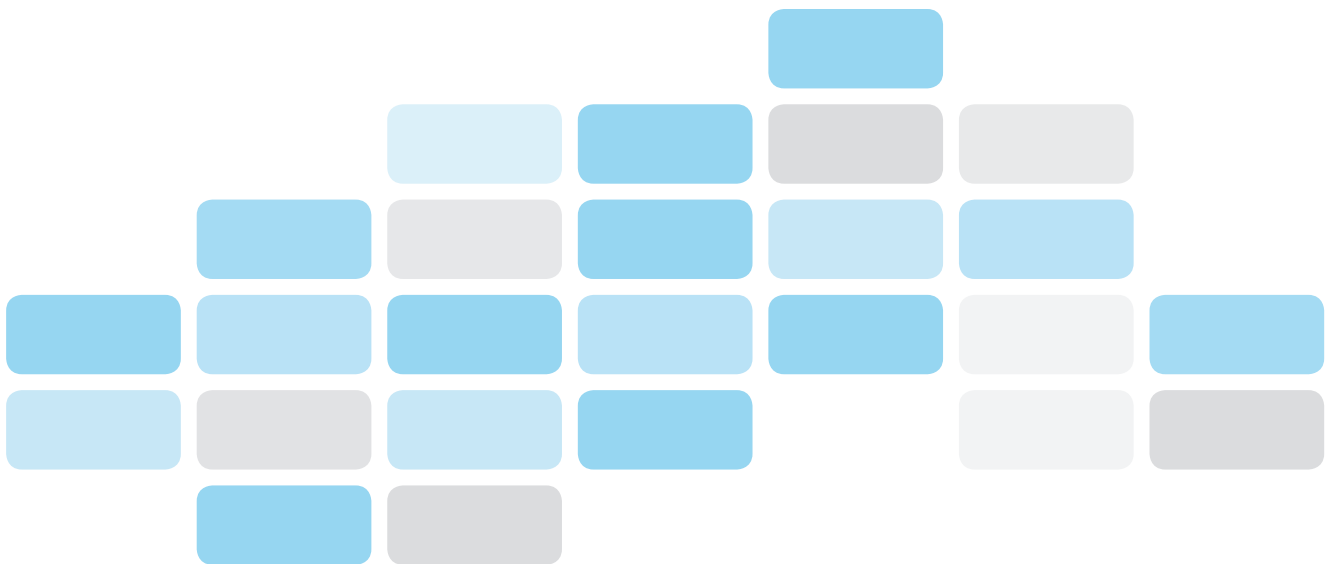


Flight Evaluation Report

2008



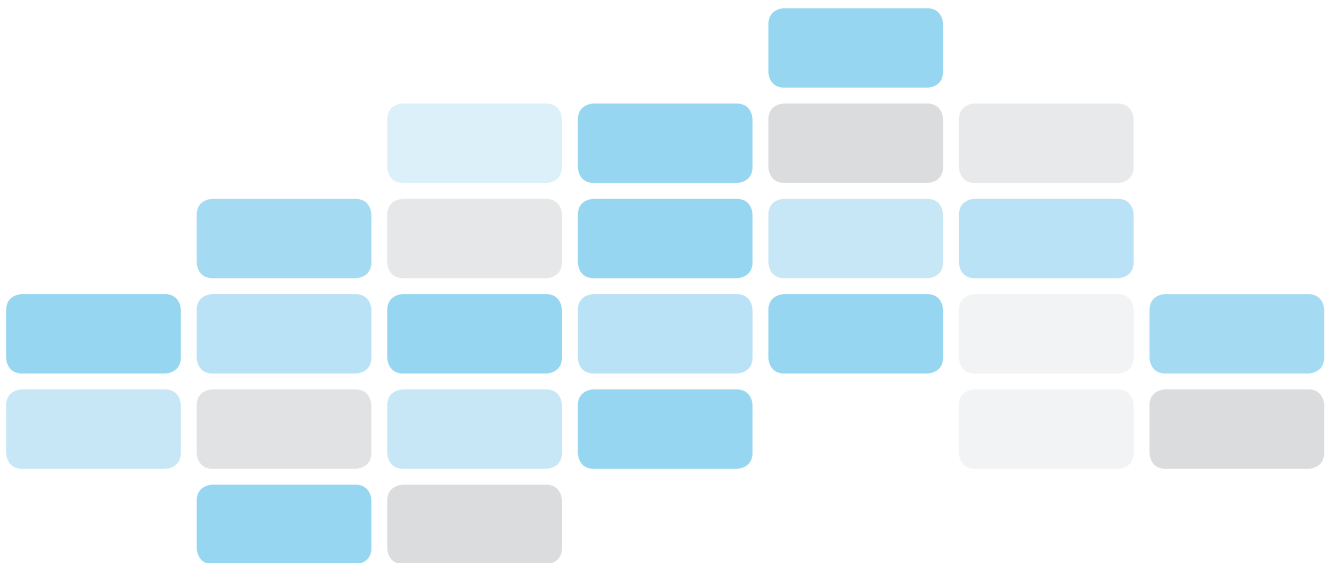
Contents:

Section A	
Movement data	3
Section B	
Night flights	5
Section C	
Arrivals and departures	9
Section D	
Aircraft noise	15
Section E	
Enquiries	17
Glossary of terms	19

This report, produced by Gatwick’s Flight Evaluation Unit (FEU), contains detailed data on a range of key issues related to aircraft noise management at Gatwick Airport in 2008. More details about all our work in this area can be found on Gatwick’s official noise website – www.gatwickairport.com/noise.

This report complements the noise section of BAA Gatwick’s 2008 Sustainability Performance Report, which is available at www.gatwickairport.com.

For further information contact the FEU:
 Freephone: 0800 393070 or Email: lgwnoise_line@baa.com



3 Section A: Movement data

This section provides detailed statistics on the number and types of aircraft operating in and out of Gatwick, as well as information about runway usage and westerly/easterly operations, during 2008 and previous years.

Table A1 shows the average number of aircraft movements per day over the past three years. In 2008, the average number of movements per day was generally comparable with the previous year but there were fewer movements in the last four months of the year, particularly November and December. The peak months were in the summer (June to September) when there were more than 800 movements per day.

In 2008 overall there were 263,716 aircraft movements at Gatwick and passenger figures fell by 2.8% to 34.1 million from from 35.2 million in 2007.

Table A2 shows a breakdown of those movements by aircraft type. One of the biggest trends in aircraft movements in recent years has been the increasing numbers of modern aircraft operating from Gatwick and this continued in 2008.

Another trend that continued was increased movements of the Airbus 319. Movements of this type of aircraft increased by 14% in 2008 to 61,895 from the 2007 figures. EasyJet operates the majority of the Airbus 319s from Gatwick.

The number of movements by Embraer ERJ195s, introduced at the airport by Flybe in 2007, showed a huge increase from 794 movements in 2007 to 8,048 in 2008. The number of movements by older, noisier planes continues to fall year on year.

