Edinburgh Airport
Airspace Modernisation Proposal and Consultation
Overview and guidance for members of the Scottish Aero Club.

Summary:
Members of the Scottish Aero Club, the LAA Strathtay Strut and the LAA East of Scotland strut have reviewed the proposals contained in the Airspace Change Proposal document.

This briefing paper gives an overview of the proposed changes and the rationale behind them. It also highlights the impact of the proposed changes on well established routes across the Forth that we collectively believe will have a significantly negative impact in the following areas.

This document can be found and downloaded here
https://corporate.edinburghairport.com/airspacechange

Areas of concern:

- Reduced glide safety margin for pilots choosing to cross without seeking a clearance under proposed new airspace with base of 3,500’
- Increased possibility of air-to-air collision as traffic traversing the Forth now has significantly reduced height of class G airspace available. Or if traversing around the new airspace, traffic will be concentrated into a much narrower two-way corridor, and also have to route much closer to both Kingsmuir and Leuchars airspace.
- Much higher likelihood of airspace infringements into the new restricted airspace in what was hitherto class G airspace as pilots seek to maximise height under or fly close to the edge around, the new airspace block.
- Increased workload for ATC operators from many pilots who will seek a clearance to cross the Forth at a “glide secure” safe altitude.

Actions to be taken:

- Alert all pilots who regularly cross the Forth using the Earlsferry / North Berwick route.
- Encourage pilots to register their concerns – preferably with accompanying heat maps.
- Provide a possible alternative solution, as requested of those with concerns in the consultation document. This is shown at the end of this paper.

Scottish Aero Club Members' briefing paper.

Contents

1. Why are the changes being proposed?
2. What is the impact on current airspace shape?
3. What concerns does the new airspace shape create?
4. What should I do next?

1. **<u>Why are the changes being proposed?</u>**

Figures 5 and 6 below from pages 24 and 25 of the consultation document show the traffic patterns for arrivals and departures when either runway 06 or runway 24 is in use.

- Note the broad "fanning" of the routes, this is called "dispersion" and is a result of the aircraft being vectored individually by Air Traffic Controllers

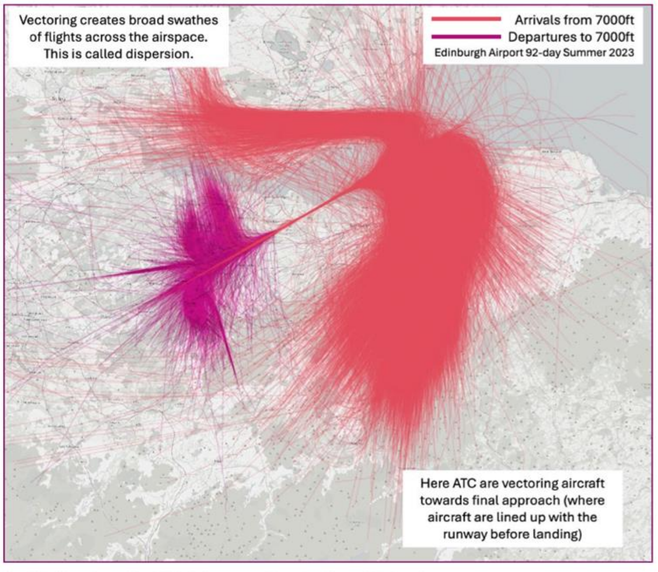


Figure 5: Typical swathes to and from Edinburgh Airport runway 24 operations. Basemap: ©OpenStreetMap

