

YOUR LONDON AIRPORT  
*Gatwick*

---

## **Gatwick Airport**

Environmental Noise Directive

Noise Action Plan 2010-2015

June 2010



---

# Contents

---

## Gatwick Airport Noise Action Plan

Section	Title	Page
1	Foreword by Stewart Wingate, Chief Executive Officer	2
2	Executive summary	3
3	Purpose and scope	10
4	About Gatwick Airport	12
5	Background to aircraft noise and legal context	13
6	Gatwick Airport's framework for noise management	20
7	Results of the 2006 noise mapping	31
8	Evaluating the noise action plan	35
9	Our noise action plan	37
10	Quantification of the noise action plan	46
<b>Annexes</b>		
Annex 1	Glossary of terms	49
Annex 2	"Annex V" of the DEFRA guidance	52
Annex 3	END noise maps	53
Annex 4	Complaint data	55
Annex 5	Summary of limit values in place	64
Annex 6	Illustrative noise preferential route map	65
Annex 7	Noise mitigation scheme boundary maps	66
Annex 8	Financial information	68
Annex 9	Public Consultation Responses	69

---

# 1 Foreword

by Stewart Wingate, Chief Executive Officer

---

Gatwick Airport welcomed around 32 million passengers in 2009, remaining second only to Heathrow in terms of passenger throughput and confirming our status as the world's busiest single runway operation airport. Gatwick Airport continues to act as a facilitator for both business passengers and holiday makers. Its continued growth has ensured the airport remains a major employer and a cornerstone of the local, regional and national economy.

Passenger numbers are forecast to increase to around 40 million during the next decade, in line with government policy to make full use of existing airport runways. We acknowledge that communities close to a busy international airport can be adversely affected by aircraft noise and we have shown we are taking action, where possible – to act to lessen this impact. Noise matters to us and we aim to be a good neighbour.

Gatwick Airport sets noise targets each year to manage noise; the goals are published in our annual sustainability report together with performance information against key noise indicators. We have a full and comprehensive range of noise management and mitigation measures already in place including noise and track keeping monitoring and night flight restrictions. More details can be found in section six of this report.

Over the last 10 years at Gatwick Airport, the number of people affected by noise has fallen considerably as older aircraft are replaced by newer quieter models. Between 1996 and 2006, independent analysis has shown the number of people affected by noise decreased even though there was rapid growth in air travel at the same time. While Gatwick Airport continues to grow, the airport operation continues to drive down its noise impact on the surrounding sub-region.

Under the Environmental Noise (England) Regulations 2006, we are required to produce a

noise action plan designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport. This plan details our actions over the next five years and the policy framework supporting these actions. It aligns with Gatwick Airport's S106 Legal Agreement (2008) with West Sussex County Council and Crawley Borough Council which outlines how the airport's operation, growth and environmental impacts will be managed responsibly and lays the foundation of our noise action plan.

A draft version of this noise action plan was published for public consultation in 2009 and over a period of 16 weeks we invited and actively sought views from as many people as possible affected by noise in the communities around the airport. All the responses received have been independently reviewed and assessed by an external consultant and detailed in this report (See Annex 9).

Since that consultation period Gatwick Airport's ownership has changed. Global Infrastructure Partners purchased the airport in December 2009. However we acknowledge the importance of this publication and the need to keep communities and other stakeholders informed of our progress on noise matters. We remain committed to publicly reporting our performance against the action plan and the effectiveness of our actions to address community concerns. We have recently launched the airport's first comprehensive environment strategy as an independent airport of, 'Decade of Change'. This strategy outlines the airport's approach to environmental management today and sets challenging targets through until 2020.



**Stewart Wingate**  
Chief Executive Officer

---

## 2 Executive summary

---

Airports bring positive economic and social benefits as well as environmental impacts. They are important to the economy, providing jobs, encouraging inward investment and boosting local tourism. However, they can also have an impact for those communities that exist around airports. Noise remains a significant issue for people living or working close to airports or under flight paths.

Limiting and, where possible, reducing the impact of noise is a long-standing commitment of Gatwick Airport and is critical to maintaining the airport's licence to operate and grow.

**Gatwick Airport has had in place for a number of years a detailed noise strategy and a comprehensive and effective approach to aircraft noise management. This is further supported by our S106 Legal Agreement with West Sussex County Council and Crawley Borough Council which lays the foundations of our noise action plan.**

The Environmental Noise (England) Regulations 2006 require airport operators to develop noise action plans designed to manage noise and effects arising from aircraft departing from and arriving at their airport, including reduction if necessary. This supports the Government's aim – as set out in its White Paper, *'The Future of Air Transport'* published in 2003, (ATWP) – to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

Guidance notes and supporting correspondence issued by DEFRA in March 2009 set out a number of key requirements for the draft noise action plans and a timetable for their production.

- ➔ <http://www.defra.gov.uk/environment/noise/mapping/action-plans.htm>

Airports had to submit final draft noise action plans to the Secretary of State by 30 November 2009, having been subject to a minimum 16 week public consultation.

More specifically the guidance provides details on the general requirements for action plans, expected content (see Annex 2), considerations in determining actions and the process for public consultation, adoption and publication. In helping airports to determine what actions may be necessary the guidance points to two key pieces of information. These are:

- the current noise impact of their operations as shown by the results of the strategic noise mapping; and
- the current control measures they have in place.

In assessing this information airport operators were asked to consider whether the current noise impact is acceptable and if not what further action could be proposed.

The Department for Transport (DfT) has direct control over noise policy at Gatwick and has established over many years a range of operational controls and statutory objectives to manage and where possible reduce noise.

---

## 2 Executive summary

---

**Our independent benchmarking consultants identified that Gatwick is in the top five airports worldwide in terms of operational controls and among the leading airports with regard to mitigation and compensation measures.** However, it also revealed that the greatest scope for development was in the area of stakeholder communication on noise issues. This is why we have invested in our Webtrak system (action 31) and included further actions within this document, such as investigating new ways to describe noise impacts (action 37) and commissioning further benchmarking studies to review our progress (action 52/53).

In considering the strategic noise maps we considered that the areas identified were consistent with those already identified in 10 years of managing aircraft noise impacts. The production of annual 57 dB(A)  $L_{eq}$  (16 hour) summer contours has been a consistent feature during this period. Traditionally our approach to noise management has contained actions aimed at addressing areas outside of these contours, as well as ground noise. The actions contained within this plan continue to adopt this approach.

### Consultation

Between 23 March and the 24 April 2009 we held a series of open pre consultation sessions with key stakeholder groups at the airport (these groups are listed in Annex 9). These sessions gave us valuable feedback and enabled us to construct our first draft noise action plan for public consultation. We ran a 16 week public consultation on our first

draft noise action plan between 18 June and 7 October 2009. **During this period we held six public open sessions and conducted a series of radio and television interviews. Before this we ran an extensive communications campaign sending more than 5,000 postcards to affected households, directly reaching around 12,000 people. We also placed a number of newspaper advertisements and created a dedicated website for people to download and review our noise action plan.**

We received 275 responses including correspondence from Local Authorities and individuals representing groups. Where permission has been given this feedback has been listed in Annex 9 of this action plan. All 275 responses have been reviewed and assessed by an independent consultant, and where appropriate this final draft action plan has been amended to reflect this feedback. The final noise action plan will outline Gatwick Airport's approach to managing aircraft noise impacts over the five year period 2010 – 2015.

This document aims to:

- demonstrate our continuing commitment to managing aircraft noise impacts associated with Gatwick Airport's operations. We have identified this issue as one of our key sustainability priorities
- allow us to engage with communities affected by aircraft noise and better understand their concerns and

---

## 2 Executive summary

---

priorities, so that we can ensure our airport noise strategies and action plans are well informed

- enable us to make progress towards our long-term statutory and voluntary aircraft noise objectives
- enable us, in our role as the competent authority for Gatwick Airport, to meet the requirements of the Environmental Noise Directive 2002/49/EU and The Environmental Noise (England) Regulations 2006 SI (2006) 2238 (as amended).

Over the following paragraphs we have set out the key aspects of sections 3–10 of this noise action plan. There are also a series of Annexes contained within this document including a glossary of terms (Annex 1).

Section 3 sets out the purpose and scope of the noise action plan. The scope extends beyond the areas identified by the strategic noise mapping to include ground noise issues and actions that impact on areas outside the contours. The section also points out that responsibilities for noise management do not always fall to the airport operator and often fall to the DfT, NATS and/or the CAA. In such cases the airport operator can only recommend any proposed changes.

Section 4 provides a description of Gatwick Airport and comments briefly on future development of the airport.

Section 5 introduces the issue of

aircraft noise and details the legal context in which Gatwick Airport operates.

Over the past 30 years aircraft have got progressively quieter while the number of movements has increased significantly. This is illustrated by the fact that between 1996 and 2006 the number of people living within 57dB(A) 16 hour  $L_{eq}$  daytime noise contour had fallen from 14,900 to around 4,500 during which time runway movements increased from around 220,000 to 263,400 (CAA environmental research and consultancy division).

Section 5 acknowledges that noise contours are not the only way to describe the community impacts of aircraft noise. This section introduces the Attitude to Noise from Aviation Sources in England (ANASE) study conducted on behalf of the DfT, some of the effects of noise and some of the early feedback we received during our pre-consultation stakeholder meetings and from our complaint data. It is clear that the frequency of overflight, night flying and our role in influencing associated stakeholders are all key local concerns for community stakeholders.

The interdependencies between noise and air emissions to ensure compatibility between action plans are also briefly discussed.

The legal context within which Gatwick Airport operates is complex. The International Civil Aviation Organisation (ICAO) sets international noise certification standards and recommended

---

## 2 Executive summary

---

practices and procedures in relation to aircraft noise. Reference is also made to the requirement for member states to adopt a 'balanced approach' to noise management.

At the European level some detail is provided on key European Union Directives which relate to aircraft noise including the phasing out of older Chapter 2 aircraft in 2002.

At a national level a number of significant Acts of Parliament and regulations are set out. These include the Civil Aviation Acts 1982 and 2006 which grant the government powers to introduce noise control measures at designated airports (Gatwick is a designated airport). This section also introduces the UK Aeronautical Information Package (UK AIP) which contains a range of noise controls relating directly to aircraft operations. Some specific noise abatement and environmental objectives are also detailed, for example that the 48 dB(A)  $L_{eq, 6.5 \text{ hour}}$  night contour is limited to 47km<sup>2</sup> in 2011-2012.

**Section 6 outlines our strategic approach to aircraft noise management framed around our long-term objective 'to gain the trust of our stakeholders, that we are using best practicable means to minimise aircraft noise impacts'.**

This noise action plan sets out the themes to our noise work programme which are:

1. Reducing noise impacts wherever practicable. This includes:
  - a. Quietest fleet practicable
  - b. Quietest practicable aircraft operations, balanced against NO<sub>x</sub> and CO<sub>2</sub> emissions
  - c. Effective and credible noise mitigation schemes
2. Engaging with communities affected by noise impacts to better understand their concerns and priorities, reflecting them as far as possible in airport noise strategies and communication plans
3. Influencing planning policy to minimise the number of noise sensitive properties around our airport
4. Organising ourselves to continue to manage noise efficiently and effectively
5. Continuing to build our understanding of aircraft noise to further inform our priorities, strategies and targets.

---

## 2 Executive summary

---

We also describe the current measures in place to manage noise at Gatwick Airport.

Section 6 is a very detailed section of the draft noise action plan and is an indication of the wide range of the statutory and voluntary noise management controls already in place. In headline terms the measures include:

- noise and track keeping monitoring arrangements
- operating restrictions
- runway use
- night flight restrictions
- operational procedures
- departure procedures
- noise preferential routes
- 1000ft rule
- arrival procedures
- Continuous descent approach (CDA)
- joining point rules
- reverse thrust
- noise limits
- departures
- ground noise controls
- differential landing fees
- noise mitigation and compensation schemes
- stakeholder engagement.

Section 7 summarises the results of the 2006 noise mapping and is supported by the maps in Annex 3. Although the mapping introduces a new metric to describe the noise impact, Gatwick Airport's strong history of noise management controls and frequent contour analysis means it does not highlight any new geographical areas of concern with regard to noise impacts.

## 2 Executive summary

**Section 8 sets out how we intend to monitor progress against our action plan using performance indicators for individual actions. Where these indicators show trends which are of concern we intend to set annual targets from time to time (action 51). Our performance against individual actions will also be monitored by surrounding Local Authorities through our existing S106 Local Authority Agreement signed in December 2008. Performance will be reported annually through our consultative committees and highlighted in our sustainability reports. Additionally, this section details the following key performance indicators and the 2006 baseline performance:**

As a way of measuring the success of

the noise action plan we have identified a number of expected outcomes. These are also set out in this section and detailed below:

- no operations in 2015 by marginally compliant Chapter 3 aircraft (Chapter 3 high)
- at least 83% of aircraft movements by Chapter 4 or equivalent aircraft
- performance against the noise abatement procedures in the UK Aeronautical Information Publication (AIP) will be maintained and where practicable improved against the 2006 baseline
- no daytime infringements against 94dB(A) day time departure noise limit
- we will be routinely reporting

Key performance indicator	2006 Baseline
Percentage of Chapter 4 (or equivalent) aircraft	3%
Area inside the 55dBA $L_{den}$ contour (km <sup>2</sup> )	94.5km <sup>2</sup>
Area inside the 48dB $L_{Aeq, 6.5 \text{ hour}}$ night-time (winter & summer seasons combined) contour (km <sup>2</sup> )	41.3km <sup>2*</sup> <small>*2003 figure</small>
Area inside the 57dB $L_{Aeq, 16 \text{ hour}}$ daytime summer contour (km <sup>2</sup> )	46.7km <sup>2</sup>
Average quota count of aircraft operating during the night quota period (2330-0600)	0.7
Number of infringements of the daytime departure noise limit	9
Number of infringements of the shoulder and night period	2
Percentage of aircraft achieving a CDA (24 hour period)	81.0%
Percentage of aircraft on track (all routes)	98.2%
Number of individual callers making noise related enquiries	794
Percentage of noise related enquiries responded to within eight working days	94.5%

---

## 2 Executive summary

---

noise impacts using alternative metrics

- the 48dB(A) 6.5 hour  $L_{eq}$  night contour (winter/summer combined) will be within 47km<sup>2</sup>.

Section 9 is the list of draft actions. There are more than 50 actions detailed within the current draft. More than 30 of these represent the continuation of current good practice. There are, however, a number of actions which highlight our desire to further improve our noise management approach.

We have listed these new actions below, and they are also highlighted in the action table (page 37 to 45).

### New noise actions

#### Gatwick Airport:

- to work with airline partners to develop a policy prioritising airlines operating Chapter 4 aircraft or equivalent when introducing new business to Gatwick (action 1)
- voluntary phasing out of marginally compliant Chapter 3 aircraft by 2015 (action 2)
- introduction of a 'fly quiet and clean' programme by 2012 (action 4)
- seek to increase fining levels for those repeat offenders (action 11)
- commitment in 2011 to review our existing noise mitigation and compensation schemes (action 14)
- we will continue to keep abreast of government research and guidance in relation to issues of tranquillity and overflight of areas of outstanding natural beauty (AONB) (action 26)
- commitment to regularly review and publish progress against the actions (action 28)
- we will have in place a fully functional Gatwick Flight Evaluation Unit (FEU) in order to provide accurate and timely data to aid strategy development and to noise

complaint handling in 2010 (action 32)

- proposal to formulate a regime to track and describe our noise impact using a range of alternative metrics to help aid understanding (action 37)
- Publication of forecast  $L_{den}$  and  $L_{eq}$  contours for 2015 in 2010 (actions 42 and 43)
- Publication of the 6.5hour night time 48 dB(A)  $L_{eq}$  contour (action 44)
- international benchmarking of our operational noise management controls (action 52)
- international benchmarking of our approach to noise communications. (action 53)

#### Department for Transport:

- in 2010 we will request that the DfT review the current departure noise limits (action 15)
- in 2010 we will request that the DfT review the current night noise limits (action 17).
- in 2010 we will request that the DfT review current airspace utilisation around Gatwick (action 19).

#### Consultation feedback actions:

- in 2010 we will request that the DfT review the current departure noise limits (action 15)
- in 2010 we will request that the DfT review the current night noise limits (action 17)
- in 2010 we will request that the DfT review current airspace utilisation around Gatwick (action 19).

Section 10 discusses the methodology we used to identify potential actions, assessing the financial costs of noise management and the number of individuals potentially benefiting from any new action.

---

# 3 Purpose and scope

---

The European Commission Environmental Noise Directive 2002/49/EC (as amended) was transposed into UK law by UK Government regulations (the Environmental Noise (England) Regulations 2006 SI) and requires airports with over 50,000 movements a year to produce noise action plans in response to prescribed strategic noise maps. Strategic management of noise is not new to Gatwick Airport.

Under legislation, management of noise is not always the responsibility of the airport operator. Often the responsibility may fall to the DfT, NATS and Civil Aviation Authority (CAA). In these cases the airport operator will recommend any proposed changes only.

Section 78 of the Civil Aviation Acts 1982 and 2006 grant the Government powers to assign designated status for noise management at airports in the UK. Gatwick Airport is a designated airport and the DfT has direct control over noise at the airport. The airport operator is the competent authority for drawing up the draft noise action plan. For Gatwick Airport, this is Gatwick Airport Limited. Government guidance states that noise action plans are designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport, including noise reduction if necessary. (See 'Legal Context' page 13).

In accordance with the published guidance, the purpose of this noise action plan is to manage and where possible reduce the impact of noise

from aircraft at Gatwick Airport over the five year period from 2010-2015.

Gatwick Airport recognises that noise from aircraft operations remains a real concern for our local communities, particularly with plans to grow and develop the airport in the coming years. Through this consultation document we hope to engage with communities affected by aircraft noise to better understand their concerns and priorities. By doing so, we can ensure an effective action plan is developed.

