

# 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 July 2004 to 30 June 2007. They are constructed from data in the Civil Aviation Authority Management Information System, and use actual data reported to the CAA.

## Industry Activity Statistics

### Registered Aircraft

The following table summarises the number of aircraft on the register by aircraft statistics category at 30 June 2007 and 6 months prior:

Aircraft Statistics Category	31 Dec 2006		30 Jun 2007		Change	
	Number	Percentage	Number	Percentage	Number	Percentage
Large Aeroplanes	117	2.9	118	2.9	+ 1	+ 0.9
Medium Aeroplanes	78	1.9	80	1.9	+ 2	+ 2.6
Small Aeroplanes	1,420	35.2	1,439	35.1	+ 19	+ 1.3
Agricultural Aeroplanes	127	3.1	127	3.1	0	0.0
Helicopters	653	16.2	672	16.4	+ 19	+ 2.9
Sport Aircraft	1,638	40.6	1,669	40.7	+ 31	+ 1.9
<b>Total</b>	<b>4,033</b>		<b>4,105</b>		<b>+ 72</b>	<b>+ 1.8</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 30 June 2007 and 6 months prior:

Licence Type	Medical Certificate	31 Dec	30 Jun	Change	
		2006	2007	Number	Percentage
Private Pilot	Class 1 & 2	3,465	3,742	+ 277	+ 8.0
Commercial Pilot	Class 2 only	1,660	1,609	- 51	- 3.1
Commercial Pilot	Class 1	1,960	2,117	+ 157	+ 8.0
Airline Transport Pilot	Class 2 only	929	746	- 183	- 19.7
Airline Transport Pilot	Class 1	889	1,147	+ 258	+ 29.0
Air Traffic Controller	Class 3	294	326	+ 32	+ 10.9
Aircraft Maintenance Engineer	N/A	2,151	2,181	+ 30	+ 1.4
<b>Total Licences</b>		<b>11,348</b>	<b>11,868</b>	<b>+ 520</b>	<b>+ 4.6</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 30 June 2007 and 6 months prior.

Rule Part	31 Dec	30 Jun	Change	
	2006	2007	Number	Percentage
Part 119 Air Operator	176	171	- 5	- 2.8
Part 119 Air Operator – Pacific	3	3	0	0.0
Part 129 Foreign Air Operator	39	41	+ 2	+ 5.1
Part 137 Agricultural Aircraft Operator	116	112	- 4	- 3.4
Part 139 Aerodromes	25	25	0	0.0
Part 140 Aviation Security Services	1	1	0	0.0
Part 141 Aviation Training Organisation	46	47	+ 1	+ 2.2
Part 145 Aircraft Maintenance Organisation	56	52	- 4	- 7.1
Part 146 Aircraft Design Organisation	13	12	- 1	- 7.7
Part 148 Aircraft Manufacturing Organisation	24	24	0	0.0
Part 149 Recreation Organisation	8	7	- 1	- 12.5
Part 171 Aeronautical Telecommunication Service Organisation	3	3	0	0.0
Part 172 Air Traffic Service	2	1	- 1	- 50.0
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	59	59	0	0.0
Part 92 Dangerous Goods Packaging Approval	46	48	+ 2	+ 4.3

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

Part 119 Air Operator	31 Dec	30 Jun	Change	
	2006	2007	Number	Percentage
Part 108 Security Programme	19	18	- 1	- 5.3
Part 121 Large Aeroplanes	11	11	0	0.0
Part 125 Medium Aeroplanes	14	13	- 1	- 7.1
Part 135 Helicopters and Small Aeroplanes	163	159	- 4	- 2.5

Part 119 Air Operator – Pacific	31 Dec	30 Jun	Change	
	2006	2007	Number	Percentage
Part 108 Security Programme	3	3	0	0.0
Part 121 Large Aeroplanes	2	2	0	0.0
Part 125 Medium Aeroplanes	3	3	0	0.0
Part 135 Helicopters and Small Aeroplanes	3	3	0	0.0

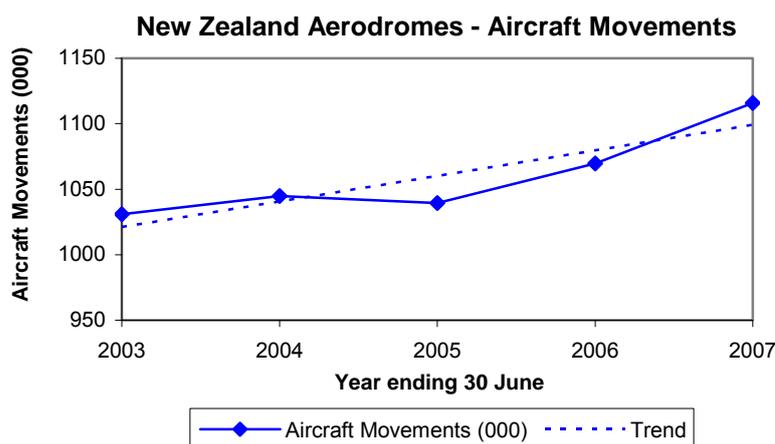
Part 129 Foreign Air Operator	31 Dec	30 Jun	Change	
	2006	2007	Number	Percentage
Part 108 Security Programme	32	33	+ 1	+ 3.1

## Aircraft Movements

The following graph and table show the number of aircraft movements at the following aerodromes: Auckland, Christchurch, Dunedin, Gisborne, Hamilton, Invercargill, Milford Sound, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Queenstown, Rotorua, Taupo, Tauranga, Wellington, Whenuapai and Woodbourne.

### Long-Term Change in Aircraft Movements

The following graph shows the number of aircraft movements for the five-year period 1 July 2002 to 30 June 2007.



The number of aircraft movements increased at an average of 2.1% each year from the year ended 30 June 2003 until the year ended 30 June 2007 when a high of 1,115,906 was reached.

### Six-Monthly Comparison

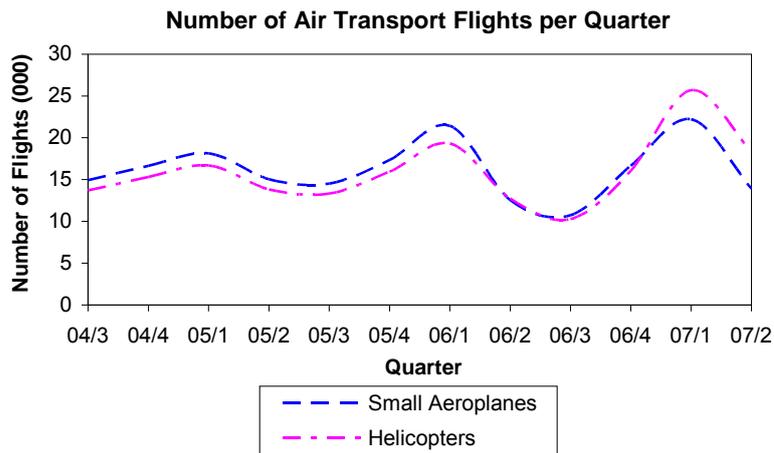
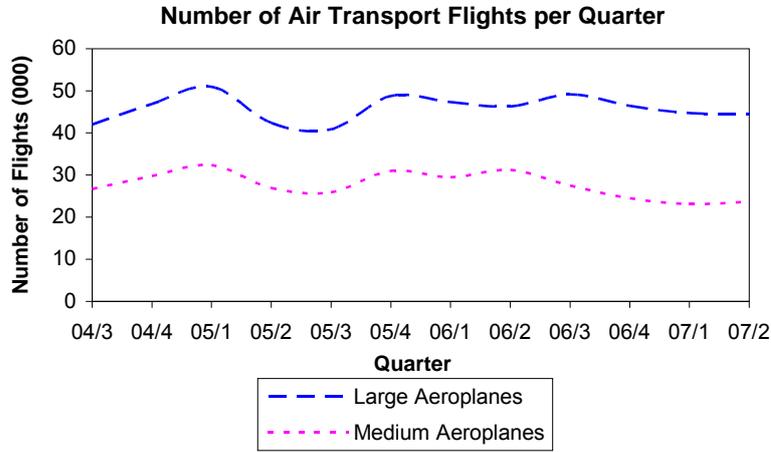
#### *Number of Aircraft Movements*

Activity	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Aircraft Movements	539,564	581,361	+ 41,797	+ 7.7

## Air Transport Flights

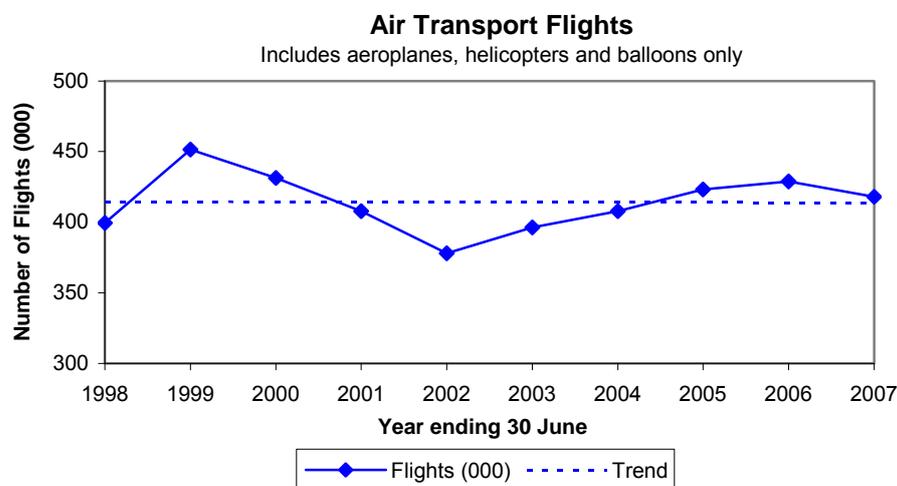
Note that these graphs exclude the aircraft statistics categories Sport Aircraft, Hang Gliders and Parachutes, and foreign registered aircraft that are operated in New Zealand.

The following graphs show the number of air transport flights per quarter during the three-year period 1 July 2004 to 30 June 2007.



## Long-Term Change in Air Transport Flights

The following graph shows the number of air transport flights (includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes) for the 10-year period 1 July 1997 to 30 June 2007.



The number of air transport flights increased at an average of 1.4% each year from 396,183 in the year ended 30 June 2003 to 417,998 in the year ended 30 June 2007.

## Six-Monthly Comparison

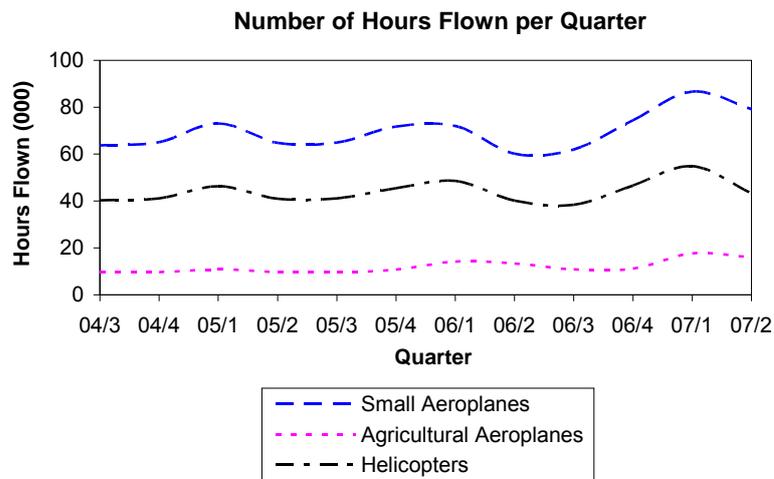
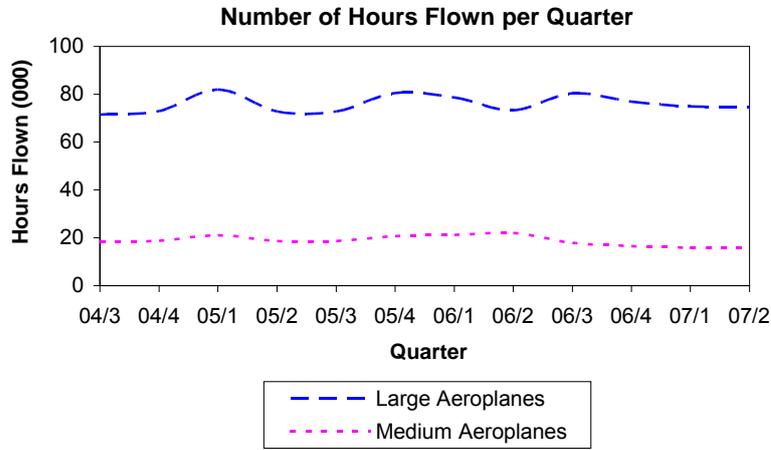
### *Number of Air Transport Flights*

Aircraft Statistics Category	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Large Aeroplanes	93,633	89,173	- 4,460	- 4.8
Medium Aeroplanes	60,681	46,779	- 13,902	- 22.9
Small Aeroplanes	33,910	36,085	+ 2,175	+ 6.4
Agricultural Aeroplanes	0	0	0	0.0
Helicopters	32,051	44,060	+ 12,009	+ 37.5
Sport Aircraft (aeroplane, helicopter and balloon only)	513	424	- 89	- 17.3
<b>Total</b>	<b>220,788</b>	<b>216,521</b>	<b>- 4,267</b>	<b>- 1.9</b>

## Hours Flown

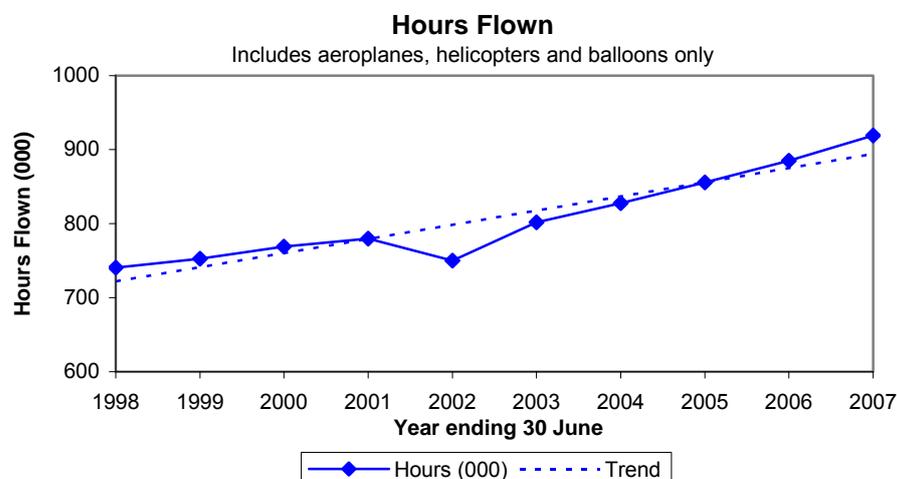
Note that these graphs exclude the aircraft statistics categories Sport Aircraft, Hang Gliders and Parachutes, and foreign registered aircraft that are operated in New Zealand.

The following graphs show the number of hours flown by aircraft during the three-year period 1 July 2004 to 30 June 2007.



