House of Commons Transport Committee

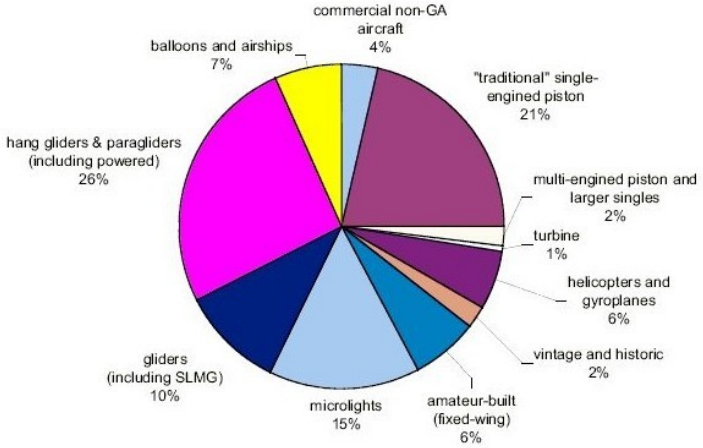
Inquiry into The Use Of Airspace

A Submission by the General Aviation Alliance and the Light Aircraft Association

1. This paper on the use of airspace by General Aviation Alliance (GAA) and the Light Aircraft Association (LAA) supplements that presented on 28 Feb 09 to the Inquiry into the future of aviation by the GAA (attachment). That paper set out the size, value and scope of GA whilst this paper explains the airspace issues relevant to it. The GAA is a group of organisations representing the interests of many in the UK General Aviation Industry (GA). The LAA is an organisation which supports affordable flying and is the focus of amateur built aircraft in the UK. It is a member of the GAA.

2. GA is the term used for all aircraft and flying machines other than those operated by airlines. GA ranges from privately owned Airbus and Boeing aircraft and business jets to balloons, light aircraft, gliders and para-gliders. Its aircraft are used for business, training, recreation, sport and pleasure and as a means of transport.

Make-up of UK GA, 2005



3. The GA sector comprises about 26,000 of the 27,000 aircraft on the UK register, the remaining 1000 belonging to airlines – see the Civil Aviation Authority (CAA) chart at right. GA employs some 17,000 people and has a value to the economy around £1.4 billion, about the same as Virgin Atlantic Airways or 8% of the total economic contribution of UK commercial aviation.

4. GA aircraft use all types of airspace: business and some private aircraft mainly use controlled airspace but the majority used for recreation and sports remain in uncontrolled (class G) airspace but need to cross controlled airspace on occasions.

As we noted in our submission on “The Future of Aviation”, the issue of the use of airspace was covered in much detail in the CAA's Strategic Review. Section 3.1 of the report neatly summarises the problem:

> *“ As with all forms of aviation, GA needs a certain level of access to infrastructure in order to operate, although this may vary widely across the different types of GA.*
> *There are two main infrastructure issues: airfields (or some form of fixed site to take off and land): and access to airspace. GA is currently facing increased difficulty in accessing both of these, particularly in the more congested areas of the UK.”*

This situation prevails and is becoming, and forecast to become worse due to growth in demand for controlled airspace from Commercial Air Transport (CAT), more controlled airspace around airports and new reserved airspace for unmanned aerial vehicles, the latter both from Ministry of Defence and private contractors.

Executive Summary

- **Number of flights** in the UK has not increased as much as commercial operators suggest.
- Controlled airspace (**CAS) has expanded** significantly and continues to do so:
    - Parts of it are barely used but are not given up.
- The CAA appears to have a **conflict of interest** arising from the Civil Aviation Act 1982.
- GA wants to **integrate safely** without disproportionate restrictions.
- Sponsors of CAS applications tend to ignore the **impact on other airspace users**:
    - This produces an adversarial relationship rather than cooperation for safety.
- Increased CAS forms **choke points** and forces GA aircraft lower increasing intrusion.
- Continuous Descent Approaches (**CDA) reduce noise** and the need for lower level CAS:
    - But airspace is rarely given up.
- Spread of CAS **threatens GA airfields,** an issue which the CAA recognises:
    - **CAA has no statutory remit** to defend GA infrastructure and does not do so.
- **Flexible Use Airspace** (FUA), which is used in the EU, would help share important areas.
- **Airspace safety information** is not "user friendly" but CAA and NATS decline to change.
- **Airprox** (close encounters) numbers **are very low.** In last reporting period:
    - None in the UK involving actual risk of collision.
    - Only 2 involving GA/CAT where safety was compromised:
        - One when CAT flying outside CAS
        - One inside CAS when both aircraft under ATC control (inadequate separation).
- **Sky is important national asset**
    - Commercial organisations now sponsor and control CAS:
        - **NATS is powerful** and owned by shareholder airlines.
    - **CAA has statutory duty to support UK airlines.**

