

Aviation Safety Summary

1 October to 31 December 2012



Spring 2012

Introduction to the Quarterly Safety Summary Report

Welcome to the reformatted version of the CAA's quarterly safety summary report. The previous report was reorganised with the aim of improving its readability. This is necessarily a work in progress and this report remains unchanged. Your comments are welcome and will guide future efforts to improve the usefulness of the CAA's safety data.

The report is presented in four sections representing a hierarchy of information from a high level in Section 1 down to more detailed information in later sections of the report.

Section 1 - Social Cost and Accidents

Section 1 presents the social cost in this quarter and can be read as the overall safety outcome. Results are presented by safety target group, which represents the type of operation. To put this quarter's result in context, the following pages provide trend information of the social cost within each safety target group and overall. As social cost is essentially driven by accidents, the number of accidents in the quarter is shown here. To provide context, the number of accidents is followed by accident rate trends for each safety target group.

Social Cost

Each occurrence has a different economic and social impact: a minor accident where there is no injury, and a fatal accident where two people are killed, are each recorded as one accident, even though the economic and social consequences are very different. Estimating the social cost is one way of valuing the impact of aviation on the country. It is also a way to rank the severity of occurrences, which would otherwise receive equal weighting within a safety target group regardless of their scale, for example, a fatal accident and a non-fatal accident are each recorded as one accident.

The components of social cost are fatal, serious and minor injuries, and aircraft destroyed or written off in accidents. The values to the nation of fatal, serious and minor injuries are obtained from the annual report of the Social Cost of Road Crashes and Injuries published by the Ministry of Transport. Estimates of the values of aircraft destroyed or written off are made by the CAA on the basis of market prices in a number of developed aviation nations.

Section 2 - Incidents

Section 2 provides a summary of other safety data, which gives some sense of the risks that are being managed within the sectors. A principal difference between Sections 1 and 2 is that Section 1 presents the data by Safety Target Group (operational type) and Section 2 presents them by Aircraft Statistics Category.

There are 6 Aircraft Statistics Categories which correspond to the type and complexity of the aircraft, hence 'Aeroplanes - Small, Medium, Large' and 'Helicopters'. The fifth category is 'Agricultural Aeroplanes'. Although they are a sub-category of small aircraft, they are considered separately because of their significance to NZ. The aircraft type has clear relevance when considering aircraft defects, and for convenience the incident and airspace data is also grouped by aircraft type (Aircraft Statistics Category). The sixth aircraft statistics category is 'Sport Aircraft'.

Section 3 - Activity

Section 3 provides statistical information on the activity levels within the 13 Safety Target Groups (types of operation). The activity data underpins the rate data in earlier sections. The format of Section 3 is largely unchanged from previous quarterly reports, but may be revised in a future quarter.

Section 4 - Quarterly Statistics

Section 4 provides key statistics in a table format for this quarter along with the previous 11 quarters. In effect, this table presents key statistics for the last three years.

J.D. Stanton
Manager Intelligence, Safety & Risk Analysis

Executive Summary - Aviation Safety to 31 Dec 2012

- There were a total of 24 accidents in the October to December quarter. There were 3 fatal, 5 serious, and 2 minor injuries in these accidents. Social cost in this quarter has accrued from accidents and injury incidents in the following safety target groups:
 - Airline Operations - Large Aeroplanes 1 minor injury
 - Sport Transport (Part 115) 2 minor injuries
 - Agricultural Operations - Aeroplanes 1 fatal injury, 1 serious injury and 2 aircraft destroyed
 - Private Operations - Helicopters 1 fatal injury and 1 aircraft destroyed
 - Private Operations - Sport 1 fatal injury, 4 serious injuries and 2 minor injuries

Some accidents in the safety target groups above and accidents in other safety target groups were not serious enough to contribute to the social cost outcome this quarter (no injuries or aircraft destroyed), see page 4.

- The Annual Social Cost is now \$73 million (three year average). The social cost has been trending upwards and in the last four years has increased by 37% from \$53M to \$73M, see page 6.
- While the overall accident rate is trending downwards, there are upward trends in 'Airline Operations - Medium Aeroplanes' and 'Other Commercial Operations - Helicopters'. However, the following groups are showing downward trends; 'Airline Operations - Small Aeroplanes', 'Airline Operations - Helicopters', 'Other Commercial Operations - Aeroplanes', 'Agricultural Operations - Aeroplanes', 'Agricultural Operations - Helicopters' and 'Private Operations - Aeroplanes', see pages 7 and 8.
- Large Aeroplanes and Medium Aeroplanes are showing upward trends in the number of defects reported per flying hour, see page 10.
- Aircraft incident rates are decreasing for Large Aeroplanes, Medium Aeroplanes, Small Aeroplanes and Agricultural Aeroplanes, see page 11.
- Airspace occurrence rates are decreasing for Large Aeroplanes and Agricultural Aeroplanes, see page 12.
- The total number of hours flown is increasing slightly, however the total number of air transport flights and the number of movements from certificated aerodromes are continuing to decrease, see pages 15, 16 and 17.
- The total number of aircraft on the register is increasing, up 1.8% over the same time last year. There were increases in the numbers of sport aircraft, helicopters, medium aeroplanes and small aeroplanes, while agricultural aeroplanes and large aeroplanes decreased slightly, see page 18.

Section 1 - Social Cost and Accidents

Social Cost Quarterly Safety Outcome

The following table displays the social cost contribution from injuries and aircraft losses for each of the safety target groups for the quarter 1 October to 31 December 2012. The table also shows the number of accidents in this quarter.