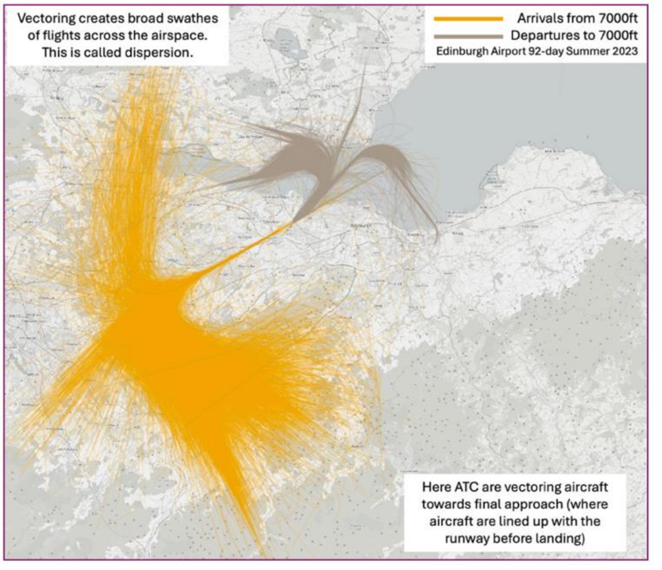


Figure 6: Typical swathes to and from Edinburgh Airport runway 06 operations. Basemap: ©OpenStreetMap

Edinburgh is going to adopt Performance Based Navigation (PBN*) This is basically a system that allows for more accurate and "automatic" (no vectoring and much less ATC interaction) approaches and departures.

*PBN

- A global standard for aircraft navigation.
- Uses satellite and other technologies to define flight paths based on accuracy, integrity, and performance requirements.
- Does not rely on ground-based navaids.
- Allows for more flexible, efficient, and accurate 2D and 3D flight paths.
- Benefits are reduced flight times, lower fuel consumption, emissions, less noise pollution, and increased airspace capacity.

Fig 7. Page 26 of document.

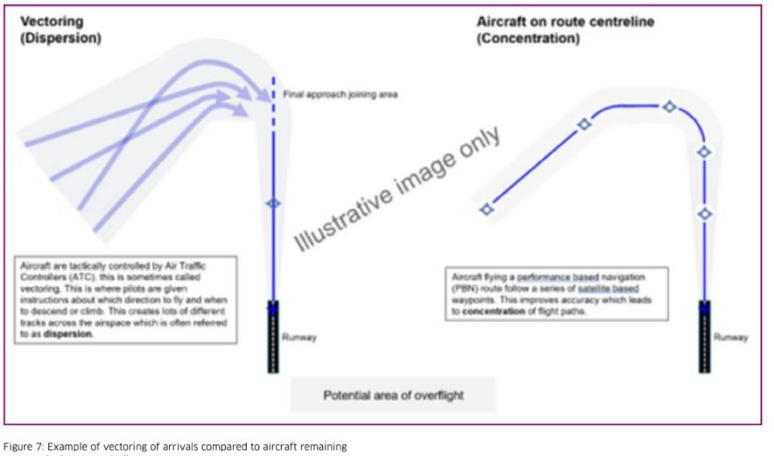


Figure 7: Example of vectoring of arrivals compared to aircraft remaining on an arrival route centreline

1. Why are the changes being proposed? (cont)

Focusing now on runway 24 where the proposed changes most impact GA. Figures 24 and 25 (pages 64 and 65 of the document) consider the situation in 2036 and show how the proposed simplification and PBN "pipelining" of traffic flows now move out to impact the well-established, well-used current River Forth GA crossing.