Changes to Management of Airspace

5. The inquiry notes that UK passenger numbers may double over 25 years and that UK airspace, particularly in the south will need redesign. Although airport developers like to use passenger numbers to highlight business growth, aircraft are getting larger and airspace demand is dependent on aircraft not passengers. CAA statistics (Annex A) show that passenger numbers have grown 48% in 10 years but flights by only 29%. Moreover there has been no aircraft growth since 2006 and recent figures are down significantly. This suggests growth and capacity projections for commercial airports are wrong and are not a valid basis for airspace planning. However, developers continue to use these figures for their own purposes.

6. The CAA report that in 1997 controlled airspace covered 13% of the UK and in 2004 this had risen to 20%. We understand that the CAA is about to produce a current figure but since 2004 there has been significant growth in controlled airspace at major airports and particularly at regional airports.

Safety through Co-operation

7. The GA community is a responsible stakeholder in UK airspace and has a good record of integrating safely with other airspace users. Our experience is that safety can be maintained through co-operation between airspace users, avoiding the need to exclude GA from large areas or to force disproportionate and impractical technology solutions.

Airspace Planning and Regulation

8. The current Airspace Change Process managed by the CAA backed by regular liaison of all stakeholders and with ATC authorities is generally satisfactory. It ensures all stakeholders are able to scrutinize proposals and express their views before the CAA makes a decision. However we would draw attention to a possible conflict of interest within the Sponsorship Statement for the CAA (verbatim extracts follow):

> The Civil Aviation Act 1982 requires the CAA to perform its functions in the manner it considers best calculated:
> *"to secure that British airlines provide services which satisfy all substantial categories of public demand ...., at the lowest possible charge consistent with a high standard of safety in operating the services and an economic return to efficient operators on the sums invested in providing the services and with securing the sound development of the civil air transport industry in the UK; and to further the reasonable interests of users of air transport services".*
>
> Later in the Act it is stated that (the CAA) has a function to :
> "*determining policy for the use of UK airspace so as to meet the needs of all users, having regard for national security, economic and environmental factors, while maintaining a high standard of safety".*

Lord Turner, commenting on his recent review of the banking industry noted that "...*a regulator which has a statutory duty to one part of the industry it regulates clearly has a conflict of interest".*

We have heard it stated within the CAA that it takes the view that Government has determined the public has a right to fly (via commercial air transport), and if that means more airspace has to be classified as "controlled" thereby limiting the amount freely accessed by GA, then so be it. This policy tends to support our view that balance is not achieved. We also understand that Government may be about to review the Civil Aviation Act.

Although an Airspace Master Plan might be important for en-route airspace, at lower levels, specific individual consultation ensures the balance between business growth, the environment and other airspace users. A pre-approved master plan would remove the check and balance and make consultation less effective.

The Environment

9. Compared to the airline industry, GA has only a minor impact on the environment. Its emissions, noise and visual intrusion are small and it seeks to minimize its impact wherever it can. GA airfields and flying sites always try to be good neighbours but changes to airspace can and do have a negative impact. Because most GA aircraft cannot fly in controlled airspace they have to route around or below it. Where controlled airspace is expanded or new airspace introduced it forces them closer to the ground increasing their noise and visual intrusion. It often causes congestion as aircraft are funnelled through choke points between controlled and restricted airspace blocks increasing risk and intrusion. For this reason we seek to minimize the expansion of controlled airspace into areas where this would be a problem but the interest of commercial operations usually prevails.

