



CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

Aviation Safety Summary

1 January to 31 March 2014



Summer 2014

Cover photograph: over Blenheim, used with permission.

Introduction to the Quarterly Safety Summary Report

Welcome to the CAA's quarterly safety summary report for the summer quarter of 2014. This report is designed to provide a summary of accidents, incidents and safety occurrences that were reported to the CAA in the period 1 January to 31 March 2014.

This report also provides a summary of NZ aviation activity. Activity within aviation sectors is expressed in flying hours and flights. The aviation activity data is used to underpin the accident data to provide accident rates for each sector. Accident rates provide a better measure of the comparative safety performance of different sectors and the NZ aviation system as a whole.

The accuracy of this activity and rate information relies on the return of aircraft operating statistics as required by rule part 12.151, annually for private aircraft and quarterly for commercial aircraft.

Electronic copies of the form CAA605 can be found on the website under 'Aircraft Forms', and can be emailed to stats@caa.govt.nz

Note that while rule 12.151 states 'The reports required by paragraph (a) must be submitted on form CAA605; or by a means acceptable to the Director', the 'acceptable means' can include any reasonably coherent electronic document or spreadsheet that identifies the aircraft, the period and the type of flying. Several industry associations have produced MS excel spreadsheets for their members and this approach is entirely acceptable. The headings on the form CAA605 can be used to develop your own spreadsheet or please contact the undersigned.

Safe flying,

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

jack.stanton@caa.govt.nz

Executive Summary - Aviation Safety to 31 Mar 2014

- There were a total of 51 accidents in the January to March quarter, the summer of 2014. There were 5 fatal, 14 serious, and 12 minor injuries in these accidents and injury incidents. Social cost in this quarter has accrued from accidents and injury incidents in the following safety target groups:
 - Airline Operations - Large Aeroplanes 1 serious injury
 - Airline Operations - Helicopters 2 minor injuries and 1 aircraft destroyed
 - Sport Transport 2 serious and 4 minor injuries
 - Other Commercial Operations - Aeroplanes 2 fatal and 2 serious injuries, and
2 aircraft destroyed
 - Agricultural Operations - Aeroplanes 2 serious injuries and 1 aircraft
destroyed
 - Agricultural Operations - Helicopters 1 fatal injury, 1 serious injury, and
1 aircraft destroyed
 - Private Operations - Aeroplanes 1 fatal injury and 1 aircraft destroyed
 - Private Operations - Sport 1 fatal injury, 6 serious and 6 minor
injuries, and 3 aircraft destroyed

There were additional accidents in the groups above and other safety target groups that were not serious enough to contribute to the social cost outcome this quarter (no injuries or aircraft destroyed), but still represent safety risks, see page 3.

- The Annual Social Cost is now \$69 million (three year average). The social cost has continued trending upwards and in the last four years has increased by 29% from \$53M to \$69M, see page 4.
- The overall accident rate over the period April 2009 to March 2014 has risen to 5.7 accidents per 100,000 hours flown, which is above the average of approximately 4.9 accidents per 100,000 hours flown over the previous four years, see page 7.
- Airspace occurrence rates are increasing for medium aeroplanes and small aeroplanes, and increasing slightly for agricultural aeroplanes, see page 12.
- The total annual number of hours flown has increased for the second year in a row and the total for the year ending June 2013 is 18% higher than the year ending June 2009. The annual number of air transport flights has increased from a slump in the years 2010 to 2012, and the total for the year ending June 2013 is 8% higher than 2009. However, the total annual number of aircraft movements from certificated aerodromes is continuing to decrease, by 14% from the year ending March 2010 to the year ending March 2014. See pages 16, 17, and 18.
- The total number of aircraft on the register remained the same as at the same quarter last year. There were increases in the numbers of large aeroplanes (+ 2), medium aeroplanes (+1), helicopters (+ 13) and sport aircraft (+ 5, excluding hang gliders, paragliders and parachutes), while there were decreases in the numbers of small aeroplanes (- 18) and agricultural aeroplanes (- 3), see page 19.

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 January to 31 March 2014. The table also shows the number of accidents in this quarter.

Legend:

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

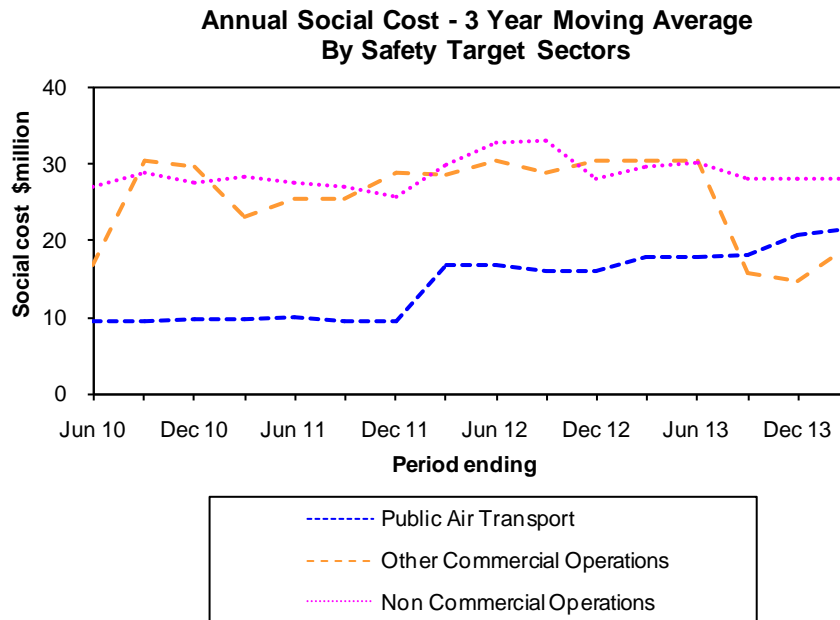
Total Safety Cost \$30.02 m	Public Air Transport \$2.57 m	Airline Operations - Large Aeroplanes	Social Cost	†	+	+	∨	△
		\$0.40 m	0	1	0	0	2	
		Airline Operations - Medium Aeroplanes	Social Cost					
		\$0.00 m	0	0	0	0	0	
		Airline Operations - Small Aeroplanes	Social Cost					
	\$0.00 m	0	0	0	0	0		
	Airline Operations - Helicopters	Social Cost						
	\$1.29 m	0	0	2	1	3		
	Sport Transport	Social Cost						
	\$0.88 m	0	2	4	0	4		
	Other Commercial Operations \$16.81 m	Other Commercial Operations - Aeroplanes	Social Cost					
		\$8.89 m	2	2	0	2	3	
		Other Commercial Operations - Helicopters	Social Cost					
		\$0.00 m	0	0	0	0	1	
		Agricultural Operations - Aeroplanes	Social Cost					
		\$1.75 m	0	2	0	1	2	
	Agricultural Operations - Helicopters	Social Cost						
\$6.16 m	1	1	0	1	1			
Agricultural Operations - Sport	Social Cost							
\$0.00 m	0	0	0	0	0			
Non Commercial Operations \$10.64 m	Private Operations - Aeroplanes	Social Cost						
	\$4.04 m	1	0	0	1	5		
	Private Operations - Helicopters	Social Cost						
\$0.00 m	0	0	0	0	0			
Private Operations - Sport	Social Cost							
\$6.59 m	1	6	6	3	29			