Legend:

†	+	+	↓	△
Fatal Injuries	Serious Injuries	Minor Injuries	Aircraft Destroyed	Accidents

Total Safety Cost \$15.00 m	Public Air Transport \$0.05 m	Airline Operations - Large Aeroplanes	Social Cost	†	+	+	↓	△
		\$0.02 m	0	0	1	0	0	
		Airline Operations - Medium Aeroplanes	Social Cost					
		\$0.00 m	0	0	0	0	0	
		Airline Operations - Small Aeroplanes	Social Cost					
	\$0.00 m	0	0	0	0	0		
	Airline Operations - Helicopters	Social Cost						
	\$0.00 m	0	0	0	0	1		
	Sport Transport	Social Cost						
	\$0.03 m	0	0	2	0	1		
	Other Commercial Operations \$5.44 m	Other Commercial Operations - Aeroplanes	Social Cost					
		\$0.00 m	0	0	0	0	2	
		Other Commercial Operations - Helicopters	Social Cost					
		\$0.00 m	0	0	0	0	1	
		Agricultural Operations - Aeroplanes	Social Cost					
		\$5.44 m	1	1	0	2	4	
	Agricultural Operations - Helicopters	Social Cost						
	\$0.00 m	0	0	0	0	1		
	Agricultural Operations - Sport	Social Cost						
\$0.00 m	0	0	0	0	0			
Non Commercial Operations \$9.52 m	Private Operations - Aeroplanes	Social Cost						
	\$0.00 m	0	0	0	0	0		
	Private Operations - Helicopters	Social Cost						
\$4.10 m	1	0	0	1	2			
Private Operations - Sport	Social Cost							
\$5.41 m	1	4	2	0	12			

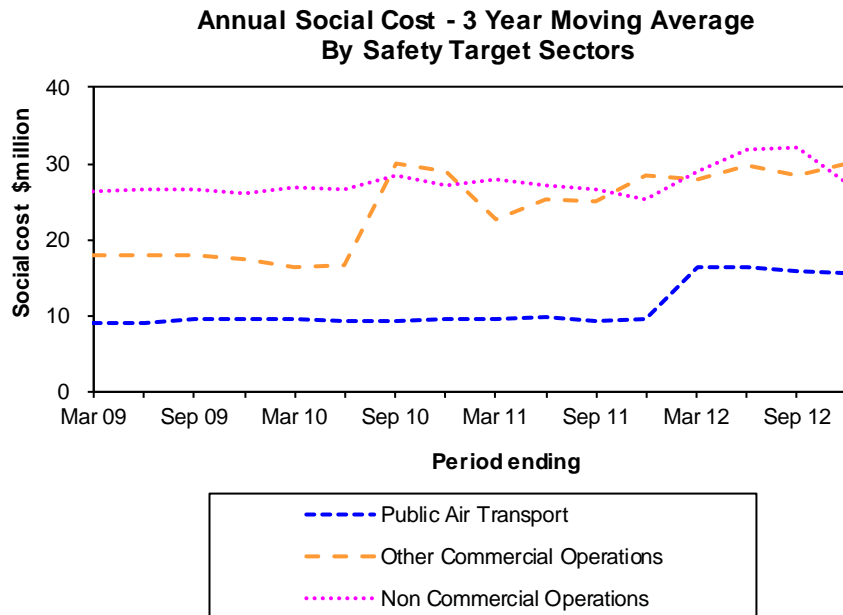
Notes:

- Individual values in the table may not sum exactly to the subtotals or total shown due to rounding.
- Sport groups include hang gliders and parachutes.
- An explanation of the 2014 Safety Target Groups is provided by the diagram in the Definitions section.
- Social cost is the cost of fatal, serious and minor injuries, and aircraft destroyed, expressed in 2012 dollars.

26 March 2013

Social Cost Trends

To provide context to this quarter's social cost outcome, the following graph shows the annual social cost (three year moving average) for the four-year period 1 January 2009 to 31 December 2012, (including the Sport Safety Target Groups).



Social Cost Analysis

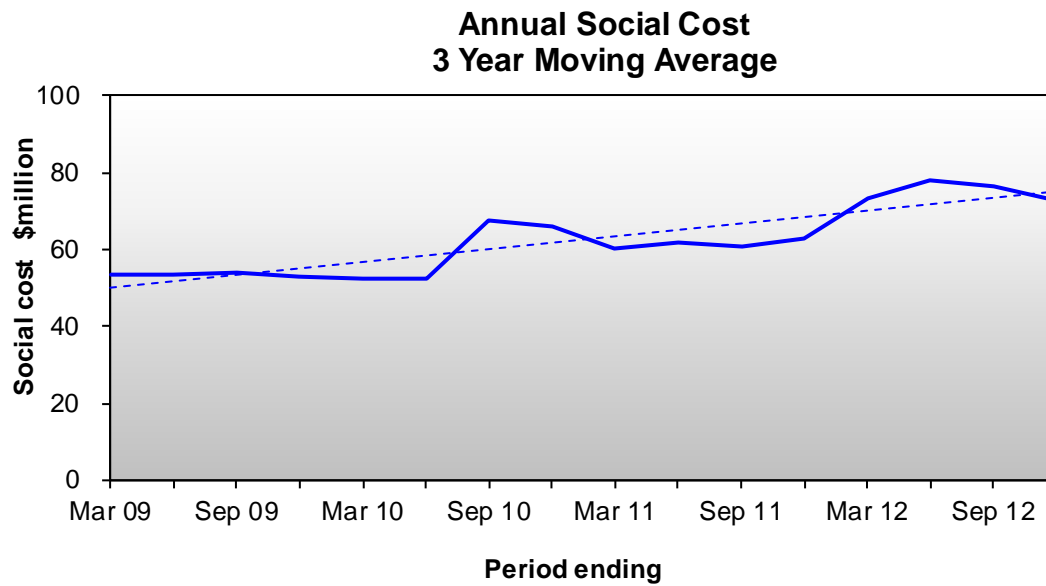
The graph above indicates the social cost contribution of each safety target sector. 'Other Commercial' and 'Non Commercial' operations are the chief contributors of social cost in aviation.

Combining the contribution from each sector indicates that the total annual social cost has been trending up over the last four years as shown in the following graph. The annual cost is the average of the costs in the preceding three years. The annual social cost increased by 37% from \$53M to \$73M between 2009 and 2012.

While the increase over the last three years has been largely driven by two significant accidents in the 'Public Air Transport' and 'Other Commercial' sectors, there have been further increases in the 'Other Commercial' sector through 2011 and 2012. This is due to accidents in the Other Commercial Operations - Helicopters, Agricultural Operations - Aeroplanes and Agricultural Operations - Helicopters safety target groups. In this quarter Agricultural Operations - Aeroplanes were responsible for the \$5.44 million social cost contribution of the 'Other Commercial' sector. The 'Other Commercial' sector is now the leading contributor to annual social cost (3 year average).

