



Aviation Safety Summary

1 October to 31 December 2014



Spring 2014

Introduction to the Quarterly Safety Summary Report

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

I am sometimes asked how this quarterly Aviation Safety Summary Report differs from the Aviation Industry Safety Update which is published every six months. This safety summary report focuses on the accidents within a three month period with some basic industry activity information to give context. The industry safety updates provide a much more comprehensive overview of activity levels, flying hours and certificates issued but includes some chapters concerned with accidents and incidents. In a sense the reports are complementary and have some degree of overlap, but they fulfil different roles.

As accidents are notified to CAA as and when they happen, the resultant random distribution of events can make it hard to detect trends at the time of any one accident. This report reviews three months' worth of accidents and significant incidents at regular intervals in an effort to provide a better overview of the safety performance of each sector over time.

This quarter saw 31 accidents. That's slightly less than the 34 accidents in the same quarter last year, but higher than the average of 24 accidents per quarter for the previous three spring quarters. 24 of this quarters accidents were in the 'Non Commercial' sector and 20 of those were sport aircraft with no fatalities. Meanwhile the two fatalities occurred in the 'Other Commercial' sector. This disparity between number of accidents and number of fatalities is why social cost is used to help direct regulatory effort, rather than a simple count or even rate of accidents.

Some commentary regarding safety trends is provided in this report, but it is likely that there are other contributing factors to those described. Industry and public comment is welcome and can be directed to the undersigned.

Safe flying,

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Cover photograph courtesy of Tim Ward.

Executive Summary - Aviation Safety to 31 December 2014

- There were a total of 31 accidents in the October to December quarter, the spring of 2014. There were 2 fatal, 9 serious and 14 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:
 - Sport Transport 1 minor injury
 - Other Commercial Operations - Helicopters 1 fatal injury, and 1 aircraft destroyed
 - Agricultural Operations - Aeroplanes 1 serious injury, and 1 aircraft destroyed
 - Agricultural Operations - Helicopters 1 fatal injury, and 1 aircraft destroyed
 - Private Operations - Aeroplanes 2 serious injuries, 4 minor injuries, and 2 aircraft destroyed
 - Private Operations - Helicopters 1 minor injury
 - Private Operations - Sport 6 serious injuries, 8 minor injuries, and 1 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 \$71 million (three year average). The social cost has halted its upward trend and now shows a neutral trend. In the last four years the cost has increased by 12% from \$63M to \$71M. See page 4.
- The overall accident rate over the period January 2010 to December 2014 has decreased to 4.0 accidents per 100,000 hours flown, which is below the average of approximately 5.2 accidents per 100,000 hours flown over the previous four years, see page 7.
- Defect incident rates are increasing for large aeroplanes, see page 10.
- Aircraft incident rates are increasing for medium aeroplanes, small aeroplanes and agricultural aeroplanes, see page 11.
- Airspace incident rates are increasing for medium aeroplanes, small aeroplanes, agricultural aeroplanes and helicopters, see page 12.
- The total annual number of hours flown for the year ending March 2014 is approximately the same as for the year ending March 2010. The number of agricultural hours flown has increased by 46% over this period (an increase of approximately 37,000 hours) while the number of other commercial hours has decreased by 19% (a decrease of approximately 66,000 hours) and the number of private hours has decreased by 23% (a decrease of approximately 14,000 hours). The reporting of adventure aviation hours as a separate category began in 2012, and is now at approximately 11,000 hours. See page 15.
- The annual number of air transport flights has increased from a low in the year 2012, and the total for the year ending March 2014 is approximately the same as for 2010. However, the total annual number of aircraft movements from certificated aerodromes is continuing to decrease, by 10% from the year ending December 2010 to the year ending December 2014. See pages 16 and 17.
- The number of Recreational Pilot Licences (with a medical fitness certificate) increased from 281 at 31 December 2013 to 320 at 31 December 2014, an increase of 39 (14%). The number of Private Pilot Licences (with an active class 1 or active class 2 medical certificate) decreased from 3,017 to 2,617, a decrease of 400 (13%). Over the same period the number of Part 115 certificated Adventure Aviation Operators decreased from 34 to 27, a decrease of 7 (21%).

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 2014. The table also shows the number of accidents in this quarter.

Legend:

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

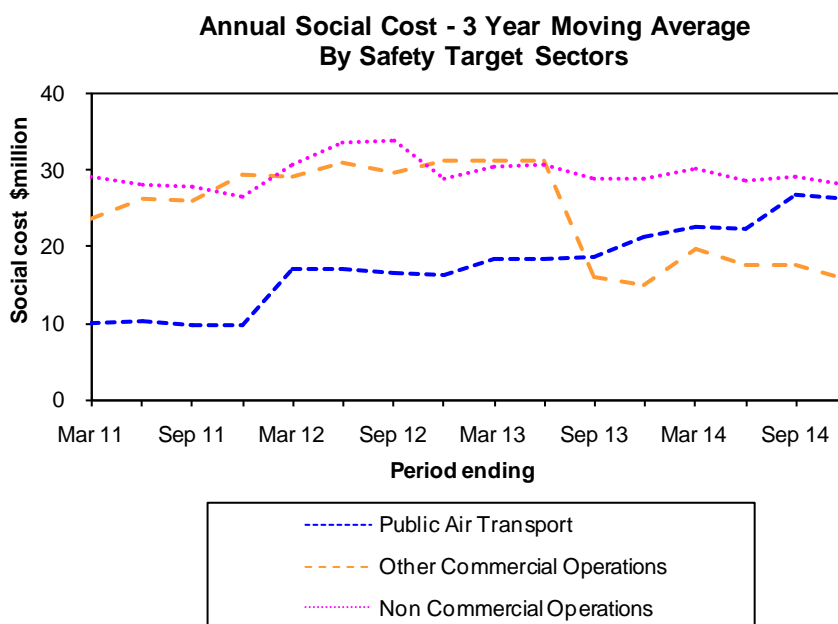
Total Safety Cost \$14.26 m	Public Air Transport \$0.02 m	Airline Operations - Large Aeroplanes	Social Cost \$0.00 m	†	+	+	↓	△
		Airline Operations - Medium Aeroplanes	Social Cost \$0.00 m	0	0	0	0	0
		Airline Operations - Small Aeroplanes	Social Cost \$0.00 m	0	0	0	0	0
		Airline Operations - Helicopters	Social Cost \$0.00 m	0	0	0	0	0
		Sport Transport	Social Cost \$0.02 m	0	0	1	0	2
	Other Commercial Operations \$10.28 m	Other Commercial Operations - Aeroplanes	Social Cost \$0.00 m	0	0	0	0	1
		Other Commercial Operations - Helicopters	Social Cost \$4.29 m	1	0	0	1	1
		Agricultural Operations - Aeroplanes	Social Cost \$0.73 m	0	1	0	1	1
		Agricultural Operations - Helicopters	Social Cost \$5.25 m	1	0	0	1	1
		Agricultural Operations - Sport	Social Cost \$0.00 m	0	0	0	0	0
	Non Commercial Operations \$3.96 m	Private Operations - Aeroplanes	Social Cost \$1.25 m	0	2	4	2	3
		Private Operations - Helicopters	Social Cost \$0.02 m	0	0	1	0	1
		Private Operations - Sport	Social Cost \$2.69 m	0	6	8	1	20

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 2014 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 January 2011 to 31 December 2014, (including the Sport Safety Target Groups).



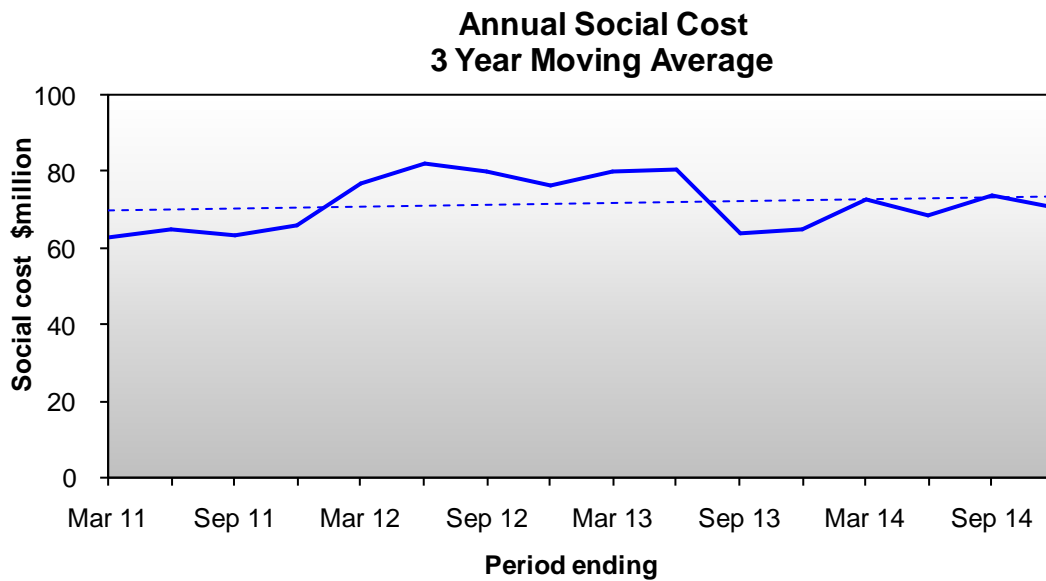
Social Cost Analysis

The graph above indicates the social cost contribution of each safety target sector averaged over the previous three years. A notable feature is that the 'Public Air Transport' average annual social cost is steadily rising. This is a concern as Public Air Transport is generally expected to have higher levels of safety than Other Commercial or Non Commercial flying activity. While in this particular quarter there have been no further fatal or serious injury Public Air Transport accidents the three year annual average remains high. This recent increase, which began in 2013, has been driven by accidents in the 'Airline Operations - Helicopters' safety target group and to a lesser extent 'Airline Operations - Small Aeroplanes'. In response to this sustained upward trend the CAA has initiated a sector risk profile of Part 135 passenger operations. The sector risk profile is due for completion in late 2015 and should provide a clearer view of operations in the Part 135 sub sector of Public Air Transport.

In contrast the social cost of the 'Other Commercial' sector is showing a long-term decrease. Nonetheless in this quarter there were two fatal accidents. The 'Agricultural Operations - Helicopters' safety target group suffered 1 accident with 1 fatal injury and 1 aircraft destroyed. 'Other Commercial Operations - Helicopters' had a fatal accident with 1 fatal injury and 1 aircraft destroyed. Details of accidents in this sector are shown on page 7. The downwards trend is due to the past high social cost accrued from the Fox Glacier accident, but accidents continue to pose a threat in this sector.

Within the 'Non Commercial Operations' sector in the latest quarter the 'Private Operations - Sport' safety target group was the biggest contributor with 6 serious injuries, 8 minor injuries and 1 aircraft destroyed. The next biggest contributor was 'Private Operations - Aeroplanes' with 2 serious injuries, 4 minor injuries and 2 aircraft destroyed. Details of accidents in this sector are shown on pages 8 and 9.

The combined annual social cost of all three sectors is shown in the graph on the next page and has increased by 12% from \$63M to \$71M between 2011 and 2014.