## Scope

In accordance with the requirements of the EU Noise Directive 2002/49/EC (as amended), this noise action plan makes reference to dB L<sub>den</sub> noise contours published for Gatwick Airport by the Environment Research Consultancy Department (ERCD) in 2006. The ERCD is part of the CAA. The contours are shown in Annex 3 and form the basis of this action plan.

Through the methods set out in this noise action plan, we seek to manage aircraft noise from Gatwick's operations. **Please note that this document includes actions related to any developments for which the airport has been granted planning permission at the time of publication.** For the avoidance of doubt the scope of this noise action plan does not include a mitigation strategy or specific actions to deal with any new infrastructure such as a second runway or significant airspace changes.

This noise action plan considers noise created by aircraft approaching and

---

### 3 Purpose and scope

---

taking off from the airport, as well as noise created by taxiing aircraft and engine testing carried out within the airport perimeter. This noise action plan does not, however, include noise from airport construction activities or noise from road and rail traffic associated with the airport. Action plans for noise associated with major road and rail routes are dealt with separately under Government legislation and are not within the responsibility of airport operators. For information, please see

➔ <http://noisemapping.defra.gov.uk>

The legal requirement is for Gatwick Airport Limited to consider noise issues affecting the area shown by the dB  $L_{den}$  noise contours as being within the 55 dB(A),  $L_{den}$  or more and 50 dB(A),  $L_{night}$  contours referred to above. It is understood that these contours take into account aircraft noise, being noise during the take-off and landing ground roll.

**By considering noise created by taxiing aircraft and engine testing carried out within the airport perimeter, our noise action plan goes further than the legal requirement.** Additionally, we have extended the scope of this noise action plan by giving consideration to actions which seek to address the impacts of aircraft noise in areas beyond the specified contours.

The noise action plan also aligns with Gatwick Airport's overall sustainability and noise strategy. Our strategic approach to noise is described later in this document. For full details of our sustainability strategy visit

➔ [www.gatwickairport.com](http://www.gatwickairport.com)

---

# 4 About Gatwick Airport

---

Gatwick Airport is the world's busiest single runway airport. and, In the UK our throughput of 32 million (2009) makes us second only to Heathrow. The airport is also an important public transport hub, with frequent rail services to London, and direct or connecting rail or coach services to many towns in South East England and elsewhere in the UK.

Over the next decade passenger numbers are currently forecast to increase to around 40 million, in line with Government policy to make full use of existing airport runways. Gatwick Airport Interim Master Plan (October 2006) explains the character and implications of Gatwick's growth as a single runway airport over the period to 2015 and, for 2030, outlines scenarios with either one or two runways.

The scale of existing and future activity at the airport brings significant benefits to the local, regional and national economies.

A recent report has confirmed that Gatwick Airport is a significant generator of economic value for London and the South East. At 40 mppa gross value added (GVA) annual contribution is £2.1 billion from the airport's operations excluding wider benefits. In comparison the Port of London generates £2.7 billion GVA. Gatwick also facilitates trade and contributes to the global competitiveness objectives of the South East Regional Economic Strategy (Tribal Report July 2009).

## **Planned development between 2010 and 2015**

Gatwick Airport's development strategy starts from our understanding of the airport's role in meeting demand for air travel in a group of airports serving the London area.

We are three years into our five year plan to invest close to £1 billion to revitalise the airport and ensure that the predicted growth in passenger traffic can be accommodated at the passenger service levels we aspire to. This investment forms part of Gatwick Airport's 10 year Capital Investment Programme (CIP), which has been developed with the airline community.

The CIP is designed to:

- maximise airfield and runway capacity
- accommodate additional capacity in the North Terminal
- improve service quality and the provision of adequate facilities for existing capacity in South Terminal (includes rail station upgrade work)
- refurbish assets through an asset renewal programme.

Gatwick Airport's capital investment strategy assumes that the airport will remain a single runway airport until the 2020s. However it is a possibility that at some time in the future a second runway may be required at Gatwick, but Gatwick Airport remains committed to the legal agreement that prevents second runway construction before 2019.

---

# 5 Background to aircraft noise and legal context

---

## Aircraft noise

Noise is created by aircraft approaching or taking off from airports and by taxiing aircraft and engine testing within the airport perimeter.

Airframe noise is created when air passes over an aircraft's body (the fuselage) and its wings. This causes friction and turbulence, which make a noise. The amount of noise created varies according to the way the plane is flown, even for identical aircraft.

Aircraft land with their flaps extended; this creates more friction (and produces more noise) than a plane with its flaps up.

Engine noise is created by the sound from the moving parts of the engine and also by the sound of the air being expelled at high speed once it has passed through the engine. Most of the engine noise comes from the exhaust or jet behind the engine as it mixes with the air around it, although fan noise from the front of the engine can also be audible when the aircraft is on the ground.

Aircraft manufactured today are much quieter than they were 20 years ago and these will be replaced by even quieter aircraft in the future (action 10). But, even though each individual aircraft is quieter, there are more planes flying now than previously. This means that the average level of noise is lower than before, but the frequency of aircraft movements and hence noise 'events' has increased.

In the UK, daytime aircraft noise is measured by calculating the average noise level in decibels (dB) over 16

hours, to give a single daily figure.

The UK Government calls this average decibel measurement 'L<sub>Aeq</sub>' (which is often shortened to L<sub>eq</sub>). It means 'equivalent continuous noise level' and is the most common international measure of aircraft noise. The UK Government says that communities become significantly annoyed by aircraft noise above 57dB L<sub>Aeq</sub>. They use this as the starting point when setting policy on aircraft noise.

In the last 10 years, the number of people affected by noise within Gatwick's 57 decibel contour has fallen considerably as older aircraft are replaced by newer, quieter models. In 1996 there were 14,900 people living within 57dB(A) 16 hour L<sub>eq</sub> daytime noise contour. By 2006 this had fallen to around 4,500. This is even though there was a significant growth in air travel at the same time, from around 220,000 to 263,400 flights in 2006 (CAA and ERCD).

## Effects of noise

There are many different effects and sources of noise, and individuals experience each of them to different degrees. The effects can include general distraction, speech interference and sleep disturbance. Sometimes these effects can lead to annoyance and complaints. Research into the potential health effects of noise is still unclear. Nevertheless the possibility that severe annoyance might induce stress cannot be ignored. The Government's White Paper, 'The Future of Air Transport' published in 2003, acknowledged the potential health effects of aviation and notes the Government's intention to continue with research

---

## 5 Background to aircraft noise and legal context

---

on the effects of noise on human health. Gatwick Airport will continue to monitor Government research in this area (action 55).

### Pre consultation and complaint data

In preparing this action plan we held a series of pre-consultation events with representatives from airlines, NATS, local authorities, local environment amenity groups and members of the Gatwick Airport Consultative Committee (GATCOM). Annex 4 details complaint data.

### ANASE

ANASE stands for Attitudes to Noise from Aviation Sources in England. It is a social study commissioned by the DfT in 2002 aimed at reassessing people's attitudes to aircraft noise, reassessing  $L_{Aeq}$  as a measure of annoyance and determining the financial value of noise. The final report was published in 2007, together with the comments of peer reviewers, and is available at [www.dft.gov.uk](http://www.dft.gov.uk).

The expert peer reviewers advised the DfT that reliance on the detailed outcome of the ANASE study would be misplaced and specifically counselled against using the detailed results and conclusions in the development of Government policy. The Government stated that they did not propose to use the detailed results from ANASE in the development of policy.

Gatwick Airport supports the Government's view of ANASE being an important step forward in understanding people's attitudes towards aviation noise. The report

findings will continue to be reflected on and considered by Gatwick Airport when formulating noise strategies, objectives and plans.

### Interdependencies

#### Noise and emissions to air

There are interdependencies between the emissions of local air pollutants and carbon dioxide (CO<sub>2</sub>) from aircraft engines, which affect aircraft noise management strategies. Most of the technological advances in aircraft design in the last 20 years have led to both a reduction in noise and CO<sub>2</sub> emissions, but in some cases have resulted in an increase in emissions of local air pollutants such as oxides of nitrogen (NO<sub>x</sub>). The challenge for the aviation industry is to address these three issues simultaneously.

Operational controls also need to be balanced. For example, the adoption of a reduced thrust setting for an aircraft during take-off can reduce NO<sub>x</sub> emissions by up to 30% or more compared to a full thrust setting.

Many airlines already employ 'reduced thrust' as their standard operating procedure. While this is beneficial in the immediate vicinity of the airport, there can be a small increase in the noise experienced by those further away under the departure flight path as the aircraft decreases its angle of ascent.

Gatwick Airport has long been aware of the interdependencies between noise, local air quality and CO<sub>2</sub> emissions and has undertaken a number of studies to help quantify the exact balance that needs to be struck for specific situations. The level

---

## 5 Background to aircraft noise and legal context

---

of scientific understanding of interdependencies, however, is incomplete, and Gatwick Airport continues to promote further research.

### **The legal context – regulation of aircraft noise in the UK**

There are three main tiers of regulation which govern aircraft noise in the UK: international; European and national.

#### **International regulation**

The International Civil Aviation Organisation (ICAO) is an inter-governmental organisation. It aims to develop the principles and techniques of international civil air navigation and foster the planning and development of international air transport. One of ICAO's main activities is to establish international standards, recommended practices and procedures regarding the technical fields of aviation, including aircraft noise. After a standard is adopted it is put into effect by each ICAO member state in its own territory.

ICAO has set progressively tighter certification standards for noise emissions from civil aircraft. Aircraft operating in member states must conform to these standards, which are known as Chapters. The Chapters set maximum acceptable noise levels for different aircraft during landing and take-off. Aircraft falling within Chapter 2 have been banned from operating within the EU since 1st April 2002, unless they are granted specific exemptions. The vast majority of civil aircraft now operating therefore fall within Chapters 3 and 4, i.e. they are quieter than the previous Chapter 2 aircraft. All new

aircraft manufactured from 2006 onwards must meet the requirements of Chapter 4. The standard for Chapter 4 has been set at 10dB below that of Chapter 3. This is based on an aggregate of reductions in noise measured at three standardised locations close to an airport. During the process of agreeing the Chapter 4 standard, Gatwick Airport sought a stricter level at 18dB below the current Chapter 3, which would have reflected best available technology. As yet, there is no agreed date for the phase out of Chapter 3 aircraft. Although we do have an action to consult with our airline partners on the voluntary phase out of these aircraft (action 2).

Further details regarding these standards can be found at

- ➔ [www.dft.gov.uk](http://www.dft.gov.uk)
- ➔ [www.caa.co.uk](http://www.caa.co.uk)
- ➔ [www.icao.int](http://www.icao.int)

ICAO also requires Member States to adopt a 'balanced approach' to noise management. The balanced approach goes beyond individual aircraft to consider:

- reducing aircraft at source
- land planning use
- changes to operational procedures
- restrictions on the use of the noisiest aircraft.

This approach has been adopted through the various strategies in this noise action plan.

---

## 5 Background to aircraft noise and legal context

---

### Balanced approach

Since 2001 the ICAO Assembly has required member states to adopt a 'balanced approach' to aircraft noise management. This consists of identifying the noise problem at an airport and then analysing the various measures available to reduce noise through the exploration of four principal elements, namely:

- reduction at source (quieter aircraft)
- land-use planning and management
- noise abatement operational procedures and operating restrictions to address the noise problem cost-effectively. ICAO has developed policies on each of these elements, as well as on noise charges.

This approach has been adopted in developing this draft noise action plan.

### European regulation

The EU works to define a common aviation policy in Europe. The main driving force for this has been the European Civil Aviation Conference (ECAC), which has been set up under the auspices of the EU and ICAO. The EU has issued various directives relating to the management and control of environmental issues and is increasingly assuming responsibility for the regulation of aircraft noise standards. Member states are obliged to comply with the requirements of the directives and incorporate them into national legislation.

The directives of most relevance to aircraft noise are:

**EC Directive 92/14/EEC** – this directive banned Chapter 2

aircraft from landing in the EU from 1 April 2002.

**EC Directive 2002/30** – this directive has various elements:

- it introduced discretionary powers to restrict the operation of marginally compliant Chapter 3 aircraft, where circumstances support this measure
- it requires the publication of environmental noise objectives for the airport
- it requires the adoption of a balanced approach to noise management, including the four elements agreed by ICAO (see previous page).

### EC Directive 2002/49 ('Environment Noise Directive') (as amended)

– this directive requires member states to create noise maps from all transport sources in urban areas by 2007 and to adopt action plans to manage noise by 2008. The directive also aims to harmonise methods for measuring noise across the EU. We have produced this noise action plan to follow this directive.

### National regulation

The UK Government has an important role in setting and developing the policy framework for aircraft noise control at UK airports and achieves this in various ways:

---

## 5 Background to aircraft noise and legal context

---

### **The Future of Air Transport white paper**

In December 2003, the previous Government published its white paper, *'The Future of Air Transport'* (ATWP) which set out a strategic framework for the development of UK airport capacity over the next 30 years. It also outlined several new policies for airports which control, mitigate and compensate for aircraft noise with the aim of reducing and limiting the number of people significantly affected by aircraft noise. These policies are reflected in this action plan.

### **Aeronautical Information Package**

A range of noise controls relating directly to aircraft operations are set out in statutory notices and are published in the UK Aeronautical Information Package (UK AIP) and elsewhere as appropriate. These controls cover aspects such as continuous descent approaches (CDAs), noise abatement procedures and night flight restrictions (see Section six). The most recent version of the UK AIP noise abatement procedures can be found at

➔ [www.ais.org.uk](http://www.ais.org.uk)  
and follow the link to Gatwick Airport reference EGKK.

### **Planning policy**

Government policy for aircraft noise also includes land use and planning policies. These are set out in planning policy guidance (PPG) note 24<sup>1</sup>, which gives advice to local authorities on how the

planning system can be used to minimise the adverse effects of aircraft noise. It outlines the main considerations which local authorities should take into account when determining planning applications. For more information, refer to PPG 24.

### **Acts of Parliament and regulations**

The UK Government also enacts Acts of Parliament and regulations which deal with aircraft noise. The relevant legislation is detailed below:

#### **The Civil Aviation Acts 1982 and 2006**

– These Acts grant the Government powers to introduce noise control measures to limit or mitigate the effect of noise and vibration connected with taking off or landing aircraft at designated airports (the Secretary of State has currently designated Gatwick). These powers are widened by the Civil Aviation Act 2006. The Act also permits an airport authority to charge aircraft operators for use of the airport based on noise and emissions. Airport operators can thereby introduce differential charges to incentivise the use of quieter and cleaner aircraft. Information regarding Gatwick Airport's financial incentives is available at

➔ [www.gatwickairport.com/cou](http://www.gatwickairport.com/cou)

The Act also permits airport operators to levy financial penalties on aircraft operators who breach noise abatement requirements imposed by the Secretary of State. A sum equal to

<sup>1</sup> Planning Policy Guidance 24: Planning and Noise published September 1994 available at [www.communities.gov.uk](http://www.communities.gov.uk)

---

## 5 Background to aircraft noise and legal context

---

the penalties received must then be paid for the benefit of people who live in the vicinity of the airport. At Gatwick Airport, we enforce this power and did so long before 2006. All fines are paid annually to an independent charity, The Gatwick Airport Community Trust.

**The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003** – the Civil Aviation Act 2006 also confirms that the Secretary of State and airport operators remain subject to these regulations. These regulations transposed the EC Directive 2002/30/EC into UK law. They apply to major airport operators (ie above 50,000 aircraft movements of civil jet aeroplanes per year) and reflect the adoption of the ICAO balanced approach to achieving noise objectives. The regulations also set out the procedures which airports should follow when considering noise related operating restrictions. These include:

- taking into account costs and benefits of measures
- being non-discriminatory on grounds of nationality or identity of air carrier or aircraft manufacturer
- being no more restrictive than necessary in order to achieve the environmental objectives for a specific airport
- ensuring any performance-based operating restrictions are based on the noise performance of the aircraft as determined by ICAO certification procedures.

**The Environmental Noise (England) Regulations 2006 (as amended)** – these regulations transpose the requirements of EC directive 2002/49/EC (Environment Noise Directive – see above) into UK law. They place a duty on the Secretary of State to produce strategic noise maps and, under regulation 18, airport operators are obliged to produce noise action plans based on the strategic noise maps. Once prepared and adopted, the noise action plans must be reviewed and, if necessary, revised, at least every five years and whenever a major development occurs affecting the noise situation. The regulations have been amended by 2008 regulations and there are proposals to amend again by 2009 regulations.

**Airports Act 1986** – this Act gives power to the Secretary of State to make orders if it appears to him that the existing runway capacity of the airport is not fully utilised for a substantial proportion of the time during which it is available. It includes powers to limit the number of occasions on which aircraft may land or take off at an airport and schemes to allocate airport capacity.

**Aeroplane Noise Regulations 1999** – these regulations set out the noise certificate requirements for both propeller and jet aeroplanes registered in the UK. It makes provision to ensure that no aircraft can land or take off in the UK without a noise certificate

---

## 5 Background to aircraft noise and legal context

---

issued by its competent authority which meets at least equal requirements to those for UK registered aircraft. The regulations make reference to noise certification standards and noise limits issued by ICAO and also provides a list of aircraft that are exempt from the ICAO noise certification.

In accordance with its powers under the Civil Aviation Acts, the DfT has direct control over noise at Gatwick Airport and, following a lengthy consultation, has implemented the following noise abatement objectives for the current night flight regime running from 2006 to 2012:

- minimise sleep disturbance resulting from overflight of the noisiest types of aircraft
- mitigate the effects of noise, in particular sleep disturbance. This will be done by encouraging the airport to adopt night noise related criteria in order to determine which residents of domestic or noise sensitive premises should be offered insulation schemes
- limit the 6.5 hour, 48 dB(A)  $L_{eq}$  contour (for the winter and summer seasons combined) to 47km<sup>2</sup> by 2011 – 2012.

### Environmental Noise Objectives

In June 2006, the Secretary of State published long-term statutory environmental noise objectives for Gatwick Airport.

These are:

- To progressively encourage the use of quieter aircraft

- avoid allowing the overall noise from aircraft during the night quota period to increase above what was permitted in 2002-2003
- to meet other noise-abatement objectives as adopted from time to time.