## Long-Term Change in Hours Flown

The following graph shows the number of hours flown (includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes) for the 10-year period 1 July 1997 to 30 June 2007.



The total number of hours flown increased at an average of 3.7% each year from 801,650 in the year ended 30 June 2003 to 918,825 in the year ended 30 June 2007.

## Six-Monthly Comparison

### *Number of Hours Flown*

Aircraft Statistics Category	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Large Aeroplanes	152,015	149,734	- 2,281	- 1.5
Medium Aeroplanes	43,255	31,648	- 11,607	- 26.8
Small Aeroplanes	132,010	165,858	+ 33,848	+ 25.6
Agricultural Aeroplanes	27,448	33,706	+ 6,258	+ 22.8
Helicopters	88,706	98,002	+ 9,296	+ 10.5
Sport Aircraft (aeroplane, helicopter and balloon only)	2,714	3,258	+ 544	+ 20.0
<b>Total</b>	<b>446,148</b>	<b>482,205</b>	<b>+ 36,057</b>	<b>+ 8.1</b>

*1 January to 30 June 2006*

<b>Aircraft Statistics Category</b>	<b>Airline/ Transport</b>	<b>Other Commercial</b>	<b>Agricultural</b>	<b>Private</b>	<b>Total</b>
Large Aeroplanes	152,015	0	0	0	152,015
Medium Aeroplanes	42,649	0	606	0	43,255
Small Aeroplanes	43,345	63,596	764	24,306	132,010
Agricultural Aeroplanes	0	626	26,699	123	27,448
Helicopters	37,148	18,689	23,918	8,951	88,706
Sport Aircraft (aeroplane, helicopter and balloon only)	629	0	0	2,085	2,714
<b>Total</b>	<b>275,785</b>	<b>82,911</b>	<b>51,987</b>	<b>35,465</b>	<b>446,148</b>

*1 January to 30 June 2007*

<b>Aircraft Statistics Category</b>	<b>Airline/ Transport</b>	<b>Other Commercial</b>	<b>Agricultural</b>	<b>Private</b>	<b>Total</b>
Large Aeroplanes	149,734	0	0	0	149,734
Medium Aeroplanes	31,648	0	0	0	31,648
Small Aeroplanes	32,022	109,720	499	23,617	165,858
Agricultural Aeroplanes	0	1,834	31,800	72	33,706
Helicopters	40,506	23,470	23,973	10,053	98,002
Sport Aircraft (aeroplane, helicopter and balloon only)	904	0	0	2,354	3,258
<b>Total</b>	<b>254,813</b>	<b>135,024</b>	<b>56,272</b>	<b>36,096</b>	<b>482,205</b>

## Industry Size and Shape

The following table shows the size and shape of the aviation industry as determined from Aircraft Operating Statistics in the relevant 2010 Safety Target Group categories for the period 1 January to 30 June 2007. For each Safety Target Group the total number of hours flown is multiplied by the average number of seats and the appropriate load factor, to give the number of seat hours utilised by the group (person exposure). For Safety Target Groups that are not predominantly passenger carrying a surrogate of 500 kg of aircraft weight is used instead of seat hours.

Safety Target Group	Average No. of Seats	Seat Hours Offered (1,000's)	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	172.12	18,814	95.5
Airline Operations - Medium Aeroplanes	13.93	265	1.3
Airline Operations - Small Aeroplanes	3.82	73	0.4
Airline Operations - Helicopter	3.6	87	0.4
Sport Transport*	*	60	0.3
Other Commercial Operations - Aeroplane	2	112	0.6
Other Commercial Operations - Helicopter	3.6	42	0.2
Agricultural Operations - Aeroplane	2	36	0.2
Agricultural Operations - Helicopter	3.6	47	0.2
Agricultural Operations - Sport Aircraft	-	-	-
Private Operations - Aeroplane	2	33	0.2
Private Operations - Helicopter	3.6	25	0.1
Private Operations - Sport*	*	104	0.5

\* most sport aircraft do not report hours or seats, so a standard estimate of seat hours offered is used as well as reported data for such aircraft in these groups.

Note that the percentages may not sum exactly to 100.0% due to rounding.

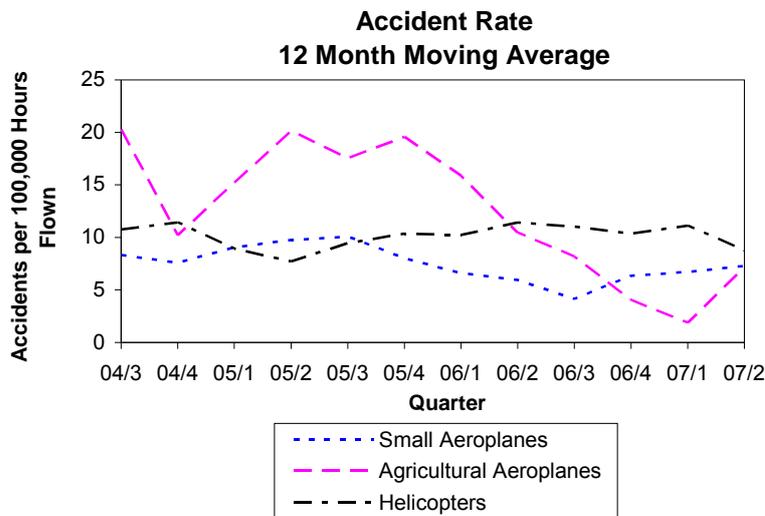
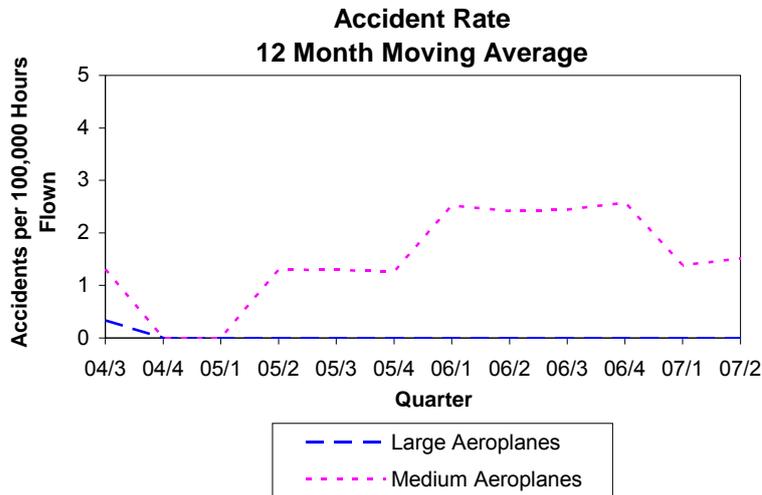
This table shows that around 95.5% of seat hours are offered by the Airline Operations – Large Aeroplanes group, around 1.3% by the Airline Operations – Medium Aeroplanes group, with the remaining 3.1% of seat hours offered being split between the other safety target groups.

## 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 July 2004 to 30 June 2007 (excluding the aircraft statistics categories Sport Aircraft, Hang Gliders and Parachutes).

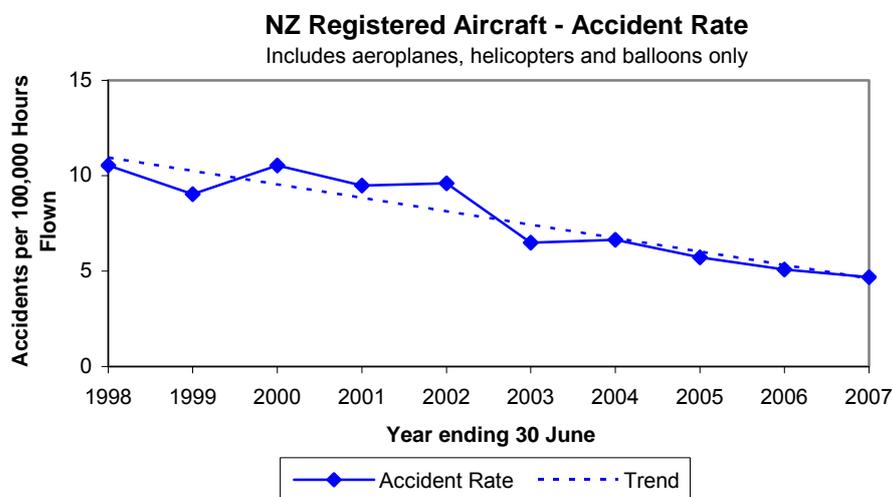


Aircraft Statistics Category	Straight Line Trend of 12 Month Moving Average
Large Aeroplanes	Constant
Medium Aeroplanes	Trending up
Small Aeroplanes	Trending down
Agricultural Aeroplanes	Trending down
Helicopters	Constant

The slopes of the trend lines for the ‘Large Aeroplanes’ and ‘Helicopters’ categories are zero, and the slopes of the trend lines for the ‘Medium Aeroplanes’ and ‘Small Aeroplanes’ categories are close to zero.

## Long-Term Accident Rate

The following graph shows the overall accident rate per 100,000 hours flown (includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes) for the 10-year period 1 July 1997 to 30 June 2007.



Note that this graph does not show a moving average.

## Six-Monthly Comparison

### *Number of Aircraft Accidents*

Aircraft Statistics Category	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Large Aeroplanes	0	0	0
Medium Aeroplanes	2	1	- 1
Small Aeroplanes	7	12	+ 5
Agricultural Aeroplanes	2	4	+ 2
Helicopters	8	6	- 2
Sport Aircraft	18	18	0
Hang Gliders	9	5	- 4
Parachutes	2	5	+ 3
Unknown	1	0	- 1
<b>Total</b>	<b>49</b>	<b>51</b>	<b>+ 2</b>

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

<b>Aircraft Statistics Category</b>	<b>Severity</b>	<b>1 Jan to 30 Jun 2006</b>	<b>1 Jan to 30 Jun 2007</b>	<b>Change</b>
Large Aeroplanes	Critical	0	0	0
	Major	0	0	0
	Minor	0	0	0
Medium Aeroplanes	Critical	2	1	- 1
	Major	0	0	0
	Minor	0	0	0
Small Aeroplanes	Critical	2	0	- 2
	Major	3	12	+ 9
	Minor	2	0	- 2
Agricultural Aeroplanes	Critical	1	0	- 1
	Major	0	4	+ 4
	Minor	1	0	- 1
Helicopters	Critical	2	2	0
	Major	5	3	- 2
	Minor	1	1	0
Sport Aircraft	Critical	0	0	0
	Major	7	8	+ 1
	Minor	11	10	- 1
Hang Gliders	Critical	2	1	- 1
	Major	3	3	0
	Minor	4	1	- 3
Parachutes	Critical	1	1	0
	Major	0	1	+ 1
	Minor	1	3	+ 2
Unknown	Critical	0	0	0
	Major	0	0	0
	Minor	1	0	- 1
<b>Total</b>	<b>Critical</b>	<b>10</b>	<b>5</b>	<b>- 5</b>
	<b>Major</b>	<b>18</b>	<b>31</b>	<b>+ 13</b>
	<b>Minor</b>	<b>21</b>	<b>15</b>	<b>- 6</b>

## Safety Outcome Targets for 2010

### Number of Accidents

The following table shows the number of accidents for the years ending 30 June 2005 to 30 June 2007.

Safety Target Group	1 Jul 2004 to 30 Jun 2005	1 Jul 2005 to 30 Jun 2006	1 Jul 2006 to 30 Jun 2007
Airline Operations - Large Aeroplanes	0	0	0
Airline Operations - Medium Aeroplanes	1	1	1
Airline Operations - Small Aeroplanes	5	3	1
Airline Operations - Helicopter	1	2	0
Sport Transport	0	4	9
Other Commercial Operations - Aeroplane	5	7	11
Other Commercial Operations - Helicopter	1	4	7
Agricultural Operations - Aeroplane	8	5	4
Agricultural Operations - Helicopter	7	5	3
Agricultural Operations - Sport Aircraft	0	0	0
Private Operations - Aeroplane	16	7	10
Private Operations - Helicopter	4	9	6
Private Operations - Sport	39	36	38

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

Safety Target Group	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Airline Operations - Large Aeroplanes	0	0	0
Airline Operations - Medium Aeroplanes	1	1	0
Airline Operations - Small Aeroplanes	0	1	+ 1
Airline Operations - Helicopter	0	0	0
Sport Transport	4	5	+ 1
Other Commercial Operations - Aeroplane	5	6	+ 1
Other Commercial Operations - Helicopter	2	3	+ 1
Agricultural Operations - Aeroplane	2	4	+ 2
Agricultural Operations - Helicopter	4	1	- 3
Agricultural Operations - Sport Aircraft	0	0	0
Private Operations - Aeroplane	3	5	+ 2
Private Operations - Helicopter	2	2	0
Private Operations - Sport	26	23	- 3

### ***Safety Target Structure***

The 2010 Safety Targets have all New Zealand aviation classified under three broad group headings: Public Air Transport, Other Commercial Operations, and Non-Commercial Operations.

Thirteen further sub-groups enable differentiation between aeroplanes, helicopters, and sport aircraft, and also allow for different weight groups. A diagram of the grouping is shown in the Definitions section.

The following table displays the social cost for each Safety Target Group for the 6-month period 1 January to 30 June 2007. Social cost is the cost of fatal, serious and minor injuries, and aircraft destroyed, expressed in 2006 dollars.

<b>Safety Target Group</b>	<b>Social Cost \$m</b>
Airline Operations - Large Aeroplanes	-
Airline Operations - Medium Aeroplanes	-
Airline Operations - Small Aeroplanes	-
Airline Operations - Helicopter	-
Sport Transport	1.22
Other Commercial Operations - Aeroplane	-
Other Commercial Operations - Helicopter	2.15
Agricultural Operations - Aeroplane	-
Agricultural Operations - Helicopter	-
Agricultural Operations - Sport Aircraft	-
Private Operations - Aeroplane	0.01
Private Operations - Helicopter	0.02
Private Operations - Sport	4.03
<b>Total</b>	<b>7.43</b>

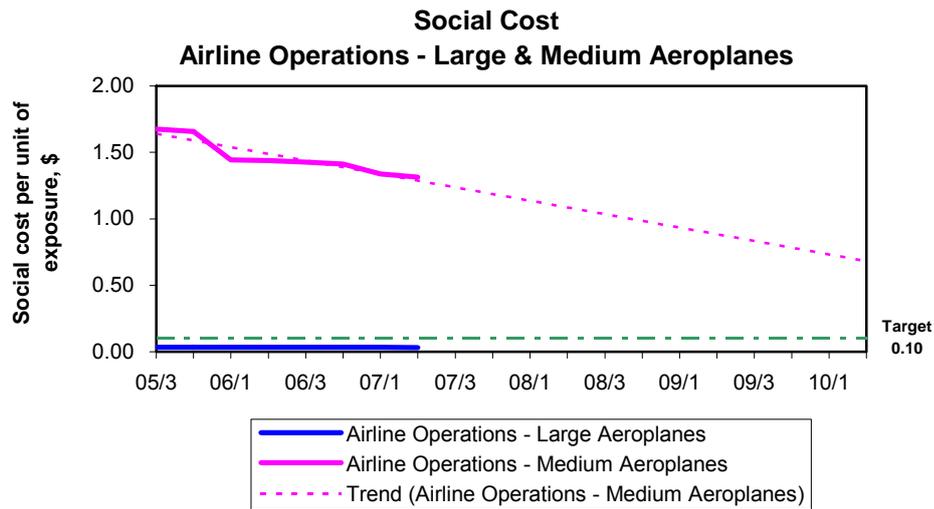
Note that the individual values in the table may not sum exactly to the total shown due to rounding.