Notes:

1. Individual values in the table may not sum exactly to the subtotals or total shown due to rounding.
2. Sport groups include hang gliders and parachutes.
3. An explanation of the 2014 Safety Target Groups is provided by the diagram in the Definitions section.
4. Social cost is the cost of fatal, serious and minor injuries, and aircraft destroyed, expressed in 2013 dollars.

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 April 2010 to 31 March 2014, (including the Sport Safety Target Groups).



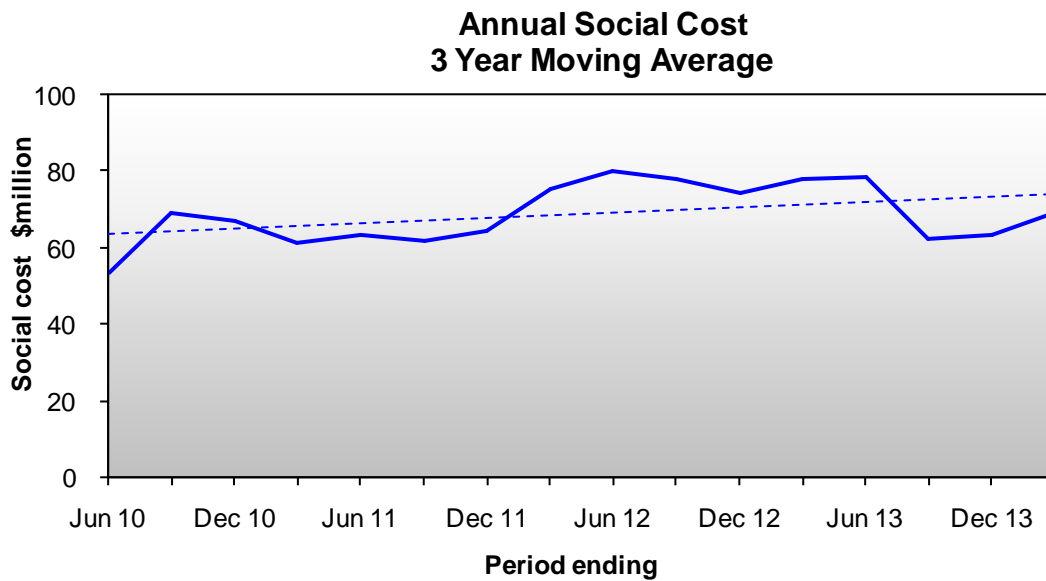
Social Cost Analysis

The graph above indicates the social cost contribution of each safety target sector averaged over the previous three years. The contribution from the 'Other Commercial' sector dropped significantly three years after the accident at Fox Glacier but has increased again in this 1st quarter of 2014, driven by fatal accidents in commercial training aircraft and agricultural helicopters, details page 7.

The combined annual social cost of all three sectors is shown in the graph on the next page and has increased by 29% from \$53M to \$69M between 2010 and 2014.

The biggest contributor to social cost in the 1st quarter of 2014 was the 'Other Commercial Operations - Aeroplanes' safety target group with 2 fatalities, 2 serious injuries, and 2 aircraft destroyed. The next biggest contributor in the 'Other Commercial Operations' sector was 'Agricultural Operations - Helicopters' with 1 fatality, 1 serious injury and 1 aircraft destroyed.

The chief contributor of the cost within the 'Non Commercial' sector is the 'Private Operations - Sport Aircraft' safety target group with 1 fatality, 6 serious injuries, 6 minor injuries and 3 aircraft destroyed. The other contributor in this sector was the 'Private Operations - Aeroplanes' safety target group with 1 fatality and 1 aircraft destroyed.



