

# Aviation Industry Safety Update

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## **Introduction**

This report uses calendar years; the first quarter is 1 January to 31 March. Data in tables may not sum exactly to the total shown due to rounding.

## **Occurrence Statistics**

The “Twelve Month Moving Average” graphs in the Occurrence Statistics sections give an indication of the levels of safety failure in New Zealand aviation during the period 1 April 2002 to 31 March 2005. They are constructed from data in the CAA Safety Monitoring Database, and with the exception of the first quarter of 2005, use actual data reported to the CAA. The rate calculation for the first quarter of 2005 is based on an estimate of the hours flown in that quarter and the actual number of failures reported to the CAA.

## Industry Activity Statistics

### Registered Aircraft

The following table summarises the number of aircraft on the register by aircraft group at 31 March 2005 and 6 months prior:

Aircraft Group	30 Sep 2004		31 Mar 2005		Change	
	Number	Percentage	Number	Percentage	Number	Percentage
13,608 kg and above	93	2.5	95	2.5	+ 2	+ 2.2
5,670 to 13,608 kg	71	1.9	68	1.8	- 3	- 4.2
2,721 to 5,670 kg	126	3.4	132	3.4	+ 6	+ 4.8
Below 2,721 kg	1,540	41.2	1,553	40.6	+ 13	+ 0.8
Sport	1,332	35.6	1,376	35.9	+ 44	+ 3.3
Helicopters	575	15.4	604	15.8	+ 29	+ 5.0
<b>Total</b>	<b>3,737</b>		<b>3,828</b>		<b>+ 91</b>	<b>+ 2.4</b>

### Licences

The following table summarises the number of private pilot, commercial pilot, airline transport pilot, air traffic controller and aircraft maintenance engineer licences on the register at 31 March 2005 and 6 months prior:

Licence Type	Medical Certificate	30 Sep	31 Mar	Change	
		2004	2005	Number	Percentage
Private Pilot	Class 1 & 2	3,687	3,655	- 32	- 0.9
Commercial Pilot	Class 2 only	1,436	1,505	+ 69	+ 4.8
Commercial Pilot	Class 1	2,001	1,979	- 22	- 1.1
Airline Transport Pilot	Class 2 only	565	571	+ 6	+ 1.1
Airline Transport Pilot	Class 1	1,149	1,175	+ 26	+ 2.3
Air Traffic Controller	Class 3	304	302	- 2	- 0.7
Aircraft Maintenance Engineer	N/A	1,960	2,003	+ 43	+ 2.2
<b>Total Licences</b>		<b>11,102</b>	<b>11,190</b>	<b>+ 88</b>	<b>+ 0.8</b>

**Note** — The statistics above for pilot licences count only those with active class 1 or active class 2 medical certificates. This means that for CPL and ATPL licences, the number with a class 2 medical only, must only be exercising PPL privileges (or not flying at all). The statistics above for Air Traffic Controller Licences count only those with an active class 3 medical certificate.

The statistics above do not show the number of licence holders as each client may hold more than one licence [e.g. PPL (helicopter) and PPL (aeroplane), or PPL (Helicopter) and CPL (Balloon), held by one client counts as two licences].

## Certificated Operators

The following tables show the number of Civil Aviation Rule Part certificate holders at 31 March 2005 and 6 months prior.

Rule Part	30 Sep	31 Mar	Change	
	2004	2005	Number	Percentage
Part 119 Air Operator	160	164	+ 4	+ 2.5
Part 119 Air Operator – Pacific	1	1	0	0.0
Part 119 Transitional Air Operator – Air Service Certificate	1	0	- 1	- 100.0
Part 129 Foreign Air Operator	36	36	0	0.0
Part 137 Agricultural Aircraft Operator	117	115	- 2	- 1.7
Part 139 Aerodromes	23	26	+ 3	+ 13.0
Part 140 Aviation Security Services	1	1	0	0.0
Part 141 Aviation Training Organisation	51	52	+ 1	+ 2.0
Part 145 Aircraft Maintenance Organisation	52	51	- 1	- 1.9
Part 146 Aircraft Design Organisation	11	11	0	0.0
Part 148 Aircraft Manufacturing Organisation	19	20	+ 1	+ 5.3
Part 149 Recreation Organisation	6	6	0	0.0
Part 171 Aeronautical Telecommunication Service Organisation	4	3	- 1	- 25.0
Part 172 Air Traffic Service	1	1	0	0.0
Part 174 Meteorological Service Organisation	2	2	0	0.0
Part 175 Aeronautical Information Service Organisation	2	2	0	0.0
Part 19 Supply Organisation Certificate of Approval	50	51	+ 1	+ 2.0
Part 92 Dangerous Goods Packaging Approval	39	42	+ 3	+ 7.7

Note: the figures show the total number of approvals held by organisations with Part 92 certificates.

Part 119 Air Operator	30 Sep	31 Mar	Change	
	2004	2005	Number	Percentage
Part 108 Security Programme	17	18	+ 1	+ 5.9
Part 121 Large Aeroplanes	12	11	- 1	- 8.3
Part 125 Medium Aeroplanes	11	11	0	0.0
Part 135 Helicopters and Small Aeroplanes	147	150	+ 3	+ 2.0

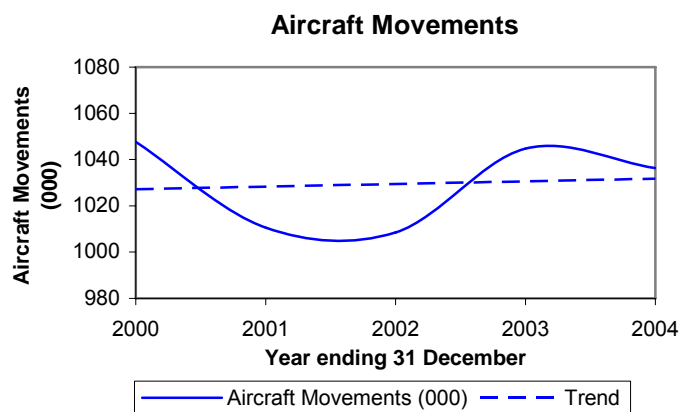
Part 129 Foreign Air Operator	30 Sep	31 Mar	Change	
	2004	2005	Number	Percentage
Part 108 Security Programme	28	26	- 2	- 7.1

## Aircraft Movements

The following tables and graphs show the number of aircraft movements at aerodromes (excluding Oceanic overflights). Aircraft movements at Taupo are supplied by the aerodrome operator. Aircraft movements at the other aerodromes are supplied by ACNZ. Aircraft movements from ACNZ include takeoffs, landings, and missed approaches (vicinity movements and domestic overflights are not included).

### Long-Term Change in Aircraft Movements

The following graph shows the number of aircraft movements for the five-year period 1 January 2000 to 31 December 2004.



The number of aircraft movements decreased at an average of 1.9% each year from the year ended 31 December 2000 until the year ended 31 December 2002 when a low of 1,008,470 was reached. Since 2002 the number of aircraft movements increased at an average of 1.4% each year to 1,036,227 in the year ended 31 December 2004.

### Six-Monthly Comparison

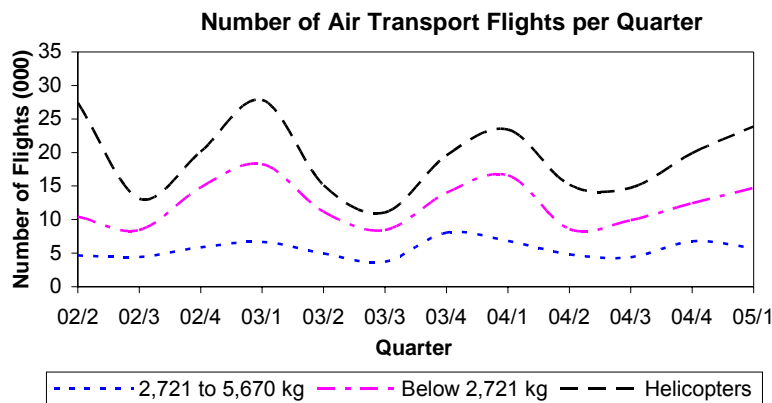
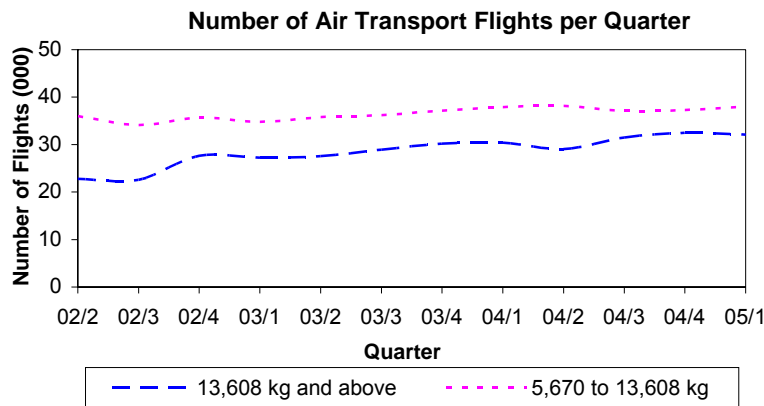
#### *Number of Aircraft Movements*

Activity	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
Aircraft Movements	515,808	507,329	- 8,479	- 1.6

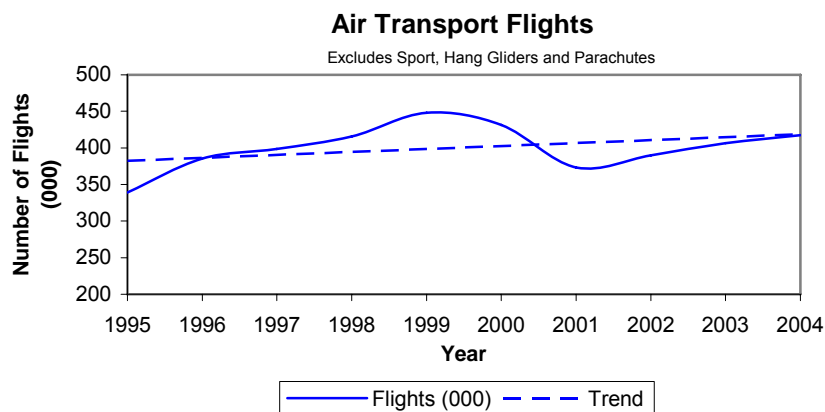
## Air Transport Flights

Note that these graphs exclude sport aircraft, hang gliders and parachutes, and foreign registered aircraft that are operated in New Zealand.

The following graphs show the number of air transport flights per quarter during the period 1 April 2002 to 31 March 2005. Flights for the period 1 January to 31 March 2005 (05/1) are estimated.

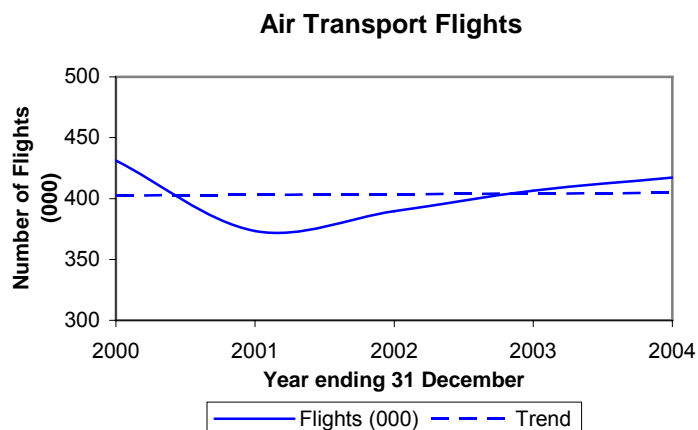


The following graph shows the number of air transport flights (excluding the sport group) for the years 1995 to 2004.



## Long-Term Change in Air Transport Flights

The following graph shows the number of air transport flights (excluding the sport group) for the five-year period 1 January 2000 to 31 December 2004.



The number of air transport flights decreased by 13.5% from 431,262 in the year ended 31 December 2000 to 373,257 in the year ended 31 December 2001. Since 2001 the number of flights increased at an average of 3.9% each year to 417,200 in the year ended 31 December 2004.

## Six-Monthly Comparison

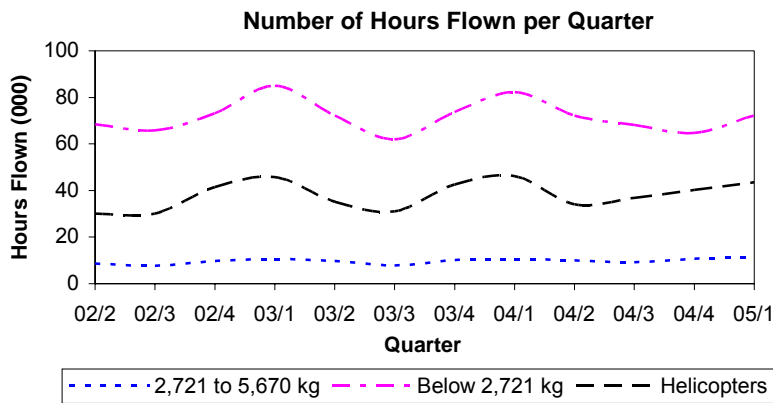
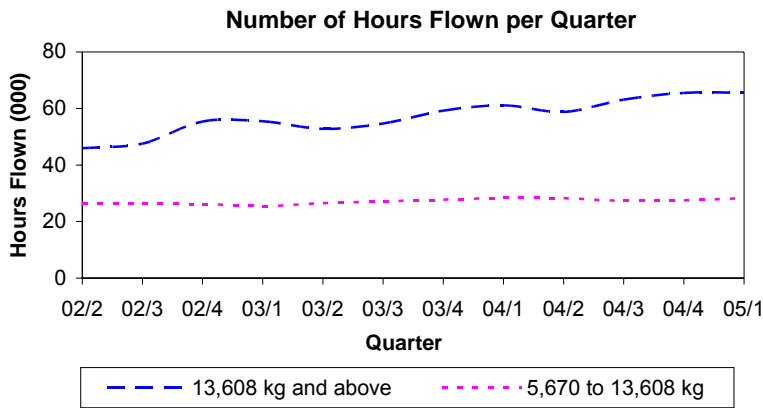
### *Number of Air Transport Flights*

Aircraft Group	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
13,608 kg and above	59,091	63,947	+ 4,856	+ 8.2
5,670 to 13,608 kg	73,257	74,315	+ 1,058	+ 1.4
2,721 to 5,670 kg	11,741	11,169	- 572	- 4.9
Below 2,721 kg	22,452	22,371	- 81	- 0.4
Helicopters	30,598	34,631	+ 4,033	+ 13.2
<b>Total</b>	<b>197,139</b>	<b>206,433</b>	<b>+ 9,294</b>	<b>+ 4.7</b>

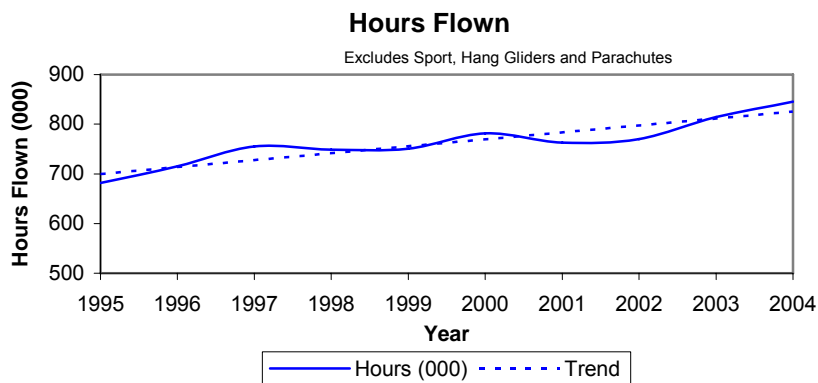
## Hours Flown

Note that these graphs exclude sport aircraft, hang gliders and parachutes, and foreign registered aircraft that are operated in New Zealand.

The following graphs show the number of hours flown by aircraft during the period 1 April 2002 to 31 March 2005. Hours for the period 1 January to 31 March 2005 (05/1) are estimated.



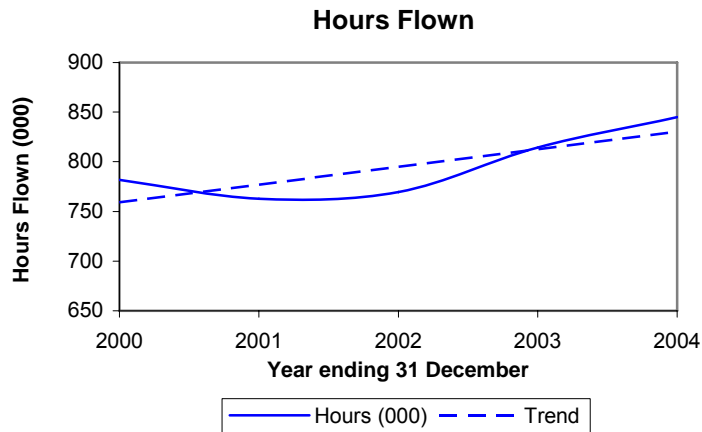
The following graph shows the number of hours flown by aircraft (excluding the sport group) for the years 1995 to 2004.





## Long-Term Change in Hours Flown

The following graph shows the number of hours flown (excluding the sport group) for the five-year period 1 January 2000 to 31 December 2004.



The total number of hours flown increased at an average of 2.0% each year from the year ended 31 December 2000 until the year ended 31 December 2004 when a peak of 844,937 hours was reached.

## Six-Monthly Comparison

### *Number of Hours Flown*

Aircraft Group	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
13,608 kg and above	113,782	128,614	+ 14,832	+ 13.0
5,670 to 13,608 kg	54,868	54,751	- 117	- 0.2
2,721 to 5,670 kg	17,983	20,007	+ 2,024	+ 11.3
Below 2,721 kg	135,623	132,778	- 2,845	- 2.1
Helicopters	73,687	77,016	+ 3,329	+ 4.5
<b>Total</b>	<b>395,942</b>	<b>413,165</b>	<b>+ 17,223</b>	<b>+ 4.3</b>

*1 July to 31 December 1997*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	101,021	48,581	8,017	16,900	15,135	189,654
Revenue (other)	63	295	6,667	87,334	37,296	131,655
Non-Revenue	69	280	2,333	30,986	6,585	40,253
<b>Totals</b>	<b>101,153</b>	<b>49,156</b>	<b>17,017</b>	<b>135,220</b>	<b>59,016</b>	<b>361,562</b>

*1 January to 30 June 1998*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	98,462	46,465	7,870	20,138	15,713	188,648
Revenue (other)	178	329	8,952	99,720	36,911	146,090
Non-Revenue	84	183	1,529	35,779	6,817	44,392
<b>Totals</b>	<b>98,724</b>	<b>46,977</b>	<b>18,351</b>	<b>155,637</b>	<b>59,441</b>	<b>379,130</b>

*1 July to 31 December 1998*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	107,072	53,130	8,782	19,435	13,881	202,300
Revenue (other)	89	257	6,418	85,749	37,192	129,705
Non-Revenue	126	131	1,564	29,705	5,975	37,501
<b>Totals</b>	<b>107,287</b>	<b>53,518</b>	<b>16,764</b>	<b>134,889</b>	<b>57,048</b>	<b>369,506</b>

*1 January to 30 June 1999*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	102,422	49,704	10,921	22,311	19,209	204,567
Revenue (other)	85	339	8,618	88,488	36,450	133,980
Non-Revenue	113	168	2,161	35,292	6,855	44,589
<b>Totals</b>	<b>102,620</b>	<b>50,211</b>	<b>21,700</b>	<b>146,091</b>	<b>62,514</b>	<b>383,136</b>

*1 July to 31 December 1999*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	100,479	55,263	10,417	17,613	14,712	198,484
Revenue (other)	62	399	7,483	82,853	35,814	126,611
Non-Revenue	245	100	2,405	30,952	8,811	42,513
<b>Totals</b>	<b>100,786</b>	<b>55,762</b>	<b>20,305</b>	<b>131,418</b>	<b>59,337</b>	<b>367,608</b>

*1 January to 30 June 2000*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	111,190	54,764	12,189	23,952	16,266	218,361
Revenue (other)	82	398	8,526	89,330	40,613	138,949
Non-Revenue	64	192	2,292	34,218	7,160	43,926
<b>Totals</b>	<b>111,336</b>	<b>55,354</b>	<b>23,007</b>	<b>147,500</b>	<b>64,039</b>	<b>401,236</b>

*1 July to 31 December 2000*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	115,869	50,487	9,285	19,790	15,492	210,923
Revenue (other)	176	383	8,615	84,280	42,001	135,455
Non-Revenue	114	119	1,744	26,657	5,546	34,180
<b>Totals</b>	<b>116,159</b>	<b>50,989</b>	<b>19,644</b>	<b>130,727</b>	<b>63,039</b>	<b>380,558</b>

*1 January to 30 June 2001*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	106,626	49,951	8,805	21,212	16,731	203,324
Revenue (other)	137	189	10,451	101,170	45,214	157,161
Non-revenue	78	140	1,901	30,712	5,975	38,805
<b>Totals</b>	<b>106,840</b>	<b>50,279</b>	<b>21,157</b>	<b>153,094</b>	<b>67,920</b>	<b>399,290</b>

*1 July to 31 December 2001*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	100,002	51,185	7,653	14,474	12,407	185,721
Revenue (other)	51	207	8,606	90,762	45,916	145,541
Non-revenue	117	220	1,009	25,056	5,740	32,141
<b>Totals</b>	<b>100,169</b>	<b>51,611</b>	<b>17,268</b>	<b>130,292</b>	<b>64,063</b>	<b>363,403</b>

*1 January to 30 June 2002*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	93,383	49,779	6,985	18,442	19,799	188,389
Revenue (other)	50	393	9,189	101,655	46,084	157,370
Non-revenue	249	186	2,250	31,498	6,465	40,648
<b>Totals</b>	<b>93,682</b>	<b>50,358</b>	<b>18,424</b>	<b>151,595</b>	<b>72,347</b>	<b>386,406</b>

*1 July to 31 December 2002*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	102,556	51,351	6,913	15,521	16,666	193,007
Revenue (other)	118	771	9,118	94,702	48,679	153,387
Non-revenue	208	295	1,465	28,540	6,269	36,776
<b>Totals</b>	<b>102,882</b>	<b>52,416</b>	<b>17,496</b>	<b>138,763</b>	<b>71,614</b>	<b>383,170</b>

*1 January to 30 June 2003*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	107,851	50,992	7,249	19,461	20,714	206,266
Revenue (other)	175	554	11,190	104,619	52,482	169,019
Non-revenue	215	306	1,899	33,038	7,736	43,194
<b>Totals</b>	<b>108,241</b>	<b>51,852</b>	<b>20,338</b>	<b>157,118</b>	<b>80,931</b>	<b>418,480</b>

*1 July to 31 December 2003*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	113,120	53,929	7,097	14,773	15,895	204,814
Revenue (other)	151	481	9,560	95,221	51,065	156,477
Non-revenue	512	458	1,326	25,630	6,727	34,651
<b>Totals</b>	<b>113,782</b>	<b>54,868</b>	<b>17,983</b>	<b>135,623</b>	<b>73,687</b>	<b>395,942</b>

*1 January to 30 June 2004*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	119,438	55,926	7,087	16,544	20,096	219,090
Revenue (other)	57	462	11,412	106,321	53,562	171,813
Non-revenue	341	360	2,073	31,516	6,579	40,869
<b>Totals</b>	<b>119,835</b>	<b>56,747</b>	<b>20,571</b>	<b>154,381</b>	<b>80,236</b>	<b>431,771</b>

*1 July to 31 December 2004*

Category	13,608 kg and above	5,670 to 13,608 kg	2,721 to 5,670 kg	Below 2,721 kg	Helicopters	Totals
Revenue pax & freight	128,174	54,023	6,578	14,194	16,677	219,645
Revenue (other)	100	372	11,656	93,509	53,057	158,695
Non-revenue	341	356	1,773	25,075	7,281	34,826
<b>Totals</b>	<b>128,614</b>	<b>54,751</b>	<b>20,007</b>	<b>132,778</b>	<b>77,016</b>	<b>413,165</b>

## Industry Size and Shape

The following table shows the size and shape of the industry as determined by aircraft that returned Aircraft Operating Statistics in the relevant safety target group categories for the period 1 July to 31 December 2004. The number of seats for aircraft with no seats recorded on the database was estimated using (maximum takeoff weight (lb) of the aircraft/1000). This does not take into account aircraft that are used for freight only, because the small number of aircraft in this category has a minimal effect on the overall outcome. For each safety target group the average number of seats is multiplied by the total hours flown, to give the number of seat hours offered by the group.

