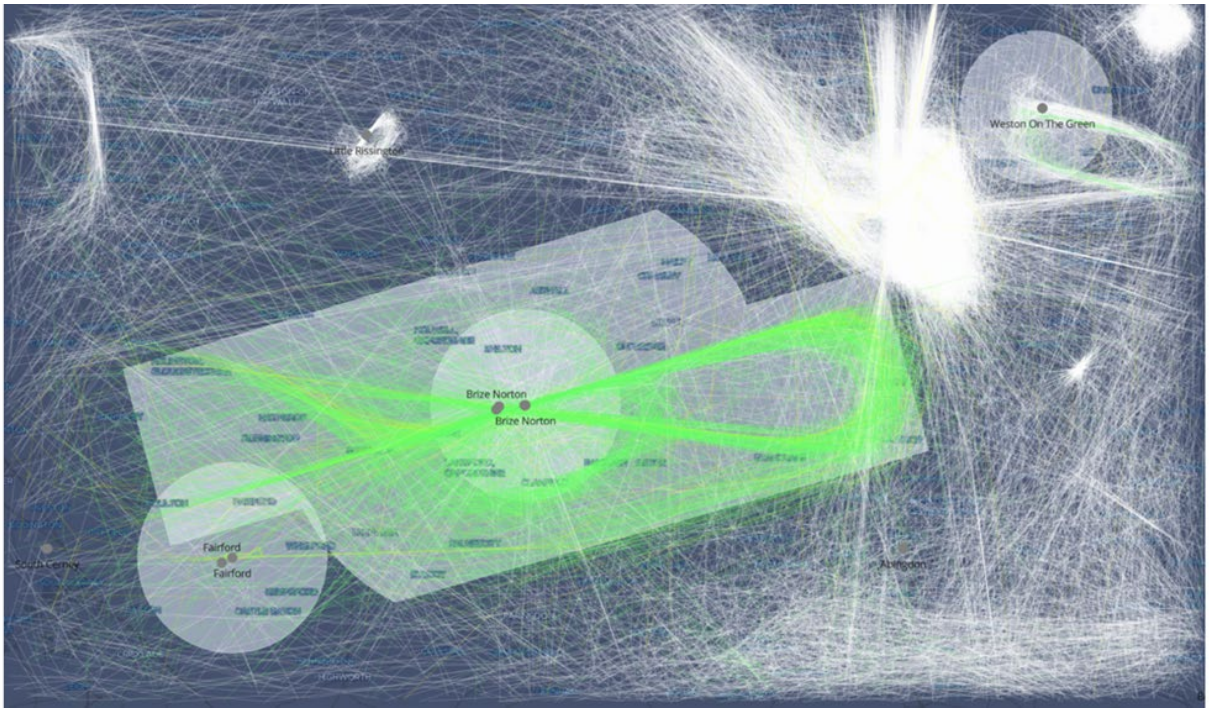
RAF Brize Norton

117. A significant number of comments were received in both the legacy consultation and our targeted engagement on the Cotswold Region which referenced the Brize Norton control zone (CTR), with remarks ranging from an inability to get a crossing clearance, difficulty in obtaining a Lower Airspace Radar Service, suggestions that the volume of airspace is too large for the perceived low number of aircraft movements and questions relating to the requirement for it to maintain H24 status.

118. The complexity and current usage of the Brize CTR means that this volume of Class D airspace is out of scope for the CAP 1991 process, via the "adverse effect upon military operations" filter. Nonetheless, we chose to conduct our own analysis of Brize activity, given the importance and scale of responses referencing this volume. We also liaised with MOD on a frequent basis, through the MOD's Defence Airspace and Air Traffic Management cell (DAATM) and also via a visit to Brize Norton Air Traffic Control Squadron.

119. The Brize Norton CTR sits within an extremely congested and contested region of airspace. Figure 6 below shows 5000 (the maximum the system can display) of the 41643 tracks picked up by our analyser tool, operating within the year 2019 and at or below FL50.

Figure 6: Brize Norton CTR / Fairford MATZ / D129 with Military (Green) & Non-Commercial (White) traffic movements, from the CAA's Airspace Analyser Tool.



120. Whilst it was not possible for us to validate the claims received via the legacy consultation and the survey, regarding pilots' inability to obtain zone crossing clearances, we did raise this when we visited Brize. The controllers there stated that a refusal of crossing was extremely rare but did acknowledge that crossing clearances were sometimes issued with a different level or routing to that requested. They also conveyed the difficulty of facilitating crossing clearances at requested levels, whilst factoring in directives surrounding defensive controlling and TCAS-RA.

121. This scenario was discussed with the CAA's ATS Inspectors who confirmed that this is not specific to Brize Norton and that the same issue is encountered by other airports. Of note, it is incumbent upon air traffic service providers to manage airspace using a risk-based approach to safety. They must establish the acceptable level of safety for airspace access, capturing the assessment and mitigation of internal and external threats to the operation.

122. In order to be in a position to investigate refusals of access, pilots are encouraged to complete and submit the FCS 1522 - UK Airspace Access or Refusal of ATS Report (caa.co.uk). The revised CAA internal process will then ensure that the circumstances of the refusal of access or service are investigated and captured accordingly.

123. Brize Norton submitted a Statement of Need for a new ACP on 6 Jun 22: ACP-2022-040. Their previous ACP was not approved by the CAA. The Airspace Classification team has conducted considerable analysis of aircraft movements in and around the

CTR and has discussed this insight with Brize. Since we published our Draft Findings Report, key members of the team from Brize tasked with overseeing their future Airspace Change Process, have been in touch. They are extremely keen to take our analysis in to account and understand our findings. Any correspondence or discussion on this matter will be transparent and available for other stakeholders to view.

124. Through engagement with stakeholders who operate in this airspace, we are aware of the willingness of organisations to collaborate with RAF Brize Norton as they develop their next ACP and have actively encouraged MOD to welcome and support such collaboration.

125. Notwithstanding the fact that the Brize CTR was out of scope for our CAP 1991 process, we recommended that MOD consider the feasibility of VFR corridors for aircraft wearing a listening watch squawk and suggested that flexible use of airspace wherever possible should be considered. MOD agreed to consider the above and will report back through our routine meetings with them.

RAF Benson

126. The survey also generated comments relating to RAF Benson, with questions regarding the requirement for it to retain a Military Aerodrome Traffic Zone (MATZ), citing concerns about its presence generating a choke point for VFR traffic, particularly those operating around Reading and for those transiting to / from the Oxford Brize area.

127. These concerns were put to MOD and they responded that for operational reasons, Benson does require its MATZ, they stressed the willingness of Benson air traffic control (ATC) to provide a zone transit service and also highlighted the fact that, as per AIP 2.1.1 ‘In the airspace outside the Aerodrome Traffic Zone (ATZ), observation of MATZ procedures is not compulsory for civil pilots’.

128. A respondent to our most recent survey referenced the paragraph above, stating that if ‘*observation of MATZ procedures is not compulsory for civil pilots, then MATZs are not required at all’*. For clarity, the observation of MATZ procedures is compulsory for military pilots and therefore serves a purpose for the military unit in providing protection for its arriving, departing and circuit traffic.

RAF Shawbury, RAF Lyneham and Colerne Air Traffic Zones (ATZs)

129. In our initial survey we received comments questioning the requirement for government aerodromes to maintain their ATZ 24 hours / day (H24), particularly in cases such as Shawbury where it was believed that very little station-based flying took place over weekends. Our analysis supported the belief, indicating that there was very little flying during weekends at RAF Shawbury. This was put to MOD, who advised us that it would be reviewed as part of the ongoing work with Airspace Regulation, who were conducting a review of ATZ Policy. The work has now been

completed (para 211 below) and Shawbury ATZ will not routinely be active at weekends.

130. We also received comments incorrectly stating that RAF Lyneham's ATZ was still in place, despite the station having ceased flying some time ago, with concerns raised that pilots were unnecessarily having to avoid it. The ATZ does still feature on the charts, however, it is activated by NOTAM. Our analyser tool indicated that the majority of transits below 2000' were not avoiding the ATZ. Historic NOTAM activation of this volume of airspace was requested via the European Database and it seemed that it had never been activated, therefore we raised the perceived need to maintain it on the charts with MOD.

131. Lyneham ATZ is now in the process of being disestablished and removed from the AIP and will therefore no longer feature on airspace maps (ACP 2021- 083).

132. Colerne was found to be in a similar situation to Lyneham, in that its ATZ is activated by NOTAM. We discussed this with MOD but as the post-implementation review conducted in November 2021 indicated, a decision had not yet been made about the long-term future of flying operations at Colerne.

133. We have requested that MOD consider whether this ATZ was likely to be activated by NOTAM on a regular occurrence and if not, to disestablish it and remove it from the AIP.

Danger Areas (DAs)

134. The MOD operates several DAs within the Cotswold Region and the requirements for the management of these is stated in CAP 7409, "*The strategic aim for Defence Airspace Management (ASM) is to enable all arms of Defence to 'train as they would fight' by safeguarding long term access to appropriately sized and sited airspace, which can be reserved for hazardous activities, while minimising the impact on other airspace users. This aim is underpinned by the UK joint and integrated approach to ASM and the MOD's adherence to national ASM Policy set out in this document. Within this policy, the application of the Flexible Use of Airspace (FUA) concept is a key aim of military ASM Policy, to ensure that through the daily allocation of flexible airspace structures any segregation of airspace for military activities is based on a 'need-to-operate' basis within a specific time period and airspace volume*".