Table A2
Annual aircraft movements by aircraft type

Aircraft Type	2006	2007	2008
Airbus 319	49,183	54,142	61,895
Boeing 737-400	34,706	35,169	32,171
Airbus 320	30,046	31,025	36,254
Boeing 737-500	26,511	24,397	19,577
Boeing 757	25,071	23,289	21,585
Boeing 737-800	12,516	14,038	16,213
Boeing 737-300	13,474	13,255	12,016
BAe 146 inc AR1	13,994	11,930	3,594
Boeing 777	12,560	11,789	7,518
Boeing 767-300	8,546	10,551	8,185
Airbus 330	7,352	7,925	5,851
Boeing 747-400	4,201	5,017	4,397
Dash 8	3,534	4,662	9,320
Boeing 737-700	1,653	3,545	3,177
ATR 72	3,476	2,854	2,836
Boeing 767-200	3,006	2,712	1,187
Airbus 300	2,272	1,903	2,033
Canadair Jet	1,874	1,368	609
Others	2,066	1,345	1,344
Airbus 310	840	838	1,648
Embraer ERJ195	0	794	8,048
MD 80 all series	808	636	576
Cessna Citation	651	587	634
Boeing 737-600	490	520	828
Airbus 340	896	452	248
Boeing 767-400	494	394	804
M90	424	372	16
Boeing 747-300	341	304	6
Gulfstream	188	236	230
Dassault Falcon	259	215	201
Embraer EMB145	308	78	32
Boeing 737-200	56	66	124
Fokker 100	38	50	358
ATR 42	344	30	86
DC10 all series	1,115	28	50
Embraer EMB135	50	24	25
Boeing 747-200	14	12	40
Total	263,357	266,552	263,716

Table A1
Average number of aircraft movements per day

	2006	2007	2008
January	641	635	644
February	661	627	654
March	667	666	687
April	700	711	712
May	754	764	769
June	795	804	815
July	817	828	841
August	824	839	851
September	814	824	812
October	749	764	722
November	614	634	561
December	621	639	574

Table A3
Monthly runway modal split, 2008

Month	Movements	Westerly	Easterly
January	19,951	90.2%	9.8%
February	18,975	57.7%	42.3%
March	21,309	80.6%	19.4%
April	21,346	72.4%	27.6%
May	23,848	15.1%	84.9%
June	24,452	78.1%	21.9%
July	26,077	83.1%	16.9%
August	26,387	91.3%	8.7%
September	24,373	51.9%	48.1%
October	22,378	91.3%	8.7%
November	16,820	64.8%	35.2%
December	17,795	66.3%	33.7%

Tables A3 and **A4** show how the direction of the airport's operations can vary from month to month due to the wind direction. In 2008, the the highest percentage of westerly operations was in August and the highest easterly usage was in May. Looking at the year as a whole, the westerly-easterly split was variable with no real trends apparent.

In any given month, the percentage of westerly operations can vary dramatically and there has been no set pattern over the years – as can be seen in **Table A4**.

The highest number of westerly operations since 1998 was in February 2000 and the lowest was in May 2008.

Table A5 shows the annual westerly-easterly split over the last three years. In 2008 the average split was similar to the previous two years, namely 66.3% westerly and 33.7% easterly.

Northern runway use

During the year, there may be occasions when Gatwick's main runway is temporarily unavailable for use (for example during maintenance projects). When this happens, operations are switched to the northern (standby) runway. The two runways are not used simultaneously.

Table A6 shows northern runway usage during the past three years. The usage figure was consistent with 2007 but considerably lower than the 2005 figure. Usage of the northern runway, particularly during the night period, usually has an adverse affect on Gatwick's joining point and Continuous Descent Approach performance (CDA reduces noise from arriving aircraft by keeping them higher for longer). The reason is because the northern runway is not equipped with Instrument Landing System (ILS) equipment.

Aircraft go-rounds

An aircraft is occasionally forced to abort its landing – a procedure known as a go-round. The most common reason for a go-round is the loss of an anticipated runway slot. The closure of the main runway can also impact on the number of go-rounds.

Table A7 shows that in 2008 the number of go-rounds was less than in 2007, both in numbers and as a percentage of overall movements.

Table A4
Variations in monthly runway modal split,
April 1998-December 2008

Month	Highest	Westerly	Lowest	Westerly	Range
January	2008	90.2%	2006	43.1%	47.1%
February	2000	97.9%	2003	52.6%	45.3%
March	1999	84.9%	2001	54.6%	30.3%
April	2001	82.9%	2007	36.3%	46.6%
May	2003	86.9%	2008	15.1%	71.8%
June	2002	89.9%	2006	54.3%	35.6%
July	2007	90.5%	2006	57.6%	32.9%
August	2008	91.3%	2003	50.4%	40.9%
September	2001	80.6%	2002	32.0%	48.6%
October	2000	93.1%	2007	42.6%	50.5%
November	2006	92.1%	2003	63.4%	28.7%
December	1999	84.3%	2001	48.5%	35.8%

Table A5
Annual split in easterly and westerly operations (%)

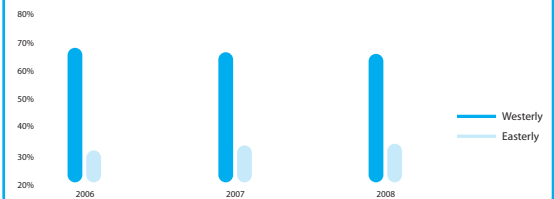


Table A6
Use of northern runway

Year	Days used	Movements	% of annual movements
2005	155	5,447	2.09
2006	65	1,029	0.39
2007	70	1,286	0.48
2008	71	1,008	0.38

Table A7
Aircraft go-rounds

Year	Go-arounds	% of total arrivals
2006	378	0.29
2007	434	0.33
2008	415	0.31

Night flights are classified as those which take off and land between 23.00 and 07.00 (known as the night restrictions period). Government restrictions specify that between 23:30 and 06:00 (the night quota period), aircraft movements are restricted by a movements limit and a noise quota.

During the night quota period, a limited number of flights are allowed and the noisiest aircraft are not allowed to fly at night. This system encourages the airlines who fly at night to use the quietest aircraft.

The noise quota of an individual type of aircraft is based on its official certification data, with separate classifications for landing and take-off in the form of quota count (QC) values. **Table B1** shows the various QC categories. The new night restriction period began in Winter 2006/07. This established a new QC0.25 category which reclassified some QC0.5 and QC0 aircraft as QC0.25.

Table B1
QC categories

Certificated noise level (EPNdB)	Quota count QC
Less than 84	0
84 to 86.9	0.25
87 to 89.9	0.5
90 to 92.9	1
93 to 95.9	2
96 to 98.9	4
99 to 101.9	8
Greater than 101.9	16

Generally speaking, the smaller or newer the aircraft, the lower its QC value will be. For each aircraft type, the departure QC tends to be higher than that for arrival. The total number of all aircraft movements in the night quota period over the past 16 seasons is shown in **Table B2**.

The table is subdivided into arrivals and departures and the totals include all aircraft subject to movement and quota limits, as well as those exempt or granted dispensation. The number of arrivals and departures in the night quota period in Summer 2008 rose from the corresponding season in 2007. This reflects the successful business model of the low-cost aircraft operators, which is based on as many rotations as possible.

The figures for the Winter 2008/09 season showed a significant drop in both arrivals and departures in the night quota period.

The percentage of movements that were arrivals in Summer 2008 fell compared to Summer 2007 but rose slightly in Winter 2008/09 compared to the previous Winter period.

Planes with a QC0 classification are also known as exempt aircraft as they do not count against either the movement or QC limits. Aircraft can also be granted a dispensation to operate during the night quota period but only in special circumstances.