Accidents by Safety Target Group *Quarterly Comparison*

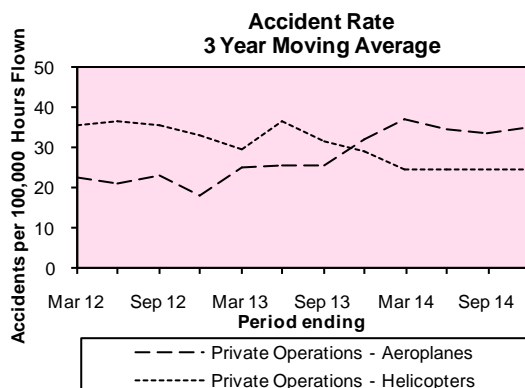
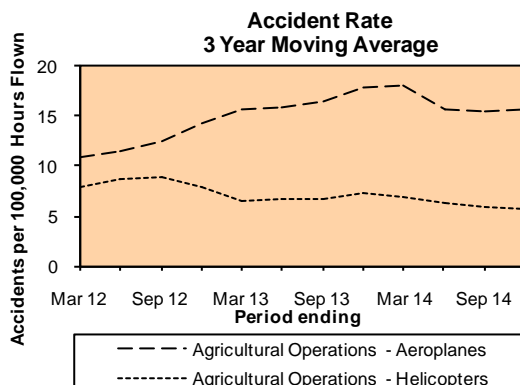
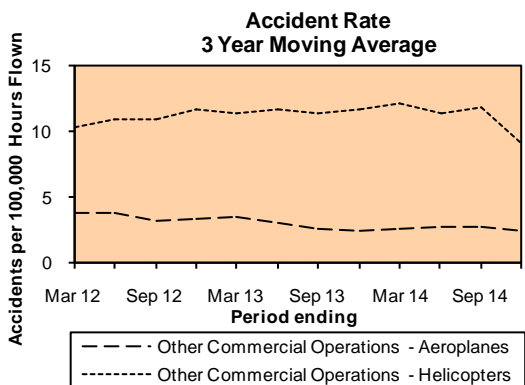
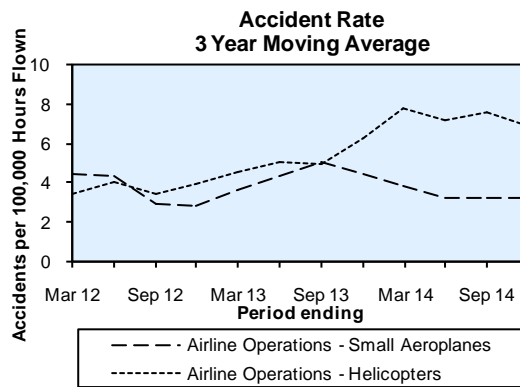
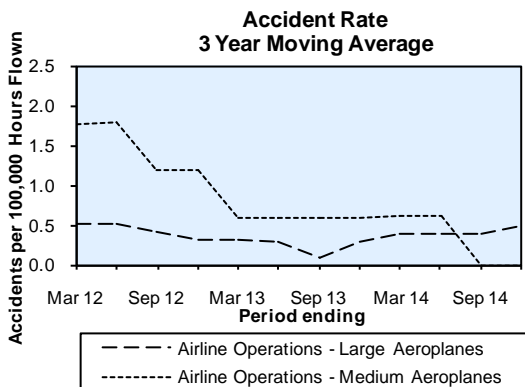
Safety Target Group	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
Airline Operations - Large Aeroplanes	1	2	0.0
Airline Operations - Medium Aeroplanes	0	0	0.0
Airline Operations - Small Aeroplanes	0	0	0.3
Airline Operations - Helicopters	0	2	0.7
Sport Transport	2	1	1.7
Other Commercial Operations - Aeroplanes	1	1	2.3
Other Commercial Operations - Helicopters	1	2	2.7
Agricultural Operations - Aeroplanes	1	3	2.0
Agricultural Operations - Helicopters	1	2	0.7
Agricultural Operations - Sport Aircraft	0	0	0.0
Private Operations - Aeroplanes	3	6	1.0
Private Operations - Helicopters	1	0	1.3
Private Operations - Sport	20	14	11.7
Other	0	1	0.0
Total	31	34	24.3

Comment

Overall accident numbers in the 2014 spring quarter have decreased by 3 (9%) in comparison to the 2013 spring quarter. The biggest decrease is within the Private Operations - Aeroplanes group. While 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 January 2012 to 31 December 2014 (excluding the Sport Safety Target Groups, for which no accurate activity information is available).



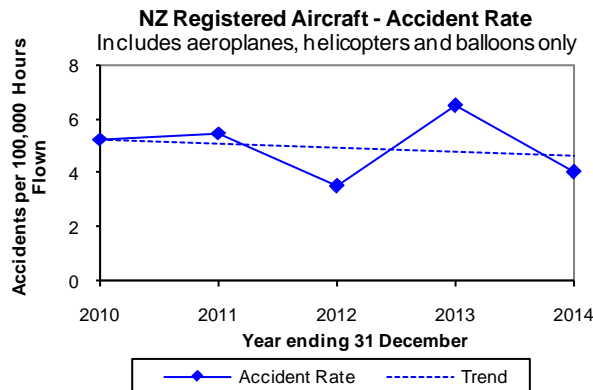
No accident rate information available for Sport Transport or Private Operations - Sport.

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 January 2010 to 31 December 2014. The accident rate has decreased to 4.0 accidents per 100,000 hours flown, which is below the average of approximately 5.2 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 October to 31 December 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 - Helicopters

- A Robinson R44 II went missing during a ferry/positioning flight. The helicopter was found three days later with the pilot deceased. The helicopter was destroyed.