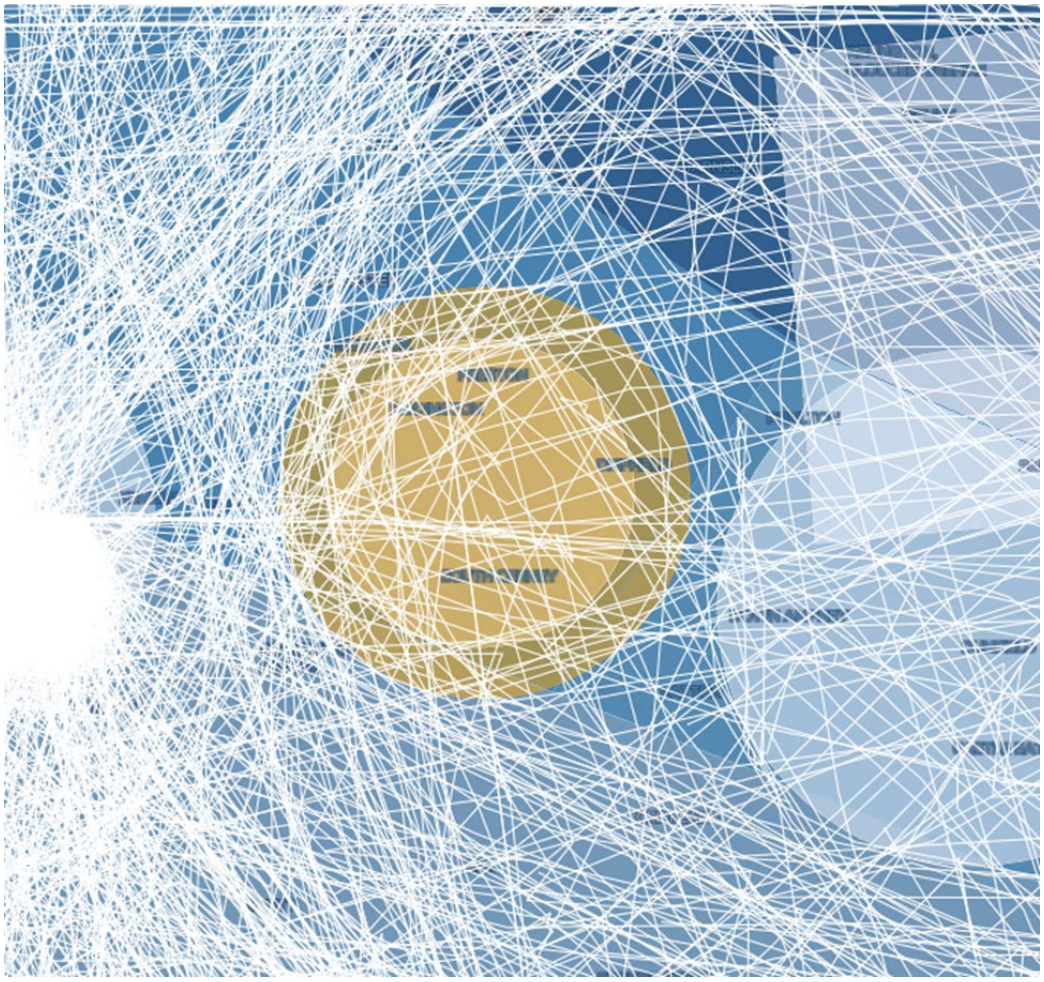
135. **D129, Weston-on-the-Green (WOTG)** paradropping area generated a lot of comments, mostly focusing on the fact that its usage didn't warrant H24 status. Upon investigating the comments received on this volume of airspace, it was apparent that many respondents incorrectly believed that the airspace was active H24. As per the AIP entry, the danger area is active Monday – Friday, sunrise to sunset. Our analysis showed that the area is frequently utilised during its promulgated hours of operation.

[9] CAP 740 UK Airspace Management Policy (caa.co.uk) Pg 41

The DA Airspace Manager also maintains an appropriate management structure to oversee all aspects of the DA use in line with CAP 740 requirements.

136. **South Cerney,** whilst not a Danger Area, is a paradropping site listed in AIP 5.5. A considerable number of responses cited concerns about GA being unnecessarily funnelled around South Cerney. Our analysis of airspace usage in the vicinity of South Cerney supported this. See Figure 7 below.

Figure 7: Non-Commercial Transits around South Cerney, operating at or below FL50 (1st January – 31st December 2019), from the CAA's Airspace Analyser Tool.



137. Many survey respondees also indicated that they understood that this airspace was permanently active up to FL150. Upon investigation, the AIP entry is ambiguous and could be made clearer (see below). MOD has agreed to address this, and it will also be included as part of the ongoing internal CAA 'AIP Review Working Group' in a bid to identify and correct other such ambiguous entries.

Figure 8: Current UK AIP entry (ENR 5.5)

SOUTH CERNEY PARACHUTE SITE, GLOS A circle, 1.5 NM radius, centred at 514114N 0015519W	Upper limit: FL150 Lower limit: SFC	Phone: 01285-868259. Brize Norton ATC: 01993-897878.	Activity notified on the day to Brize Norton ATC. (All drops subject to permission from Brize Norton NATC prior to take-off). Alternative contact: 129.905 MHz. Hours: Normally during daylight hours.

138. Questions were also posed regarding how often paradropping takes place at South Cerney. We requested historic NOTAM activation data, via aeronautical information service (AIS) data, from the European Database. This identified only five occasions in the past three years, all during 2019, when the airspace was activated by NOTAM at a level higher than 3500 ft AMSL, with FL65 as the highest. The majority of NOTAM activations of the airspace have been up to 3500ft AMSL, with varying radius of 1NM / 2NM / 3NM / 5NM. Our Airspace Analyser Tool interrogation supported the NOTAM information, with commensurate activity showing on those dates.

139. This data was presented to MOD who investigated the airspace requirements for activity at South Cerney. MOD accepted that the drop zone has historically been little used, but confirmed to us that it does have plans to utilise the airspace for higher altitude para-activity going forward. Therefore, it will remain in the AIP and activated by NOTAM. Operators flying within the vicinity of this airspace are encouraged to contact Brize Norton for information on the activity at this site.

140. The ambiguous representation of this information within the AIP (ENR 5.5 Sporting and Recreational Activities) is also acknowledged and this has been passed to the CAA's AIP Review Working Group to implement a more clear and unambiguous representation of this information.

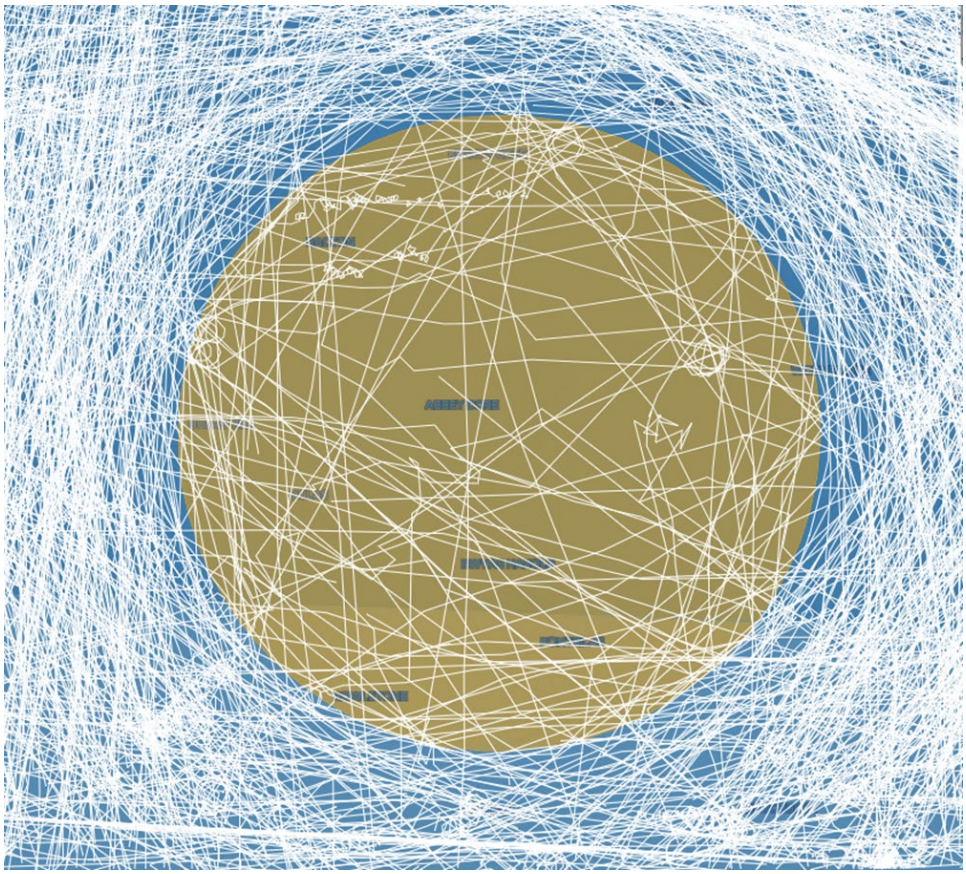
141. **D147 Pontrilas** has an upper altitude limit of 10,000ft and a radius of 2NM, it is established H24 for 'Para-dropping, Ordnance, Munitions and Explosives (OME)' and the Danger Area Authority is HQ Land. Our initial investigation suggests that the current use of this airspace by the military did not appear to warrant H24 segregation, nor at such a high-upper level. It was acknowledged that our Analyser Tool would not show OME activity.

142. Figure 9 below shows the significant number of GA tracks routing around D147 (along with those that didn't), below an altitude of 10,000ft, between 1 January 2019 and 31 December 2021. Our findings were put to MOD and we requested that activity within this DA be investigated and usage statistics be provided.

143. Since the publication of our Draft Findings Report, a more detailed description of the operators utilising D147 has been provided to us. In 2021, a minimum of 260 sorties were conducted within D147, with height dependent on type of training. There has been an increase in UAS flying at various heights and para activity is anticipated to increase. Quoted range safety distances for OME warrant a 10,000ft upper limit. Finally, any of the activities can be requested at very short notice due to imminent operational requirement.

144. We are satisfied that the lateral and vertical dimensions and hours of operation are therefore justified and no change to this airspace volume will be progressed.

Figure 9: D147 and Non-Commercial tracks below 10,000ft (1st January – 31 December 2021), from the CAA's Airspace Analyser Tool.



145. **Little Rissington.** Our investigations show that, since the implementation of the ATZ in August 2021, pilots have amended their routing, even when the ATZ has not been activated by NOTAM. This has resulted in pilots, on occasion, flying closer to the Brize CTR than is required.