Safety Target Group	Average No. of Seats	Seat Hours Offered (1,000's)	Percentage Seat Hours
13,608 kg and above revenue pax & freight	182.8	23,425	90.9
5,670 to 13,608 kg revenue pax & freight	26.5	1,429	5.5
2,721 to 5,670 kg revenue pax & freight	10.5	69	0.3
Below 2,721 kg revenue pax & freight	5.6	80	0.3
Below 2,721 kg revenue (other)	3.4	317	1.2
Below 2,721 kg non-revenue	3.7	92	0.4
Helicopters revenue pax & freight	5.1	85	0.3
Helicopters revenue (other)	4.7	249	1.0
Helicopters non-revenue	4.8	35	0.1

This table shows that around 91% of seat hours are offered by the 13,608 kg and above revenue pax & freight group, around 6% by the 5,670 to 13,608 kg revenue pax & freight group, with the remaining 4% of seat hours offered being split between the other safety target groups.

Note that this table excludes revenue (other) and non-revenue hours flown by the 2,721 kg and above groups because these activities are not included in the Accident Rate Reduction Target graphs.

The following table shows the size and shape of the industry as determined by aircraft that returned Aircraft Operating Statistics in all categories for the period 1 July to 31 December 2004.

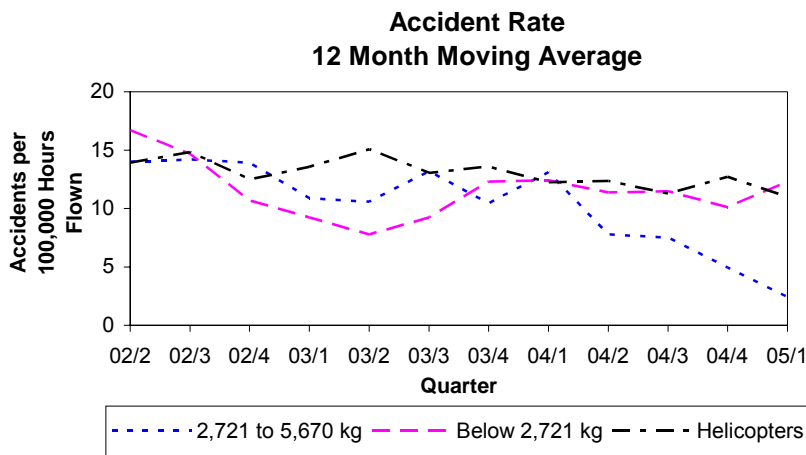
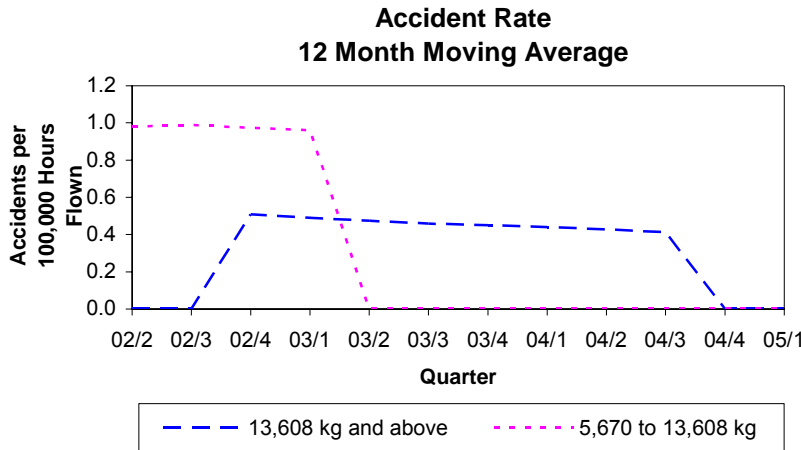
<b>Aircraft Group</b>	<b>Average No. of Seats</b>	<b>Seat Hours Offered (1,000's)</b>	<b>Percentage Seat Hours</b>
13,608 kg and above revenue pax & freight	182.8	23,425	90.3
13,608 kg and above revenue (other)	154.1	15	0.1
13,608 kg and above non-revenue	93.4	32	0.1
5,670 to 13,608 kg revenue pax & freight	26.5	1,429	5.5
5,670 to 13,608 kg revenue (other)	22.8	8	0.0
5,670 to 13,608 kg non-revenue	21.8	8	0.0
2,721 to 5,670 kg revenue pax & freight	10.5	69	0.3
2,721 to 5,670 kg revenue (other)	7.0	81	0.3
2,721 to 5,670 kg non-revenue	7.6	14	0.1
Below 2,721 kg revenue pax & freight	5.6	80	0.3
Below 2,721 kg revenue (other)	3.4	317	1.2
Below 2,721 kg non-revenue	3.7	92	0.4
Helicopters revenue pax & freight	5.1	85	0.3
Helicopters revenue (other)	4.7	249	1.0
Helicopters non-revenue	4.8	35	0.1

## Occurrence Statistics

### Aircraft Accidents

#### Occurrence Trend

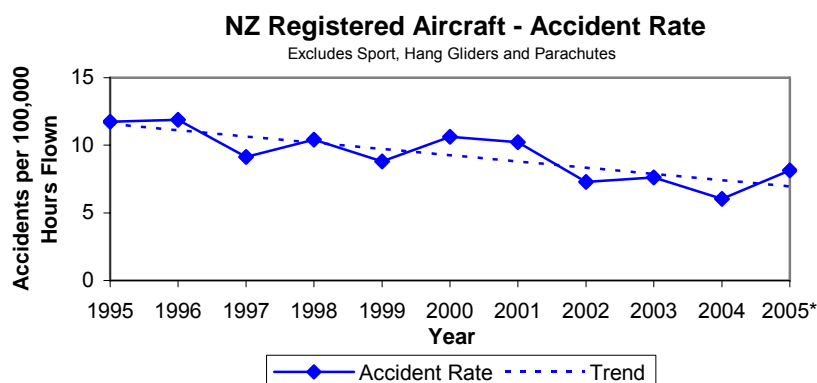
The following graphs show the aircraft accident rates (accidents per 100,000 hours flown) twelve month moving average for the three-year period 1 April 2002 to 31 March 2005 (excluding Sport).



Aircraft Group	Straight Line Trend of 12 Month Moving Average
13,608 kg and above	Constant
5,670 to 13,608 kg	Trending down
2,721 to 5,670 kg	Trending down
Below 2,721 kg	Trending down
Helicopters	Trending down

The slope of the trend line for the 13,608 kg and above group is zero, and the slopes of the trend lines for the 5,670 to 13,608 kg, below 2,721 kg and helicopter groups are close to zero.

The following graph shows the overall accident rate per 100,000 hours flown (excluding the sport group, hang gliders and parachutes) for the years 1995 to 2004. The data point for 2005\* is for 1 January to 31 March 2005 only.



Note that this graph does not show a moving average.

### Six-Monthly Comparison

#### *Number of Aircraft Accidents*

Aircraft Group	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	1	0	- 1
5,670 to 13,608 kg	0	0	0
2,721 to 5,670 kg	2	1	- 1
Below 2,721 kg	23	19	- 4
Helicopters	7	8	+ 1
Sport	11	12	+ 1
Hang Gliders	2	3	+ 1
Parachutes	0	0	0
Unknown	1	0	- 1
<b>Total</b>	<b>47</b>	<b>43</b>	<b>- 4</b>



**Severity*****Six-Monthly Comparison***

<b>Aircraft Group</b>	<b>Severity</b>	<b>1 Jul to 31 Dec 2003</b>	<b>1 Jul to 31 Dec 2004</b>	<b>Change</b>
13,608 kg and above	Critical	1	0	- 1
	Major	0	0	0
	Minor	0	0	0
5,670 to 13,608 kg	Critical	0	0	0
	Major	0	0	0
	Minor	0	0	0
Below 5,670 kg, Helicopters and Sport	Critical	14	11	- 3
	Major	19	22	+ 3
	Minor	10	7	- 3
Hang Gliders and Parachutes	Critical	1	1	0
	Major	0	2	+ 2
	Minor	1	0	- 1
Unknown	Critical	0	0	0
	Major	0	0	0
	Minor	1	0	- 1
<b>Total</b>	<b>Critical</b>	<b>16</b>	<b>12</b>	<b>- 4</b>
	<b>Major</b>	<b>19</b>	<b>24</b>	<b>+ 5</b>
	<b>Minor</b>	<b>12</b>	<b>7</b>	<b>- 5</b>

## Accident Reduction Targets

### *Number of Accidents*

The following table shows the number of accidents for the years 1995 to 2004. The data for 05\* is for 1 January to 31 March 2005 only.

Safety Target Group	95	96	97	98	99	00	01	02	03	04	05*
13,608 kg and above revenue pax & freight	3	0	1	0	0	2	0	1	1	0	0
5,670 to 13,608 kg revenue pax & freight	0	1	1	0	0	0	0	0	0	0	0
2,721 to 5,670 kg revenue pax & freight	1	1	2	1	0	2	1	1	3	0	0
Below 2,721 kg revenue pax & freight	7	11	5	2	6	6	2	4	0	3	1
Below 2,721 kg revenue (other)	24	17	13	17	12	23	28	15	21	10	6
Below 2,721 kg non-revenue	22	21	20	21	23	26	18	12	15	16	7
Helicopter revenue pax & freight	1	2	2	3	2	5	2	3	2	2	0
Helicopter revenue (other)	20	20	17	22	15	8	14	8	14	10	4
Helicopter non-revenue	2	7	6	10	8	8	8	7	5	8	0

The following table shows the number of accidents in six-monthly periods.

Safety Target Group	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above revenue pax & freight	1	0	- 1
5,670 to 13,608 kg revenue pax & freight	0	0	0
2,721 to 5,670 kg revenue pax & freight	1	0	- 1
Below 2,721 kg revenue pax & freight	0	2	+ 2
Below 2,721 kg revenue (other)	12	5	- 7
Below 2,721 kg non-revenue	11	12	+ 1
Helicopter revenue pax & freight	1	1	0
Helicopter revenue (other)	3	4	+ 1
Helicopter non-revenue	3	3	0

### ***30 June 2005 Accident Rate Reduction Targets***

Targets likely to be achieved are:

- 13,608 kg and above revenue pax & freight,
- 5,670 to 13,608 kg revenue pax & freight,
- below 2,721 kg revenue (other),
- helicopter revenue pax & freight, and
- helicopter revenue (other) operations.

Targets that cannot be achieved are:

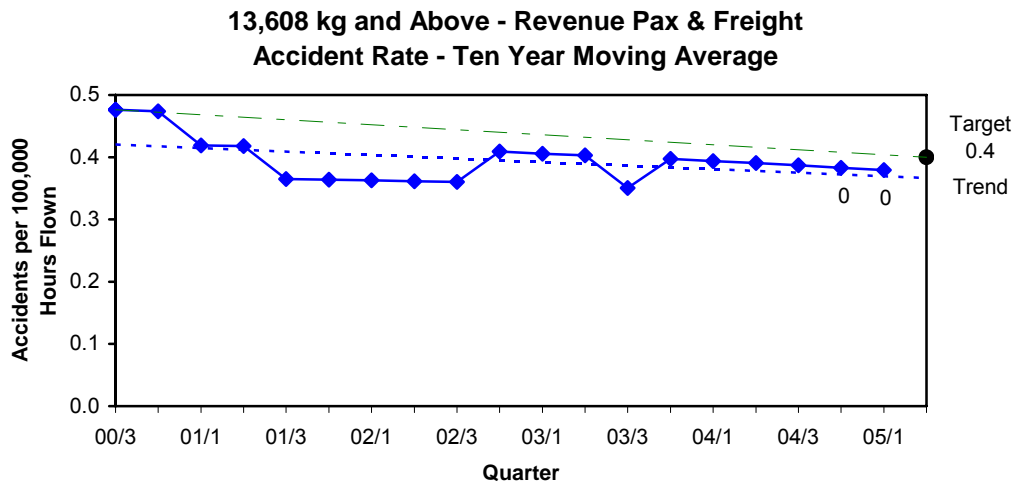
- 2,721 to 5,670 kg revenue pax & freight,
- below 2,721 kg revenue pax & freight,
- below 2,721 kg non-revenue, and
- helicopter non-revenue operations.

### ***Graphs***

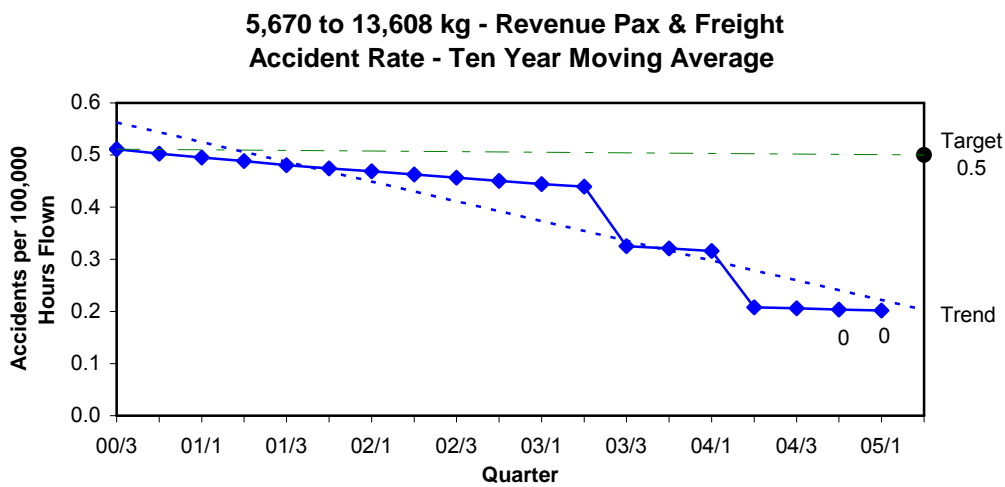
The “Target” lines begin at the accident rates that existed at the start of the 5-year target period.

Pending receipt of Aircraft Operating Statistics the accident rates are based on estimated hours for the quarter 2005/1, 1 January to 31 March 2005.

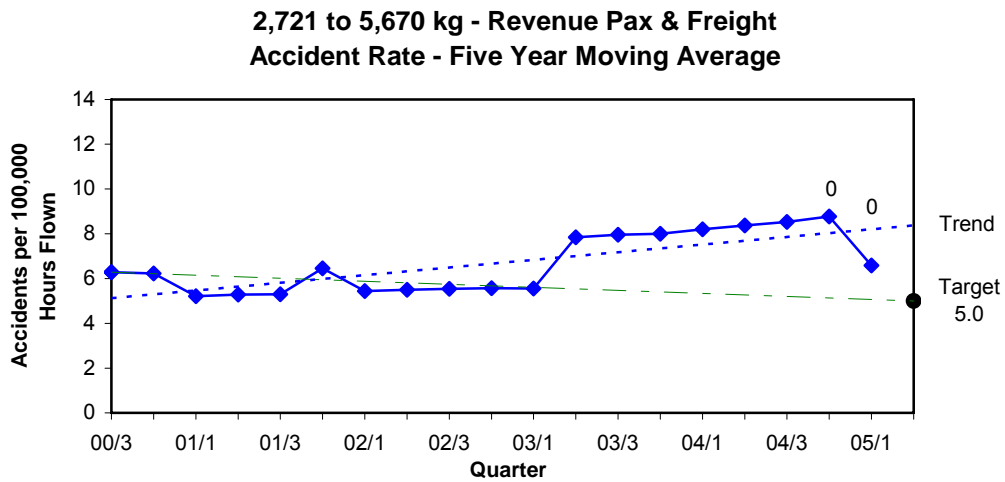
The actual numbers of accidents for the quarters 2004/4 and 2005/1 are shown next to the accident rates, and the trend is a dashed line.



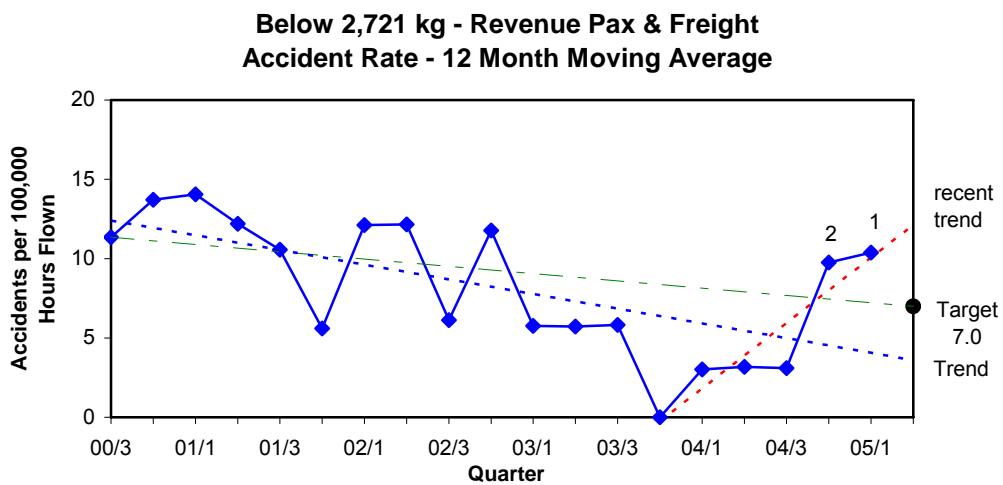
The accident rate for the period ended 31 March 2005 and the trend line are below the “Target” line. The accident rate is currently below the 2005 target of 0.4 accidents per 100,000 flying hours.



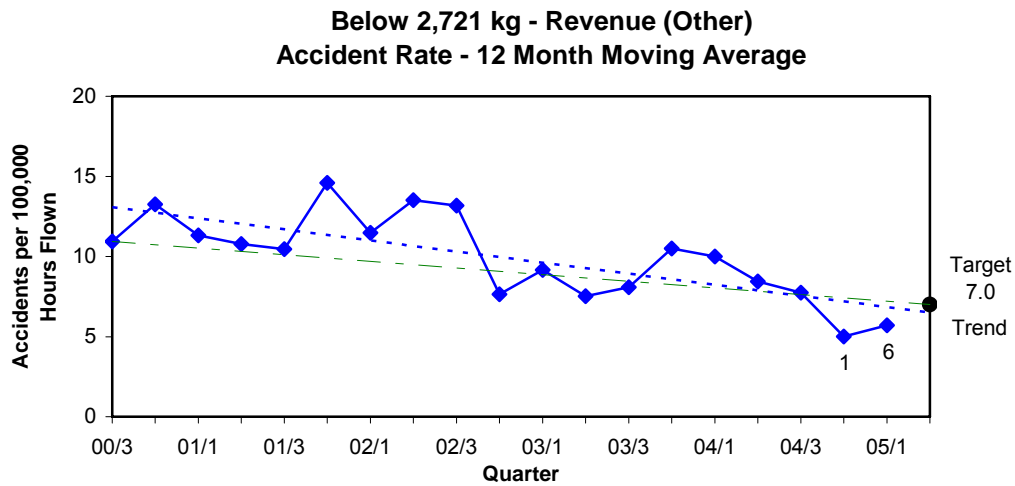
The accident rate for the period ended 31 March 2005 and the trend line are below the “Target” line. The accident rate is currently below the 2005 target of 0.5 accidents per 100,000 flying hours.



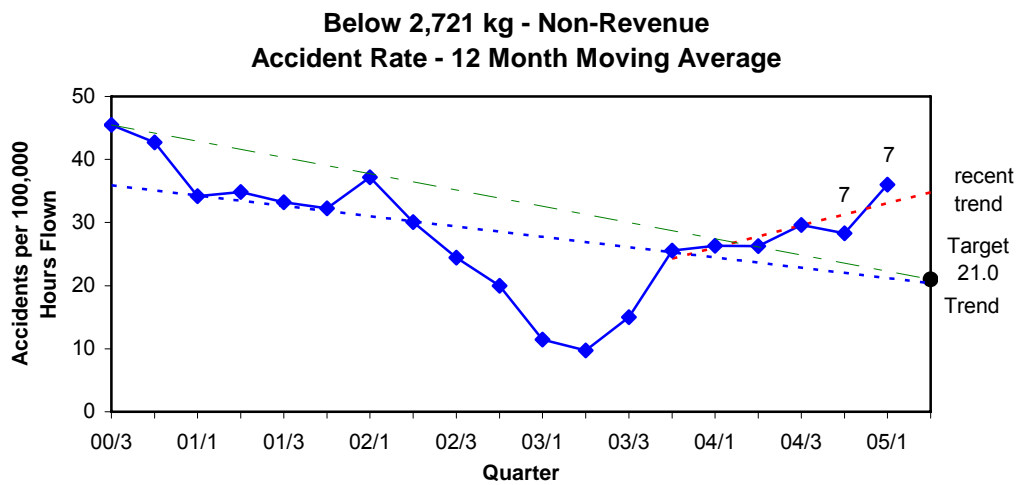
The accident rate for the period ended 31 March 2005 and the trend line are above the “Target” line. The accident rate is currently above the 2005 target of 5.0 accidents per 100,000 flying hours.