Accidents by Safety Target Group
Quarterly Comparison

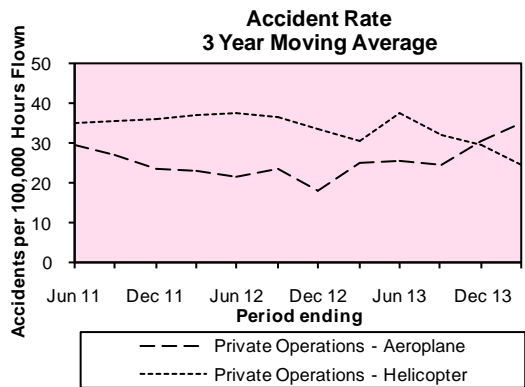
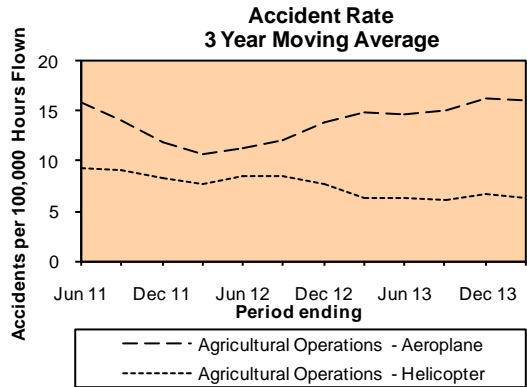
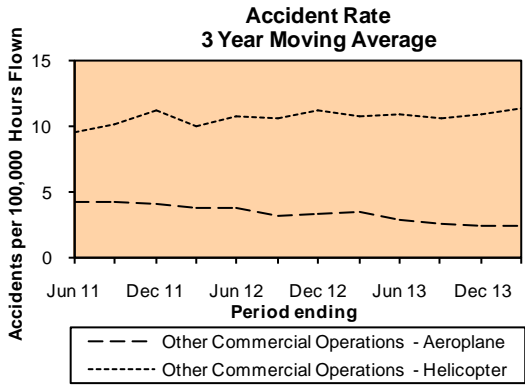
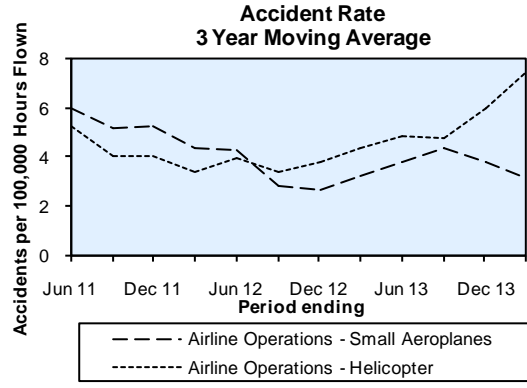
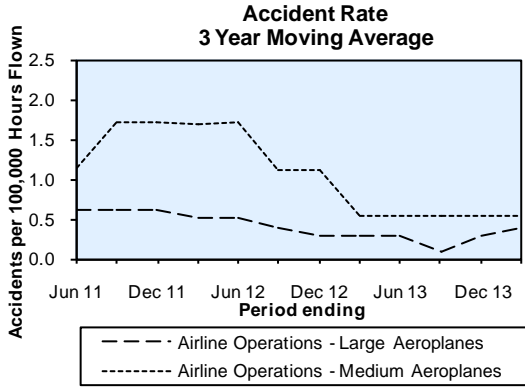
Safety Target Group	1 Jan to 31 Mar 2014	Same Quarter Last Year
Airline Operations - Large Aeroplanes	2	0
Airline Operations - Medium Aeroplanes	0	0
Airline Operations - Small Aeroplanes	0	1
Airline Operations - Helicopters	3	2
Sport Transport	4	1
Other Commercial Operations - Aeroplanes	3	3
Other Commercial Operations - Helicopters	1	0
Agricultural Operations - Aeroplanes	2	2
Agricultural Operations - Helicopters	1	0
Agricultural Operations - Sport Aircraft	0	0
Private Operations - Aeroplanes	5	7
Private Operations - Helicopters	0	3
Private Operations - Sport	29	17
Other	1	1
Total	51	37

Comment

Overall accident numbers in the 2014 summer quarter have increased 38% in comparison to the 2013 summer quarter. The biggest increase is within the Private Operations - Sport group.

Trends

The following graphs show the aircraft accident rates (three year moving average) for the three-year period 1 April 2011 to 31 March 2014 (excluding the Sport Safety Target Groups, for which no accurate activity information is available).



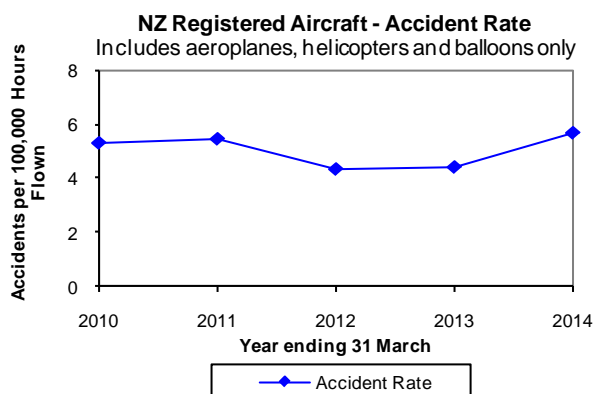
No accident rate information available for Sport Transport or Private Operations - Sport.

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 April 2009 to 31 March 2014. The accident rate has risen to 5.7 accidents per 100,000 hours flown, which is above the average of approximately 4.9 accidents per 100,000 hours flown over the previous four years.



Note that this graph shows an annual rate and not a 3 year moving average.

Summary of Injury Accidents

This section describes injury accidents that occurred during the period 1 January to 31 March 2014. These descriptions are classified according to the highest level of injury sustained and the safety target group. Not all of these accidents were investigated by the CAA, and some of the CAA investigations have not been completed, so the text may be condensed from the original accident notification.

Fatal Accidents

Other Commercial Operations - Aeroplanes

- A Piper PA-38-112 (small aeroplane) on a dual training flight crashed into a riverbed. The two crew members were killed and the aircraft was destroyed.

Agricultural Operations - Helicopters

- A MD helicopter 500N crashed. One crew member was killed and the other received serious injuries. The aircraft was substantially damaged and written off.

Private Operations - Aeroplanes

- During a glider tow at approximately 400 ft AGL, a Piper PA-28 (small aeroplane) was observed to roll to the right and pitch nose down. Witnesses then observed the aircraft roll wings level and begin to pull out of the ensuing dive, however, the aircraft struck trees before recovery could be completed. The pilot was fatally injured and the aircraft was destroyed in the ensuing fire.