Agricultural Operations - Helicopters

- A Hughes 369E struck two suspended electric fence feeder wires during an agricultural spraying operation. The wires became entangled in the tail fins and tail rotor resulting in the tail section departing the helicopter. The pilot was unable to control the helicopter which landed heavily on its side on a road, fatally injuring the pilot. The helicopter was destroyed.

Serious Injury Accidents

Agricultural Operations - Aeroplanes

- A NZ Aerospace FU24-954 crashed while on an agricultural operation. The pilot received serious injuries and was taken to hospital by helicopter. The aeroplane was destroyed.

Private Operations - Aeroplanes

- A Piper PA-28-140 (small aeroplane) suffered engine power loss and ditched into the sea near a harbour entrance. One passenger received serious injuries, and the pilot and the other passenger received minor injuries. The aeroplane was destroyed.
- After getting airborne the Cessna Skylane (small aeroplane) encountered sink while at low level. The pilot chose to land the aeroplane on the remaining strip but the aircraft overran the strip, going through a fence and into a ploughed field. The nose wheel sheared off and the aeroplane flipped. One passenger received serious injuries and two passengers received minor injuries. The pilot was not injured. The aeroplane was destroyed.

Private Operations - Sport

- A class 2 microlight crashed after appearing to climb too steeply on a go-around. The pilot and passenger received serious injuries. The microlight was destroyed.
- A hang glider pilot landed heavily downwind after inexplicably turning 180 degrees on approach during a solo training flight. The pilot received serious injuries (a fractured wrist and concussion).
- A paraglider was dumped into the ground due to turbulence. The pilot received serious injuries (was knocked unconscious).
- The paraglider pilot impacted a cliff during a low speed turn, receiving serious injuries (two broken legs).
- The parachutist drifted towards the runway while on final approach, flared too high to prevent any further forward movement and landed awkwardly on the edge of the runway. The pilot received serious injuries (dislocated ankle and fractures to ankle).

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Minor Injury Accidents

Sport Transport

- Shortly after the tandem parachute opened the passenger suffered pain in the back of their head. The pain persisted on the ground and the passenger was sent to a medical centre, remaining there over the weekend. They were diagnosed with muscle strain (minor injury).

Private Operations - Helicopters

- A helicopter rolled over during an emergency landing, after the pilot noticed a low frequency vibration during a test flight. The pilot received minor injuries.

Private Operations - Sport

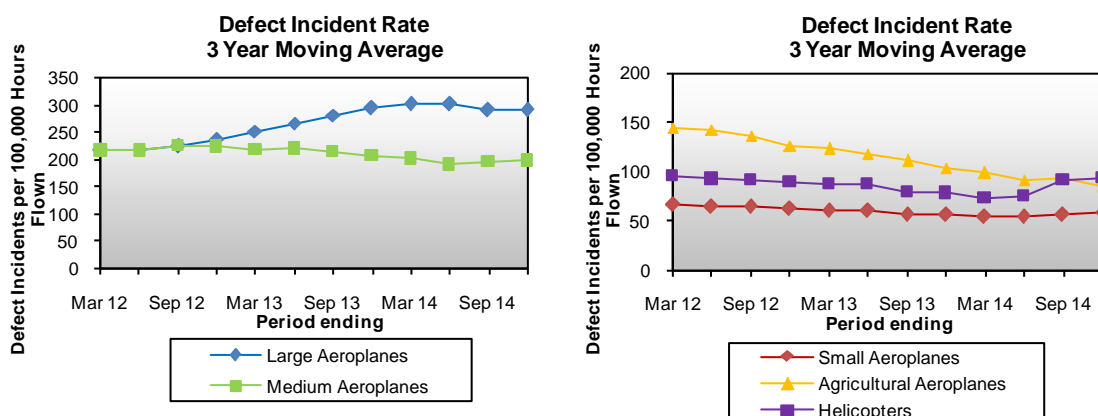
- As a class 2 microlight was touching down, a cross wind caught under the left wing and the microlight rolled to the right and dug into the ground causing substantial damage to the wing. The pilot received minor injuries.
- A class 2 microlight suffered an engine failure while in the cruise. The pilot received minor injuries.
- While on approach, a class 1 microlight had an engine failure, stalled and flipped. The pilot received minor injuries.
- Prior to takeoff, a gyroplane did not get up enough rotor speed and suffered blade flap. The blades hit the ground and caused the gyroplane to roll over. The two crew members received minor injuries.
- A glider had to make an outlanding due to lack of altitude. While landing on a paddock, the glider went through an electric fence, damaging the wing and canopy. The pilot received minor injuries. The passenger was not injured.
- A paraglider crashed and 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 January 2012 to 31 December 2014 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Defect Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
◆ Large Aeroplanes	150	303	194.3
■ Medium Aeroplanes	29	21	32.0
◆ Small Aeroplanes	75	48	47.3
▲ Agricultural Aeroplanes	4	8	12.7
■ Helicopters	48	44	40.3
Sport Aircraft	6	7	7.3
Unknown Aircraft	10	20	12.0
Total	322	451	346.0

Severity of Reported Defect Incidents

Severity	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
Critical	0	0	1.3
Major	30	63	54.7
Minor	292	388	290.0

No critical defect incidents were reported in the 1 October to 31 December 2014 quarter.