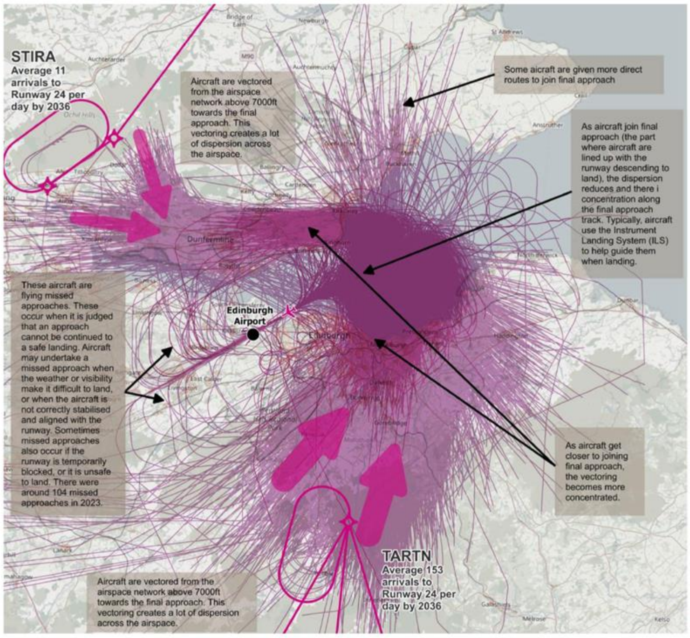


Figure 24: Runway 24 arrivals without airspace change

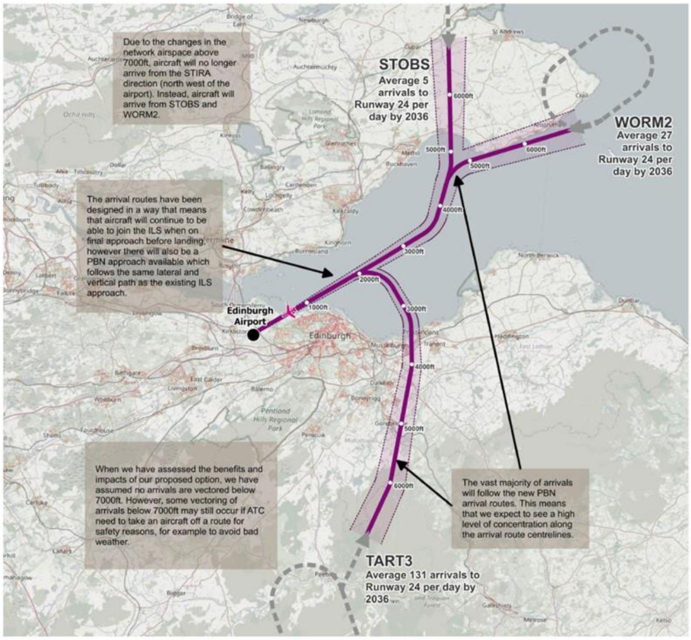
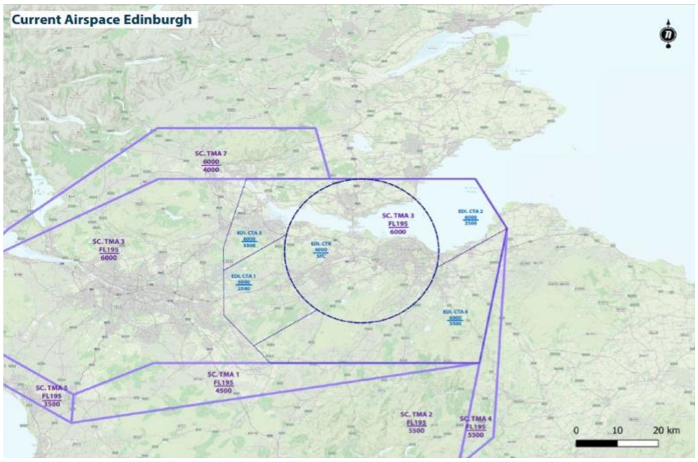
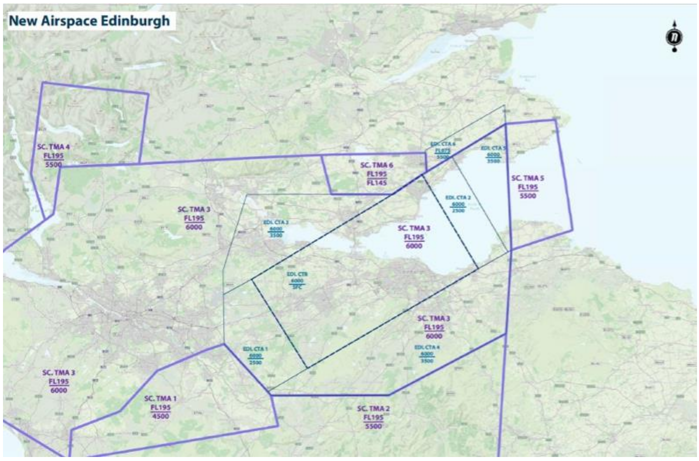


