Human factors in General Aviation:

FAA and ASF efforts to mitigate accidents and fatalities

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The annual U.S. aviation accidents and incidents data shows that General Aviation (GA) is responsible for the greater majority of these accidents and incidents.

Fatality is even greater when compared on the basis of carrying capacity, with Commercial Aviation.

Number of US Aircraft

Year	Air Carrier	Gen. Aviation
1965	2,125	95,442
1970	2,679	131,743
1975	2,495	168,475
1980	4,678	210,654
1990	6,083	198,000
1991	6,054	196,874
1992	7,320	185,650
1993	7,297	177,120
1994	7,370	172,935
1995	7,411	188,089
1996	7,478	191,129
1997	7,616	192,414
1998	8,111	204,710
1999	8,228	219,464
2000	8,055	217,533
2001	8,497	211,446
2002	8,194	211,244
2003	8,176	209,708
2004	8,186	219,426
2005	8,225	224,352
2006	8,089	221,943
2007	8,044	231,607
2008	7,856	228,663

Source: U.S. Dept. of Transportation
Research and Innovative Technology Administration

We analyzed accident data for the period from

Jan. 2004 – Dec. 2009

The National Transportation Safety Board（NTSB）accident database has the following format：

Preliminary: A very brief description with occasional errors and generally limited data. Usually available within 2 weeks.

Factual: A more detailed report with the facts: generally about 6 months.

Final: Complete report with probable cause assigned at 9-24 months.

Case 1: January 01, 2004; Glasgow, MT

Loss of aircraft control resulting in an in-flight collision with terrain. Factors include marginal weather and dark night conditions

Case 2: March 27, 2005; West Union, IA

The pilot's failure to abort the takeoff, his failure to maintain adequate airspeed during the takeoff, and the pull-up to avoid obstacles which resulted in an inadvertent stall. Factors associated with the accident were the pilot's failure to maintain directional control of the airplane, the fence, and the tree line.

Case 3: June 08, 2006; Provo , UT

The pilot's failure to maintain altitude/clearance during a VFR approach, which resulted in an in-flight collision with water. Contributing factors were the dark night light conditions and the low clouds.

Case 4: November 08, 2007; Las Vegas, NV

The pilot's failure to maintain an adequate terrain clearance/altitude during climb to cruise. Contributing to the accident were rising mountainous terrain, the dark nighttime lighting condition, the pilot's loss of situational awareness, and the Federal Aviation Administration controller's failure to issue a terrain-related safety alert.

Case 5: June 20, 2008; Lake Placid , FL

The pilot's performance of a nonstandard abrupt maneuver at low altitude, which resulted in a loss of aircraft control.

Case 6: February 05, 2009; Avalon, CA

A review of FAA airman records revealed that the 48-year-old pilot held a private pilot certificate with ratings for airplane single-engine land and instrument airplane. He had a second-class medical certificate issued on August 14, 2008. It had the limitations that the pilot must wear corrective lenses.

Family members provided the Safety Board investigator with pilot logbook excerpts from November 23, 2007, to October 4, 2008. An examination of these excerpts indicated an estimated total flight time of 376 hours. Actual instrument time was 14.1 hours, and simulated instrument time was 50.2 hours. The pilot completed the Beechcraft Pilot Proficiency Program in October 2006.

	2004		2005		2006		2007		2008		2009	
	AI	F	AI	F	AI	F	AI	F	AI	F	AI	F
Jan	98	38	104	51	102	36	92	24	83	36	86	47
Feb	118	31	98	47	87	50	94	34	106	37	89	70
Mar	118	41	134	34	117	37	141	32	124	31	118	39
Apr	147	36	151	37	157	40	165	63	158	35	143	54
May	175	48	186	44	178	30	163	53	178	59	159	36
Jun	170	55	216	52	178	53	191	40	195	71	179	36
Jul	218	57	213	64	196	70	229	61	199	55	213	39
Aug	194	83	208	71	162	43	190	55	221	76	192	66
Sept	179	61	172	50	125	36	192	53	155	39	153	41
Oct	159	87	147	40	129	43	155	47	116	30	106	42
Nov	109	45	107	37	113	43	116	45	103	17	53	33
Dec	108	53	114	61	116	76	105	39	95	3	22	13

Table 1 General Aviation monthly accident/incident (AI) and fatality (F) numbers from 2004 to 2009