The increase within the 'Public Air Transport' sector continues to be driven by the Sport Transport safety target group (now Part 115 Adventure Aviation), while the Airline Public Air Transport operations groups are trending downwards.

The chief contributor of the cost within the 'Non Commercial' sector is the Private Operations - Sport safety target group, while the Private Operations - Helicopters safety target group is showing an increasing trend.



Accidents by Safety Target Group
Quarterly Comparison

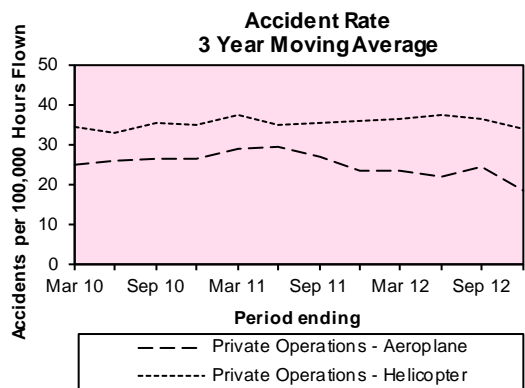
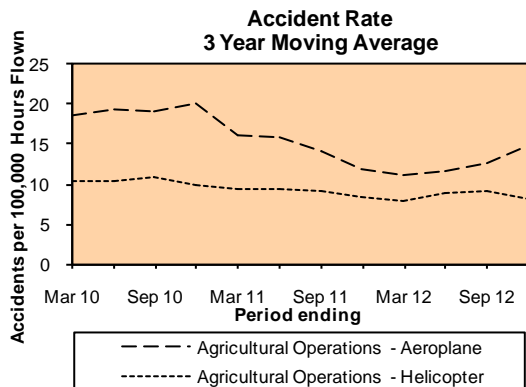
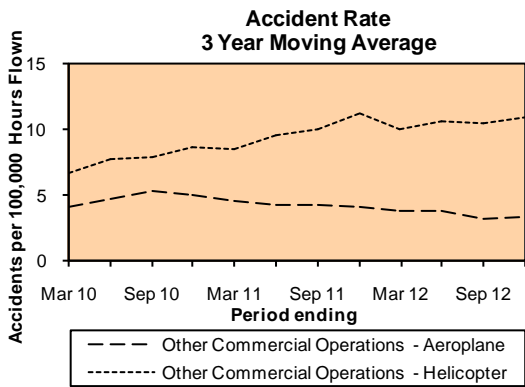
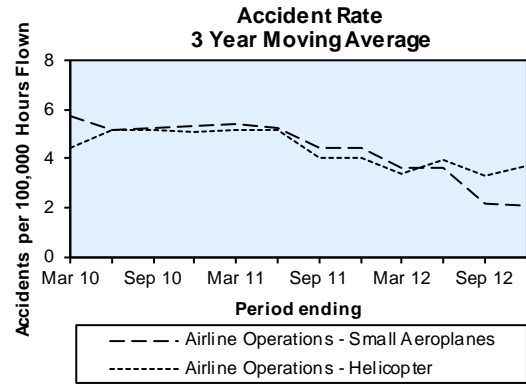
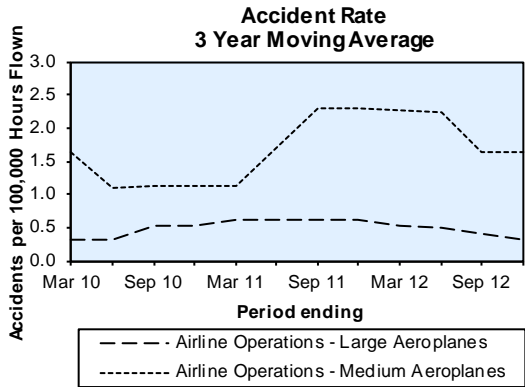
Safety Target Group	1 Oct to 31 Dec 2012	Same Quarter Last Year
Airline Operations - Large Aeroplanes	0	0
Airline Operations - Medium Aeroplanes	0	0
Airline Operations - Small Aeroplanes	0	0
Airline Operations - Helicopter	1	1
Sport Transport	1	1
Other Commercial Operations - Aeroplane	2	3
Other Commercial Operations - Helicopter	1	5
Agricultural Operations - Aeroplane	4	1
Agricultural Operations - Helicopter	1	1
Agricultural Operations - Sport Aircraft	0	0
Private Operations - Aeroplane	0	2
Private Operations - Helicopter	2	1
Private Operations - Sport	12	8
Other	0	0
Total	24	23

Comment

Overall accident numbers are similar to the spring quarter last year, but note the increases in the 'Agricultural Operations - Aeroplane' and 'Private Operations - Sport' safety target groups.

Trends

The following graphs show the aircraft accident rates (three year moving average) for the three-year period 1 January 2010 to 31 December 2012 (excluding the Sport Safety Target Groups, for which no accurate activity information is available).



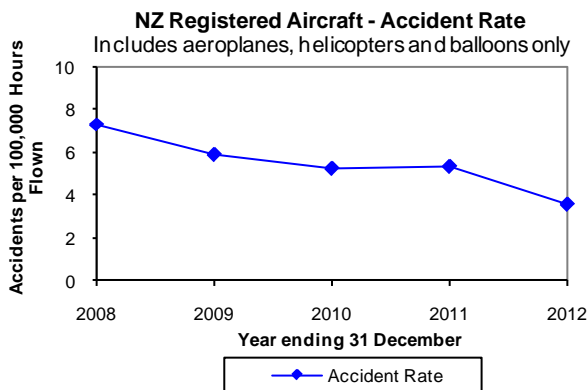
No accident rate information available for Sport Transport or Private Operations - Sport.

Sport Transport (Part 115) data not available for this period but may be provided from a future period.

Activity data is not provided by all aircraft classes in the Private Operations - Sport group (private amateur built aircraft, microlights, gliders, hang gliders and parachutes do not provide activity reports).

Overall Accident Rate

The following graph shows the overall accident rate per 100,000 hours flown. This data includes the aircraft classes aeroplane, helicopter and balloon only. Other aircraft classes such as amateur built aircraft, microlights, gliders, hang gliders and parachutes are excluded from this rate information. Data shown is for the five-year period 1 January 2008 to 31 December 2012.



Note that this graph does not show a moving average.