Figure 25: Runway 24 arrivals with airspace change

In Figure 24 above we can see Earlsferry to North Berwick essentially untroubled by very few approaching aircraft being vectored at 7000' plus at that point, however the proposed PBN Pipeline now directly overflies that area at 5000'

2. What is the impact on current airspace shape?





Figures 44 and 45 (pages 116 and 117 of the document) show the change from a circular CTR above Edinburgh Airport to a rectangular one aligned with the runway but now including an extended section of controlled airspace directly overhead the GA Earlsferry to North Berwick crossing route.

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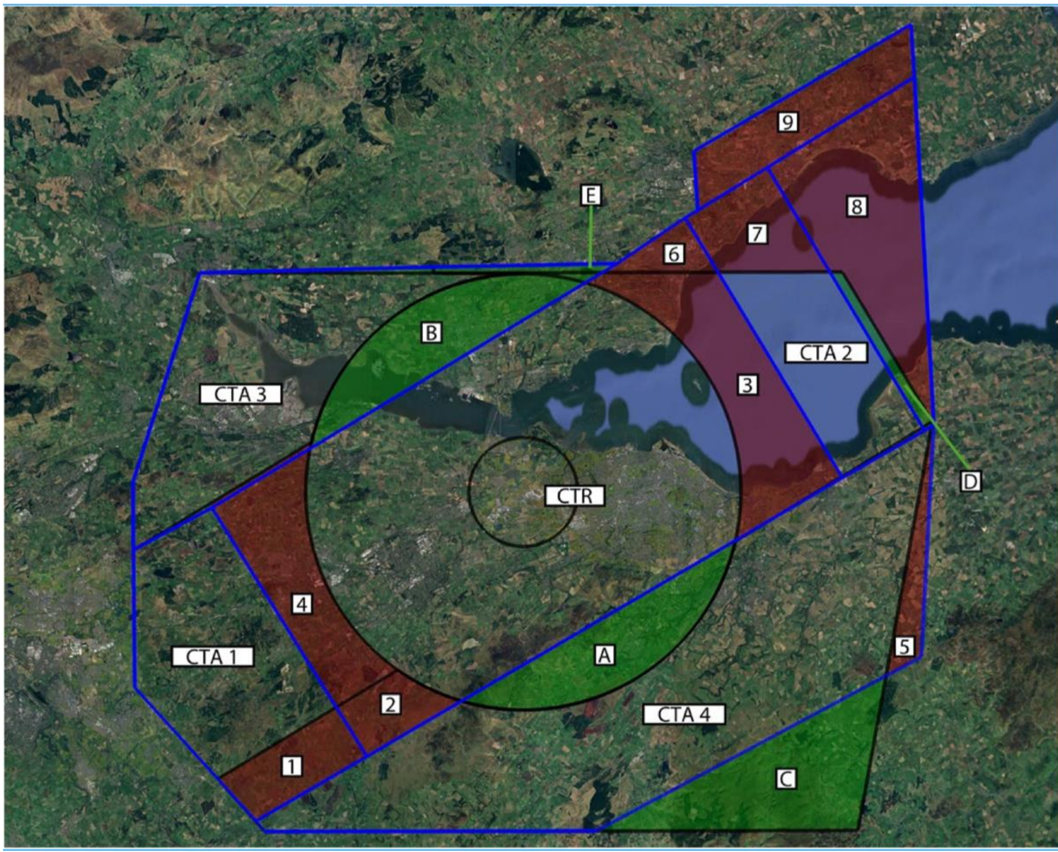
Below, Figure 46 page 118 of the document shows a summary of the airspace modified by the proposed changes. Green is where the controlled airspace has been reduced and red where it has been extended.



