



# AIR SAFETY INSTITUTE

# 2012-2013 GA Accident Scorecard

To accompany the 23rd *Nall Report*, which provides detailed analysis of general aviation (GA) accidents in calendar year 2011, the Air Safety Institute (ASI) has prepared this brief statistical summary of accidents in 2012 and 2013.

Flight-activity data for 2011 remain unavailable, so accident rates cannot be estimated for that year. Compared to 2010, accident rates on non-commercial fixed-wing flights ticked up slightly but remained well within their range over

the previous decade. A surge in non-commercial helicopter accidents produced the highest overall rate since 2005 and the highest fatal accident rate since 2008, though both remained well below the levels seen up through 2004. The safety of commercial GA flights continued to improve. Both overall and fatal accident rates reached new lows in helicopters, while fixed-wing rates were well below their ten-year averages.

After rising slightly in 2011, the number of non-commercial fixed-wing accidents

*(Continued on Next Page)*

## CONTENTS

General Aviation Accidents, 2004-2013.....	3	2012 Accident Conditions: Non-Commercial Helicopter .....	12
Summary of General Aviation Accidents by Year .....	5	2011 Accident Conditions: Commercial Fixed-Wing .....	14
2011 Accident Conditions: Non-Commercial Fixed-Wing .....	6	2012 Accident Conditions: Commercial Fixed-Wing .....	16
2012 Accident Conditions: Non-Commercial Fixed-Wing .....	8	2011 Accident Conditions: Commercial Helicopter .....	18
2011 Accident Conditions: Non-Commercial Helicopter .....	10	2012 Accident Conditions: Commercial Helicopter .....	19



returned to 2010 levels in 2012, then dropped precipitously in 2013. The reasons are not yet apparent, but completion of the FAA's 2013 activity survey will shed light on whether this represents the long-awaited improvement in the underlying rates. The 165 fatal accidents reported last year represent a 24% decrease from the year before. No similar trend was seen in non-commercial helicopter accidents, which jumped from 100 in 2011 to 127 in 2012 but declined back to 102 last year. After setting a new low in 2010, the number of fatal accidents returned to historically typical levels with 19 and 20, respectively.

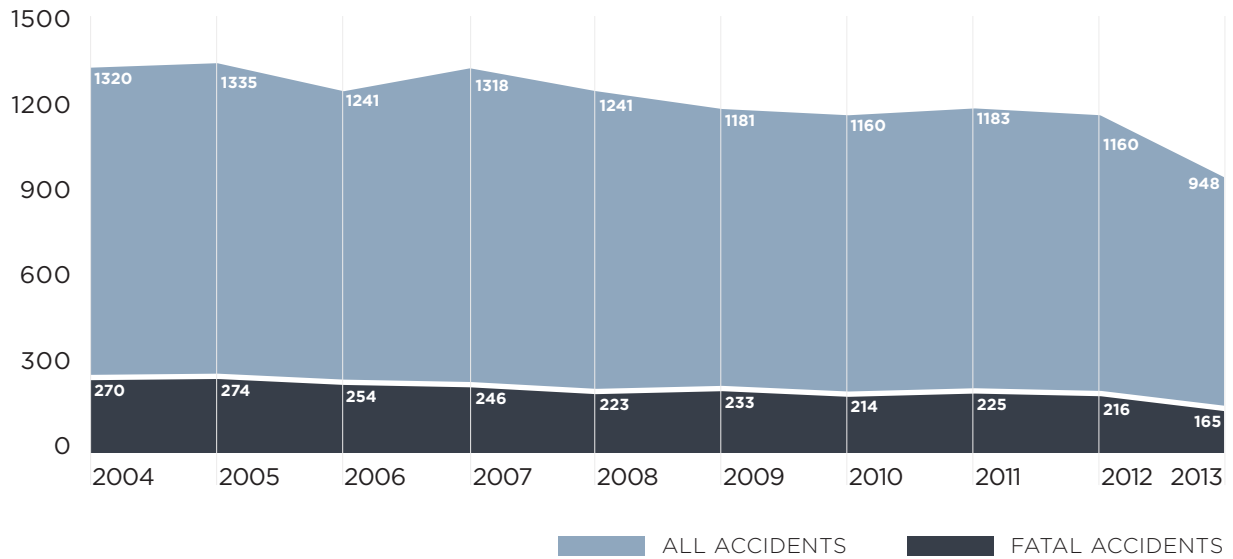
2011's spike in commercial fixed-wing accidents appears to have been an

anomaly; the last two years saw 79 and 81, just slightly below the counts from 2009-2010. However, two to four times as many were fatal as in those earlier years. As in the past, the majority of all accidents happened on crop-dusting flights, but fatalities were more likely in on-demand charter or cargo operations.