Rate Monitoring

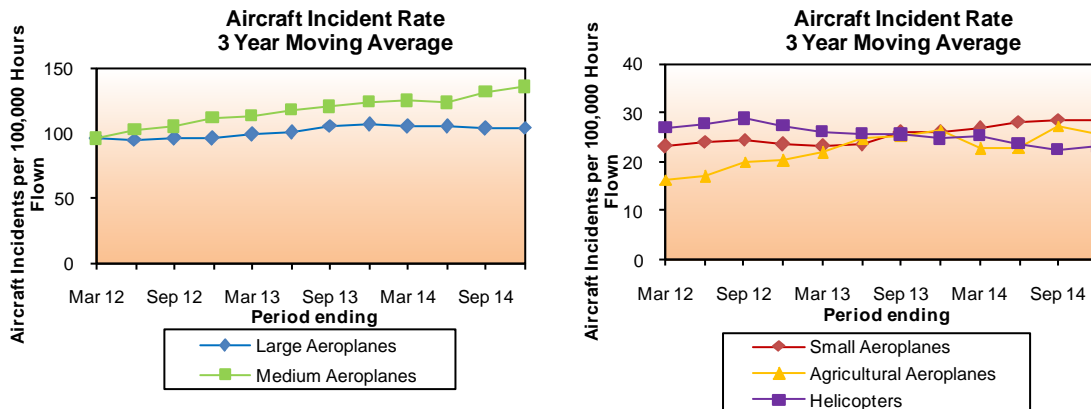
Defect incident rate monitoring of individual types of large and medium air transport aircraft has been carried out for the period ended 31 December 2014, using estimated data for some of the aircraft types due to a shortage of returned Aircraft Operations Statistics for these aircraft. Analysis shows that none of the 15 monitored aircraft types have defect rates above the “trigger level” for CAA action (12 types of large aeroplane and 3 types of medium aeroplane are monitored).

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 January 2012 to 31 December 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 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
◆ Large Aeroplanes	78	73	81.3
■ Medium Aeroplanes	18	25	18.3
◆ Small Aeroplanes	23	26	24.7
▲ Agricultural Aeroplanes	2	2	2.0
■ Helicopters	15	13	13.3
Sport Aircraft	2	10	6.0
Unknown Aircraft	53	39	44.0
Total	191	188	189.7

Severity of Reported Aircraft Incidents

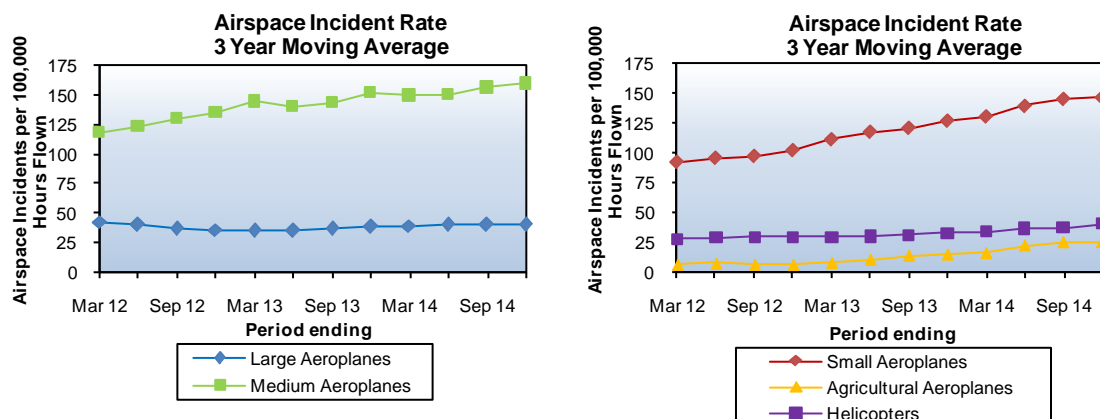
Severity	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
Critical	5	4	1.7
Major	12	22	28.7
Minor	174	162	159.3

Of the 5 critical aircraft incidents reported in the 1 October to 31 December 2014 quarter, 1 was in the 'Small Aeroplanes' statistics category (trainee pilot illness/incapacitation), 1 was in the 'Agricultural Aeroplanes' statistics category, and 3 were in the 'Helicopters' statistics category (wire strikes).

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 2012 to 31 December 2014 (excluding the Sport Aircraft statistics category).



Quarterly Comparison

Number of Reported Airspace Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
◆ Large Aeroplanes	40	33	27.0
■ Medium Aeroplanes	17	23	19.3
◆ Small Aeroplanes	104	130	101.0
▲ Agricultural Aeroplanes	3	1	1.0
■ Helicopters	30	26	14.0
Sport Aircraft	18	25	12.3
Unknown Aircraft	138	135	102.0
Total	350	373	276.7

Severity of Reported Airspace Incidents

Severity	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
Critical	1	5	4.0
Major	21	29	45.3
Minor	328	339	227.3

The critical airspace incident reported in the 1 October to 31 December 2014 quarter was in the 'Small Aeroplanes' statistics category. Analysis of reported airspace incidents continues on next page.

Reported Critical Airspace Incidents continued

Small Aeroplanes/Medium Aeroplanes

- A small aeroplane on a passenger transport A to B flight had a near collision with a medium aeroplane on a passenger transport A to B flight. The flights were on opposite headings because the small aeroplane had amended their intended route but was on the wrong frequency and the change had not been heard. There was a last minute TCAS alert and avoiding action had to be taken.

Attributability

Of the 350 reported airspace incidents in the 1 October to 31 December 2014 quarter, 16% are Air Traffic Service (ATS) attributable, 73% are pilot attributable, 3% are ATS and pilot attributable, and 8% are unknown attributable.

(Note that the percentages may not sum exactly to 100% due to rounding.)

Since January 2012 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 2014.

There were 6 aerodromes with strike rates in the high risk category of the CAA standard (10.0 and above bird strikes per 10,000 aircraft movements), 4 having long-term upward trends and 2 having long-term downward trends.