Private Operations - Sport

- A glider crashed into a driveway. The pilot was killed. The aircraft was substantially damaged and written off.

Serious Injury Accidents

Airline Operations - Large Aeroplanes

- A passenger received serious burn injuries to an arm from a spill of the full contents of a coffee pot.

Sport Transport

- A tandem parachute passenger failed to raise their legs on landing despite a pre-flight briefing and repeated instructions from the tandem master. The passenger's legs contacted the ground and the passenger received a serious injury (a suspected broken ankle).
- A parachute passenger put their foot out on landing and received a serious injury (broken ankle).

Other Commercial Operations - Aeroplanes

- A Piper PA-38-112 (small aeroplane) on a dual training flight failed to clear trees during a simulated forced landing practice and impacted the ground. The two crew members received serious injuries and the aeroplane was destroyed.

Agricultural Operations - Aeroplanes

- A Pacific Aerospace Cresco 08-600 on a ferry/positioning flight collided with a fence on landing. The pilot and passenger were seriously injured. The aircraft sustained substantial damage and was written off.

Private Operations - Sport

- A class 2 microlight encountered windshear on short final. The aircraft landed heavily approximately 100 m short of the runway. The pilot received serious injuries (a cracked vertebra) and the aircraft was substantially damaged.
- A hang glider was caught by a small gust, blowing the wing tip into a branch. The glider caught the branch, swinging the pilot into the hill. The pilot was able to perform a parachute landing fall, but the impact resulted in a serious injury (broken ankle).
- A parachutist stalled close to the ground and impacted at relatively high velocity, hitting tailbone first and receiving serious injuries.
- While soaring solo, a paragliding student encountered sink while doing figure 8's in front of ridge and landed hard, receiving serious injuries.
- The hang glider crashed into the side of the hill on takeoff due to changes in wind conditions, causing serious injuries.
- A powered paraglider lost control on approach in turbulent conditions. Frontal collapse of the wing at low altitude resulted in the pilot impacting the ground, causing serious injuries to their lower spine.

Minor Injury Accidents

Airline Operations - Helicopters

- After a Hughes 369D on a passenger transport A to B flight landed, a bag was sucked out of a utility vehicle deck into the main rotor blade, the main rotor then severed the tail boom and damaged the fuselage. The engine was stopped via the main fuel shut-off, with the helicopter remaining on its skids. The two crew members received minor injuries and the aircraft was substantially damaged.

Private Operations - Sport

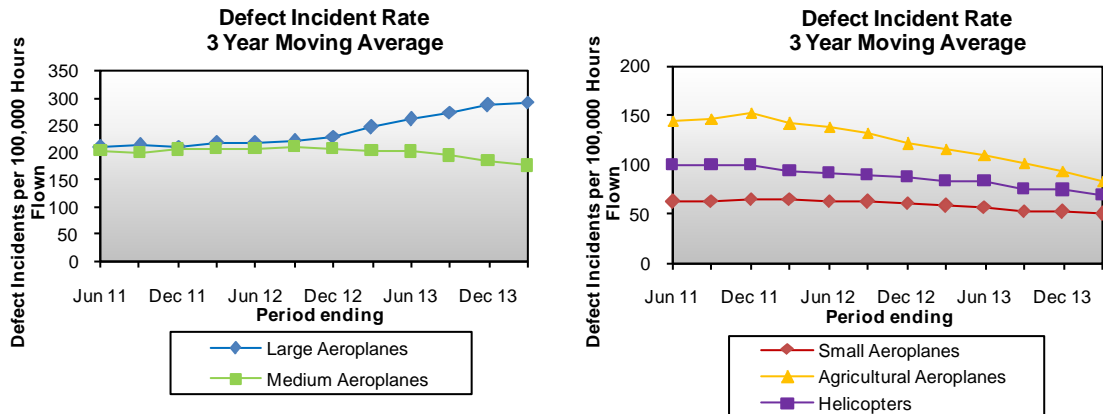
- Due to a high rate of sink the pilot of a class 2 microlight commenced a go-around. The pilot's hand slipped off the throttle, the aircraft bounced, the nose wheel collapsed, and the aircraft overturned. The pilot received minor injuries and the aircraft was substantially damaged.
- The engine of a class 2 microlight started losing power and running rough in cruise. During the subsequent forced landing the aircraft contacted trees on approach, resulting in a hard landing. The left main gear collapsed, with the pilot receiving minor injuries. The aircraft was substantially damaged.
- After takeoff, a paraglider pilot unsuccessfully carried out a loop, resulting in the wing spinning and the paraglider crashing on the side of the hill. The pilot received minor injuries.

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 April 2011 to 31 March 2014 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Defect Incidents

Aircraft Statistics Category	1 Jan to 31 Mar 2014	Same Quarter Last Year
◆ Large Aeroplanes	258	324
■ Medium Aeroplanes	23	19
◆ Small Aeroplanes	37	47
▲ Agricultural Aeroplanes	4	8
■ Helicopters	27	39
Sport Aircraft	8	6
Unknown Aircraft	17	6
Total	374	449

Severity of Reported Defect Incidents

Severity	1 Jan to 31 Mar 2014	Same Quarter Last Year
Critical	1	1
Major	40	74
Minor	333	374

The critical defect incident reported in the 1 January to 31 March 2014 quarter was in the 'Small Aeroplanes' statistics category.