### ***Safety Target Graphs***

Each Safety Target Group has its own target level expressed as social cost per unit of person exposure, the unit being “one seat hour”. For Safety Target Groups that are not predominantly passenger carrying a surrogate of 500 kg of aircraft weight is used instead of person exposure. These outcomes represent the maximum level of social cost considered acceptable for each group.

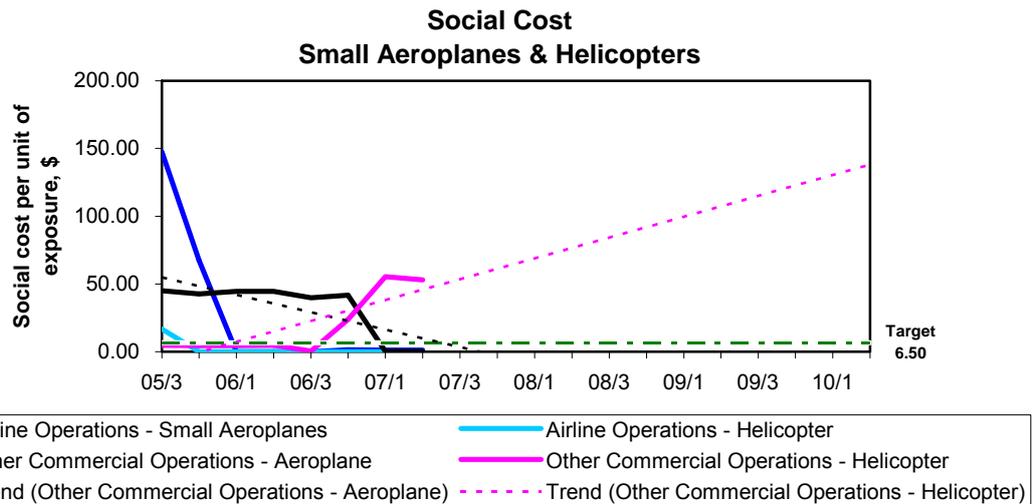
The results for the Airline Operations – Large Aeroplanes and Medium Aeroplanes groups are derived using 10 year averages; all other groups use 12 month averages.

Graphs displaying the Safety Outcome Targets and the progress over each quarter are shown on the following pages.



The outcome for Airline Operations – Large Aeroplanes has remained well below the target level of \$0.10 per hour of exposure since the target regime was established in 2005. There is no discernable trend either up or down.

The outcome for Airline Operations – Medium Aeroplanes exceeds the target by a significant margin and although trending down the target will not be achieved until after 2010. This is because of the relatively small exposure associated with this sector.

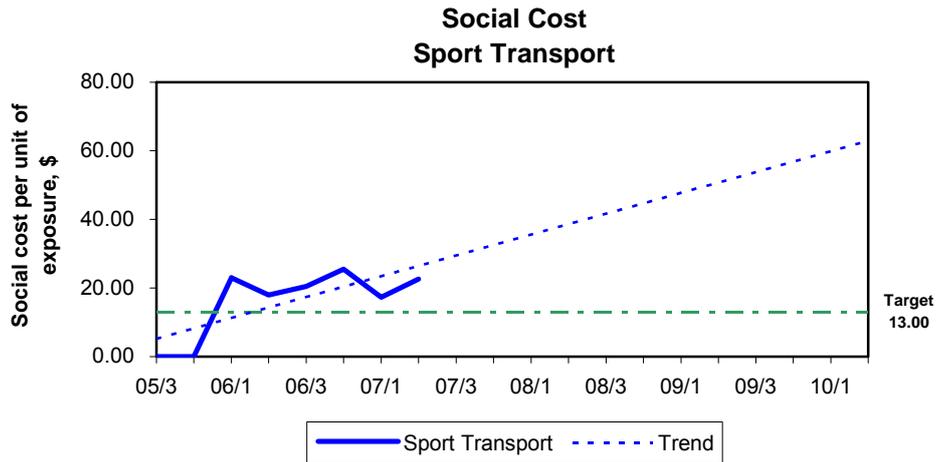


The outcome for Airline Operations – Small Aeroplanes shows a significant long term downward trend from the high starting point of \$147.38 per hour of exposure generated by 6 fatalities and 2 serious injuries in the two quarters Oct 04 to Mar 05. The safety outcome for this group has been below the target level since 2006.

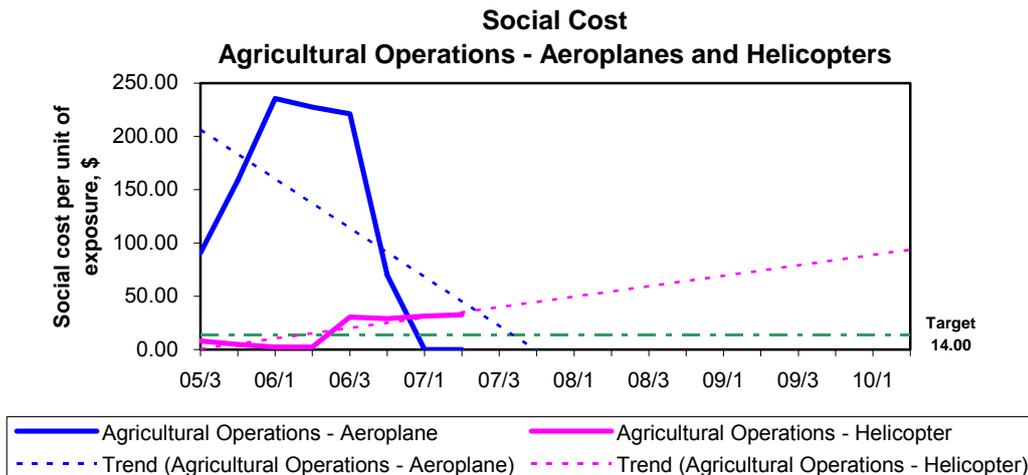
The outcome for Airline Operations – Helicopter remains level on zero as there have been no fatal or serious injuries in this group since 2003.

The outcome for Other Commercial Operations – Aeroplane is now well below the target of \$6.50. During the four quarters Jul 06 to Jun 07 there have been 2 minor injuries in this group.

The outcome for Other Commercial Operations – Helicopter turned sharply upwards during the fourth quarter of 2006 and is now well above the target level. One serious and 5 minor injuries in the two quarters Oct 06 to Mar 07 contribute to the result.

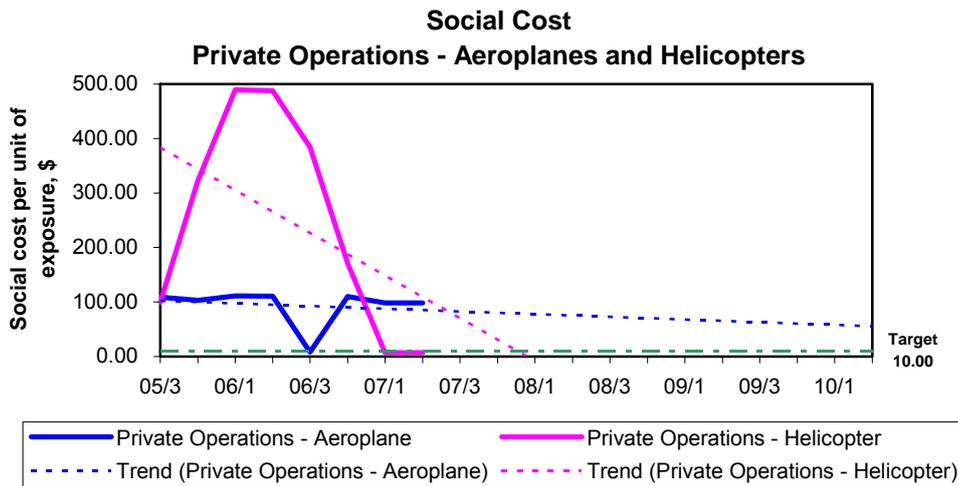


The outcome for Sport Transport peaked in the fourth quarter of 2006 and should trend downwards in subsequent quarters. There have been 6 serious injuries in this group in the three quarters Oct 06 to Jun 07.



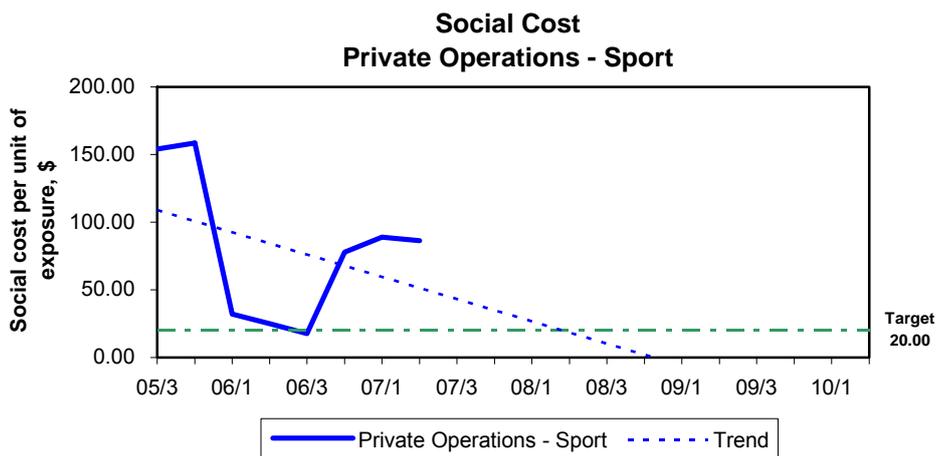
The outcome for Agricultural Operations – Aeroplanes having exceeded the target level for several quarters in 2005 and 2006 is now below the desired target. It is expected that the long term trend line will fall below the required target by the end of 2007.

The outcome for Agricultural Operations – Helicopter turned sharply upwards during the third quarter of 2006 and has remained above the target level for four quarters. There has been 1 fatal injury in this group in the four quarters Jul 06 to Jun 07.



The outcome for Private Operations – Aeroplane remained around \$100.00 for the first four quarters of the new regime and settled down below the required \$10.00 target in the Jul to Sep 06 quarter. However, a double fatality accident towards the end of the Oct to Dec 06 quarter drove the outcome back to the \$100.00 level again. Although there has been no social cost generated in the most recent quarter, Apr to Jun 07, at least two more fatality free quarters will be required before the outcome level reaches the desired outcome target. Given current performance, it is unlikely the required target will be reached by 2010.

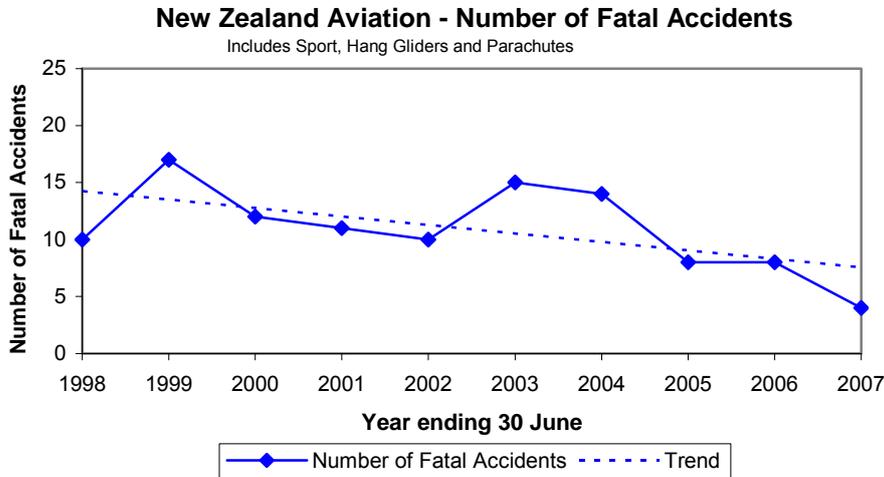
The outcome for Private Operations – Helicopters, having rapidly trended up in the last half of 2005 and down since mid 2006, is now around the required target level. This group has generated a significant number of injuries (5 fatal, 2 serious, and 12 minor in the eight quarters Jul 05 to Jun 07), although there have only been 6 minor injuries in the four quarters Jul 06 to Jun 07. It is anticipated that the long term trend line for the group will go below the target line towards 2008.



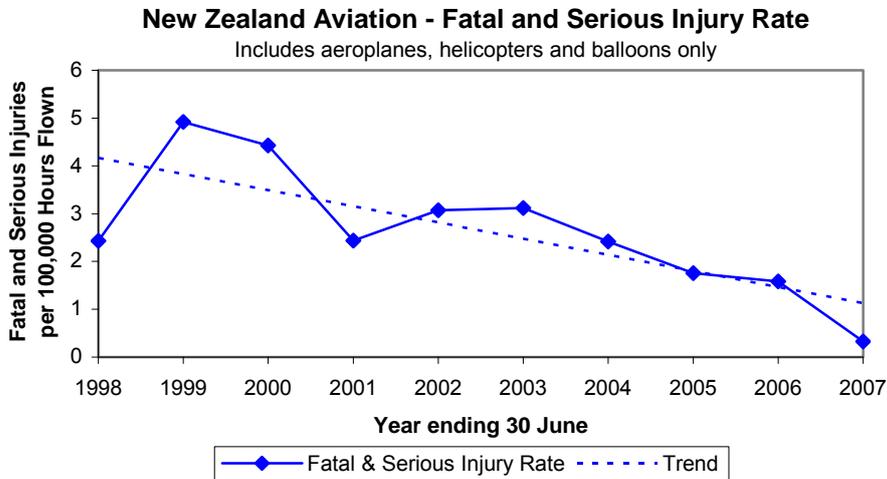
The outcome for Private Operations – Sport, which had been trending down since late 2005, reversed significantly in the Oct to Dec 06 quarter. This reversal was driven by accidents in which there were 4 fatal, 3 serious and 1 minor injuries. There were 2 serious and 2 minor injuries in the Apr to Jun 07 quarter. Although the long term (10 year) trend for this group is downward the short term steep upward trend is cause for concern.