Label	New definitions	
Increased CAS (red polygons)		
	Lower limit	Upper limit
1	2,500ft	6,000ft
2	SFC	6,000ft
3	SFC	6,000ft
4	SFC	6,000ft
5	3,500ft	6,000ft
6	SFC	6,000ft
7	2,500ft	6,000ft
8	3,500ft	6,000ft
9	5,500ft	FL 75
Decreased CAS (greenpolygons)		
Label	New definitions	
	Lower limit	Upper limit
A	3,500ft	6,000ft
B	3,500ft	6,000ft
C	5,500ft	FL 195
D	3,500ft	6,000ft
E	3,500ft	6,000ft
No changes (no shading)		
Label	New definitions	
	Lower limit	Upper limit
CTR	SFC	6,000ft
CTA 1	2,500ft	6,000ft
CTA 2	2,500ft	6,000ft
CTA 3	3,500ft	6,000ft
CTA 4	3,500ft	6,000ft

Figure 46: Areas of difference between the current and proposed airspace for Edinburgh operations (comparing Figure 43 with Figure 44). (Base Map Source: Google Earth; UK AIP July 2024 and Nerl (kml file 15/07/2024).

This diagram shows only changes involving the Edinburgh CTR or CTA. Changes to TMA areas are covered in the NERL ACP. Positive changes are shown in green and denoted with a number. Negative changes are shown as red and denoted by a letter.

Proposed boundaries are shown in blue, and existing boundaries that differ are shown in black.