There were 5 aerodromes with strike rates in the medium risk category (5.0 to 10.0 per 10,000 movements), 4 having long-term upward trends and 1 having a long-term downward trend.

17 aerodromes had strike rates in the low risk category (below 5.0 per 10,000 aircraft movements), 6 having long-term upward trends, 6 having long-term constant trends and 5 having long-term downward trends.

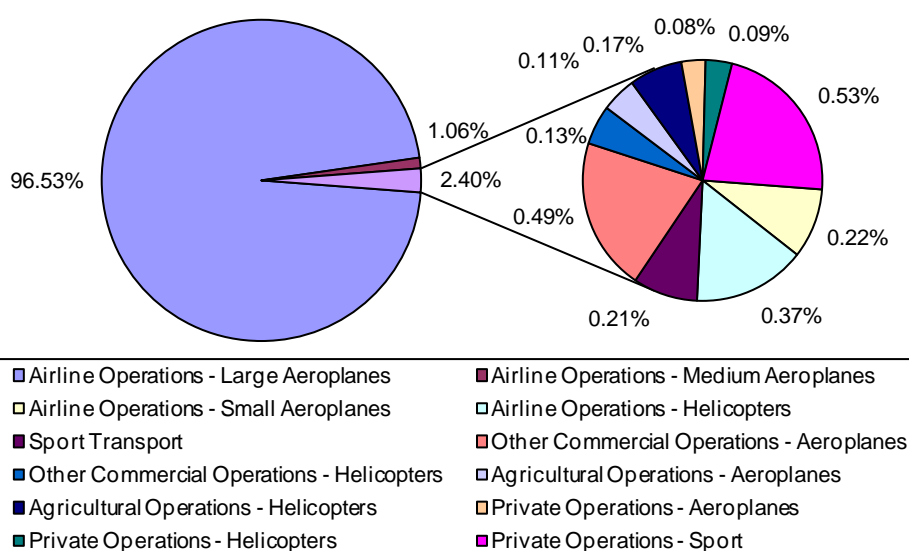
For more information visit the 'Bird Hazard Reports' section of the CAA web site http://www.caa.govt.nz/safety_info/safety_reports.htm

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 January to 31 March 2014 (the most recent quarter for which adequate data are available) with an allowance for aircraft for which reports were not received. Adequate flying hours data for the 2nd, 3rd and 4th quarters of 2014, are not available yet due to later returns from operators. 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



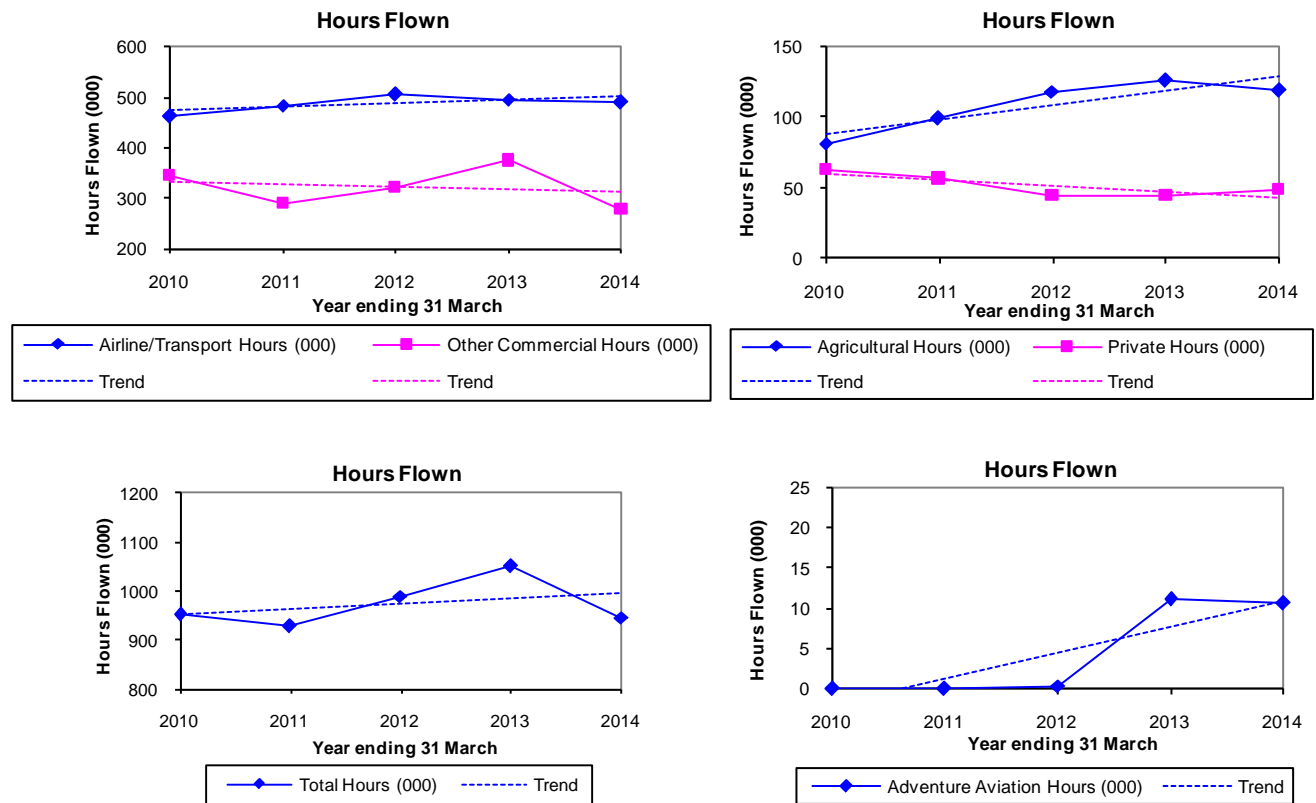
Safety Target Group	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	96.53
Airline Operations - Medium Aeroplanes	1.06
Airline Operations - Small Aeroplanes	0.22
Airline Operations - Helicopters	0.37
Sport Transport	0.21
Other Commercial Operations - Aeroplanes	0.49
Other Commercial Operations - Helicopters	0.13
Agricultural Operations - Aeroplanes	0.11
Agricultural Operations - Helicopters	0.17
Agricultural Operations - Sport	-
Private Operations - Aeroplanes	0.08
Private Operations - Helicopters	0.09
Private Operations - Sport	0.53