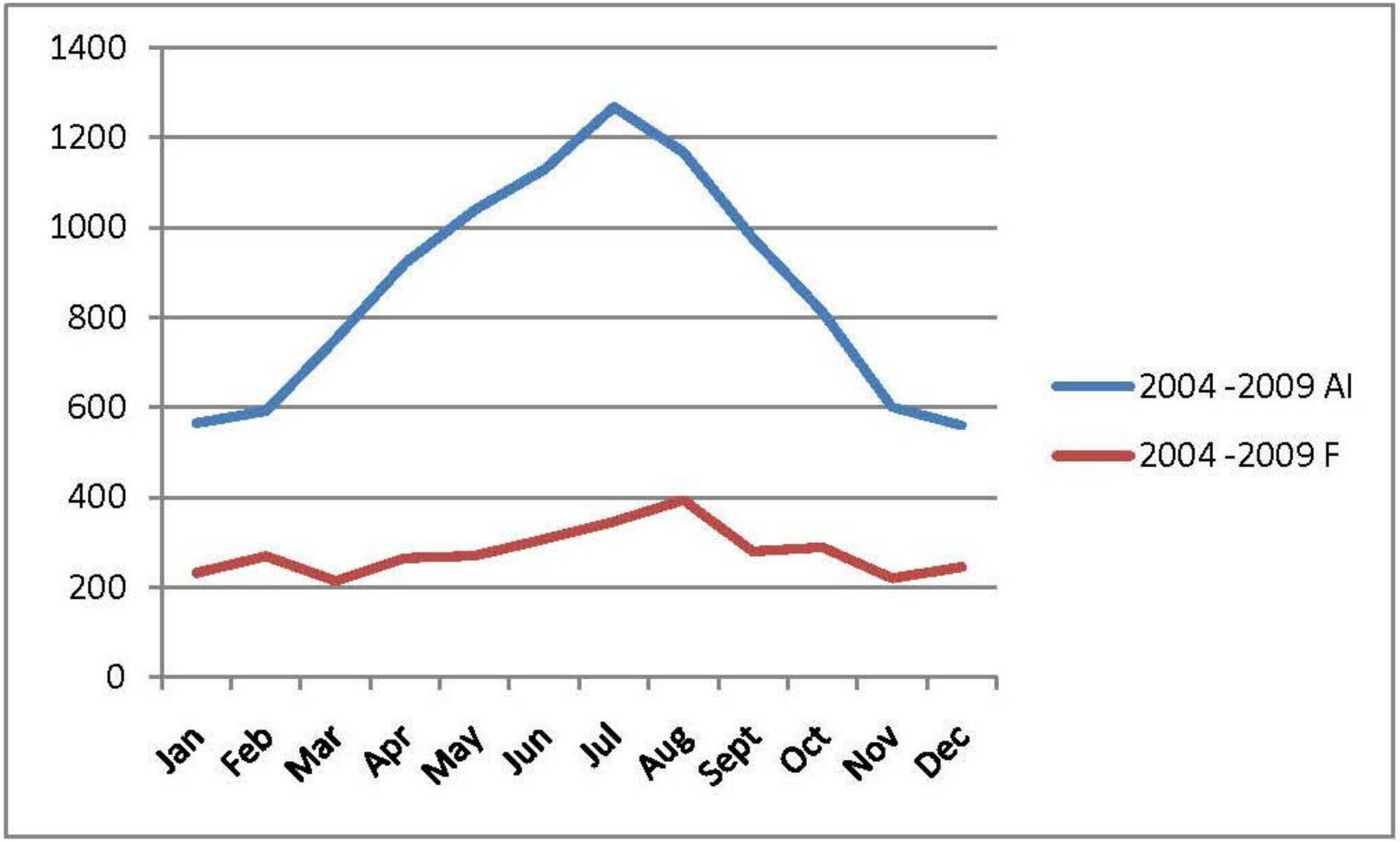


Fig. 1 The six-year total accident/incident (AI) and fatality (F) show increasing numbers in the months from May through August. December of 2008 and 2009 both show fewer accidents and fatalities.