Summary of Injury Accidents

This section describes injury accidents that occurred during the period 1 October to 31 December 2012, these accidents contributed to the social cost for the quarter.

Sport Transport

Sport Aircraft

- A tandem parachute instructor landed on one foot due to sideways drift, causing a minor injury.

Agricultural Operations - Aeroplane

Agricultural Aeroplanes

- The pilot of the NZ Aerospace Fletcher was conducting a solo training flight after receiving dual instruction from an E Cat. The aircraft was observed to pitch up, bank to the right, and enter a spin, impacting the ground in a small gully. The pilot received fatal injuries and the aircraft was destroyed.
- A Pacific Aerospace Cresco 08-600 crashed during an agricultural operation. The pilot received serious injuries and the aircraft was destroyed.

Private Operations - Helicopter

Helicopters

- The Robinson R22 Beta was in transit between two aerodromes when the helicopter was observed to descend at a high rate and strike a hillside. The pilot received fatal injuries and the aircraft was destroyed.

Private Operations - Sport

Sport Aircraft

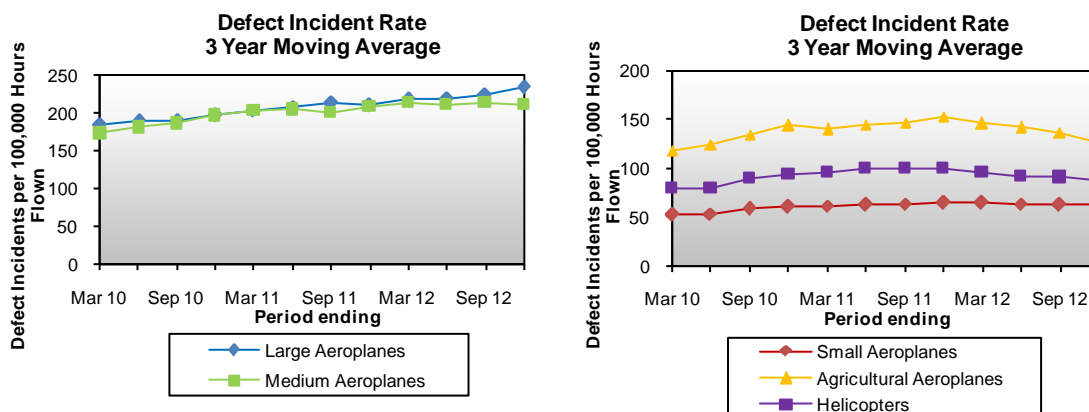
- Following a normal parachute free-fall the photographer appeared to have a main chute malfunction, requiring it to be cut away. The reserve chute was opened too low for full inflation, and the parachutist struck the ground receiving fatal injuries.
- A New Zealand registered glider crashed in Australia. The pilot received serious injuries and the aircraft was substantially damaged.
- A hang glider crashed on landing, the pilot received serious injuries.
- The hang glider collided with the ground causing the pilot to sustain serious injuries.
- The parachute's canopy collapsed on approach to landing. The pilot received serious injuries.
- Shortly after touching down on a solo training flight a gust of wind caused the class 2 microlight to balloon. The aircraft then dropped, bounced, and landed on the nose gear, which collapsed causing the aircraft to overturn. The pilot received minor injuries and the aircraft was substantially damaged.

Section 2 - Incidents

Defect Incidents by Aircraft Statistics Category

Trends

The following graphs show the reported defect incident rates (three year moving average) for the three-year period 1 January 2010 to 31 December 2012 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Defect Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2012	Same Quarter Last Year
◆ Large Aeroplanes	245	163
■ Medium Aeroplanes	22	38
◆ Small Aeroplanes	47	42
▲ Agricultural Aeroplanes	7	14
■ Helicopters	33	32
Sport Aircraft	4	12
Unknown Aircraft	7	7
Total	365	308

Severity of Reported Defect Incidents

Severity	1 Oct to 31 Dec 2012	Same Quarter Last Year
Critical	2	2
Major	50	49
Minor	313	257

Of the two critical defect incidents reported in the 1 October to 31 December 2012 quarter, one was in the 'Agricultural Aeroplanes' statistics category and one was in the 'Sport Aircraft' statistics category.

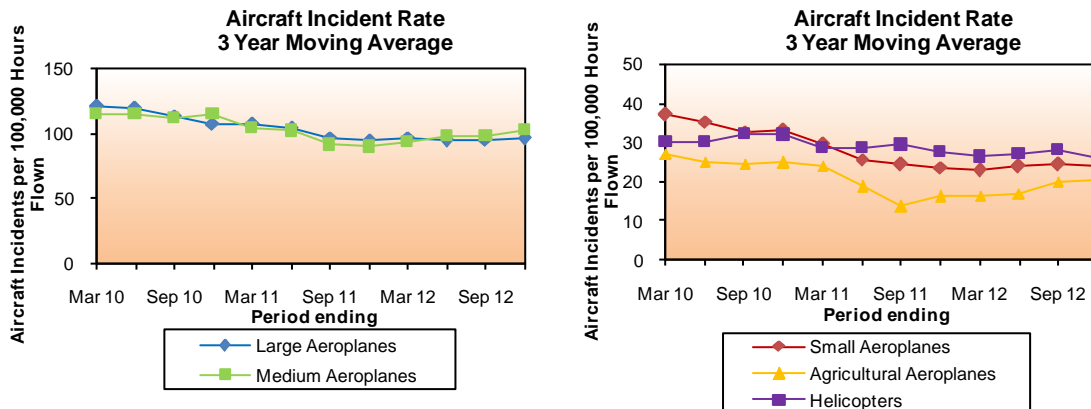
Rate Monitoring

Defect incident rate monitoring of individual types of large and medium air transport aircraft has been estimated for the period ended 30 June 2012, due to a shortage of returned Aircraft Operations Statistics for some of these aircraft. Despite this, medium and large aircraft are continuing to show an upward trend in the number of defects reported per flying hour. The reasons behind these increased rates are not well understood and may require investigation. Medium and large aircraft categories include all aircraft with more than 10 passenger seats operated under CAR Part 125 or 121.