Table B2
Arrivals and departures in the night quota period

Season	Arrivals	Departures	Total	% arrivals	% departures	Weeks
Summer 2001	8,812	2,726	11,538	76.40	23.60	31
Winter 2001/02	2,504	775	3,279	76.40	23.60	22
Summer 2002	7,457	2,488	9,946	75.00	25.00	30
Winter 2002/03	2,638	727	3,365	78.40	21.60	22
Summer 2003	7,352	2,151	9,503	77.40	22.60	30
Winter 2003/04	2,283	776	3,059	74.60	25.40	22
Summer 2004	8,451	2,227	10,678	79.10	20.90	31
Winter 2004/05	2,328	828	3,155	73.80	26.20	21
Summer 2005	9,061	2,077	11,138	81.40	18.60	31
Winter 2005/06	2,883	737	3,620	79.60	20.40	21
Summer 2006	9,442	1,873	11,315	83.45	16.55	31
Winter 2006/07	2,475	309	2,784	88.90	11.10	21
Summer 2007	8,866	1,416	10,282	86.20	13.80	31
Winter 2007/08	2,575	416	2,991	86.10	13.90	22
Summer 2008	8,883	1,735	10,618	83.66	16.34	30
Winter 2008/09	1,993	274	2,267	87.91	12.09	22

Tables B3 and **B4** show exempt aircraft and dispensed movements. The reduced number of movements from the Winter 2006/07 season onwards in **Table B3** are the result of some previously exempt aircraft being reclassified as QC0.25 aircraft. **Table B4** shows that in 2008/09 there were seven dispensations granted by the Department for Transport (DfT). These dispensations were repatriation flights arranged by the Civil Aviation Authority (CAA) following the collapse of the XL airline.

Movement limits and noise quotas

The last 16 operating seasons' night movements and quota count use relative to allocation are shown in **Tables B5** and **B6** respectively. The Winter 2006/07 season was the first to operate under the new quotas and movement limits introduced by the DfT, and also include the new 0.25 category.

The new quota and movement limits meant a reduction in the number of movements permitted and QC allowance. **Figure B7** shows the continuing downward trend in the average QC in both winter and summer months since 2000. This reflects the gradual shift towards quieter, more modern aircraft at the airport. The introduction of the new QC0.25 category has also impacted this trend. The average QC has remained fairly consistent for the last four seasons.

Table B3
Exempt aircraft movements

Season	Movements
Summer 2000	711
Winter 2000/1	339
Summer 2001	645
Winter 2001/2	415
Summer 2002	584
Winter 2002/03	389
Summer 2003	525
Winter 2003/04	329
Summer 2004	429
Winter 2004/05	156
Summer 2005	199
Winter 2005/06	363
Summer 2006	379
Winter 2006/07	50
Summer 2007	107
Winter 2007/08	50
Summer 2008	83
Winter 2008/09	62

Table B4
Dispensations

Year	Number of dispensations
2001/02	3
2002/03	4
2003/04	0
2004/05	0
2005/06	0
2006/07	18
2007/08	14
2008/09	7

Table B5
Night movements limits and usage

Season	Movements limit	Actual movements	Percentage use of movements
Summer 2001	11,200	10,890	97.30
Winter 2001/02	5,250	2,864	54.55
Summer 2002	11,200	9,358	83.55
Winter 2002/03	5,250	2,976	56.69
Summer 2003	11,200	8,978	80.16
Winter 2003/04	5,250	2,730	52.00
Summer 2004	11,200	10,249	91.50
Winter 2004/05	5,250	3,000	57.14
Summer 2005	11,200	10,939	97.67
Winter 2005/06	5,250	3,257	62.04
Summer 2006	11,200	10,918	97.48
Winter 2006/07	3,250	2,734	84.12
Summer 2007	11,200	10,173	90.83
Winter 2007/08	3,250	2,240	68.92
Summer 2008	11,200	10,618	94.8
Winter 2008/09	3,250	2,145	66.00

Table B6
Night QC allocation and usage

Season	QC allocation	QC use	% use
Summer 2001	9,550	8,924.5	93.50
Winter 2001/02	6,680	2,582.0	38.70
Summer 2002	9,060	6,905.0	76.21
Winter 2002/03	6,660	2,358.0	35.41
Summer 2003	9,030	6,357.5	70.40
Winter 2003/04	6,640	2,468.0	37.17
Summer 2004	9,000	7,863.0	87.36
Winter 2004/05	6,640	2,614.5	39.38
Summer 2005	9,000	8,255.5	91.72
Winter 2005/06	6,640	2,677.0	40.32
Summer 2006	9,000	7,749.5	86.11
Winter 2006/07	2,300	1,355.3	58.92
Summer 2007	6,700	5,328.5	79.53
Winter 2007/08	2,240	1,542.3	68.85
Summer 2008	6,600	5,659.8	85.76
Winter 2008/09	2,180	1,169.0	53.62

Table B8 shows a breakdown of movements by QC usage and category. As previously mentioned, more airlines are operating in the QC0.25 category and there were no QC4 movements in Winter 2008/09, compared to 111 in Winter 2005/06 and four in Summer 2008, compared to 229 in Summer 2005. This is because they have not been permitted to be scheduled to fly during the night since October 2006. The number of QC2 movements increased in 2008 and this is due to an increase in movements of 747-400 aircraft (mostly operated by Virgin Atlantic). However, QC1 and QC2 movements combined showed a decrease in 2008 from 2007.

Table B9 compares the percentage of movements in each QC category over the past 14 seasons. The percentage of QC0.25 movements fell in both 2008 Summer and Winter periods compared to the previous year, most noticeably in winter. Looking at 2008/09 as a whole, approximately 80% of movements were still QC0.5 or below.

Figure B7
Average QC per movement by season

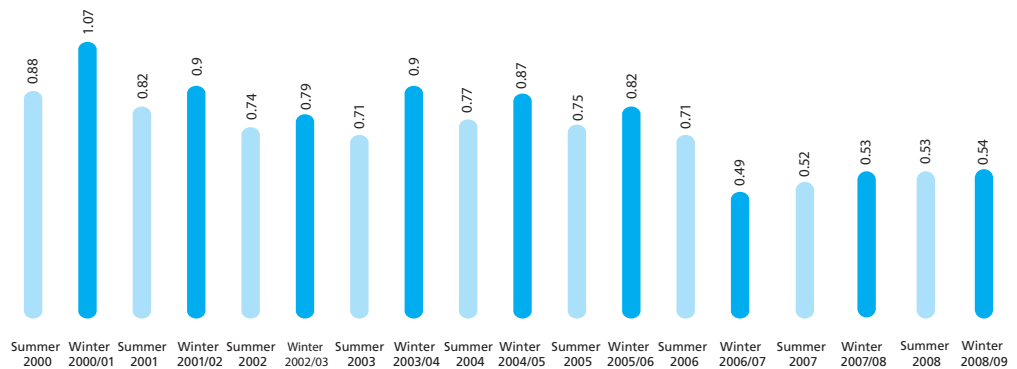


Table B8
Night movements and QC usage, by QC category

Category	Movements		Quota	
	Summer 2004	Winter 2004/05	Summer 2004	Winter 2004/05
0.5	7184	2211	3592	1105.5
1	2339	327	2339	327
2	462	317	924	634
4	252	137	1008	548
8	0	0	0	0
16	0	0	0	0
Earlies	12	8	0	0
Total:	10,249	3,000	7,863	2,614.5