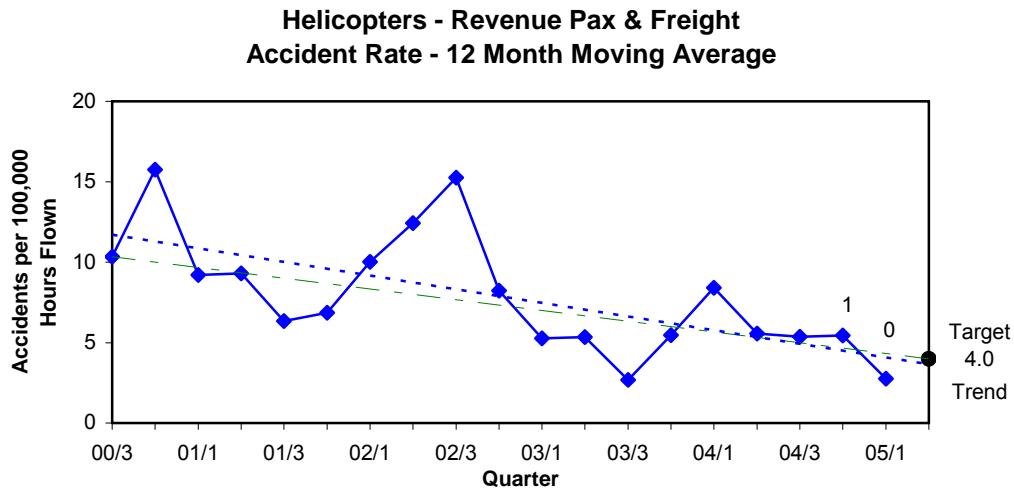
The accident rate for the period ended 31 March 2005 and the ‘recent’ trend line are above the “Target” line. The accident rate is currently above the 2005 target of 7.0 accidents per 100,000 flying hours. However, the trend line is below the “Target” line.



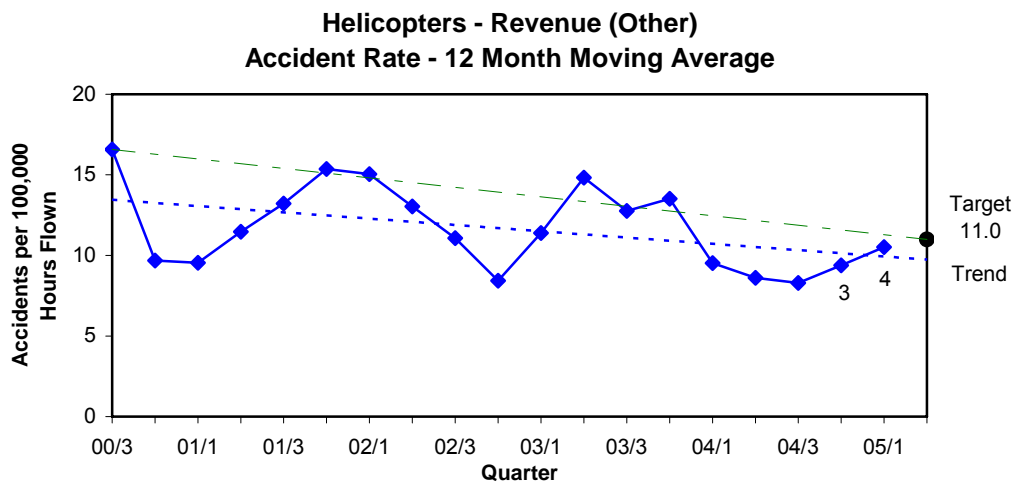
The accident rate for the period ended 31 March 2005 and the trend line are below the “Target” line. The accident rate is currently below the 2005 target of 7.0 accidents per 100,000 flying hours.



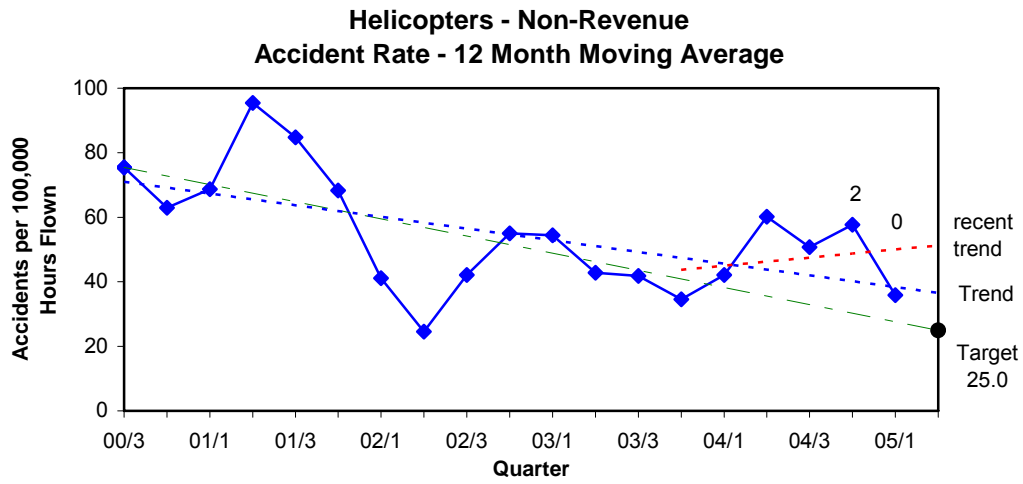
The accident rate for the period ended 31 March 2005 and the ‘recent’ trend line are above the “Target” line. The accident rate is currently above the 2005 target of 21.0 accidents per 100,000 flying hours. However, the trend line is below the “Target” line.



The accident rate for the period ended 31 March 2005 and the trend line are below the “Target” line. The accident rate is currently below the 2005 target of 4.0 accidents per 100,000 flying hours.



The accident rate for the period ended 31 March 2005 and the trend line are below the “Target” line. The accident rate is currently below the 2005 target of 11.0 accidents per 100,000 flying hours.



The trend line and the 'recent' trend line are above the "Target" line. The accident rate is currently above the 2005 target of 25.0 accidents per 100,000 flying hours.



## Other Accidents

The following tables and graphs show the aircraft groups that are not included in the 30 June 2005 Accident Rate Reduction Targets section (excluding the “unknown” group).

### Number of Accidents

The following table shows the number of accidents for the years 1995 to 2004. The data for 05\* is for 1 January to 31 March 2005 only.

Group	95	96	97	98	99	00	01	02	03	04	05*
13,608 kg and above revenue (other)	0	0	0	0	0	0	0	0	0	0	0
13,608 kg and above non-revenue	0	0	0	0	0	0	0	0	0	0	0
5,670 to 13,608 kg revenue (other)	0	0	0	0	0	1	1	0	0	0	0
5,670 to 13,608 kg non-revenue	0	0	0	0	0	0	0	1	0	0	0
2,721 to 5,670 kg revenue (other)	0	4	1	0	0	1	3	3	0	2	0
2,721 to 5,670 kg non-revenue	0	1	1	2	0	1	1	1	1	0	0
Sport	15	19	30	33	25	31	24	24	21	21	11
Hang Gliders	9	4	8	8	7	7	21	11	8	7	6
Parachutes	6	7	3	4	0	2	3	1	3	2	0

The following table shows the number of accidents in six-monthly periods.

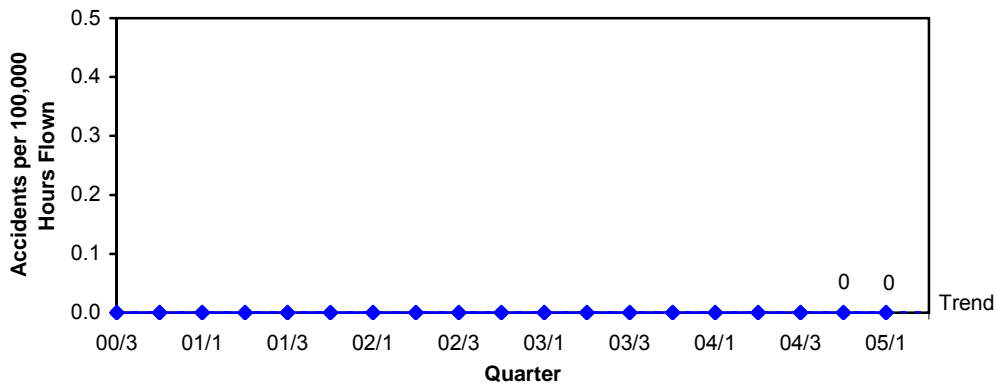
Group	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above revenue (other)	0	0	0
13,608 kg and above non-revenue	0	0	0
5,670 to 13,608 kg revenue (other)	0	0	0
5,670 to 13,608 kg non-revenue	0	0	0
2,721 to 5,670 kg revenue (other)	0	1	+ 1
2,721 to 5,670 kg non-revenue	1	0	- 1
Sport	11	12	+ 1
Hang Gliders	2	3	+ 1
Parachutes	0	0	0

**Graphs**

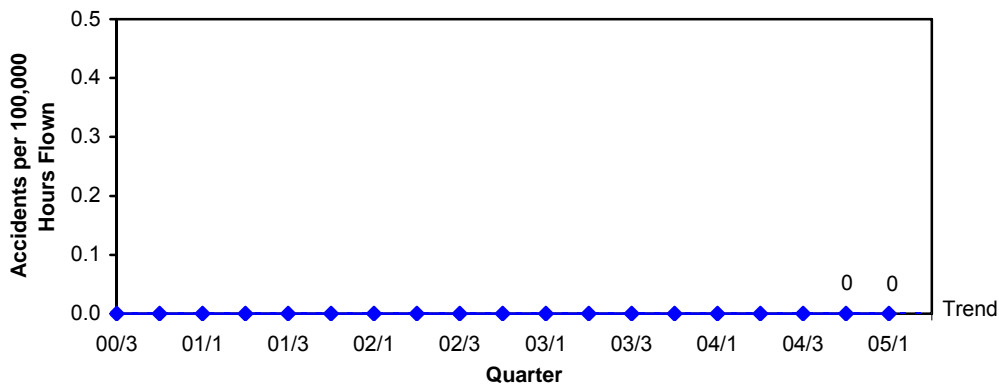
Pending receipt of Aircraft Operating Statistics, the accident rates are based on estimated hours for the quarter 2005/1, 1 January to 31 March 2005.

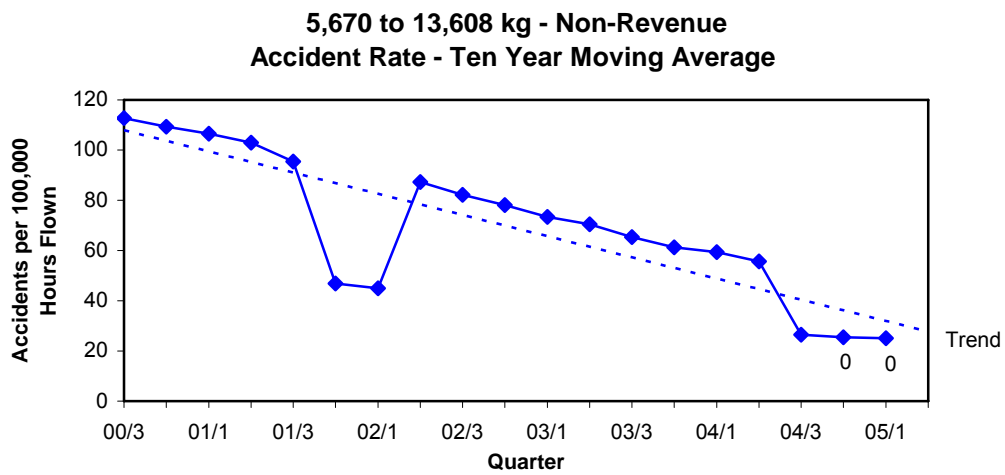
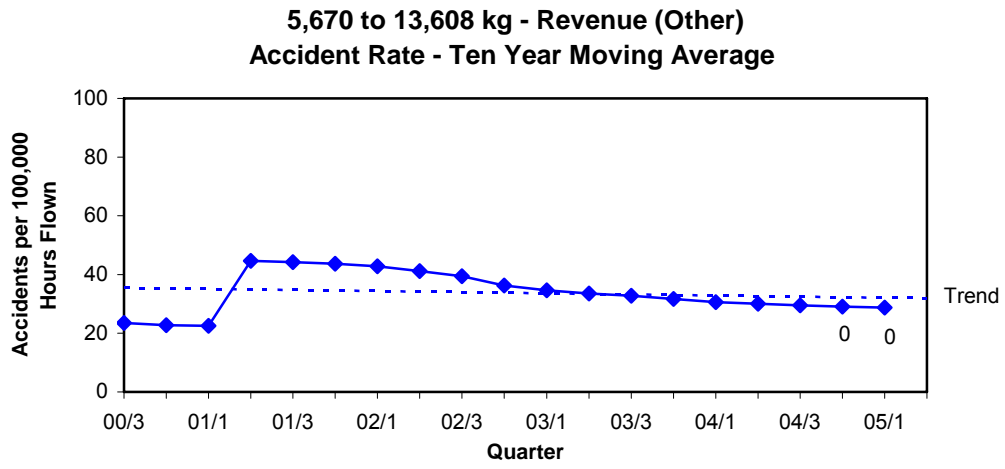
The actual numbers of accidents for the quarters 2004/4 and 2005/1 are shown next to the accident rates, and the trend is a dashed line.

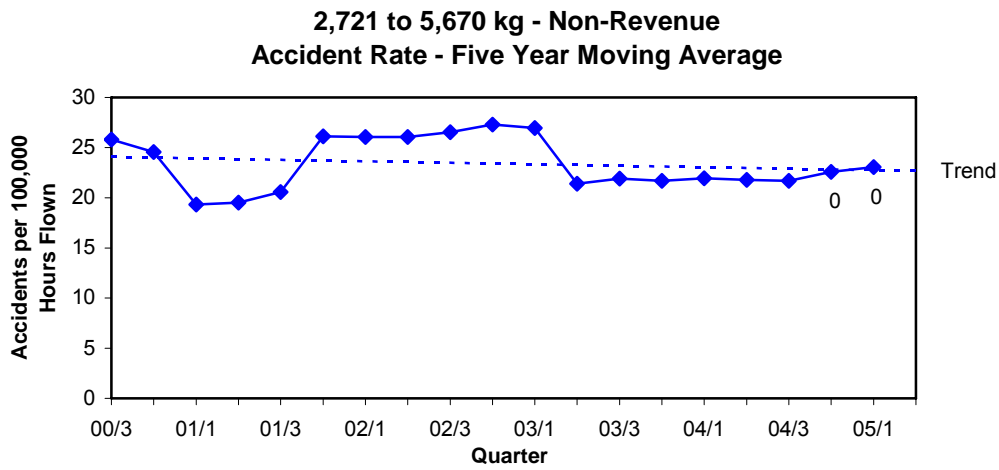
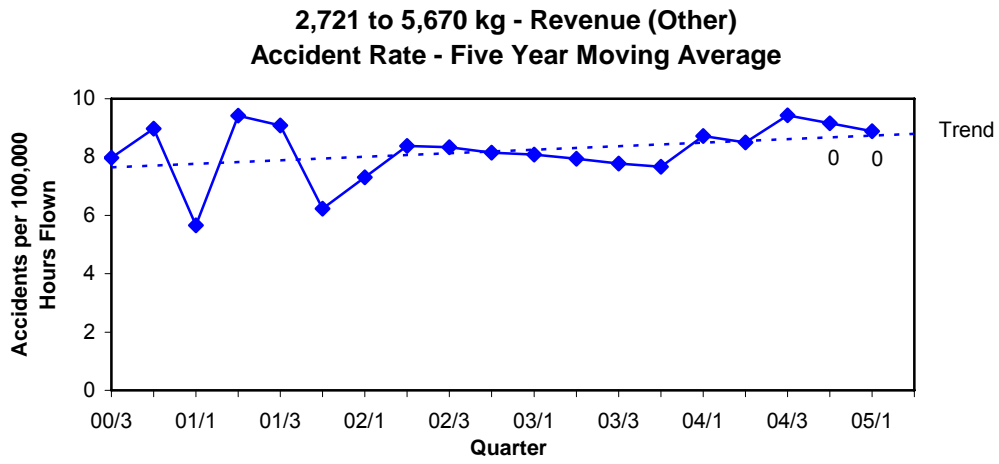
**13,608 kg and Above - Revenue (Other)  
Accident Rate - Ten Year Moving Average**



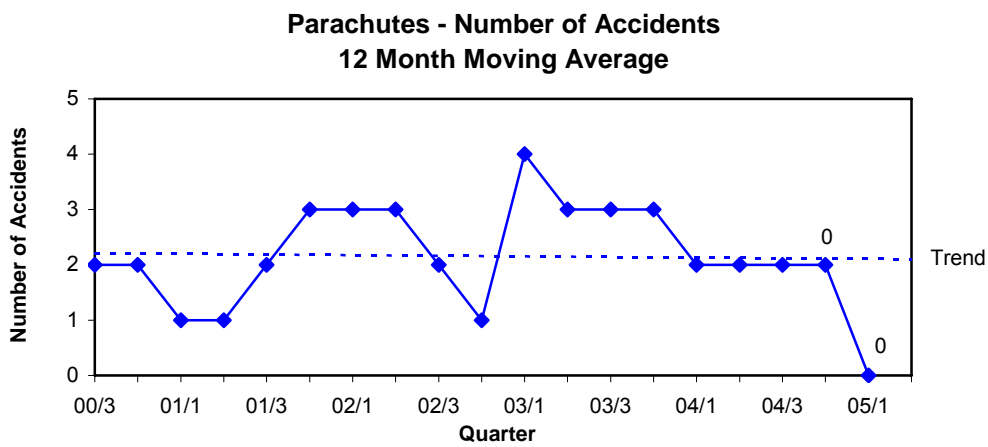
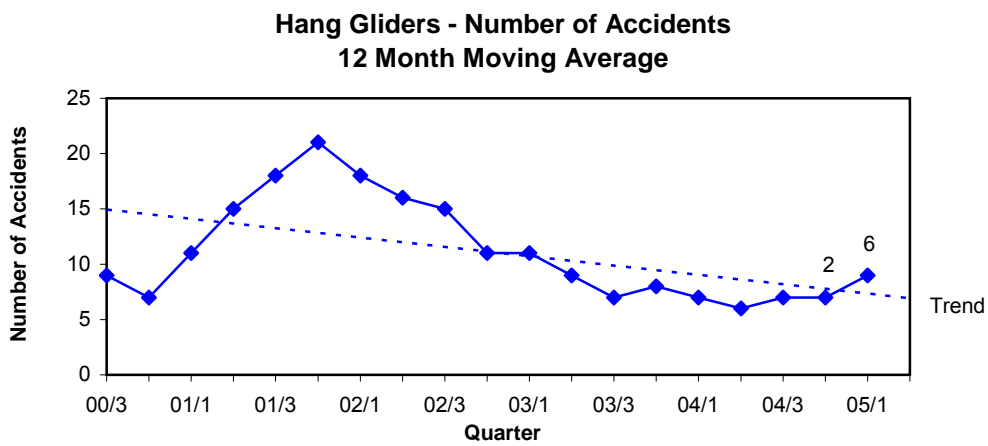
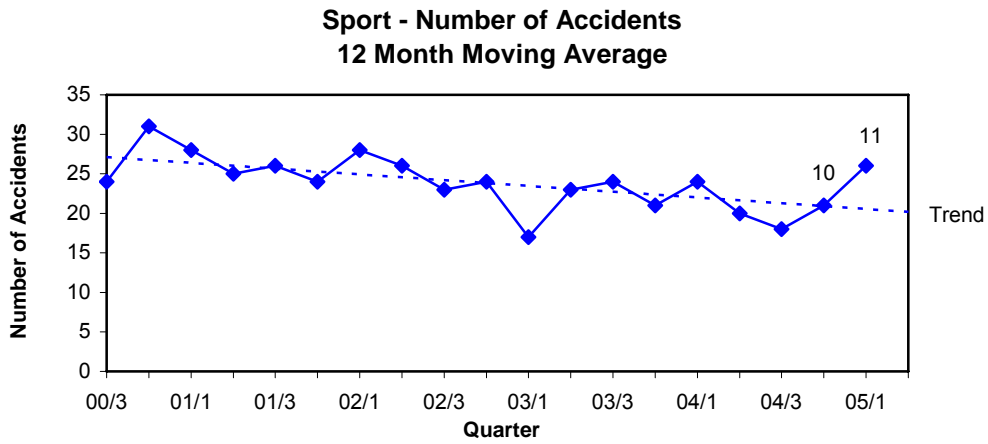
**13,608 kg and Above - Non-Revenue  
Accident Rate - Ten Year Moving Average**





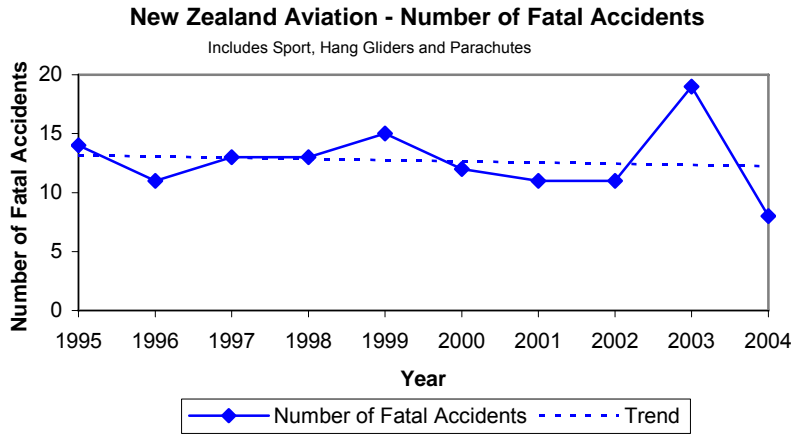


The actual numbers of accidents for the quarters 2004/4 and 2005/1 are shown next to the 12 month moving average of the number of accidents, and the trend is a dashed line.



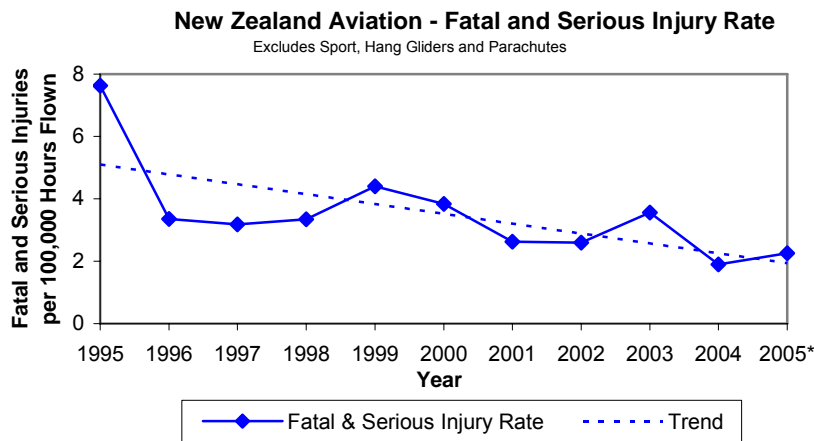
### Injury Accidents

The following graph shows the number of fatal accidents in the years 1995 to 2004 (including sport, hang gliders and parachutes):

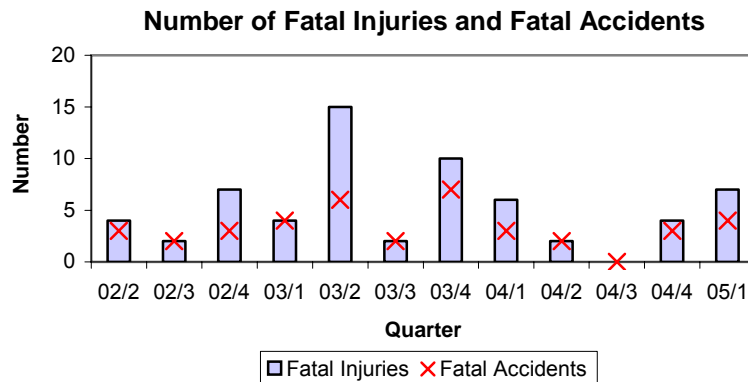


Note: from the report for 1 July to 31 December 2000 this graph includes hang glider and parachute accidents.