Aircraft Incidents by Aircraft Statistics Category

Trends

The following graphs show the reported aircraft incident rates (three year moving average) for the three-year period 1 January 2010 to 31 December 2012 (excluding the Sport Aircraft statistics category). An aircraft incident is any safety occurrence related to the operation of an aircraft that does not result in an accident and is not classified as one of the other nine incident types. Examples of aircraft incidents include hard landings, lightning strikes, icing encounters, turn backs, diversions and go-arounds.



Quarterly Comparison

Number of Reported Aircraft Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2012	Same Quarter Last Year
◆ Large Aeroplanes	103	74
■ Medium Aeroplanes	18	17
◆ Small Aeroplanes	20	25
▲ Agricultural Aeroplanes	1	4
■ Helicopters	9	11
Sport Aircraft	6	6
Unknown Aircraft	30	25
Total	187	162

Severity of Reported Aircraft Incidents

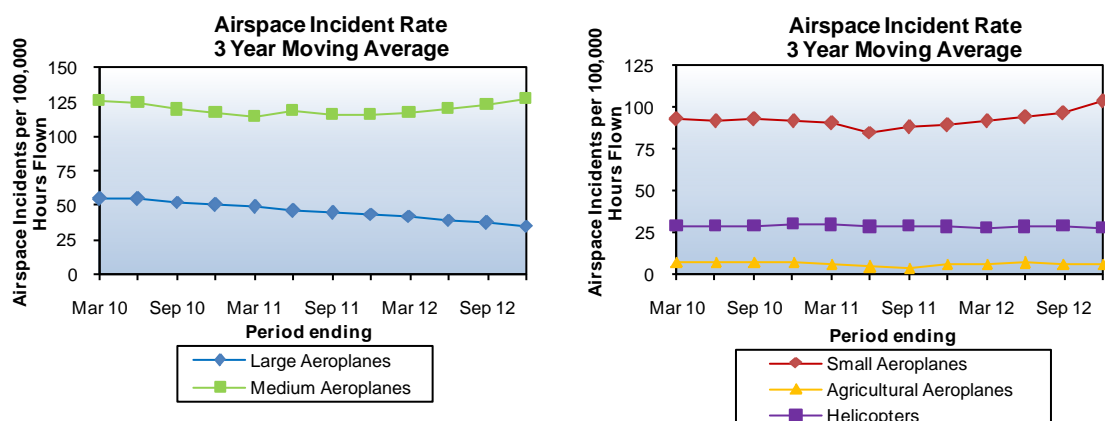
Severity	1 Oct to 31 Dec 2012	Same Quarter Last Year
Critical	2	3
Major	28	29
Minor	157	130

Of the two critical aircraft incidents reported in the 1 October to 31 December 2012 quarter, one was in the 'Agricultural Aeroplanes' statistics category and one was in the 'Helicopters' statistics category.

Airspace Incidents by Aircraft Statistics Category

Trends

The following graphs show the reported airspace incident rates (three year moving average) for the three-year period 1 January 2010 to 31 December 2012 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Airspace Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2012	Same Quarter Last Year
◆ Large Aeroplanes	27	32
■ Medium Aeroplanes	31	18
◆ Small Aeroplanes	138	96
▲ Agricultural Aeroplanes	0	3
■ Helicopters	14	13
Sport Aircraft	16	11
Unknown Aircraft	122	92
Total	348	265

Severity of Reported Airspace Incidents

Severity	1 Oct to 31 Dec 2012	Same Quarter Last Year
Critical	1	7
Major	49	46
Minor	298	212

The critical airspace incident reported in the 1 October to 31 December 2012 quarter was in the 'Small Aeroplanes' statistics category.

Attributability

Of the 348 reported airspace incidents in the 1 October to 31 December 2012 quarter, 16% are Air Traffic Service (ATS) attributable, 73% are pilot attributable, 1% are ATS and pilot attributable, and 9% are unknown attributable. (Note that the percentages may not sum exactly to 100% due to rounding.)

Since January 2010 the long-term trend of the ATS attributable airspace occurrence rate is upward and the long-term trend of the pilot attributable rate is upward.

Bird Incident Rates

Bird hazard monitoring has been carried out for the period ended 31 December 2012.

There were three aerodromes with strike rates in the high risk category of the CAA standard (10.0 and above bird strikes per 10,000 aircraft movements), two having long-term upward trends and one having a long-term downward trend.

There were four aerodromes with strike rates in the medium risk category (5.0 to 10.0 per 10,000 movements), two having long-term upward trends and two having long-term downward trends.

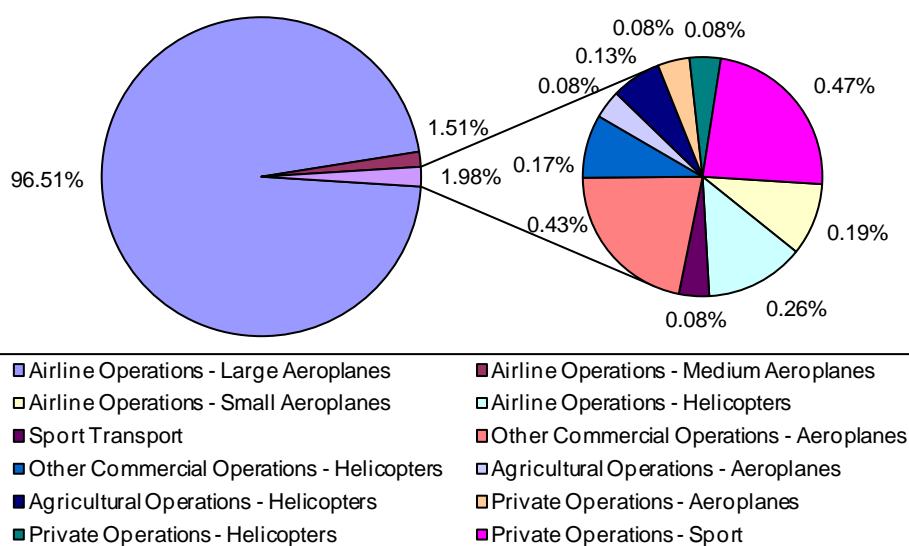
21 aerodromes had strike rates in the low risk category (below 5.0 per 10,000 aircraft movements), six having long-term upward trends, seven having long-term constant trends and eight having long-term downward trends.