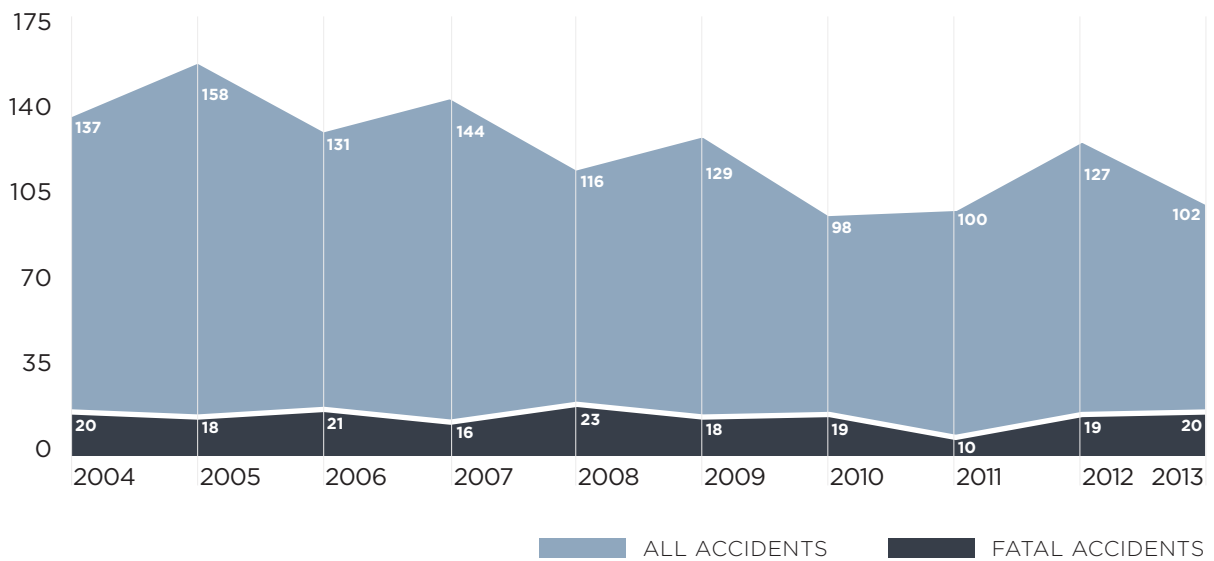
The numbers of commercial helicopter accidents have been stable for the past decade. 2012 and 2013's counts of 36 and 40, respectively, are both at the upper end of that range, but in 2012, at least, increased activity more than accounts for any rise. The largest number occurred during aerial application flights, while part 135 charter and cargo flights saw the highest proportion of fatal accidents.