146. Since the publication of our Draft Findings Report, the CAA Airspace Infringement Lead has included this finding as a case study in the briefings that are delivered to pilots on the importance of pre-flight planning. It will also form a key part of the work that will be carried out by the Oxfordshire LAIT once it is up and running.

Findings relating to Oxford

147. London Oxford Airport is one of the busiest General Aviation airports in the UK, used by business jets, light aircraft, and helicopters. A significant amount of flying training takes place in this area, both military and civilian. Despite the significant amount of flying training that takes place throughout this area, both military and civilian, we received very few comments relating to this airport, other than comments mentioning the funnelling that takes place in the airspace around the ATZ. With its proximity to Brize Norton, Enstone, Hinton and other busy aerodromes, it renders the local

airspace amongst the busiest in the country outside of the London Terminal Manoeuvring Area.

148. A small portion of the ATZ overlaps with Brize Norton Class D Control Zone. The traffic patterns around Oxford Airport are designed to avoid the adjacent CTR, with the exception of the instrument approach for Runway 01, which penetrates the CTR. There is a well adhered to Letter of Agreement in place between London Oxford Airport and Brize and the two aerodromes are required to liaise and co-ordinate with each other frequently.

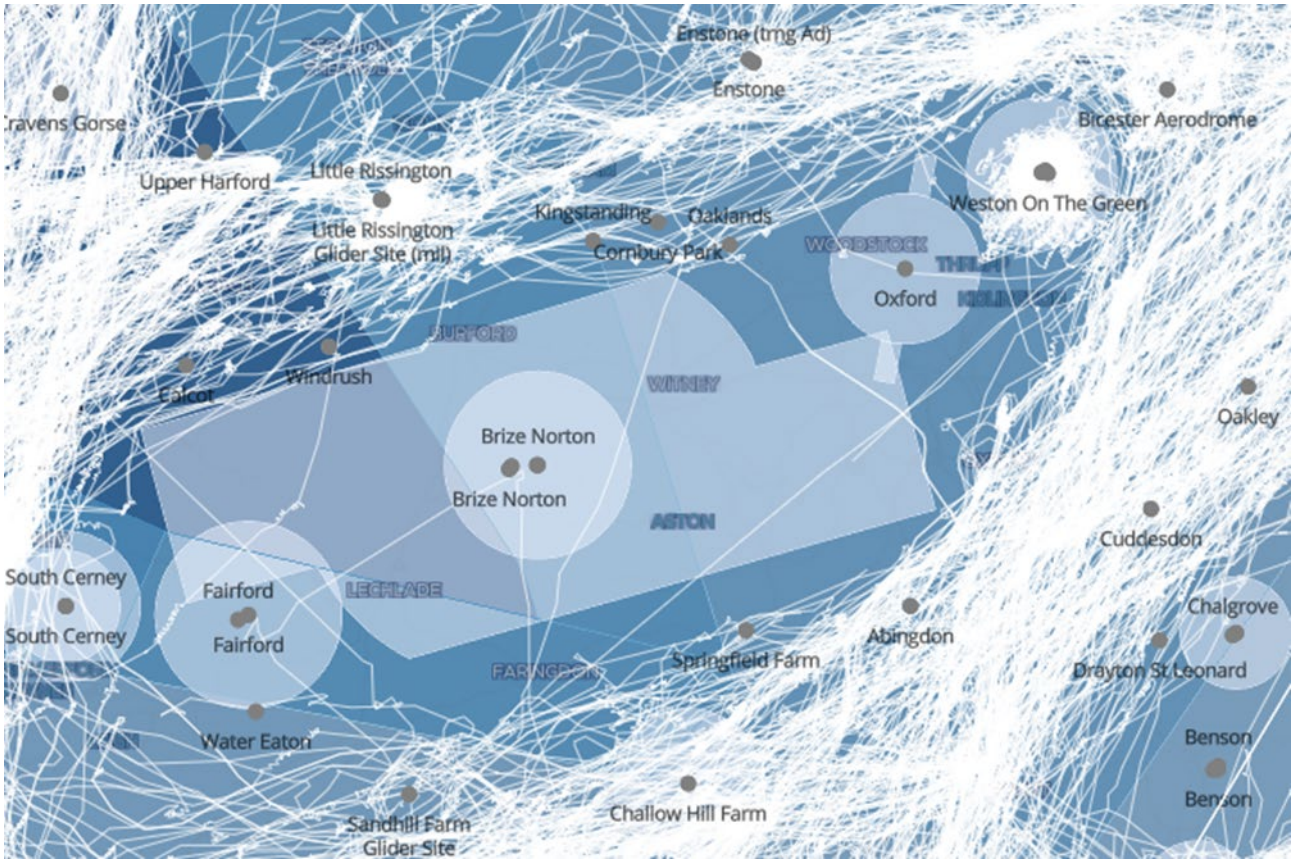
149. London Oxford Airport sits between Brize and Weston on the Green. Our analysis showed that significant numbers of transiting aircraft route to the north and south of London Oxford Airport often in very close proximity to their climb out and departure lanes. Many of these transits cross London Oxford Airport's lateral and vertical Instrument Flight Procedure profiles, although there are occasions when they route overhead. It was noted in our investigation of this airspace that, on occasion, Brize Norton traffic extends beyond the Eastern boundary of the CTR which could impact London Oxford Airport operations (The missed approach procedure for Runway 19 utilises this airspace).

150. Looking at the altitudes used by traffic transiting in the vicinity of Oxford Airport, it was observed that the majority operate between FL10 and FL30, with levels reducing steadily above that to FL50.

151. We visited London Oxford Airport and spent time with the controllers, in a bid to understand how airspace usage might be improved, or safety enhanced from their perspective. They expressed concerns about the proximity of Danger Area D129 and the regular instances of transiting aircraft 'shooting the gap' without contacting Oxford. This causes them issues for fast moving business jet aircraft departures and arrivals, with the Oxford controllers having to vector them away from the unknown aircraft. This in turn creates increased safety and environmental issues.

152. The benefits of transiting aircraft wearing a listening squawk or establishing radio contact with the unit were highlighted in terms of good airmanship and improved situational awareness. The difficulty in operating during occasions when major gliding competitions take place within the vicinity of the airport was also discussed. The figure below is taken from our Analyser Tool, within the date range 21– 29 August 2021, during a busy gliding competition, with gliders operating below 5000ft selected. It shows the density of glider traffic operating around London Oxford Airport, adding a significant level of complexity to their routine operations. Whilst the controllers acknowledged that other airspace users are clearly entitled to operate within and enjoy the surrounding airspace, it was suggested that better communication about the intent and the plan would help them greatly. This was raised by the Airspace Classification team with the British Gliding Association (BGA), who stressed the difficulty in knowing the exact competition plan and routing in advance, due to the reliance upon the prevailing meteorological conditions on the day.

Figure 10: Oxford ATZ and surrounding area with glider tracks selected under 5000ft (21st - 29th August 2021) from the CAA's Airspace Analyser Tool.



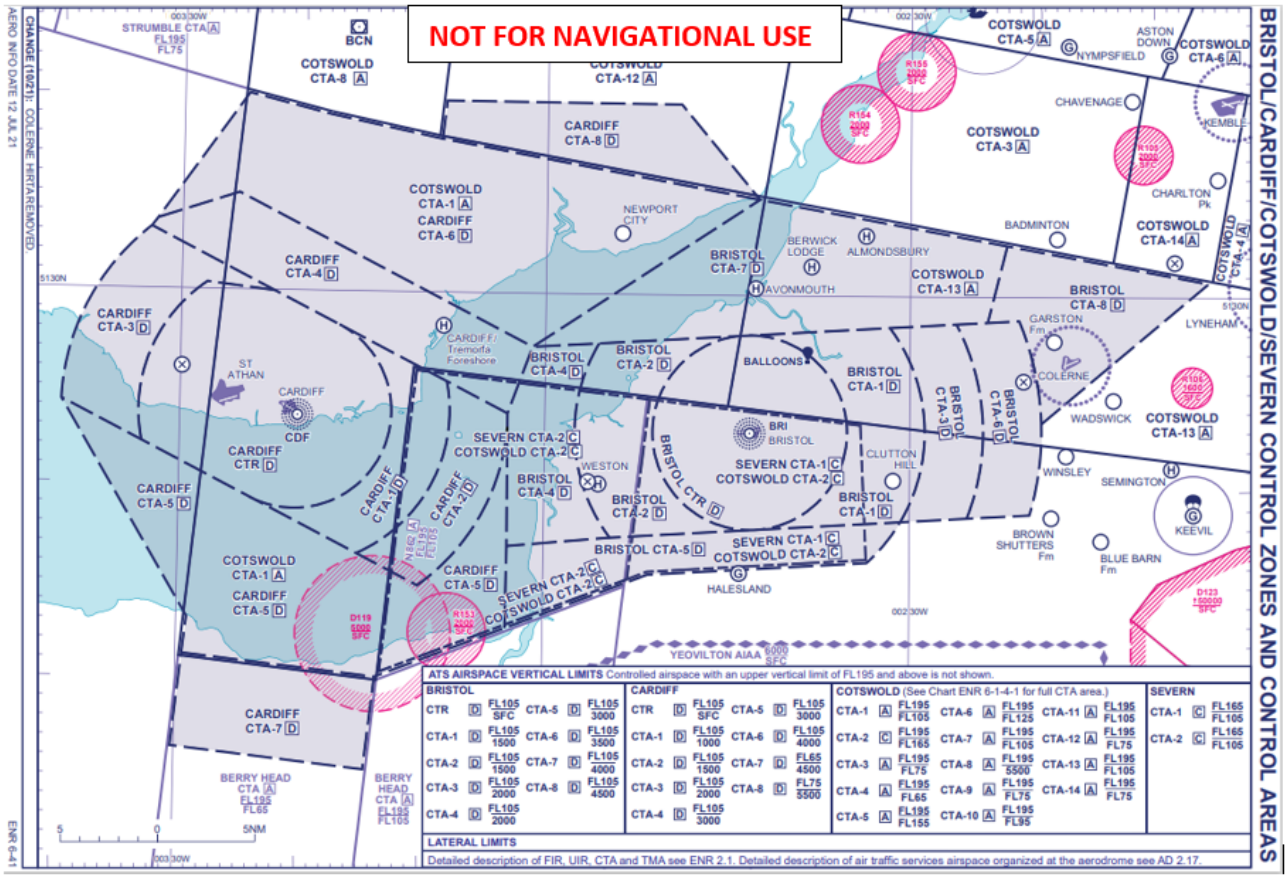
153. Ultimately, and particularly when operating in such congested airspace as is the case here, good airmanship is critical in helping all airspace users to fulfil their respective wants and needs and to foster safe and expeditious operations.