Rate Monitoring

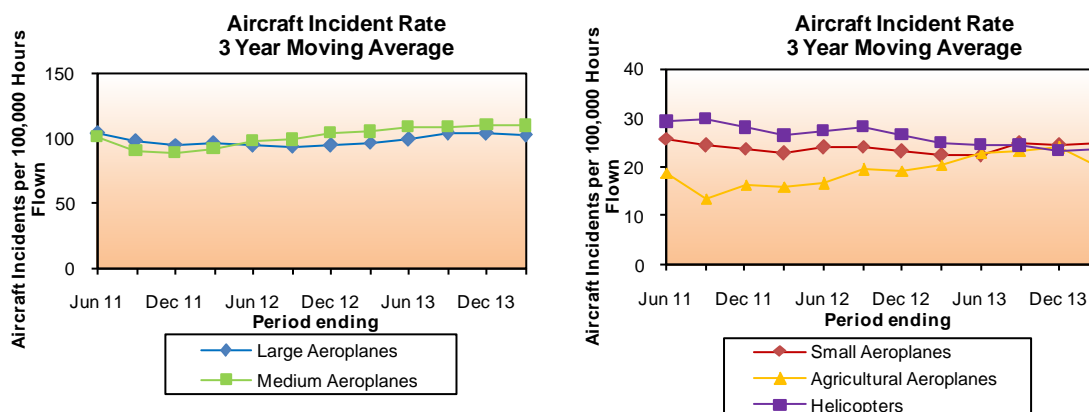
Defect incident rate monitoring of individual types of large and medium air transport aircraft has been carried out for the period ended 31 December 2013, using estimated data for some of the aircraft types due to a shortage of returned Aircraft Operations Statistics for these aircraft. Analysis shows that six of the 15 monitored aircraft types have defect rates above the "trigger level" for CAA action (four of the 12 types of large aeroplane and two of the three types of medium aeroplane).

Medium and large aeroplane 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 April 2011 to 31 March 2014 (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 Jan to 31 Mar 2014	Same Quarter Last Year
◆ Large Aeroplanes	77	112
■ Medium Aeroplanes	5	22
◆ Small Aeroplanes	25	14
▲ Agricultural Aeroplanes	1	3
■ Helicopters	11	4
Sport Aircraft	9	8
Unknown Aircraft	45	38
Total	173	201

Severity of Reported Aircraft Incidents

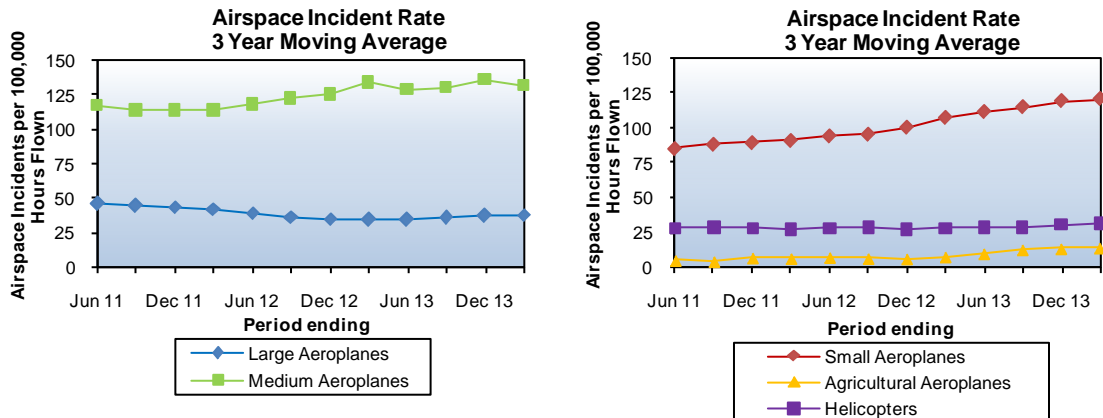
Severity	1 Jan to 31 Mar 2014	Same Quarter Last Year
Critical	1	4
Major	22	31
Minor	150	166

The critical aircraft incident reported in the 1 January to 31 March 2014 quarter was in the 'Small Aeroplanes' 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 April 2011 to 31 March 2014 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Airspace Incidents

Aircraft Statistics Category	1 Jan to 31 Mar 2014	Same Quarter Last Year
◆ Large Aeroplanes	37	38
■ Medium Aeroplanes	14	37
◆ Small Aeroplanes	129	160
▲ Agricultural Aeroplanes	2	3
■ Helicopters	21	27
Sport Aircraft	27	39
Unknown Aircraft	124	122
Total	354	426

Severity of Reported Airspace Incidents

Severity	1 Jan to 31 Mar 2014	Same Quarter Last Year
Critical	2	3
Major	43	50
Minor	309	373

Of the two critical airspace incidents reported in the 1 January to 31 March 2014 quarter, one was in the 'Small Aeroplanes' statistics category and one was in the 'Helicopters' statistics category. Analysis of reported airspace incidents continues on next page.

Reported Critical Airspace Incidents continued

Small Aeroplanes

- A small aeroplane on a dual training flight had a near collision with an opposite direction small aeroplane while tracking at 4,500 ft (lower limit of controlled airspace). Aircraft took avoiding action by deviating right of track. Aircraft came to within 0.5 miles horizontally at the same altitude.

Helicopters

- A helicopter on a private flight was seen operating over a live firing range. Several other firing ranges were operative at that time. Two ranges were shut down due to the intrusion.

Attributability

Of the 354 reported airspace incidents in the 1 January to 31 March 2014 quarter, 12% are Air Traffic Service (ATS) attributable, 79% are pilot attributable, 3% are ATS and pilot attributable, and 6% are unknown attributable. (Note that the percentages may not sum exactly to 100% due to rounding.)

Since April 2011 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 March 2014.

There was one aerodrome with a strike rate in the high risk category of the CAA standard (10.0 and above bird strikes per 10,000 aircraft movements) with a long-term upward trend.

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

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

Consideration is being given to the development of a graphical means of displaying bird strike hazard information. How would this data be used? Who would use it? Are seasonal effects evident or important? Are Species or Bird Size important?