4. What concerns does the new airspace shape create?

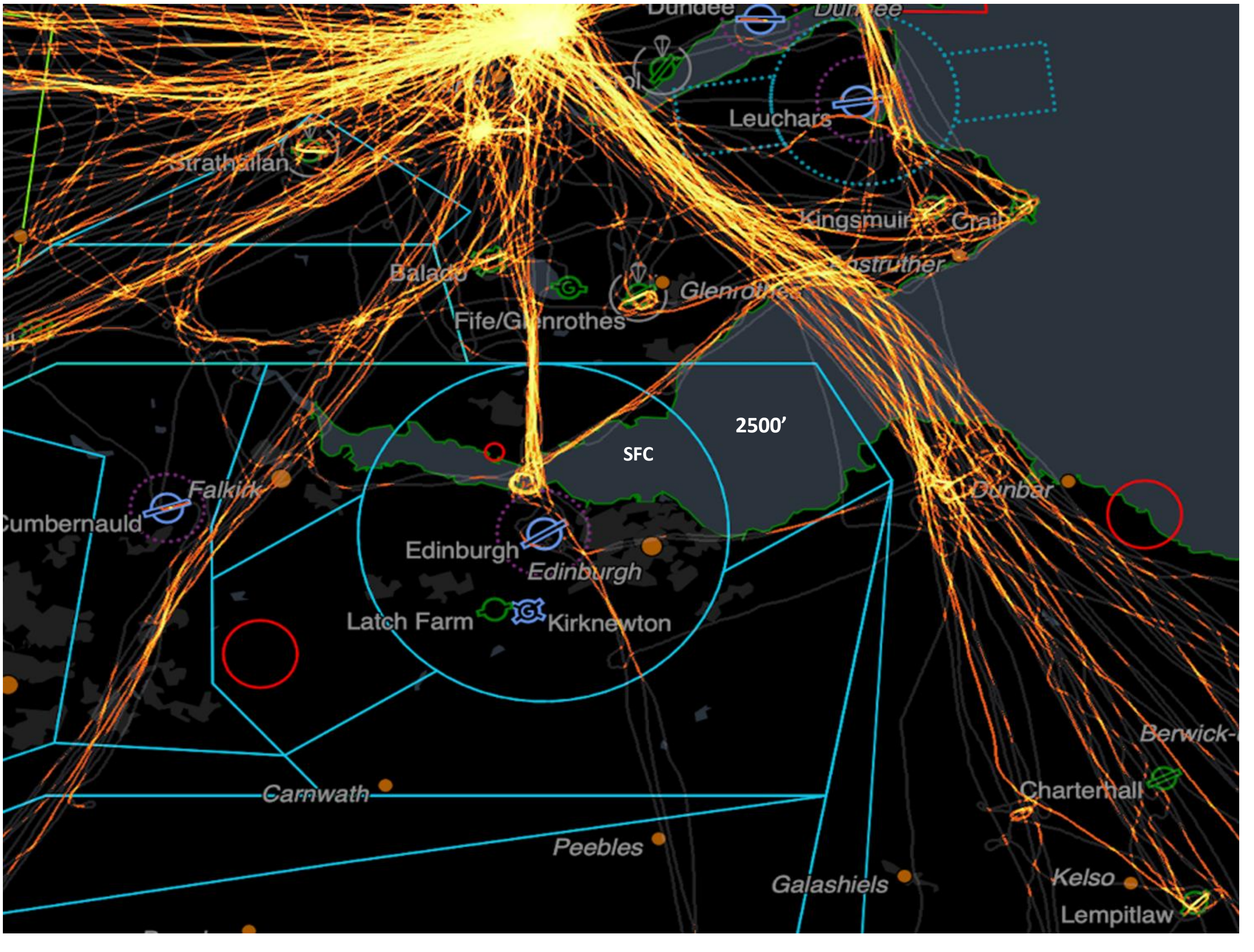
1. Eastern Boundary concerning area 7 & 8.
   The proposed base of 3,500' for new controlled area 8 is much lower than needed for essentially all GA traffic to be able to glide safely to shore on either side across the whole width of the crossing. We would seek to have this new "ceiling" raised to 5000' minimum and preferably 5500' to match area 9 and further minimise the infringement risk. Similarly the base of Area 7 @ 2500' while not directly part of the shortest crossing route will present problems / require clearance for GA traffic forced inland on the crossing due weather .

2. Low level river crossing area 3 & 6
   By lowering the base of this area from current 2500' to Surface over water eliminates a convenient unrestricted "escape" route when weather forces a more inland route to be adopted.

Perhaps the best way to illustrate the issue is to look at the impact for just one of the many GA pilots who regularly use this route using the "heat map" facility available within SkyDemon.

The figure below shows part of the "heat map" for William Scott of the Scottish Aero Club. This is generated by Sky Demon which logs every flight taken for which it has been used as a navigation tool. In William's case this covers the last 8 years of flying and each time an area of airspace is traversed a faint grey line is drawn. As the airspace is traversed with ever greater frequency the intensity of the colour changes through red and orange to become a bright yellow for frequently flown airspace.

The map below clearly shows the frequently flown route between Earlsferry and North Berwick. The individual in this case knows that he always targets a 5000' minimum cross.



If we now overlay the proposed new airspace as shown on the next page the problem becomes very clear.