154. No further analysis has been undertaken in this area since the publication of our Draft Findings Report.

Findings related to Bristol and Cardiff

155. Survey and legacy consultation responses referenced many airspace volumes within Bristol and Cardiff CTZ and CTAs, as being inadequately utilised and, as such, being potential volumes for classification review. Since Bristol and Cardiff traffic is very much interlinked, we have analysed the whole area as pictured below.

Figure 11: Bristol / Cardiff Control Zone Chart (UK AIP ENR 6-41) Reproduced with permission from the CAA and NATS.



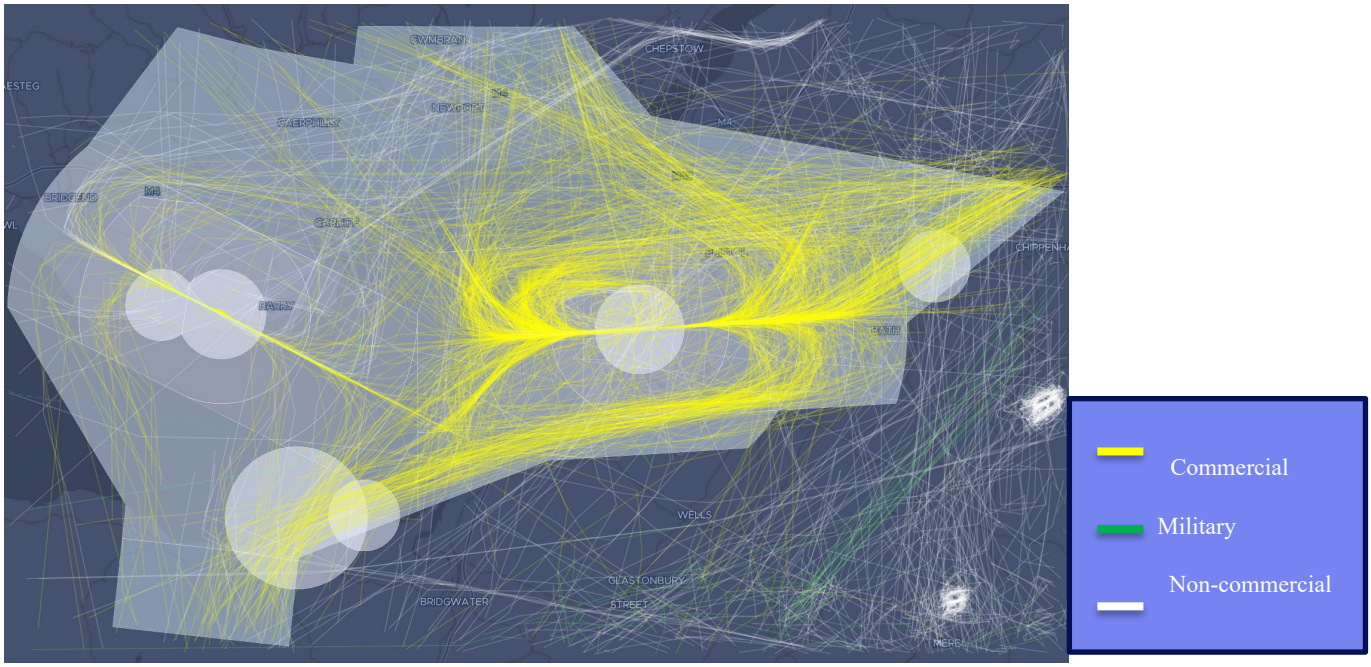
Traffic

156. Bristol airport is the ninth busiest UK airport (2019 data). Its passenger numbers had been growing steadily over the years despite aircraft movements reducing in 2018 and 2019, partially due to Thomas Cook and BMI Regional going into administration. 13 airlines are currently operating from Bristol. Bristol had almost nine million passengers before the pandemic and has submitted a planning application to North Somerset Council to expand its capacity from the current limit of 10 million, to 12 million passengers per annum. The application was rejected, however in February 2022, the Planning Inspectorate announced its decision to allow Bristol Airport's appeal to extend its capacity.

157. Cardiff had just over 1.6 million passengers in 2019. Its traffic had been increasing slowly over the years. Currently eight airlines operate from Cardiff.

158. Figure 12 below shows traffic operating surface to FL105, between 1 January – 31 December 2019. 116,629 tracks from surface up to FL105. 70% of which were commercial traffic, 28% non-commercial and 2% military.

Figure 12: Bristol / Cardiff Control Zones with Commercial, Non-Commercial & Military Traffic from the CAA's Airspace Analyser Tool.



159. The largest share of commercial traffic was Bristol arrivals (42%) and Bristol departures (34%).

Concerns Raised

160. Almost all of the Bristol CTAs received comments in our engagement with stakeholders questioning the utilisation of airspace and whether the volume of controlled airspace could be reduced. Bristol CTA 8, due to its proximity to several gliding clubs and popular gliding routes was the most frequently cited volume. Cardiff had far fewer responses. A higher base level was suggested for Cardiff CTA 7 and a flexible use of airspace for Cardiff CTA 8 when the westerly runway is in use.

161. Legacy consultation responses expressed similar concerns that current base levels for Bristol airspace volumes are restricting routing options, especially for gliders and that airspace at lower levels is not well utilised. Bristol CTA 8, CTA 7 and CTA 6 were mentioned most often as well as Cardiff CTA 6 which respondents claimed was underutilised.

ACP activity in the region

162. Bristol FASI South (ACP-2018-55) and Cardiff FASI South (ACP-2019-41) as well as LAMP Deployment 1.1 (ACP-2017-70) are part of the Future Airspace Strategy Implementation South programme (FASI-S) and accord with the UK's Airspace Modernisation Strategy (AMS). These ACPs are in the earlier stages of the CAP 1616 process and so the scope of change is yet to be confirmed. We encourage any

comments or feedback about these volumes and the proposed changes to be submitted via the CAP 1616 consultation procedures. During our discussions with these airports regarding their airspace, they stressed that any feedback or comments on the ACPs would be welcomed. We would strongly recommend stakeholders who have comments to make about access to or use of this airspace to participate in the CAP 1616 consultation on each of these ACPs.

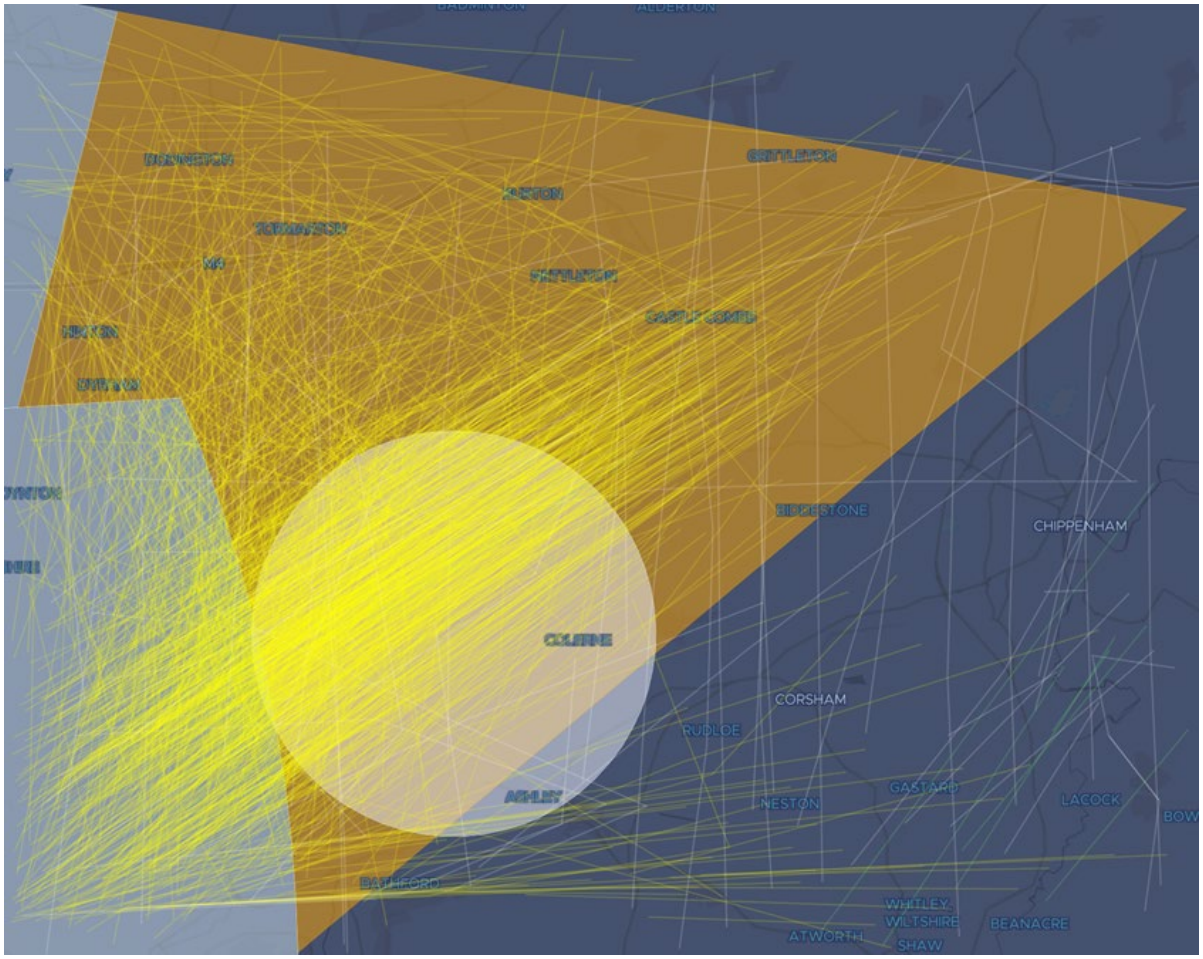
163. Notwithstanding the fact that the ongoing ACPs in these CTZs and CTAs cause the airspace to be out of scope for our process, we conducted significant investigation of the airspace utilisation.