Category	Movements		Quota	
	Summer 2005	Winter 2005/06	Summer 2005	Winter 2005/06
0.5	7815	2384	3907.5	1192
1	2332	437	2332	437
2	550	302	1100	604
4	229	111	916	444
8	0	0	0	0
16	0	0	0	0
Earlies	13	22	0	0
Total:	10,939	3,256	8,255.5	2,677

Category	Movements		Quota	
	Summer 2006	Winter 2006/07	Summer 2006	Winter 2006/07
0.25	n/a	1529	0	382.25
0.5	7859	784	3929.5	392
1	2484	263	2484	263
2	486	157	972	314
4	83	1	332	4
8	0	0	0	0
16	2	0	32	0
Earlies	4	n/a	0	n/a
Total:	10,918	2,734	7,749.5	1,355.25

Category	Movements		Quota	
	Summer 2007	Winter 2007/8	Summer 2007	Winter 2007/08
0.25	5,272	1519	1318	379.75
0.5	2,487	855	1243.5	427.50
1	2,087	375	2087	375
2	314	180	628	360
4	13	0	52	0
8	0	0	0	0
16	0	0	0	0
Total:	10,173	2,929	5,328.5	1,542.25

Category	Movements		Quota	
	Summer 2008	Winter 2008/09	Summer 2008	Winter 2008/09
0.25	5,164	917	1,291	229
0.5	3,042	866	1,521	433
1	1,984	217	1,984	217
2	424	145	848	290
4	4	0	16	0
8	0	0	0	0
16	0	0	0	0
Total:	10,618	2,145	5,644	1,169

Table B9
Percentage movements by QC category

Season	QC0.25	QC0.5	QC1	QC2	QC4	QC8	QC16	Earlies
Summer 2001	n/a	63.85	25.42	8.87	1.70	0.01	0.00	0.16
Winter 2001/02	n/a	66.06	18.58	11.31	3.98	0.00	0.00	0.07
Summer 2002	n/a	73.01	19.35	5.67	1.65	0.00	0.00	0.26
Winter 2002/03	n/a	73.42	17.81	4.84	3.76	0.00	0.00	0.13
Summer 2003	n/a	76.44	17.96	3.71	1.80	0.00	0.00	0.09
Winter 2003/04	n/a	70.55	13.96	9.74	5.42	0.00	0.00	0.33
Summer 2004	n/a	70.09	22.82	4.51	2.46	0.00	0.00	0.12
Winter 2004/05	n/a	73.70	10.90	10.57	4.57	0.00	0.00	0.27
Summer 2005	n/a	71.98	22.75	4.45	0.76	0.00	0.02	0.04
Winter 2005/06	55.93	28.68	9.62	5.74	0.04	0.00	0.00	*n/a
Summer 2007	51.82	24.45	20.52	3.08	0.13	0.00	0.00	*n/a
Winter 2007/08	51.86	29.19	12.80	6.15	0.00	0.00	0.00	*n/a
Summer 2008	48.63	28.65	18.65	3.99	0.04	0.00	0.00	*n/a
Winter 2008/09	42.75	40.37	10.12	6.76	0.00	0.00	0.00	*n/a

*Earlies no longer counted in new regime

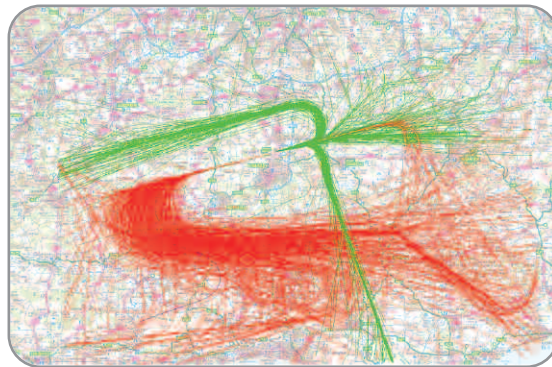
The DfT has overall responsibility for noise policies at Gatwick and the rest of the UK's airports. The DfT has established a number of procedures and measures to help minimise the disturbance caused by aircraft taking off and landing at airports. Gatwick's Flight Evaluation Unit (FEU) plays a key role in monitoring and enhancing its performance against these key measures.

Figures C1 and C2 illustrate a typical day of westerly and easterly operations at the airport. These maps show that the operational patterns for arriving aircraft (shown in red) are very different to those for departing aircraft (green). It is also important to remember that Gatwick does not operate in isolation – its day-to-day operations must be integrated with traffic travelling to and from other airports.

Figure C1
Gatwick westerly operations – typical day



Figure C2
Gatwick easterly operations – typical day



If you would like to find out more information about specific aircraft flights flying over where you live, visit www.gatwickairport.com/noise, enter your postcode and you will be able to view detailed information.

Departing aircraft

All departing aircraft from Gatwick follow one of a number of noise preferential routes (NPRs) (**Figure C3**) on leaving the runway. Until March 2003, compliance with NPR procedures was required only up to 3,000 feet. Since then it has been raised to 4,000 feet for several routes. The result has been a higher percentage of deviations since 2003. **Table C4** shows deviations from NPRs since 2006.

Most of Gatwick's NPR deviations take place on the westerly LAM route due to technical issues. In 2008, 4.27% of departures on this route deviated from the NPR. This figure represents a 20% reduction from 2007's deviations and is the result of sustained efforts on improving procedures by the FEU, working closely with air traffic control service provider NATS and airlines. Although the percentage on the WIZ route (7.38%) is high, this route accounts for approximately 1% of all departures so each deviation equates to a larger percentage of departures than on more frequently used routes.

Figure C3
Noise Preferential Routes: East and West

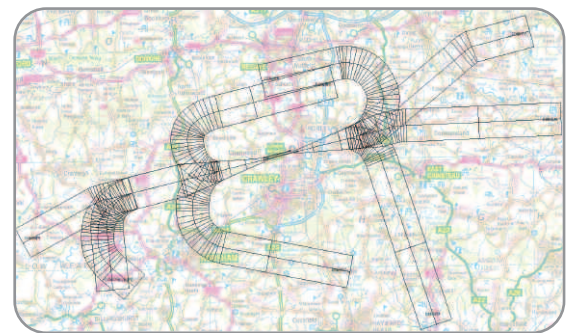


Table C4
Deviations from NPRs as percentage of departures per route

Year	Runway 26 (Westerly)					Runway 08 (Easterly)			
	LAM	SAM	SFD	BOG	WIZ	08KEN	08DTY	08CLN	08SFD
2006	5.26	0.03	0.00	0.21	13.32	1.36	0.19	0.06	0.45
2007	4.12	0.06	0.18	0.16	12.66	0.80	0.07	0.04	0.40
2008	4.27	0.54	0.51	0.26	7.38	0.80	0.28	0.15	0.55

In 2007 the FEU installed a new £1.6 million noise and track-keeping ANOMS NTK system and this improved technology is helping to improve track-keeping performance. **Table C5** shows the proportion of on track departures on each NPR, split into westerly and easterly routes. The percentages are consistent with 2007's performance and there are a greater number of deviations on westerly routes, due to the LAM route.

The FEU continues to work with NATS and the airlines to improve overall track-keeping, communicating regularly with airlines and supplying analysis to help improve their operational performance.