PROGRAM AIMED AT REDUCING ACCIDENTS

Pilot Proficiency Program

WINGS

WINGS Pilot Proficiency Program

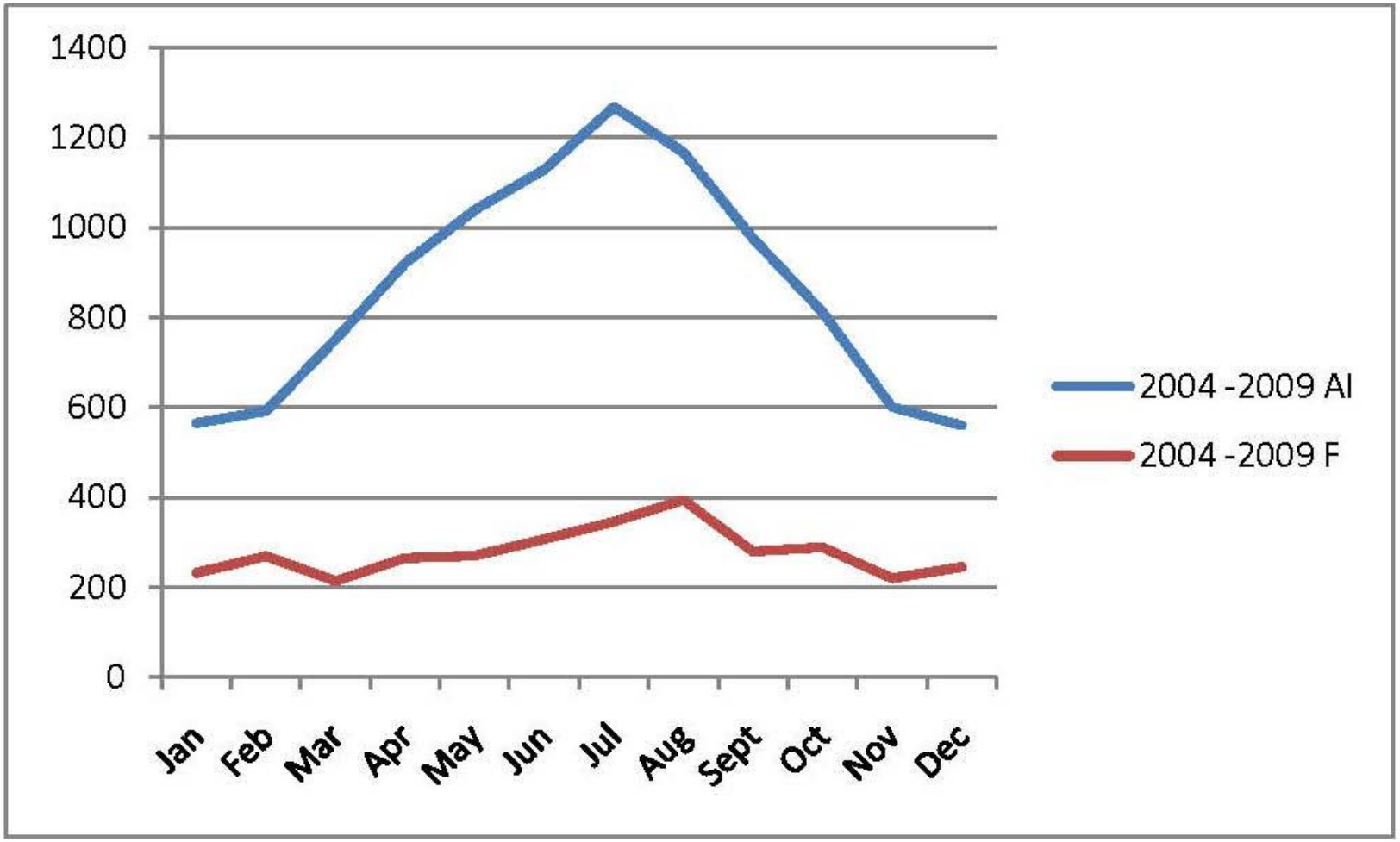
The objective of the WINGS program is to address the primary accident causal factors that continue to plague the general aviation community.

Goal: To reduce the number of accidents seen each year for the same causes.

The WINGS - Pilot Proficiency Program is based on the premise that pilots who maintain currency and proficiency in the basics of flight will enjoy a safer and more stress-free flying experience.

Requirements for each aircraft category and class include specific subjects and flight maneuvers.

Typical Example of Training schedule and credit methodology



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Summary

While no one is showing complacency, it must be said that the reduction in the number of accidents and associated low fatalities indicates that the efforts by the FAA and also the ASF are beginning to achieve the desired effects. In an ideal world it would be nice to have zero accidents and naturally zero fatality. As we live in a real world all we can expect is for the number to continue to drop. While the last two years in the study period show promising drop in the number of accidents and fatality, it will require a few more years of continuous reduction to claim success. In any case it would appear that FAA and ASF efforts are producing positive results

Thank You