Our Analysis

164. Our analysis showed that the majority of the Bristol CTAs were generally well utilised at all levels. However, two CTAs with a lower number of tracks operating at the lower levels (of the particular volume) were Bristol CTA 8 (see Figure 13 below) and Bristol CTA 5.

165. Figure 13 below shows commercial traffic within Bristol CTA 8, operating between 4500-6500ft (7797 tracks), 1 January 2019 to 31 December 2019.

Figure 13: Commercial Traffic Movements - Bristol CTA 8 from the CAA's Airspace Analyser Tool.



166. The figure above shows that most part of Bristol CTA 8 is utilised at the lowest 2000ft however, its most eastern part, (the tip of the triangle) is utilised lightly at those altitudes. We discussed this with Bristol who confirmed that Bristol CTA 8 is currently under review as part of their ongoing ACP. Bristol explained that raising the base level of CTA 8 has the potential to disrupt continuous descent approaches and may adversely affect their attempts to reduce their environmental impact and optimise the use of airspace.

167. Similar analysis of Bristol CTA 5 found that no changes could be suggested to that volume either, due to the impact upon Bristol SID EXMOR 1X 1Z and the associated Containment Policy.

Cardiff airspace volumes

168. Any of the Cardiff CTAs that we found to be less utilised at lower levels, were either crossed by standard instrument departure (SIDs) and standard terminal arrival routes (STARs) or were essential in ensuring that commercial air transport transiting from Bristol or Cardiff airspace to join ATS Routes, would remain inside controlled airspace.

Letters of Agreement (LoAs) and Stakeholder Engagement

169. We looked into both Bristol and Cardiff's LoAs and the manner in which the airports engage with local airfields and sporting and recreational general aviation. Both airports stressed their willingness to maintain good productive engagement with local stakeholders. Bristol has an External Liaison Manager and Cardiff has a General Aviation Liaison role; both are aimed at engaging with GA stakeholders as well as informing them about any changes in the area.

Summary

170. Airspace volumes in Bristol and Cardiff area are well utilised by commercial air transport as well as by general aviation, with numerous gliding clubs based in the area; the airspace is congested and contested.

171. Most of the airspace volumes around Bristol and Cardiff Airports are currently under review through the FASI South and LAMP ACPs, with major airspace design overhaul planned, starting with changes to NavAids and STARs.

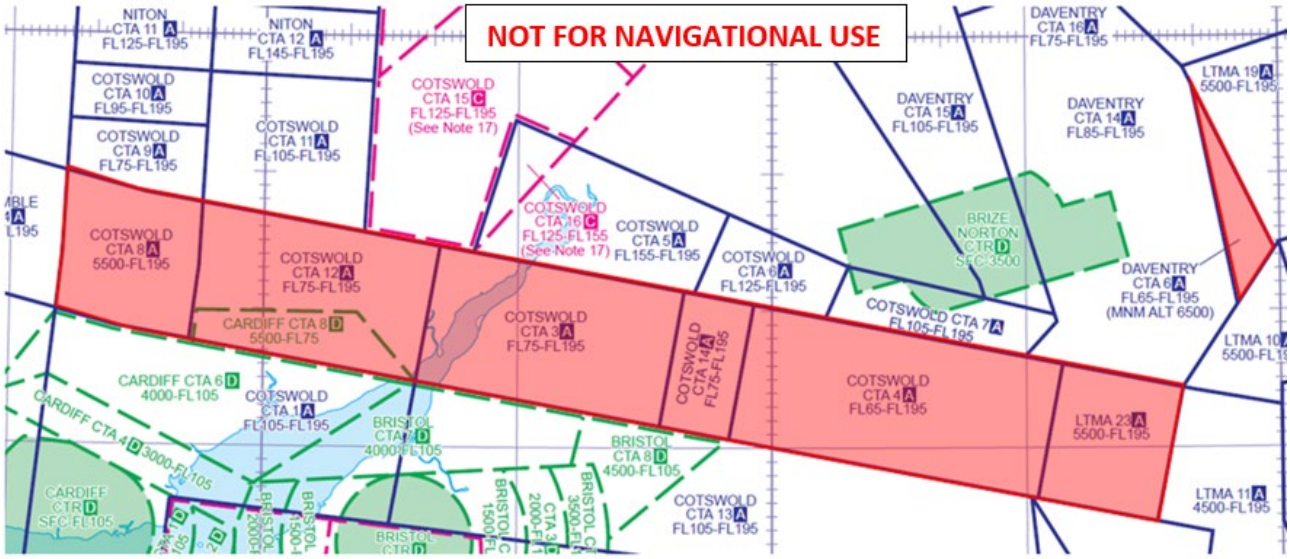
172. Due to these the application of our CAP 1991 ACP filter, as well as the high level of existing utilisation of the airspace and hence a potential adverse effect on arrival and departure operating procedures, it is not currently possible to amend existing volumes of airspace in this area before implementation of FASI South and LAMP ACPs. Nonetheless, we will formally pass on our findings and our analysis to the airports for consideration as they proceed with their ACPs. We strongly recommend interested stakeholders to engage constructively in the ACP process to ensure your views are considered in the development of the final airspace designs.

Findings related to NERL Controlled Airspace

173. Our engagement survey generated responses referencing some of the Cotswold CTAs and LTMA 23. The location of these airspace volumes in our region led us to undertake a more detailed analysis of the corridor of airspace shown in Figure 14 below, from Cotswold CTA 8 in the west of our region, to LTMA 23 in the east. We also highlighted Daventry CTA 6 as a volume for further analysis because of its similar low base level and proximity to congested and contested airspace.

174. While these have been examined under the heading of “Findings relating to NERL Controlled Airspace”, we understand that the control for these volumes of airspace is currently shared between London Area Control Centre (NERL) and Bristol and Cardiff Radar as per AIP ENR 2.1 and so any recommendations taken forward relating to these volumes would need to be coordinated with each of the relevant control authorities.

Figure 14: Corridor of NERL airspace investigated by the Team. Chart reproduced with permission from the CAA and NATS



Airspace Infrastructure

175. The Brecon VOR/DME occupies a central location in Cotswold CTA 8 and is where the Brecon Standard Instrument Departures (BCN SIDs) for Bristol and Cardiff currently terminate. The Bristol & Cardiff UMOLO/FIFAH Standard Terminal Arrivals ‘STARS’ transit through the Brecon VOR/DME down towards Bristol and Cardiff airspace. The other navigational aid along this corridor of airspace is the Compton VOR/DME which sits on the border of LTMA 23 and LTMA 11. The Compton VOR/DME is a gateway for multiple flight procedures to/from various airports including Birmingham, Bournemouth, Bristol, Cardiff, Farnborough, London City, London Heathrow, Luton, Northolt, and Southampton.

176. There are various ATS routes which transit through this region of airspace, the main ones being Q63 which runs through the middle of the highlighted area above from east-west, and N864 which runs north-south through Cotswold CTA 8.

Class G Airspace (Below the controlled airspace corridor in Figure 14 above)

177. Beneath the controlled airspace volumes there are several glider sites and small airfields including the ATZ for Kemble. There are also several restricted areas, a temporary ATZ at Lyneham, part of the Fairford MATZ and a stub of the Benson MATZ.

178. Our analysis showed that Class G airspace in the vicinity of the CTAs we are examining is extremely busy. Significant numbers of military tracks were observed, particularly concentrated around the Brize Norton / Fairford and Compton VOR/DME areas, and considerable non-commercial activity, with gliding particularly prevalent. There was also the occasional commercial flight transiting through Class G airspace.

Initial survey responses

179. Our survey following the publication of our initial factual report generated responses on some areas of NERL controlled airspace, with particular attention on Cotswold CTAs 3, 4, 8 & 14, and a couple of responses on LTMA 23.

180. The responses in the survey all observe that the lower levels of the airspace volumes are not used by commercial traffic, with one response questioning whether controlled airspace is being used below FL100 across Cotswold CTAs 3, 4 and 14. The survey response for Cotswold CTA 8 stated that the base level either forces gliders to descend lower, or to divert from their route. A couple of the responses on the Cotswold CTAs and LTMA 23 also noted that modern aircraft have improved climb rates over older aircraft and negate the need for the lower levels of controlled airspace.

181. All responses were aligned in their suggestion for raising base levels of controlled airspace in this corridor, with either routing issues or under-utilisation as the core reasons. One response for LTMA 23 mentioned re-classifying the bottom 2000ft to a classification which would enable a VFR crossing.

Our analysis

182. Following this initial feedback, we analysed the use of these CTAs at various levels. Our results showed Cotswold CTA 8 contained fewer tracks between its base level and FL120 when compared with the other airspace volumes along this corridor of airspace. We paid particular attention to the bottom 2000ft of Cotswold CTA 8 as this contained the fewest tracks compared to the other airspace volumes at this level. We also found that the first 1000ft of Cotswold CTA 4 and the first 500ft of LTMA 23 displayed lower track counts.

Figure 15: Cotswold CTA 8 - Commercial Aircraft Tracks between 5500ft-FL65 (clipped to altitude) (1st January – 31st December 2019), from the CAA's Airspace Analyser Tool.