Section 3 - Activity

Industry Size and Shape by Safety Target Group

The following graph and table show the size and shape of the aviation industry as determined from Aircraft Operating Statistics in the relevant 2014 Safety Target Group categories for the period 1 October to 31 December 2011 (the most recent quarter for which Aircraft Operating Statistics data are available). 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 person exposure. For the Sport Safety Target Groups a standard estimate of seat hours offered is used as well as reported data for such aircraft in these groups, as most sport aircraft do not report hours or seats.

Percentage Sector Seat Hours



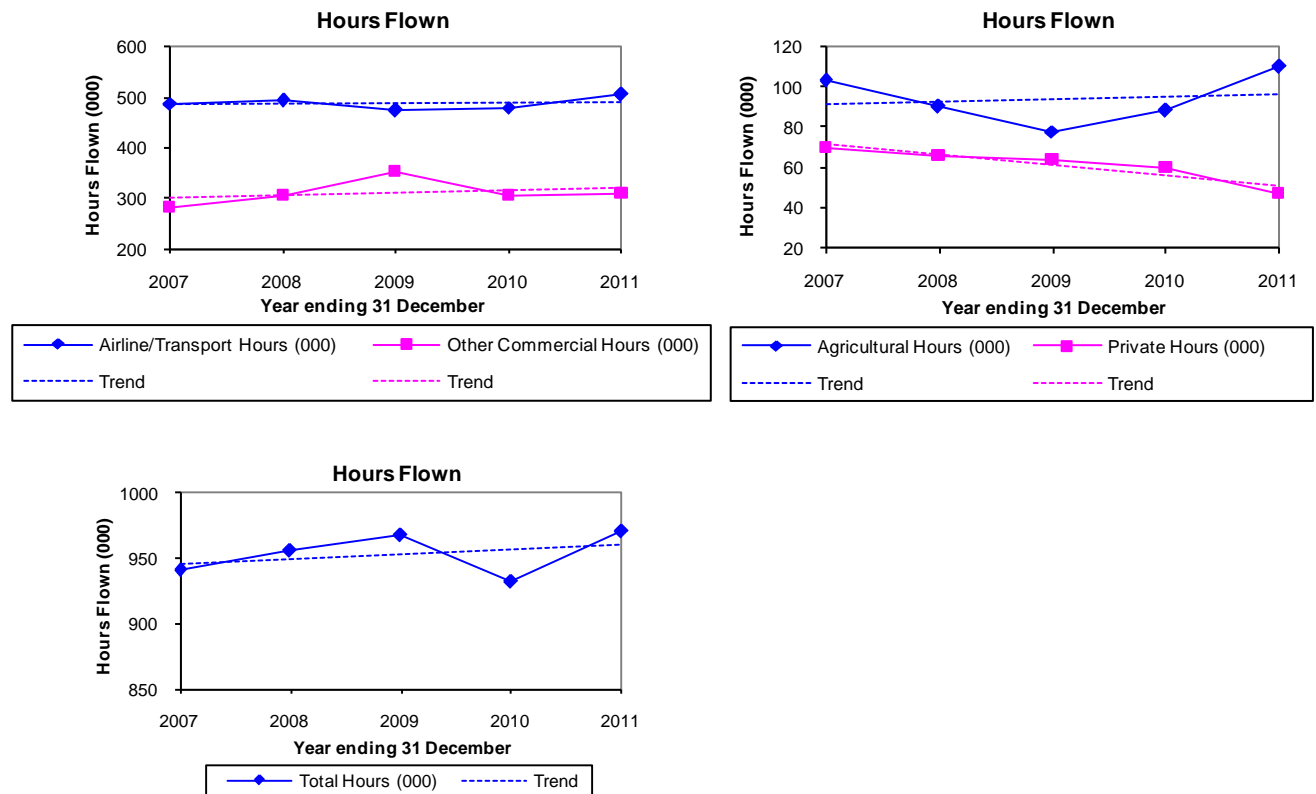
Safety Target Group	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	96.51
Airline Operations - Medium Aeroplanes	1.51
Airline Operations - Small Aeroplanes	0.19
Airline Operations - Helicopters	0.26
Sport Transport	0.08
Other Commercial Operations - Aeroplanes	0.43
Other Commercial Operations - Helicopters	0.17
Agricultural Operations - Aeroplanes	0.08
Agricultural Operations - Helicopters	0.13
Agricultural Operations - Sport	-
Private Operations - Aeroplanes	0.08
Private Operations - Helicopters	0.08
Private Operations - Sport	0.47

Note that the percentages may not sum exactly to 100.00% due to rounding.

Hours by Operation Type

Trends

The following graphs show the number of hours flown (annual data) for the five-year period 1 January 2007 to 31 December 2011 (for the aircraft classes aeroplane, helicopter and balloon only). Flying hours data for the 1st, 2nd and 3rd quarters of 2012 are not available yet due to later returns from operators.



Note that the scales on these graphs do not start at zero.

Quarterly Comparison

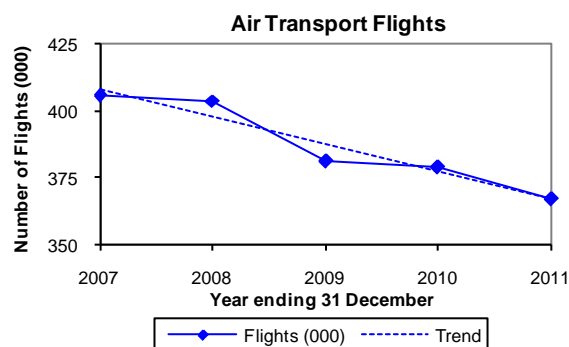
Activity	1 Oct to 31 Dec	1 Oct to 31 Dec	Change	
	2010	2011	Number	Percentage
Airline/Transport Hours	130,854	134,749	+ 3,895	+ 3.0
Adventure Aviation Hours	0	3	+ 3	-
Other Commercial Hours	69,826	71,410	+ 1,584	+ 2.3
Agricultural Hours	26,748	26,047	- 700	- 2.6
Private Hours	16,012	13,226	- 2,786	- 17.4
Total Hours	243,440	245,436	+ 1,996	+ 0.8

Note that these assessments include the aircraft classes aeroplane, helicopter and balloon only and exclude other aircraft classes such as hang gliders and parachutes, and foreign registered aircraft that are operated in New Zealand. These assessments are based on the reported Aircraft Operating Statistics for periods up to the quarter ended 31 December 2011 (the most recent quarter for which these data are available) with an allowance for aircraft for which reports were not received.

