



# AVIATION SAFETY SUMMARY JULY - SEPTEMBER 2018

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# INTRODUCTORY COMMENT

## Introductory Comment

Over the Winter season of 2018 there were 21 accidents. 16 were in private operations, 2 in commercial operations (both flight training). There were 3 accidents involving organisations certified under part 115.

The Airlines Sector, large, medium and small aeroplanes and passenger carrying helicopters) had an accident free quarter. The accident rate in these sectors is improving particularly the airline helicopter sub-sector. Nonetheless the winter weather brought its safety challenges for these commercial operations, with potentially serious events caused by turbulence, wind shear and icing.

The private and recreational sector suffered 16 accidents, during the winter season when activity in this sector is usually reduced. The accidents involved 3 certified aircraft, 5 microlights and 8 parachutes, paragliders or hang-gliders. There were two fatal accidents, an Alpi Pioneer 300 in the Catlins forest which is under CAA investigation and an R44 helicopter was recovered from Lake Wanaka and is under investigation by TAIC. No further details of either accident are available at this time.

## Accidents by Safety Target Group

### Quarterly Comparison

Safety Target Group	1 Jul to 30 Sep	1 Jul to 30 Sep	Average Of Same Quarter
	2018	2017	In Previous 3 Years
Airline Operations - Large Aeroplanes	0	0	0.3
Airline Operations - Medium Aeroplanes	0	0	0.0
Airline Operations - Small Aeroplanes	0	0	0.3
Airline Operations - Helicopters	0	0	1.0
<b>Sport Transport</b>	<b>3</b>	<b>1</b>	<b>2.0</b>
<b>Other Commercial Operations - Aeroplanes</b>	<b>2</b>	<b>1</b>	<b>0.7</b>
Other Commercial Operations - Helicopters	0	1	1.0
Other Commercial Operations - Sport	0	0	1.7
Agricultural Operations - Aeroplanes	0	0	0.3
Agricultural Operations - Helicopters	0	0	0.3
Agricultural Operations - Sport Aircraft	0	0	0.0
<b>Private Operations - Aeroplanes</b>	<b>6</b>	<b>3</b>	<b>1.3</b>
<b>Private Operations - Helicopters</b>	<b>2</b>	<b>0</b>	<b>1.3</b>
<b>Private Operations - Sport</b>	<b>8</b>	<b>6</b>	<b>7.3</b>
Other	0	0	0.0
<b>Total</b>	<b>21</b>	<b>12</b>	<b>17.7</b>



# SECTOR COMMENTARY

## Sector Commentary

### Passenger Operations

The accident rate for medium aircraft in commercial passenger operations has reduced to zero as the last accident was more than three years ago, ( a Cessna caravan taxing accident at Wellington ). The large aeroplane sector has recorded some minor passenger injury accidents, without these the large aeroplane airline operations accident rate would be almost zero.

The accident rate in airline operation by small aeroplanes is stable and the passenger carrying helicopter rate is continuing to decrease.

Adventure aviation has had some minor accidents this season which are contributing to a slight increase in accidents per flight for the second quarter in a row. The CAA is monitoring this carefully although at this time it appears to be within expected the natural variability.

### Commercial Non Passenger Operations

The commercial non-passenger sector was trending upwards in the first half of 2018 but a reduction in number of accidents this quarter has seen the year-to-date performance achieve parity with previous years. The increasing accident rate in the commercial non-passenger sector has been largely driven by the commercial non passenger helicopter operations and a small increase in agricultural aeroplane accidents.

### Private & Recreational

There were sixteen accidents in private or recreational flying this winter. There were two fatal accidents, an Alpi Pioneer 300 in the Catlins forest which is under CAA investigation and an R44 helicopter was recovered from Lake Wanaka and is under investigation by TAIC. No further details of either accident are available at this time.

Unlike private aircraft with standard category airworthiness certificates, microlight or sport aircraft are not required to be report flying hours to the CAA. This makes it difficult to estimating the true accident rate, but the number of accidents in recent years has increased faster than number of sport aircraft on the register, which suggests the actual accident rate is increasing in this sector. The CAA is considering way to get a better estimate of flying activity from this sector, but in the meantime it is worth noting that of the 5 microlight aircraft accidents this season, only one appears to be a primarily mechanical failure, (burst brake hose on landing roll.)