## Injury Accidents

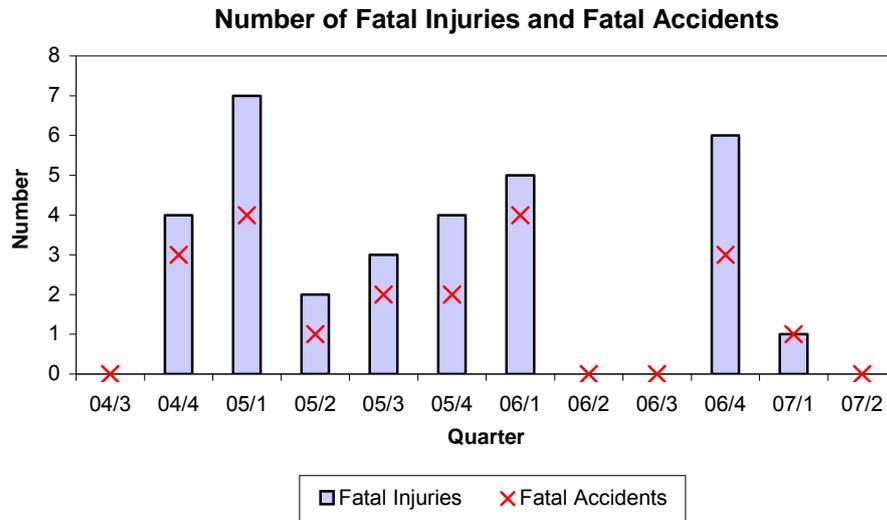
The following graph shows the number of fatal accidents in the 10-year period 1 July 1997 to 30 June 2007 (including the aircraft statistics categories Sport Aircraft, Hang Gliders and Parachutes).



The following graph shows the overall fatal and serious injury rate per 100,000 hours flown (includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes) for the 10-year period 1 July 1997 to 30 June 2007.



The following graph shows the number of fatal injuries and fatal accidents (including the aircraft statistics categories Sport Aircraft, Hang Gliders and Parachutes) for the three-year period 1 October 2004 to 30 June 2007.



Since October 2004 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)*

<b>Aircraft Statistics Category</b>	<b>1 Jan to 30 Jun 2006</b>	<b>1 Jan to 30 Jun 2007</b>	<b>Change</b>
Large Aeroplanes	0	0	0
Medium Aeroplanes	0	0	0
Small Aeroplanes	2 (2)	0	- 2 (- 2)
Agricultural Aeroplanes	1 (1)	0	- 1 (- 1)
Helicopters	1 (2)	0	- 1 (- 2)
Sport Aircraft	0	0	0
Hang Gliders	0	0	0
Parachutes	0	1 (1)	+ 1 (+ 1)
Unknown	0	0	0
<b>Total</b>	<b>4 (5)</b>	<b>1 (1)</b>	<b>- 3 (- 4)</b>

*Number of Serious Injuries*

<b>Aircraft Statistics Category</b>	<b>1 Jan to 30 Jun 2006</b>	<b>1 Jan to 30 Jun 2007</b>	<b>Change</b>
Large Aeroplanes	0	0	0
Medium Aeroplanes	0	0	0
Small Aeroplanes	0	0	0
Agricultural Aeroplanes	0	0	0
Helicopters	0	0	0
Sport Aircraft	4	1	- 3
Hang Gliders	6	4	- 2
Parachutes	1	3	+ 2
Unknown	0	0	0
<b>Total</b>	<b>11</b>	<b>8</b>	<b>- 3</b>

*Number of Minor Injuries*

<b>Aircraft Statistics Category</b>	<b>1 Jan to 30 Jun 2006</b>	<b>1 Jan to 30 Jun 2007</b>	<b>Change</b>
Large Aeroplanes	0	0	0
Medium Aeroplanes	1	0	- 1
Small Aeroplanes	2	1	- 1
Agricultural Aeroplanes	0	0	0
Helicopters	4	3	- 1
Sport Aircraft	4	4	0
Hang Gliders	2	1	- 1
Parachutes	0	0	0
Unknown	0	0	0
<b>Total</b>	<b>13</b>	<b>9</b>	<b>- 4</b>

## Flight Phase

The following table shows the flight phase recorded for accidents.

Flight Phase	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Landing	18	27	+ 9
Cruise	9	8	- 1
Takeoff	8	5	- 3
Climb	2	3	+ 1
Descent	4	1	- 3
Taxiing	3	1	- 2
Approach	1	1	0
Agricultural Manoeuvres	0	1	+ 1
Hover Taxi	2	0	- 2
Hover	1	0	- 1
Unknown	1	0	- 1
Aerobatics	0	0	0
Circuit	0	0	0
Holding	0	0	0
Parked	0	0	0
<b>Total</b>	<b>49</b>	<b>47</b>	<b>- 2</b>

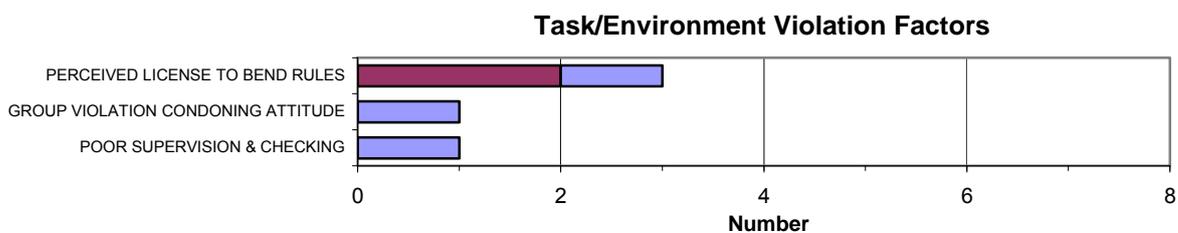
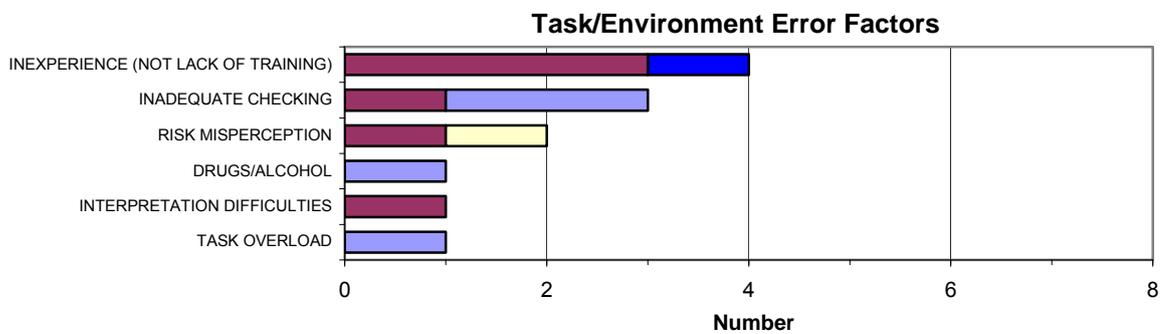
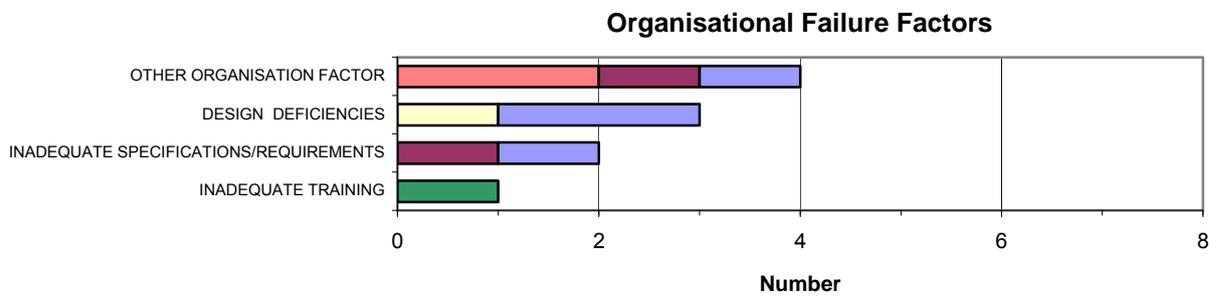
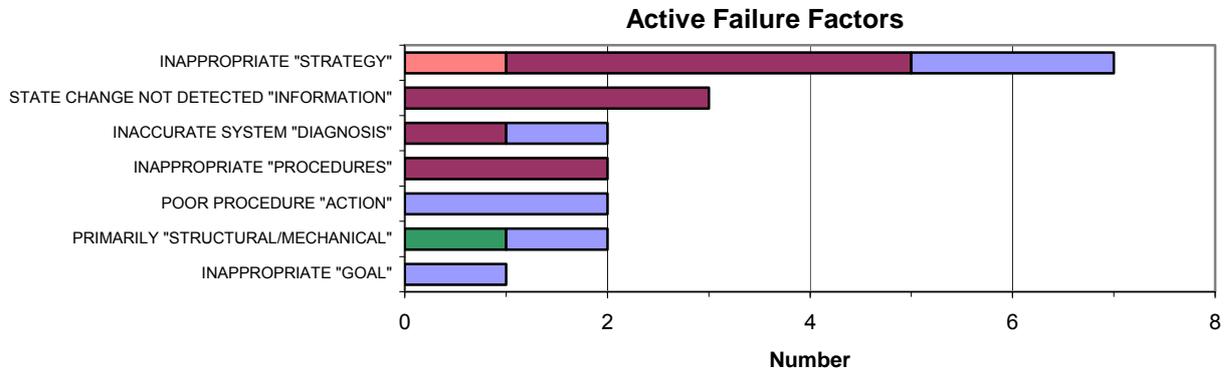
Accidents in the period 1 January to 30 June 2007 were most common during the Landing phase (57%).

Analysis of recorded occurrence descriptors for Landing phase accidents in the 1 January to 30 June 2007 period shows that the most common group of descriptors is Landing Occurrence (31%).

Analysis of recorded causes for Landing phase accidents shows that the most common causes are Active Failure Factor – Poor Procedure “Action”, Local Error Factor – Other Environmental Factor (E.g. Weather) and Local Error Factor – Poor Instructions/Procedures (20% each).

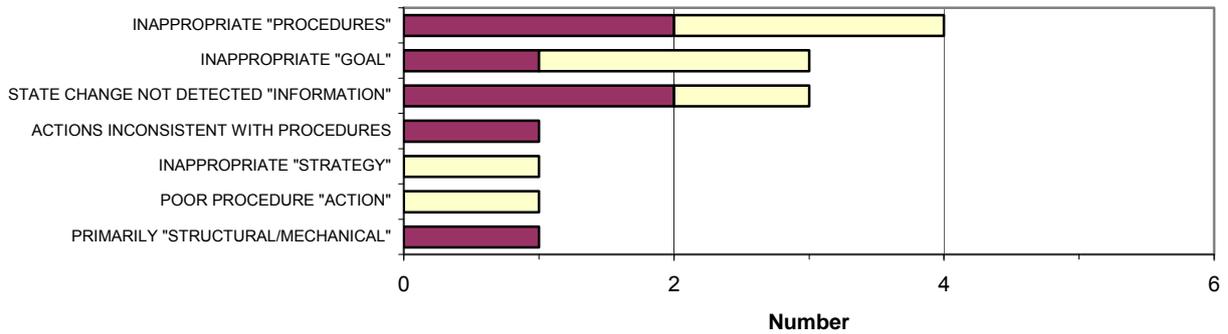
### Accident Causal Factors by Aircraft Statistics Category

The following graphs show the number of causal factors recorded for accidents that occurred during the 6-month period 1 January to 30 June 2005 for the various aircraft statistics categories. Causal factors have been assigned to 27 (55%) of the 49 accidents.

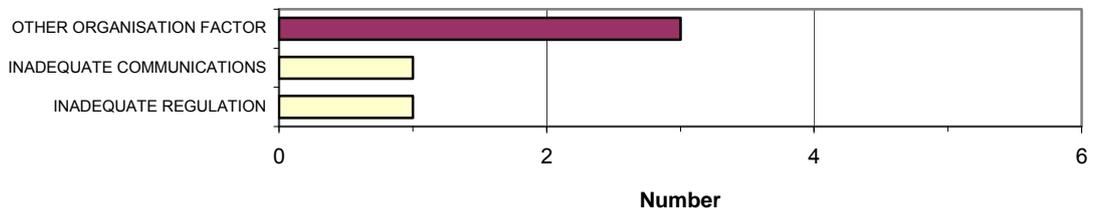


The following graphs show the number of causal factors recorded for accidents that occurred during the 6-month period 1 July to 31 December 2005 for the various aircraft statistics categories. Causal factors have been assigned to 19 (56%) of the 34 accidents.