Table C5
Annual average of on-track aircraft as percentage of departures by runway direction

Year	Runway 26 (Westerly)	Runway 08 (Easterly)
2006	97.60	99.40
2007	98.10	99.60
2008	98.00	99.50

Table C6
Track deviations by airline

Airline	Total departures 2006	Total deviations 2006	% deviations 2006	Total departures 2007	Total deviations 2007	% deviations 2007	Total departures 2008	Total deviations 2008	% deviations 2008
Adria Airways	79	3	3.80	259	2	0.77	306	4	1.31
American Airlines	1,096	44	4.01	1,081	33	3.05	393	30	7.63
Astraeus	1,809	88	4.86	1,720	40	2.33	789	23	2.92
British Airways	36,586	534	1.46	33,992	331	0.97	31,401	401	1.28
Bulgaria Air	134	2	1.49	328	4	1.22	391	8	2.05
Centralwings	875	28	3.20	786	11	1.40	289	7	2.42
Continental Airlines	1,691	25	1.48	1,722	38	2.21	1,037	19	1.83
Delta Airlines	1,402	37	2.64	1,627	23	1.41	1,148	20	1.74
EasyJet	19,959	83	0.42	22,573	66	0.29	23,391	172	0.74
EasyJet Switzerland	1,379	4	0.29	356	0	0.00	1,377	8	0.58
Emirates	1,102	50	4.54	1,096	78	7.12	1,074	76	7.08
Estonian Air	99	1	1.01	330	6	1.82	337	5	1.48
First Choice	4,541	127	2.80	4,397	85	1.93	4,089	94	2.30
Flybe	3,970	82	2.07	5,495	116	2.11	8,284	163	1.97
GB Airways	7,730	47	0.61	8,010	54	0.67	7,979	128	1.60
Jet2.com	808	49	6.06	719	8	1.11	258	8	3.10
Lithuanian Airlines	126	2	1.59	273	4	1.47	357	9	2.52
Maersk Air/Sterling	1,597	25	1.57	2,150	22	1.02	1,853	49	2.64
Monarch Airlines	5,631	77	1.37	5,792	49	0.85	5,444	112	2.06
My Travel	1,738	74	4.26	1,686	45	2.67	1,537	101	6.57
Northwest Airlines	660	26	3.94	715	85	11.89	432	58	13.43
Olympic Air	329	25	7.60	410	19	4.63	215	11	5.12
Others	15,321	443	2.89	15,730	362	2.30	18,375	1,270	6.91
Qatar Airways	90	3	3.33	276	9	3.26	361	24	6.65
Ryanair	3,162	33	1.04	2,885	3	0.10	3,173	28	0.88
SN Brussels	617	45	7.29	621	23	3.70	485	21	4.33
Thomas Cook	3,706	67	1.81	3,704	54	1.46	3,196	118	3.69
Thomsonfly	4,396	66	1.50	4,478	80	1.79	4,531	112	2.47
Ukraine International	88	2	2.27	279	3	1.08	395	6	1.52
US Airways	719	7	0.97	719	28	3.89	702	28	3.99
Virgin Atlantic	2,271	114	5.02	2,201	74	3.36	2,024	89	4.40
XL Airways	3,897	120	3.08	3,225	48	1.47	2,172	48	2.21
Totals	127,608	2,333	1.83	129,665	1,803	1.39	127,795	3,250	2.54

Table C7
Track deviations by jet aircraft – by aircraft type

Aircraft type	Depart 2008	Deviations 2008	% Deviations 2008
TU154	26	6	23.08
H125	111	24	21.62
Canadair CL600/01/04	59	6	10.17
DHC-8/8-400/300	4,510	717	15.90
Gulfstream	114	5	4.39
Cessna Citation	305	23	7.54
Dassault Falcon	92	10	10.87
Learjets	92	12	13.04
A330	2,838	230	8.10
EMB195	3,883	47	1.21
EMB145	16	2	12.50
B747-400	2,136	94	4.40
B767-200	514	20	3.89
BA 146-300	1,295	46	3.55
Avro RJ	429	20	4.66
B737-200	60	5	8.33
BA 146-200	17	1	5.88
B737-600	452	6	1.33
MD87/88	11	0	0.00
MD81/82/83	261	11	4.21
B777	3,667	92	2.50
B757	9,672	282	2.92
Others	3,167	227	7.17
B767-300	3,989	57	1.43
B767-400	388	7	1.80
A310	794	25	3.15
A340	114	18	15.79
A321	6,444	143	2.22
A300	969	15	1.55
B737-300	5,825	97	1.67
B737-700	1,459	24	1.64
B737-400	15,606	212	1.36
A320	11,037	240	2.17
B737-500	9,488	126	1.33
B737-800	7,820	135	1.73
A319	29,935	264	0.88
Canadair RJ	200	1	0.01
Totals	127,795	3,250	2.54

Tables C6 and **C7** show track deviations by airline and aircraft type respectively. The particular aircraft type and route flown have direct impact on a specific airline's relative performance – and as a result it is difficult to draw direct comparisons between airlines or aircraft types from these tables.

The overall percentage of deviations increased in 2008, partly due to a change in recording procedures. From October 2008 onwards, all propeller-driven aircraft and weather vectors are being included in the statistics, bringing Gatwick into line with other airports in the South East. Prior to this, propeller aircraft, weather diversions and departures vectored by NATS were not included in the track-keeping deviation statistics. This move reflects more accurately what the local communities experience.

British Airways and easyJet remain the two biggest airlines operating at Gatwick so it is reasonable to expect them to have the most deviations. Both airlines recorded a slight increase in track deviations from 2007 but this was due to the change in recording processes mentioned above. Ryanair's performance (0.88% – 28 deviations from 3,173 flights) and Monarch Airlines' performance (2.06% deviations from 5,422 flights) were also worthy of note. Northwest Airlines (13.43% deviations) and Emirates (7.08% deviations) performed less well in this area. The FEU continues to work closely with all airlines on their operational procedures.

As shown in **Table C7**, the deviations tend to come from the bigger planes which climb slower and can take longer to reach their designated heights. The A319, the most widely used aircraft at Gatwick, recorded 264 deviations from nearly 30,000 departures.

When planes deviate from the NPRs, the relevant airlines are notified and ongoing performance is monitored by Gatwick's FLOPC.

Arriving aircraft

Although there are no set routes for arriving aircraft, there are long-established procedures to mitigate the disturbance they can cause when landing. These procedures focus on night-time operations and aim to keep aircraft as high as possible for as long as possible. For example, there are specific distances and heights that aircraft need to maintain on the final approach or instrument landing system (ILS).

Collectively, these distances and heights are known as the joining point criteria. Between 23:30 and 06:00, aircraft must not join the ILS below 3,000 feet or closer than ten nautical miles (nm). **Table C8** shows the joining point criteria adherence from 2005 to 2008. Joining point adherence improved in 2008 from the previous year. From June 2007 onwards, the data has been collected in a slightly different way, following the introduction of the new track-keeping system.

Table C8
Aircraft joining the ILS at distances greater than 10nm (23:30-06:00)

	2005		2006		2007		2008	
	Number	%	Number	%	Number	%	Number	%
January	442	95	493	95	440	93	415	91
February	410	96	500	96	397	91	389	87
March	516	97	642	97	536	86	564	94
April	713	97	792	95	716	94	745	92
May	1,067	98	1,067	97	1,067	96	1,116	96
June	997	80	1,254	94	1,205	93	1,332	95
July	1,255	83	1,462	94	1,481	98	1,122	98
August	1,415	85	1,637	97	1,450	96	1,588	98
September	1,289	88	1,434	96	1,302	96	1,318	94
October	994	80	1,070	95	1,029	89	1,037	96
November	451	89	383	98	348	85	327	97
December	617	96	571	97	515	90	366	97
Year total	10,166	90	11,305	96	10,486	92	10,319	95

Table C9 shows consistently high levels of compliance (89%) with regard to the height requirements. Again the data for this was collected using the new track-keeping system from June 2007.