# AIRLINE TRANSPORT OPERATIONS

## ACCIDENTS

There were no air transport accidents in the quarter.

## SERIOUS INCIDENTS

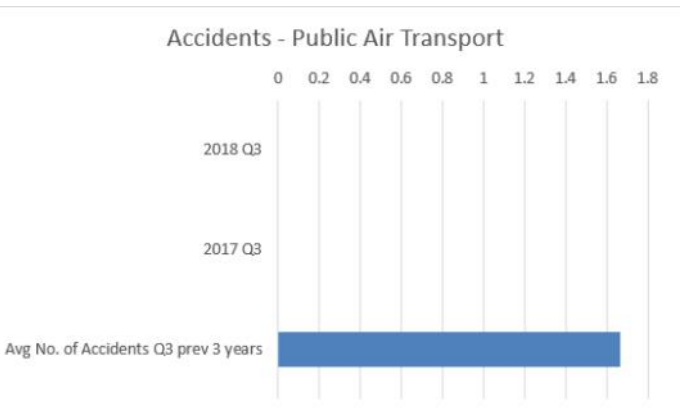
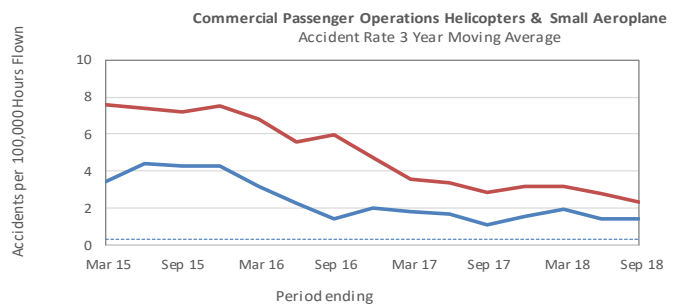
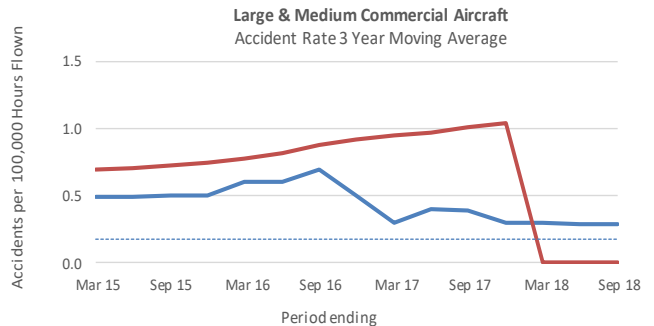
7th July 2018

Christchurch

ATR 72

### Narrative

Brief Stick Shaker activation climbing through 3000ft. Autopilot in IAS mode, encountered some positive shear causing the airspeed to rise, and consequently the aircraft to raise the nose to try and maintain the speed.



15th July 2018

Auckland

Dash 8 Q300

### Narrative

Flap selected up instead of landing gear.

15th July 2018

New Plymouth


Dash 8 Q300


### Narrative

Approach checks into NZNP not completed and forgotten.



# AIRLINE TRANSPORT OPERATIONS

 18th July 2018


 Hamilton


 Dash 8 Q300

## Narrative

Flap selected up instead of landing gear.


 16th September 2018


 En-route

 Unknown

## Narrative

Severe icing event departing Invercargill, return to Invercargill was not an option, nor continuing to Christchurch. Diversion to Dunedin required.

 19th August 2018


 Nelson

 Dash 8 Q300

## Narrative

Passenger struck head during turbulence following 2 missed approaches in Nelson. Diverted to Blenheim and passenger met by medics.


 21st September 2018


 Whangerei

 Dash 8 Q300

## Narrative

Aircraft 900ft+ below profile on approach. Establishing on the RNAV D approach VMC, after crossing the IAF (BIRAX REP), VS selected iaw SOP. VNAV bar at full deflection. At the first altitude checkpoint, noted aircraft was 900 ft below profile. Selected ALT to level off. Profile regained just past MONSU REP. Go-around was due to wind.