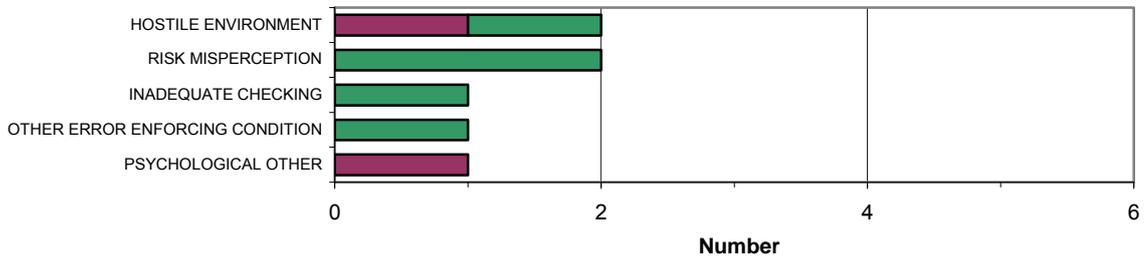
**Active Failure Factors**



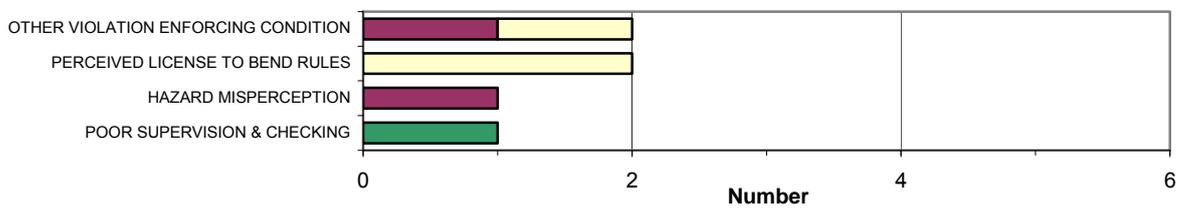
**Organisational Failure Factors**



**Task/Environment Error Factors**

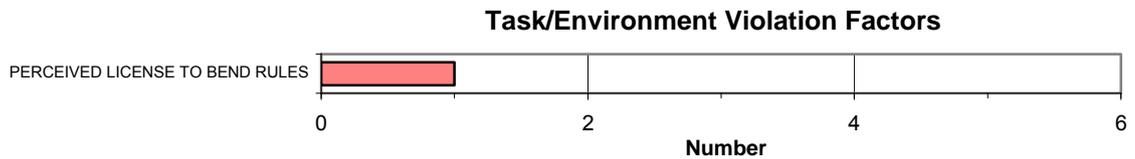
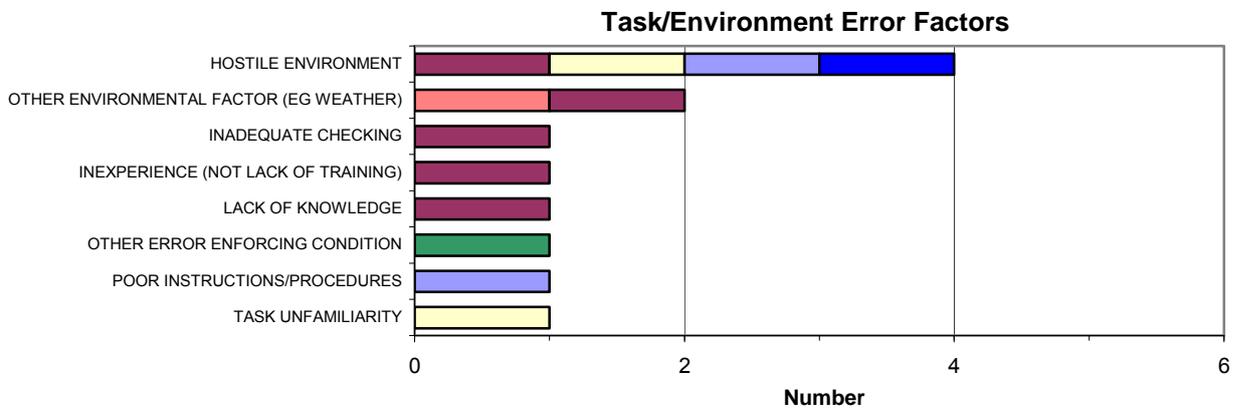
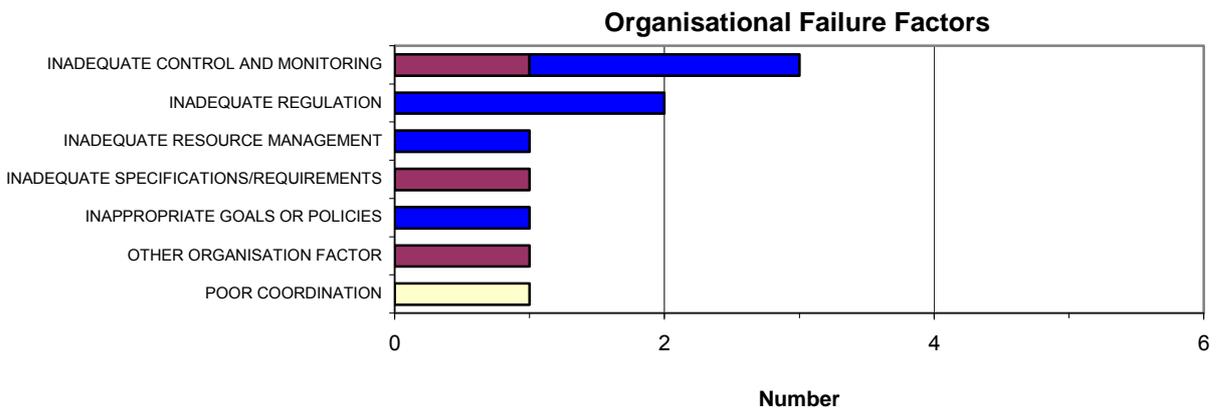
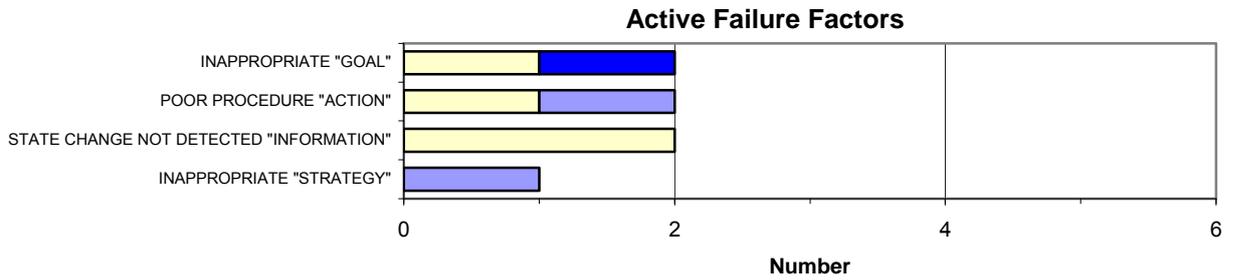


**Task/Environment Violation Factors**



Large Aeroplanes	Medium Aeroplanes	Small Aeroplanes	Agricultural Aeroplanes
Helicopters	Sport Aircraft	Hang Gliders and Parachutes	

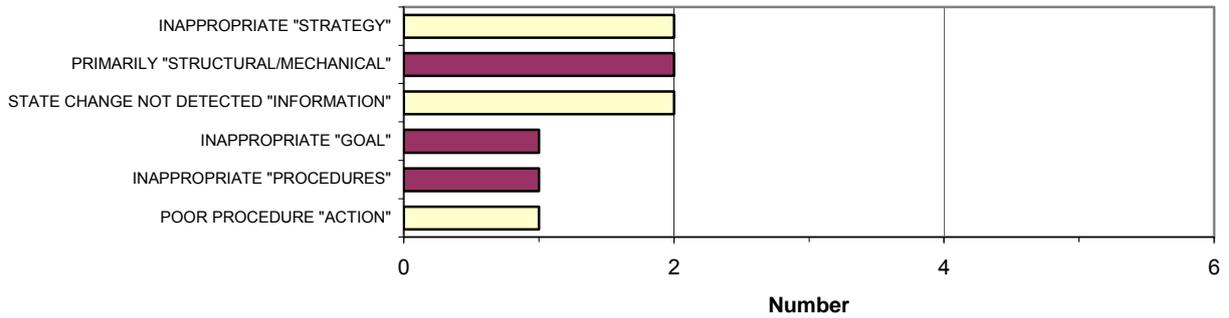
The following graphs show the number of causal factors recorded for accidents that occurred during the 6-month period 1 January to 30 June 2006 for the various aircraft statistics categories. Causal factors have been assigned to 19 (39%) of the 49 accidents.



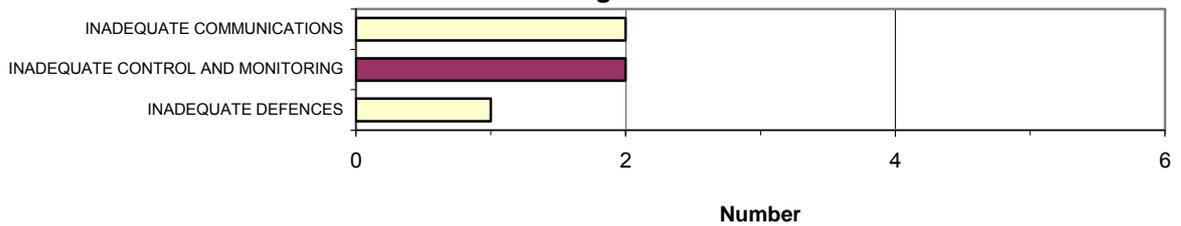
Large Aeroplanes	Medium Aeroplanes	Small Aeroplanes	Agricultural Aeroplanes
Helicopters	Sport Aircraft	Hang Gliders and Parachutes	

The following graphs show the number of causal factors recorded for accidents that occurred during the 6-month period 1 July to 31 December 2006 for the various aircraft statistics categories. Causal factors have been assigned to 11 (28%) of the 39 accidents.

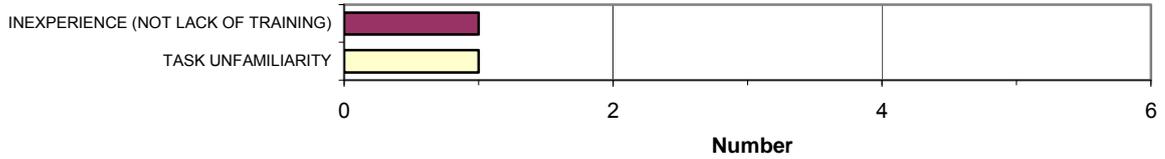
**Active Failure Factors**



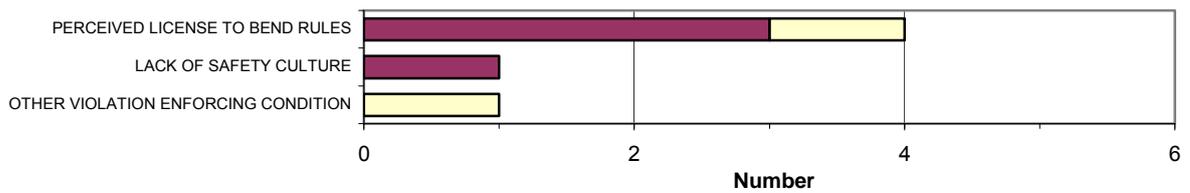
**Organisational Failure Factors**



**Task/Environment Error Factors**



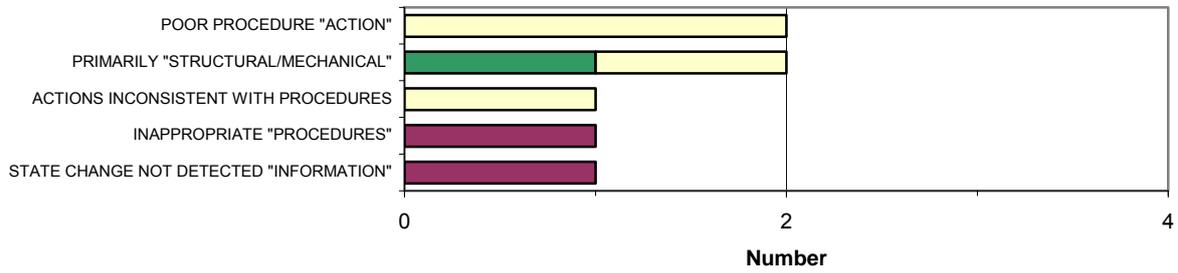
**Task/Environment Violation Factors**



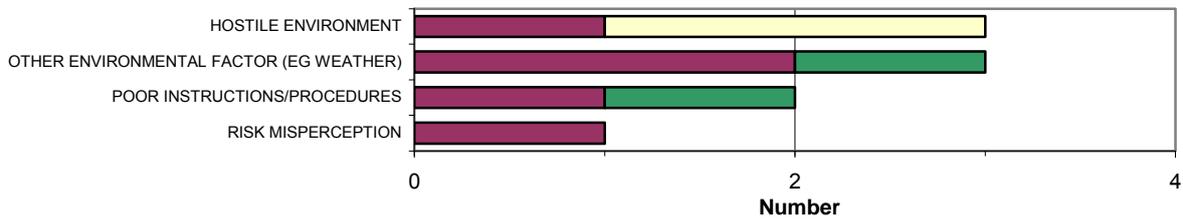
Large Aeroplanes	Medium Aeroplanes	Small Aeroplanes	Agricultural Aeroplanes
Helicopters	Sport Aircraft	Hang Gliders and Parachutes	

The following graphs show the number of causal factors recorded for accidents that occurred during the 6-month period 1 January to 30 June 2007 for the various aircraft statistics categories. Causal factors have been assigned to 14 (27%) of the 51 accidents.

**Active Failure Factors**



**Task/Environment Error Factors**

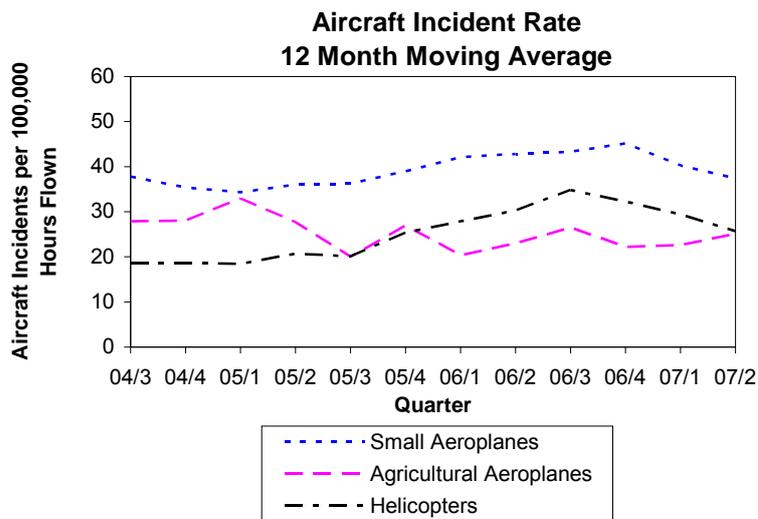
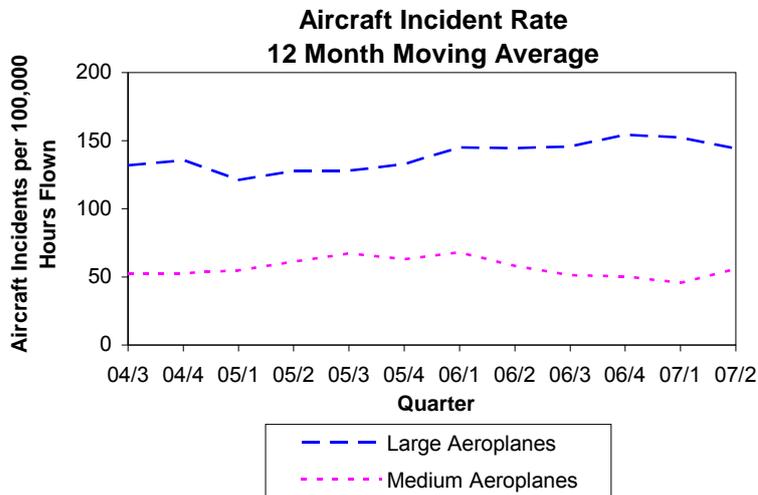


Large Aeroplanes	Medium Aeroplanes	Small Aeroplanes	Agricultural Aeroplanes
Helicopters	Sport Aircraft	Hang Gliders and Parachutes	

## 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 July 2004 to 30 June 2007 (excluding the Sport Aircraft statistics category).



Aircraft Statistics Category	Straight Line Trend of 12 Month Moving Average
Large Aeroplanes	Trending up
Medium Aeroplanes	Trending down
Small Aeroplanes	Trending up
Agricultural Aeroplanes	Trending down
Helicopters	Trending up

The slope of the trend line for the ‘Medium Aeroplanes’ category is close to zero.