The following graph shows the overall fatal and serious injury rate per 100,000 hours flown (excluding sport, hang gliders and parachutes) for the years 1995 to 2004. The data point for 2005\* is for 1 January to 31 March 2005 only.



The following graph shows the number of fatal injuries and fatal accidents (including sport, hang gliders and parachutes) for the period 1 April 2002 to 31 March 2005.



Since April 2002 the long-term trends of the number of fatal injuries and the number of fatal accidents are downward. However, the slopes of the trend lines are close to zero.

### *Six-Monthly Comparison*

#### *Number of Fatal Accidents (and Number of Fatal Injuries)*

Aircraft Group	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	1 (2)	0	- 1 (- 2)
5,670 to 13,608 kg	0	0	0
2,721 to 5,670 kg	1 (1)	0	- 1 (- 1)
Below 2,721 kg	5 (6)	3 (4)	- 2 (- 2)
Helicopters	0	0	0
Sport	2 (3)	0	- 2 (- 3)
Hang Gliders	0	0	0
Parachutes	0	0	0
Unknown	0	0	0
<b>Total</b>	<b>9 (12)</b>	<b>3 (4)</b>	<b>- 6 (- 8)</b>

*Number of Serious Injuries*

<b>Aircraft Group</b>	<b>1 Jul to 31 Dec 2003</b>	<b>1 Jul to 31 Dec 2004</b>	<b>Change</b>
13,608 kg and above	0	0	0
5,670 to 13,608 kg	0	0	0
2,721 to 5,670 kg	0	0	0
Below 2,721 kg	2	2	0
Helicopters	0	1	+ 1
Sport	0	1	+ 1
Hang Gliders	2	2	0
Parachutes	0	0	0
Unknown	0	0	0
<b>Total</b>	<b>4</b>	<b>6</b>	<b>+ 2</b>

*Number of Minor Injuries*

<b>Aircraft Group</b>	<b>1 Jul to 31 Dec 2003</b>	<b>1 Jul to 31 Dec 2004</b>	<b>Change</b>
13,608 kg and above	0	0	0
5,670 to 13,608 kg	0	0	0
2,721 to 5,670 kg	0	1	+ 1
Below 2,721 kg	1	2	+ 1
Helicopters	3	0	- 3
Sport	1	2	+ 1
Hang Gliders	0	1	+ 1
Parachutes	0	0	0
Unknown	1	0	- 1
<b>Total</b>	<b>6</b>	<b>6</b>	<b>0</b>



## Flight Phase

The following table shows the flight phase recorded for accidents.

Flight Phase	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
Landing	21	17	- 4
Cruise	5	11	+ 6
Takeoff	7	5	- 2
Climb	4	4	0
Hover	1	2	+ 1
Parked	0	2	+ 2
Taxiing	2	1	- 1
Circuit	1	1	0
Agricultural Manoeuvres	2	0	- 2
Aerobatics	1	0	- 1
Approach	1	0	- 1
Descent	1	0	- 1
Hover Taxi	1	0	- 1
Holding	0	0	0
<b>Total</b>	<b>47</b>	<b>43</b>	<b>- 4</b>

Note: from the report for 1 July to 31 December 2002 this table includes hang glider and parachute accidents.

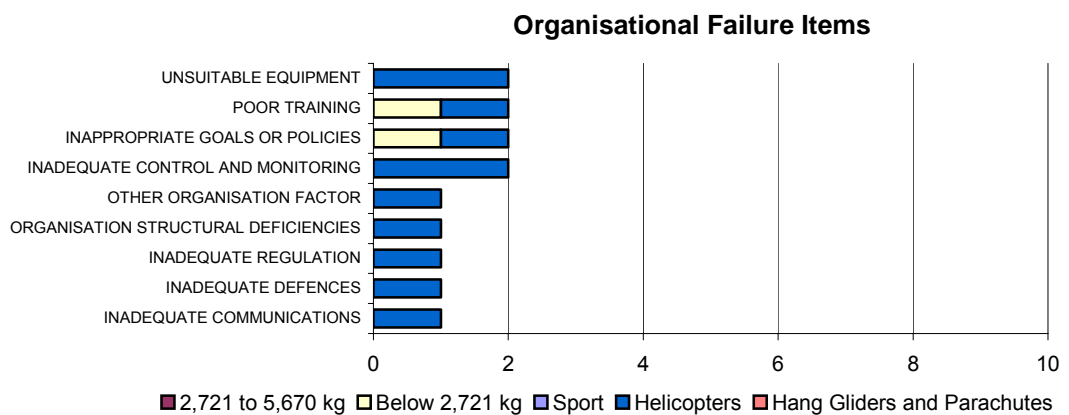
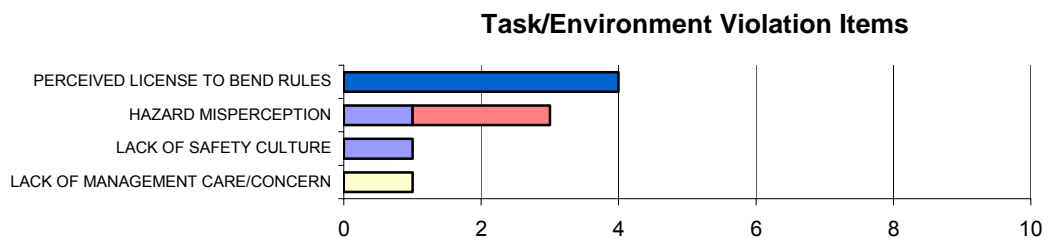
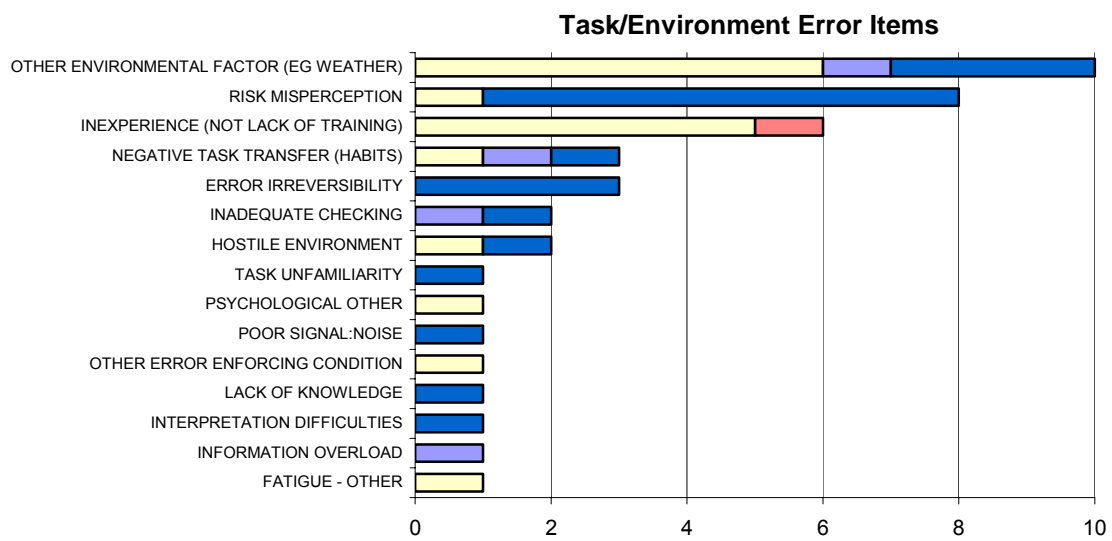
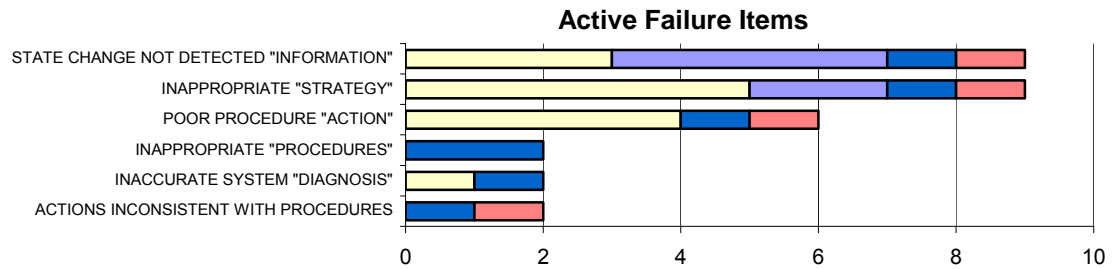
Accidents in the period 1 July to 31 December 2004 were most common during the Landing phase (40%).

Analysis of recorded occurrence descriptors for Landing phase accidents in the 1 July to 31 December 2004 period shows that the most common group of descriptors is Landing Occurrence (33%).

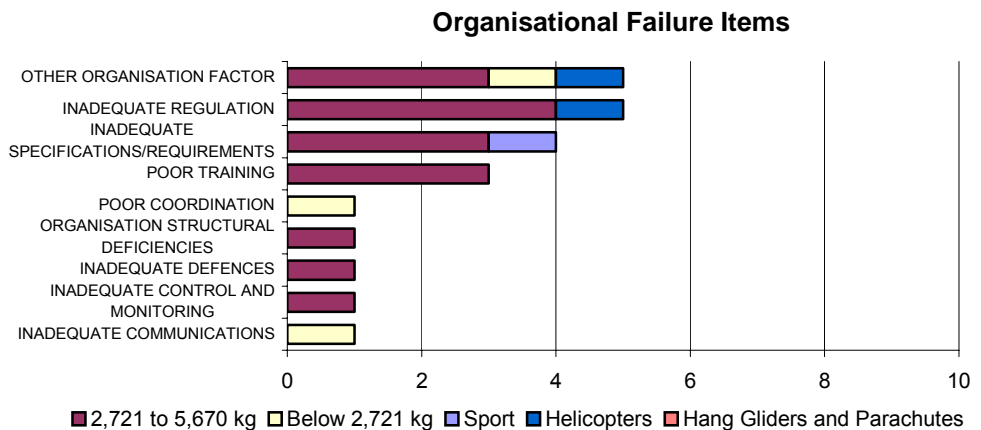
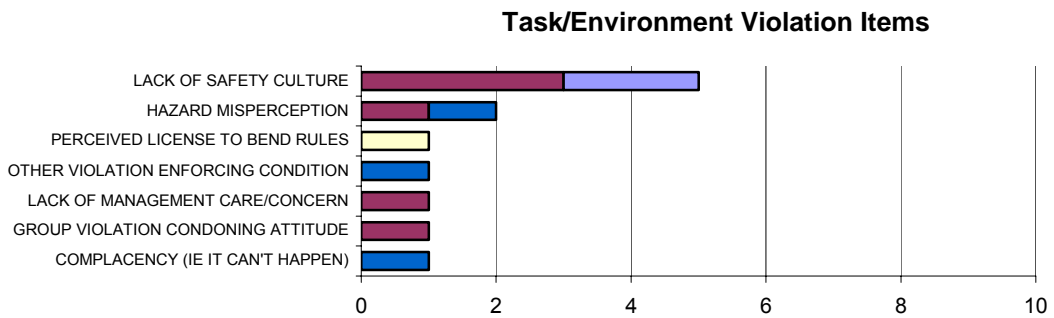
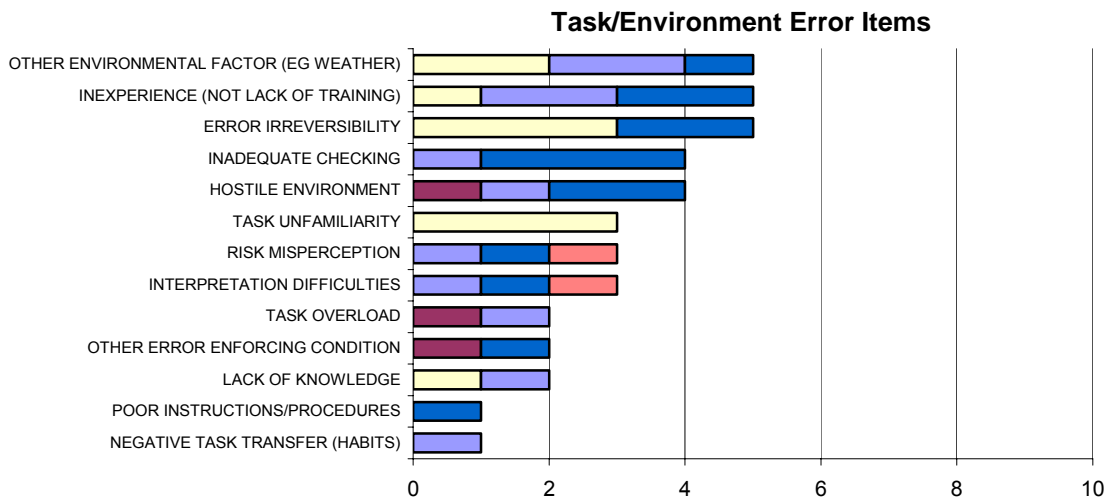
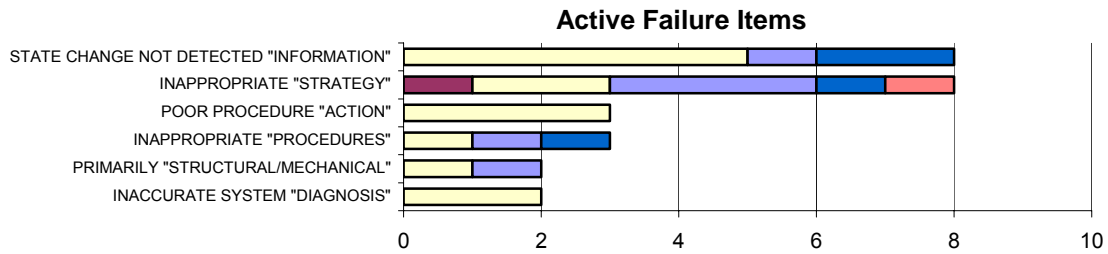
Analysis of recorded causes for Landing phase accidents shows that the most common cause is Local Error Factor – Inadequate Checking (23%).

### Accident Causal Factors by Aircraft Group

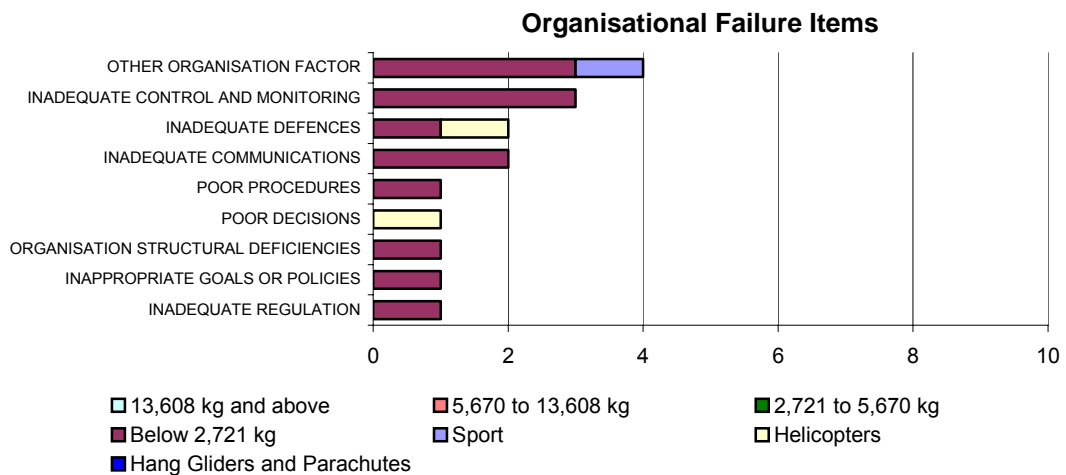
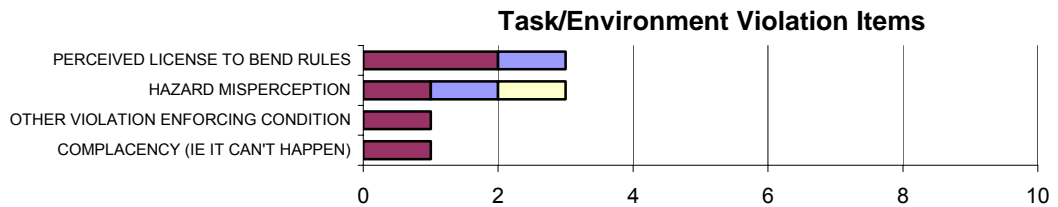
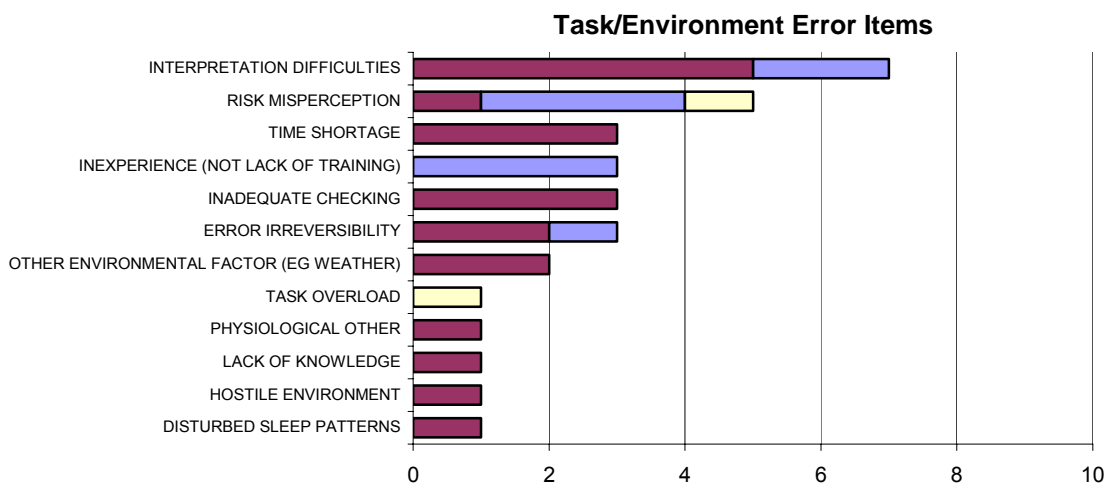
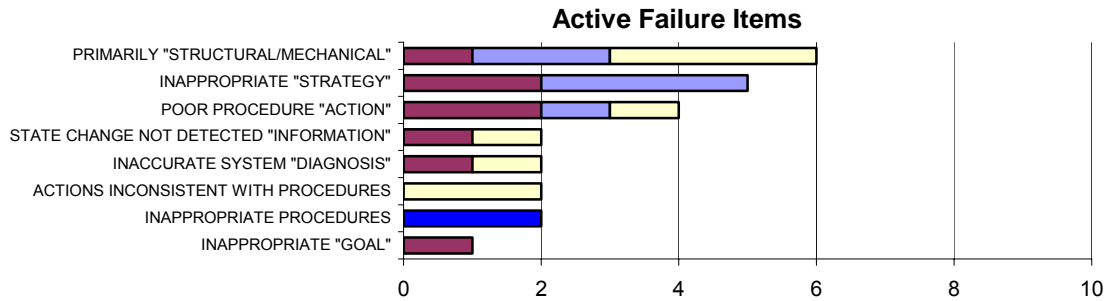
The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 1998 for the various aircraft groups. Causal factors have been assigned to 71% of the 63 accidents.



The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 1998 for the various aircraft groups. Causal factors have been assigned to 77% of the 60 accidents.

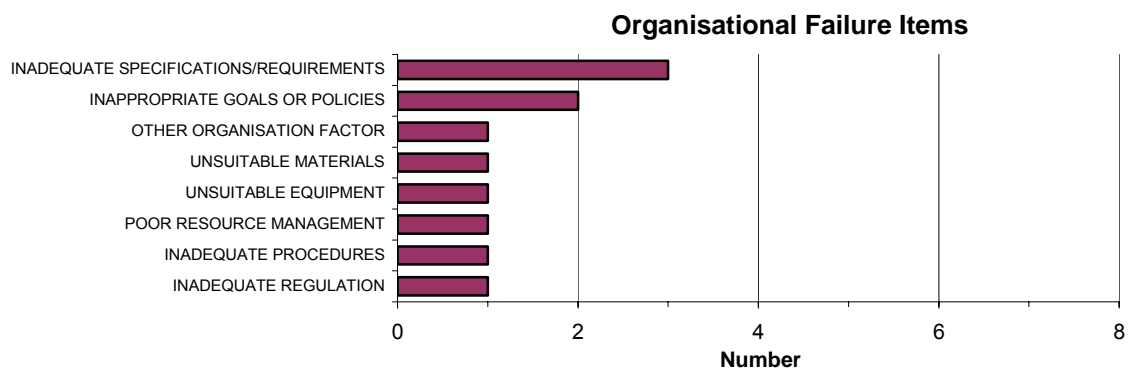
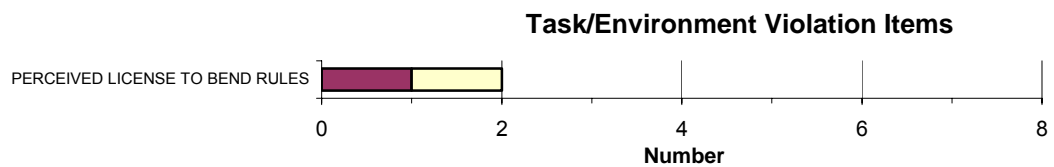
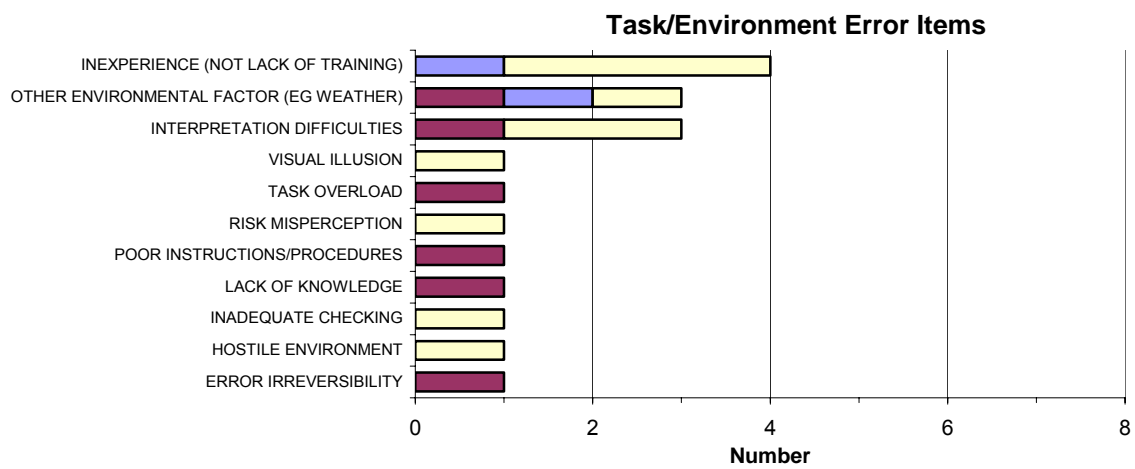
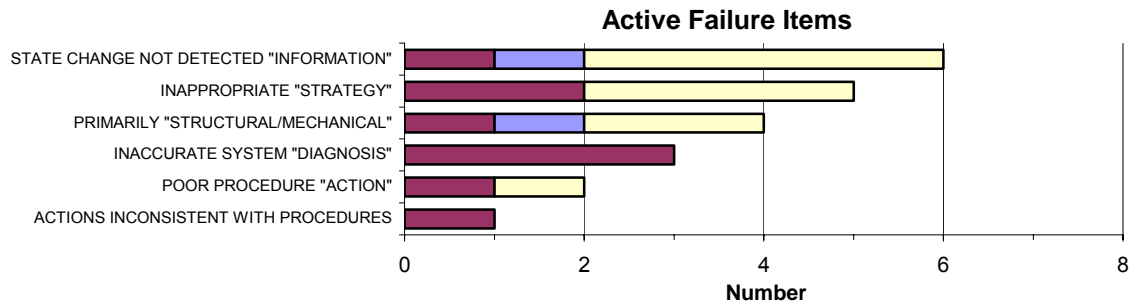


The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 1999 for the various aircraft groups. Causal factors have been assigned to 78% of the 51 accidents.