### Local authorities

As well as Government legislation, additional noise-related controls are introduced by local planning authorities as part of the planning system. At Gatwick Airport there are several planning conditions relating to North Terminal which require towing of aircraft between 23:00 - 06:30 on some aircraft stands. This is often done by way of planning obligations contained in section 106 agreements made between the airport operator and the planning authority. Gatwick Airport signed a re-negotiated S106 Agreement in December 2008. This agreement outlines 60 environmental commitments and obligations in addition to detailed actions within six specific action plans, independently audited annually.

For details of Gatwick Airport's S106 Legal Agreement with West Sussex County Council and Crawley Borough Council and the associated action plans refer to

➔ [www.gatwickairport.com](http://www.gatwickairport.com)

---

# 6 Gatwick Airport's framework for noise management

---

Airports bring positive economic and social benefits as well as environmental impacts. They are important to the economy, providing jobs, encouraging inward investment and boosting local tourism.

However, they can also have an impact for those communities that exist around airports. Noise remains a significant issue for people living or working close to airports or under flight paths.

Limiting and, where possible, reducing the impact of noise is a long standing commitment of Gatwick Airport and is critical to maintaining the airport's licence to operate and grow.

Some of this noise results from Gatwick Airport's own operations, noise which we have the ability to directly control. However, noise is also generated from sources outside our direct control but where we can exert influence to bring about change.

## Noise strategy

### Our approach

Gatwick is a designated airport, so the Government sets the policy framework which influences how the airport responds to aircraft noise issues. The previous Government's white paper, *'The Future of Air Transport'*, published in 2003, outlined several ways to control, mitigate and compensate for noise.

The DfT has direct control over noise at Gatwick Airport. Local authorities also contribute to noise controls and we also work with airlines, NATS and

local authorities towards achieving our noise objectives. As detailed previously, in June 2006 the Secretary of State published long-term statutory environmental noise objectives for the airports. This included setting the night flight movement and noise quota limits and restrictions at these airports.

### Our plans

Alongside the statutory noise objectives, Gatwick Airport has set the following long term objective for the management of aircraft noise:

**'To gain the trust of our stakeholders that we are using best practicable means to minimise aircraft noise impacts'**

This had previously been supported by a long-term goal to be in the top 20% of companies for best practice in international airport noise management on comparable sites. In reality this means consistently being in the top seven or eight airports for aircraft noise management globally (operational procedures, mitigation, compensation and communication). After feedback it was clear that the benchmarking process by which this goal was assessed was not easily understood. Therefore we have set ourselves the aim of being considered by independent consultants as the leading major international airport on noise management using a benchmarking methodology supported by the Noise and Track Monitoring Action Group (NATMAG).

Gatwick Airport sets noise targets each year to work towards this goal, and these are published in our sustainability report and reported

---

## 6 Gatwick Airport's framework for noise management

---

through NATMAG together with performance information against key performance indicators.

In our approach to noise management we have set five key themes for the next five years. These establish a framework for the airport's draft noise action plan and help inform our priorities. They are:

1. Reducing noise impacts wherever practicable. This includes:
  - a. Quietest fleet practicable
  - b. Quietest practicable aircraft operations, balanced against NO<sub>x</sub> and CO<sub>2</sub> emissions
  - c. Effective and credible noise mitigation schemes
2. Engaging with communities affected by noise impacts to better understand their concerns and priorities, reflecting them as far as possible in airport noise strategies and communication plans
3. Influencing planning policy to minimise the number of noise sensitive properties around our airports
4. Organising ourselves to continue to manage noise efficiently and effectively
5. Continuing to build on our understanding of aircraft noise to further inform our priorities, strategies and targets.

We recognise that following the publication of this plan, it is important to keep communities and other stakeholders informed of the progress made. We are committed to reporting annually on our performance against our action plan

and the effectiveness of our actions to address community concerns (see action 28).

### **Current measures to manage aircraft noise at Gatwick Airport**

We believe, that we have a full and comprehensive range of noise management measures already in place when compared with other similar airports. These measures cover operational procedures, stakeholder communication and engagement as well as mitigation and compensation schemes. A recent independent study commissioned by the DfT cites Gatwick Airport as operating at or above current international best practice for noise management and mitigation (Eurocontrol report: Review of Gatwick arriving aircraft and related noise issues around Hever Castle May 2009). A summary table detailing the current key limit values in place at Gatwick is provided in Annex 5.

### **Land use planning**

The Government's policy for aircraft noise includes land use and planning policies. These are set out in planning policy guidance (PPG) note 24 (see Section five: Background to aircraft noise and legal context), which planning authorities are obliged to take into consideration.

---

## 6 Gatwick Airport's framework for noise management

---

### Noise mitigation and compensation

The previous Government's white paper on *'The Future of Air Transport'*, stated that in addition to controlling and reducing aircraft noise impacts, a proportion of the large economic benefits provided by airport development should be used to mitigate their local impacts. The principal mitigation measure for aircraft noise impacts (at Gatwick Airport) is the provision of acoustic insulation and can be required on a statutory basis under section 79 of the Civil Aviation Act 1982.

In practice, however, all Gatwick Airport's current noise insulation schemes are provided on a voluntary basis and meet the expectations of the Air Transport white paper. Specifically these are that airport operators are expected to:

- offer households subject to high levels of noise (66 dB(A)  $L_{eq}$  or more) assistance with the costs of relocating
- offer acoustic insulation (applied to residential properties) to other noise-sensitive buildings, such as schools and hospitals, exposed to medium to high levels of noise (63 dB(A)  $L_{eq}$  or more).

To address the impacts of future airport growth the Government also expects airport operators to:

- offer to purchase those properties suffering from both a high level of noise (69 dB(A)  $L_{eq}$  or more) and a large increase in noise (3 dB(A)  $L_{eq}$  or more)
- offer acoustic insulation to any residential property which

suffers from both a medium to high level of noise (63 dB(A)  $L_{eq}$  or more) and a large increase in noise (3 dB(A)  $L_{eq}$  or more).

In 2005, after consultation, Gatwick Airport launched a number of schemes including voluntary blight mitigation, noise relocation and insulation schemes. In 2008, Gatwick Airport launched a noise insulation scheme for homes.

### Noise insulation scheme

The noise insulation scheme has been developed following extensive consultation with residents, local authorities, local MPs and business partners since 2006. Feedback has been used to refine the scheme and to improve it wherever feasible. The aim of the scheme is to help reduce the impact of airport noise on households closest to Gatwick Airport and is based on predicted noise contours for a future scenario of Gatwick Airport serving 40 million passengers per year. There is a separate residential day and night noise insulation scheme. Maps detailing the boundaries for noise insulation schemes and relocation schemes are contained in Annex 7.

### Operational procedures and operating restrictions

A range of noise controls relating directly to aircraft operations are set out in statutory notices and are published in the UK Aeronautical Information Package (UK AIP).

For full details refer to

➔ [www.ais.org.uk](http://www.ais.org.uk)

and follow the link to Gatwick Airport reference EGKK.

### UK AIP requirements

Departures :

- after take-off the aircraft shall be operated in such a way that it is at a height of not less than 1,000 ft above aerodrome level at 6.5 km from the start of roll as measured along the departure track of that aircraft
- after taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.

Arrivals:

- between the hours of 23:30 (local) and 06:00 (local), inbound aircraft, whether or not making use of the ILS (instrument landing system) localiser and irrespective of weight or type of approach, shall not join the centre-line below 3,000 ft (Gatwick QNH) closer than 10 nm (nautical miles) from touchdown
- before landing at the aerodrome the aircraft shall maintain as high an altitude as practicable and shall not fly over the congested areas of Crawley, East Grinstead, Horley and Horsham at an altitude of less than 3,000 ft (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2,000 ft (Gatwick QNH).
- additionally, pilots are requested to avoid the use of reverse thrust after landing, unless required for safe operation of the aircraft, between 23:00 and 06:00 (local time). This is to minimise disturbance in areas adjacent to the airport.

### Continuous descent approach (CDA)

A CDA is a technique of flight in which a pilot descends at a continuous rate to join the glide-path at the correct height for the distance and thereby avoid the need for extended periods of level flight. The intention is to keep aircraft higher for longer, using reduced thrust and thereby reducing arrival noise. A CDA requires co-operation between Air Traffic Control (ATC) and pilots, as well as many other factors.

A voluntary code of practice for CDAs has been produced following work carried out by a group representing airlines, NATS, CAA, airports, the DfT Transport and local government. The full text can be found in the arrivals code of practice on the DfT website.

Levels of CDA achievement are regularly reported back to the and consultative committee (GATCOM) as well as the Flight Operations Performance Committee (FLOPC), which includes airline and ATC representatives.

### Areas of Outstanding Natural Beauty (AONBs)

Gatwick Airport is surrounded by many AONBs hence overflight is often unavoidable. The CAA offer guidance on how to manage this issue, the following being an extract from guidance given by the Secretary of State under Section 70(2)(d) of the Transport Act 2000:

'The National Parks and Access to the Countryside Act 1949 (which established AONBs and extends to England and Wales only) and planning policy guidance PPG 7 'The

## 6 Gatwick Airport's framework for noise management

Countryside and the Economy' and PPG 24 'Planning and Noise' do not preclude over-flight of National Parks or AONBs, as it is often impractical to do so. Government policy will continue to focus on minimising over-flight of more densely populated areas below 7,000ft. However, where it is possible to avoid over-flight of National Parks and AONBs below this altitude without adding to environmental burdens on more densely populated areas, it clearly makes sense to do so.'

### Night restrictions

The current night restrictions regime was introduced by the DfT in 2006. There have, however, been night restrictions in force at Gatwick Airport for many years. Please see Section five: Background to aircraft noise and legal context.

The basic requirement is that during the 'night period' (23:00 – 07:00 local time), the noisiest types of aircraft (classified as QC8 and QC16) may not be scheduled to land or take-off. From 23:30 to 06:00, the 'night quota period', aircraft movements are restricted by movements limits. These are supplemented by noise quotas as an additional measure. These are set for each season: summer (based on British Summer Time) and winter.

Noise quotas are assigned to aircraft based on the noise they create. The Quota Count (QC) classifications are as below:

Certified noise level (EPNdB)	Quota count
More than 101.9	QC/16
99 - 101.9	QC/8
96 - 98.9	QC/4
93 - 95.9	QC/2
90 - 92.9	QC/1
87 - 89.9	QC/0.5
84 - 86.9	QC/0.25

Aircraft are classified separately for take-off and landing. The QC classifications of individual aircraft are published in the statutory notice.

The restrictions regime provides an exemption for certain aircraft from the requirements if their noise certification data is less than 84 effective perceived noise decibels (EPNdB).

The regime also allows a small degree of flexibility at the end of the season. That is, up to 10% of the current season's movements limit may be carried over if sufficient amount of the limit is unused, and up to 10% of the next season's movements limit may be anticipated in the event of an overrun. Any excess overrun is penalised in the following season at double the amount of the excess. The same arrangements apply to the noise quotas. The Secretary of State also has the power to specify circumstances in which movements can be disregarded from the

---

## 6 Gatwick Airport's framework for noise management

---

restrictions by the airport managers. The airport companies may disregard night movement when there are delays to aircraft which are likely to lead to serious congestion at the aerodrome serious hardship or suffering to passengers or animals and where there are delays to aircraft resulting from widespread and prolonged disruption of air traffic.

The permitted operations are:

- any aircraft which has a quota count of 4, 8, or 16 may not be scheduled to take off or land during the night quota period
- any aircraft which has a quota count of 8 or 16 may not be scheduled to take off or land during the night period
- any aircraft which has a quota count of 8 or 16 may not take off in the night period, except in the period 23:00 hours to 23:30 hours in circumstances where:
  - a. it was scheduled to take off prior to 23:00 hours
  - b. the take-off was delayed for reasons beyond the control of the aircraft operator
  - c. the airport authority has not given notice to the aircraft operator precluding take-off.

Gatwick Airport reports regularly to GATCOM and to the DfT on usage of the movements limits and the noise quotas, details of any dispensations or exemptions granted, and also on any movements by QC/8 and QC/16 aircraft during the night period. All dispensations granted by the airport have to be reported to the DfT in writing within one week of the event occurring.

### **Noise preferential routing (NPRs)**

Aircraft departing Gatwick Airport are required to follow specific departure paths, or NPRs. However, ATC is permitted to direct aircraft off NPRs for safety reasons, including adverse weather conditions. NPRs were designed to avoid overflight of built-up areas where possible. Once aircraft reach 4,000 ft (or 3,000 ft dependent on departure route and time) at any point along an NPR, they may be vectored off the route by ATC onto more direct headings to their destinations. (See Annex 6)

### **Noise limits**

During the night quota period (23:30-06:00) the departure noise limit is 87 dB(A)  $L_{max}$ . During the remainder of the night period (23:00-23:30 and 06:00-07:00), the noise limit is 89 dB(A). The limits apply at fixed noise monitors. These night time limits are consistent with the night restrictions regime. There is also a daytime noise limit of 94 dB(A). Airlines whose aircraft breach the noise limits are fined by Gatwick Airport. There are no arrivals noise limits.

### **Ground noise**

Aircraft engine testing is also controlled by Gatwick Airport. This is done by establishing and enforcing ground noise controls by way of Gatwick Airport Directives (GADs).

In the case of engine run-up restrictions, the GAD states that unless there are urgent operational reasons for engine testing to be carried out at night, ground running must be confined to the period 07:00-22:00 local time. There are additional restrictions regarding the running of auxiliary power units.

## 6 Gatwick Airport's framework for noise management

### Noise monitoring

Gatwick Airport has a noise and track-keeping system, which takes radar data from ATC radars and combines it with flight information and data from both fixed and mobile noise monitors around the airport. There are five of these around Gatwick, the location and distance decided in 2000 following consultation. The location of the monitors take account of the noise preferential routes.

Additionally, mobile monitors are used in various community locations to provide information relating to the local noise climate.

### Noise charges

Conditions of use and airport charges for Gatwick Airport are published every year. The charge on landing is assessed and paid on the basis of the maximum total weight authorised (MTWA) as recorded by the airport companies on 01 April each year and are weighted according to their noise emissions. The base charge applies to jet aircraft over 16 tonnes, which meet the noise certification standards of ICAO Annex 16, Chapter 3. Aircraft which do not meet the requirements for Chapter 3 certification must pay an additional surcharge. Similarly, quieter aircraft (again certificated according to the ICAO Annex 16 Chapter system), are charged a reduced fee. The aim is to encourage operators to use the quietest possible fleet. A brief summary of the charging structure as of April 2009 is set out in the table below. Full details on the conditions of use can be found at [www.gatwickairport.com/cou](http://www.gatwickairport.com/cou)

Charging Category	Charge Levied	Category definition
Chapter 3 base	Base charge	Jet aircraft over 16 metric tonnes which meet the noise certification standards of ICAO Annex 16 Chapter 3.
Non chapter 3 aircraft	Base charge plus 300%	Aircraft who fail to meet Chapter 3 noise certification standards as a minimum or any non certificated aircraft.
Chapter 3 high	Base charge plus 150%	Aircraft with summed certificated noise levels within 5EPNdB of the summed Chapter 3 noise certification standards.
Chapter 3 minus	Base charge minus 10%	Jet and non jet aircraft in excess of 16 tonnes which on both arrival and departure have a quota count of 1 or less.
Chapter 4	Base charge minus 15%	Jet and non-jet aircraft over 16 metric tonnes which meet the noise certification standards of ICAO Annex 16 Chapter 4.

---

## 6 Gatwick Airport's framework for noise management

---

### **Stakeholder engagement**

In addition to the above measures, Gatwick Airport also regularly engages with stakeholders including airlines, NATS, local communities, local authorities and government bodies. This is done through various engagement forums such as NATMAG, GATCOM Steering Group, GATCOM, Section 106 Steering Group, Pilots Forum, and the Ground Noise Committee.

### **Aircraft Noise Monitoring Advisory Committee (ANMAC)**

ANMAC was setup by the Government in the early 1990s to advise them on the operation of the noise monitoring equipment which BAA had been required to install by the DfT under the Civil Aviation Act 1982. Since then the committee has been used as an advisory body on various noise issues. Membership includes representatives from NATS, the Environmental Research and Consultancy Division (ERCD) of the CAA, the scheduling committees and their technical advice, BAA and Gatwick Airport Limited, and a representative and technical adviser from the consultative committees of the three airports. The committee is chaired by the head of the Environment Division at the DfT.

### **Gatwick Airport Consultative Committee (GATCOM)**

GATCOM is an independent committee which includes representatives of airport users, local authorities and other bodies concerned with the locality, Gatwick Airport meets a statutory obligation by consulting with the committee. The GATCOM meets six times a year

and is a public forum.

### **Noise and Track Keeping Working Group (NATMAG)**

NATMAG is a group set up by Gatwick Airport comprising local community representatives, air traffic control and airport personnel. It is active on noise and track-keeping and other environmental issues and reports on these to GATCOM.

### **Flight Operations Performance Committee (FLOPC)**

FLOPC is an internal committee of Gatwick Airport. Its membership comprises pilots, NATS and Gatwick Airport's Airside Operations team. It reviews noise, track and CDA performance, shares best practice and also advises on noise abatement procedures. A report from FLOPC is presented at each NATMAG.

### **Accessing information**

#### **Flight Evaluation Unit (FEU)**

Gatwick Airport monitors compliance with the various noise control measures and handles noise queries and complaints through a centralised FEU. This responds to all queries/complaints and reports on complaints to DfT and GATCOM (see action 32)

---

## 6 Gatwick Airport's framework for noise management

---

### Reporting

We produce an annual FEU report which provides information on performance against noise control measures. Detailed within this draft action plan is our intention to publish quarterly FEU update reports on our website. We have also recently updated our leaflets and web based material. We also include a summary of our activity in relation to noise management as part of our annual Sustainability Performance Report. Both these are available on our website at [gatwickairport.com](http://gatwickairport.com). In addition we report regularly to the DfT, airlines and NATS as well as at NATMAG and GATCOM meetings.