 22nd August 2018

 Dunedin

 ATR 72

## Narrative


Go-around due bounced landing with a tail strike. Low speed and high nose in the flare with a high rate of descent caused a bounce on touchdown. CM2 landing NZDN. Low speed and high nose in the flare with a high rate of descent caused a bounce touchdown.




# ADVENTURE AVIATION OPERATIONS

## ACCIDENTS

There were three adventure aviation accidents in the quarter.

 17th August 2018

 Mercer


 Sigma Tandem

### Narrative

Tandem passenger dislocated their shoulder during the second half of the freefall. The passenger spoke no English, and fixed his shoulder upon landing. Through an interpreter it was identified that he had dislocated the shoulder in the past, and had not declared this on the waiver. The operator is looking at having their waiver translated into other common languages.

 3rd September 2018


 Cardrona


 Paraglider

### Narrative

Paragliding accident, PLB activated, 1 spinal injury

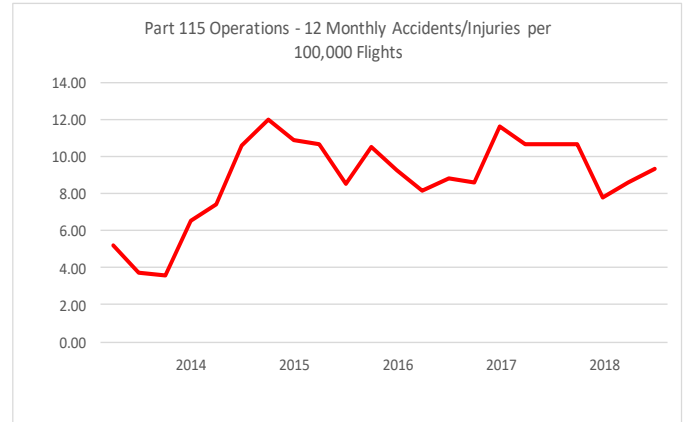
 18th September 2018

 Ashburton

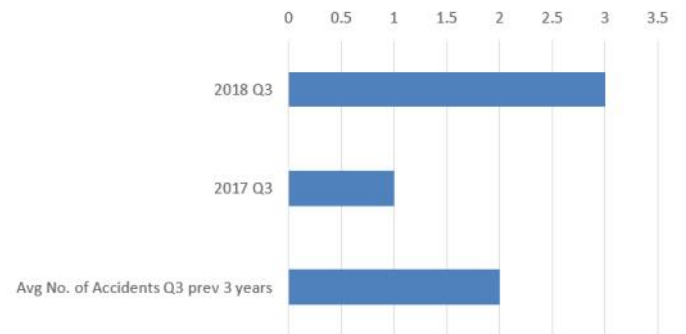
 Parachute

### Narrative

Student on first jump failed to flare on landing, and landed hard. Student transferred to hospital with fractured back.



## Accidents - Adventure Aviation Operations



## SERIOUS INCIDENTS

There were no serious adventure aviation incidents in the quarter.



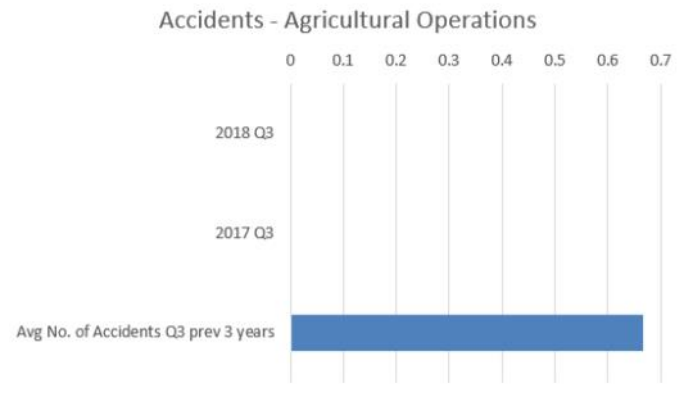
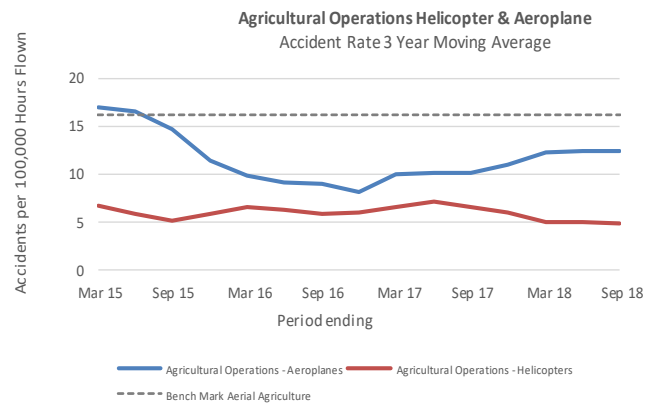
# AGRICULTURAL OPERATIONS