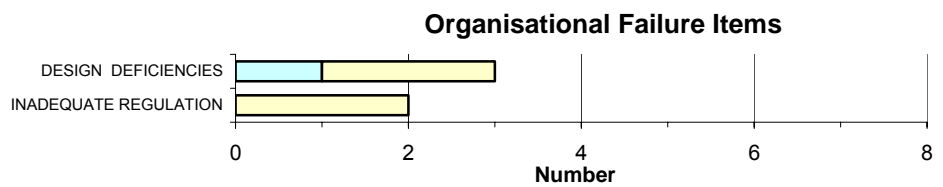
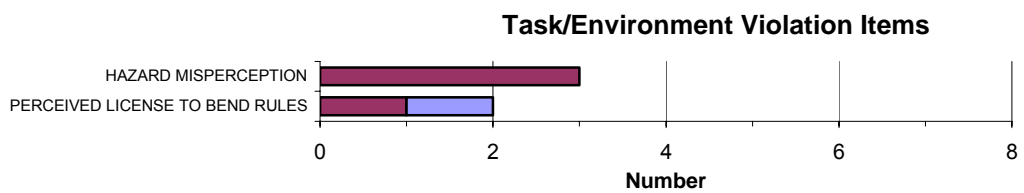
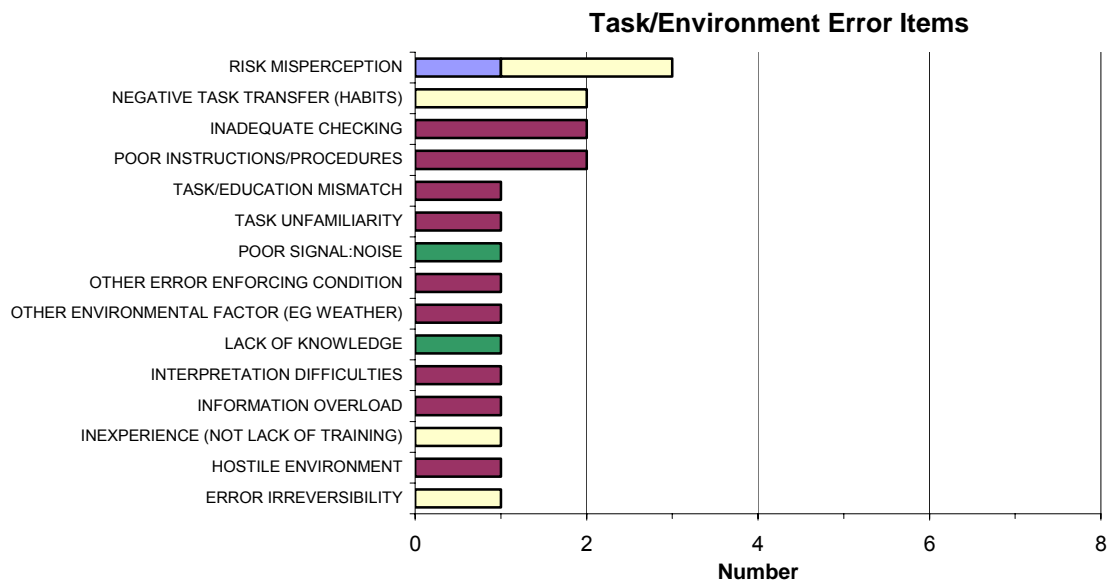
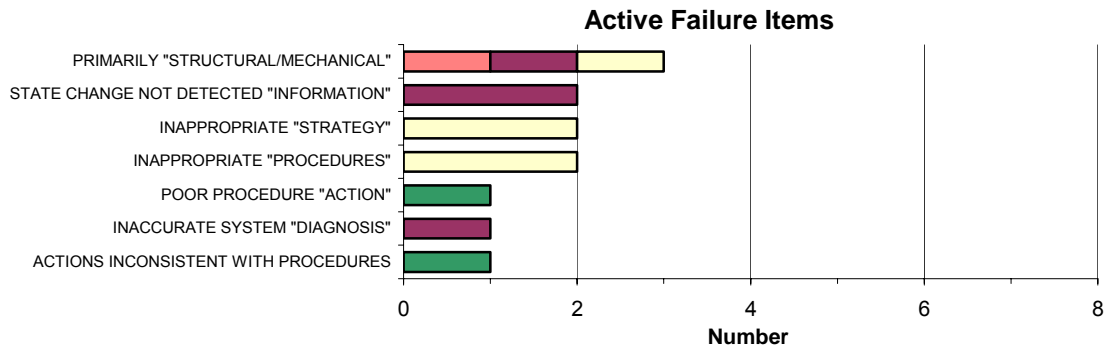
13,608 kg and above     
  5,670 to 13,608 kg     
  2,721 to 5,670 kg  
 Below 2,721 kg     
  Sport     
  Helicopters  
 Hang Gliders and Parachutes

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 1999 for the various aircraft groups. Causal factors have been assigned to 46% of the 48 accidents.



13,608 kg and above     
  5,670 to 13,608 kg     
  2,721 to 5,670 kg  
 Below 2,721 kg     
  Sport     
  Helicopters  
 Hang Gliders and Parachutes

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 2000 for the various aircraft groups. Causal factors have been assigned to 41% of the 71 accidents.

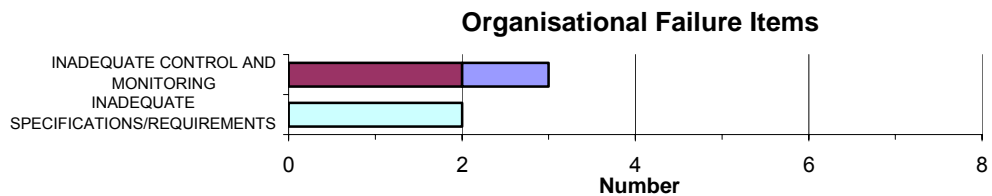
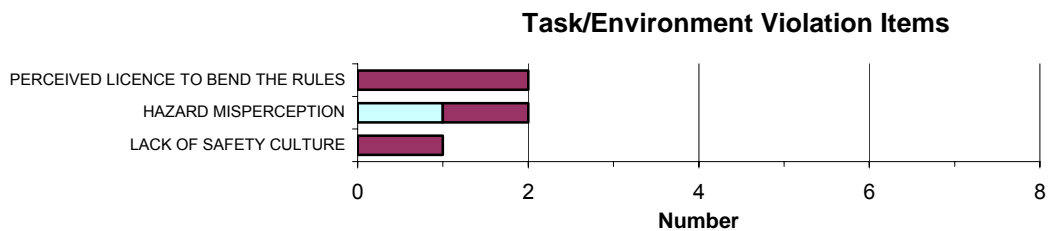
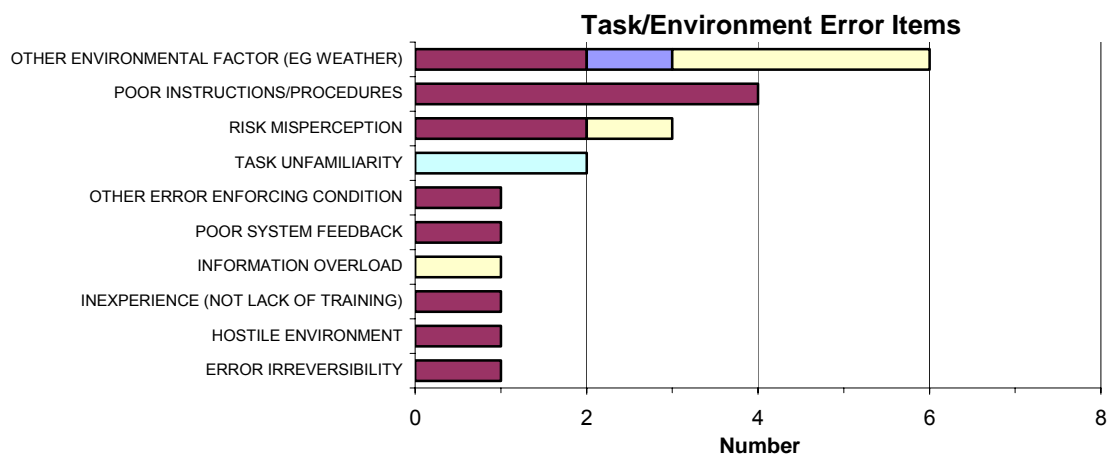
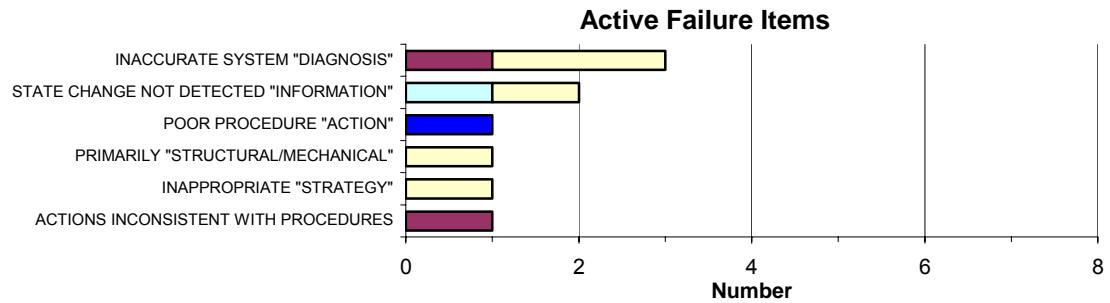


13,608 kg and above
  5,670 to 13,608 kg
  2,721 to 5,670 kg

Below 2,721 kg
  Sport
  Helicopters

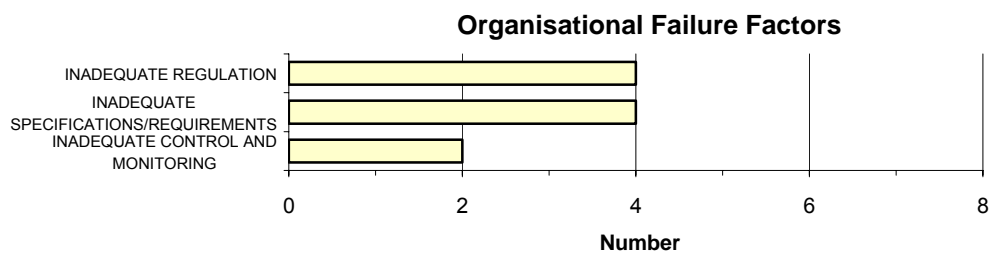
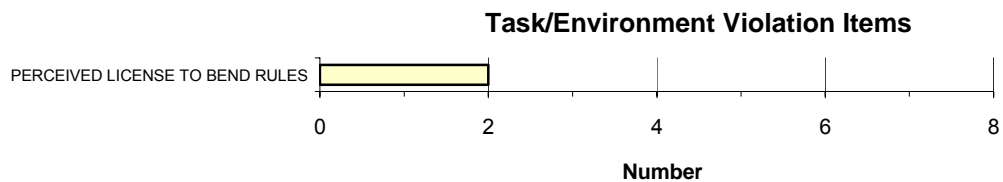
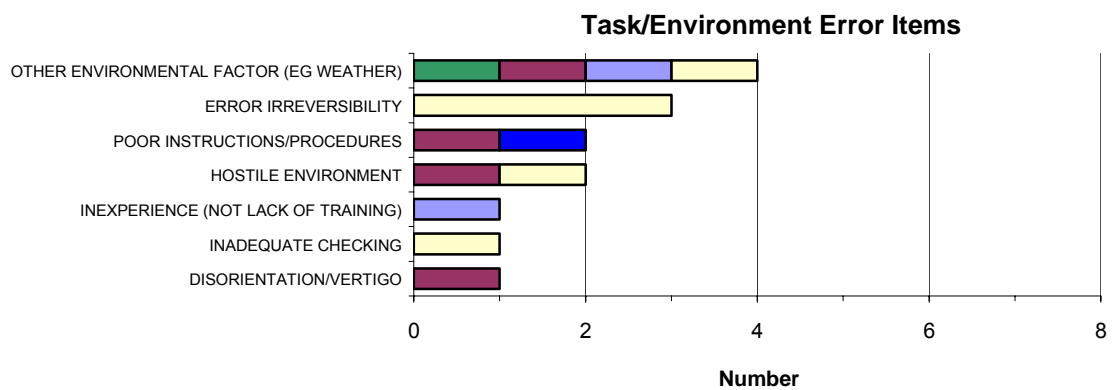
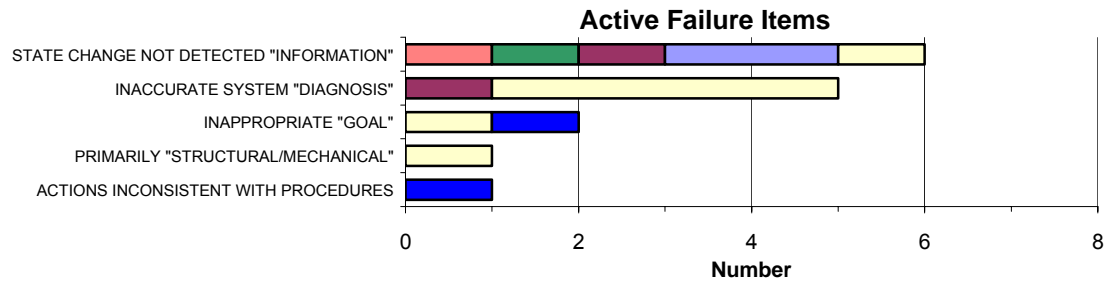
Hang Gliders and Parachutes

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 2000 for the various aircraft groups. Causal factors have been assigned to 25 (48%) of the 52 accidents.



- 13,608 kg and above
- 5,670 to 13,608 kg
- 2,721 to 5,670 kg
- Below 2,721 kg
- Sport
- Helicopters
- Hang Gliders and Parachutes

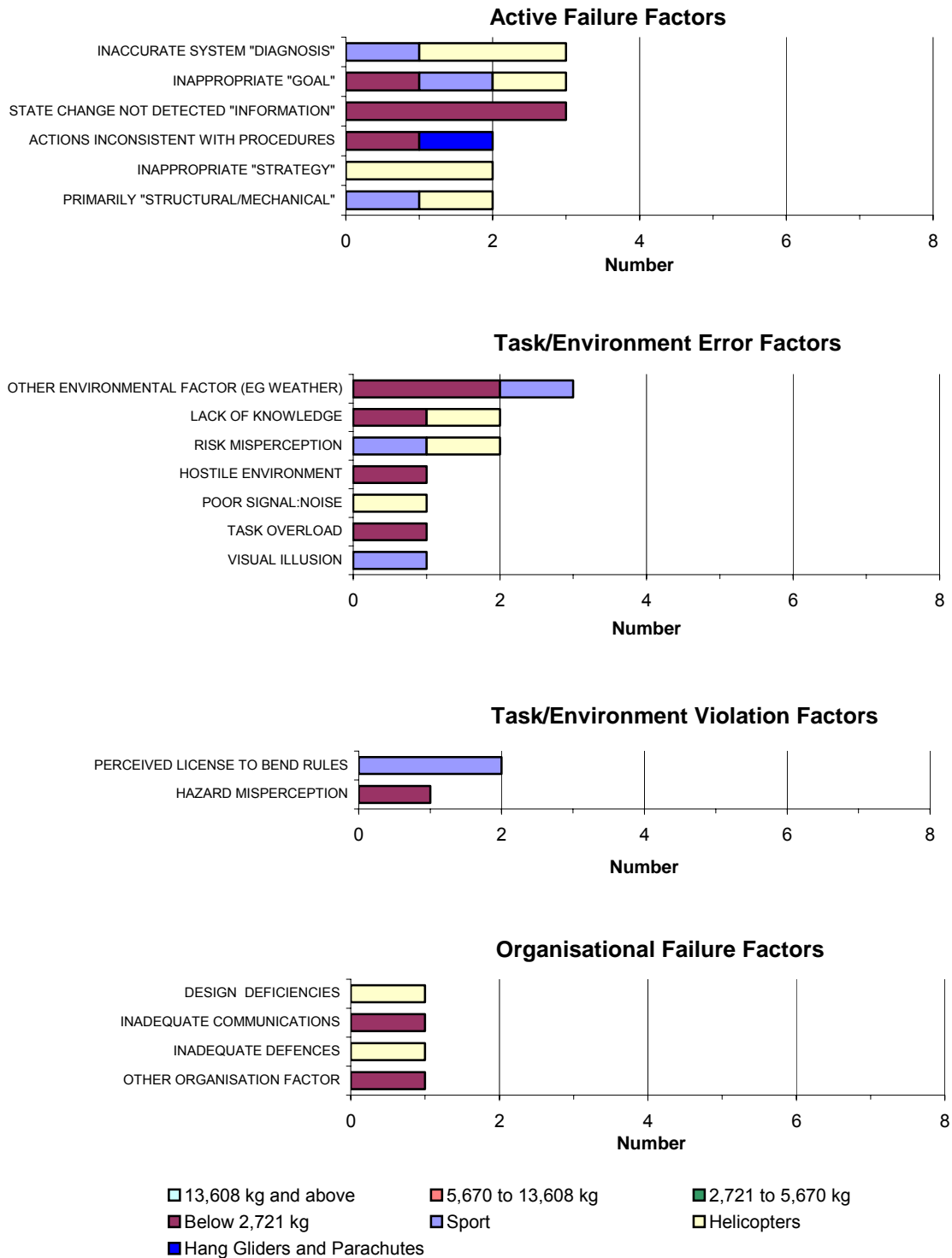
The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 2001 for the various aircraft groups. Causal factors have been assigned to 28 (44%) of the 63 accidents.



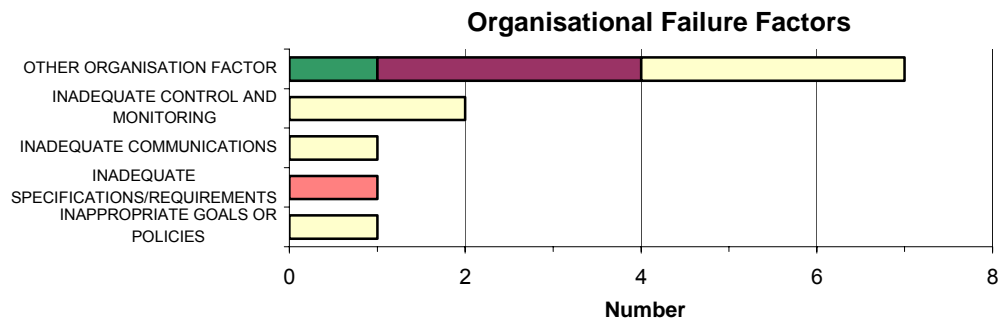
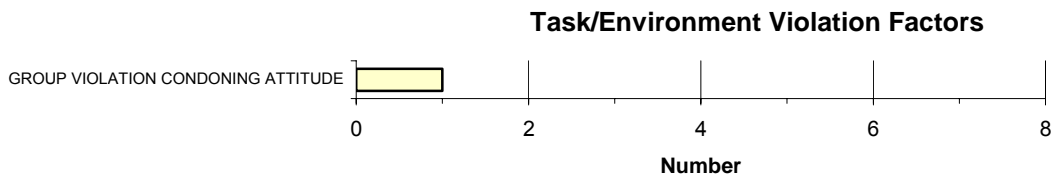
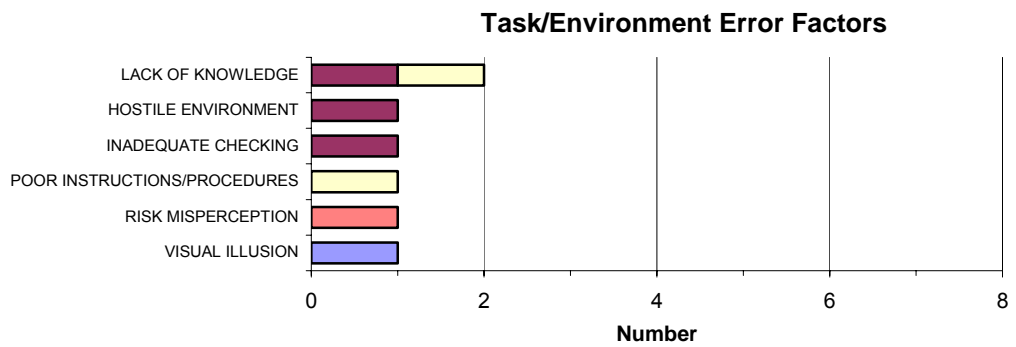
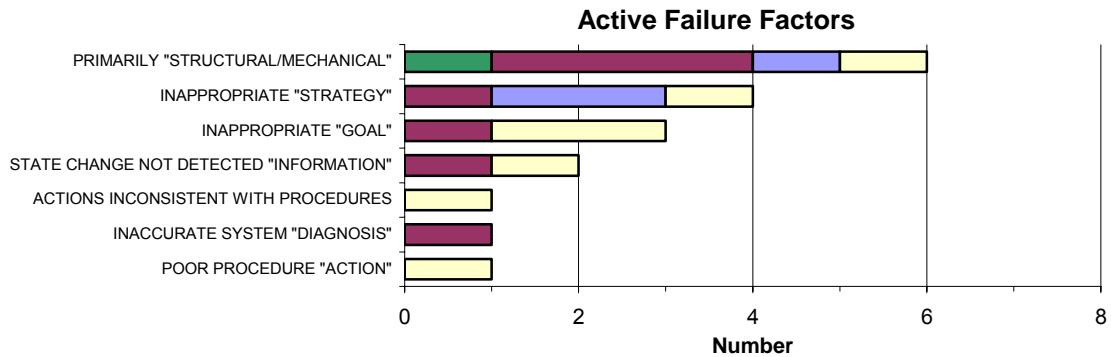
- 13,608 kg and above
- 5,670 to 13,608 kg
- 2,721 to 5,670 kg
- Sport
- Helicopters
- Hang Gliders and Parachutes



The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 2001 for the various aircraft groups. Causal factors have been assigned to 24 (38%) of the 63 accidents.