### Industry groups

#### Airports Council International

ACI pursues airports interests in discussions with international organisations. The most important relationship is with the International Civil Aviation Organization (ICAO), where international standards for air transport are debated and developed. ACI defends airport's positions and develops standards and recommended practices in the areas of safety, security and environment. It also advances and protects airport interests in policy changes on airport charges and regulation, strengthening the hand of airports in dealing with airlines.

Gatwick Airport's recent membership of ACI gives us the opportunity to encourage the exchange of knowledge between European airports share best practice and influence policy changes.

### Sustainable Aviation

Sustainable Aviation brings together the main players from UK airlines, airports, manufacturers and air traffic service providers around a long term strategy which sets out the collective approach of UK aviation to tackling the challenge of ensuring a sustainable future for the industry.

Gatwick Airport's involvement with Sustainable Aviation enables us to engage with the relevant experts to improve environmental performance. For example, Sustainable Aviation is involved in the development of a Departures Code of Practice.

### Website and WebTrak

Detailed information relating to aircraft noise is available on our website,

➔ [www.gatwickairport.com](http://www.gatwickairport.com)

This has links to various publications such as 'Bothered by noise' and fact sheets dealing with ground noise and night flights. There are also links to FEU reports and Gatwick Airport's sustainability report.

A further facility on the website is our flight tracking tool, WebTrak. WebTrak is an online self service enquiry system showing Gatwick aircraft flight tracks, heights and aircraft types. By using WebTrak it is possible to see where planes are flying in relation to where you live or work. Additionally, there is the facility to make specific enquiries through the website.

### WebTrak

WebTrak is an on-line application that allows people to see and track flights using Gatwick Airport as well as showing the aircraft type, flight number, speed and altitude they are

---

## 6 Gatwick Airport's framework for noise management

---

flying at. **For security reasons, the data is delayed between 24 and 48 hours so the tracks are not in real time.**

### **Complaint handling service**

Gatwick Airport's (FEU) registers and investigates all complaints received in line with our stated complaint handling policy.

Relevant information to help understanding of the issue is offered but the FEU will not repeatedly supply the same or similar information or substantial amounts of data, or undertake extensive data gathering exercises in individual cases.

This allows the FEU to concentrate on performance monitoring and overall studies with the aim of providing useful information about what, if any, improvements might be possible. The FEU also continuously monitors overall performance, for example track keeping and CDA. This is not dependent on receipt of complaints. Where there appears to be something unusual occurring it is investigated and the data is used to continue to work proactively with the airline community to enhance performance overall. See Annex 4 for complaint data.



---

# 7 Results of the 2006 noise mapping

---

Gatwick Airport has, for many years, had an extensive noise management regime and annually produced summer  $L_{Aeq}$  16 hour day contours. Therefore, the results of the 2006 noise mapping do not raise any significant new issues. Traditionally our approach to noise management has contained actions aimed at addressing areas outside of these contours and, additionally, ground noise. As stated above, the actions contained within this plan will continue to adopt this approach.

The location of Gatwick Airport and the alignment of the main and emergency runways mean that aircraft arrive and depart mostly over lightly populated countryside. The alignment of the main runway means that residents of areas such as Lingfield to the east of the airport Oakwood Hill to the west are impacted by the airport's operation. Gatwick Airport has witnessed steady growth over recent decades, handling 263,716 runway movements in 2008 compared to 220,000 in 1996.

The prevalence of westerly winds means that approximately 70% of aircraft arrivals come from the east and around 70% of departures are to the west.

There are four departure routes to the east and five to the west. The  $L_{den}$  maps indicate the impact of these NPRs particularly to the west where the departure routes form a spur in the 55dB  $L_{den}$  contour over Capel and the surrounding area.

For aircraft arriving at Gatwick the contour is influenced by arrivals from

the east where the 55dB  $L_{den}$  contour extends over Marsh Green.

The impact of departures is less marked on the  $L_{night}$  contour map reflecting that the night period typically consists of scheduled arrivals.

Detailed overleaf, and in Annex 3, are the results of the 2006 noise mapping, showing the estimated number of people and dwellings exposed above various noise levels. This data has been sourced directly from the data pack provided to us by DEFRA. We have included data from  $L_{day}$ ,  $L_{evening}$ ,  $L_{night}$ ,  $L_{den}$  and  $L_{eq}$  noise contours. We considered these results and our current noise mitigation measures in compiling this noise action plan.

The number of dwellings has been rounded to the nearest 50, except when the number of dwellings is greater than zero but less than 50, in which case the total has been shown as '<50'. The associated population has been rounded to the nearest 100, except when the associated population is greater than zero but less than 100, in which case the total has been shown as '<100'.

## Note

There is slight difference between the result presented in the ERCD report and those used in this action plan.

The results for the number of people affected given in the ERCD report were derived by consultants for the CAA using a different population dataset from that which was used by DEFRA.

## 7 Results of the 2006 noise mapping

The same noise mapping results were used as the basis for both assessments.

It is this difference that has caused the differences between the two sets of results.

**Table 1**

Estimated areas, populations and households within Gatwick Airport 12 hour day  $L_{day}$  noise contours.

Source: DEFRA 2006 noise mapping (data pack)

Noise level db (A)	Area (km <sup>2</sup> )	Dwellings	People
≥54	81.2	4,100	10,300
≥57	47.4	1,850	4,400
≥60	27.5	500	1,300
≥63	15.8	250	600
≥66	8.8	150	300
≥69	4.7	<50	<100
≥72	2.5	0	0
> 75	1.4	0	0

**Table 2**

Estimated areas, populations and households within Gatwick Airport four hour  $L_{evening}$  noise contours.

Source: DEFRA 2006 noise mapping (data pack)

Noise level db (A)	Area (km <sup>2</sup> )	Dwellings	People
≥54	57.5	2,550	6,200
≥57	33.2	750	1,900
≥60	18.7	350	800
≥63	10.3	150	400
≥66	5.5	<50	100
≥69	2.9	<50	<100
≥72	1.6	0	0
> 75	0.9	0	0

## 7 Results of the 2006 noise mapping

**Table 3**

Estimated areas, populations and households within Gatwick Airport eight hour  $L_{night}$  noise contours. See Annex 3, Map 2

Source: DEFRA 2006 noise mapping (data pack)

Noise level db (A)	Area (km <sup>2</sup> )	Dwellings	People
≥48	69.9	3,000	7,500
≥51	40.0	1,500	3,700
≥54	22.8	450	1,100
≥57	12.8	200	500
≥60	7.0	100	300
≥63	3.7	<50	<100
≥66	2.1	0	0
> 69	1.4	0	0

**Table 4**

Estimated areas, populations and households within Gatwick Airport 24 hour  $L_{den}$  noise contours. See Annex 3, Map 1

Source: DEFRA 2006 noise mapping (data pack)

Noise level db (A)	Area (km <sup>2</sup> )	Dwellings	People
≥55	94.5	4,700	11,900
≥60	38.2	1,300	3,200
≥65	14.9	250	600
≥70	5.4	50	100
≥75	2.0	0	0

---

## 7 Results of the 2006 noise mapping

---

**Table 5**

Estimated areas, populations and households within Gatwick Airport annual 16 hour day  $L_{Aeq}$ , 16h noise contours.

Source: DEFRA 2006 noise mapping (data pack)

Noise level db (A)	Area (km <sup>2</sup> )	Dwellings	People
≥54	75.6	3,550	8,900
≥57	44.0	1,550	3,700
≥60	25.4	450	1,200
≥63	14.6	200	600
≥66	8.1	100	300
≥69	4.3	<50	<100
≥72	2.3	0	0
> 75	1.3	0	0

# 8 Evaluation of the action plan

## Performance indicators for our action plan

We will use a set of performance indicators to monitor and assess the effectiveness of our plan.

The full range of indicators is set out in the noise action plan in Section nine. Our performance against these indicators will be regularly reviewed internally through our environmental governance structure. We will also report on progress against these in our annual sustainability report and through our S106 obligations.

During the five year period of this action plan, we may add to or amend the range of performance indicators to respond to improvements which enable us to better manage the

airport noise impacts. From time to time we may set an annual target against one or more of the performance indicators and include this in our annual reporting.

Set out below is a series of key performance indicators which we propose to publish annually through our sustainability and/or Flight Evaluation Report.

We have included figures for 2006 against our performance indicators, in order to set a baseline for the future.

Key performance indicator	2006 Baseline
Percentage of Chapter 4 (or equivalent) Aircraft	3%
Area inside the 55dBA $L_{den}$ contour (km <sup>2</sup> )	94.5km <sup>2</sup>
Area inside the 48dB $L_{Aeq, 6.5 \text{ hour}}$ night-time (winter & summer seasons combined) contour (km <sup>2</sup> )	41.3km <sup>2</sup> * <small>*2003 figure</small>
Area inside the 57dB $L_{Aeq, 16 \text{ hour}}$ daytime summer contour (km <sup>2</sup> )	46.7km <sup>2</sup>
Average Quota Count of Aircraft operating during the Night Quota Period (2330-0600)	0.7
Number of infringements of the daytime departure noise limit	9
Number of infringements of the shoulder and night period	2
Percentage of aircraft achieving a CDA (24 hour period)	81.0%
Percentage of aircraft on track (all routes)	98.2%
Number of individual callers making noise related enquiries	794
Percentage of noise related enquiries responded to within eight working days	94.5%

---

## 8 Evaluation of the action plan

---

As a way of measuring the success of the draft noise action plan we have identified a number of expected outcomes. These are also set out below:

- no operations in 2015 by marginally compliant Chapter 3 aircraft (Chapter 3 high)
- at least 83% of aircraft movements by Chapter 4 or equivalent aircraft
- performance against the noise abatement procedures in the UK Aeronautical Information Publication (AIP) will be maintained and where practicable improved against a 2006 baseline
- no daytime infringements against 94dB(A) daytime departure noise limit
- we will be routinely reporting noise impacts using alternative metrics
- the 48dB(A) 6.5 hour  $L_{eq}$  night contour (winter/summer combined) will be within 47km<sup>2</sup>.

# 9 Our action plan

Key: ■ Yellow highlights indicate new actions.

'We' refers to Gatwick Airport Limited.

Action	Impact	Time scale	Performance indicator	Numbers affected
<b>Demonstrating we are doing all that is reasonably practicable to minimise noise impacts</b>				
<b>Quietest fleet practicable</b>				
1. We will develop and consult with airlines on policy prioritising airlines operating Chapter 4 aircraft, or equivalent when introducing new business to Gatwick. With the aim of increasing the percentage of Chapter 4 or equivalent aircraft operating at Gatwick to 83% by 2015.	Arrivals, Departures and Ground	ongoing	Track fleet mix including % of Chapter 4 or equivalent aircraft	In excess of 11,900
2. We will consult with our airline partners on the voluntary phase out of Chapter 3 high aircraft in favour of Chapter 4 or equivalent at Gatwick.	Arrivals, Departures and Ground	2015	Track fleet mix including % of Chapter 3 high aircraft	In excess of 11,900
3. We will review the landing fee differential at least every five years commencing in 2010.	Arrivals, Departures and Ground	2010	Publication of landing fees	In excess of 11,900
4. In conjunction with our airline partners we will seek to introduce a 'fly quiet and clean' programme. This will rank our airline partners in relation to their overall performance for noise and emissions impacts using metrics such as compliance with abatement techniques, fleet age, engine fit and passenger loads per km. critical to this programme will be the continued delivery of high CDA performance through partnership work with airlines.	Arrivals, Departures and Ground	2012	Actions/minutes of meetings Introduction and Publication of 'fly quiet and clean' policy	In excess of 11,900
<b>Quietest practicable aircraft operations, balanced against NO<sub>x</sub> and CO<sub>2</sub> emissions</b>				
5. We will continue to promote adherence to the ACOP and in particular the achievement of CDAs through forums such as FLOPC, the Gatwick Airport Pilots Forum, Sustainable Aviation and other communication events.	Arrivals	Ongoing	Improving CDA performance statistics	In excess of 8,700
6. We will continue to promote, monitor, seek to improve and report on adherence to the departure noise abatement procedures detailed in the Gatwick AIP. The detail of this is described within the main body of this document.	Departures	Ongoing	Performance tracked through quarterly FEU reports and NATMAG minutes	In excess of 11,900
7. We will continue to promote, monitor, seek to improve and report on adherence to the arrival Noise abatement procedures detailed in the Gatwick AIP. See section six.	Arrivals	Ongoing	Performance tracked through quarterly FEU reports	In excess of 8,700

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Timescale	Performance indicator	Numbers affected
<p><b>8.</b> We will continue to administer the DfT night restrictions regime and ensure that the number of operations at night is within the limits prescribed. We will also be actively involved in the Government night noise consultation in 2010.</p> <p><b>9.</b> We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls. The current controls are set out below.</p> <ul style="list-style-type: none"> <li>Aircraft engine testing. To ensure that the environmental impact of aircraft engine running on the local community is kept to a minimum, aircraft operators with maintenance commitments at the airport are expected to plan their schedule to avoid the need for ground running of engines at night. Night for these purposes is defined as the period between 22:00 - 07:00 local time.</li> <li>Use of Ground Power Units (GPU). The placing of GPU on stands without prior permission will not be allowed. Permission will only be granted if: <ul style="list-style-type: none"> <li>There is no fixed electrical ground power unit (FEGP) installed on the stand.</li> <li>The FEGP which has been installed at the stand is temporarily out of service: or</li> <li>The relevant aircraft is incapable of utilising FEGP by reason of design or a technical malfunction or the power so supplied is insufficient for the aircraft.</li> </ul> </li> <li>Limitations on the use of auxiliary power units (APU). The purpose of this Gatwick Airport directive is to reduce aircraft related noise and emissions by limiting the use of the APU under certain conditions on arrival and departure from stand at Gatwick Airport.</li> </ul>	<p>Arrivals Departures</p> <p>Ground</p>	<p>Ongoing</p> <p>Ongoing</p>	<p>Seasonal night quota reports</p> <p>Airside Operations quarterly review statistics reported at FLOPC</p>	<p>In excess of 11,900</p> <p>3,200</p>
<p><b>10.</b> In conjunction with our partners in Sustainable Aviation we will continue to lobby for and seek to support continual improvements in technology and operations towards the ACARE goal of 50% reduction in perceived external noise by 2020 based on new aircraft of 2020 relative to equivalent new aircraft in 2000.</p>	<p>Arrivals Departures Ground</p>	<p>Ongoing</p>	<p>Progress towards goals reported in Sustainable Aviation bi-annual report</p>	<p>In excess of 11,900</p>
<p><b>11.</b> We will continue to fine aircraft in breach of the DfT departure noise limits, and we will seek to increase the fining levels with the aim of penalising repeat offenders or departure noise infringements in 2010 and review levels every five years.</p>	<p>Departures</p>	<p>2010/2015</p>	<p>No. of noise infringements</p>	<p>3,200</p>

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Time scale	Performance indicator	Numbers affected
<p><b>12.</b> We will work with our partners in Sustainable Aviation to develop and promote low noise flight procedures through evaluation of future operational methods and implementation of best practice, e.g. evaluating the feasibility of introducing a steeper approach as part of an international initiative. Gatwick Airport will implement any recommendations resulting from feasibility studies in conjunction with the CAA and the DfT as and when they are released.</p>	Arrivals Departures Ground	Ongoing	Progress reported in Sustainable Aviation's bi-annual report	In excess of 11,900
<p><b>13.</b> In conjunction with our airline partners and NATS we will undertake a review in 2010 of our stand planning procedures to identify any opportunities to prioritise stand allocation so as to minimise ground noise impacts.</p>	Ground	2010	Produce report and implement findings where applicable	3,200
<b>Effective and credible noise mitigation schemes</b>				
<p><b>14.</b> We will acoustically insulate all eligible properties within our current residential noise insulation scheme for which applications have been received by the summer of 2011. We will review this scheme in 2010 with a view to extending the scheme for a further period.</p>	Community noise mitigation initiative	2010	No. of all eligible applicants receiving insulation	3,200
<p><b>15.</b> We will request that the DfT review and explore in conjunction with Gatwick Airport the possibility of updating the current departure noise limits the current departure noise limits.</p>	Departures	2010	Response from DfT/ review date	3,200
<p><b>16.</b> We will continue to offer households subject to high levels of noise (69dB(A) <math>L_{eq}</math> or more) assistance with the costs of relocating</p>	Community noise mitigation initiative	Ongoing	No. of eligible applications receiving assistance	100
<p><b>17.</b> We will request that the DfT review and explore in conjunction with Gatwick Airport the possibility of updating the current night departure noise limits the current night noise limits</p>	Arrivals / Departures	2010	Response from DfT/ review date	In excess of 11,900
<p><b>18.</b> We will continue to offer acoustic insulation to other noise sensitive buildings such as schools and hospitals, exposed to medium to high levels of noise (63dB(A) <math>L_{eq}</math> or more)</p>	Community noise mitigation initiative	Ongoing	No. of eligible noise sensitive building receiving assistance	39 public buildings, (schools, carehomes, hospitals etc.)