## ACCIDENTS

There were no agricultural aviation accidents in the quarter.

## SERIOUS INCIDENTS

There were no serious agricultural aviation incidents in the quarter.



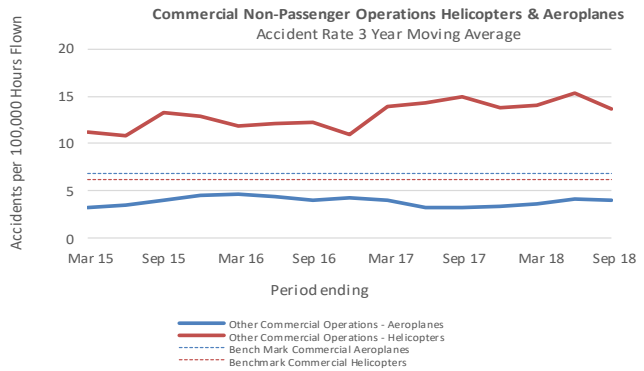




# OTHER COMMERCIAL OPERATIONS

## ACCIDENTS

There were two accidents in the other commercial sector for the quarter.



23rd July 2018

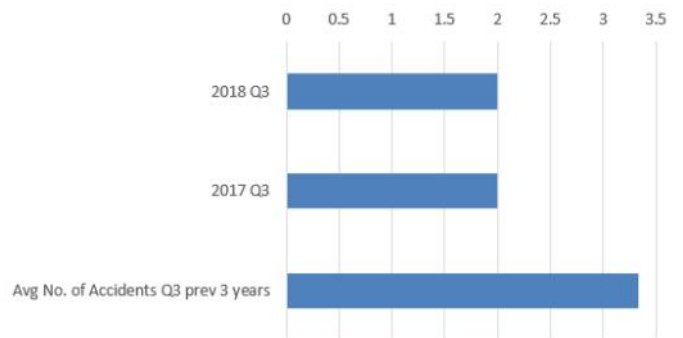
Ardmore

Cessna 172

## Narrative

Minor landing accident. Due runway change, solo student under pressure failed to control a balloon in the flare, student let go of the controls, the aircraft porpoised and bounced, on the 3rd bounce the propeller struck the ground causing significant damage to the aircraft.

## Accidents - Other Commercial Operations



29th September 2018

Tairei

Rans S-7 Courier

## Narrative

During a glide approach, aircraft stalled resulting in a heavy landing. Undercarriage bent, wooden propeller contacted grass runway and destroyed, aircraft wheeled to hangar. Pilot was unaware he should have left aircraft in situ but wanted to clear runway.

3rd August 2018

Chaumont, France

AW 169

## Narrative

Pilot flying inadvertently disengaged the Autopilot ( including SAS ). The aircraft immediately became unstable, entering a pitch down and slight roll to the right. Following an attempted correction by the pilot flying, the aircraft commenced vertical oscillations. Returned to stable flight once the PIC had taken control and the AP channels were reengaged. Noticed that the Right hand engine was at flight idle. After appropriate analysis and brief including all crew, the #2 engine was returned to flight. Both engines reengaged normally. A precautionary landing was made at a disused airfield

## SERIOUS INCIDENTS


There was one serious other commercial aviation incident in the quarter.