All arriving aircraft aim to achieve a Continuous Descent Approach (CDA), wherever practicable, as it is another important way of mitigating noise. A CDA keeps the aircraft higher for longer, avoiding periods of prolonged level flight at lower altitudes. Achieving it is not a precise art – it relies on a combination of the pilot’s skill, the quality of information provided by NATS and weather and

operational conditions.

Figure C10 illustrates CDA and non-CDA approach profiles. There are no set approach angles or heights for an arrival to be classified as following a CDA.

The Arrivals Code of Practice is a technical document aimed at reducing the noise created by arriving aircraft. The code, allied with subsequent communications and analysis by airlines, NATS and the FEU, has resulted in significant improvements in the CDA achievement rate across all time periods.

Table C9
Aircraft joining the ILS above an altitude of 2,900 feet (23:30-06:00)

	2005		2006		2007		2008	
	Number	%	Number	%	Number	%	Number	%
January	450	97	513	98	451	96	370	81
February	422	99	511	98	420	96	379	85
March	522	98	651	99	603	96	508	85
April	732	99	827	99	758	98	704	87
May	1,084	99	1,079	98	1,099	99	1,803	93
June	1,217	98	1,316	99	1,184	91	1,256	89
July	1,473	97	1,510	97	1,405	93	1,063	93
August	1,620	98	1,677	99	1,423	94	1,494	93
September	1,443	99	1,475	98	1,238	91	1,259	90
October	1,217	98	1,123	99	955	83	982	91
November	499	98	389	99	345	85	295	88
December	633	99	569	97	465	81	338	90
Year total	11,312	98	11,640	98	10,346	92	9,731	89

Figure C10
Example of a CDA and non-CDA approach profile

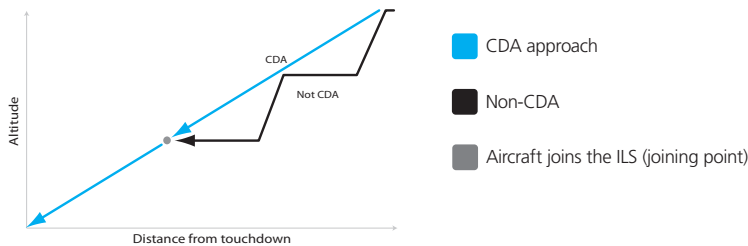


Table C11
Monthly core night-time arrivals (23:30-06:00) and achievement of CDAs

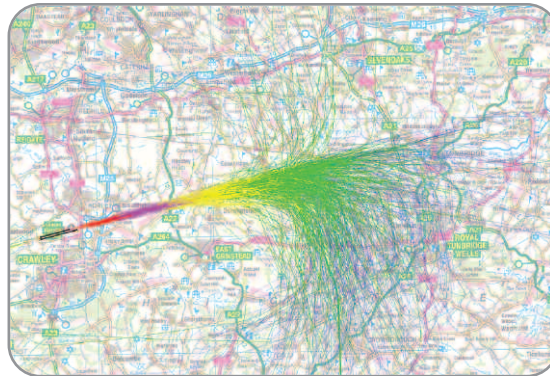
	2005		2006		2007		2008	
	Arrivals	% CDA	Arrivals	% CDA	Arrivals	% CDA	Arrivals	% CDA
January	463	81	521	82	472	84	446	88
February	425	84	523	81	439	86	441	85
March	531	89	667	85	626	85	599	83
April	728	89	837	89	760	91	800	90
May	1,089	92	1,104	92	1,108	90	1,142	90
June	1,234	84	1,336	91	1,301	90	1,416	89
July	1,506	85	1,560	92	1,512	92	1,180	92
August	1,663	84	1,688	91	1,508	94	1,567	92
September	1,475	85	1,502	92	1,354	90	1,423	89
October	1,253	83	1,132	89	1,151	86	1,078	91
November	527	77	391	87	408	79	370	89
December	646	78	588	86	571	86	377	88
Year Total	11,540	85	11,849	90	11,210	89	10,839	89

Not surprisingly, the most sensitive time is the night quota period. In 2008 Gatwick recorded an 89% CDA achievement, the same figure achieved in 2007 – see **Table C11**. **Table C12** shows the CDA achievement for 2007 and 2008.

Table C12
Continuous descent approach achievement

Period	2007	2008	% Change
	% CDA	% CDA	
Core night (23:30-06:00)	89	89	0
Night and shoulder (23:00-07:00)	85	85	0
Daytime (07:00-23:00)	80	83	+3
24-hour period	81	84	+3

Figure C13
Colour by height plots of westerly (23:30-06:00) arriving aircraft to 4,000ft for July 1996



0-800ft 801-1600ft 1601-2400ft 2401-3200ft 3201-3999ft

Figures C13 and **C14** illustrate the track density plots of night-time westerly arriving aircraft to 4,000 feet for July 1996 and July 2008. The area covered by aircraft below 4,000 feet in 2008 is notably smaller than in 1996 – underlining the improvement in CDA achievement.

CDA achievement in 2008 for the whole night restriction period (**Table C15**) was the same as 2007 at 85% and followed the trends of previous years with achievement being greater in the summer months. The performance from September to December was an improvement on previous years. During the daytime period (**Table C16**), CDA achievement has gradually improved over the last four years and improved by five per cent in 2008 to 85%.

Figure C14
Colour by height plots of westerly (23:30-06:00) arriving aircraft to 4,000ft for July 2008



Table C15
Monthly core night + shoulder arrivals (23:00-07:00) and achievement of CDAs

	2006		2007		2008	
	Arrivals	%	Arrivals	%	Arrivals	%
January	1,017	79	1,086	76	1,047	75
February	1,015	78	1,024	80	992	77
March	1,164	82	1,262	81	1,197	79
April	1,236	93	1,415	90	1,378	87
May	1,772	86	1,850	85	1,775	87
June	2,042	89	1,971	88	2,148	88
July	2,235	88	2,339	88	1,807	89
August	2,460	90	2,309	90	2,379	89
September	2,292	88	2,182	86	2,178	89
October	1,910	85	1,850	84	1,706	90
November	930	81	981	76	752	85
December	1,180	81	1,175	78	825	85
Year total	19,265	87	19,444	85	18,184	85

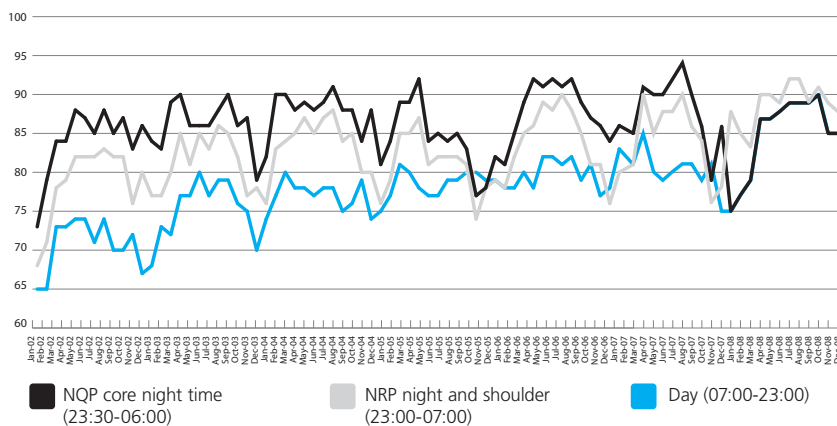
Figure C17 shows the seasonal nature of CDA achievement across the key time periods 2002-2008.