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Time scale	Performance indicator	Numbers affected
<b>19.</b> We will request that the DfT review current airspace utilisation around Gatwick.	Arrivals / Departures	2010	Response from DfT/review date	Not Known
<b>20.</b> To address the impacts of future growth we will continue to offer acoustic insulation to any residential property which suffers from a medium to high level of noise (66dB(A) $L_{eq}$ or more) and a large increase in noise (3dB(A) $L_{eq}$ or more)	Community noise mitigation initiative	Ongoing	No. of properties offered assistance	Not Known
<b>21.</b> To address the impacts of future growth we will continue to offer to purchase those properties suffering from both a high level of noise (63dB(A) $L_{eq}$ or more) and a large increase in noise (3dB(A) $L_{eq}$ or more), in accordance with the Terms of Reference of the property market support bond and home owners support scheme.	Community noise mitigation Initiative	Ongoing	No. of properties offered assistance	In excess of 600
<b>22.</b> We will undertake and publish a feasibility study to assess the potential economic and environmental costs and benefits of operating a runway preference by the end of 2010.	Arrivals Departures Ground	2010	Publish report and decision on operating a runway preference	In excess of 11,900
<b>23.</b> We will continue to engage with our aviation partners through FLOPC to seek to improve adherence to the AIP.	Arrivals Departures	Ongoing	FLOPC minutes (within FEU report)	In excess of 11,900
<b>24.</b> We will develop a strategy to minimise APU use in order to reduce ground noise and local air quality emissions and replace with and roll out through 2010, with impacts being reviewed on an annual basis.	Ground	Ongoing	Issue of strategy. Issue of MDI's.	3,200
<b>Engagement with communities affected by noise impacts to better understand their concerns and priorities, reflecting them as far as possible in airport noise strategies and communication plans</b>				
<b>25.</b> We will publish each quarter on our website the level of adherence with the noise abatement procedures in the Gatwick AIP.	Arrivals Departures	Ongoing	Publish report on website highlighting performance	n/a

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Time scale	Performance indicator	Numbers affected
<b>26.</b> We will continue to keep abreast of government research and guidance in relation to issues of tranquility and overflight of areas of outstanding natural beauty. (AONB)	Arrivals, Departures	Ongoing	implementation of any revised guidance	In excess of 11,900
<b>27.</b> We will continue to engage with local community representatives on air noise through appropriate consultation groups, such as NATMAG, GNC, FLOPC.	Arrivals Departures Ground	Ongoing	Meetings held, notes & actions including feedback from meeting attendees and Local Authorities	n/a
<b>28.</b> We will report annually on the progress of the action plan in our FEU report and our website. We will also report at the airport noise track monitoring group. (NATMAG)	Arrivals Departures Ground	Ongoing	Publish report	n/a
<b>29.</b> We will continue to engage with GATCOM on noise management providing quarterly reports of performance and the work of the FEU, NatMAG, GNC and FLOPC.	Arrivals Departures Ground	Ongoing	Meetings held, minutes, notes	n/a
<b>30.</b> We will continue to offer a range of contact options for complaints and enquires regarding aircraft noise including email, website and a low call contact number.	Arrivals Departures Ground	Ongoing	Availability of complaint channels	n/a
<b>31.</b> We will continue to provide public access to flight track information (delayed by 24 hours) via Webtrak.	Arrivals Departures	Ongoing	Availability of Webtrak	n/a
<b>32.</b> We will maintain the new fully functional FEU put in place as a result of the separation from BAA in 2009. The FEU will provide accurate and timely data to aid strategy development and noise complaint handling.	Arrivals / Departures Ground	2010	Efficient compliant handling and resolution. FEU customer service survey	In excess of 1,900
<b>33.</b> We will continue to log all complaints relating to aircraft operations and publish the statistics on our website quarterly.	Arrivals Departures Ground	Ongoing	Performance track through quarterly FEU reports	n/a

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Timescale	Performance indicator	Numbers affected
<b>34.</b> We will seek to respond to at least 95% of all complaints and enquiries within eight working days of receipt and publish our performance in NATMAG quarterly reports.	Arrivals Departures Ground	Ongoing	Performance tracked through quarterly FEU reports	n/a
<b>35.</b> Through our work with NaTMAG and the EHO Community Noise Group we will seek to further develop our community noise monitoring programme to help gain greater understanding of the impacts in communities affected by Gatwick operations.	Arrivals Departures	Ongoing	Status and development of Community Noise Monitoring Programme	n/a
<b>36.</b> We will continue to direct all money raised by noise infringements to the Gatwick Airport Community Trust.	Arrivals Departures Ground	Ongoing	Money paid to Gatwick Airport Community Trust	n/a
<b>37.</b> By the end of 2011 we will review, develop and consult on alternative metrics for describing the impact of aircraft operations during the course of this action plan. We will work and liaise with other UK airports and the DfT on the revised metrics whilst seeking review by Aircraft Noise Monitoring Advisory Committee (UK) ANMAC.	Arrivals / Departures	2011	Publish methodology and measures used in our sustainability report	n/a
<b>38.</b> We will continue to engage with local community representatives on ground noise through the Ground Noise Committee meetings held on a quarterly basis.	Ground	Quarterly	Key messages (GATCOM update)	n/a
<b>39.</b> We will conduct customer service surveys for FEU every three years commencing in 2010.	Arrivals Departures Ground	2010, 2013	Results published	n/a
<b>40.</b> We will host a local focus forum/seminar every two years, inviting local interest groups and other key stakeholders.	Arrivals Departures Ground	2010, 2012, 2014	Hosting of event (and outcomes)	n/a

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Timescale	Performance indicator	Numbers affected
<b>Influencing planning policy to minimise the number of noise sensitive properties around our airports</b>				

**41.** We will commission and publish night forecast contours for ground noise for 2015 in 2010. Ground 2010 Complete and publish n/a

**42.** We will commission and publish summer 16 hour day forecast  $L_{eq}$  contours for air noise for 2015 in 2010. Arrivals Departures 2010 Complete and publish n/a

**43.** We will commission and publish forecast  $L_{den}$  contours for air noise for 2015 in 2010. Arrivals Departures 2010 Complete and publish n/a

**44.** We will publish on our website the night quota period 48dB(A)  $L_{eq}$  contour. Arrivals Departures Annual Complete and publish n/a

**45.** We will publish annually on our website the summer  $L_{eq}$  contours as produced by the DfT. Arrivals Departures Annual Complete and publish n/a

**46.** We will continue to engage with local planning authorities in order to ensure they are well informed about noise issues at Gatwick Strategic Approach Ongoing Quarterly S106 steering group meetings n/a

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Timescale	Performance indicator	Numbers affected
<b>Organising ourselves to manage noise efficiently and effectively</b>				
<b>47.</b> We will continue to monitor adherence and review the effectiveness of our ground noise operational controls and publish data in our Annual Report.	Ground	Ongoing	No. of new controls. Reduction in number of complaints	n/a
<b>48.</b> We will update our procedures and policy documentation for monitoring aircraft operations and managing enquiries following the installation of the ANOMS NTK system.	Arrivals Departures Ground	2010	Policies updated	n/a
<b>49.</b> We will continually review and amend as appropriate the GADs relating to noise management.	Arrivals Departures Ground	Ongoing	No. of amends. Documentation of review process	n/a
<b>50.</b> We will continue to operate and enhance our Noise Management systems.	Arrivals Departures Ground	Ongoing	No. of upgrades.	n/a
<b>51.</b> We will monitor the performance indicators listed within the action plan and where we determine that a discouraging trend is emerging, we will seek to set an annual target to help address it.	Arrivals Departures Ground	Ongoing	Issues addressed through annual target setting	Variable
<b>Achieving a full understanding of aircraft noise to inform our priorities, strategies and targets</b>				
<b>52.</b> We will benchmark internationally and publish our ranking on operational noise management with other comparable airports in 2010 and 2013.	Arrivals Departures Ground	2010, 2013	Noise ranking reports	n/a
<b>53.</b> We will benchmark internationally and publish our ranking in aircraft noise communications with other comparable airports in 2010 and 2013.	Arrivals Departures Ground	2010, 2013	Noise ranking reports	n/a

## 9 Our draft noise action plan

Key: ■ Yellow highlights indicate new actions.

Action	Impact	Timescale	Performance indicator	Numbers affected
54. We will participate fully, through groups such as ANMAC in discussing arrival and departure policies.	Arrivals Departures	Ongoing	Notes from ANMAC	n/a
55. We will continue to monitor Government research into the effects of noise on human health where applicable and appropriate we will adopt the findings of any research and adopt the guidelines outlined by latest WHO reviews.	Strategic Approach	Ongoing	Delivery against set objectives and targets	n/a

---

# 10 Quantification of the noise action plan

---

In developing this action plan we have taken into account the guidance issued to airport operators. This suggests that residential areas exposed to an annual noise level of 69LAeq, 16h or more should be considered for further measures as a first priority. However unlike the guidance for the other major environmental noise sources (road and rail) the guidance does not offer a specific level by which to determine important areas within the strategic noise maps.

Subsequently we took the following steps to determine the most appropriate and effective actions to include in our draft noise action plan.

## **Prior to public consultation**

Firstly we considered the areas enclosed by the strategic noise maps and our existing noise complaint database. This confirmed our expectation that complaints about the impact of aircraft noise originate from locations both inside and outside the area within the strategic noise maps (see Section 7) and are about both air and ground noise. It also showed that issues such as night flying, runway alternation, arrivals noise, the number of over flights and low flying were consistently among the top issues of concern. Without guidance to the contrary and with our evidence and experience in managing noise from Gatwick we are determined that our action plan should include actions to limit, and where practicable, reduce noise impacts for areas both inside and outside the contours as well as ground noise. In this regard we extended the scope of the action plan beyond the END requirements.

Annex 4 contains a summary of the complaint data used in this assessment.

Next we used results from three international benchmarking studies by independent consultants, to help identify potential actions we could consider. Over 30 international airports worldwide were selected based on the number of annual movements and regional prominence. This exercise revealed that for operational noise controls Gatwick was one of, if not the leading airport worldwide. Similarly, although direct comparison is difficult, our mitigation and compensation benchmarking study showed Gatwick to be among the leading airports area. The final area of benchmarking concerned stakeholder engagement and communication. The results of this showed the greatest opportunities for improvement, with more than a dozen airports more effective in this area.

We then used this information to review all our existing noise management activities, identify additional ones and consider how they would impact on the areas enclosed by the 2006 noise mapping results and beyond. The new actions were then given a general ranking (high, medium and low) in terms of costs and benefits.

Following on from this and in order to prepare the draft noise action plan for full public consultation we held a series of pre-consultation, events with representatives from airlines, NATS, local authorities, local residents groups and members of GATCOM.

---

## 10 Quantification of the noise action plan

---

A number of key themes emerged such as concern over current flight paths, night flights and sleep disturbance, application of noise mitigation and compensation schemes, the frequency of overflight, and a desire for recognition of the impact beyond the areas within the strategic noise maps.

Subsequently a total of 52 actions of which around 14 could be considered new activities were issued for public consultation over 16 weeks between 18 June and 7 October 2009.

### **Public consultation feedback analysis**

The public consultation exercise asked for responses to five questions relating to the approach and actions set out in the original draft noise action plan. Analysis of the feedback was undertaken by a specialist third party company, GfK NOP.

The questions, together with analysis extracts from their report, are in Annex 9. We received 275 formal responses and recorded informal feedback from a total of six public sessions and residents meetings. All the responses were coded by GfK NOP's coding team. The process involved coding all mentions of a similar theme by assigning them a code, which then allows the quantitative analysis of open ended responses. Where the response covers more than one particular theme, the response is assigned a corresponding number of codes.

There were various respondent types although the majority of the responses came from local residents (208), local government (38) and

interest groups (12). A total of 157 respondents indicated no objection to their details being listed in the final draft action plan and in accordance with the guidance these are included in Annex 9.

A number of themes specific to the plan were identified by GfK NOP and are detailed in full along with our responses in Annex 9. Around half (47%) of respondents felt the plan did not go far enough and almost a third mentioned that it failed to address residents concerns. More specifically, nearly a third felt the performance indicators proposed were not sufficient or too vague. And 1 in 10 (10%) considered that the plan did not cover a large enough area.

Key issues raised by the consultation included calls to stop night flights and to provide more financial help for insulation schemes, as well as the need to address issues relating to arrival and departure trajectories (44%). There were also a number of issues raised in relation to changing the current flight paths at Gatwick (30%) and how the action plan should be enforced (24%).

---

## 10 Quantification of the noise action plan

---

### Responding to the feedback

In response we have reviewed and amended our performance indicators and established targets whenever possible.

With regard to our insulation schemes we have noted the many comments and remain committed to undertaking a review of the schemes in 2010. We will take the feedback from this consultation into that process. We also continue to support efforts to improve operational practices, including examining departure and arrival procedures. We have added actions indicating our intention to request that the Government review the existing departure noise limit restrictions, airspace utilisation and night noise limits.

We have also sought to identify opportunities to further involve key stakeholders in some of the actions detailed in the plan. For example we have amended our benchmarking actions to include input from NATMAG. Similarly we will also seek the groups input in the formulation of a suite of noise metrics to describe our noise impacts. To help address concerns raised about the airport operator being the competent authority in developing the plan we have outlined our current S106 Local Authority Legal Agreement, that commits the airport to an annual review and reporting of our performance against this plan. The net result is that the number of actions increased to 55 of which 17 can be considered as new activities.

### Quantifying the plan

We have attempted to quantify the number of residents impacted by individual actions by using the results of the noise mapping and data pack provided by DEFRA. Our approach has been to identify which actions have a direct operational impact and then to assess whether the action would impact the population within a specific contour area or affect the whole area covered by the noise mapping. Some actions (eg achieving more CDAs) will have most impact on areas beyond the noise mapping contours. Some respondents were not content with this approach, however, but we believe that it is not practicable to estimate with any degree of certainty the specific impact of many of the individual actions. However we do recognise the benefit of attempting to quantify the overall change brought about by the successful implementation of the action plan.

# Annex 1

# Glossary of terms

<b>aal</b>	above aerodrome level
<b>AIP</b>	Aeronautical Information Publication
<b>ACARE</b>	Advisory Council for Aeronautical Research in Europe
<b>ACOP</b>	Arrivals Code of Practice
<b>ANASE</b>	Attitudes to Noise from Aviation Sources in England
<b>ANMAC</b>	Aircraft Noise Monitoring Advisory Committee. The committee is chaired by the Department for Transport and comprises, among others, representatives of the airlines, Heathrow, Gatwick and Stansted airports and airport consultative committees.
<b>ANOMS</b>	Airport Noise Operations Monitoring System
<b>APU</b>	Auxiliary Power Unit. A power unit located on the aircraft.
<b>ATC</b>	Air Traffic Control
<b>ATWP</b>	Air Transport White Paper
<b>BAA</b>	BAA plc, the company which own and runs Heathrow, and Stansted airports amongst others.
<b>CAA</b>	Civil Aviation Authority
<b>CDA</b>	Continuous Descent Approach
<b>dB(A)</b>	A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies.
<b>Decibel (dB)</b>	The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dB(A)) are commonly used.
<b>DEFRA</b>	Department for Environment Food and Rural Affairs (UK Government).
<b>DfT</b>	Department for Transport (UK Government)
<b>ECAC</b>	European Civil Aviation Conference
<b>EPNdb</b>	Effective Perceived Noise Decibels (EPNdb). It refers to the metric 'EPNL' (Effective Perceived Noise Level) which is used for noise certification and takes account of tones and duration.
<b>ERCDC</b>	Environmental Research and Consultancy Department of the Civil Aviation Authority.

## Annex 1 Glossary of terms

<b>EHO</b>	Environmental Health Officer
<b>FEGP</b>	Fixed Electrical Ground Power
<b>FEU</b>	Flight Evaluation Unit
<b>FLOPC</b>	Flight Operations Performance Committee
<b>GATCOM</b>	Gatwick Airport Consultative Committee
<b>GNC</b>	Ground Noise Committee
<b>GPU</b>	Ground Power Unit
<b>ICAO</b>	International Civil Aviation Organization
<b>ILS</b>	Instrument Landing System
<b>LA90</b>	A-weighted sound level exceeded for 90% of the time
<b>LAeq,16h</b>	The A-weighted average sound level over the 16 hour period of 07:00 – 23:00
<b>LAeq,T</b>	The notional A-weighted equivalent continuous sound level which, if it occurred over the same time period, would give the same noise level as the actual varying sound level. The T denotes the time period over which the average is taken, for example LAeq,8h is the equivalent continuous noise level over a 8 hour period
<b>Lday</b>	The A-weighted average sound level over the 12 hour day period of 07:00 - 19:00.
<b>Lden</b>	The day, evening, night level, Lden is a logarithmic composite of the Lday, Levening, and Lnight levels but with 5 dB(A) being added to the Levening value and 10 dB(A) being added to the Lnight value
<b>Leq</b>	Equivalent sound level of aircraft noise in dB(A), often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16 hour period (07:00 - 23:00 LT) during the 92 day period 16 June to 15 September inclusive
<b>Levening</b>	The A-weighted average sound level over the 4 hour evening period of 19:00 - 23:00
<b>Lnight</b>	The A-weighted average sound level over the 8 hour night period of 2300 - 0700
<b>NATS</b>	Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services at several major UK airports, including Gatwick
<b>nm</b>	Nautical mile

---

## Annex 1 Glossary of terms

---

<b>Noise Contour</b>	Map contour line indicating noise exposure in dB for the area that it encloses
<b>NPR</b>	Noise Preferential Route
<b>NTK</b>	Noise and Track Keeping monitoring system. The NTK system associates radar data from air traffic control radar with related data from both fixed (permanent) and mobile noise monitors at prescribed positions on the ground
<b>NATMAG</b>	Noise and Track Monitoring Advisory Group
<b>PNdB</b>	Perceived Noise Level, measured in PNdB. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level.
<b>PPG</b>	Planning Policy Guidance
<b>QC</b>	Quota Count - the basis of the London airports Night Restrictions regime
<b>QNH</b>	Barometric altimeter setting which will cause the altimeter to read altitude above mean sea level
<b>Sustainable Aviation</b>	A UK aviation industry initiative aiming to set out a long term strategy for the industry to address its sustainability issues