Comments welcome at inwards safety information:

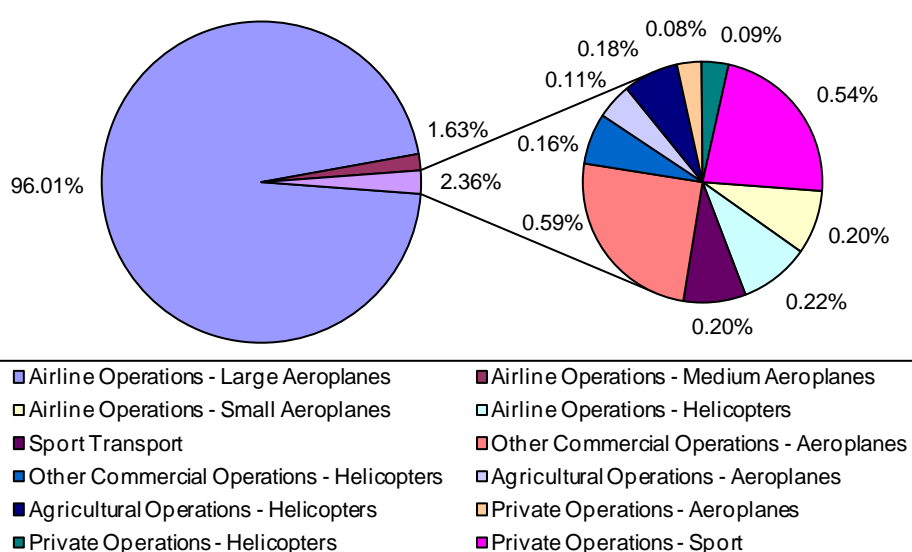
isi@caa.govt.nz

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 Safety Target Group categories for the period 1 April to 30 June 2013 (the most recent quarter for which adequate data are available) with an allowance for aircraft for which reports were not received. 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



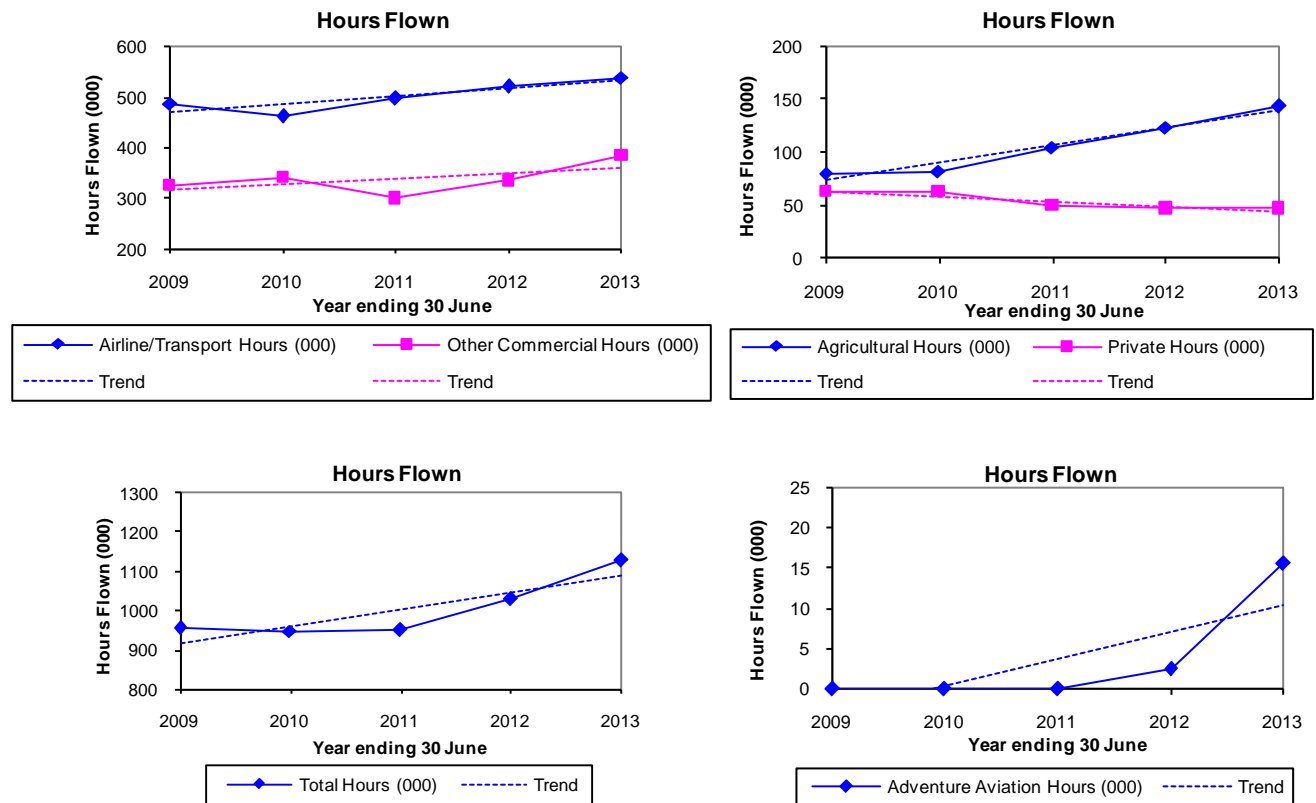
Safety Target Group	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	96.01
Airline Operations - Medium Aeroplanes	1.63
Airline Operations - Small Aeroplanes	0.20
Airline Operations - Helicopters	0.22
Sport Transport	0.20
Other Commercial Operations - Aeroplanes	0.59
Other Commercial Operations - Helicopters	0.16
Agricultural Operations - Aeroplanes	0.11
Agricultural Operations - Helicopters	0.18
Agricultural Operations - Sport	-
Private Operations - Aeroplanes	0.08
Private Operations - Helicopters	0.09
Private Operations - Sport	0.54

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 July 2008 to 30 June 2013 (for the aircraft classes aeroplane, helicopter and balloon only). Adequate flying hours data for the 3rd and 4th quarters of 2013, and 1st quarter of 2014, are not available yet due to later returns from operators.