The Arrivals Code of Practice contains further noise mitigation measures related to arriving aircraft. For more details visit: www.gatwickairport.com/noise.

Table C16
Monthly day arrivals (07:01-22:59) and achievement of CDAs

	2006		2007		2008	
	Arrivals	% CDAs	Arrivals	% CDAs	Arrivals	CDAs %
January	8,868	79	8,715	78	1,047	75
February	8,221	78	8,012	83	992	77
March	9,135	78	9,034	81	1,197	79
April	8,666	80	9,249	85	1,378	87
May	9,856	78	9,853	80	1,775	87
June	9,842	82	10,078	79	2,148	88
July	9,989	82	10,446	80	1,807	89
August	10,254	81	10,656	81	2,379	89
September	9,894	82	10,158	81	2,178	89
October	9,684	79	9,980	79	1,706	90
November	7,975	81	8,518	81	752	85
December	8,436	77	8,727	75	825	85
Year total	110,820	80	113,426	80	18,184	85

Figure C17
CDA achievement by month for the three key time periods



The FEU assesses aircraft noise in three different ways:

- annual air noise contours
- mobile noise monitoring studies
- departure noise limit compliance.

The DfT is responsible for issuing noise contours and our 2007 Annual Report gave details of the noise contours produced for 2007. Full details are available on the DfT website: www.dft.gov.uk. The noise contours for 2008 have not yet been published.

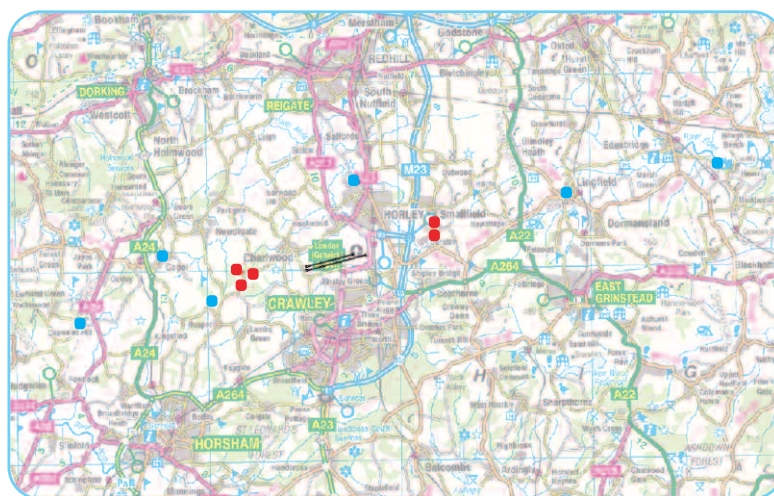
Mobile noise monitoring data is recorded at five community locations close to the airport (see **Figure D1**). Members of the FEU team meet on a quarterly basis with local Environmental Health Officers to discuss the results.

Noise limits

All take-offs from the airport are subject to departure noise limits set by the DfT. Since 2001, there have been three limits in place at Gatwick for the day, shoulder and night-time periods.

Departure noise limits are based on the assumption that the noise monitors are exactly 6.5km from the start of roll point on the runway and at the same elevation as the airfield. In practice, this is seldom possible and adjustments are made to the limits to account for any variances in monitor position. There is a margin of error for the microphone which is also taken into account (+/- 0.7dBA). **Table D2** summarises the limits that apply to the five permanent monitors.

Figure D1
Noise monitoring sites



■ Permanent Noise Monitors ■ Mobile Noise Monitors

Table D2
Noise limits as adjusted for individual monitoring sites

Site	Adjustments specific to monitoring sites			Adjusted limit values at monitoring sites		
	Positional	Equipment	Total	Day	Shoulder	Night
1	+5.0	+0.7	+5.7	99.7	94.7	92.7
3	+1.9	+0.7	+2.6	96.6	91.6	89.6
4	+1.9	+0.7	+2.6	96.6	91.6	89.6
5	0.0	+0.7	+0.7	94.7	89.7	87.7
6	-0.2	+0.7	+0.5	94.5	89.5	87.5

In 2008 there were only four noise infringements, a 73% reduction from the 15 noise infringements in 2007 (**Figure D3**).

The 2008 infringements are listed in **Table D4** and demonstrate continued good performance from Gatwick's FEU and the airlines operating at the airport. The reduced number reflects the continuing efforts to crack down on noise infringements and the increase in more modern, quieter aircraft flying from Gatwick. **Table D5** shows that in 2008, there were two night-time noise infringements, as in 2007, which remains the lowest ever number of night-time noise infringements. Day-time infringements fell from 13 in 2007 to 2 in 2008.

Airlines are charged for noise infringements, with all proceeds going to the independently-run Gatwick Airport Community Trust. **Table D5** lists the different infringements during the past four years and the amount of money raised for the Community Trust.

Figure D3 Total noise infringements

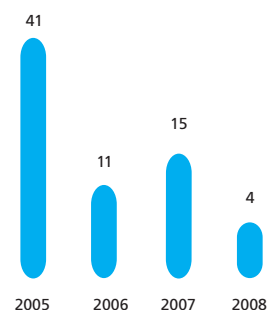


Table D4

All noise infringements 2008

Number	Date/Time	Flight No	A/C Type	Reg	RW	Monitor	Lmax	Limit at Monitor	Excess	Tailwind Adjustment	Adj Limit	Fine (£)	Day/Night
1	27/10/2008 13:09	NWA9968	742	N624US	26	1	100.7	99.7	1	0	100.7	£500	D
2	27/10/2008 14:48	NWA9969	742	N623US	26	1	100.9	99.7	1.2	0	100.9	£500	D
3	31/05/2008 02:41	NMB386	343	V5NMF	26L	1	92.8	92.7	0.1	0	92.8	£500	N
4	15/07/2007 00:13	TCX013K	L15	CSTMP	26L	5	91.3	89.6	1.7	0	91.3	£500	N
Total											£2,000		

Table D5

Departure noise limit infringements

	2005	2006	2007	2008
Night-time infringements	12	2	2	2
Shoulder hour infringements	0	0	0	0
Day-time infringements	29	9	13	2
Total	41	11	15	4
Total Gatwick departures	130,638	131,677	133,272	127,552
Infringements as % of departures	0.031%	0.008%	0.011%	0.00003%
Total surcharges	£21,500	£5,500	£8,500	£2,000

Callers and enquiries

The number of different people calling Gatwick's FEU has been falling in recent years. In 2006, it was 580, in 2007 it was 482 and in 2008 the figure dropped to 406. Although the number of callers was fewer, the number of enquiries in 2008 increased by more than 1,000 and this is due to the concentration of calls from a few individuals. **Table E1** shows the total number of callers and enquiries in the last three years.