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 April 2009 to 31 March 2014 (for the aircraft classes aeroplane, helicopter and balloon only). Adequate flying hours data for the 2nd, 3rd and 4th quarters of 2014, are not available yet due to later returns from operators.



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

Note that the reporting of adventure aviation hours as a separate category began in 2012.

Quarterly Comparison

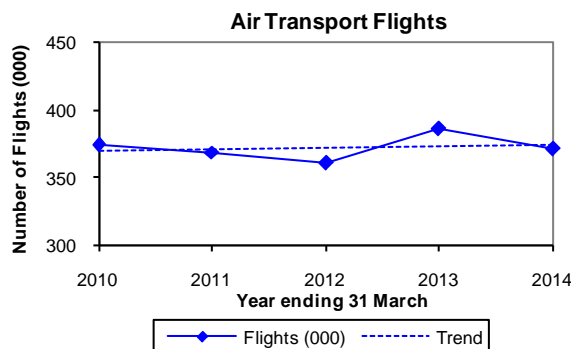
Activity	1 Jan to 31 Mar 2014	1 Jan to 31 Mar 2013	Average Of Same Quarter In Previous 3 Years
Airline/Transport Hours	131,776	130,767	131,317
Adventure Aviation Hours	3,830	3,518	90
Other Commercial Hours	74,943	82,760	88,630
Agricultural Hours	34,095	37,851	33,789
Private Hours	12,345	13,591	15,217
Total Hours	256,989	268,486	269,043

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 March 2014 (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 April 2009 to 31 March 2014 (for the aircraft classes aeroplane, helicopter and balloon only).



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

Quarterly Comparison

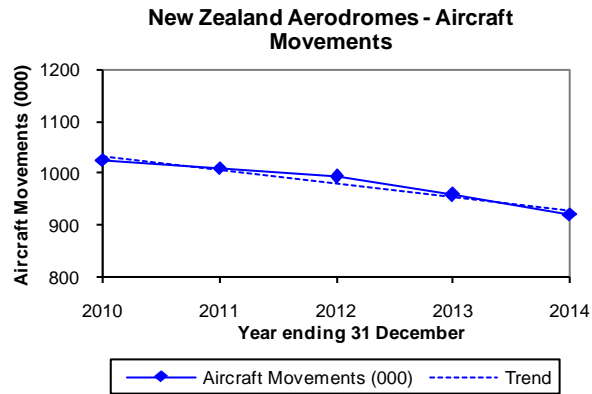
Activity	1 Jan to 31 Mar 2014	1 Jan to 31 Mar 2013	Average Of Same Quarter In Previous 3 Years
Air Transport Flights	102,730	104,106	103,321

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 March 2014 (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 January 2010 to 31 December 2014.



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

Quarterly Comparison

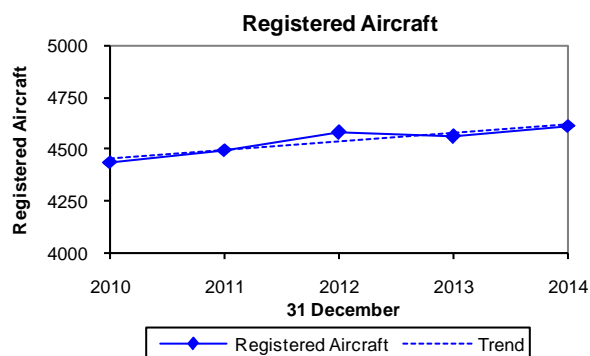
Activity	1 Oct to 31 Dec 2014	1 Oct to 31 Dec 2013	Average Of Same Quarter In Previous 3 Years
Aircraft Movements	220,846	240,943	251,768

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 from Nov 2012), 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 2010 to 2014.



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

Quarterly Comparison

Aircraft Statistics Category	31 December 2014	31 December 2013	Average Of 31 December In Previous 3 Years
Large Aeroplanes	128	128	124
Medium Aeroplanes	78	79	79
Small Aeroplanes	1,497	1,514	1,524
Agricultural Aeroplanes	97	103	109
Helicopters	831	795	772
Sport Aircraft	1,984	1,943	1,901
Total	4,615	4,562	4,507

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

Licences and Organisations

The number of Recreational Pilot Licences (with a medical fitness certificate) increased from 281 at 31 December 2013 to 320 at 31 December 2014, an increase of 39 (14%). The number of Private Pilot Licences (with an active class 1 or active class 2 medical certificate) decreased from 3,017 to 2,617, a decrease of 400 (13%).

Over the same period the number of Part 115 certificated Adventure Aviation Operators decreased from 34 to 27, a decrease of 7 (21%).