# PRIVATE OPERATIONS

## ACCIDENTS

There were sixteen accidents in private operations in the quarter. Two of these resulted in fatal injuries


 1st July 2018

 Ardmore

 Tiger Moth

### Narrative

Minor forced landing accident. Engine lost power, forced landing carried out into a very soft paddock, undercarriage collapsed, aircraft remained right side up. No injuries. The aircraft engine stopped and it carried out a forced landing in a nearby field


 2nd July 2018

 Tikitere

 Cessna 206

### Narrative

Heavy landing accident, nose gear damaged. No injuries.

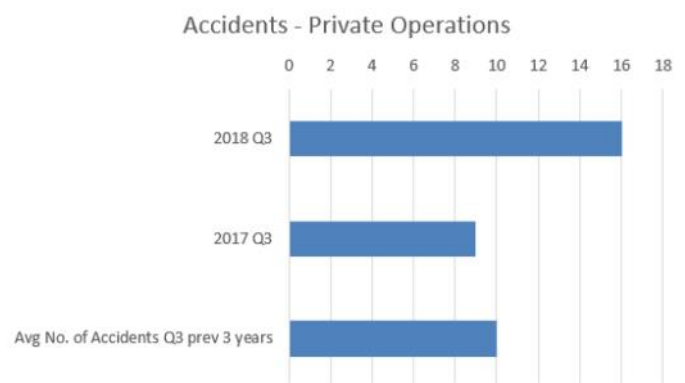
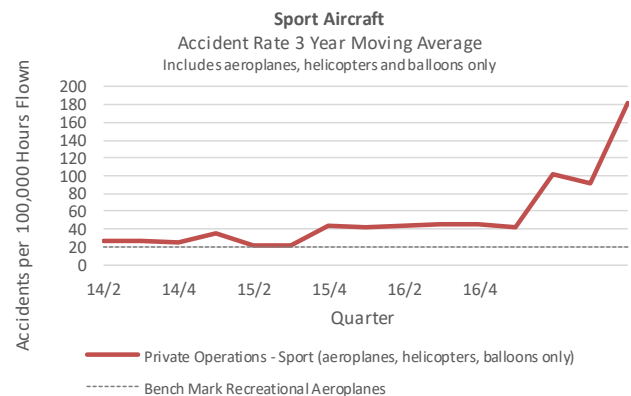
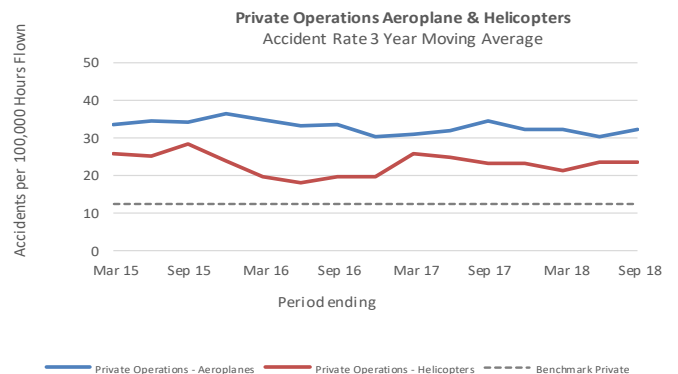
 12th August 2018


 North Shore


 Provost T Mk1


### Narrative

Minor landing accident. During landing the left main wheel caught in soft grass beside the sealed runway, unable to maintain directional control both main wheels sunk into the soft grass, the aircraft came to a stop standing on its nose resulting in a prop strike and right wing tip striking the ground.



 12th August 2018

 Ohakea


 Harvard 2A

### Narrative

Minor forced landing accident. Due to engine issues a wheels up forced landing carried out short of RWY 09TBA.



# PRIVATE OPERATIONS


 5th September 2018

 North Shore

 Cessna 172

## Narrative

Aircraft landed on nose wheel using unsafe technique. Aircraft subsequently lost directional control and struck the propeller and right wingtip.


 6th July 2018

 Dargaville

 MTOsport AutoGyro

## Narrative

Minor take-off accident. Applied power too soon after pre-rotating, lost directional control and hit a fence causing damage to the rotor. No injury

 21st July 2018

 Wanaka

 Robinson R44 Raven II

## Narrative

R44 crashed into Lake Wanaka near Stevensons Island. 1 fatality.