## Six-Monthly Comparison

### Number of Aircraft Incidents

Aircraft Statistics Category	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Large Aeroplanes	218	184	- 34	- 15.6
Medium Aeroplanes	26	24	- 2	- 7.7
Small Aeroplanes	64	56	- 8	- 12.5
Agricultural Aeroplanes	6	9	+ 3	+ 50.0
Helicopters	28	19	- 9	- 32.1
Sport Aircraft	20	19	- 1	- 5.0
Unknown	58	29	- 29	- 50.0
<b>Total</b>	<b>420</b>	<b>340</b>	<b>- 80</b>	<b>- 19.0</b>

## Severity

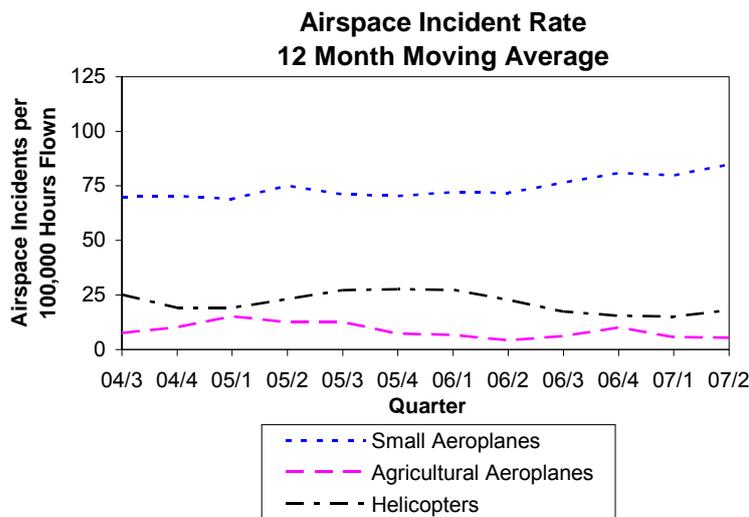
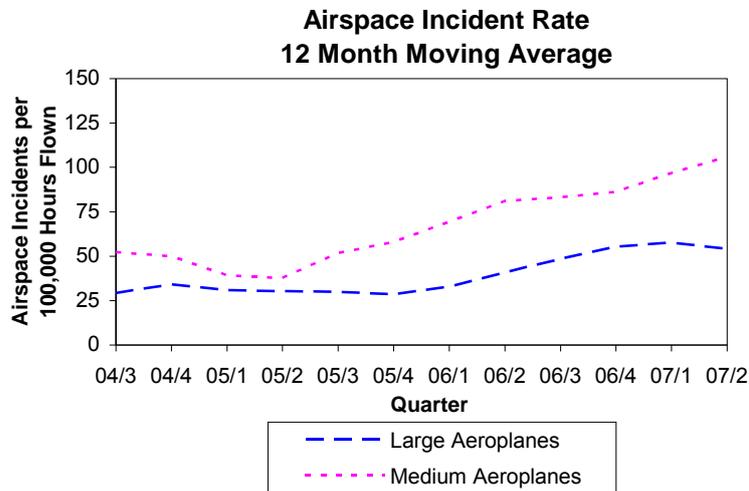
### Six-Monthly Comparison

Aircraft Statistics Category	Severity	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Large Aeroplanes	Critical	0	0	0
	Major	28	10	- 18
	Minor	190	174	- 16
Medium Aeroplanes	Critical	0	0	0
	Major	0	4	+ 4
	Minor	26	20	- 6
Small Aeroplanes	Critical	0	0	0
	Major	5	6	+ 1
	Minor	59	50	- 9
Agricultural Aeroplanes	Critical	0	0	0
	Major	0	2	+ 2
	Minor	6	7	+ 1
Helicopters	Critical	0	0	0
	Major	3	4	+ 1
	Minor	25	15	- 10
Sport Aircraft	Critical	1	0	- 1
	Major	4	1	- 3
	Minor	15	18	+ 3
Unknown	Critical	0	0	0
	Major	4	3	- 1
	Minor	54	26	- 28
<b>Total</b>	<b>Critical</b>	<b>1</b>	<b>0</b>	<b>- 1</b>
	<b>Major</b>	<b>44</b>	<b>30</b>	<b>- 14</b>
	<b>Minor</b>	<b>375</b>	<b>310</b>	<b>- 65</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 July 2004 to 30 June 2007 (excluding the Sport Aircraft statistics category).



Aircraft Statistics Category	Straight Line Trend of 12 Month Moving Average
Large Aeroplanes	Trending up
Medium Aeroplanes	Trending up
Small Aeroplanes	Trending up
Agricultural Aeroplanes	Trending down
Helicopters	Trending down

## Six-Monthly Comparison

### Number of Airspace Incidents

Aircraft Statistics Category	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Large Aeroplanes	77	72	- 5	- 6.5
Medium Aeroplanes	38	41	+ 3	+ 7.9
Small Aeroplanes	108	147	+ 39	+ 36.1
Agricultural Aeroplanes	2	0	- 2	- 100.0
Helicopters	16	22	+ 6	+ 37.5
Sport Aircraft	13	23	+ 10	+ 76.9
Unknown	145	161	+ 16	+ 11.0
<b>Total</b>	<b>399</b>	<b>466</b>	<b>+ 67</b>	<b>+ 16.8</b>

## Severity

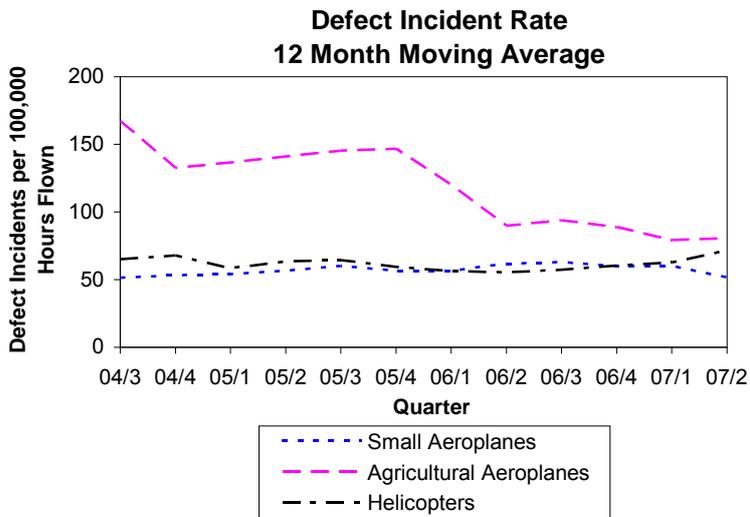
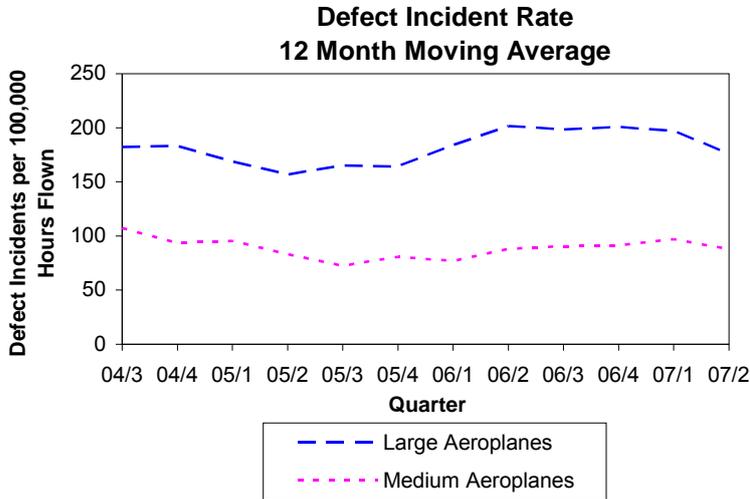
### Six-Monthly Comparison

Aircraft Statistics Category	Severity	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Large Aeroplanes	Critical	0	0	0
	Major	4	1	- 3
	Minor	73	71	- 2
Medium Aeroplanes	Critical	1	0	- 1
	Major	3	3	0
	Minor	34	38	+ 4
Small Aeroplanes	Critical	1	0	- 1
	Major	9	8	- 1
	Minor	98	139	+ 41
Agricultural Aeroplanes	Critical	0	0	0
	Major	0	0	0
	Minor	2	0	- 2
Helicopters	Critical	0	0	0
	Major	1	0	- 1
	Minor	15	22	+ 7
Sport Aircraft	Critical	0	0	0
	Major	0	1	+ 1
	Minor	13	22	+ 9
Unknown	Critical	0	2	+ 2
	Major	14	19	+ 5
	Minor	131	140	+ 9
<b>Total</b>	<b>Critical</b>	<b>2</b>	<b>2</b>	<b>0</b>
	<b>Major</b>	<b>31</b>	<b>32</b>	<b>+ 1</b>
	<b>Minor</b>	<b>366</b>	<b>432</b>	<b>+ 66</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 July 2004 to 30 June 2007 (excluding the Sport Aircraft statistics category).



Aircraft Statistics Category	Straight Line Trend of 12 Month Moving Average
Large Aeroplanes	Trending up
Medium Aeroplanes	Trending down
Small Aeroplanes	Trending up
Agricultural Aeroplanes	Trending down
Helicopters	Trending down

The slope of the trend line for the ‘Helicopters’ category is close to zero.

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

Aircraft Statistics Category	1 Jan to 30 Jun	1 Jan to 30 Jun	Change	
	2006	2007	Number	Percentage
Large Aeroplanes	338	256	- 82	- 24.3
Medium Aeroplanes	35	22	- 13	- 37.1
Small Aeroplanes	96	91	- 5	- 5.2
Agricultural Aeroplanes	24	25	+ 1	+ 4.2
Helicopters	47	73	+ 26	+ 55.3
Sport Aircraft	5	9	+ 4	+ 80.0
Unknown	9	16	+ 7	+ 77.8
<b>Total</b>	<b>554</b>	<b>492</b>	<b>- 62</b>	<b>- 11.2</b>

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

Aircraft Statistics Category	Severity	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Large Aeroplanes	Critical	0	0	0
	Major	36	22	- 14
	Minor	302	234	- 68
Medium Aeroplanes	Critical	0	0	0
	Major	2	4	+ 2
	Minor	33	18	- 15
Small Aeroplanes	Critical	0	0	0
	Major	9	9	0
	Minor	87	82	- 5
Agricultural Aeroplanes	Critical	0	0	0
	Major	4	5	+ 1
	Minor	20	20	0
Helicopters	Critical	0	0	0
	Major	7	7	0
	Minor	40	66	+ 26
Sport Aircraft	Critical	0	0	0
	Major	1	1	0
	Minor	4	8	+ 4
Unknown	Critical	0	0	0
	Major	1	3	+ 2
	Minor	8	13	+ 5
<b>Total</b>	<b>Critical</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Major</b>	<b>60</b>	<b>51</b>	<b>- 9</b>
	<b>Minor</b>	<b>494</b>	<b>441</b>	<b>- 53</b>

## Bird Incident Rates

### 12-Month Moving Average Strike Rate per 10,000 Aircraft Movements

The following table shows the 12-month moving average strike rates for identified aerodromes for the three years ending June 2007.

Aerodrome	04/3	04/4	05/1	05/2	05/3	05/4	06/1	06/2	06/3	06/4	07/1	07/2
Auckland	2.9	3.3	3.8	3.5	3.2	3.0	2.7	2.7	2.5	2.5	2.3	2.5
Christchurch	2.6	3.0	2.8	2.7	3.4	3.7	4.0	4.5	3.5	3.5	3.8	3.2
Dunedin	5.6	4.6	6.7	7.3	5.9	7.5	5.2	4.7	4.5	3.4	3.9	3.1
Gisborne	5.8	6.5	5.3	6.6	11.6	10.1	10.1	11.5	8.8	10.0	11.3	7.9
Hamilton	2.6	2.7	2.5	2.8	2.5	3.0	3.8	4.5	5.1	4.5	4.0	3.0
Invercargill	3.4	4.1	5.3	5.9	7.5	9.3	10.4	11.4	11.7	7.6	6.2	6.6
Napier	5.6	6.8	7.8	9.1	7.3	7.2	6.7	7.5	7.2	7.7	7.9	5.4
Nelson	2.9	2.9	2.7	1.4	0.9	0.8	1.1	1.9	2.5	3.5	3.4	2.9
New Plymouth	9.0	7.8	9.0	8.5	7.9	7.6	6.0	5.8	6.7	5.9	5.4	5.0
Ohakea	4.8	5.1	4.9	5.3	4.4	4.3	3.2	2.3	2.4	1.8	2.0	2.0
Palmerston North	3.9	3.0	4.0	3.2	3.3	3.8	3.4	3.9	4.6	4.7	4.2	4.0
Queenstown	2.5	3.0	3.7	4.1	3.5	3.6	3.5	2.8	3.0	2.7	2.4	3.5
Rotorua	7.0	7.4	7.8	9.3	9.0	9.4	10.3	9.8	8.7	8.0	7.4	7.7
Taupo	1.5	0.8	1.0	0.8	1.0	1.5	1.8	1.8	1.6	1.4	1.5	1.2
Tauranga	2.4	2.3	1.4	1.9	2.2	2.9	3.2	3.3	3.3	2.8	2.1	2.0
Wellington	1.6	2.2	2.1	2.6	2.4	2.1	2.2	1.6	1.6	1.7	1.6	1.5
Whenuapai	12.1	14.1	9.5	4.7	4.1	3.4	4.8	6.0	5.0	4.7	5.8	8.3
Woodbourne	2.8	4.2	6.3	6.9	7.6	6.5	4.9	5.2	5.3	5.4	6.6	6.6

*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 10,000 to achieve strikes per 10,000 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 10,000 aircraft movements	Risk Category	Trending Down	Constant	Trending Up
≥ 0.0 and < 5.0	Low	Monitor	Monitor	Advise Aerodrome Operator
≥ 5.0 and < 10.0	Medium	Monitor	Advise Aerodrome Operator	Advise Aerodrome Operator, Request Rectification Action
≥ 10.0	High	Advise Aerodrome Operator	Advise Aerodrome Operator, Request Rectification Action	Advise Aerodrome Operator, Request Rectification Action