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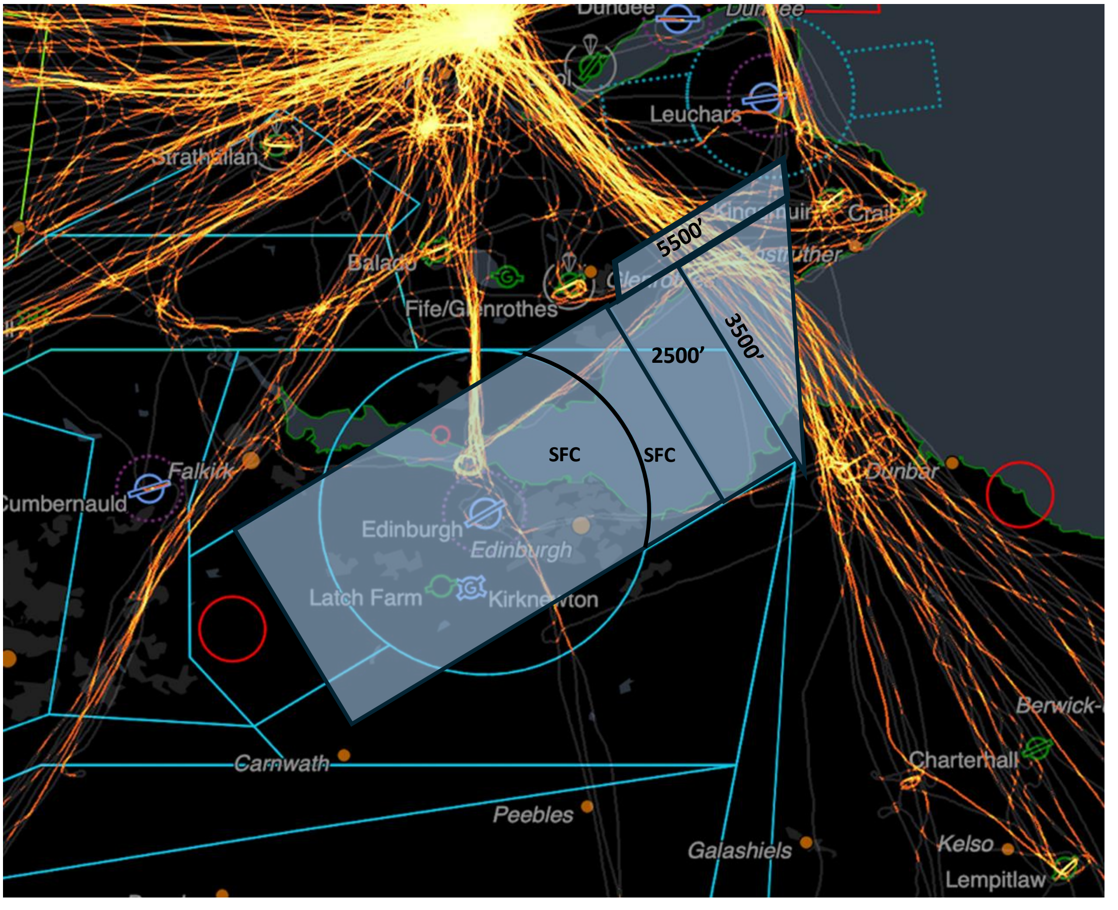


Heat map for W Scott showing impact of 3,500' base airspace on multiple routes routinely flown at 5,000' +