Aircraft Equipment

10. The CAA has an aspiration to impose radar-based Mode S transponder devices on every aircraft flying anywhere in UK airspace. These make the aircraft identifiable to radar systems and to anti-collision systems installed in airliners and are mandatory for public transport aircraft flying in controlled airspace. The majority of GA have no right to fly in controlled airspace and generally do not do so. They are able to enter and cross it with specific ATC permission and under control. For visual flight outside controlled airspace where CAT aircraft are generally not encountered, imposition of Mode S was strongly resisted by all UK air sport associations because the equipment is expensive in relation to the hull value of many small aircraft and a many thousands of aircraft have no electrical system to support transponders. Whilst the use of Mode S radar transponders in Commercial Air Transport aircraft flying in controlled airspace is vital to safety (it is a part of the anti-collision system of last resort) it does not benefit small aircraft which do not have the complex anti-collision systems needed to see other transponders and resolve conflicts. Although there are exceptions, in general GA aircraft fly outside CAS and CAT flies within it. Thus the overwhelming majority of GA aircraft never encounter CAT aircraft.

11. Presently, the carriage of transponders is mandatory everywhere in the UK above 10,000ft and this has not been an issue as most GA aircraft do not use that airspace. Gliders do need to fly above 10,000 ft but because of their particular problem of weight, space and power supply they have been exempt but the CAA has now proposed to remove that exemption. This would stop a significant part of the sport which requires cross country racing often above 10,000 ft and destroy the UK's competitive position in World rankings. Essentially, air sport needs access to the equivalent of *Green Belts* in the sky and although the community is looking for assurance from the CAA that access will be provided, this has not been forthcoming.

Techniques and Technologies

12. The introduction, over the last 5 years, of Continuous Descent Approaches (CDA) brings airliners down a 3 degree flight path (310ft per nautical mile) all the way from their cruising altitude to touchdown. Their engines remain virtually at idle throughout reducing noise and emissions and providing substantial fuel and cost savings. This has advantages for the population and for GA because airliners are higher (and quieter) and do not need so much low level controlled airspace. At the same time, the technology available to ATC controllers has enabled them to achieve more efficient routing and to increase the landing and take-off rate so better utilizing our existing runways.

13. Although this should have resulted in the release of controlled airspace, in practice National Air Traffic Services Ltd (NATS) and other ATC providers want to retain this resource because there is no business advantage in giving it up and they are operated very much as businesses. For example, using CAA data and charts we find that Gatwick is very efficient in its use of airspace using only some 1.8 sq km for every 1000 aircraft movements. Glasgow has 3 times the controlled airspace of Gatwick with only a third of the number of flights but NATS (who operate that airspace) have said they cannot consider releasing unused areas and are presently bidding for a 50% increase. Doncaster has recently been awarded controlled airspace slightly larger than Gatwick but has only 2% the number of flights at Gatwick. We would like to see a proper balance in allocating controlled airspace to airports but business interests work against that. It is clear that NATS and other ATC providers are now very business focused and powerful and see airspace as an asset to be acquired and retained.

Airspace Planning and Management

14. GA organisations work together to engage with CAT operators, with NATS and the CAA and other airspace stakeholders to try to ensure equitable access to airspace. Although we are able to respond to airspace consultations we are usually in the position of challenging a proposal which has been put together with little regard for the impact on GA. We would rather work together with airspace sponsors during the early stage of the airspace change process to develop a design that meets the operational and safety needs of all airspace users rather than engage in adversarial debate at a later stage. We recognise that the safety of public transport flights must be assured but there are always different ways to achieve that and we look to efficient and effective solutions that allocate controlled airspace that is necessary and sufficient for the requirement.

15. We have seen airspace applications where the object appears to be to secure as much of this free airspace resource as possible to increase the capital value of the sponsor's business. This would be easily identified by an objective, rigorous and detailed risk analysis which should always take place before any increase in Controlled Airspace is agreed. But surprisingly, risk analysis is not a tool widely used in airspace matters by controlled airspace sponsors and seemingly not by the CAA.