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

Quarterly Comparison

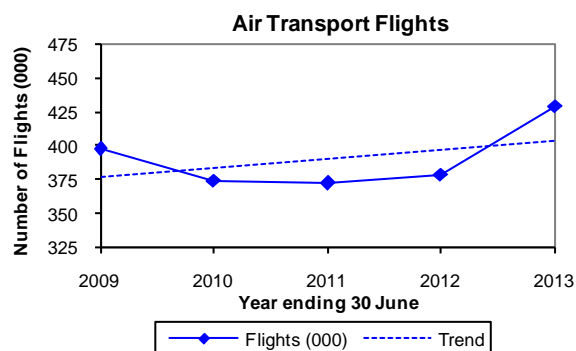
Activity	1 Apr to 30 Jun	1 Apr to 30 Jun	Change	
	2012	2013	Number	Percentage
Airline/Transport Hours	118,453	121,569	+ 3,116	+ 2.6
Adventure Aviation Hours	2,134	2,993	+ 859	+ 40.3
Other Commercial Hours	88,874	85,357	- 3,517	- 4.0
Agricultural Hours	26,221	32,863	+ 6,642	+ 25.3
Private Hours	12,845	11,668	- 1,176	- 9.2
Total Hours	248,526	254,450	+ 5,924	+ 2.4

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 30 June 2013 (the most recent quarter for which adequate 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 July 2008 to 30 June 2013 (for the aircraft classes aeroplane, helicopter and balloon only).



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

Quarterly Comparison

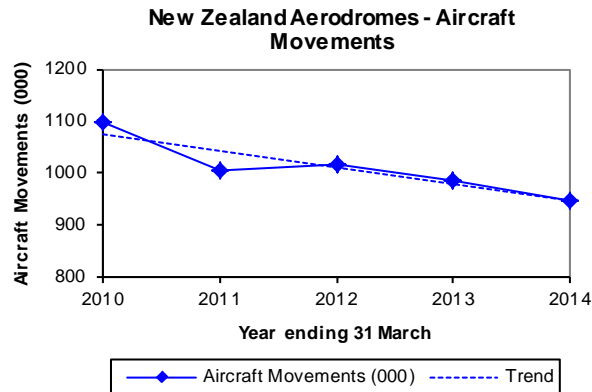
Activity	1 Apr to 30 Jun	1 Apr to 30 Jun	Change	
	2012	2013	Number	Percentage
Air Transport Flights	88,546	104,095	+ 15,549	+ 17.6

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 30 June 2013 (the most recent quarter for which adequate 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 April 2009 to 31 March 2014.



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

Quarterly Comparison

Activity	1 Jan to 31 Mar	1 Jan to 31 Mar	Change	
	2013	2014	Number	Percentage
Aircraft Movements	256,386	247,546	- 8,840	- 3.4

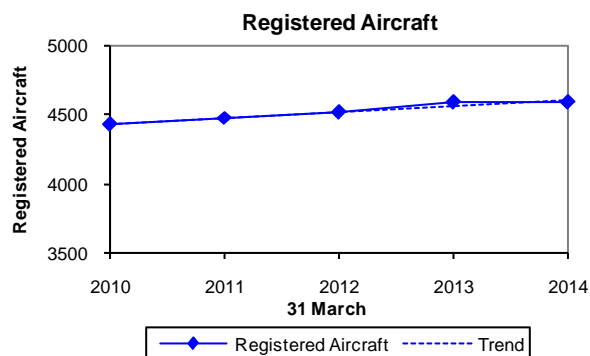
Note that this covers certificated aerodromes only. These figures are as reported to CAA by Airways Corporation and Taupo Airport. Includes Auckland, Christchurch, Dunedin, Gisborne, Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Paraparaumu (certificated from April 2009, included in the graph from late July 2011), 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), Te Anau/Manapouri, Timaru, Wanganui, Westport and Whangarei.

Note that there were errors in the Aircraft Movements data shown in the reports for 1 July to 30 September 2013 and 1 October to 31 December 2013, in this section and in the table of Number of Aircraft Movements in Section 4. The data shown in this report is correct.

Registered Aircraft by Aircraft Statistics Category

Trends

The following graph shows the number of registered aircraft at 31 March for each of the five-years 2010 to 2014.



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

Quarterly Comparison

Aircraft Statistics Category	31 March	31 March	Change	
	2013	2014	Number	Percentage
Large Aeroplanes	126	128	+ 2	+ 1.6
Medium Aeroplanes	79	80	+ 1	+ 1.3
Small Aeroplanes	1,534	1,516	- 18	- 1.2
Agricultural Aeroplanes	106	103	- 3	- 2.8
Helicopters	790	803	+ 13	+ 1.6
Sport Aircraft	1,952	1,957	+ 5	+ 0.3
Total	4,587	4,587	0	0

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

Licences

The number of Recreational Pilot Licences (with a medical fitness certificate) decreased from 248 at 31 March 2013 to 143 at 31 March 2014, a decrease of 105 (42%).