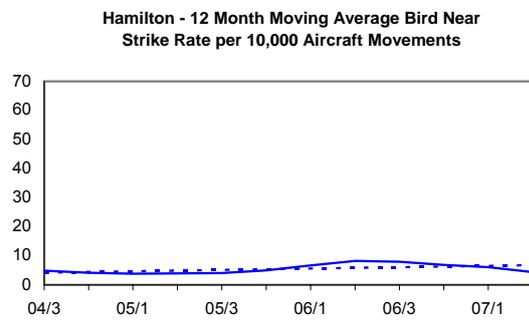
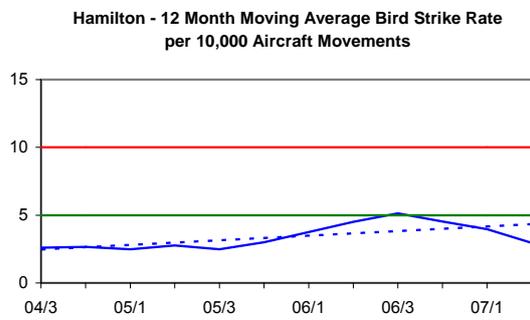
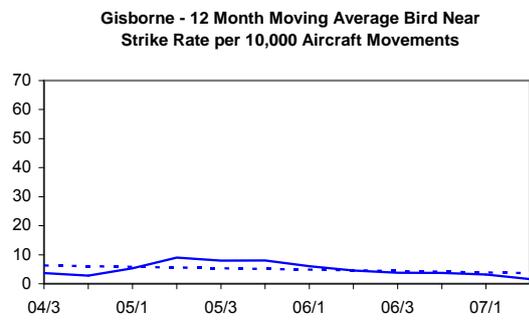
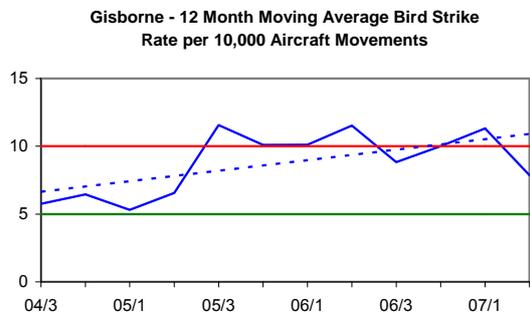
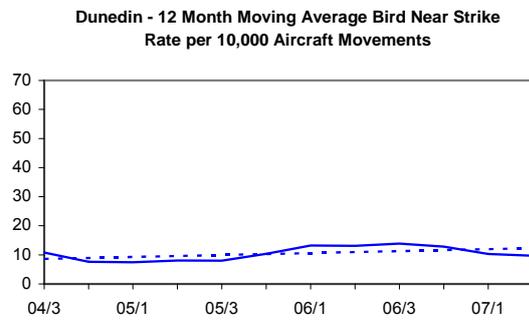
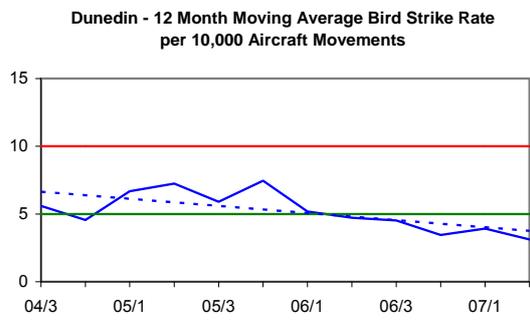
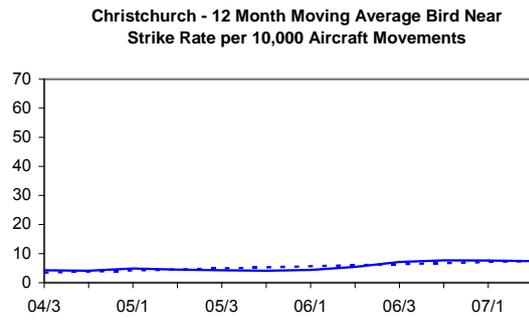
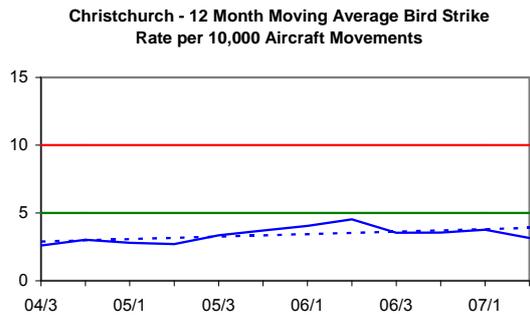
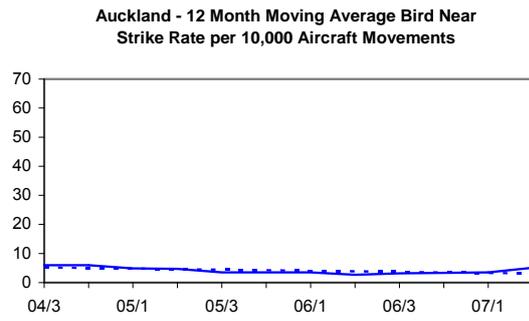
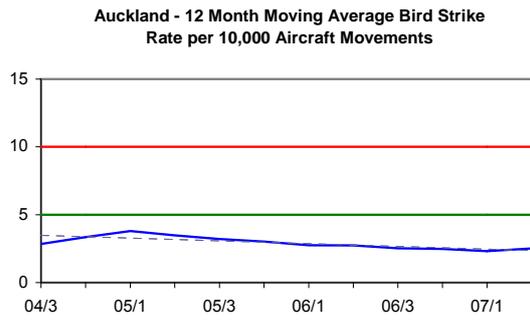
## Analysis

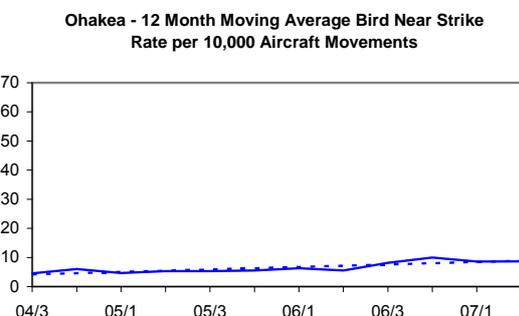
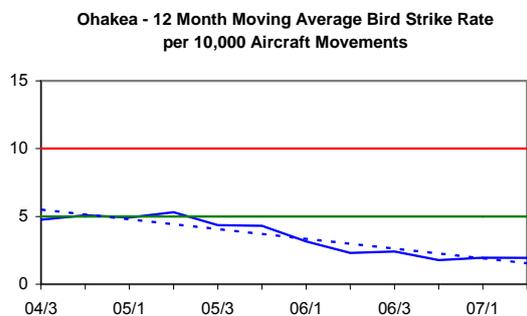
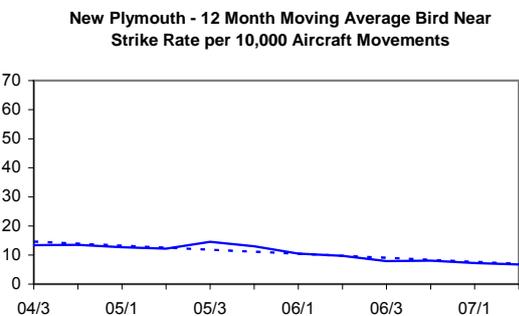
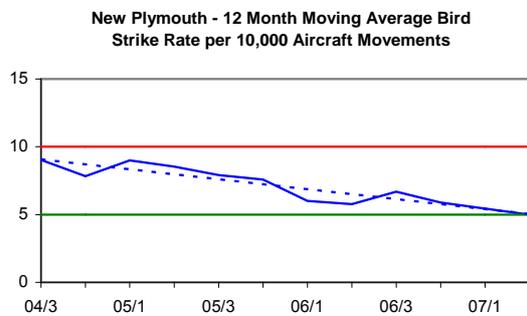
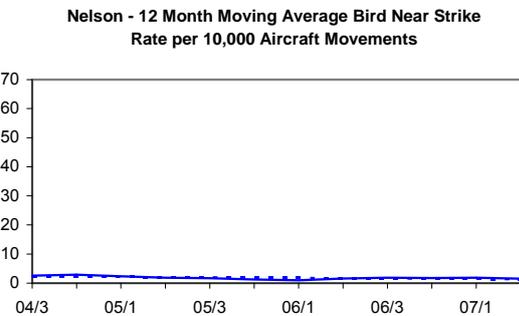
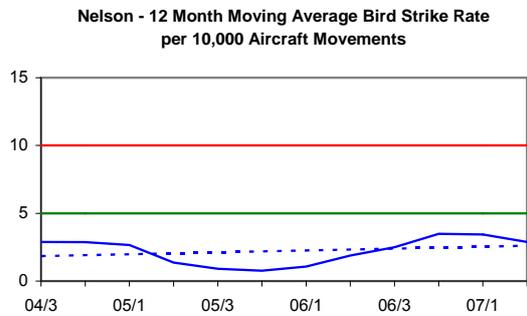
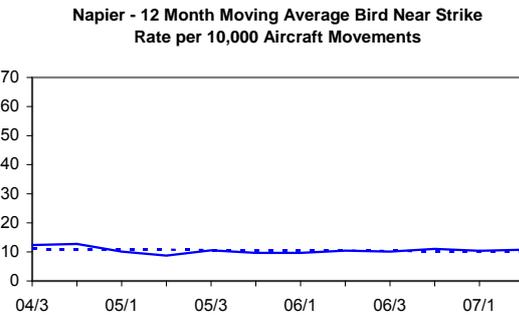
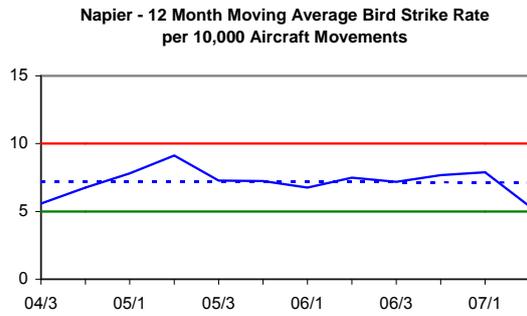
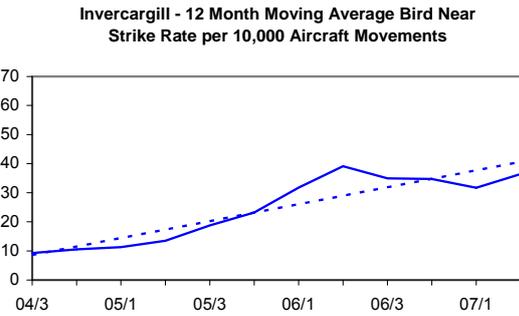
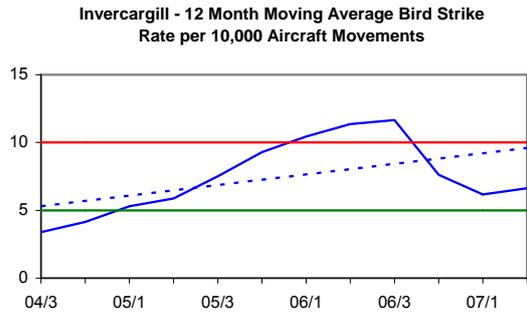
Analysis shows that 9 of the 18 monitored aerodromes have bird strike rates above the “trigger level” for CAA Action. Details were forwarded to Manager Aeronautical Services on 5 December 2007.

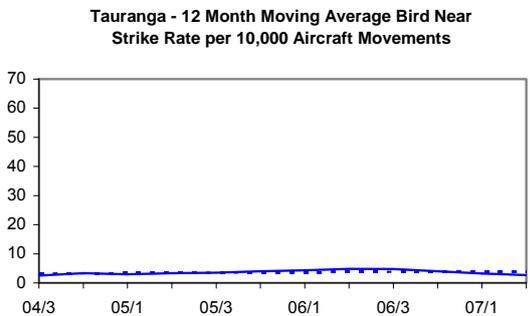
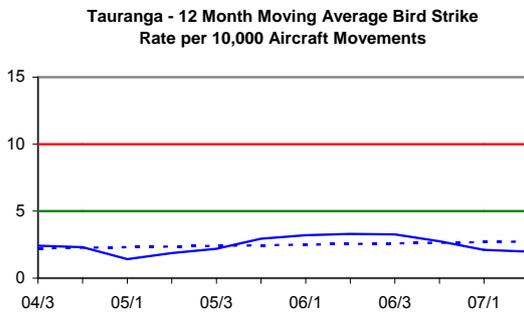
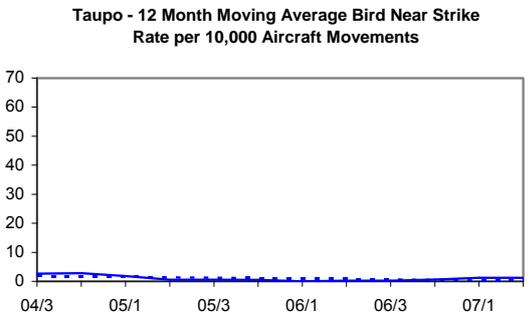
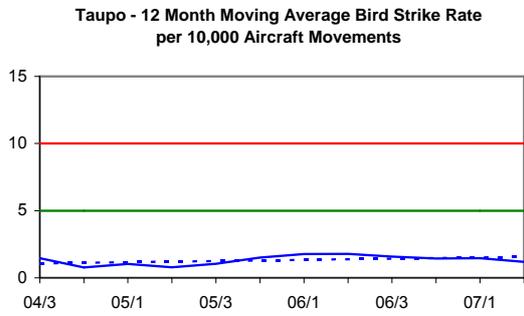
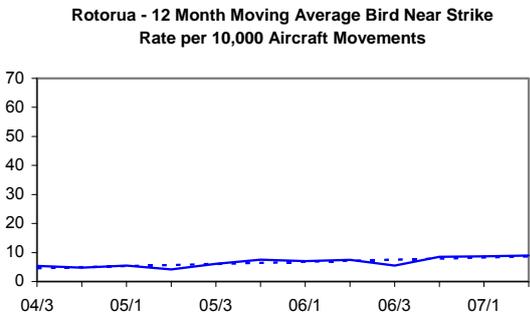
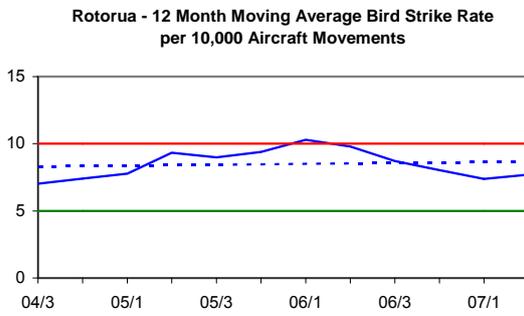
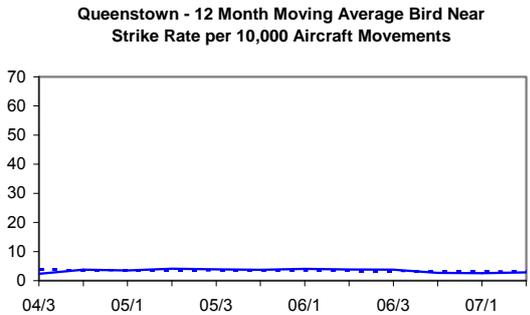
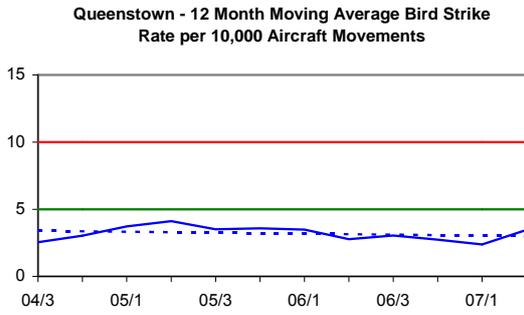
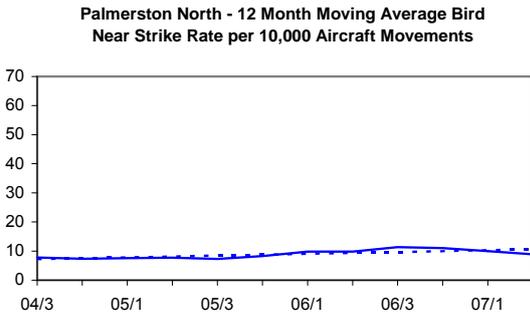
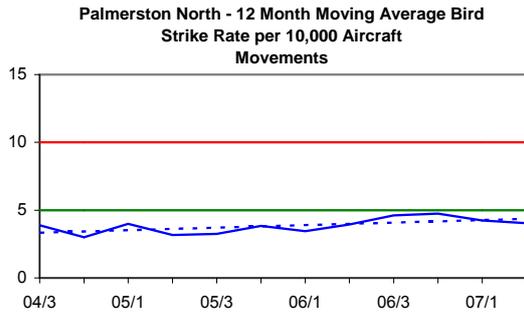
No aerodromes exhibited strike rates in the high risk category of the CAA standard (above 10.0 bird strikes per 10,000 aircraft movements). Six aerodromes exhibited a strike rate in the medium risk category (5.0 to 10.0 per 10,000 movements) and five of these aerodromes displayed a long-term upward or constant trend. Twelve aerodromes exhibited a strike rate in the low risk category (below 5.0 per 10,000 movements) and four of these aerodromes displayed a long-term upward trend.