---

# Annex 2      DEFRA guidance 'Annex V'

---

## Box 2

### Annex V from the END as it applies to airports

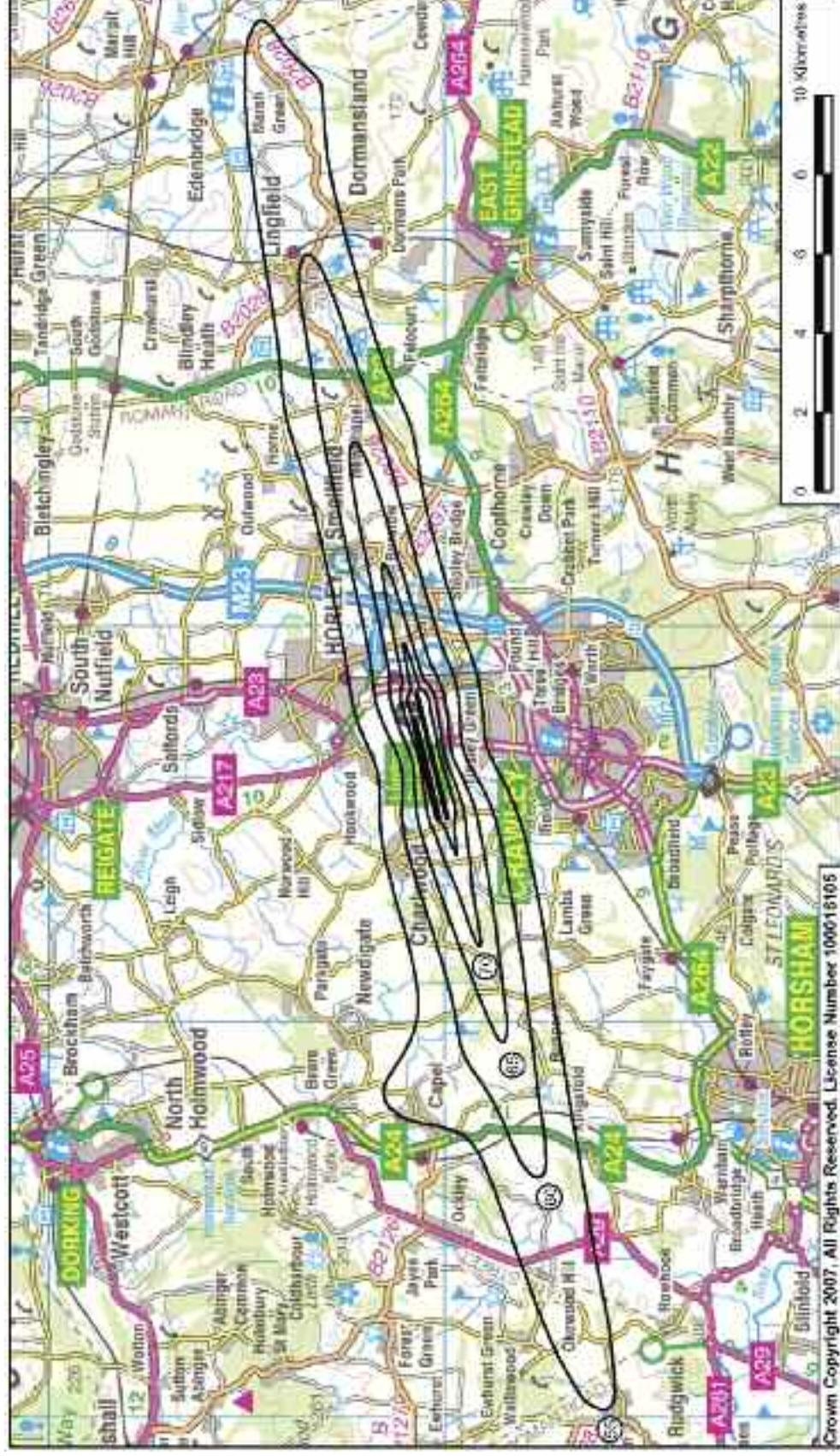
An action plan must at least include the following elements:

- A description of the airport and any other noise sources taken into account;
- The authority responsible;
- The legal context;
- Any limit values in place
- A summary of the results of the noise mapping
- An evaluation of the estimated number of people exposed to noise, identification of problems and situations that need to be improved;
- A record of the public consultations organised in accordance with Article 8(7);
- Any noise reduction measures already in force and any projects in preparation;
- Actions which the airport operator intends to take in the next five years, including measures to preserve quiet areas;
- Long term strategy;
- Financial information (if available): budgets, cost-effectiveness assessment, cost-benefit assessment;
- Provisions envisaged for evaluating the implementation and the results of the action plan

The Action plan should contain estimates in terms of the reduction of the number of people affected (annoyed, sleep disturbed, or other)

# Annex 3 Strategic noise maps for Gatwick Airport

Map 1 – 2006 L<sub>den</sub> (Ref: ERCD noise maps)



# Annex 3 Strategic noise maps for Gatwick Airport

Map 2 – 2006 L<sub>night</sub> (Ref: ERCD noise maps)



---

# Annex 4 Complaint data

---

Understanding the concerns of local residents is important in forming our approach to managing aircraft noise. The FEU engages with individuals and representatives of local communities to better understand their concerns. This dialogue is supplemented by analysis of our complaint data.

During 2008 the FEU received 6315 enquiries from 406 callers. This compares to 6758 enquiries from 794 callers in 2006, the year from which data was used to produce the strategic noise maps used in this noise action plan. (see table Annex 3).

Figures 2 and 3 of Annex 4 show the location of callers in 2008 as blue squares. So that enquiries can be related to airport operations, a typical day of departure and arrival tracks are shown on the maps. The green tracks are departures and the red tracks are arriving aircraft. The noise preferential routes are also shown in black. Figure 2 shows a day of westerly operations and figure 3 shows a day of easterly operations.

In 2008, 61% of callers made only one enquiry and 91% made five or less enquiries. However, one caller generated 2605 enquiries.

That caller was responsible for slightly over 40% of the enquiries received, another individual generated slightly less than 33%. While slightly over 73% of enquiries were received from these two callers. A further 6.83% of the enquiries were received from one individual.

Table 2 of Annex 4 shows the locations with more than 10 complainants in 2008.

The largest number of complainants in 2008 came from Horley to the north of the airport. However, these callers generated slightly less than 2% of enquiries.

Horley is occasionally affected by departing aircraft on westerly operations. The congested area of Horley should not be overflowed on departure and we are working with NATS and NaTMAG in relation to this. We have a mobile noise monitor situated within Horley, from which the data has shown no significant changes for several years. Horley falls outside of the boundary of the night and day noise insulation scheme and is also outside of the 55Lden contour shown in Annex 3.

4% of complainants live in Crawley. Crawley is generally not over-flown by arriving aircraft on easterly or westerly operations. Departing aircraft avoid over-flying Crawley below 3,000ft. Generally, this requirement is only not met in the case of departing aircraft which are directed off the NPRs for weather avoidance. Additionally, go-arounds may over-fly Crawley and this tends to be the cause of complaints from this area.

Slightly less than 4% of complainants live in East Grinstead. Arriving aircraft avoid over-flying East Grinstead below an altitude of 3,000ft. This requirement is monitored and adherence is very good. East Grinstead is close to the edge of an NPR which is used when the airport is

on easterly operations. 99.45% of departures on this route were on track in 2008.

6% of complainants live in Edenbridge and Hever combined. These areas are over-flown by arriving aircraft when the airport is on westerly operations. Additionally, departing aircraft may over-fly Edenbridge once they have left the NPRs when the airport is on easterly operations. Complainants from Edenbridge and Hever generated in excess of 2,500 enquiries.

Newdigate is situated beneath an NPR used when the airport is on westerly operations and therefore is over-flown by westerly departures.

10 callers contacted the FEU from Horsham. Horsham may be overflown by arriving aircraft. However, these aircraft must be above 3,000ft and are generally considerably higher. Horsham may also be over-flown by departing aircraft when the airport is on westerly operations. This may be either by aircraft using the Wizard Noise Preferential Route or by aircraft directed off other Noise Preferential routes by Air Traffic Control for matters such as adverse weather avoidance.

Just over 2% of complainants live in Smallfield. Smallfield falls partly within the 55 and 60Lden contour shown in Annex 3 of this document and the southern part of Smallfield may be over-flown by arriving aircraft on westerly operations or departing aircraft on easterly operations.

Table 3 of Annex 4 shows the locations with more than 50 enquiries in 2008.

It can be seen from the table that although complaints from Hever and Marsh Green totalled 5,175, these were received from only 19 complainants. Marsh Green, like Hever, is located to the east of the airport and is over-flown by arriving aircraft when the airport is on westerly operations and departing aircraft when the airport is on easterly operations. However, Marsh Green falls within the 55Lden contour shown in Annex 3 of this document, whilst Hever is outside of the contour.

Table 4 of Annex 4 shows the issues raised by 10 or more callers. Together with enquiries regarding arriving aircraft using the ILS (which was raised by four callers), the issues listed in table 4 accounted for the top 13 issues raised in terms of the number of enquiries.

General aircraft noise, general arrivals and low flying were the top three issues in terms of the number of enquiries. However, general aircraft noise, low flying and increased flights were the top three issues raised in terms of callers. These statistics reflect as closely as possible what people have reported in their contact and therefore give an indication of how people describe the noise impacts of aircraft operations. However, it is often the case that our investigations reveal that the aircraft has complied with the various noise abatement procedures required.

### Night flights

Feedback received from the public consultation on the draft noise action plan identified night flights as a significant cause of concern for residents. We have therefore provided an analysis of our data relating to enquiries about night flights.

Table 4 shows the number of callers and enquiries received regarding night flights from 2005 – 2008. In 2008 approximately 450 complaints related to night flights. These were generated by 96 callers. 67 callers made only one enquiry. At the other end of the scale, one caller made 154 enquiries.

By way of comparison, in 2006 (the year from which the strategic noise maps were produced), approximately 596 complaints from 154 complainants related to the operation of the airport at night. Between 2005 and 2008 there has therefore been a reduction of 116 callers and 316 complaints regarding night operations.

Figure 4 of Annex 4 shows the locations from which the 2008 complaints about night flights came from on a map showing a typical day's tracks of westerly operations. 46% of the enquiries came from the TN8 postcode area (Edenbridge, Chiddingstone, Cowden, Chiddingstone Hoath, Hever, Marsh Green). However, 71% of these enquiries came from only one caller. This area may be over-flown by arriving aircraft when the airport is on westerly operations. Almost 12% came from two callers in the Lingfield area (over-flown by arriving aircraft

on westerly operations and departing aircraft on easterly operations).

### Community monitors

We currently have mobile noise monitors located to the west of the airport at Slinfold, Rusper, Oak Wood Hill and Capel, to the north at Horely and to the east at Lingfield and Hever. Some of these monitors have been in the same location for considerable lengths of time. Having reviewed our community monitoring programme, our intention is to relocate monitors more frequently than in the past. This will enable us to build up a more complete picture of the noise climate around the airport and also to revisit previous locations in the future in order to assess whether there have been changes.

Historic complaint data

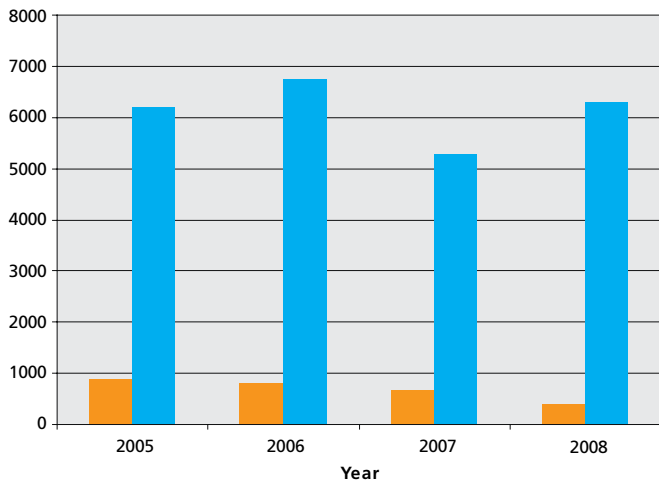


Table 1 & Figure 1: Callers and enquiries relating to airports operations

	2005	2006	2007	2008
Callers	898	794	672	406
Enquiries	6189	6758	5288	6315

Table 2  
2008 locations with 10 or more callers

Location with 10+ callers	Callers
Crawley	17
East Grinstead	16
Edenbridge	15
Hever	10
Horley	39
Horsham	10
Newdigate	12
Smallfield	10

**Table 3**  
Locations in 2008 recording 50 or more events

Location with 50+ events	Enquiries	Callers
Crowborough	67	4
Hever	2543	10
Horley	128	39
Lingfield	98	6
Marsh Green	2632	9
Nutley	126	2

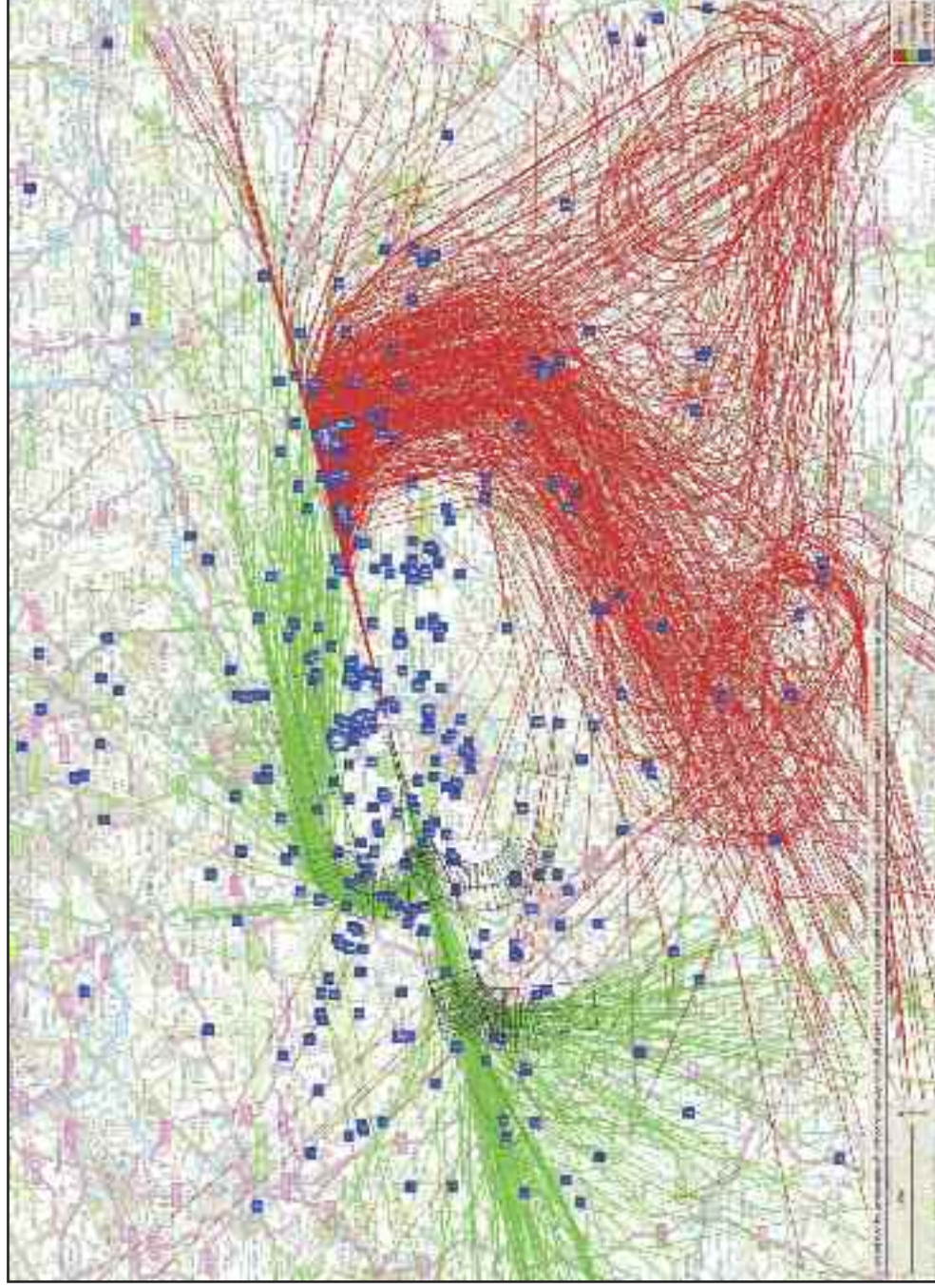
**Table 4**  
2008 issues raised by 10 or more callers

Issue	Callers
Aircraft noise	150
Arrival – General	41
Low flying	147
Increased flights	116
Track keeping	90
Night – General	50
Night – early morning	41
property enquiry	28
Departures – General	20
Go around	10
Change to easterly operations	13
Helicopters	12