Airspace Implications for smaller airfields

16. As the main airports have approached capacity and driven by airlines' search for more business and cheaper landings, regional airports have seen an upsurge in the last 5 years. This has seen a proliferation of controlled airspace proposals around the country which the CAA has always approved, although with some mostly minor, modification. Controlled airspace now divides the country between the Mersey and Humber with just 2 access routes north to south. A narrow corridor is defined between Manchester and Liverpool in which GA aircraft have to fly at only 1000ft above the ground and a wider area to the east of Doncaster which is under threat from a bid for airspace from Humberside. There is nothing in between. In central Scotland, controlled airspace extends from the Clyde to the Forth with a corridor between Glasgow and Edinburgh which NATS is now proposing to take for itself, isolating the Highlands from the south for aircraft which are unable to cross controlled airspace and excluding gliders from prime soaring country in the Borders and Highlands. We noted earlier that Glasgow had 3 times the controlled airspace of Gatwick with only one third of the flights.

17. With airports focusing on business and many excluding GA, small airfields, airstrips and gliding sites are a limiting resource to the community. The spread of controlled airspace restricts the use of many small airfields and strips and it is virtually impossible to relocate as communities always fear a small and quiet operation will develop into noisy jet traffic. Our only recourse is to negotiate with airspace sponsors for an agreement to continue access although that often means flying low or in

areas we would normally avoid for safety or environmental reasons. We would like to see a better balance achieved by giving appropriate regard to small airfields and including access arrangements and risk analysis at the time airspace is designed.

Flexible Use of Airspace

18. Flexible Use Airspace (FUA) is airspace that is turned off or on at specific times to meet traffic needs. Currently this occurs in upper airspace allowing short cuts for commercial aircraft when military traffic is not using certain areas. We would welcome built-in flexibility when developing lower airspace, for example giving access to an area that is not needed when a particular runway is being used. This is common elsewhere in the EU.

Presentation of Airspace Safety Information

19. One of the key aspects of airspace is notification so that pilots know where they can and cannot fly. Controlled and restricted airspace changes daily and details are distributed by NATS through Notices to Airmen (NOTAM) which also includes a plethora of other information related to navigation aids and so on. Airlines have contractors who compile and sift this for their crews but individual GA pilots must work with the raw data themselves. As responsible airspace users, many pilots bought graphical programs that would sort and present the data pictorially so they could relate airspace changes and prohibitions to their route but the NATS NOTAM website format was changed without consultation making these programs useless. Pilots now have to work with pages of text and plot multiple positions manually increasing risk of mistake and forming a major disincentive to meticulous pre-flight planning. This is a particular problem for gliding as cross country routes must follow the energy in the atmosphere so their route cannot be planned in specific detail before flight. The CAA contracts NATS to distribute NOTAMs in the UK but neither body will provide this data in a suitable graphical format saying the cost is prohibitive. But they have been unable to say what that cost is. We think this a significant airspace safety issue that the CAA could resolve but says it will not.

Low Risk and Proportionate Burdens

20. There is no doubt that there is a need to ensure all aircraft can operate safely within UK airspace. It is testament to the excellent work and risk mitigation by all stakeholders that Airprox (reported close encounters between aircraft) involving light aircraft or gliders (or military aircraft) and commercial air transport (CAT) are at a very low level. The UK Airprox Board in its 20th report notes that in the first half of 2008, GA were involved in only 34% of airprox compared to 50% in 2001. In that period there were no Airprox involving “actual risk of collision” anywhere in the UK and of the 2 incidents involving GA and CAT where “safety was compromised”, one involved a CAT aircraft flying outside controlled airspace and the other involved inadequate separation when both aircraft were under ATC control within controlled airspace. Operating safely includes of course the need for all pilots to be in flying practice. Increasing costs to those whose aviation activities are taxed, severely limiting access to the sky and developing increasingly over-complex and occasionally confusing regulatory burden results in reduced flying practice and thereby does nothing to increase safety.

21. The sky is an important national asset. With sponsorship and management of controlled airspace being in the hands of business entities and particularly with NATS being so powerful in this area and responsible to its shareholder airlines for delivering their requirements, the Regulator must be proactive and meticulous in balancing the needs of all airspace users. We believe that at the moment the sponsors of controlled airspace give insufficient regard to the needs and safety of other airspace users and whilst the CAA is required to determine policy so as to meet the needs of all users, it appears to have a conflict of interest arising from its duties under the Civil Aviation Act 1982.