 9th September 2018


 Whangamata


 Robinson R22

## Narrative

Helicopter accident. During deer hunting operation flew over a ridge and encountered a tailwind. Caused low rotor RPM, pilot could not recover RPM and attempted to land in a field. Skids dug in to soil and the helicopter rolled over.

 4th August 2018

 Inglewood


 Monnett Sonerai I

## Narrative

Brake hose burst on landing, resulting in aircraft ending in hedge

 7th September 2018


 Cairn Peak Forest


 Alpi Pioneer 300

## Narrative

Fatal aircraft accident, wreckage located in Cairn Peak Forest.

 11th September 2018

 Waimate

 Rans s-6S Coyote II

## Narrative

Aircraft landed with tailwind causing heavy landing and damage. No injuries.

 15th September 2018

 Waimakariri River

 Zenair CH701

## Narrative

During T/O from a river bed, the a/c rotated then briefly settled back down again on the gravel. It became airborne again but drifted to the right and settled again. As the aircraft settled into shallow water, the nose wheel clipped a gravel bar and the aircraft flipped on its back.



# PRIVATE OPERATIONS



30th July 2018



Gondola, Queenstown



Hang Glider

## Narrative

Hang Glider Accident



11th August 2018



Great Barrier Island



Hang Glider

## Narrative

The pilot was practicing ground handling exercises on a remote beach and got caught in a cross wind, which flipped the hang glider over on a sand dune. Pilot received a broken arm.



30th September 2018



Barnicoat Hill, Nelson



Hang Glider

## Narrative

Hang glider launched from a slope, into wind and then entered a right turn downwind and crashed back in to terrain behind take off point. Glider came to rest on it's keel. Pilot suffered serious concussion.



4th September 2018



Jardines



## Narrative

The solo jumper was coming in to land when at 100 to 200 feet his RDS came out of his jump suit and obstructed his vision, distracting him temporarily. He hit the ground knee-first and then tumbled for a few metres, and looked like he was unconscious for about 20 seconds. The pilot was taken to hospital for a check up and discharged the next morning.

## SERIOUS INCIDENTS

There were no serious private aviation incident in the quarter.



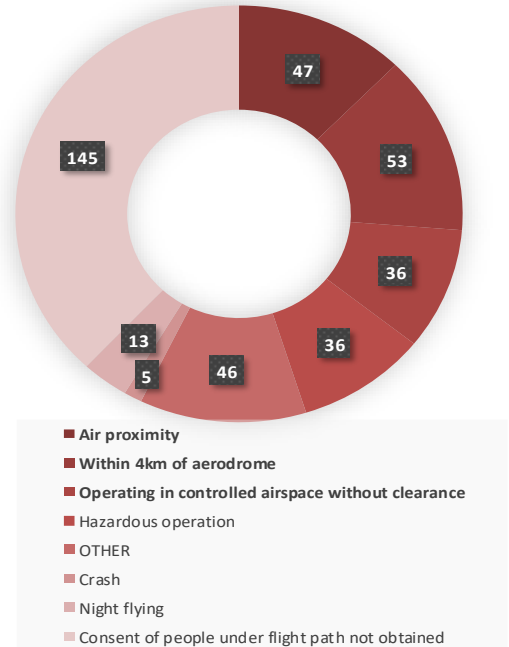
# RPAS REPORTS

106 occurrence reports involving RPAS were received in the third quarter of 2018, 39 more than in the second quarter of 2017.

The largest share of reports, 38%, have involved complaints from members of the public about drones operating over and around them and/or their property. 10 of the reports (9%) have been from Airways or aircraft operators reporting drones operating in proximity with airborne aircraft.

Here we present the three most serious incidents.

### RPAS Reports by Type in 2018 (to date)



27th July 2018

Christchurch

Piper Tomahawk

### Narrative

EYA reported a drone overflying a/c by 100ft. ANZ367 was removed from RNP approach and vectored for the ILS. ALL flights were kept out of the South Eastern zone for 15 mins. Police advised

27th July 2018

Auckland

N/A

### Narrative

Auckland airport rivals suspended for 20 mins due arriving flight reported lit drone 3nm north of ceterline at 3000 ft.