# General Aviation Accidents, 2004-2013

## NON-COMMERCIAL FIXED-WING

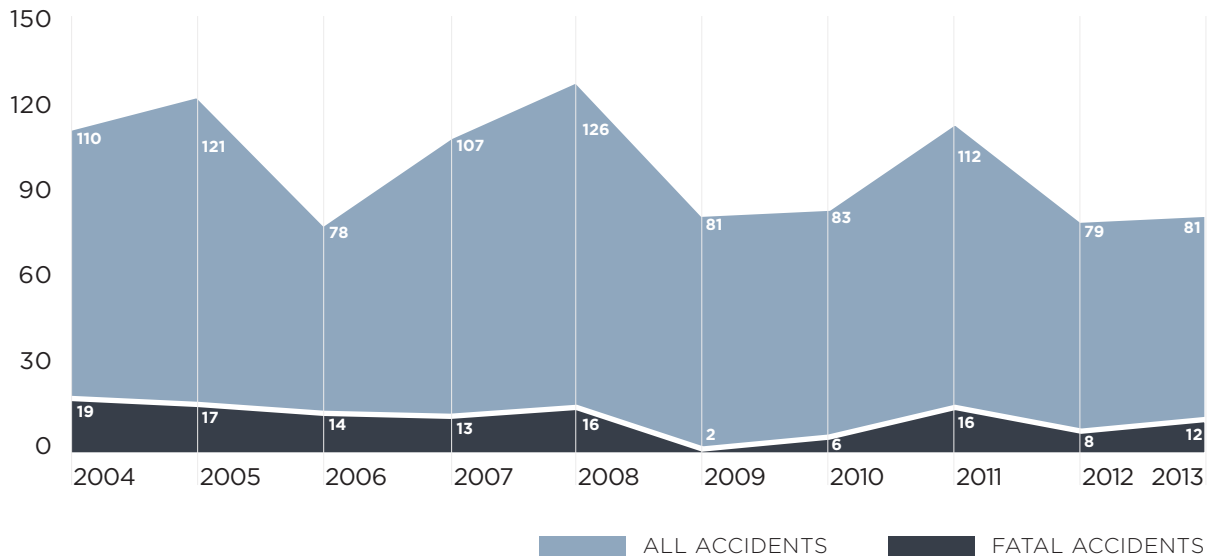


## NON-COMMERCIAL HELICOPTER

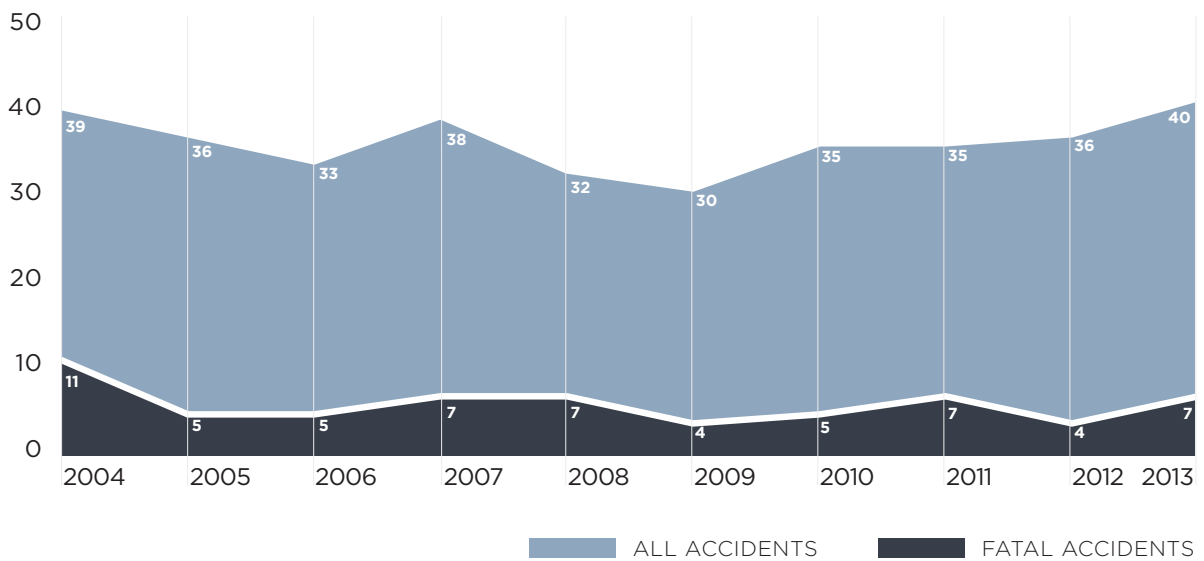


## General Aviation Accidents, 2004-2013 (Continued)

### COMMERCIAL FIXED-WING

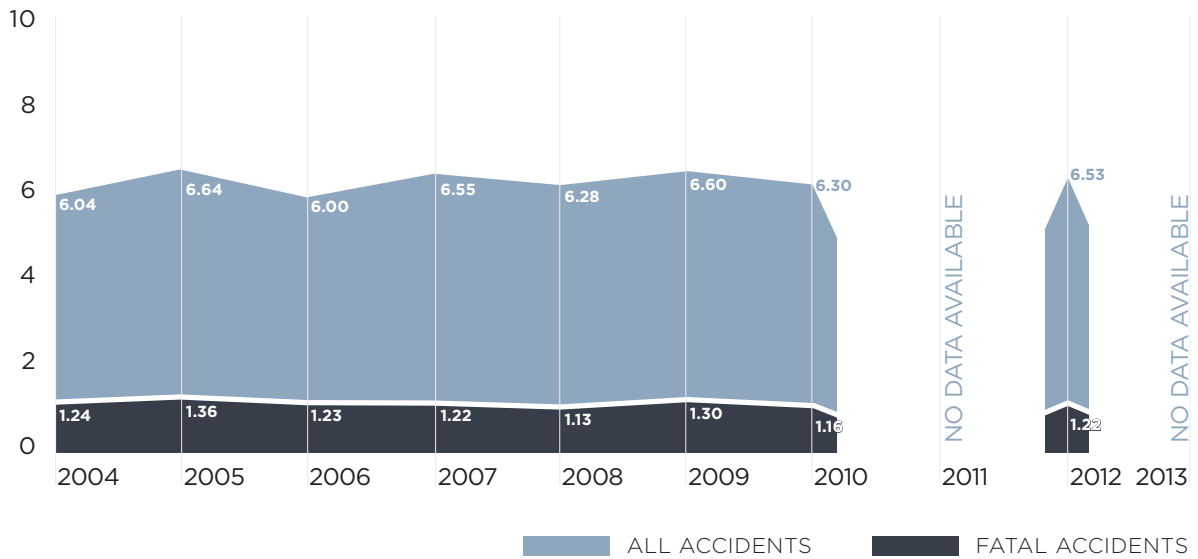