General Aviation Alliance and the Light Aircraft Association

20 March 2009

Annexes:

A. UK terminal passengers and Aircraft movements 1998 to 2008 - source CAA statistical tables
B. The General Aviation Alliance (GAA) - Description

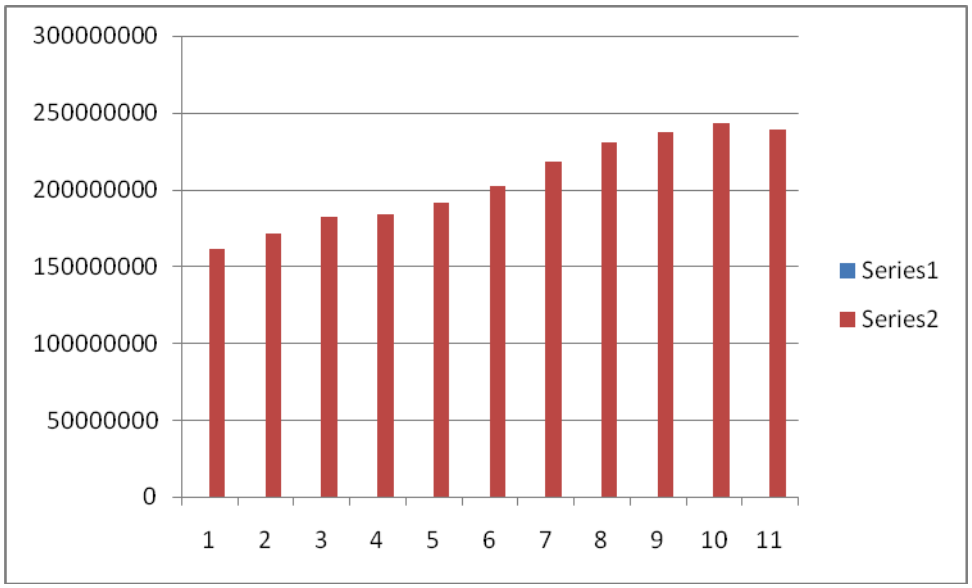
Attachment:

GAA written evidence to Parliamentary inquiry into the future of aviation

Annex A to:
Submission by the General Aviation Alliance and the Light Aircraft Association
Dated 20 March 2008

Total UK Terminal Passengers 1998 to 2008 - source CAA statistical tables

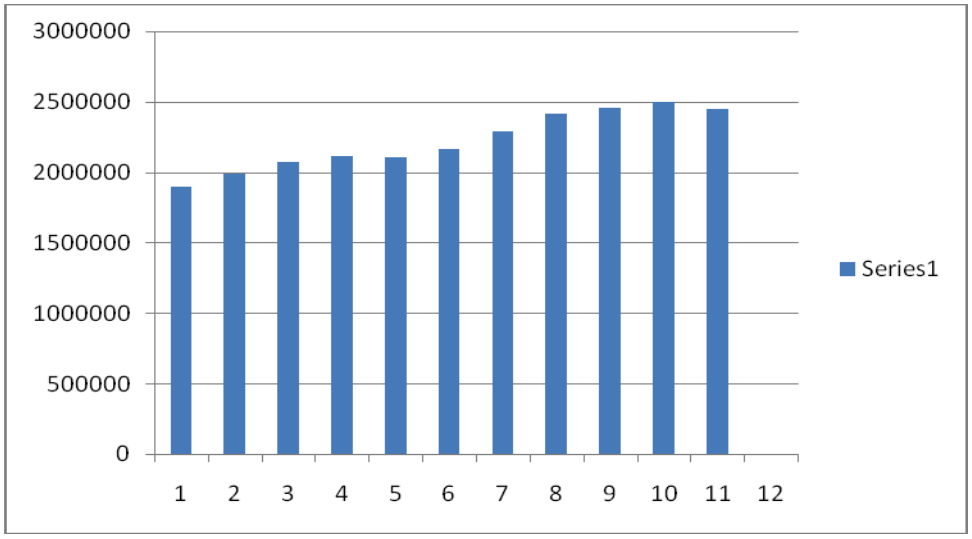
1	2	3	4	5	6	7	8	9	10	11
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
161M	170m	182M	183M	191M	202M	218M	230M	237M	243M	238M