## Annex 4 **Complaint data**

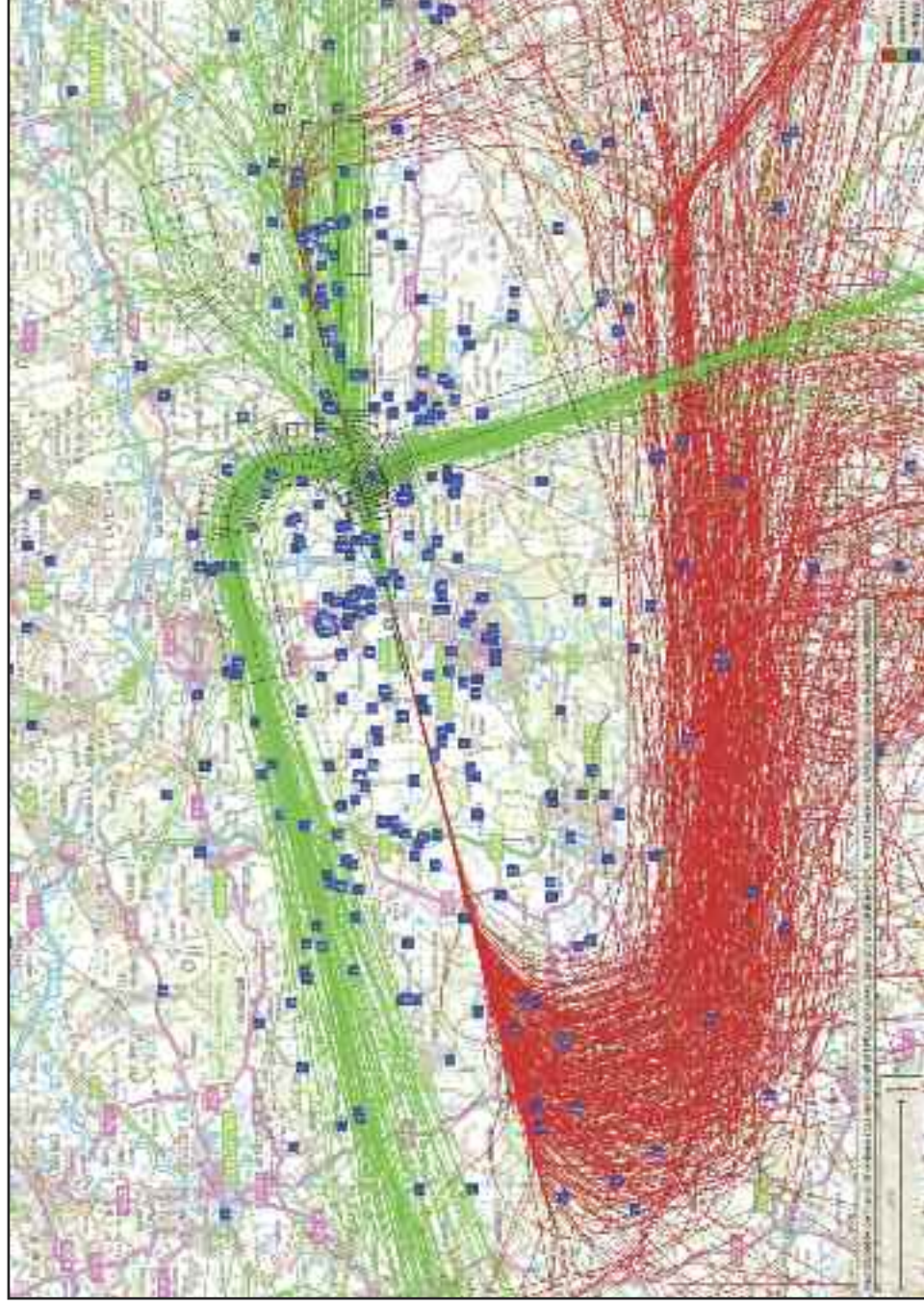
Figure 2

Complaint locations annotated over map showing typical day of westerly operations 2008



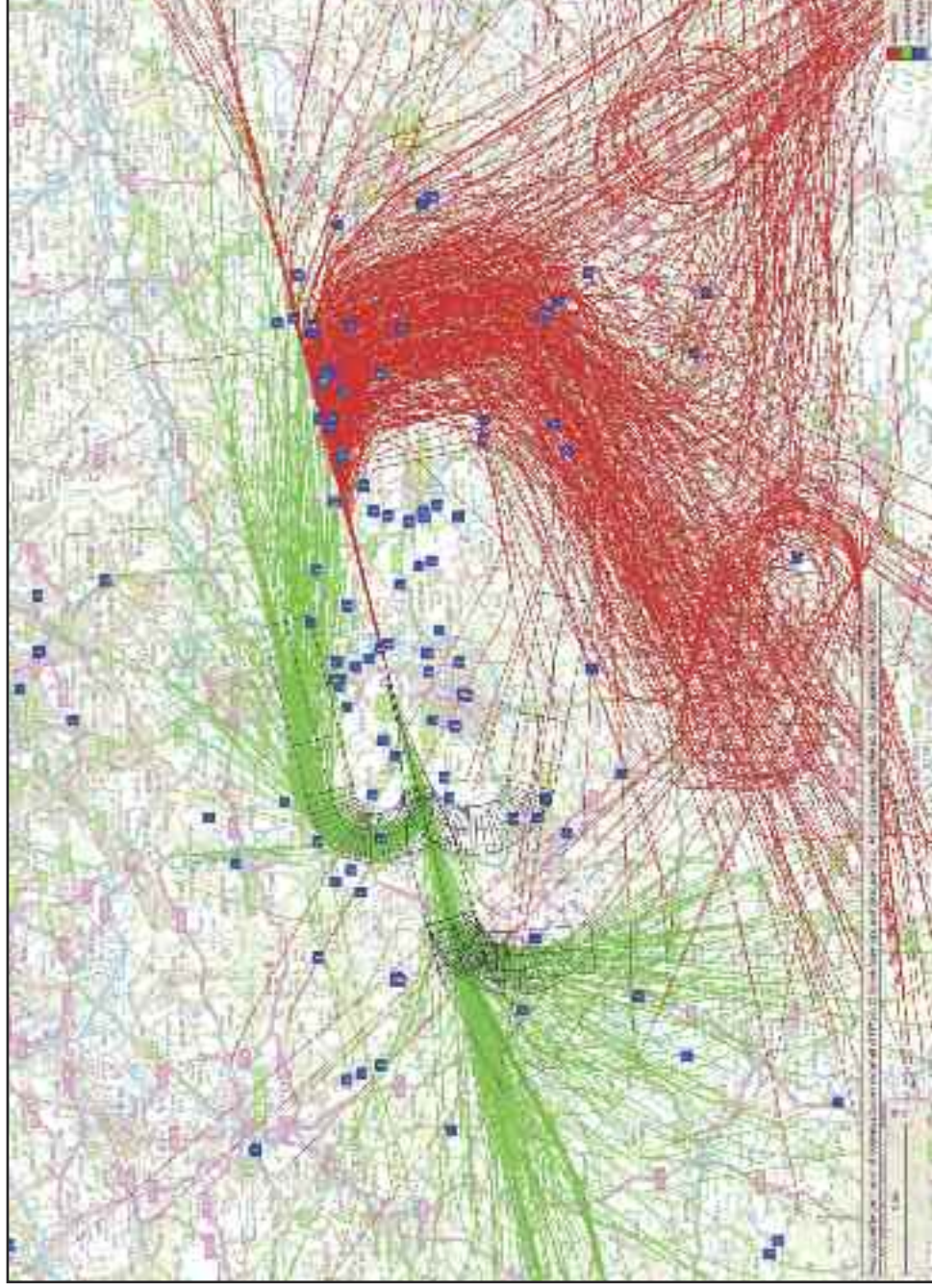
## Annex 4 **Complaint data**

Figure 3 2008 complaint locations annotated over map showing typical day of easterly operations 2008



## Annex 4 **Complaint data – Night flights**

Figure 4 2008 complaints regarding night flights annotated on map showing a typical day of westerly operations.



**Table 4**  
Callers and enquiries relating to night flights

	2005	2006	2007	2008
Callers	212	154	122	96
Enquiries	766	596	446	450

# Annex 5 Limit values in place at Gatwick Airport

No	Limit value
----	-------------

- Local Authority planning conditions
- Limit the 6.5 hour, 48 dB(A)  $L_{eq}$  contour (for the winter and summer seasons combined) to 47km<sup>2</sup> by 2011 – 2012.
- Night Movement and Quota Count Restrictions between 23:00 and 06:00 local.

Winter	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
--------	---------	---------	---------	---------	---------	---------

Movement Limit	3,250	3,250	3,250	3,250	3,250	3,250
----------------	-------	-------	-------	-------	-------	-------

Noise Quota	2,300	2,240	2,180	2,120	2,060	2,000
-------------	-------	-------	-------	-------	-------	-------

Summer	2007	2008	2009	2010	2011	2012
--------	------	------	------	------	------	------

Movement Limit	11,200	11,200	11,200	11,200	11,200	11,200
----------------	--------	--------	--------	--------	--------	--------

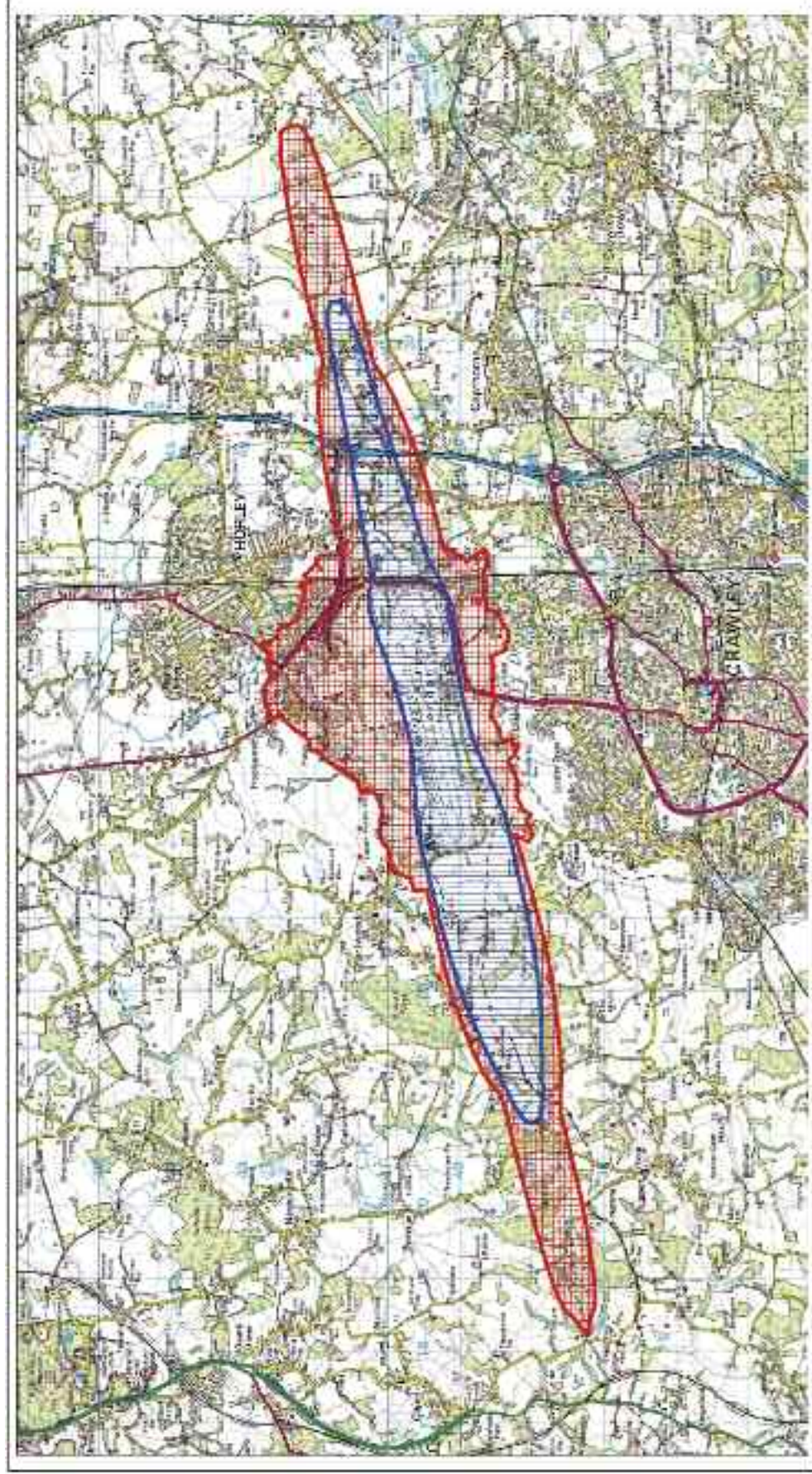
Noise Quota	6,700	6,600	6,500	6,400	6,300	6,200
-------------	-------	-------	-------	-------	-------	-------

- The noise abatement procedures contained within the UK AIP (see Section six)
- Daytime (07:00-23:00) departure noise limit of 94dB(A)  $L_{max}$  at 6.5km from start of roll.
- Night Shoulder (23:00-23:30 & 06:00-07:00) departure noise limit of 89dB(A)  $L_{max}$  at 6.5km from start of roll.
- Night (23:30-06:00) departure noise limit of 87dB(A)  $L_{max}$  at 6.5km from start of roll.



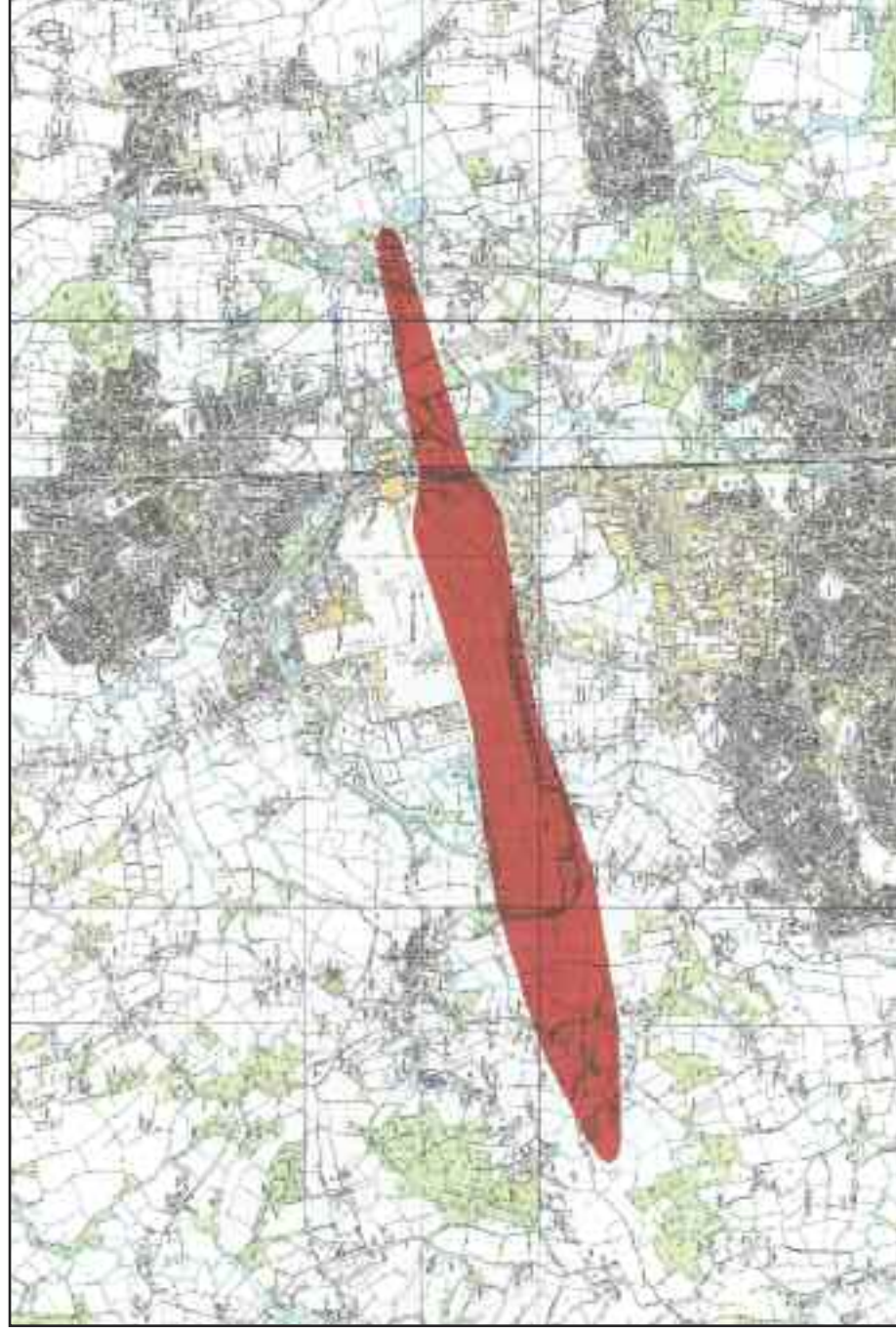
# Annex 7 Boundary of noise insulation scheme map

Map 1



# Annex 7 Home relocation assistance scheme map

Map 2



---

# Annex 8 Financial information

Estimated current financial cost to Gatwick Airport of noise management

---

Type	Description	Approximate annual cost (£k)
Staff costs	Communications team, Airside team, FEU, Strategy and Environment team – salary & training	202
Equipment and computer costs	Renewal, calibration, repair, software licenses, development support	184
Publications & communications	Seminars, documents, website	20
Fines	Departure noise limits, track keeping	2
Noise insulation & mitigation schemes	Insulation, relocation, community buildings	500
Research & consultancy	Community monitor schemes, S106 Audit, ground noise surveys etc.	100

Source: BAA June 2009

# Annex 9

# Table 1

## Public consultation feedback themes

### Sufficiency of plan (overall)

Plan does not cover a large enough area

Plan does not go far enough / fails to address the problem

Plan does not address the actual effects on local residents

Plan does not recognise that the number of aircraft movements is what matters

Plan offers nothing new

Plan will not make a difference

Plan will create more aircraft noise

Proposals are window dressing / plan is too loose to be of value

There are no penalties if the goals in the plan are not met

Plan should consider other London airports also

Does not take enough account of ordinary peoples views

Framework is the first start/ good start

Plan should include helicopter noise

Plan does not meet the WHO guidelines to community noise

Plan does not make any reference to AONBs

Performance indicators used are not sufficient / too vague

Plan does not fulfil the END requirements

### Plan is based on inaccurate assumptions / data

Contours are based on inaccurate levels

Plan is based on inaccurate predictions

---

## Annex 9 **Table 1**

### Public consultation feedback themes

---

Incorrectly based on assumptions about planes getting quieter

Contours are averages / average noise is not a good measure / does not represent actual disturbance

#### Criticism of consultation process

Plan is too complex / too long / too detailed

Plan is written by BAA / is biased / serves their interests / justifies increases in flights

Plan / noise regulation should be determined / monitored by an independent body

Do not trust BAA / believe BAA's promises

Criticism of consultation process (not aware of it / not well publicised / hidden on website)

#### Criticism of specific areas of plan

Arrivals noise issues are not addressed / issues with descent trajectories (CDA)

Doesn't do enough to address night time noise

Fines / penalties are inadequate

Action needs to be quicker/immediate/time frame too long

#### Suggested actions

Implement a steeper ascent for departing aircraft

Reduction in flights is the only solution

Should restrict night flights / stop night flights

Ban heaviest/noisiest flights (e.g. 747s) from landing at night / early morning

Night flight times should be redefined

Implement a steeper approach for landing aircraft

Planes should fly at higher altitudes (general, not related to landing descent)