### COMMERCIAL HELICOPTER

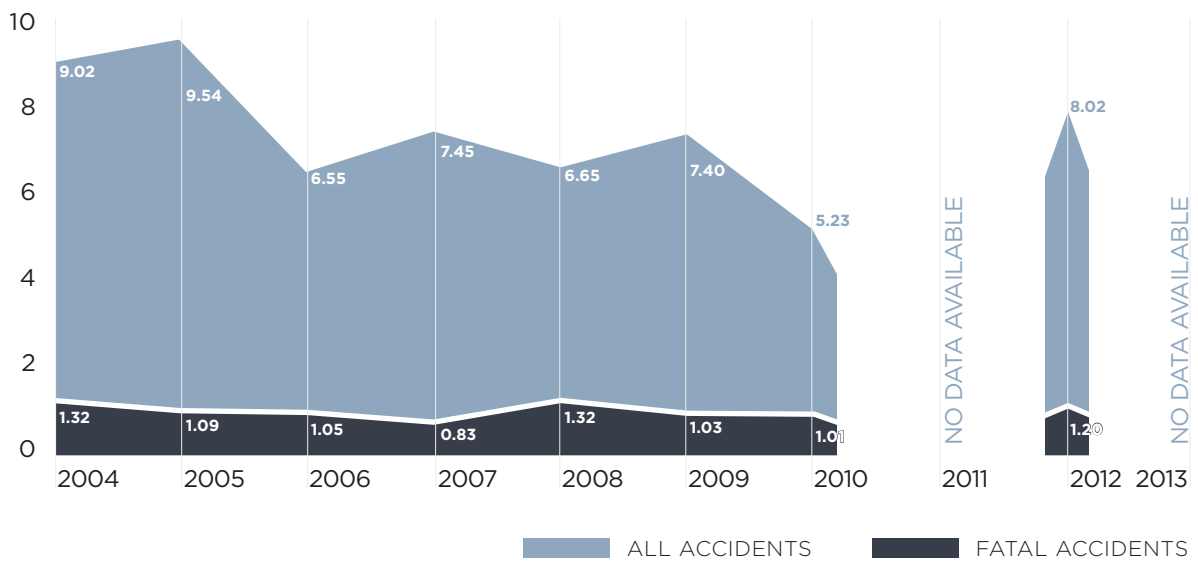


# General Aviation Accident Rates, 2004-2013

## NON-COMMERCIAL FIXED-WING

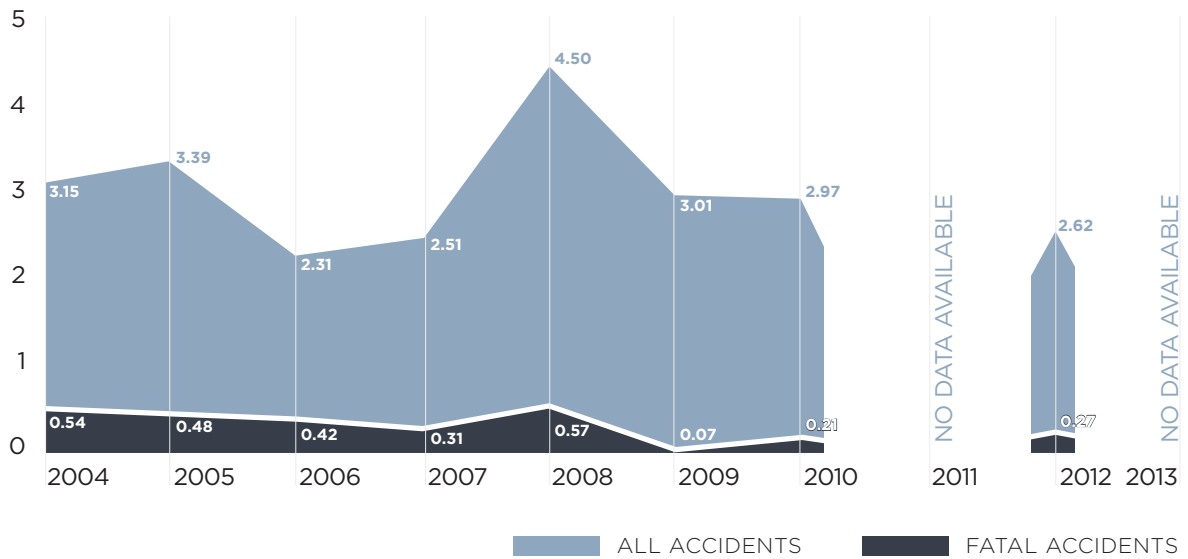


## NON-COMMERCIAL HELICOPTER

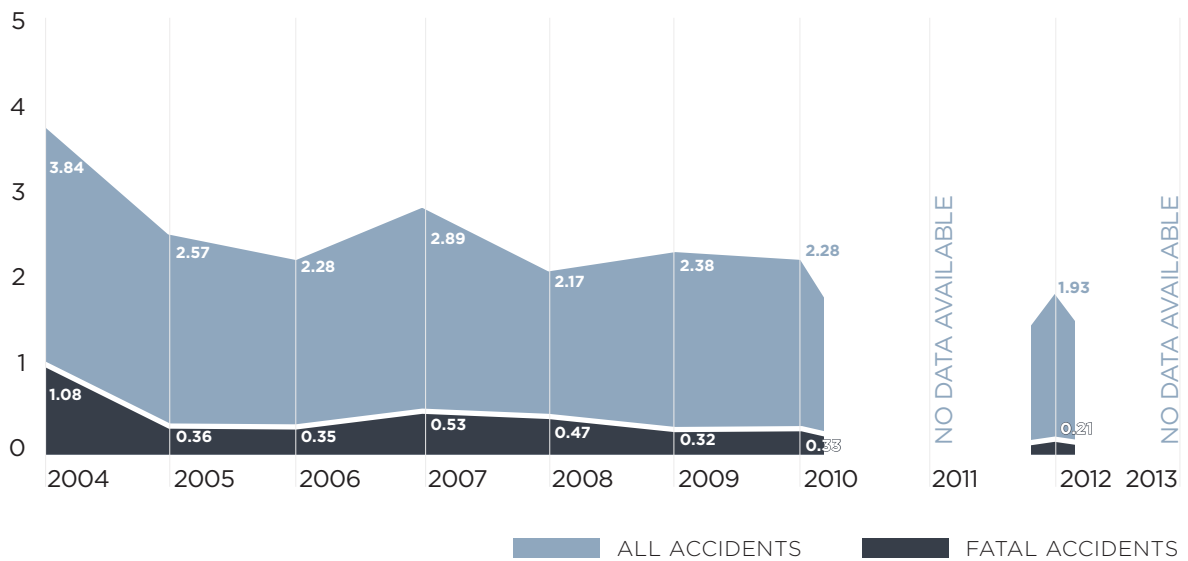


## General Aviation Accident Rates, 2004-2013 (Continued)

### COMMERCIAL FIXED-WING



### COMMERCIAL HELICOPTER



## Summary of General Aviation Accidents by Year

2012	Non-Commercial		Commercial	
	FIXED-WING	HELICOPTER	FIXED-WING	HELICOPTER
Number of Accidents	1160	127	79	36
Number of Aircraft*	1169	129	81	36
Number of Fatal Accidents	216	19	8	4
Lethality (Percent)	18.6	15.0	10.1	11.1
Fatalities	334	29	8	6