Air Transport Flights

Trends

The following graph shows the number of air transport flights (annual data) for the five-year period 1 January 2007 to 31 December 2011 (for the aircraft classes aeroplane, helicopter and balloon only).



Note that the scale on this graph does not start at zero.

Quarterly Comparison

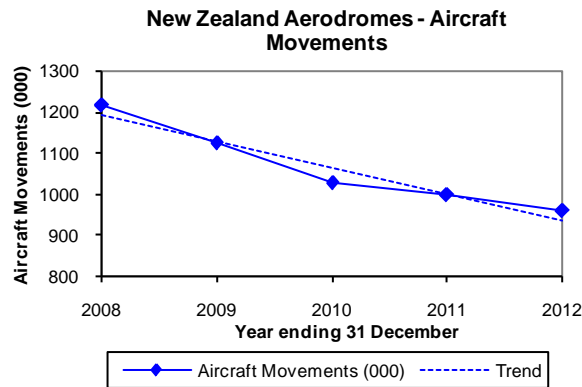
Activity	1 Oct to 31 Dec	1 Oct to 31 Dec	Change	
	2010	2011	Number	Percentage
Air Transport Flights	100,227	93,573	- 6,654	- 6.6

Note that these assessments include the aircraft classes aeroplane, helicopter and balloon only and exclude other aircraft classes such as hang gliders and parachutes, and foreign registered aircraft that are operated in New Zealand. These assessments are based on the reported Aircraft Operating Statistics for periods up to the quarter ended 31 December 2011 (the most recent quarter for which these data are available) with an allowance for aircraft for which reports were not received.

Aircraft Movements

Trends

The following graph shows the number of aircraft movements at certificated aerodromes (annual data) for the five-year period 1 January 2008 to 31 December 2012.



Note that the scale on this graph does not start at zero.

Quarterly Comparison

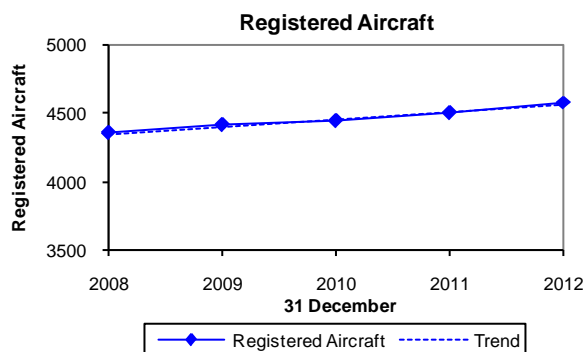
Activity	1 Oct to 31 Dec	1 Oct to 31 Dec	Change	
	2011	2012	Number	Percentage
Aircraft Movements	242,744	240,384	- 2,360	- 1.0

Note that this covers certificated aerodromes only. These figures are as reported to CAA by Airways Corporation and Taupo Airport. Includes Auckland, Christchurch, Dunedin, Gisborne, Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Airport, Hokitika (certificated from Apr 2010), Kerikeri/Bay of Islands, Mount Cook (certificated until Sep 2009 and from Nov 2012), Paraparaumu (certificated from Apr 2009), Te Anau/Manapouri, Timaru, Wanganui, Westport and Whangarei.

Registered Aircraft by Aircraft Statistics Category

Trends

The following graph shows the number of registered aircraft at 31 December for each of the five-years 2008 to 2012.



Note that the scale on this graph does not start at zero.

Quarterly Comparison

Aircraft Statistics Category	31 December		Change	
	2011	2012	Number	Percentage
Large Aeroplanes	127	125	- 2	- 1.6
Medium Aeroplanes	84	86	+ 2	+ 2.4
Small Aeroplanes	1,517	1,523	+ 6	+ 0.4
Agricultural Aeroplanes	109	107	- 2	- 1.8
Helicopters	767	787	+ 20	+ 2.6
Sport Aircraft	1,895	1,953	+ 58	+ 3.1
Total	4,499	4,581	+ 82	+ 1.8

Note that these figures include the sport aircraft statistics category but exclude hang gliders, paragliders and parachutes.

Section 4 - Quarterly Statistics

Quarter	2010/1	2010/2	2010/3	2010/4	2011/1	2011/2
Social Cost \$ million¹	7.39	2.00	50.17	10.05	13.40	22.12
Number of Fatal Accidents²	1	0	3	1	2	4
Number of Fatal Injuries²	1	0	12	2	2	5
Number of Serious + Minor Injuries²	16	10	6	7	11	6
Number of Aircraft Accidents²						
Large Aeroplanes	0	0	2	0	1	0
Medium Aeroplanes	1	0	0	0	0	1
Small Aeroplanes	2	9	6	4	4	4
Agricultural Aeroplanes	0	3	0	1	3	3
Helicopters	9	3	4	3	5	6
Sport Aircraft	9	6	5	13	17	5
Unknown Aircraft	0	0	0	0	1	1
Hang Gliders	10	5	2	2	6	3
Parachutes	2	1	1	2	1	3
Number of Incidents³	1,118	1,154	1,166	1,173	1,230	1,238
Number of Aviation Related Concerns⁴	124	153	154	203	245	155
Number of Hours Flown⁵	255,742	221,686	211,763	243,440	272,126	224,740
Number of Air Transport Flights⁵	108,108	86,015	84,630	100,227	105,782	82,062
Number of Aircraft Movements⁶	276,062	252,639	240,033	256,474	256,398	242,338
Number of Aircraft on the Register⁷	4,428	4,440	4,438	4,442	4,480	4,490
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	10	10	10	10	9	9
Air Operator – Medium Aeroplanes	15	15	15	16	15	15
Air Operator – Helicopters and Small Aeroplanes	172	174	175	175	173	174
Number of Part 115 Adventure Aviation Operators	0	0	0	0	0	0
Number of Part 137 Agricultural Aircraft Operators	108	108	106	108	107	104
Number of Part 141 Training Organisations	55	58	57	56	55	54
Number of Part 149 Recreation Organisations	9	9	9	8	9	9
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	141	132	128	146	162	180
Private Pilot Licence (Class 1 & 2)	3,795	3,757	3,750	3,655	3,611	3,603
Commercial Pilot Licence (Class 2 only)	1,990	2,066	2,027	2,083	2,131	2,229
Commercial Pilot Licence (Class 1)	2,403	2,344	2,397	2,385	2,372	2,339
Airline Transport Pilot Licence (Class 2 only)	922	913	986	981	928	909
Airline Transport Pilot Licence (Class 1)	1,135	1,134	1,075	1,096	1,155	1,188
Air Traffic Controller Licence (Class 3)	366	363	358	362	363	361
Aircraft Maintenance Engineer Licence (N/A)	2,445	2,463	2,479	2,496	2,511	2,519

¹ All aircraft statistics categories. Includes hang gliders and parachutes. Cost of fatal, serious and minor injuries, and aircraft destroyed, in June 2012 dollars.