28th July 2018

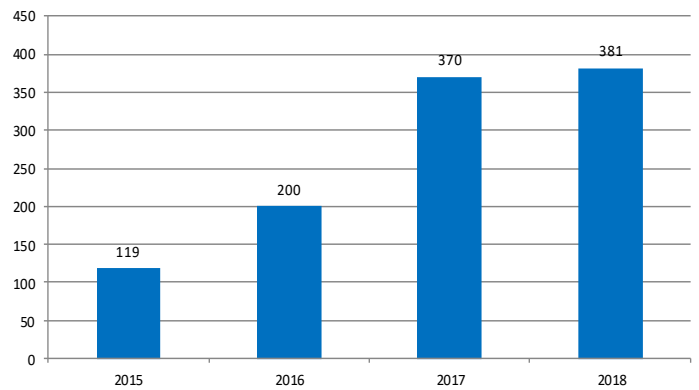
Auckland

N/a

### Narrative

RPAS seen in close proximity to sched pax flight. Airspace closed for 15 minutes.

### Total RPAS Reports by Year





# QUARTERLY STATISTICS

Quarter	2015/4	2016/1	2016/2	2016/3	2016/4	2017/1
<b>Social Cost \$ million<sup>1</sup></b>	33.35	8.35	9.52	3.91	29.86	15.49
<b>Number of Fatal Accidents<sup>2</sup></b>	1	1	2	0	3	2
<b>Number of Fatal Injuries<sup>2</sup></b>	7	1	2	0	5	2
<b>Number of Serious + Minor Injuries<sup>2</sup></b>	15	18	5	7	14	20
<b>Number of Aircraft Accidents<sup>2</sup></b>						
Large Aeroplanes	0	1	0	1	0	0
Medium Aeroplanes	0	0	0	0	0	0
Small Aeroplanes	7	8	2	2	6	6
Agricultural Aeroplanes	0	0	1	1	2	4
Helicopters	4	3	4	2	3	10
Sport Aircraft	9	7	6	5	4	8
Unknown Aircraft	0	0	0	1	0	0
Hang Gliders	8	11	2	2	4	4
Parachutes	4	3	0	0	7	7
<b>Number of Incidents<sup>3</sup></b>	1,310	1,428	1,612	1,635	1,675	1,879
<b>Number of Aviation Related Concerns<sup>4</sup></b>	136	260	202	229	235	253
<b>Number of Hours Flown<sup>5</sup></b>	218,320	243,864	203,167	211,276	237,542	243,721
<b>Number of Air Transport Flights<sup>5</sup></b>	101,483	114,691	86,611	87,395	106,986	99,330
<b>Number of Aircraft Movements<sup>6</sup></b>	227,208	237,499	213,927	221,092	231,713	233,701
<b>Number of Aircraft on the Register<sup>7</sup></b>	4,679	4,700	4,657	4,687	4,723	4,734
<b>Number of Part 119 Certificated Operators</b>						
Air Operator – Large Aeroplanes	8	8	8	8	7	6
Air Operator – Medium Aeroplanes	15	15	15	15	15	13
Air Operator – Helicopters and Small Aeroplanes	164	161	162	163	164	166
<b>Number of Part 137 Agricultural Aircraft Operators</b>	104	102	103	103	102	102
<b>Number of Part 115 Adventure Aviation Operators</b>	30	28	28	28	29	31
<b>Number of Part 102 Unmanned Aircraft Operators</b>	16	31	45	54	76	86
<b>Number of Part 141 Training Organisations</b>	55	54	53	51	52	53
<b>Number of Part 149 Recreation Organisations</b>	8	8	8	8	8	8
<b>Number of Licences (Type of Medical Certificate)<sup>8</sup></b>						
Recreational Pilot Licence (RPL Medical)	395	401	439	456	453	446
Private Pilot Licence (Class 1 & 2)	2,530	2,492	2,462	2,418	2,385	2,402
Commercial Pilot Licence (Class 2 only)	2,316	2,248	2,281	2,240	2,192	2,094
Commercial Pilot Licence (Class 1)	2,076	2,073	2,051	2,045	2,030	2,085
Airline Transport Pilot Licence (Class 2 only)	1,034	1,019	1,002	1,016	1,006	990
Airline Transport Pilot Licence (Class 1)	1,210	1,221	1,268	1,249	1,248	1,252
Air Traffic Controller Licence (Class 3)	383	380	381	373	366	360
Aircraft Maintenance Engineer Licence (N/A)	2,779	2,789	2,800	2,817	2,830	2,842