2013	Non-Commercial		Commercial	
	FIXED-WING	HELICOPTER	FIXED-WING	HELICOPTER
Number of Accidents	948	102	81	40
Number of Aircraft*	957	102	81	40
Number of Fatal Accidents	165	20	12	7
Lethality (Percent)	17.4	19.6	14.8	17.5
Fatalities	283	40	28	10

\* COUNTS EACH AIRCRAFT INVOLVED IN A COLLISION SEPARATELY.

## 2012 Accident Conditions: Non-Commercial Fixed-Wing

---

### AIRCRAFT CLASS

CONFIGURATION	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Fixed-Gear (SEF)	825 71%	124 57%	177 53%
SEF Tailwheel	350	41	45
Single-Engine Retractable Gear	256 22%	65 30%	113 34%
Single-Engine Turbine	29	10	23
Multi-Engine	88 8%	30 14%	44 13%
Multi-Engine Turbine	14	5	8

### TYPE OF OPERATION

PURPOSE OF FLIGHT	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Personal	866 74%	179 82%	273 82%
Instructional	184 16%	17 8%	29 9%
Public Use	5 <1%	0	0
Positioning	18 2%	6 3%	8 2%
Aerial Observation	11 1%	2 1%	3 1%
Business	24 2%	7 3%	12 4%
Other Work Use	30 3%	4 2%	5 1%
Other or Unknown	31 3%	4 2%	4 1%

---

**NOTE:** PERCENTAGES ARE PERCENT OF ALL ACCIDENTS, ALL FATAL ACCIDENTS, OR INDIVIDUAL FATALITIES, RESPECTIVELY.



## Non-Commercial Fixed-Wing, 2012 (Continued)

### PILOT QUALIFICATIONS

CERTIFICATE LEVEL	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
ATP	171 15%	26 12%	36 11%
Commercial	348 30%	62 28%	101 30%
Private	531 45%	116 53%	180 54%
Sport	21 2%	5 2%	5 1%
Student	77 7%	5 2%	5 1%
None	18 2%	5 2%	7 2%
Other or Unknown	3 <1%	0	0
Two Pilots on Board	136 12%	28 13%	58 17%
CFI on Board*	289 25%	41 19%	68 20%
IFR Pilot on Board*	671 57%	126 58%	206 62%

\* INCLUDES SINGLE-PILOT FLIGHTS

### LIGHT AND WEATHER CONDITIONS

CONDITIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Day VMC	1024 88%	153 71%	217 65%
Night VMC*	84 7%	29 13%	53 16%
Day IMC	35 3%	22 10%	43 13%
Night IMC*	16 1%	11 5%	20 6%
Not Reported	1 <1%	1 <1%	1 <1%

\* INCLUDES DUSK

## 2013 Accident Conditions: Non-Commercial Fixed-Wing

---

### AIRCRAFT CLASS

CONFIGURATION	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Fixed-Gear (SEF)	689 72%	86 51%	118 42%
SEF Tailwheel	285	29	39
Single-Engine Retractable Gear	184 19%	45 27%	82 29%
Single-Engine Turbine	19	5	7
Multi-Engine	84 9%	37 22%	83 29%
Multi-Engine Turbine	17	13	31

### TYPE OF OPERATION

PURPOSE OF FLIGHT	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Personal	729 76%	128 76%	217 77%
Instructional	140 15%	18 11%	27 10%
Public Use	1 <1%	0	0
Positioning	10 1%	3 2%	3 1%
Aerial Observation	8 1%	1 1%	2 1%
Business	27 3%	9 5%	20 7%
Other Work Use	24 3%	2 1%	3 1%
Other or Unknown	18 2%	7 4%	11 4%