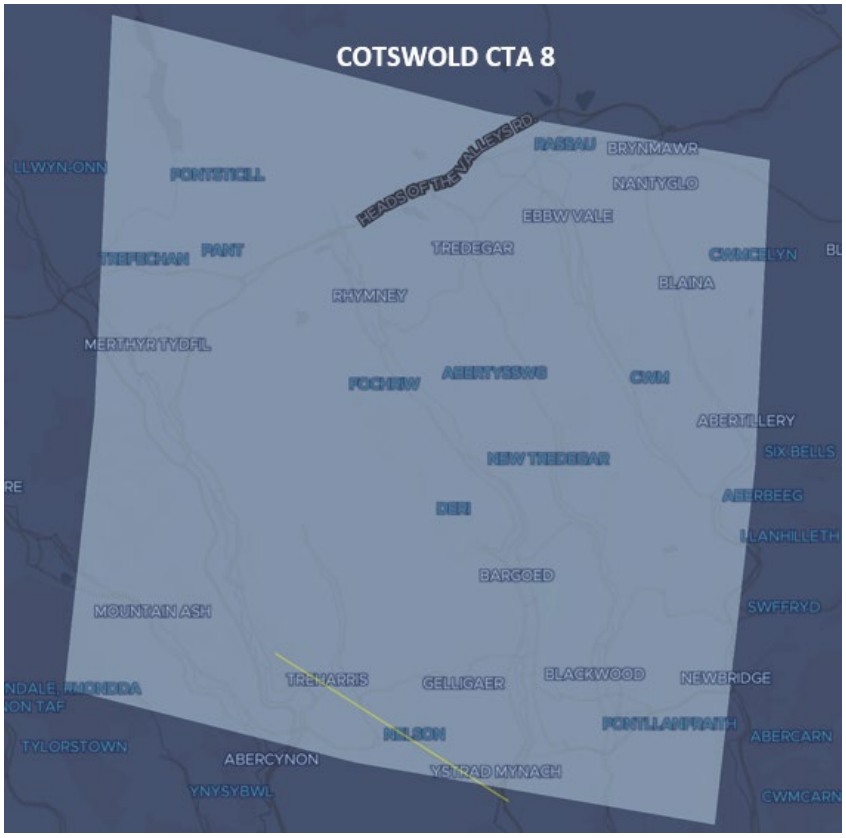
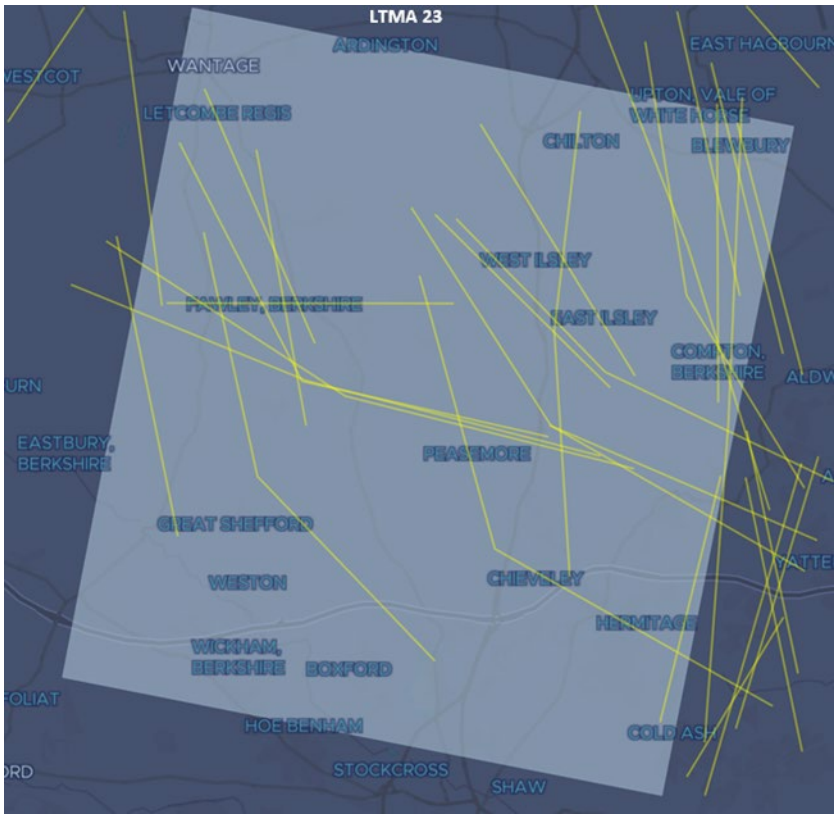


Figure 16: LTMA 23 – Commercial Aircraft Tracks between 5500ft – FL65 (clipped to altitude) (1st January – 31st December 2019), from the CAA's Airspace Analyser Tool.



183. Figure 15 above suggests that Cotswold CTA 8 contains very few tracks at the bottom 1000ft. Figure 16 for LTMA 23 shows more tracks within the bottom 1000ft, and a lot of the tracks are oriented to/from the Compton VOR/DME area, but we can see the southern portion of this airspace is underutilised. Our findings also showed that the bottom 1000ft of Cotswold CTAs 3 and 12 were fairly busy with a complex web of tracks across most of the airspace, with only the very northern areas of these volumes not as well utilised.

184. In response to one of the survey comments regarding the limited utilisation of certain volumes below FL100, we observed that the controlled airspace volumes are being utilised by commercial traffic below FL100. The airspace volumes are not only there to protect commercial traffic on the ATS routes which transit through them, but also at the lower levels to help protect instrument flight procedures into/out of nearby airports such as Bristol and Cardiff. However, the results do indicate some of these volumes, or portions of those volumes, have a disproportionate concentration of traffic across a certain altitude band.

185. Our analysis showed that the bottom 2000ft of Cotswold CTA 8, and the bottom 1000ft of Cotswold CTA 4 are the least used areas along this corridor of airspace. The smaller Cotswold CTA 14 volume displayed a high number of tracks; however, these were heavily concentrated in the south bordering Bristol CTA 8. This ties up with our findings that Cotswold CTA 14 was the busiest volume of airspace for arrivals into Bristol Airport along the corridor of airspace investigated. The northern area of Cotswold CTA 14 is little used at the bottom 1000ft.

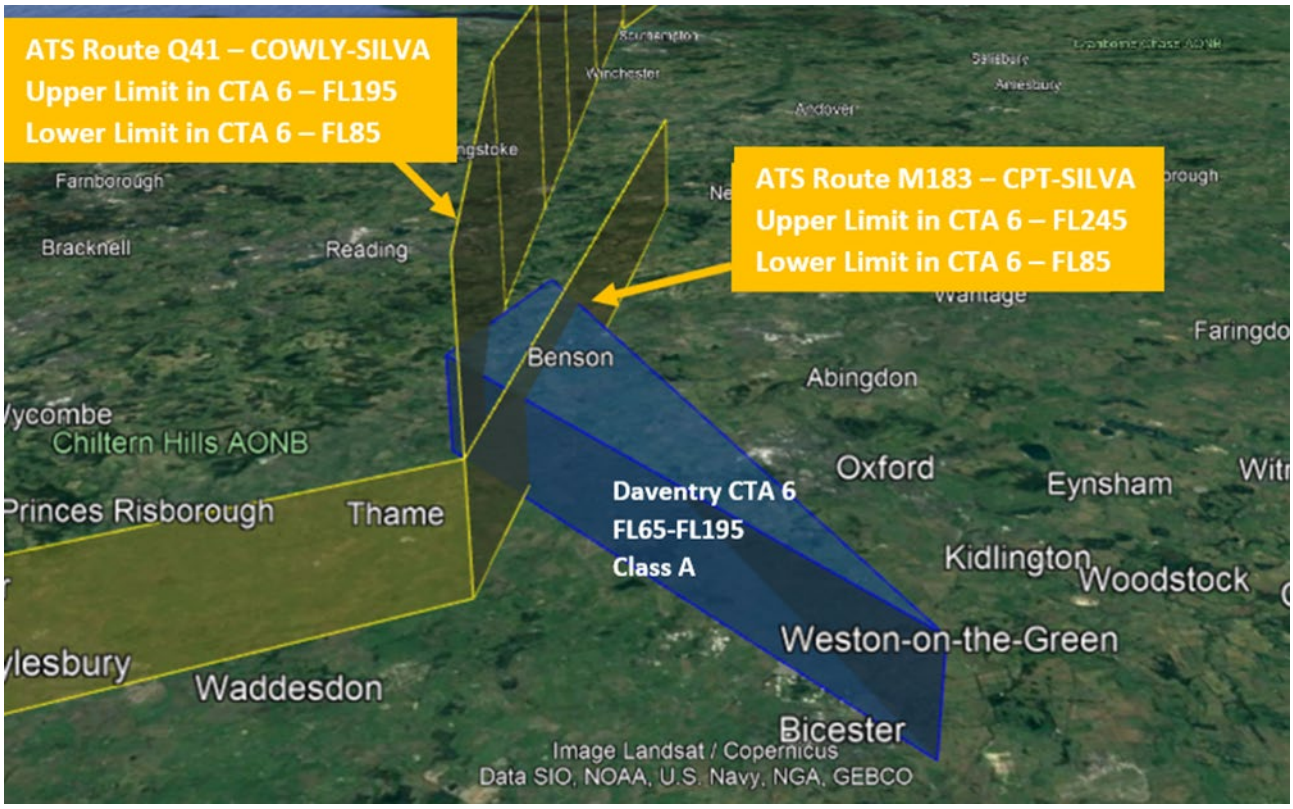
186. To respond to the recent survey comments on LTMA 23. The results do show a low number of tracks in the first 500ft of the airspace volume. However, we know that this volume of airspace is situated at a critical junction point, with its proximity to the Compton VOR/DME, the wider London TMA. Several ATS routes and a high concentration of instrument flight procedures pass through this area, and this requires sufficient containment.

187. Because of this, it is possible that any base level increase or change to controlled airspace boundaries within LTMA 23 could have a significant operational impact, one of the filters in CAP 1991 which places it out of scope for amendment.