# QUARTERLY STATISTICS

Quarter	2017/2	2017/3	2017/4	2018/1	2018/2	2018/3
<b>Social Cost \$ million<sup>1</sup></b>	30.14	1.02	20.46	18.23	9.31	11.08
<b>Number of Fatal Accidents<sup>2</sup></b>	5	0	3	3	2	2
<b>Number of Fatal Injuries<sup>2</sup></b>	6	0	4	3	2	2
<b>Number of Serious + Minor Injuries<sup>2</sup></b>	12	7	15	23	7	9
<b>Number of Aircraft Accidents<sup>2</sup></b>						
Large Aeroplanes	1	0	0	0	0	0
Medium Aeroplanes	0	0	0	0	1	0
Small Aeroplanes	0	4	4	7	4	4
Agricultural Aeroplanes	0	0	2	1	1	0
Helicopters	2	1	2	4	3	2
Sport Aircraft	8	3	11	7	3	8
Unknown Aircraft	2	0	1	0	0	1
Hang Gliders	4	3	6	7	1	3
Parachutes	2	1	4	2	1	3
<b>Number of Incidents<sup>3</sup></b>	1,815	1,730	1,755	2,096	2,042	1,630
<b>Number of Aviation Related Concerns<sup>4</sup></b>	278	231	322	371	323	324
<b>Number of Hours Flown<sup>5</sup></b>	216,424	211,276	237,542	243,864	203,167	211,276
<b>Number of Air Transport Flights<sup>5</sup></b>	82,766	89,074	114,244	83,245	82,766	89,074
<b>Number of Aircraft Movements<sup>6</sup></b>	222,907	221,296	249,554	244,396	234,833	242,644
<b>Number of Aircraft on the Register<sup>7</sup></b>	4,704	4,751	4,779	4,773	4,770	4,789
<b>Number of Part 119 Certificated Operators</b>						
Air Operator – Large Aeroplanes	6	6	6	6	13	6
Air Operator – Medium Aeroplanes	13	13	13	13	12	12
Air Operator – Helicopters and Small Aeroplanes	166	165	167	166	167	165
<b>Number of Part 137 Agricultural Aircraft Operators</b>	102	103	105	104	104	105
<b>Number of Part 115 Adventure Aviation Operators</b>	29	29	29	27	27	27
<b>Number of Part 102 Unmanned Aircraft Operators</b>	89	94	105	105	105	110
<b>Number of Part 141 Training Organisations</b>	52	52	50	51	51	48
<b>Number of Part 149 Recreation Organisations</b>	8	8	8	8	8	8
<b>Number of Licences (Type of Medical Certificate)<sup>8</sup></b>						
Recreational Pilot Licence (RPL Medical)	442	440	456	426	363	342
Private Pilot Licence (Class 1 & 2)	2,358	2,348	2,367	2,402	2,408	2,418
Commercial Pilot Licence (Class 2 only)	2,108	1,992	1,927	1,864	1,863	1,824
Commercial Pilot Licence (Class 1)	2,032	2,096	2,100	2,129	2,143	2,189
Airline Transport Pilot Licence (Class 2 only)	996	1,031	1,064	1,077	1,057	1,034
Airline Transport Pilot Licence (Class 1)	1,261	1,232	1,201	1,206	1,228	1,166
Air Traffic Controller Licence (Class 3)	364	371	364	357	361	361
Aircraft Maintenance Engineer Licence (N/A)	2,852	2,867	2,882	2,891	2,898	2,914