## Non-Commercial Fixed-Wing, 2013 (Continued)

### PILOT QUALIFICATIONS

CERTIFICATE LEVEL	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
ATP	141 15%	26 15%	40 14%
Commercial	260 27%	49 29%	85 30%
Private	435 45%	84 50%	146 52%
Sport	24 3%	2 1%	3 1%
Student	72 8%	4 2%	6 2%
None	16 2%	2 1%	2 1%
Other or Unknown	9 1%	1 1%	1 <1%
Two Pilots on Board	102 11%	23 14%	44 16%
CFI on Board*	216 23%	41 24%	69 24%
IFR Pilot on Board*	500 52%	103 61%	184 65%

\* INCLUDES SINGLE-PILOT FLIGHTS

### LIGHT AND WEATHER CONDITIONS

CONDITIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Day VMC	837 88%	119 72%	193 68%
Night VMC*	64 7%	15 9%	24 8%
Day IMC	23 2%	20 12%	46 16%
Night IMC*	22 2%	11 7%	20 7%
Not Reported	2 <1%	0	0

\* INCLUDES DUSK

## 2012 Accident Conditions: Non-Commercial Helicopter

---

### AIRCRAFT CLASS

CONFIGURATION	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Piston	78 60%	9 47%	13 45%
Single-Engine Turbine	42 33%	8 42%	14 48%
Multi-Engine Turbine	9 7%	2 11%	2 7%

### TYPE OF OPERATION

PURPOSE OF FLIGHT	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Personal	43 33%	8 42%	12 41%
Instructional	30 23%	2 11%	4 14%
Public Use	13 10%	2 11%	3 10%
Positioning	10 8%	1 5%	1 3%
Aerial Observation	7 5%	2 11%	4 14%
Business	10 8%	1 5%	1 3%
Other Work Use	9 7%	3 16%	4 14%
Other or Unknown	7 5%	0	0

## Non-Commercial Helicopter, 2012 (Continued)

### PILOT QUALIFICATIONS

CERTIFICATE LEVEL	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
ATP	21 16%	5 26%	7 24%
Commercial	80 62%	11 58%	16 55%
Private	19 15%	2 11%	5 17%
Sport	1 1%	0	0
Student	3 2%	0	0
None	4 3%	1 5%	1 3%
Other or Unknown	1 1%	0	0

### LIGHT AND WEATHER CONDITIONS

CONDITIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Day VMC	110 87%	12 63%	18 62%
Night VMC*	13 10%	3 16%	6 21%
Day IMC	1 1%	1 5%	1 3%
Night IMC*	3 2%	3 16%	4 14%

\* INCLUDES DUSK

## 2013 Accident Conditions: Non-Commercial Helicopter

---

### AIRCRAFT CLASS

CONFIGURATION	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Piston	53 52%	6 30%	10 25%
Single-Engine Turbine	48 47%	13 65%	27 68%
Multi-Engine Turbine	1 1%	1 5%	3 8%

### TYPE OF OPERATION

PURPOSE OF FLIGHT	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Personal	26 25%	5 25%	12 30%
Instructional	27 26%	0	0
Public Use	11 11%	3 15%	5 13%
Positioning	7 7%	4 20%	9 23%
Aerial Observation	11 11%	1 5%	1 3%
Business	5 5%	1 5%	1 3%
Other Work Use	8 8%	4 20%	9 23%
Other or Unknown	7 7%	2 10%	3 8%

## Non-Commercial Helicopter, 2013 (Continued)

### PILOT QUALIFICATIONS

CERTIFICATE LEVEL	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
ATP	17 17%	4 20%	10 25%
Commercial	70 69%	13 65%	26 65%
Private	11 11%	3 15%	4 10%
Student	3 3%	0	0
None	1 1%	0	0

### LIGHT AND WEATHER CONDITIONS

CONDITIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Day VMC	86 84%	12 60%	19 48%
Night VMC*	11 11%	6 30%	13 33%
Day IMC	2 2%	0	0
Night IMC*	3 3%	2 10%	8 20%

\* INCLUDES DUSK

## 2012 Accident Conditions: Commercial Fixed-Wing

### AERIAL APPLICATION (PART 137)

	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
	51 53 Aircraft	4 5 Aircraft	4