Daventry CTA 6 Analysis

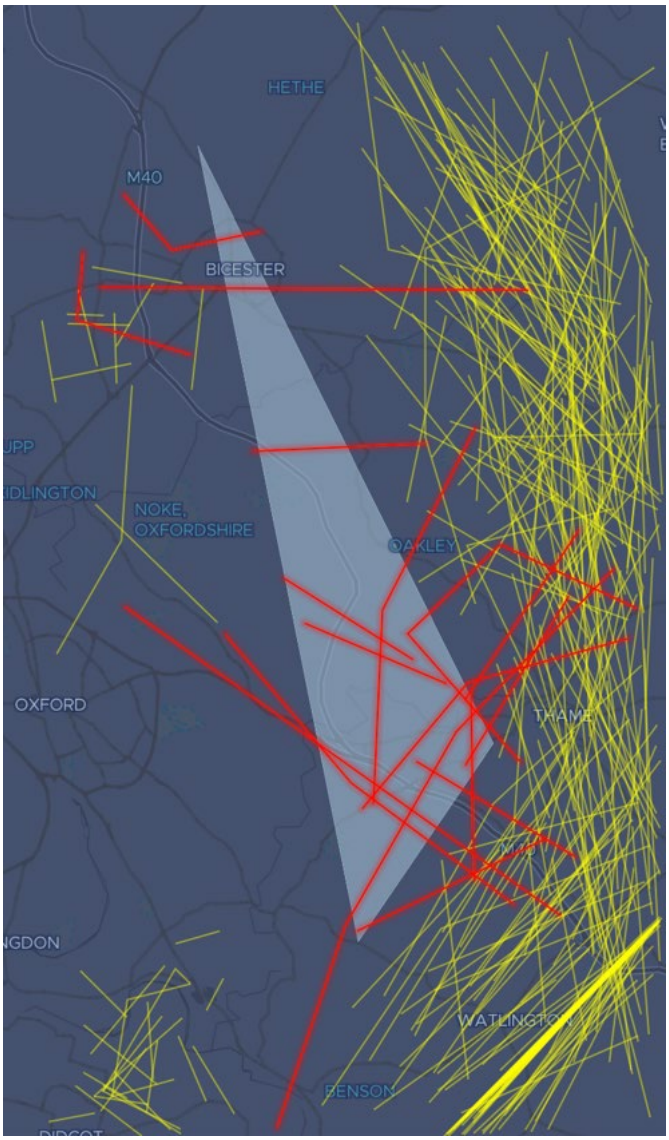
188. We separately identified Daventry CTA 6 as an airspace volume for further analysis under our procedure, for several reasons: the proximity to a lot of contested and congested airspace (Brize Norton CTR, D129 Weston-on-the-Green Danger Area etc); its relatively low base level; and the absence of flight plannable instrument flight procedures that transit through the lower levels of this volume. Figure 17 below shows Daventry CTA 6 and the two ATS routes which transit through.

Figure 17: Daventry CTA 6 with Two Intersecting ATS Routes



189. Using our analyser tool, we investigated use of this volume of airspace at the lower levels. We found that from 1st January 2019 to 31st December 2019, between FL65 and FL80, 30-40 commercial tracks were identified. When we broke this down, 15 of those tracks were identified as operating between FL65-FL75, as shown highlighted in red in Figure 18 below. The remainder of the aforementioned 30 - 40 tracks were identified as operating between FL75-FL80.

Figure 18: Daventry CTA 6 - Commercial Aircraft Tracks between FL65-FL75 (clipped to altitude) (1st January – 31st December 2019), from the CAA's Airspace Analyser Tool.



Our final view on NERL Airspace

190. From our initial analysis we found that Cotswold CTA 8, Cotswold CTA 4, LTMA 23 & Daventry CTA 6, were not particularly well utilised - especially at the lower levels. Aside from the ACPs in the region which filter out a lot of airspace for our CAP 1991 process, the existing instrument flight procedures within this region make it difficult for us to make base level changes to some of the remaining airspace volumes due to the "significant operation impact" filter. This is because many existing instrument flight procedures need to be contained within controlled airspace.

191. Nonetheless, we explored these particular volumes further, discussing the current and planned usage with NERL and, for Cotswold CTA 8, Cardiff Airport.

Cotswold CTA 8

192. A major ACP in this region which prevents us from taking proposed changes through the CAP 1991 process is the London Airspace Management Plan Deployment 1.1 (LD1.1) ACP-2017-70. This ACP focusses on modernising the air traffic service (ATS) route network across Wales and South-West England above 7000ft. NERL's stated intent for the ACP, is to recognise that the use of performance-based navigation (PBN) technology will enable a new network of ATS routes to be established. The proposed route structure aims to provide improved environmental performance and optimised capacity for flights transiting the airspace. Connectivity is provided between the proposed ATS route network and all the region's airports. It is also intended to provide an efficient en-route network that can be utilised to interface with future designs.

193. As part of the ACP, a comprehensive redesign of the ATS route structure and review of existing controlled airspace is taking place. This includes minor amendments to the Standard Terminal Arrivals (STARS) and Standard Instrument Departures (SIDs) for some airports[10] above 7000ft.

194. In our initial discussions with NERL on LD1.1, they recognised that Cotswold CTA 8 had the potential to be reviewed under this process given its limited use at the lower levels. They have not taken this forward in their ACP as this would have the potential to impact flights below 7,000ft and is therefore outside its intended scope. They suggested to us that it may potentially be a volume we could progress under our CAP 1991 process.

195. We analysed Cotswold CTA 8 in great depth. We have asked ourselves the question, if the lower levels of the airspace are required for procedure containment, why are we not picking up much in the way of commercial traffic movements at the lower levels? It is logical to conclude that with improved aircraft performance, the majority of commercial traffic movements often fly well above the altitude minimums depicted on the navigational charts. This is potentially why there are pockets of airspace that are not fully utilised, as gaps form in the airspace between minimum altitude restrictions, and actual aircraft behaviour.

196. Cotswold CTA 8 ATS is delegated to Cardiff Radar at or below FL165 between 0600-2300, with the remainder delegated to London Control. Knowing that any proposed change to this airspace would be better suited to daytime hours, we shared our findings with Cardiff Airport on our analysis of aircraft tracks on the Brecon SIDs. Cardiff confirmed that they intend to review Cotswold CTA 8 as part of their FASI-S ACP.

[10] Airports with minor changes to SIDs or STARs are: Bristol, Cardiff, Heathrow, Gatwick, Luton, London City, Biggin Hill, Stansted, Farnborough, These are mainly changing the point where the SID/STAR connects to the proposed ATC routes.

197. While the FASI-S ACP activity has recently restarted following funding from the government, the implementation date for this ACP is a few years down the line and is partially reliant on the Bristol and Exeter FASI-S ACPs progressing through at a similar pace. As such we were keen to understand further whether progress could be made in reviewing Cotswold CTA 8 ahead of the completion of their ACP.
198. When we published our Draft Findings Report we were still in the process of investigating this piece of airspace to understand whether a change could be made to Cotswold CTA 8. As such we identified it in our Initial Plan as a volume which had the potential to be review under the amend phase of our CAP 1991 process. Notwithstanding the fact that our CAP 1991 filters effectively put this airspace out of scope, given our initial findings above, we continued to look for a way to make the classification of the lower portions of Cotswold CTA 8 fit for purpose, having identified that the airspace is very rarely utilised by CAT.
199. NATS GM at Cardiff was extremely willing to work with us and try to identify a way ahead whilst remaining cognisant of the active ACP, however, with the airspace providing containment for several northbound SIDs out of Cardiff and Bristol, it was not possible to take this volume forward.
200. We discussed SID truncation and also whether there would be value in amending the classification of the lower portions to Class E or D, but with so much change underway it was deemed not to be appropriate.
201. Another significant factor to consider when looking at this airspace is the DVOR rationalisation programme, which will decommission the BCN DVOR in late 2022/early 2023 and will require both Bristol and Cardiff to implement Northbound PBN departure routes. These new routes will enable a review of the required controlled airspace containment, including base levels of Cotswold CTA 8.
202. Cardiff Airport encourages and welcomes any comments on their active proposed airspace change, via the consultation process as part of its CAP 1616 airspace change proposal. The Airspace Classification team's findings will be submitted to Cardiff and when their change proposals are being assessed, the CAA, via Airspace Regulation, will seek confirmation that our findings have been factored into their plan and decision making
203. Despite significant work analysing this airspace and understanding the planned changes we won't be progressing Cotswold CTA 8 though the amend phase of the CAP 1991 process, due to both the ongoing ACP activity in this airspace (and due to the operational impact CAP 1991 filter). However, we will feed our findings to the ongoing ACPs direct to the sponsor at the appropriate point in the process and in a transparent manner. Our colleagues in Airspace Regulation will then require evidence that these points have been factored in to future ACPs.

Daventry CTA 6

204. We have continued to explore the use of Daventry CTA 6 following the publication of our Draft Findings Report. We have shared our findings with NERL who have

confirmed to us that their initial internal discussions have not highlighted any information to suggest that a change to Daventry CTA6 would have a significant operational impact according to the criteria set out in Table 1 of CAP 1991. However, they have noted that the tactical handling of London Luton arrivals might be impacted if any extra height loss is required but that this would be a very unusual event and as such is not expected to be an issue.

205. NERL also believe that further investigation is required to confirm the impact on the Hold Protected Area for BNN at 8000' as there may be some interface with the Daventry CTA 6 area.

206. As such this volume will be taken through to the amend phase of the CAP1991 process, where a more detailed analysis of the airspace and the issues identified by NERL above will be conducted to determine what amendments might be made to this airspace.

Findings related to Restricted Areas

207. **Restricted Areas: R154 / R155 / R322.** These three decommissioned nuclear power plants, operated by Magnox, have associated restricted airspace which is no longer required. R154 and R155 are both located within the vicinity of the Severn Estuary and within the Cotswold Region. R322 is in Anglesey and outside the Cotswold Region.

208. Through our liaison with Magnox regarding sign off on the safety data, it makes sense for us to take forward all three restricted areas at once under the appropriate CAA airspace process (CAP 1616 Level 0).

209. We are currently awaiting receipt of the final safety cases from Magnox. On receipt of this information, we will progress the change through the CAP 1616 Level 0 ACP process.

Findings related to Aerodrome Traffic Zones (ATZs)

210. It was apparent from our engagement that the Rules of the Air Rule 11[11] causes confusion, as does the ambiguity and lack of clarity around some AIP ATZ entries e.g., Kemble has a H24 ATZ despite not providing an H24 Aerodrome Flight Information Service.