---

## Annex 9 **Table 1** Public consultation feedback themes

---

Alternate runways

Invest in quieter planes

Flight paths should be changed

Off-track planes need addressing/monitoring

Noise should be monitored over a greater area / measure all areas affected by noise

More financial help/ grants provided for residents / better insulation schemes

Action plan must be enforced by way of sanctions / penalties / airlines should be fined appropriately

Be more proactive with residents / consult with local residents

Incentives to encourage use of quieter planes

Ban noisy aircraft / ban non Chapter 4 aircraft

### **Limitations of plan**

There will always be noise around an airport/ cant be helped / impossible to improve

Noise management is constrained by airport location

NATS sets flight paths / meaning BAA can only have limited effect

BAA cannot insist on quieter planes

### **Top 5th goal**

This objective / benchmark goal does not in itself reduce noise (this should be the sole objective of NAP)

Should be aiming higher/ top 20% or top five isn't high enough

The aim should be to be the best/ best practice should mean best practice/ strive to be the benchmark not follow others

Not a valid comparison/ most airports don't fly over densely populated land/ most don't have the same problems

Standards are lower to ensure they are met/ it is easy to chose to comparatives that are easy to achieve

---

## Annex 9 **Table 1**

### Public consultation feedback themes

---

Unsure what the comparison group is / difficult to say without knowing what comparable sites do

Plan/ goal is good/ top 20% is a good goal

#### **Other / General comments**

No undertaking that NAP will apply to any future owner

It is impossible for members of the public to check any claims made by BAA

Noise abatement should take priority over emissions

Lack of response to complaints made

Comprehensive and realistic / satisfied with progress so far

Dissatisfaction with double-glazing / insulation schemes

Noise has increased (over the last few years) - general comment

Number of flights have increased (over the last few years) - general comment

The flight paths have changed (over the last few years)

Noise is difficult to live with / disturbs sleep / affects me directly - general comment

Planes are flying too low

Plan only discusses noise - does not consider environmental aspects (e.g. air pollution)

All growth should stop (general mentions)

Move the location of the airport/ need an airport away from highly populated location

Mentions of Heathrow third runway / Stansted second runway / airport expansion

#### **Summarised Key Comments**

Steeper approach (higher for longer) CDA issues

Reduce maximum takeoff noise limit (departure)

---

## Annex 9 **Table 1**

### Public consultation feedback themes

---

Reduce noise permitted at night

Wider dispersion

Wider flight paths

Restricted night flights

Lower noise levels

Gatwick to recommend tighter restrictions

7,000 ft over Hever

Runway preference (share preference in neutral wind conditions)

More even spread

Offset ILS

Low power low drag

More than one ILS

Introduce arrives noise limit

Fining for off track

Fining for not meeting CDA

Reduce night quota - restrict growth

Banning QC/4 from night

Set exposure limit and assess against them

Include shoulder period in contour plots

Independent mapping and modelling

Lden relates to area not population

---

Annex 9 **Table 1**  
Public consultation feedback themes

---

Total ban on night flights

Review Eurocontrol recommendations and identify short term improvements

Reduce number of aircraft

Use 55 Lden contour

Use C weighting not A weighting

Incentive to use quietest aircraft

Intercept ILS further out

Priority for Chapter 4

Voluntary phase out of Chapter 3

Landing fee differentials to account for noise

Enforce CDA

[Empty bar]

[Empty bar]

[Empty bar]

[Empty bar]

[Empty bar]

[Empty bar]

[Empty bar]

[Empty bar]

---

# Annex 9

# Table 2

## Summary of Consultee Comments

Comment	% mentioning at any question
<b>Sufficiency of plan (overall)</b>	
Plan does not go far enough / fails to address the problem	47%
Performance indicators used are not sufficient / too vague	31%
Plan does not address the actual effects on local residents	27%
Plan does not make any reference to AONBs	15%
Proposals are window dressing / plan is too loose to be of value	14%
Plan does not cover a large enough area	10%
<b>Criticism of specific areas of the plan</b>	
Arrivals noise issues are not addressed / issues with descent trajectories (CDA)	44%
Flight paths should be changed	30%
Should restrict night flights / stop night flights	25%
Action plan should be enforced by way of sanctions / penalties / airlines should be fined appropriately	24%
Be more proactive with residents / consult with local residents	13%
Ban noisy aircraft / ban non chapter 4 aircraft	13%
Planes should fly at higher altitudes (general, not related to landing)	12%
Off-track planes need addressing / monitoring	11%
Noise should be monitored over a greater area / measure all areas affected by noise	11%
Ban heaviest / noisiest flights (e.g. 747s) from landing at night / early morning	10%
More financial help / grants provided for residents / better insulation schemes	10%

---

## Annex 9 **Table 2** Summary of Consultee Comments

---

### **Plan does not go far enough / fails to address the problem**

Feedback would indicate that respondents felt the airport was planning to do too much monitoring and reporting, and not enough direct action. For over a decade, Gatwick Airport has been at the forefront of pro-actively monitoring and tackling noise issues and is promoted as operating best practice in noise management, so this is very much about building upon solid foundations. However, in light of the feedback received we have reviewed our actions and have detailed a range of new initiatives which include commitments that we will write to the DfT and ask for a review of existing departure noise limits a review of existing night noise limits and review of existing airspace utilisation around Gatwick. We believe that the actions in this action plan are appropriate considering the challenge the airport has to operate a safe, successful and realistic operation within the parameters set by Government and regulatory bodies. Gatwick Airport will continue to develop this plan in future years.

### **Performance indicators used are not sufficient / too vague**

We have reviewed and where possible enhanced the proposed indicators detailed within the action plan to provide clearer explanations and to be more specific.

### **Plan does not address the actual effects on local residents**

There are a series of actions listed in the plan that will help reduce noise impact for local residents. We have been managing noise impact from the airport for many years now and have employed several initiatives to reduce the impact on local residents such as CDA, with the arrivals code of practice and reduced thrust on take off within the AIP. However, to address this concern we have committed to engaging with the DfT to request a review of already existing practices around the airport in an attempt to further

---

## Annex 9 **Table 2**

### Summary of Consultee Comments

---

improve our management of noise impact. We also have an action in our plan to develop with the airlines a 'fly quiet and clean' programme by 2012.

#### **Arrivals noise issues are not addressed / issues with descent trajectories (CDA)**

There is a voluntary agreement in place with airlines to fly a CDA into Gatwick Airport. This agreement has been in place since 2000 where numbers of aircraft flying an approved CDA were around 40%. During the summer of 2008 this figure has risen to more than 84% of aircraft. This clearly demonstrates that aircraft are now flying higher for longer on approach to the airport and as such will be having a reduced noise impact. However we recognise that there is still a noise issue with arriving aircraft as not all are flying a CDA. This can be for several reasons: congestion, weather conditions, safety issues or other aircraft on the runway. We have an action in our plan to continue to improve on the CDA performance where safe to do so.

#### **Flight paths should be changed**

As an airport operator it is very difficult for us to affect a change in flight paths as this is an issue controlled directly by the CAA and NATS in conjunction with the DfT. The air space around the airport that is available to operate arriving and departing aircraft is fixed due to requirements for Heathrow traffic and overflight restrictions in force over Horley to the north, Crawley to the south and several AONBs. Gatwick traffic has increased over the last 10 years yet these parameters have remained fixed, this leaves very little room for change in flight paths at Gatwick. In order to try and explore this issue further we have an action to request the DfT to review current airspace utilization over Gatwick Airport.

---

## Annex 9 **Table 2** Gatwick airport response

---

### **Should restrict night flights / stop night flights**

We currently operate within our night flight restrictions and where night noise infringements occur this is a very unusual event. We recognise that night noise is a sensitive issue and have committed to engaging in the Government's 2010 consultation on night noise.

### **Action plan should be enforced by way of sanctions / penalties / airlines should be fined appropriately**

Progress against our noise action plan will be monitored and reported through our current S106 Local Authority Legal Agreement signed in December 2008. This agreement ensures that we deliver and report publicly against a series of environmental action plans in place at the airport.

We will follow the same protocol with this action plan. The programme of penalties and fines in place at Gatwick for noise offending airlines has been in place for some time now and is continually under review. We have an action in our plan to seek to increase the current fining levels and formally review this every five years.

---

# Annex 9

# Table 3

## Public Consultee names list

---

Anita Jones

Roland Allen

David Battle

M R Sherwin

Patrick McIntosh

Simon Nicholson

Duncan Leslie

### **Hever Castle Ltd**

J. Pilkington

Mike Lawson

Mark Davies

Tracey Fielden

June A. Drew

Mr R.R Tomlin

Mrs S U De Beer

Elinor Skipper

Mrs Frances Jones

### **Cuckfield Parish Council**

Neil Maltby

Andrew Shaw

### **High Weald AONB Unit**

Brendon Sewill

### **Gatwick Area Conservation**

#### **Campaign (GACC)**

Chris Mills

Mrs Mary Burroughs (Parish Clerk)

### **Slinfold Parish Council**

Peter Cox

Simon Jones

Verlaine Hornegold

Irene Bozilof

Dr R A Hood

Andrew Russell

John Adkins

John Jenkins

Michael Christopherson

### **Norwood Hill Residents Association**

J Logan

Kenneth Noble

Environment Select Committee

### **Sevenoaks District Council**

V Fleming

Mr I T Eves

Karen Bolt

### **Turners Hill Parish Council**

Sarah Prall (Clerk)

### **Hever Parish Council**

J Mitchell

John R Price

Nick Chard

### **Kent County Council**

David Wylie

Chris Bloggies

Simon Humphreys

Jane Vogt

Neil Maltby (Chairman)

### **Surrey Hills Society**

Andrew Saunders

Gillian Hein

### **Campaign to protect**

#### **Rural England Surrey branch**

Tony Kershaw

### **GATCOM**

Robert H Marsden

Gary Meades

### **British Airways plc**

B Dennard

Town Clerk

### **Edenbridge Town Council**

Alan Jones

### **Horley Town Council**

Chris Pendleton

Mr and Mrs James

Jean-Luc Pellet

### **Geko Agencies Ltd**

Ian Purchase

Mrs A Jones

Charlie Stevenson

### **Maresfield Parish Council**

Mrs Lynn Blake

### **Dormansland Parish Council**

Robert Brown

R J Nazzari Brown

Frances Jones

### **Twineham Parish Council**

Martin Holland

Mr & Mrs Creech

---

Annex 9 **Table 3**  
Public Consultee names list

---

Nick Caunter

**APH Ltd**

Mr RM Bell and Miss V Bell

Robert Taylor

Steve Rudge

Christopher Evans

Terry Dell

W L Lambert Lambeth

Mike Carter

**New Domewood Residents  
Association (NDRA)**

Colin Blake

**Furnace Wood R.F.A. Ltd**

Colin Gourlay

Dr. Jamila Burke

Christopher Brewer

Paul White

Jasper Gerard

Bown

Michael Donegan

Mr C Narrainen

Carol Lovegrove

Jeffrey Owen

Mr Robert John Bond

Julian Brown

Peter Tanner

**Rudgwick Parish Council**

Angela Treen

Peter W A Lake

Mrs Helen Schofield

**West Hoathly Parish Council**

Dr Michael Mcillmurray

Deborah King

David N Hall

R M Harper

Peter W A Lake

Patricia D Clark

Alan Young

Amber Dane

Mr Geoff Clark

**Virgin Atlantic Airways**

Mr David Huxley

**Claridge House**

I D Harrison

Andrew and Alice Peterkin

Mr D M Whittington

Jeremy Leathers

V H R King

Arthur Brooks

**The London Temple -The Church of  
Jesus Christ**

Malcolm & Patricia Baker

David K Baron

Susan Mellett

Marcus Mayne

Peter Taylor

Mrs C Lovell

Jonathan Bird

Jerry Mitchell

Caroline Bizios

**Cowden Parish Council**

Peter Rusbridge

M E Roberts

Mrs B D Smallwood

Mrs V Bilton

**Charlwood Parish Council**

John Crawford

Mr & Mrs C Sykes

Mr and Mrs Sturgeon

Ian Wilson (Chairman)

**Betchworth Parish Council**

Malcolm Crouch

Mr G marks

Gill Ede

peter spiers

Hew Prendergast

**Conservators of Ashdown Forest**

Miss H Taneborne (Clerk)

**Leigh Parish Council**

Mark Faulkner

A Brooke Turner

Andrew Beverley

Mrs D J Walter

Martin P Bennett

**Lingfield Lodge Farm  
and Veterinary Clinic**

David Howden

Ruth and Veville Wood

David Castle

Forster

---

## Annex 9 Table 3

### Public Consultee names list

---

David Wilson	Helen de Courcy
Adrian Maurice	<b>The Charlwood Society</b>
Patricia Timms	Jon Mitchell
Wendy Harris	<b>Gatwick Anti-Noise Group</b>
Paul Trevor Hospital	Mrs R K Howell
Ms S Westlake	<b>West Sussex County Council</b>
Graham Arr-Jones	Roger Hargreaves
<b>East Sussex County Council</b>	<b>Surrey County Council</b>
B.E. Roberts	Mary Stevens
Caroline Kew	<b>Environmental protection UK</b>
Andrew Jackson	Rosalind White
Duncan Leslie	<b>Felbridge Council</b>
<b>Hever Castle Ltd</b>	Margaret Whiting
Jane Lazaro-Silver	Adam Draycott
Neill Thomas	<b>Horsham District Council</b>
Parish Council	Lesley Fletcher
<b>Forest Row Parish Council</b>	<b>Ockley Parish Council</b>
Graham Marks	Richard Osterfield
<b>Lingfield Parish Council</b>	<b>Crowhurst Parish Council</b>
Keith Blake	Ed Hele
<b>Crawley Borough Council</b>	<b>Mid Sussex District Council</b>
Roger Nash	John Phillips
<b>Rudgwick Preservation Society</b>	<b>Tandridge District Council</b>
Graham Cook	The Rt. Hon. Sir John Stanley, M.P.
<b>Reigate and Banstead Borough Council</b>	Duncan Carins
Gillian Hein	<b>Mole Valley District Council</b>
<b>CPRE Surrey</b>	Peter Ainsworth MP
David N Hall	Mr Rolley
<b>Leigh Residents' Association</b>	Protect Kent
Jean A Fawkes	Peter Breen
<b>Salfords and Sidlow Parish Council</b>	David Sheffield
Frances Jones	
<b>Cuckfield Parish Council</b>	
Kim Wantling	
<b>Bletchingley Parish Council</b>	
Cllr Sylvia Martin	
<b>Wealden District Council</b>	
Mrs Scott-Wilds	
Richard Brown	
Steve DiCara	
Mr P Durell	
Susan Coleman	

# Annex 9

# Table 4

## Public consultation tracker 18 June 09 - general activity

18/06/2009	DNAP public consultation launched - website live hosting report, questionnaire and open session details
22/06/2009	Printed versions of DNAP received from Xpress Group
22/06/2009	Email sent to GATCOM members regarding launch with press release attached. Response to be considered at GATCOM meeting on 23 July
23/06/2009	Emails sent with plan attached. Postcards sent to local residents as per Residential Database
23/06/2009	Email to be sent to AOC
29/06/2009	First series of press adverts to run in local/regional titles
29/06/2009	Website to include address of public open sessions
30/06/2009	Decision made to add third public open session between 19:00 and 20:00 on 17/09/2009
02/07/2009	Second press release sent to local / regional media informing of open session location and asking attendees to register through email / phonenumber
02/07/2009	Selection methodology behind stakeholder database questioned by Peter Barclay
08/07/2009	Gatwick Airport attended Mole Valley District Council Rural Area Forum
09/07/2009	Email to gatwicknoiseconsultation covering points raised and discussed in open session on 09 July
03/08/2009	Second press advertisement to carry time and date of final public open session - copy approved (SA)
06/08/2009	Third and fourth public open sessions, 15:30 - 16:30 and 19:00 - 20:00

---

**Annex 9 Table 4**  
Public consultation tracker 18 June 09 - general activity

---

14/08/2009	Interview conducted with BBC Radio Surrey on the DNAP
17/08/2009	Second series of press adverts to run in local/regional titles
wc 24/08/2009	Key stakeholders contacted for second time via post or email to make aware of public consultation concluding. Email to exclude AOC as contacted 11 August
07/09/2009	Interview conducted with BBC TV South East in response to GANG and Gatwicks DNAP
08/09/2009	Minutes of 23 July session circulated to GATCOM members. Mention of DNAP closing date and last public consultation session made in email to members
09/09/2009	Attended Annual Air Quality Meeting including Crawley Borough Council, Reigate and Banstead, West Sussex and Mole Valley DNAP discussed
09/09/2009	Letter sent to DEFRA on behalf of residents - as discussed in session on 06 August
11/09/2009	Gatwick airport limited attended Gatwick Officers Group meeting
14/09/2009	Third press release to local / regional media reminding public consultation closing on 07 October
14/09/2009	Third press release circulated to all GATCOM members. Mention of last public consultation session made in email to members
14/09/2009 - 21/09/2009	Third series of press adverts to run in local/regional titles across two weeks. Due to booking deadlines, some ads able to run w/c 14 September with remaining appearing w/c 21 September
17/09/2009	DNAP discussed at NATMAG
17/09/2009	Fifth public open session, 19:00 - 20:00

---

## Annex 9 **Table 4**

### Public consultation tracker 18 June 09 - general activity

---

21/09/2009	Internal Gatwick comms - Connect / Update
24/09/2009	Gatwick Airport Limited attended Joint Local Authorities Meeting
24/09/2009	Survey responses and general comments sent directly to Gatwick Airport Limited forwarded to GfK for review
01/10/2009	Response received from DEFRA in which they state they see no need to relax timetable requirements
07/10/2009	Gatwick Airport Limited interviewed by BBC Radio Sussex, 07:30
07/10/2009	Final email sent to Chris Holmes at GfK with final attachments and overview of all responses sent over course of consultation
08/10/2009	End of consultation - plan and survey removed from website, phone line message revised, email message set up, FEU phonenumber revised, West Sussex CC, Crawley BC and GATCOM notified re. links

YOUR LONDON AIRPORT  
*Gatwick*