### AIRCRAFT CLASS

Single-Engine Piston	23 43%	1 20%	1 25%
Single-Engine Turbine	30 57%	4 80%	3 75%

### CONDITIONS

Day VMC	51 100%	44 100%	4 100%
---------	---------	---------	--------

\* INCLUDES DUSK

### PILOT QUALIFICATIONS

ATP	5 9%	0	0
Commercial	48 91%	5 100%	4 100%



## Commercial Fixed-Wing, 2012 (Continued)

### CHARTER AND CARGO (PART 135)

	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
	28	4	4

#### AIRCRAFT CLASS

Single-Engine Piston	18 64%	2 50%	2 50%
Multi-Engine Piston	2 7%	1 25%	1 25%
Single-Engine Turbine	4 14%	1 25%	1 25%
Multi-Engine Turbine	4 14%	0	0

#### CONDITIONS

Day VMC	22 79%	3 75%	3 75%
Night VMC*	3 11%	0	0
Day IMC	3 11%	1 25%	1 25%

*\* INCLUDES DUSK*

#### PILOT QUALIFICATIONS

ATP	13 46%	0	0
Commercial	15 54%	4 100%	4 100%
Two-Pilot Crews	3 11%	0	0
CFI on Board	16 57%	3 75%	3 75%

## 2013 Accident Conditions: Commercial Fixed-Wing

### AERIAL APPLICATION (PART 137)

	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
	47	4	4

### AIRCRAFT CLASS

Single-Engine Piston	25 53%	2 50%	2 50%
Single-Engine Turbine	22 47%	2 50%	2 75%

### CONDITIONS

Day VMC	46 98%	4 100%	4 100%
Night VMC*	1 2%	0	0

\* INCLUDES DUSK

### PILOT QUALIFICATIONS

ATP	3 6%	0	0
Commercial	44 94%	4 100%	4 100%

## Commercial Fixed-Wing, 2013 (Continued)

### CHARTER AND CARGO (PART 135)

	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
	34 42%	8 67%	24 86%

#### AIRCRAFT CLASS

Single-Engine Piston	25 74%	3 38%	7 29%
Multi-Engine Piston	3 9%	1 13%	1 4%
Single-Engine Turbine	3 9%	2 25%	11 46%
Multi-Engine Turbine	3 9%	2 25%	5 21%

#### CONDITIONS

Day VMC	23 68%	5 63%	16 67%
Night VMC*	7 21%	1 13%	1 4%
Day IMC	2 6%	0	0
Night IMC*	2 6%	2 25%	7 29%

\* INCLUDES DUSK

#### PILOT QUALIFICATIONS

ATP	14 41%	3 38%	5 21%
Commercial	19 56%	5 63%	19 79%
Other or Unknown	1 3%	0	0
Two-Pilot Crews	2 6%	0	0
Flight Instructors	11 32%	3 38%	5 21%

## 2012 Accident Conditions: Commercial Helicopter

AIRCRAFT CLASS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Piston	7 19%	0	0
Single-Engine Turbine	26 72%	3 75%	3 50%
Multi-Engine Turbine	3 8%	1 25%	3 50%
TYPE OF OPERATION			
Aerial Application (Part 137)	14 39%	0	0
Charter or Cargo (Part 135)	9 25%	3 75%	5 83%
External Load (Part 133)	13 36%	1 25%	1 17%
PILOT QUALIFICATIONS			
ATP	6 17%	2 50%	4 67%
Commercial	30 83%	2 50%	2 33%
CONDITIONS			
Day VMC	33 92%	3 75%	3 50%
Night VMC*	2 6%	1 25%	3 50%
Day IMC	1 3%	0	0

\* INCLUDES DUSK

## 2013 Accident Conditions: Commercial Helicopter

AIRCRAFT CLASS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Single-Engine Piston	11 28%	0	0
Single-Engine Turbine	27 68%	7 100%	10 100%
Multi-Engine Turbine	2 5%	0	0

TYPE OF OPERATION	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Aerial Application (Part 137)	18 45%	1 14%	1 10%
Charter or Cargo (Part 135)	13 33%	3 43%	5 50%
External Load (Part 133)	9 23%	3 43%	4 40%

PILOT QUALIFICATIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
ATP	6 15%	1 14%	3 30%
Commercial	34 85%	6 86%	7 70%

CONDITIONS	ACCIDENTS	FATAL ACCIDENTS	FATALITIES
Day VMC	36 90%	6 86%	7 70%
Night VMC*	3 8%	1 14%	3 30%
Day IMC	1 3%	0	0

\* INCLUDES DUSK