Section 4 - Quarterly Statistics

Quarter	2012/1	2012/2	2012/3	2012/4	2013/1	2013/2
Social Cost \$ million¹	61.32	16.36	1.12	15.68	27.02	3.09
Number of Fatal Accidents²	4	2	0	3	3	0
Number of Fatal Injuries²	15	3	0	3	5	0
Number of Serious + Minor Injuries²	4	7	4	7	12	10
Number of Aircraft Accidents²						
Large Aeroplanes	0	0	0	0	0	0
Medium Aeroplanes	0	0	0	0	0	0
Small Aeroplanes	3	3	3	2	11	6
Agricultural Aeroplanes	0	2	2	4	2	3
Helicopters	2	5	3	5	5	8
Sport Aircraft	9	9	5	7	11	8
Unknown Aircraft	1	0	0	0	1	0
Hang Gliders	6	1	2	3	4	4
Parachutes	4	3	2	3	3	1
Number of Incidents³	1,297	1,184	1,271	1,324	1,515	1,460
Number of Aviation Related Concerns⁴	219	194	220	156	206	181
Number of Hours Flown⁵	297,347	239,823	256,075	287,334	268,486	224,734
Number of Air Transport Flights⁵	102,197	83,463	89,021	109,980	104,106	87,328
Number of Aircraft Movements⁶	261,767	243,135	239,410	248,728	256,386	227,657
Number of Aircraft on the Register⁷	4,516	4,532	4,558	4,581	4,587	4,579
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	9	9	9	9	9	9
Air Operator – Medium Aeroplanes	15	15	14	15	16	16
Air Operator – Helicopters and Small Aeroplanes	176	171	166	168	174	173
Number of Part 115 Adventure Aviation Operators	1	20	28	33	33	33
Number of Part 137 Agricultural Aircraft Operators	101	99	99	104	103	103
Number of Part 141 Training Organisations	58	57	58	59	59	57
Number of Part 149 Recreation Organisations	9	9	7	7	7	7
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	222	221	224	240	248	247
Private Pilot Licence (Class 1 & 2)	3,479	3,458	3,451	3,361	3,298	3,193
Commercial Pilot Licence (Class 2 only)	2,325	2,379	2,428	2,420	2,561	2,554
Commercial Pilot Licence (Class 1)	2,350	2,337	2,316	2,366	2,225	2,217
Airline Transport Pilot Licence (Class 2 only)	925	915	953	993	1,053	993
Airline Transport Pilot Licence (Class 1)	1,166	1,175	1,140	1,119	1,078	1,163
Air Traffic Controller Licence (Class 3)	370	374	374	363	363	367
Aircraft Maintenance Engineer Licence (N/A)	2,563	2,575	2,595	2,611	2,626	2,639

¹ All aircraft statistics categories. Includes hang gliders and parachutes. Cost of fatal, serious and minor injuries, and aircraft destroyed, in June 2014 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 March 2014 (the most recent quarter for which adequate data are available) with an allowance for aircraft for which reports were not received. Estimated for 2014/2, 2014/3 and 2014/4.

Quarter	2013/3	2013/4	2014/1	2014/2	2014/3	2014/4
Social Cost \$ million¹	2.54	14.59	36.77	10.79	16.52	14.26
Number of Fatal Accidents²	0	2	5	1	2	2
Number of Fatal Injuries²	0	2	6	2	2	2
Number of Serious + Minor Injuries²	6	21	19	6	16	22
Number of Aircraft Accidents²						
Large Aeroplanes	0	2	2	0	0	1
Medium Aeroplanes	0	0	0	0	0	0
Small Aeroplanes	4	7	8	3	2	4
Agricultural Aeroplanes	1	3	2	0	0	1
Helicopters	1	6	5	2	4	3
Sport Aircraft	6	10	22	5	2	13
Unknown Aircraft	0	1	2	0	0	0
Hang Gliders	2	4	6	0	5	7
Parachutes	0	1	4	3	2	2
Number of Incidents³	1,376	1,376	1,279	1,241	1,371	1,259
Number of Aviation Related Concerns⁴	219	208	270	171	215	220
Number of Hours Flown⁵	225,221	238,915	256,989	208,417	219,836	233,185
Number of Air Transport Flights⁵	86,466	94,684	102,730	78,366	83,806	101,070
Number of Aircraft Movements⁶	232,694	240,943	247,546	221,072	232,016	220,846
Number of Aircraft on the Register⁷	4,577	4,562	4,587	4,552	4,570	4,615
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	9	9	9	9	9	8
Air Operator – Medium Aeroplanes	16	15	15	14	13	12
Air Operator – Helicopters and Small Aeroplanes	168	166	167	168	167	165
Number of Part 115 Adventure Aviation Operators	34	34	32	28	27	27
Number of Part 137 Agricultural Aircraft Operators	98	99	99	99	98	97
Number of Part 141 Training Organisations	57	56	52	53	55	55
Number of Part 149 Recreation Organisations	8	8	8	8	8	8
Number of Licences (Type of Medical Certificate)⁸						
Recreational Pilot Licence (RPL Medical)	267	281	289	293	311	320
Private Pilot Licence (Class 1 & 2)	3,108	3,017	2,948	2,816	2,763	2,617
Commercial Pilot Licence (Class 2 only)	2,578	2,571	2,527	2,544	2,515	2,442
Commercial Pilot Licence (Class 1)	2,167	2,150	2,147	2,098	2,107	2,125
Airline Transport Pilot Licence (Class 2 only)	1,060	1,052	990	994	986	998
Airline Transport Pilot Licence (Class 1)	1,121	1,120	1,204	1,223	1,232	1,226
Air Traffic Controller Licence (Class 3)	375	380	381	381	384	379
Aircraft Maintenance Engineer Licence (N/A)	2,647	2,660	2,678	2,699	2,708	2,726

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, 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 \$3.95 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