² All accidents. All aircraft statistics categories. Includes hang gliders and parachutes.

³ Number of reported incidents. All incident sub-types.

⁴ Number of reported Aviation Related Concerns.

⁵ New Zealand registered aircraft. Includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes. Based on reported Aircraft Operating Statistics for periods up to the quarter ended 31 December 2011 with an allowance for aircraft for which reports were not received. Estimated for 2012/1, 2012/2, 2012/3 and 2012/4.

Quarter	2011/3	2011/4	2012/1	2012/2	2012/3	2012/4
Social Cost \$ million¹	1.77	21.88	58.11	15.63	1.06	15.00
Number of Fatal Accidents²	0	3	4	2	0	3
Number of Fatal Injuries²	0	4	15	3	0	3
Number of Serious + Minor Injuries²	3	8	3	7	3	7
Number of Aircraft Accidents²						
Large Aeroplanes	0	0	0	0	0	0
Medium Aeroplanes	1	0	0	0	0	0
Small Aeroplanes	4	5	3	3	3	2
Agricultural Aeroplanes	0	1	0	2	2	4
Helicopters	4	8	2	5	3	5
Sport Aircraft	5	6	9	9	5	7
Unknown Aircraft	1	0	1	0	0	0
Hang Gliders	0	1	4	1	1	3
Parachutes	2	2	4	3	2	3
Number of Incidents³	1,229	1,119	1,297	1,182	1,267	1,312
Number of Aviation Related Concerns⁴	271	229	219	192	220	154
Number of Hours Flown⁵	228,242	245,436	283,412	257,766	253,946	272,055
Number of Air Transport Flights⁵	85,803	93,573	112,555	92,685	94,292	103,639
Number of Aircraft Movements⁶	256,117	242,744	252,533	235,050	231,371	240,384
Number of Aircraft on the Register⁷	4,495	4,499	4,516	4,532	4,558	4,581
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	9	9	9	9	9	9
Air Operator – Medium Aeroplanes	15	15	15	15	14	15
Air Operator – Helicopters and Small Aeroplanes	174	175	176	171	166	168
Number of Part 115 Adventure Aviation Operators	0	1	1	20	28	33
Number of Part 137 Agricultural Aircraft Operators	106	105	101	99	99	104
Number of Part 141 Training Organisations	55	57	58	57	58	59
Number of Part 149 Recreation Organisations	9	8	9	9	7	7
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	189	205	222	221	224	240
Private Pilot Licence (Class 1 & 2)	3,577	3,513	3,479	3,458	3,451	3,361
Commercial Pilot Licence (Class 2 only)	2,236	2,284	2,325	2,379	2,428	2,420
Commercial Pilot Licence (Class 1)	2,380	2,362	2,350	2,337	2,316	2,366
Airline Transport Pilot Licence (Class 2 only)	965	962	925	915	953	993
Airline Transport Pilot Licence (Class 1)	1,118	1,124	1,166	1,175	1,140	1,119
Air Traffic Controller Licence (Class 3)	361	362	370	374	374	363
Aircraft Maintenance Engineer Licence (N/A)	2,540	2,549	2,563	2,575	2,595	2,611

⁶ Certificated aerodromes. Reported to CAA by Airways Corporation and Taupo Airport. Includes Auckland, Christchurch, Dunedin, Gisborne, Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Airport, Hokitika (certificated from Apr 2010), Kerikeri/Bay of Islands, Mount Cook (certificated from Nov 2012), Paraparaumu, Te Anau/Manapouri, Timaru, Wanganui, Westport and Whangarei.

⁷ As at the last day of the quarter. Includes the sport aircraft statistics category, excluding hang gliders, paragliders and parachutes.

⁸ As at the last day of the quarter. For RPL holders, a medical fitness certificate, in accordance with the NZTA medical fitness standards that are applicable for a Class 2, 3, 4 or 5 driver licence with a passenger endorsement. For PPL, CPL & ATPL holders, an active class 1 or active class 2 medical certificate; 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). For ATCL holders, an active class 3 medical certificate. This does not show the number of licence holders as each client may hold more than one licence.

Definitions

Accident

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, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

- (3) the aircraft is missing or is completely inaccessible.

Aircraft Incident

Any incident, not otherwise classified, associated with the operation of an aircraft which did not immediately affect the safety of an aircraft operation but which,

- (1) if allowed to continue uncorrected, or
- (2) if repeated in different but likely circumstances,

could affect the safety of an aircraft operation.

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

Other Aircraft Types (not included on the NZ Aircraft Register)

Hang Glider

A glider, including a powered glider, that is capable of being launched and landed solely by the use of the pilot's legs, and includes paragliders. **Paraglider** means a hang glider with no rigid primary structure.

Parachute

Any device, without a motor in operation, comprising a flexible drag, or lift/drag, surface from which a load is suspended by shroud lines capable of controlled deployment from a packed condition.

Airspace Incident

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

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.

Defect Incident

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

Fatal Injury

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

Incident

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

Incident Sub-Types

Aerodrome Incident	Dangerous Goods Incident
Aircraft Incident	Defect Incident
Airspace Incident	Facility Malfunction Incident
Bird Incident	Promulgated Information Incident
Cargo Security Incident	Security Incident

Occurrence

Means an accident or incident.

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 accidents and incidents as the result of investigation of occurrences:

Severity	Definition
Critical	An occurrence or deficiency that caused, or on its own had the potential to cause, loss of life or limb;
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;
Minor	An isolated occurrence or deficiency not indicative of a significant system problem.

Safety Target Structure