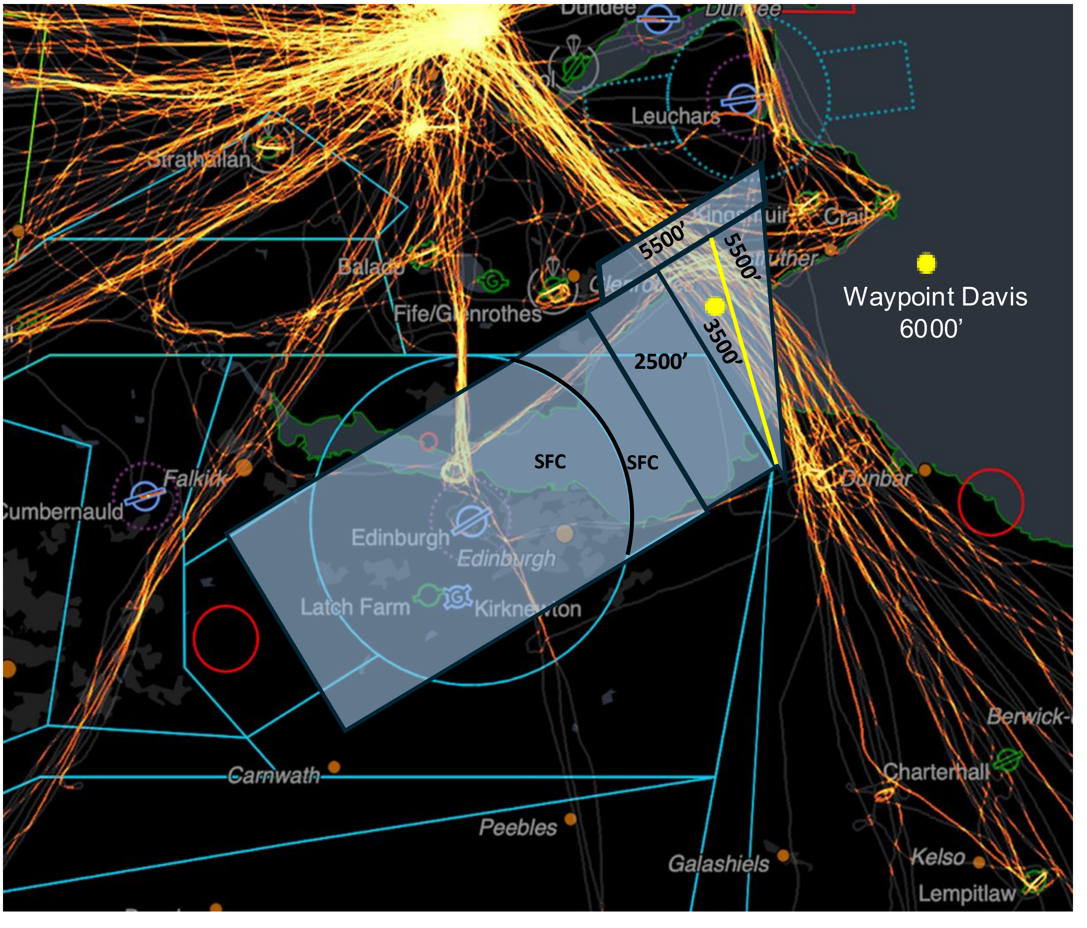
It is clear that if nothing changes then all of the following are likely consequences.

1. Much higher workload for GA Pilots & ATC as clearances are requested and worked.
2. Much higher risk crossings if pilots choose to try and cross below the new 3,500' base. This is well below any GA aircraft "glide-free" capability.
3. Much higher risk of airprox if pilots all now "skirt around" the outside of the new zone in two directions.
4. An increased risk of both vertical and horizontal infringements.

4. **<u>What should I do next?</u>**

We encourage all pilots who believe they will be impacted to respond to the consultation document which can be found at the web address below, and to upload their own heat map including an estimate of the number of crossings made each eyar as part of that process.

https://corporate.edinburghairport.com/airspacechange



The consultation also requests that those with objections also propose alternatives if possible. There are further, more detailed diagrams available that show a 6000' minimum waypoint called Davis as part of the procedures. We believe a reshaping of the proposed airspace as shown above should be achievable. However we would suggest the following

1. That a request is made to raise the base of area 8 shown in Figure 46 on page 4 to 5500' to match the parallelogram attached at the top.
2. As a less preferred but still much improved shape to reduce the size of area 8 as shown in the diagram above.

We have until January 26th to make our response known via the consultation questionnaire on the Edinburgh Airport website. Justin Kennedy, Keith Boardman and William Scott met with representatives of the transition team and were advised that the "quality" of the evidence that can be submitted as part of the response will have a big impact.

If you wish to discuss this further or offer additional thoughts then please contact the Scottish Aero Club secretary by emailing secretary@scottishaeroclub.org.uk

Please DO make your concerns known well in advance of Midnight on January 26th.

Yours in the pursuit of safe and secure GA flying in Scotland

The Scottish Aero Club