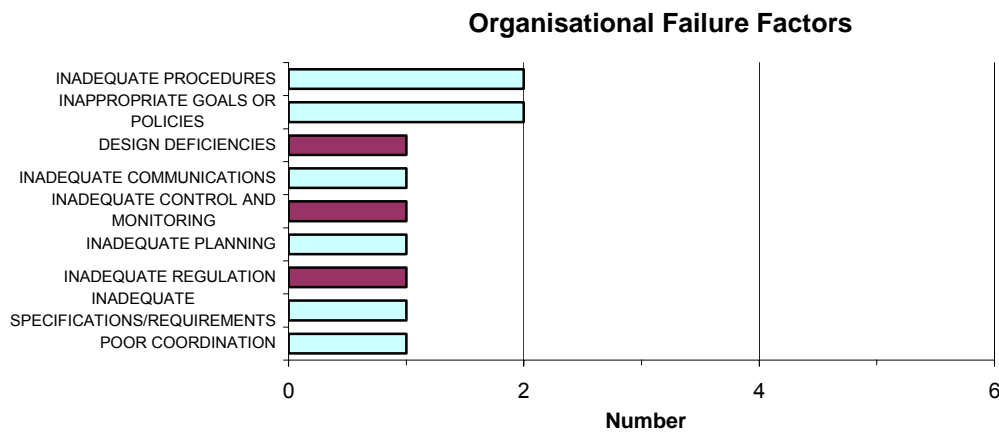
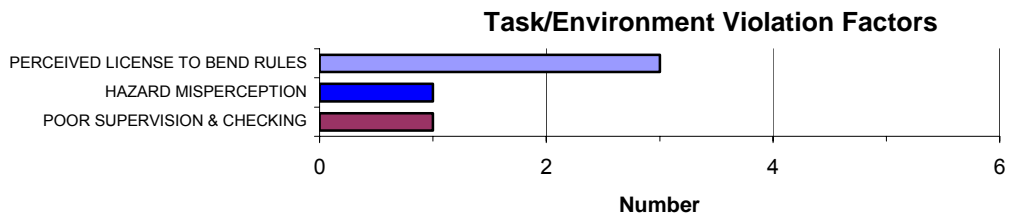
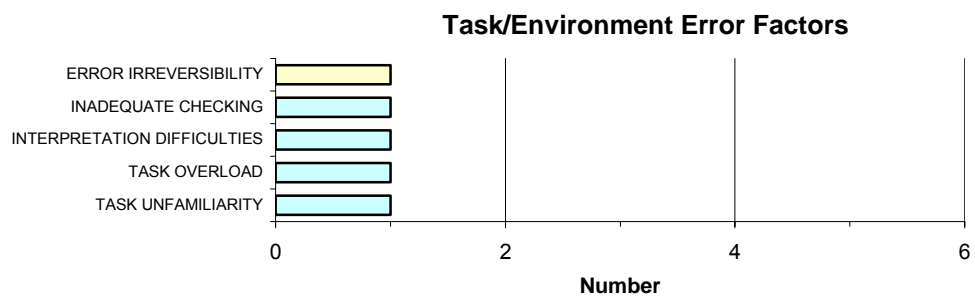
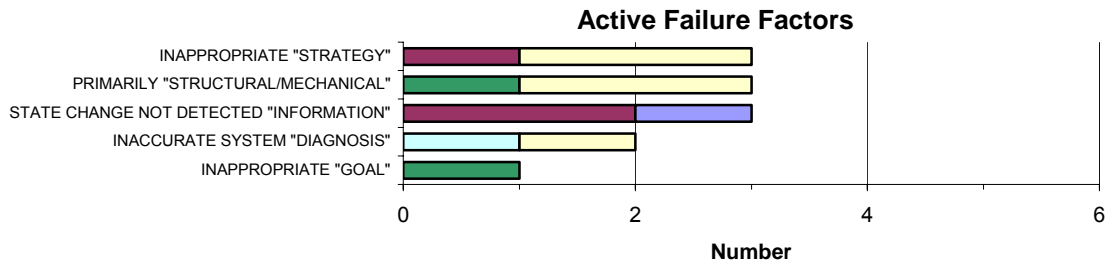


The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 2002 for the various aircraft groups. Causal factors have been assigned to 21 (39%) of the 54 accidents.



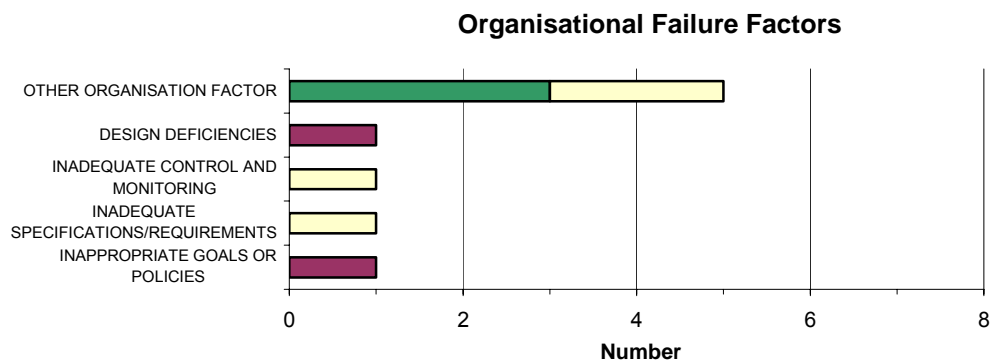
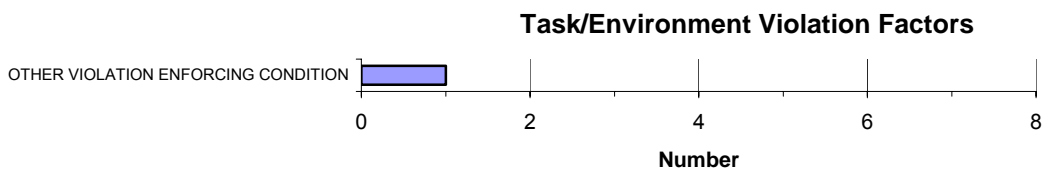
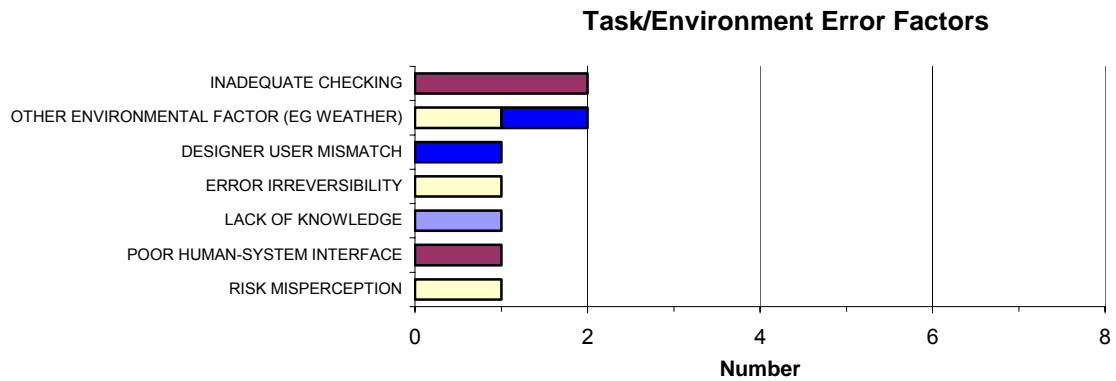
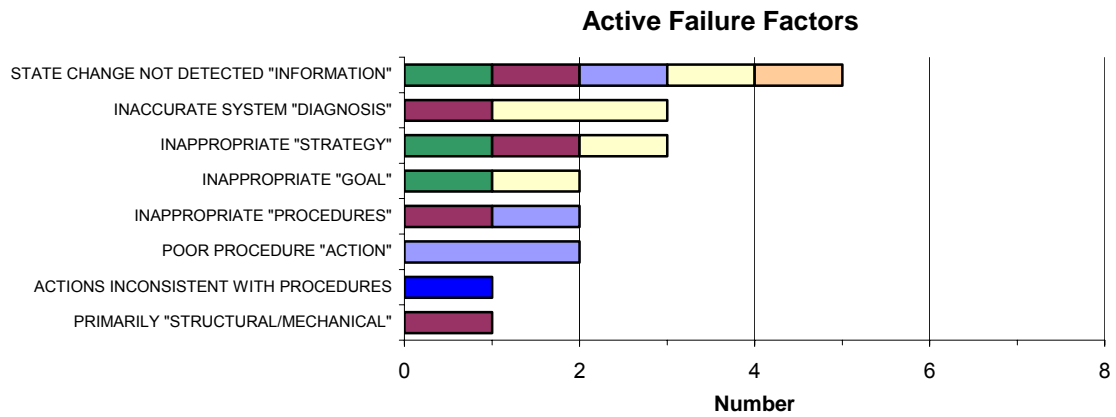
□ 13,608 kg and above	■ 5,670 to 13,608 kg	■ 2,721 to 5,670 kg
■ Below 2,721 kg	■ Sport	□ Helicopters
■ Hang Gliders and Parachutes		

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 2002 for the various aircraft groups. Causal factors have been assigned to 16 (40%) of the 40 accidents.



■ 13,608 kg and above     
 ■ 5,670 to 13,608 kg     
 ■ 2,721 to 5,670 kg  
■ Below 2,721 kg     
 ■ Sport     
 ■ Helicopters  
■ Hang Gliders and Parachutes

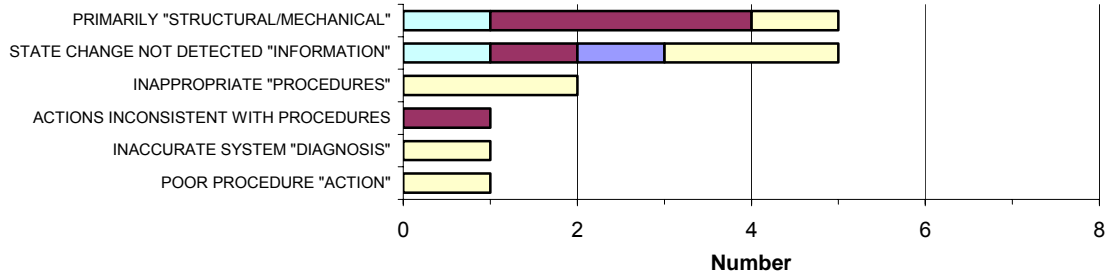
The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 2003 for the various aircraft groups. Causal factors have been assigned to 25 (51%) of the 49 accidents.



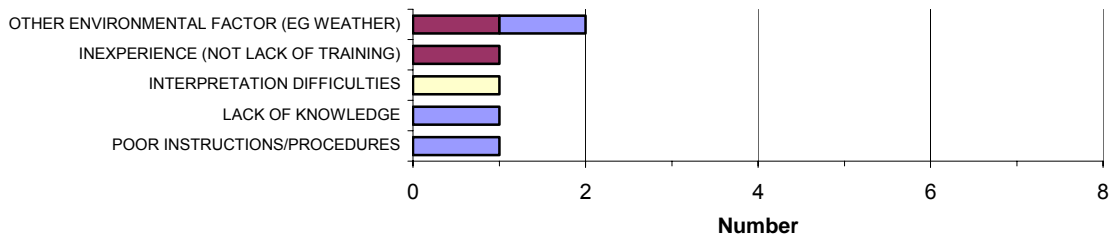
<span style="color: green;">■</span> 13,608 kg and above	<span style="color: maroon;">■</span> 5,670 to 13,608 kg	<span style="color: blue;">■</span> 2,721 to 5,670 kg
<span style="color: red;">■</span> Below 2,721 kg	<span style="color: purple;">■</span> Sport	<span style="color: yellow;">■</span> Helicopters
<span style="color: darkblue;">■</span> Hang Gliders and Parachutes	<span style="color: orange;">■</span> Unknown	

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 2003 for the various aircraft groups. Causal factors have been assigned to 22 (47%) of the 47 accidents.

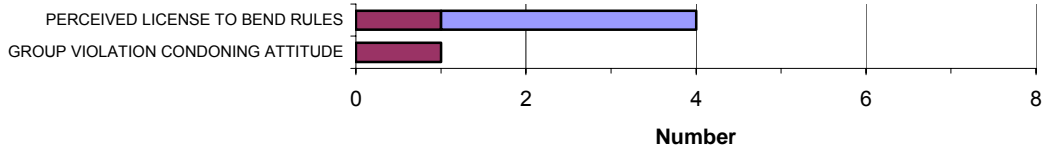
### Active Failure Factors



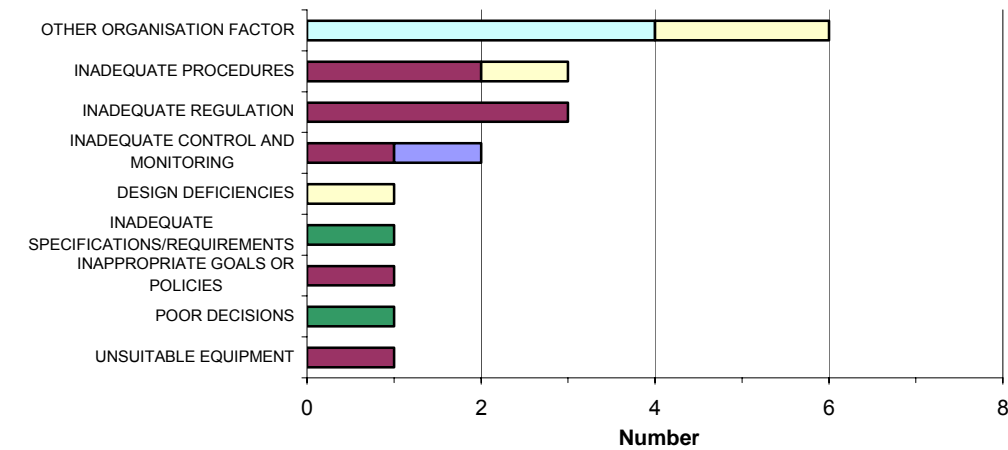
### Task/Environment Error Factors



### Task/Environment Violation Factors



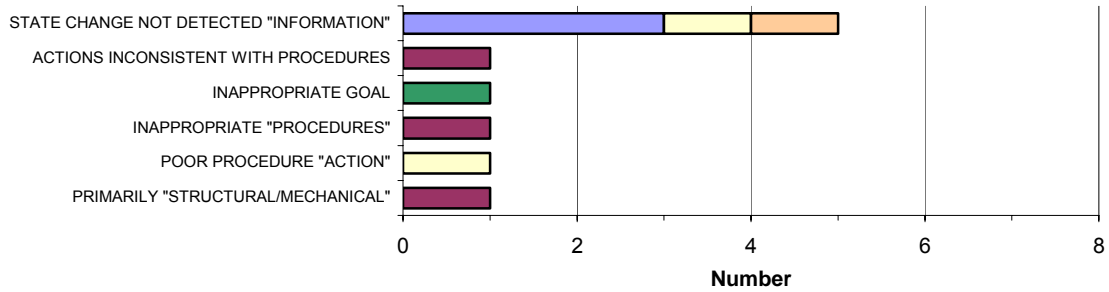
### Organisational Failure Factors



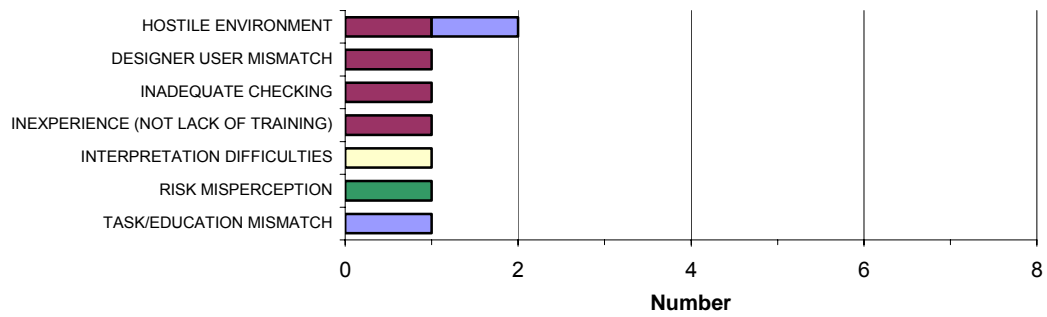
13,608 kg and above     
  5,670 to 13,608 kg     
  2,721 to 5,670 kg  
 Below 2,721 kg     
  Sport     
  Helicopters  
 Hang Gliders and Parachutes

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 January to 30 June 2004 for the various aircraft groups. Causal factors have been assigned to 18 (45%) of the 40 accidents.

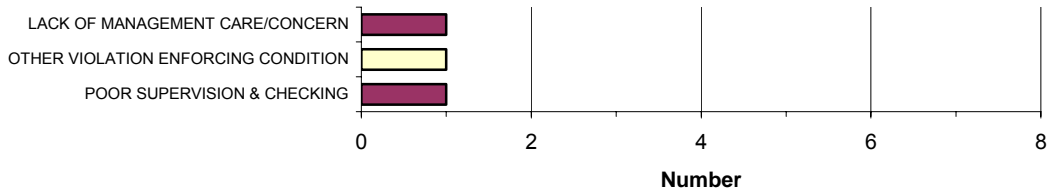
**Active Failure Factors**



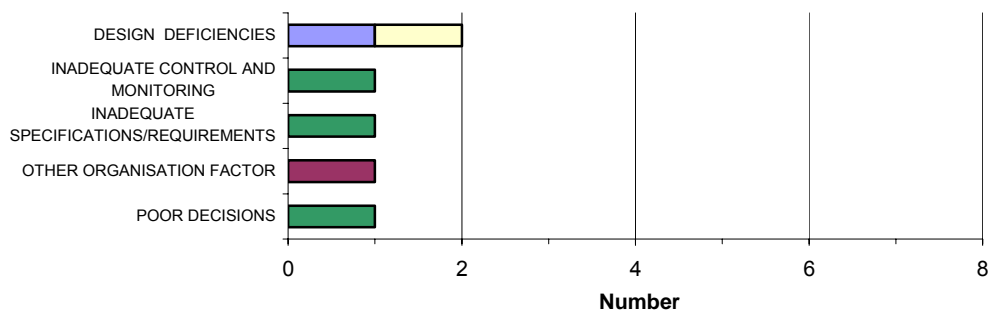
**Task/Environment Error Factors**



**Task/Environment Violation Factors**



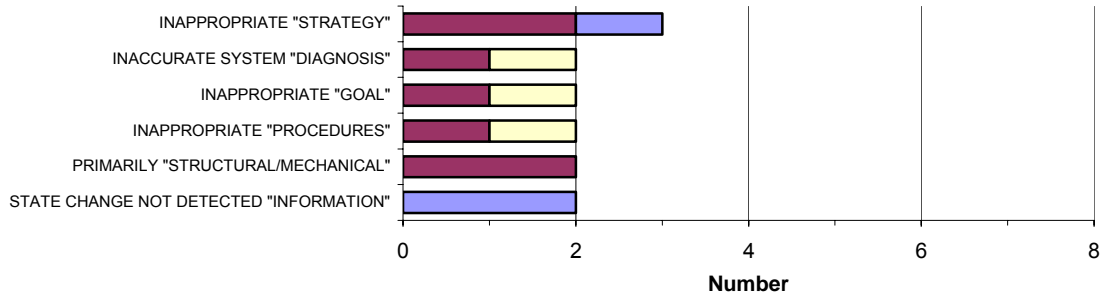
**Organisational Failure Factors**



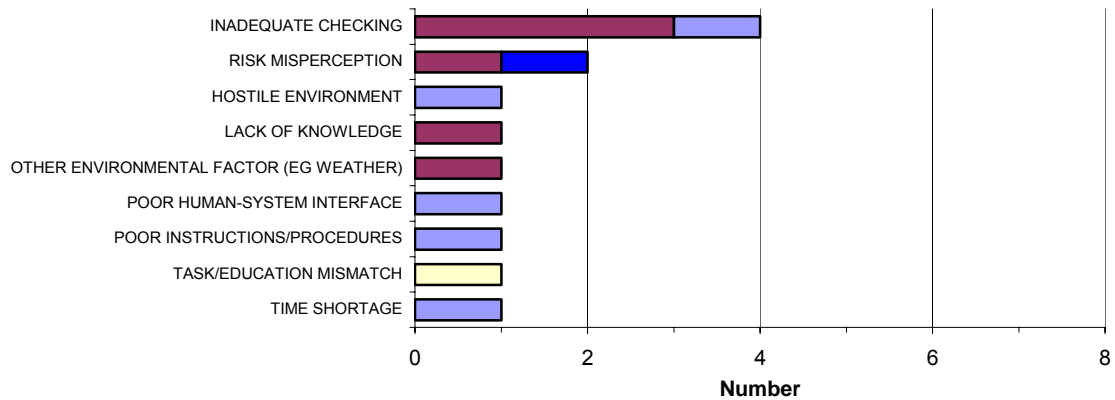
13,608 kg and above     
  5,670 to 13,608 kg     
  2,721 to 5,670 kg  
 Below 2,721 kg     
  Sport     
  Helicopters  
 Hang Gliders and Parachutes     
  Unknown

The following graphs show the number of causal factors recorded for accidents that occurred during the period 1 July to 31 December 2004 for the various aircraft groups. Causal factors have been assigned to 22 (51%) of the 43 accidents.