211. Anomalies in how ATZ areas are described in the AIP have been addressed by the CAA, through the ATZ AIP Review. This review looked at ATZ structures, classifications, justifications and how the information is recorded. The aim was to ensure consistency and clarity to enable airspace users to readily understand when an aerodrome is operating, and therefore clarify when Rule 11 is applicable. Disparity between data in the Military AIP and the Civil AIP was also addressed and since the

[11] The Rules of the Air Regulations 2015 (legislation.gov.uk)

publication of our draft Cotswold Findings report (CAP 2315), this disparity has been actioned and can be viewed on the ACP Portal: ACP 2021 – 086.

The Future of Aerodrome Traffic Zones (ATZs)

212. The above position highlights ambiguity in the use of ATZ at air traffic service units. The long-term aim, as described in the Airspace Modernisation Strategy refresh of 2022, is the provision of relevant controlled airspace structures where air traffic services provide instructions for the safe conduct of the flight. The growing number of new types of aviation platforms, such as beyond visual line of sight (BVLOS) drones, means that continued use of long-term static airspace based on segregation will no longer be tenable.

213. Wider and increased airspace integration of all airspace users in all airspace will be key. Efforts to enable this will include alignment with ICAO standards and regulated practices (SARPS) and procedures for air navigation services (PANS) and the necessary airspace changes needed to incorporate those changes. Dynamic airspace management will also be key, such as enabling flexible airspace where the classification/status will change, based on the actual activity occurring at the time, as opposed to what is forecast.

Recommendations including our Final Plan

Our final plan of volumes where a change could be made

Our Final Plan

Volumes to Amend under the CAP 1991 Process:

Daventry CTA 6. This volume will be taken forward to the amend phase of our process.

Volumes where positive changes can be made via another mechanism:

RAF Lyneham ATZ. This will be disestablished and removed from the AIP.

Restricted Areas: R154 / R155 / R322. These will all be taken forward together under a CAP 1616 Level 0 airspace change.

Areas of Intense Air Activity (AIAAs): We have passed our findings on to the Off Route Airspace Team within Airspace Regulation

Education

214. It is apparent from many of our legacy consultation and engagement feedback that there is a requirement to re-iterate a few key education points. This is also backed up through our engagement with various stakeholders and further supported by observations of the UKAB in their Summary Report[12], an independent body identifying some of the same concerns that we have uncovered throughout the review of the Cotswold Region.

215. The following points are not limited to the region of focus and will likely be applicable to all regions across the UK FIR.

Flight Planning

216. It transpired from many of the consultation and survey responses, that respondents were calling for changes that were already in place i.e., requesting that the H24 status of D129 Weston-On-The-Green be reviewed, South Cerney and Lyneham being activated by NOTAM, the relevance of MATZ to civilian pilots.

217. The safe and effective use of the airspace is reliant on pilots carrying out adequate and appropriate pre-flight planning and preparation. In relation to airspace design, it is essential that pilots have access to, and are provided with, clear and accurate aeronautical information that is easy to understand whether that be aeronautical

[12] UKAB AIPROX Summary 2021.docx

data, charting or NOTAM. Airspace may be complex by design with multiple CTA surrounding a CTR to balance the need for controlled airspace against retaining as much Class G airspace as possible.

218. Every route should be planned thoroughly to incorporate threats and possible errors using regulated aeronautical information and incorporate the lateral volumes of notified airspace, the identification of airspace controlling authorities and correct frequencies, the use of Frequency Monitoring Codes, altimeter settings and transition altitudes.

219. NATS Aeronautical Information Services (AIS) is the authorised source of UK aeronautical information provided on behalf of, and regulated by, the CAA. In addition to formulating a primary plan, pilots should incorporate a series of contingency plans (a Plan B) for each sector of their planned flight, based on identified threats to ensure that a timely response to any threat is available without causing distraction or mental overload, both of which can erode safety. Further guidance on good planning techniques can be found at https://airspacesafety.com/pre-flight-planning/

Visual Flight Rules (VFR) Moving Maps

220. In recent causal factor analysis of airspace infringements, the correct use of VFR moving map technology could have helped prevent 85% of analysed airspace infringements from occurring[13]. Based on these statistics the CAA actively encourages pilots to use VFR moving maps as part of their planning methodology, as well as when in flight. This is because they can enhance a pilot's positional situational awareness and can also offer timely alerts to airspace and aviation hazards. However, moving map technology should not be the sole means of planning or navigation as highlighted in the European General Aviation Safety Team, Safety Promotion Leaflet, Using Advanced Navigation Technology Safely[14].

221. It is also important for pilots to note that moving map Apps are not regulated by the CAA, and users should note that the depiction of aeronautical information on VFR moving maps may be different to the UK Aeronautical Information products accessed via the NATS AIS website, such as VFR charts, the UK AIP and NOTAM information.

222. Further information of the use of VFR moving maps can be found in CAA Safety Sense leaflet number 29 at https://publicapps.caa.co.uk/docs/33/SafetySense%20VFR-Moving-Map-Devices.pdf.

Form FCS 1522

223. To enable the CAA to ensure that access to airspace and the provision of air traffic services is maintained for all, the CAA has introduced a mechanism whereby pilots can report situations where they have been denied access to airspace or have been

[13] https://airspacesafety.com/wp-content/uploads/2019/01/CausalFactorAnalysisofAirspaceIInfringements.pdf

[14] EGAST Leaflet GA 7 Using Advanced Navigation Technology Safely | EASA (europa.eu)

refused the provision of an ATS. This is to be reported through the submission of a Refusal of Service Form FCS1522. The data captured from submissions will be examined and made available to several departments within the CAA, including:

- **ATM Inspectors**: who will liaise, when deemed appropriate, with individual ATSUs on the facts relating to any denied access or refusal of air traffic service.
- **Airspace Regulation**: who will ensure relevant FCS 1522 reports inform any relevant Post Implementation Review work.
- **UKAB**: who will correlate any relevant FCS 1522 submissions against airprox data and reports.

224. In addition, it will be used as part of our airspace classification review process and in reviewing airspace infringing trends. Correct use of the form will provide continuous data and feedback to enable the CAA to identify volumes of airspace that may require review under the classification review process.

225. In considering its use, pilots are asked to provide as detailed a submission as possible. Consideration should be given as to whether an instruction to remain outside controlled airspace was a denial of access or a temporary instruction/delay whilst air traffic controllers formulate a plan or coordinate a route due to the prevailing traffic situation.

Little Rissington.

226. Our investigations show that, since the implementation of the ATZ in August 2021, pilots have amended their routing, even when the ATZ has not been activated by NOTAM. This has resulted in pilots, on occasion, flying closer to the Brize CTR than is required. The CAA's Airspace Infringement Lead is aware and is taking appropriate action to highlight this issue and educate users accordingly

Ongoing Related Work

227. There is much related ongoing work, both internally and externally which will address some of the findings in this report and will also feed in to improving airspace use and equitable access. Of note:

- **AIP Review Working Group.** The aim of this working group is to analyse airspace information in the AIP to ascertain whether there are any publication issues e.g. compliance, harmonisation, status, function, clarity, dimensions, or service provision.
- **Defence Airspace Suitability Review.** Our work in the Cotswold region prompted MOD to instigate a UK wide Defence Airspace Suitability Review to consider extant defence airspace structures against current and future requirements. Through this review, the Defence Airspace and Air Traffic Management cell (DAATM) has identified a number of volumes that they have recommended for disestablishment and are working with the CAA's Airspace Classification and Airspace Regulation teams to determine the most efficient means of making this happen. DAATM has also committed to an annual review of their airspace requirements and believe that, once they have undertaken further analysis, there are likely to be multiple other airspace structures which are likely to be proposed for disestablishment. The Airspace Classification team will monitor this work closely and have offered their support where appropriate.
- **Danger Area Review.** This joint CAA / MOD project is reviewing whether existing Danger Areas, and associated airspace, are fit for purpose and appropriately utilised.

Collaboration

228. Airspace is a shared asset, and a willingness to talk and engage with other stakeholders, in a bid to understand each other's wants and needs, is essential. There are a number of established forums or mechanisms to bring stakeholders together; these include:

- Local Airspace Infringement Team meetings.
- Regional User Airspace Working Groups.
- Letters of Agreement.
- Locally established routine meetings.

229. Improved communication and good relations between neighbouring airspace users and ANSPs is conducive to optimised airspace use. Our investigation into this region highlights the necessity for all stakeholders to communicate effectively, regularly, openly and honestly to ensure safe operations and in such a way that wherever possible, equitable access is achieved.

Summary and Next Steps

230. Airspace is a State asset that must be shared and effectively managed. The Airspace Classification Team has undertaken a detailed and thorough review of airspace usage within the Cotswold Region, drawing on insight and data from internal and external sources. As a small team, we are highly reliant upon stakeholder engagement and input, to enable us to identify areas where we can make a positive change. We will continue to draw on many sources of intelligence, backed by our Airspace Analyser Tool, to continue to conduct thorough and detailed reviews of airspace usage, capturing our findings and encouraging equitable access.

231. Our Final Report has set out our findings in the Cotswold Region, along with a Final Plan of volumes where a change can be made. This includes the volume being taken forward to the amend phase of the process, as well as other non-classification changes required to address the challenges we have uncovered.

232. Whilst our filters resulted in a significant amount of airspace being out of scope, our collation and scrutiny of the issues in this region has provided us with a wealth of evidence and information on how the airspace is utilised, by whom and when. Most importantly, we've been able to highlight areas of concern and have identified ways to address them.

233. Encouraging stakeholders to consider other users' wants and needs through our attendance at meetings such as the Regional Airspace User Working Groups (and all of the meetings listed in para 73 above) has also helped to open up dialogue between different groups. With time we hope that this transparency and improved communication will build trust between all stakeholders and reduce much of the adversarial dialogue surrounding airspace utilisation, ultimately helping us to ensure that airspace is fit for purpose, that safety is paramount and equitable access prevails.

234. Where our analysis shows that a concern is best addressed through a different CAA policy team or implemented by an external stakeholder (such as an ACP Change Sponsor), we have passed our findings to them, along with any recommendations for change. We will continue to monitor progress in these areas and will revisit in one year to determine what progress has been made.

235. We will now work together with NERL to analyse Daventry CTA 6 in more detail and develop a proposed amendment to the classification through the amend phase of the CAP 1991 process whilst concurrently moving on to our next region of focus.