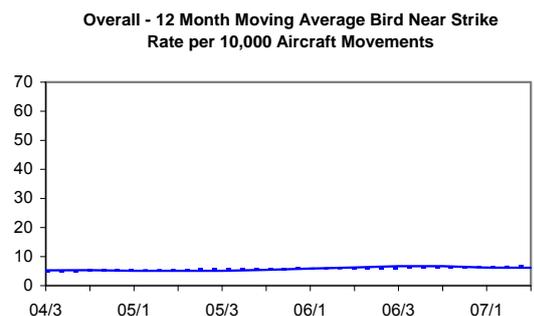
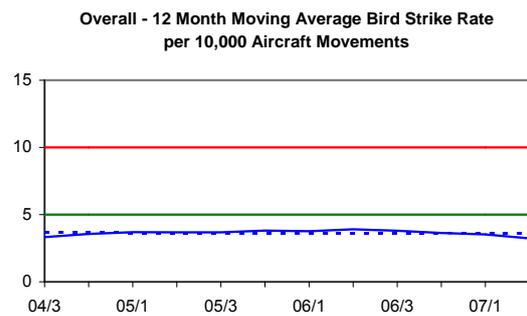
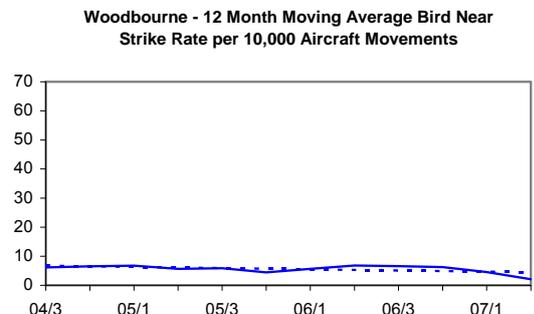
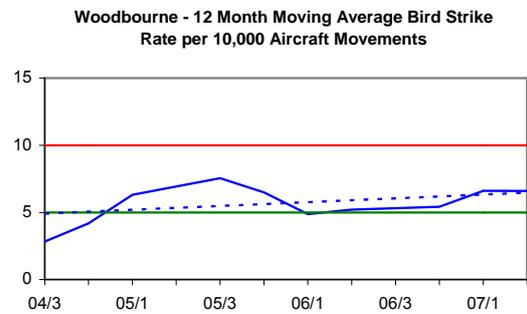
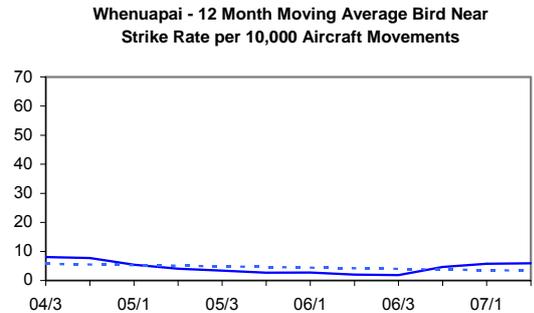
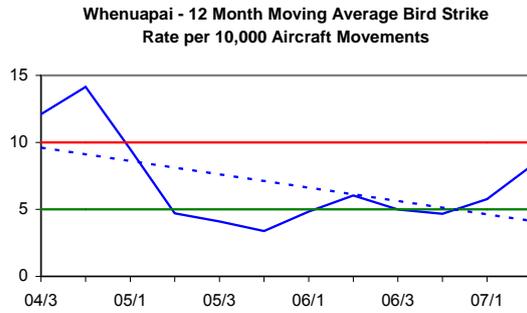
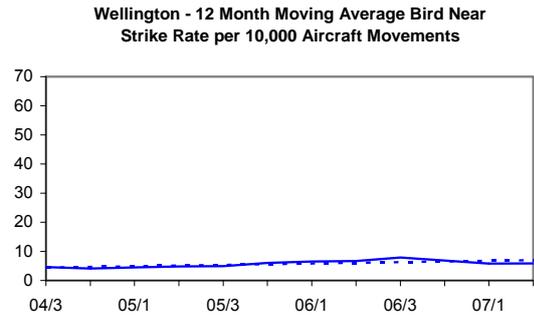
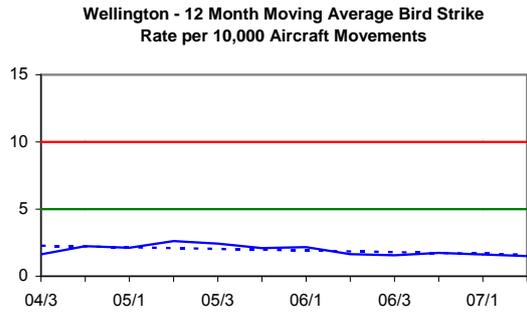
The top line on the strike rate graph shows the High risk category. The next line shows the Medium risk category.

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









## Security Incidents

### Six-Monthly Comparison

#### Number of Security Incidents

Aircraft Statistics Category	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Large Aeroplanes	30	35	+ 5
Medium Aeroplanes	2	2	0
Small Aeroplanes	0	0	0
Agricultural Aeroplanes	0	0	0
Helicopters	0	0	0
Sport Aircraft	0	0	0
Unknown	35	59	+ 24
<b>Total</b>	<b>67</b>	<b>96</b>	<b>+ 29</b>

### Severity

Severity	1 Jan to 30 Jun 2006	1 Jan to 30 Jun 2007	Change
Critical	0	0	0
Major	4	1	- 3
Minor	63	95	+ 32

### 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 January to 30 June 2007 period.

Month	ACC	ADI	ARC	ASP	BRD	DEF	DGD	HGA	INC	NIO	PAA	PIO	SEC	TOTAL
07/1	6	8	20	71	130	67	11	4	55	1	0	0	22	<b>395</b>
07/2	11	4	14	73	65	64	1	1	56	4	3	0	17	<b>313</b>
07/3	6	8	30	82	147	98	9	0	67	3	1	0	15	<b>466</b>
07/4	6	3	31	68	90	99	5	0	50	0	0	0	13	<b>365</b>
07/5	7	9	37	114	145	101	15	1	74	6	1	2	16	<b>528</b>
07/6	4	6	24	62	95	65	3	0	62	6	0	1	22	<b>350</b>
<b>Total</b>	<b>40</b>	<b>38</b>	<b>156</b>	<b>470</b>	<b>672</b>	<b>494</b>	<b>44</b>	<b>6</b>	<b>364</b>	<b>20</b>	<b>5</b>	<b>3</b>	<b>105</b>	<b>2,417</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 a collision between aircraft; or
- (2) avoiding a collision 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 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 7 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.

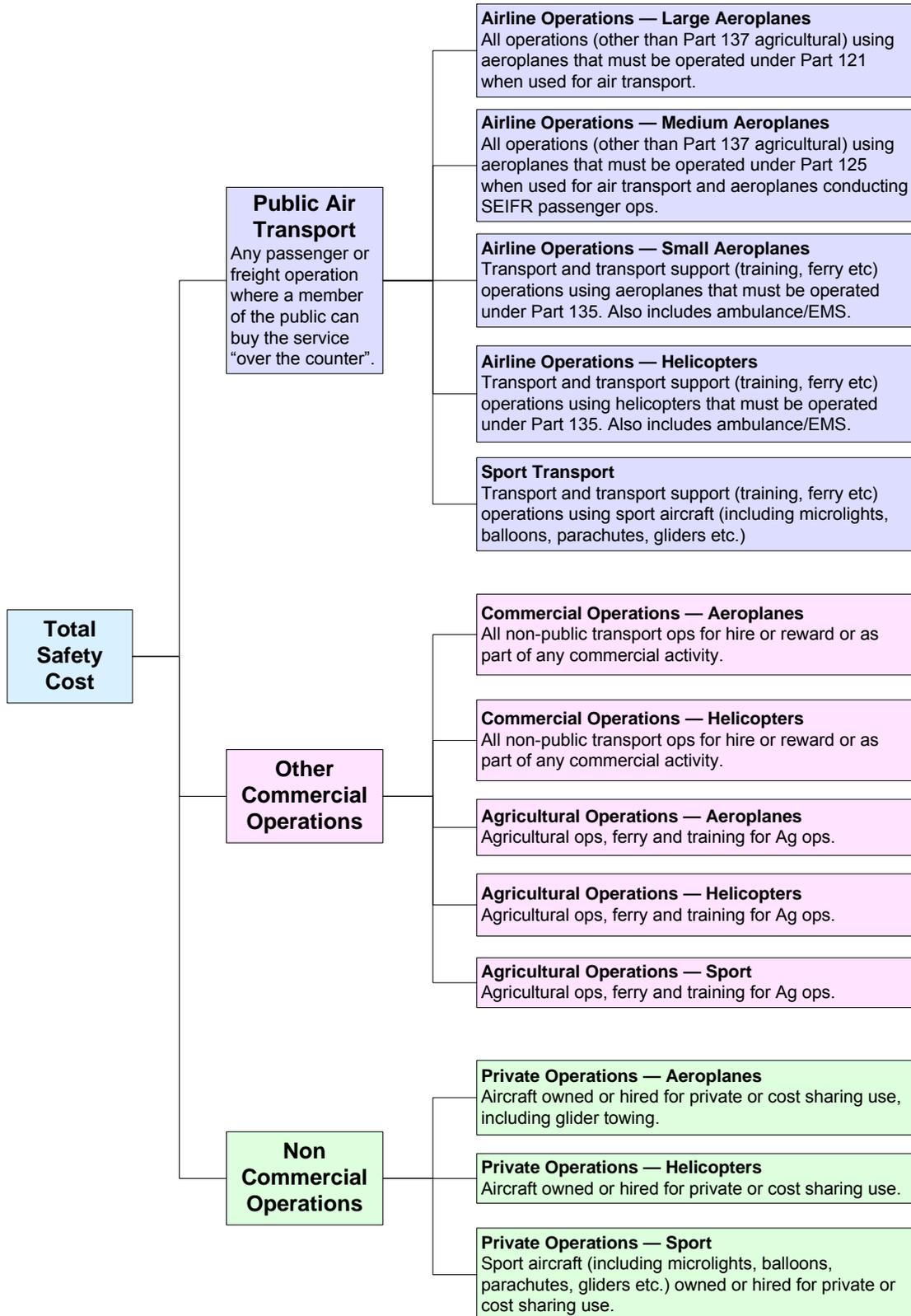
Severity Factor		Definition
CR	Critical	An occurrence or deficiency that caused, or on its own had the potential to cause, loss of life or limb;
MA	Major	An occurrence or deficiency involving a major system that caused, or had the potential to cause, significant problems to the function or effectiveness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

## Aircraft Statistics Category

The following table shows the definition of each aircraft statistics category and the aircraft classes included.

Aircraft Statistics Category	Definition	Aircraft Class
Large Aeroplanes	Aeroplanes that must be operated under Part 121 when used for air transport	Aeroplane
Medium Aeroplanes	Aeroplanes that must be operated under Part 125 when used for air transport, except for those required to operate under Part 125 solely due to operating SEIFR	Aeroplane
Small Aeroplanes	Other Aeroplanes with Standard Category Certificates of Airworthiness	Aeroplane
Agricultural Aeroplanes	Aeroplanes with Restricted Category Certificates of Airworthiness limited to agricultural operations	Aeroplane
Helicopters	Helicopters with Standard or Restricted Category Certificates of Airworthiness	Helicopter
Sport Aircraft	All aircraft not included in the groups above	Aeroplane, Amateur Built Aeroplane, Amateur Built Glider, Amateur Built Helicopter, Balloon, Glider, Gyroplane, Helicopter, Microlight Class 1, Microlight Class 2, Power Glider

# Safety Target Structure



## Safety Target Groups

Target group name	General description	Includes	Excludes
Airline Operation - Large Aeroplanes	All operations using large passenger and freight aeroplanes that are operated under part 121	Ferry, test, training, passenger and freight, domestic and international, Part 91 operations, and commercial operations other than Part 137 agricultural operations. Includes all aeroplanes that have a passenger seating configuration of 30 seats or more, or a payload capacity of more than 3410kg.	Part 137 agricultural operations
Airline Operation - Medium aeroplanes	All operations using medium passenger and freight aeroplanes that are operated under part 125.	Ferry, test, training, passenger and freight, domestic and international, Part 91 operations, and commercial operations other than Part 137 agricultural operations. Aeroplanes that have a seating configuration of 10 to 30 seats, excluding any required crew member seats, or a payload capacity of 3410 kg or less and a MCTOW of greater than 5700 kg, and any aeroplanes conducting SEIFR passenger operations.	Part 137 agricultural operations
Airline Operation - Small aeroplanes	All operations by 119 certificate holders using other aeroplanes.	Ferry, test, passenger and freight, domestic and international, training in support of Part 135 operations, Ambulance/EMS	Part 137 agricultural operations, Part 91 operations, and commercial operations. SEIFR under Part 125
Airline Operation - Helicopters	All operations by 119 certificate holders using helicopters	Ferry, test, passenger and freight, domestic and international, training in support of Part 135 operations, Ambulance/EMS	Part 137 agricultural operations, Part 91 operations, and commercial operations. SEIFR under Part 125
Commercial Operations - Aeroplane	Other commercial operations Aeroplane (all non-public transport ops for hire or reward or as part of any commercial activity)	Positioning, ferrying flights, training (dual and solo), "Commercial non-certified", Business and Executive	Public transport ops, Ag ops & training for Ag ops, non-commercial ops
Commercial Operations - Helicopter	Other commercial operations Helicopter (all non-public transport ops for hire or reward or as part of any commercial activity)	Positioning, ferrying flights, training (dual and solo), "Commercial non-certified", Business and Executive	Ag ops & trg for ag ops, public transport, non-commercial ops.
Agricultural Operations - Aeroplane	Agricultural operations using aeroplanes	Agricultural ops, ferry & training for Ag ops.	Everything else.
Agricultural Operations - Helicopters	Agricultural operations using helicopters	Agricultural ops, ferry & training for Ag ops.	Everything else
Agricultural Operations - Sport Aircraft	Agricultural operations using sport aircraft	Agricultural ops, ferry & training for Ag ops.	Everything else
Private Aeroplane	Private operations in aeroplanes	Cost sharing, aircraft hired from schools and clubs for private or cost sharing use, glider towing	Airline, commercial, agricultural operations, sport aircraft, balloons, training (dual and solo)
Private Helicopter	Private operations in helicopters	Cost sharing, aircraft hired from schools and clubs for private or cost sharing use	Airline, commercial, agricultural operations, sport aircraft, balloons, training, ferry/positioning flights by commercial operators
Sport Transport	All public transport ops by sport aircraft	Ferry, test, passenger and freight, domestic and international, training for such ops. And balloons	Agricultural operations.
Sport Private	Private operations using sport aircraft	Cost sharing, aircraft hired from schools and clubs for private or cost sharing use, training, gliders, power gliders, hang gliders, parachutes and all forms of inflatable wing. Balloons	Airline, commercial, agricultural operations, and training for these activities