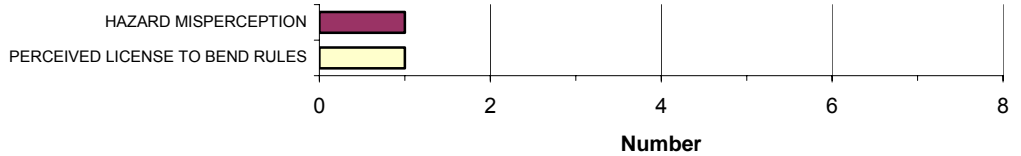
**Active Failure Factors**



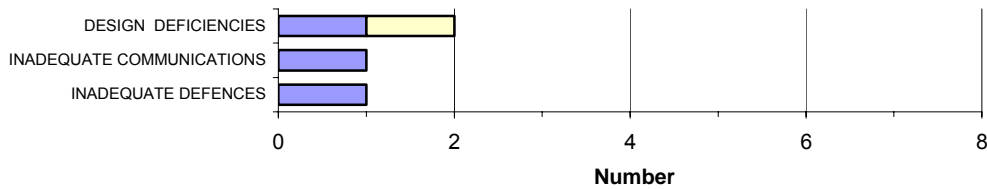
**Task/Environment Error Factors**



**Task/Environment Violation Factors**



**Organisational Failure Factors**

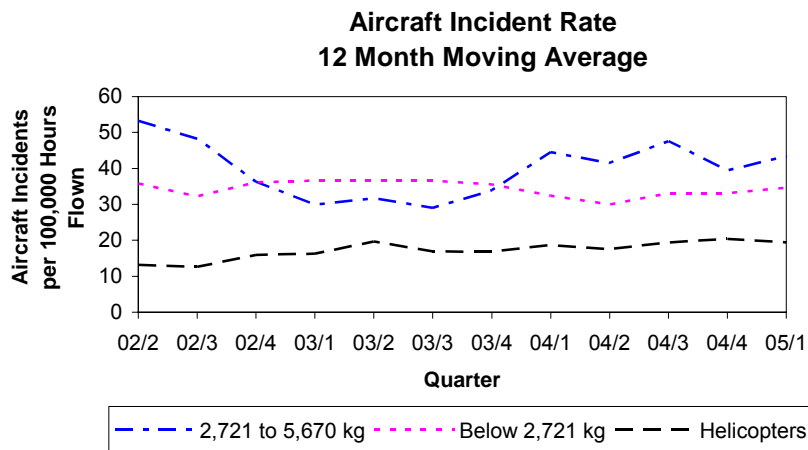
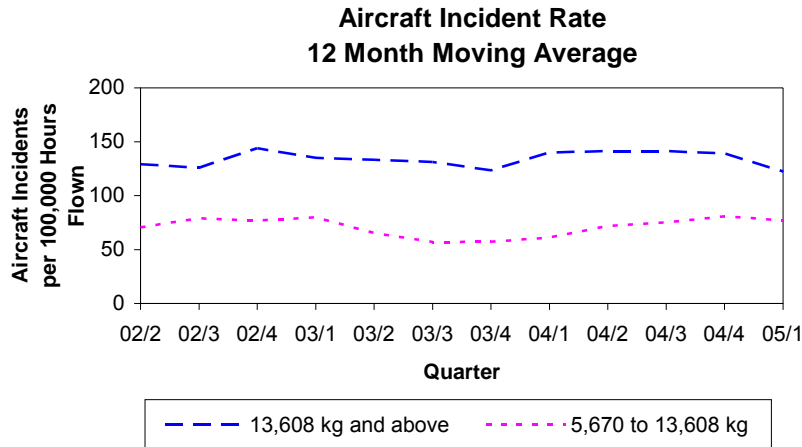


13,608 kg and above     
  5,670 to 13,608 kg     
  2,721 to 5,670 kg  
 Below 2,721 kg     
  Sport     
  Helicopters  
 Hang Gliders and Parachutes

## Aircraft Incidents

### Occurrence Trend

The following graphs show the aircraft incident rates (incidents per 100,000 hours flown) twelve month moving average for the three-year period 1 April 2002 to 31 March 2005 (excluding Sport).



Aircraft Group	Straight Line Trend of 12 Month Moving Average
13,608 kg and above	Trending up
5,670 to 13,608 kg	Trending up
2,721 to 5,670 kg	Constant
Below 2,721 kg	Trending down
Helicopters	Trending up

The slopes of the trend lines for the 13,608 kg and above, 5,670 to 13,608 kg, and below 2,721 kg groups are close to zero. The slope of the trend line for the 2,721 to 5,670 kg group is zero.

The ratios of reported aircraft incidents for the below 2,721 kg and helicopter groups to the respective number of reported accidents continue to be low.



**Six-Monthly Comparison*****Number of Aircraft Incidents***

Aircraft Group	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
13,608 kg and above	154	170	+ 16	+ 10.4
5,670 to 13,608 kg	32	42	+ 10	+ 31.3
2,721 to 5,670 kg	6	6	0	0.0
Below 2,721 kg	36	44	+ 8	+ 22.2
Helicopters	12	17	+ 5	+ 41.7
Sport	8	6	- 2	- 25.0
Unknown	22	23	+ 1	+ 4.5
<b>Total</b>	<b>270</b>	<b>308</b>	<b>+ 38</b>	<b>+ 14.1</b>

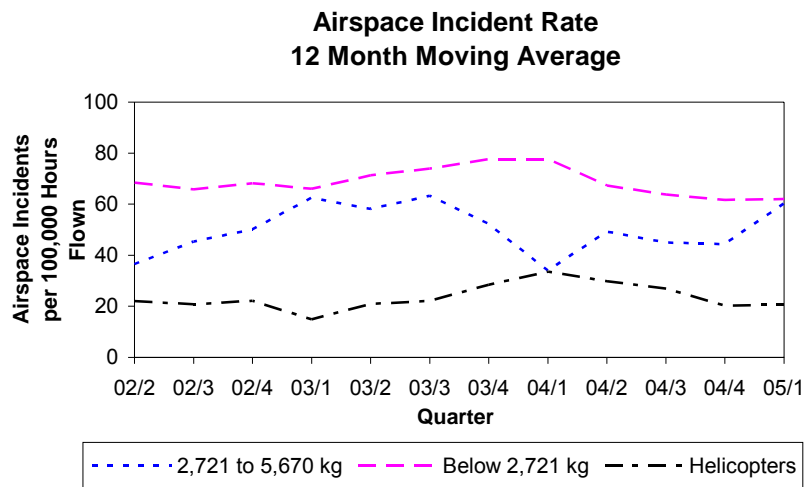
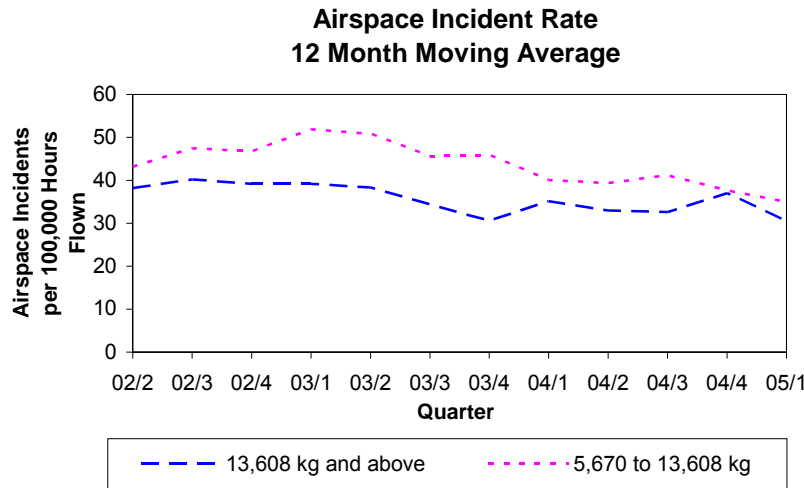
**Severity*****Six-Monthly Comparison***

Aircraft Group	Severity	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	Critical	0	0	0
	Major	13	4	- 9
	Minor	141	166	+ 25
5,670 to 13,608 kg	Critical	0	0	0
	Major	11	8	- 3
	Minor	21	34	+ 13
Below 5,670 kg, Helicopters and Sport	Critical	0	1	+ 1
	Major	9	7	- 2
	Minor	53	65	+ 12
Unknown	Critical	0	0	0
	Major	1	0	- 1
	Minor	21	23	+ 2
<b>Total</b>	<b>Critical</b>	<b>0</b>	<b>1</b>	<b>+ 1</b>
	<b>Major</b>	<b>34</b>	<b>19</b>	<b>- 15</b>
	<b>Minor</b>	<b>236</b>	<b>288</b>	<b>+ 52</b>

## Airspace Incidents

### Occurrence Trend

The following graphs show the airspace incident rates (incidents per 100,000 hours flown) twelve month moving average for the three-year period 1 April 2002 to 31 March 2005 (excluding Sport).



Aircraft Group	Straight Line Trend of 12 Month Moving Average
13,608 kg and above	Trending down
5,670 to 13,608 kg	Trending down
2,721 to 5,670 kg	Trending up
Below 2,721 kg	Trending down
Helicopters	Trending up

The slopes of the trend lines for the 2,721 to 5,670 kg and below 2,721 kg groups are close to zero.

**Six-Monthly Comparison*****Number of Airspace Incidents***

Aircraft Group	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
13,608 kg and above	29	44	+ 15	+ 51.7
5,670 to 13,608 kg	19	17	- 2	- 10.5
2,721 to 5,670 kg	8	7	- 1	- 12.5
Below 2,721 kg	104	86	- 18	- 17.3
Helicopters	29	15	- 14	- 48.3
Sport	10	12	+ 2	+ 20.0
Unknown	173	159	- 14	- 8.1
<b>Total</b>	<b>372</b>	<b>340</b>	<b>- 32</b>	<b>- 8.6</b>

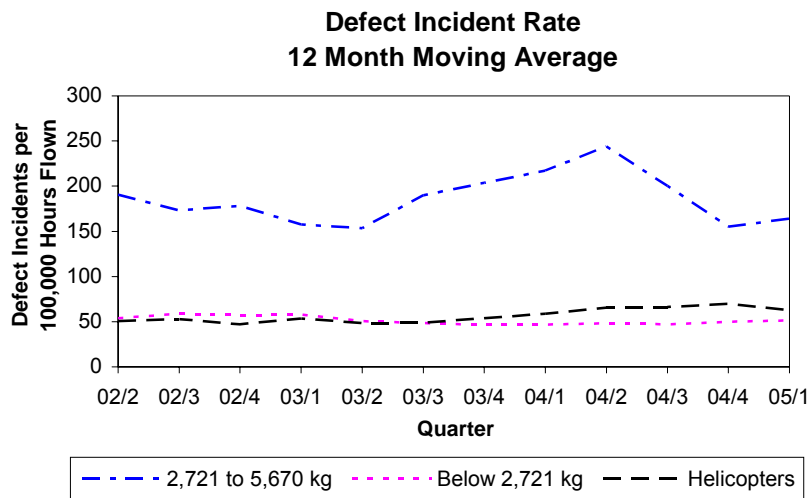
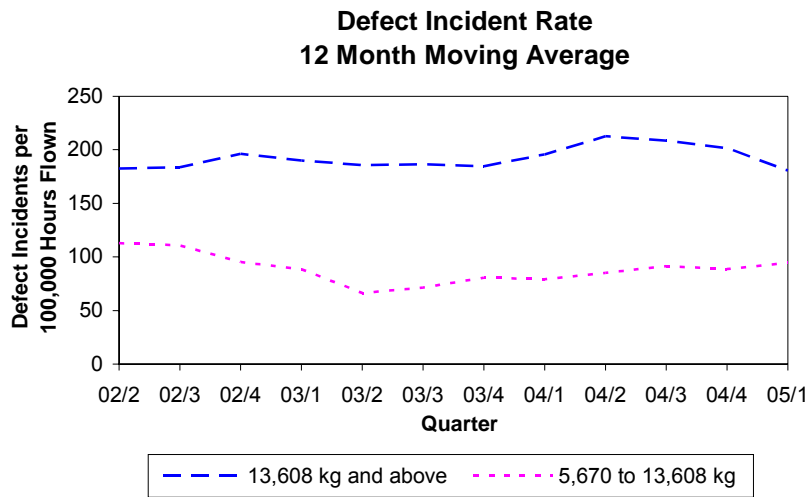
**Severity*****Six-Monthly Comparison***

Aircraft Group	Severity	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	Critical	0	0	0
	Major	1	2	+ 1
	Minor	28	42	+ 14
5,670 to 13,608 kg	Critical	0	0	0
	Major	3	1	- 2
	Minor	16	16	0
Below 5,670 kg, Helicopters and Sport	Critical	0	0	0
	Major	7	6	- 1
	Minor	144	114	- 30
Unknown	Critical	0	0	0
	Major	9	18	+ 9
	Minor	164	141	- 23
<b>Total</b>	<b>Critical</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Major</b>	<b>20</b>	<b>27</b>	<b>+ 7</b>
	<b>Minor</b>	<b>352</b>	<b>313</b>	<b>- 39</b>

## Defect Incidents

### Occurrence Trend

The following graphs show the aircraft defect incident rates (incidents per 100,000 hours flown) twelve month moving average for the three-year period 1 April 2002 to 31 March 2005 (excluding Sport).



Aircraft Group	Straight Line Trend of 12 Month Moving Average
13,608 kg and above	Trending up
5,670 to 13,608 kg	Trending down
2,721 to 5,670 kg	Trending up
Below 2,721 kg	Trending down
Helicopters	Trending up

**Six-Monthly Comparison*****Number of Defect Incidents***

Aircraft Group	1 Jul to 31 Dec	1 Jul to 31 Dec	Change	
	2003	2004	Number	Percentage
13,608 kg and above	211	214	+ 3	+ 1.4
5,670 to 13,608 kg	57	61	+ 4	+ 7.0
2,721 to 5,670 kg	46	15	- 31	- 67.4
Below 2,721 kg	67	70	+ 3	+ 4.5
Helicopters	45	54	+ 9	+ 20.0
Sport	1	5	+ 4	+ 400.0
Unknown	10	11	+ 1	+ 10.0
<b>Total</b>	<b>437</b>	<b>430</b>	<b>- 7</b>	<b>- 1.6</b>

**Severity*****Six-Monthly Comparison***

Aircraft Group	Severity	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	Critical	0	0	0
	Major	29	15	- 14
	Minor	182	199	+ 17
5,670 to 13,608 kg	Critical	0	0	0
	Major	28	5	- 23
	Minor	29	56	+ 27
Below 5,670 kg, Helicopters and Sport	Critical	2	2	0
	Major	47	20	- 27
	Minor	110	122	+ 12
Unknown	Critical	0	0	0
	Major	2	1	- 1
	Minor	8	10	+ 2
<b>Total</b>	<b>Critical</b>	<b>2</b>	<b>2</b>	<b>0</b>
	<b>Major</b>	<b>106</b>	<b>41</b>	<b>- 65</b>
	<b>Minor</b>	<b>329</b>	<b>387</b>	<b>+ 58</b>

## Bird Incident Rates

### 12-Month Moving Average Strike Rate per 1,000 Aircraft Movements

The following table shows the 12-month moving average strike rates for identified aerodromes for the three years ending December 2004.

Aerodrome	02/1	02/2	02/3	02/4	03/1	03/2	03/3	03/4	04/1	04/2	04/3	04/4
Auckland	0.37	0.31	0.32	0.31	0.29	0.26	0.26	0.23	0.21	0.23	0.29	0.33
Christchurch	0.19	0.20	0.20	0.20	0.21	0.20	0.24	0.20	0.24	0.26	0.26	0.30
Dunedin	0.66	0.48	0.44	0.45	0.27	0.28	0.42	0.58	0.45	0.55	0.56	0.46
Gisborne	0.40	0.50	0.65	0.56	0.69	0.61	0.61	0.78	0.84	0.71	0.58	0.65
Hamilton	0.49	0.45	0.44	0.27	0.17	0.19	0.24	0.26	0.33	0.28	0.26	0.25
Invercargill	0.94	0.53	0.41	0.44	0.47	0.53	0.54	0.55	0.41	0.37	0.34	0.41
Napier	0.87	0.50	0.67	0.59	0.56	0.60	0.51	0.46	0.45	0.40	0.56	0.68
Nelson	0.45	0.30	0.36	0.34	0.30	0.32	0.24	0.21	0.19	0.26	0.29	0.29
New Plymouth	1.36	1.01	0.83	0.87	0.69	0.81	0.71	0.84	0.90	0.85	0.90	0.78
Ohakea	0.29	0.20	0.21	0.14	0.12	0.12	0.08	0.12	0.21	0.35	0.48	0.51
Palmerston North	0.44	0.58	0.64	0.69	0.57	0.54	0.30	0.35	0.40	0.33	0.39	0.30
Queenstown	0.31	0.55	0.58	0.58	0.55	0.39	0.31	0.29	0.27	0.17	0.25	0.30
Rotorua	0.69	0.56	0.57	0.59	0.46	0.50	0.47	0.53	0.64	0.57	0.70	0.74
Taupo	0.43	0.41	0.39	0.36	0.24	0.20	0.12	0.14	0.14	0.17	0.15	0.08
Tauranga	0.30	0.33	0.32	0.26	0.20	0.21	0.28	0.29	0.39	0.32	0.24	0.23
Wellington	0.13	0.12	0.13	0.15	0.16	0.16	0.16	0.16	0.18	0.19	0.16	0.22
Whenuapai	0.92	0.98	1.06	1.36	1.19	1.25	1.08	0.87	1.08	1.03	1.21	1.41
Woodbourne	0.70	0.43	0.44	0.52	0.31	0.40	0.34	0.20	0.28	0.24	0.28	0.42

*Bird occurrence rates are measured monthly, quarterly or annually by aerodrome. This is achieved by querying the database for the number of strikes at aerodromes over a period of time summarising by month, quarter or year. The results of this query are then divided by the aircraft movements at each aerodrome and multiplied by 1,000 to achieve strikes per 1,000 aircraft movements. Aircraft movements at aerodromes are obtained from the ACNZ, and where available, from individual airport companies.*

### CAA Actions

The CAA uses the following criteria for assessing actions to be taken with regard to identified trends in bird strike rates.

Bird strikes per 1,000 aircraft movements	Risk Category	Trending Down	Constant	Trending Up
≥ 0.0 and < 0.5	Low	Monitor	Monitor	Advise Aerodrome Operator
≥ 0.5 and < 1.0	Medium	Monitor	Advise Aerodrome Operator	Advise Aerodrome Operator, Request Rectification Action
≥ 1.0	High	Advise Aerodrome Operator	Advise Aerodrome Operator, Request Rectification Action	Advise Aerodrome Operator, Request Rectification Action

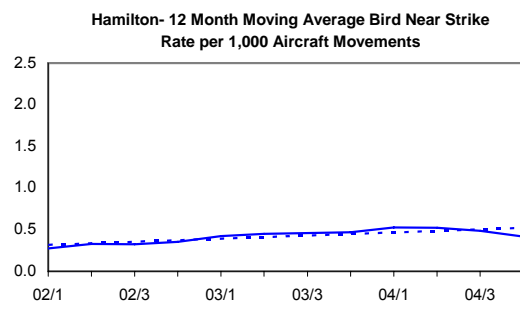
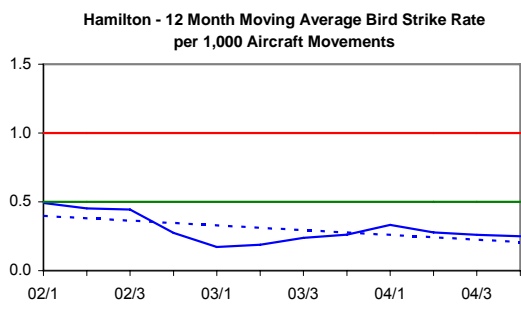
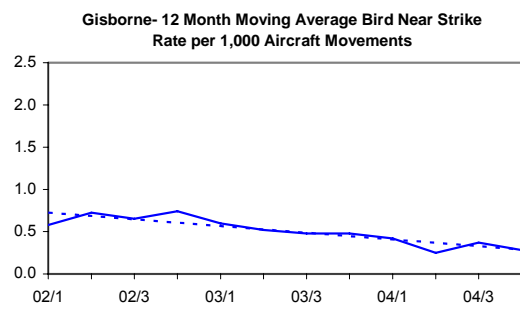
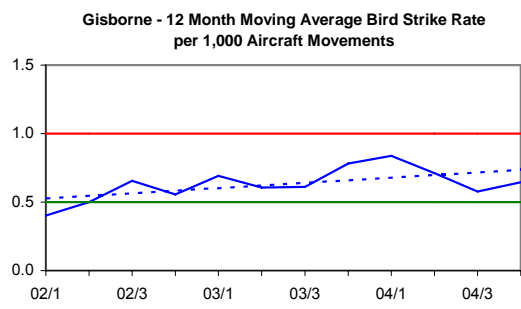
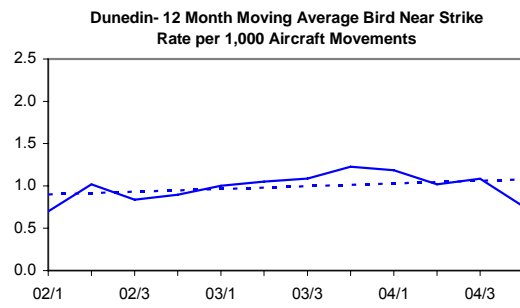
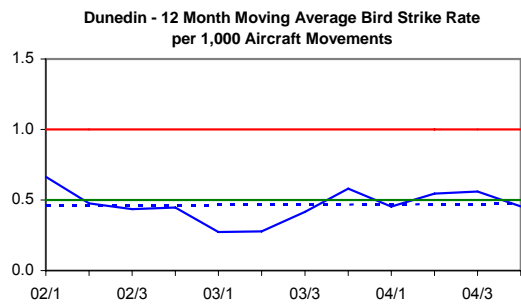
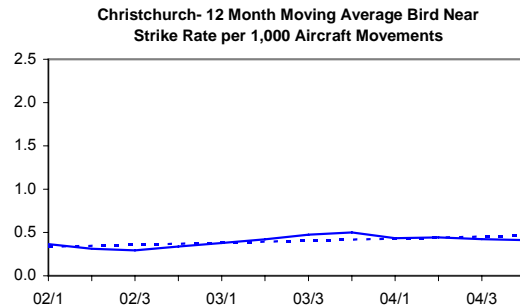
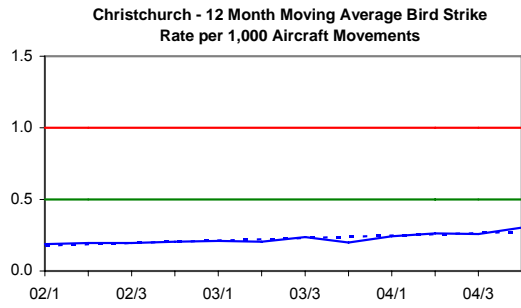
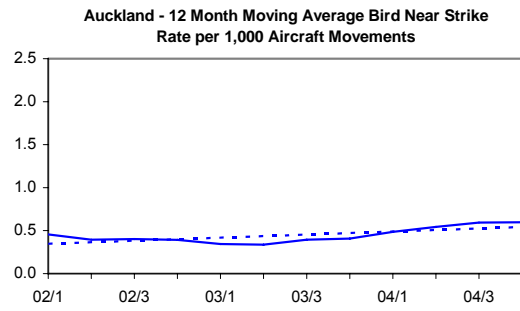
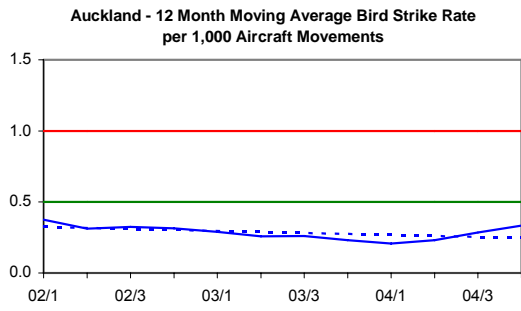
## Analysis

Analysis shows that 6 of the 18 monitored aerodromes have bird strike rates above the “trigger level” for CAA Action. Details were forwarded to Manager Aeronautical Services on 7 March 2005.