Gatwick's noise website, which allows people to log complaints online and find out exactly which aircraft was flying over their house at any given time, went live in 2007 and is now a valuable tool to help monitor and manage enquiries. For more details, visit www.gatwickairport.com/noise

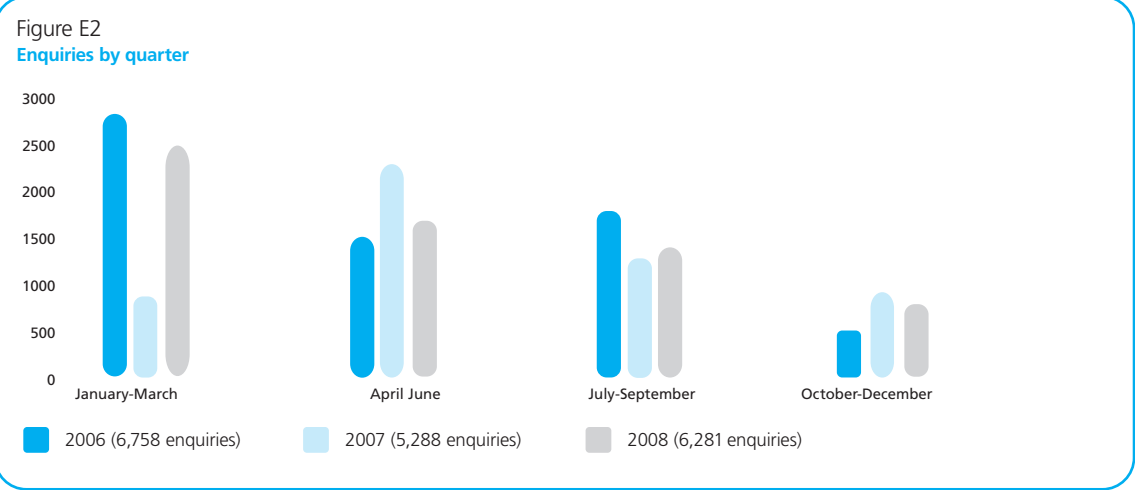
Figure E2 shows the differing levels of enquiries by quarter over the last three years. Generally speaking, the peaks usually occur in the summer months when the airport is at its busiest and when more people spend time outside and windows are left open during the night. However, in 2008 the peak period for enquiries was January-March and the most likely reason for this is that there was a higher than average percentage of westerly operations during that period.

Reasons for enquiries

The main reasons given for enquiries in 2008 were aircraft noise, increased numbers of flights, low flying aircraft and track-keeping, in line with reported enquiries in previous years.

Table E1
Callers and enquiries relating to airport operations

	2006	2007	2008
Callers	580	482	406
Enquiries	6,758	5,288	6,315



Caller locations

The FEU’s investigation of enquiries and complaints is helped by quick address postcoding and geographic mapping, which can locate a caller’s postcode on an Ordnance Survey map (see **Figure E5**). This figure also shows Gatwick’s NPRs. In addition, radar data supplied by NATS can be overlaid, enabling accurate airline, aircraft type, height and noise data to be extracted.

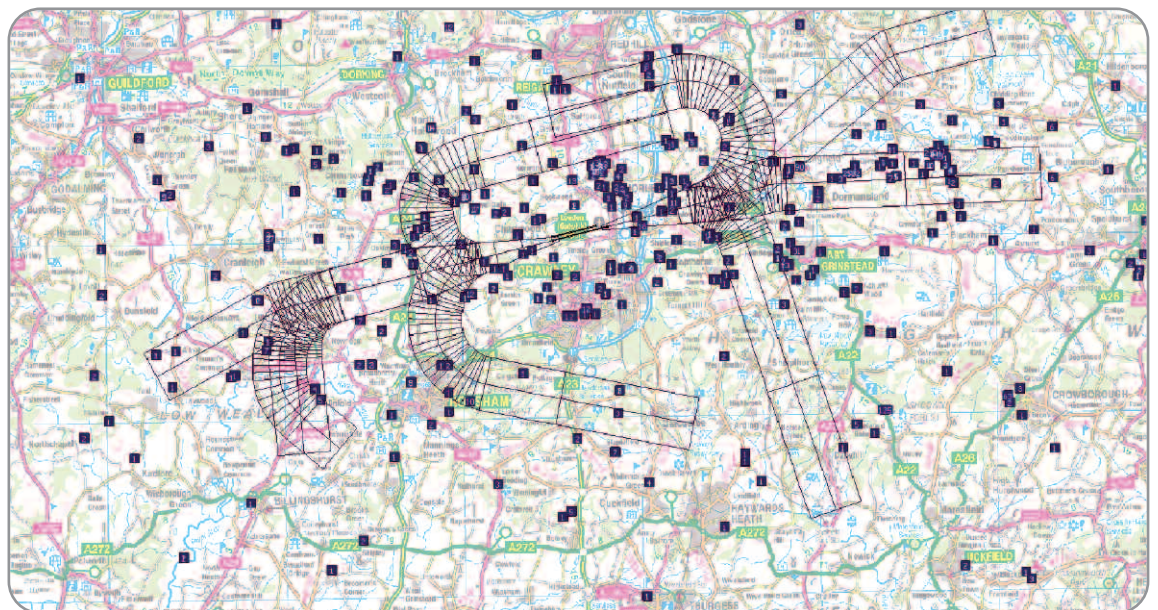
Table E3 shows locations with ten or more callers. All these locations lie within approximately 12 miles of the airport. Many other locations record only one caller and enquiry.

Table E4 shows locations recording 50 or more events. Some of these locations are further away from the airport than those listed in **Table E3** and suggest that outlying, more sparsely populated areas can sometimes be more sensitive to noise disturbance than areas closer to Gatwick.

Table E3 Locations with 10+ callers	
Crawley	17
East Grinstead	16
Edenbridge	15
Hever	10
Horley	39
Horsham	10
Newdigate	12
Smallfield	10

Table E4 Locations with 50+ enquiries		
	Enquiries	Callers
Crowborough	67	4
Hever	2,543	10
Horley	128	39
Lingfield	98	6
Marsh Green	2,632	9
Nutley	126	2

Figure E5
Postcode locations of complaint enquiries in 2008 (NPRs shown)



ANOMS	Noise, Track-Keeping and Complaints System
ATC	Air Traffic Control
CAA	Civil Aviation Authority
CDA	Continuous Descent Approach
dBA	A-weighted Decibels
DfT	Department for Transport
FEU	Flight Evaluation Unit
FLOPC	Flight Operations Performance Committee
ILS	Instrument Landing System
Leq	Continuous Equivalent Noise Level
nm	Nautical Miles
NATS	Formerly known as National Air Traffic Services
NPRs	Noise Preferential Routes
NQP	Night Quota Period
NRP	Night Restrictions Period
QC	Quota Count

If you have any comments on this report or would like to know more about the work of Gatwick's Flight Evaluation Unit please contact:

Rick Norman
Head of Noise and Air Quality
Email: lgwnoise_line@baa.com
Freephone: 0800 393070

All aspects of Gatwick's noise policies and activities are covered in more detail at:

➔ www.gatwickairport.com/noise

For details of Gatwick's Sustainability Performance visit:

➔ www.gatwickairport.com

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➔ www.gatwickairport.com

For further information on BAA Gatwick please contact us on: +44 (0)870 000 2468 or visit our website

➔ www.gatwickairport.com

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Registered office

BAA Gatwick
The Compass Centre
Nelson Road
Hounslow
Middlesex
TW6 2GW United Kingdom
Telephone +44 (0)870 000 2468
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