Section 4 - Quarterly Statistics

Quarter	2011/2	2011/3	2011/4	2012/1	2012/2	2012/3
Social Cost \$ million¹	22.57	1.80	22.69	59.75	15.96	1.09
Number of Fatal Accidents²	4	0	3	4	2	0
Number of Fatal Injuries²	5	0	4	15	3	0
Number of Serious + Minor Injuries²	6	3	9	4	7	4
Number of Aircraft Accidents²						
Large Aeroplanes	0	0	0	0	0	0
Medium Aeroplanes	0	1	0	0	0	0
Small Aeroplanes	5	4	5	3	3	3
Agricultural Aeroplanes	3	0	1	0	2	2
Helicopters	6	4	8	2	5	3
Sport Aircraft	5	5	6	9	9	5
Unknown Aircraft	1	1	0	1	0	0
Hang Gliders	3	0	2	6	1	2
Parachutes	3	2	2	4	3	2
Number of Incidents³	1,239	1,230	1,119	1,297	1,184	1,270
Number of Aviation Related Concerns⁴	155	271	230	219	194	220
Number of Hours Flown⁵	224,426	227,714	245,377	308,452	248,526	274,548
Number of Air Transport Flights⁵	82,173	85,482	93,488	111,549	88,546	100,865
Number of Aircraft Movements⁶	242,338	261,592	250,101	261,767	243,135	239,410
Number of Aircraft on the Register⁷	4,490	4,495	4,499	4,516	4,532	4,558
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	9	9	9	9	9	9
Air Operator – Medium Aeroplanes	15	15	15	15	15	14
Air Operator – Helicopters and Small Aeroplanes	174	174	175	176	171	166
Number of Part 115 Adventure Aviation Operators	0	0	1	1	20	28
Number of Part 137 Agricultural Aircraft Operators	104	106	105	101	99	99
Number of Part 141 Training Organisations	54	55	57	58	57	58
Number of Part 149 Recreation Organisations	9	9	8	9	9	7
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	180	189	205	222	221	224
Private Pilot Licence (Class 1 & 2)	3,603	3,577	3,513	3,479	3,458	3,451
Commercial Pilot Licence (Class 2 only)	2,229	2,236	2,284	2,325	2,379	2,428
Commercial Pilot Licence (Class 1)	2,339	2,380	2,362	2,350	2,337	2,316
Airline Transport Pilot Licence (Class 2 only)	909	965	962	925	915	953
Airline Transport Pilot Licence (Class 1)	1,188	1,118	1,124	1,166	1,175	1,140
Air Traffic Controller Licence (Class 3)	361	361	362	370	374	374
Aircraft Maintenance Engineer Licence (N/A)	2,519	2,540	2,549	2,563	2,575	2,595

¹ All aircraft statistics categories. Includes hang gliders and parachutes. Cost of fatal, serious and minor injuries, and aircraft destroyed, in June 2013 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 30 June 2013 (the most recent quarter for which adequate data are available) with an allowance for aircraft for which reports were not received. Estimated for 2013/3, 2013/4 and 2014/1.

⁶ There were errors in the Number of Aircraft Movements shown in the reports for 1 July to 30 September 2013 and 1 October to 31 December 2013, in this table and in the page of Aircraft Movements in Section 3. The data shown in this report is correct.

Quarter	2012/4	2013/1	2013/2	2013/3	2013/4	2014/1
Social Cost \$ million¹	15.30	26.37	3.02	2.48	14.26	30.02
Number of Fatal Accidents²	3	3	0	0	2	4
Number of Fatal Injuries²	3	5	0	0	2	5
Number of Serious + Minor Injuries²	7	12	10	6	21	19
Number of Aircraft Accidents²						
Large Aeroplanes	0	0	0	0	2	2
Medium Aeroplanes	0	0	0	0	0	0
Small Aeroplanes	2	11	6	4	7	8
Agricultural Aeroplanes	4	2	3	1	3	2
Helicopters	5	5	8	1	6	5
Sport Aircraft	7	11	8	6	10	22
Unknown Aircraft	0	1	0	0	1	2
Hang Gliders	3	4	4	2	4	6
Parachutes	3	3	1	0	1	4
Number of Incidents³	1,322	1,514	1,459	1,372	1,368	1,264
Number of Aviation Related Concerns⁴	156	206	181	219	207	268
Number of Hours Flown⁵	296,470	304,186	254,450	233,972	255,861	306,674
Number of Air Transport Flights⁵	115,540	109,106	104,095	96,066	103,520	117,908
Number of Aircraft Movements⁶	248,728	256,386	227,657	232,694	240,943	247,546
Number of Aircraft on the Register⁷	4,581	4,587	4,579	4,577	4,562	4,587
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	9	9	9	9	9	9
Air Operator – Medium Aeroplanes	15	16	16	16	15	15
Air Operator – Helicopters and Small Aeroplanes	168	174	173	168	166	167
Number of Part 115 Adventure Aviation Operators	33	33	33	34	34	32
Number of Part 137 Agricultural Aircraft Operators	104	103	103	98	99	99
Number of Part 141 Training Organisations	59	59	57	57	56	52
Number of Part 149 Recreation Organisations	7	7	7	8	8	8
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	240	248	247	174	149	143
Private Pilot Licence (Class 1 & 2)	3,361	3,298	3,193	3,108	3,017	2,948
Commercial Pilot Licence (Class 2 only)	2,420	2,561	2,554	2,578	2,571	2,527
Commercial Pilot Licence (Class 1)	2,366	2,225	2,217	2,167	2,150	2,147
Airline Transport Pilot Licence (Class 2 only)	993	1,053	993	1,060	1,052	990
Airline Transport Pilot Licence (Class 1)	1,119	1,078	1,163	1,121	1,120	1,204
Air Traffic Controller Licence (Class 3)	363	363	367	375	380	381
Aircraft Maintenance Engineer Licence (N/A)	2,611	2,626	2,639	2,647	2,660	2,678

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, Paraparaumu (certificated from April 2009, included in the table from late July 2011), Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Airport, Hokitika, Kerikeri/Bay of Islands, Mount Cook (certificated from Nov 2012), 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.

Note about Social Cost

Social cost is a way of measuring safety performance by accounting for the number and severity of casualties, and aircraft damage. The values used to estimate cost 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. The Ministry of Transport has directed its agencies to use social cost to permit comparisons between transport modes. The current value of statistical life is \$3.85 million. 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.

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