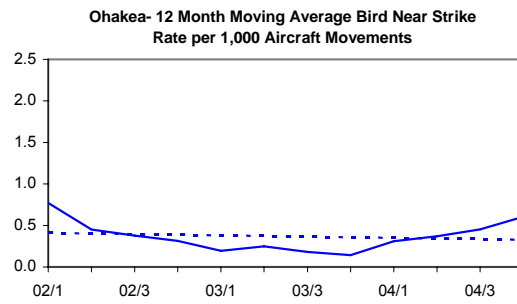
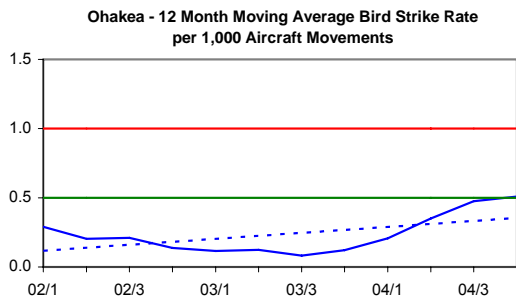
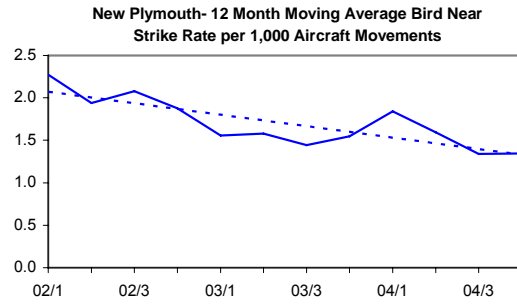
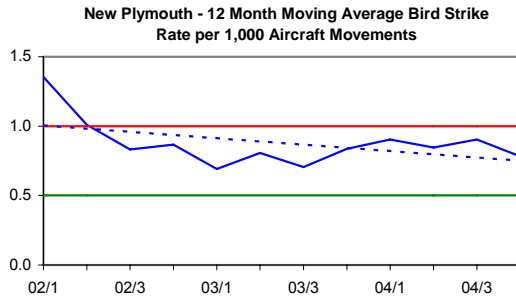
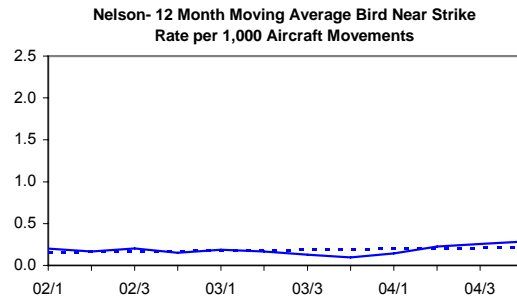
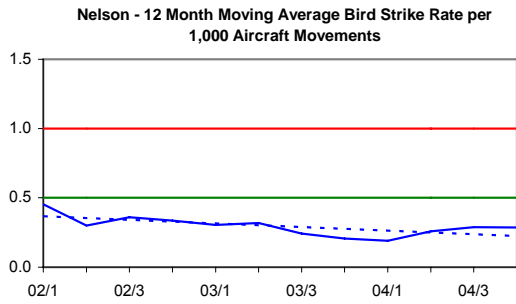
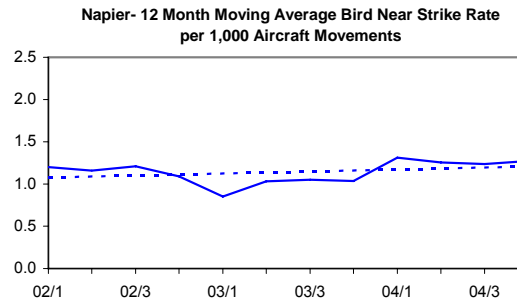
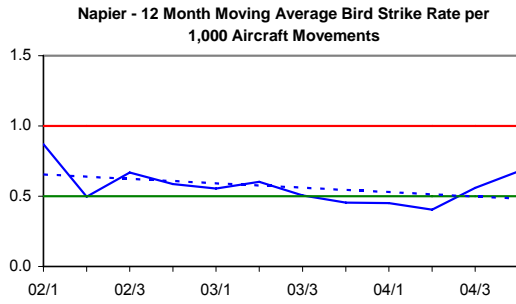
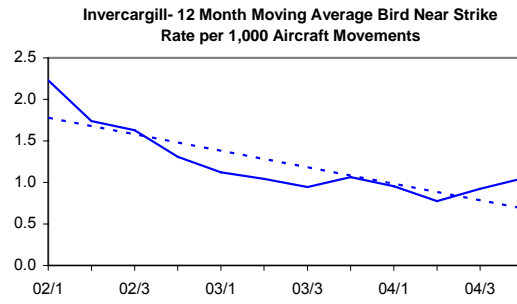
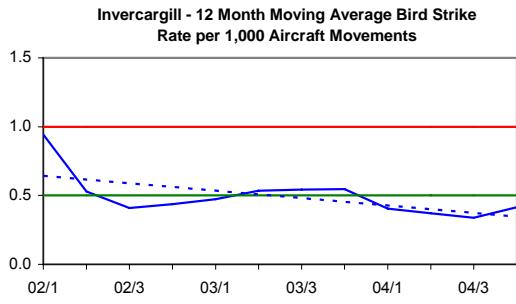
One aerodrome exhibited a strike rate in the high risk category of the CAA standard (above 1.0 bird strikes per 1,000 aircraft movements). Five aerodromes exhibited a strike rate in the medium risk category (0.5 to 1.0 per 1,000 movements) and three of these aerodromes displayed a long-term upward or constant trend. Twelve aerodromes exhibited a strike rate in the low risk category (below 0.5 per 1,000 movements) and two of these aerodromes displayed a long-term upward trend.

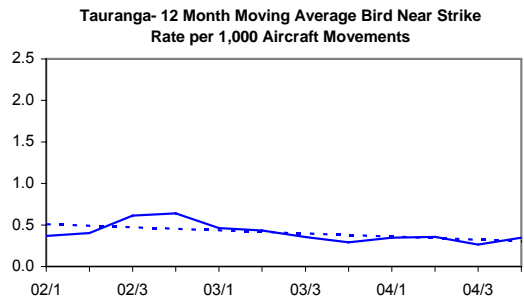
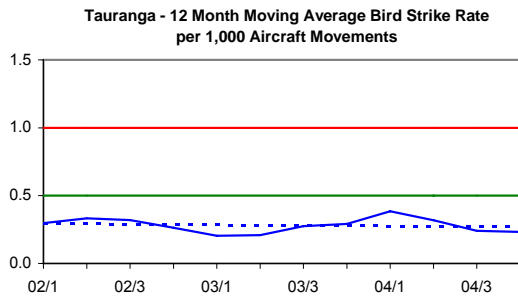
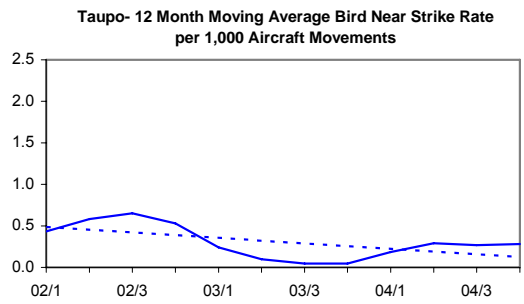
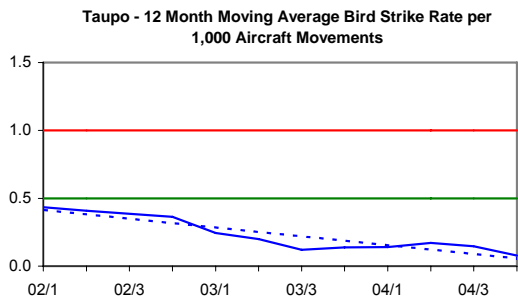
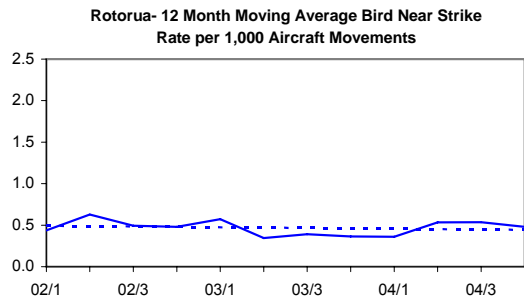
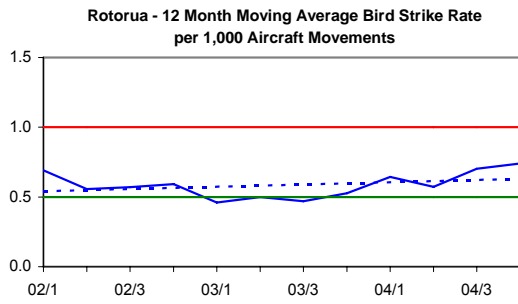
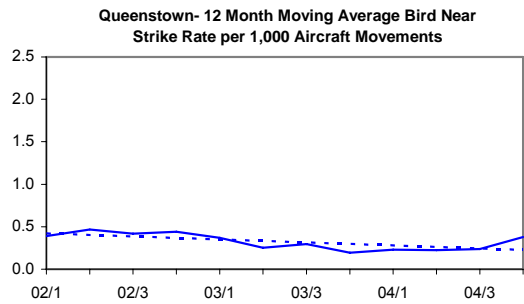
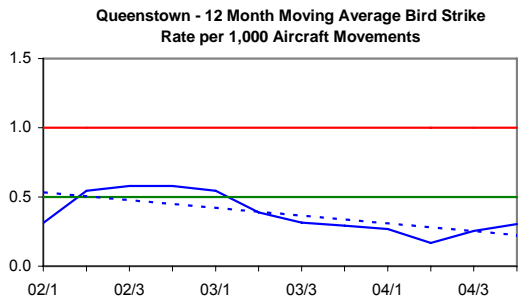
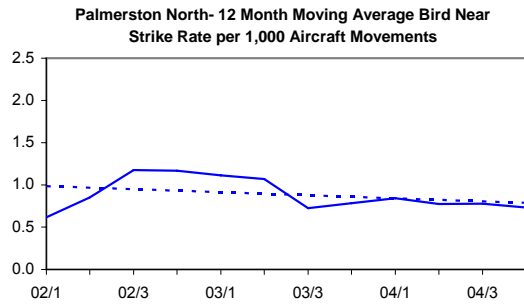
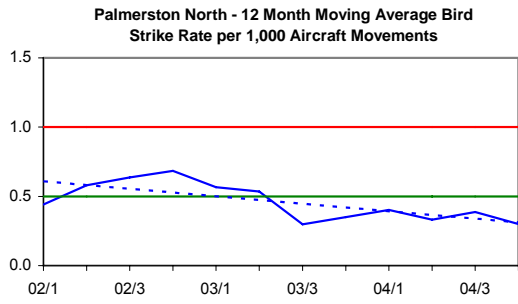
The top line on the strike rate graph shows the High risk category. The next line shows the Medium risk category.

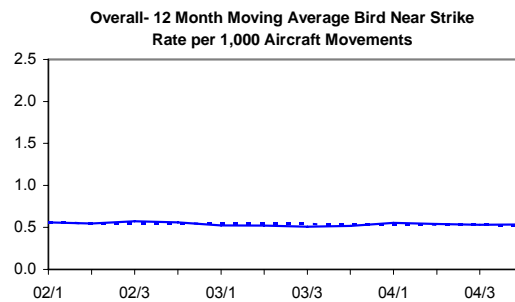
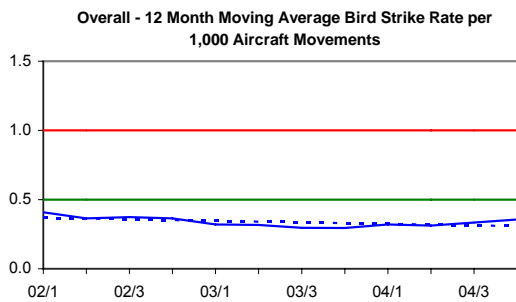
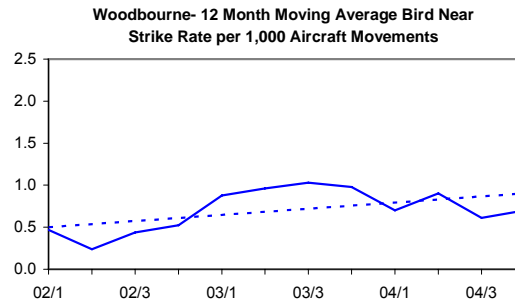
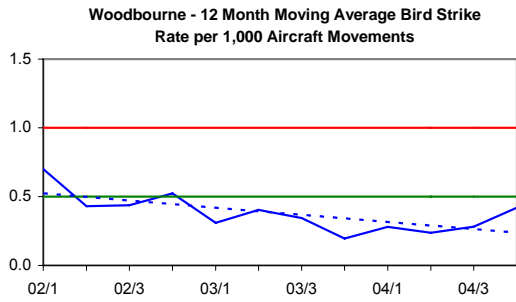
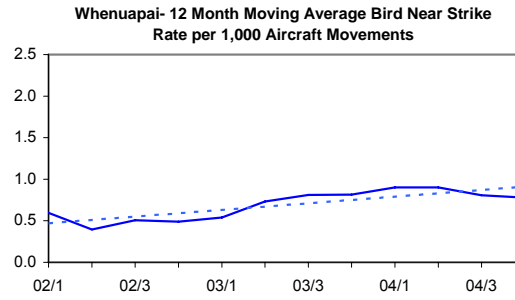
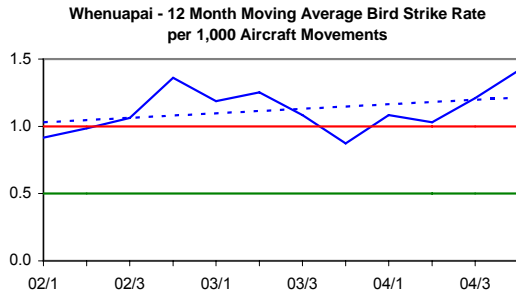
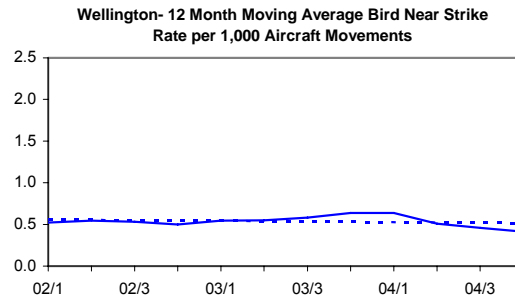
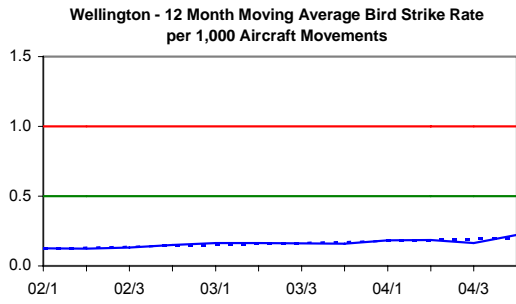
Aerodrome	Risk Category	Trend	CAA Action
Auckland	Low	Trending down	Monitor
Christchurch	Low	Trending up	Advise Aerodrome Operator
Dunedin	Low	Constant	Monitor
Gisborne	Medium	Trending up	Advise Aerodrome Operator, Request Rectification Action
Hamilton	Low	Trending down	Monitor
Invercargill	Low	Trending down	Monitor
Napier	Medium	Trending down	Monitor
Nelson	Low	Trending down	Monitor
New Plymouth	Medium	Trending down	Monitor
Ohakea	Medium	Trending up	Advise Aerodrome Operator, Request Rectification Action
Palmerston North	Low	Trending down	Monitor
Queenstown	Low	Trending down	Monitor
Rotorua	Medium	Trending up	Advise Aerodrome Operator, Request Rectification Action
Taupo	Low	Trending down	Monitor
Tauranga	Low	Constant	Monitor
Wellington	Low	Trending up	Advise Aerodrome Operator
Whenuapai	High	Trending up	Advise Aerodrome Operator, Request Rectification Action
Woodbourne	Low	Trending down	Monitor











## Security Incidents

### Six-Monthly Comparison

#### *Number of Security Incidents*

Aircraft Group	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
13,608 kg and above	14	39	+ 25
5,670 to 13,608 kg	4	2	- 2
2,721 to 5,670 kg	0	0	0
Below 2,721 kg	1	2	+ 1
Helicopters	0	0	0
Sport	0	0	0
Unknown	35	41	+ 6
<b>Total</b>	<b>54</b>	<b>84</b>	<b>+ 30</b>

### Severity

Severity	1 Jul to 31 Dec 2003	1 Jul to 31 Dec 2004	Change
Critical	0	0	0
Major	4	0	- 4
Minor	50	84	+ 34

### Occurrences — General

The following table shows the number of occurrences (excluding Non Reportable Occurrences) that were registered on the CAA database during each of the six months of the 1 July to 31 December 2004 period.

Month	ACC	ADI	ARC	ASP	BRD	DEF	DGD	HGA	INC	NIO	PAA	PIO	SEC	TOTAL
04/7	3	3	12	49	35	68	6	0	53	8	0	1	12	<b>250</b>
04/8	6	3	21	60	107	86	3	1	70	5	0	0	17	<b>379</b>
04/9	5	2	34	47	100	81	6	0	53	1	0	1	15	<b>345</b>
04/10	5	2	19	50	54	55	8	0	65	6	0	2	10	<b>276</b>
04/11	9	4	20	74	42	70	4	0	47	6	0	3	19	<b>298</b>
04/12	8	8	40	51	103	69	2	0	43	0	0	0	8	<b>332</b>
<b>Total</b>	<b>36</b>	<b>22</b>	<b>146</b>	<b>331</b>	<b>441</b>	<b>429</b>	<b>29</b>	<b>1</b>	<b>331</b>	<b>26</b>	<b>0</b>	<b>7</b>	<b>81</b>	<b>1,880</b>

<b>ACC</b>	Accident	<b>HGA</b>	Hang Glider Accident
<b>ADI</b>	Aerodrome Incident	<b>INC</b>	Aircraft Incident
<b>ARC</b>	Aviation Related Concern	<b>NIO</b>	Facility Malfunction Incident
<b>ASP</b>	Airspace Incident	<b>PAA</b>	Parachute Accident
<b>BRD</b>	Bird Incident	<b>PIO</b>	Promulgated Information Incident
<b>DEF</b>	Defect Incident	<b>SEC</b>	Security Incident
<b>DGD</b>	Dangerous Goods Incident		

## Definitions

### General

#### Accident (ACC)

Means an occurrence that is associated with the operation of an aircraft and takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, being an occurrence in which–

- (1) a person is fatally or seriously injured as a result of–
  - (i) being in the aircraft; or
  - (ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or
  - (iii) direct exposure to jet blast–except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; or
- (2) the aircraft sustains damage or structural failure that–
  - (i) adversely affects the structural strength, performance or flight characteristics of the aircraft; and
  - (ii) would normally require major repair or replacement of the affected component–except engine failure or damage that is limited to the engine, its cowlings, or accessories, or damage limited to propellers, wing tips, rotors, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or
- (3) the aircraft is missing or is completely inaccessible.

#### Aerodrome Incident (ADI)

Means an incident involving an aircraft operation and–

- (1) an obstruction either on the aerodrome operational area or protruding into the aerodrome obstacle limitation surfaces; or
- (2) a defective visual aid; or
- (3) a defective surface of a manoeuvring area; or
- (4) any other defective aerodrome facility.

#### Aircraft Incident (INC)

Means any incident, not otherwise classified, associated with the operation of an aircraft.

**Airspace Incident (ASP)**

Means an incident involving deviation from, or shortcomings of, the procedures or rules for–

- (1) avoiding collisions between aircraft; or
- (2) avoiding collisions between aircraft and other obstacles when an aircraft is being provided with an Air Traffic Service.

**Bird Incident (BRD)**

Means an incident where–

- (1) there is a collision between an aircraft and one or more birds; or
- (2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot.

**Dangerous Goods Incident (DGD)**

Means an incident associated with and related to the carriage of dangerous goods by air after acceptance by the operator, that–

- (1) results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation, or other evidence that the integrity of the packaging has not been maintained; or
- (2) involves dangerous goods incorrectly declared, packaged, labelled, marked, or documented.

**Defect Incident (DEF)**

Means an incident that involves failure or malfunction of an aircraft or aircraft component, whether found in flight or on the ground.

**Facility Malfunction Incident (NIO)**

Means an incident that involves an aeronautical telecommunications facility.

**Fatal Injury**

Means any injury which results in death within 30 days of the accident.

**Incident**

Means any occurrence, other than an accident, that is associated with the operation of an aircraft and affects or could affect the safety of operation.

Note: Incident has many sub-categories.

**Occurrence**

Means an accident or incident.

**Promulgated Information Incident (PIO)**

Means an incident that involves significantly incorrect, inadequate, or misleading information promulgated in any aeronautical information publication, map, or chart.

**Security Incident (SEC)**

Means an incident that involves unlawful interference.

**Serious Injury**

Means any injury that is sustained by a person in an accident and that–

- (1) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
- (2) results in a fracture of any bone, except simple fractures of fingers, toes, or nose; or
- (3) involves lacerations which cause severe haemorrhage, nerve, muscle, or tendon damage; or
- (4) involves injury to an internal organ; or
- (5) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or
- (6) involves verified exposure to infectious substances or injurious radiation.

**Severity**

The following definitions apply to the severity accorded to occurrences and to findings as the result of investigation of occurrences.

Severity Factor		Definition
CR	Critical	An occurrence or deficiency that caused, or on its own had the potential to cause, loss of life or limb;
MA	Major	An occurrence or deficiency involving a major system that caused, or had the potential to cause, significant problems to the function or effectiveness of that system;
MI	Minor	An isolated occurrence or deficiency not indicative of a significant system problem.

## Aircraft Groups

The actual aircraft groups used to derive data in this report, although reported to the nearest kilogram, have been based on the imperial measures used in the United States design requirements which are the basis for certification of most aircraft. The relevant aircraft data is therefore recorded as pounds on the database. Since they are related to design requirements the “break” figures group aircraft with similar complexities and associated operational factors together. Attempts to query based on metric figures can lead to error where aircraft are clustered about a particular break by splitting groups that should logically be kept together.

The following table shows the actual imperial weights used in the reporting queries, the nearest metric conversion, the metric label used on graphs and tables in the report, and the nearest “nominal” metric weight break.

Actual Weight Break (lbs)	Metric Conversion (kg) [NB Rounded down]	Report Data Label (kg)	Nearest “Nominal” Metric Break (kg)
≥ 30,000	≥ 13,608	13,608 kg and above	13,600
≥12,500 and < 30,000	≥ 5,670 and < 13,608	5,670 to 13,608 kg	5,700-13,600
≥ 6,000 and < 12,500	≥ 2,721 and < 5,670	2,721 to 5,670 kg	2,700-5,700
< 6,000	< 2,721	Below 2,721 kg	2,700

The following table shows the aircraft classes included in each aircraft group.

Aircraft Group	Aircraft Class
13,608 kg and above	Aeroplane
5,670 to 13,608 kg	Aeroplane
2,721 to 5,670 kg	Aeroplane, Balloon
Below 2,721 kg	Aeroplane, Balloon
Helicopters	Helicopter
Sport	Amateur Built Aeroplane, Amateur Built Glider, Amateur Built Helicopter, Glider, Gyroplane, Microlight Class 1, Microlight Class 2, Power Glider