Passenger growth 48% in 10 years

Total UK Air Transport Movements 1998 to 2008 - source CAA statistical tables

1	2	3	4	5	6	7	8	9	10	11
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1.9M	1.9M	2.0M	2.1M	2.1M	2.1M	2.2M	2.4M	2.4M	2.4M	2.4M



Flight Growth 29% in 10 years

Annex B to:
Submission by the General Aviation Alliance and the Light Aircraft Association
Dated 20 March 2008

The General Aviation Alliance (GAA)

The General Aviation Alliance (GAA) is a group of organisations representing the interests of many in the UK General Aviation Industry (GA). It was formed in 2004 due to concerns about the fragmented representation of GA and the need for co-ordinated UK level responses to CAA and EU initiatives, the latter through a pan-EU representative organisation, Europe Air Sports.

The term General Aviation (GA) describes all aviation activity except airlines and military i.e. a civil aircraft operation other than a commercial air transport operation. The principal sectors of the GA industry include sport and recreational aviation (S&RA), personal transport for business and private purposes, flying training, corporate aviation, aerial work and a wide range of ancillary activities from maintenance to airport services. There are approximately 7,500 UK registered and certificated (including approximately 1,000 helicopters) plus 1,000 USA registered GA powered aircraft in the UK, 2,300 microlights, 2,600 gliders, 740 balloons/airships, 62 gyroplanes plus 5,500 hang and paragliders and approximately 1,000 UK civil airliners. In addition parachuting activities are within the scope of CAA regulation as well as aero-modelling.

It is understood that air shows are now the UK's second most popular spectator activity with some 6.6m attending annually (Source: Air Display Association (Europe)).

Members of The Alliance include:

British Balloon and Airship Club (BBAC)
British Gliding Association (BGA)
British Hang Gliding and Para Gliding Association (BHPA)
British Microlight Aircraft Association (BMAA)
British Parachute Association (BPA)
Helicopter Club of Great Britain (HCGB)
Light Aircraft Association (LAA)
PPL/IR Europe – European Association of Instrument Rated Private Pilots
Royal Aero Club of the United Kingdom (RAeC)

The Alliance coordinates about 72,000 subscription paying members of these bodies.

The Light Aircraft Association (LAA)

The LAA is a national association of some 8000 members which promotes safe and economical operation of Sports and Recreational aircraft, with minimum regulation, through excellence in:

Promotion of amateur aircraft construction
Provision of aircraft engineering support
Protection of flying rights and ownership
Preservation of vintage aircraft
Discharge of regulatory duties
Encouragement of pilot training and skills
Promotion of public opportunities to experience aviation

We promote aviation to the general public through practical educational experiences including Build-a-Plane projects where groups of young people participate in the construction of a kit aircraft and are then able to fly in it. We also offer youth air experience events and training in both flying and engineering skills as well as promoting "air mindedness" wherever we can.

The LAA is the UK focus for amateur built aircraft, operating a delegated regulatory system enabling members to design, build, maintain and fly their own aircraft. Many members build aircraft from kits or from plans; there are about 2000 aircraft under construction in the UK at any time. The LAA also supports many vintage aircraft which might otherwise be lost to our national heritage. Our goal is to bring low cost flying within the reach of anyone who has the desire to fly.

The LAA regulates the airworthiness of over 2000 recreational and homebuilt aircraft on behalf of the CAA, and currently has over 280 different aircraft types and models on its approval. It is possible to own a simple aircraft for little more than £5000 or a share in a more complex aircraft might only cost £1000 or so. Maintenance can be carried out by the owner under the supervision of the LAA's extensive network of experienced inspectors enabling operating costs to be very low. To manage the operation and safety of this large spectrum of aircraft the LAA maintains a substantial professional engineering department with specialist and unique aeronautical skills.

Borne as the Popular Flying Association in 1952, the present LAA continues to bring flying within the grasp of everyman.

LAA pilots operate mainly in day visual conditions but its aircraft fleet ranges from historic examples to modern high performance aircraft with sophisticated navigation systems. Pilot experience and qualification also covers the full spectrum of professional and amateur. The LAA has a high regard for air safety and takes a broad view on airspace matters generally. In considering airspace change proposals we recognise the importance of public safety and place that first but in line with Government and CAA policy we expect airspace to be utilised in a safe and efficient manner taking into account the needs of all users.