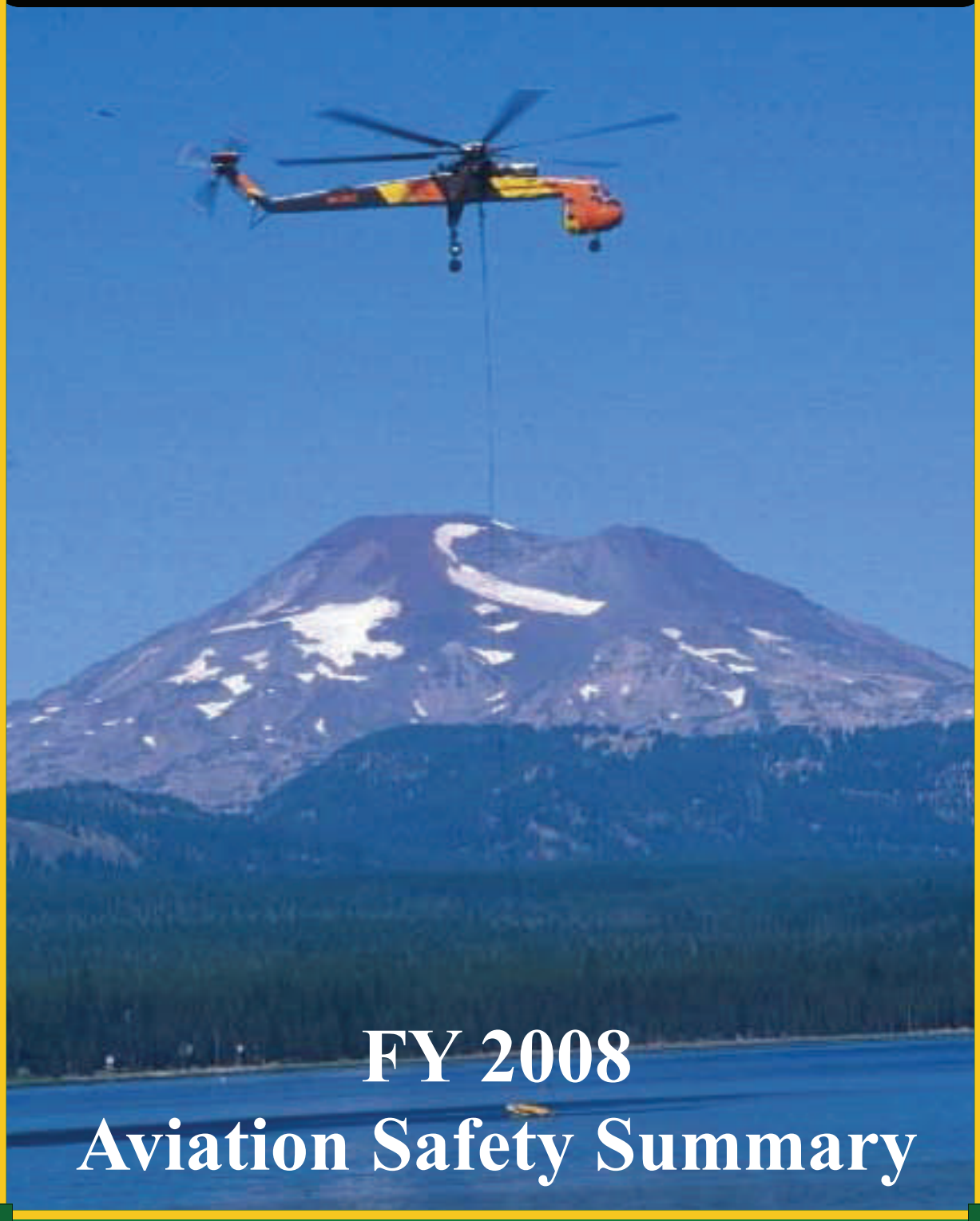
U.S. Forest Service



FY 2008
Aviation Safety Summary

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NOTE: Formulas used: Industry standard "per 100,000 hours flown"

Accident Rate = Number of accidents divided by the number of hours flown times 100,000.

Fatal Accident Rate = Number of fatal accidents divided by the number of hours flown times 100,000.

Fatality Rate = Number of fatalities divided by the number of hours flown times 100,000.

This report is available on-line at: http://www.fs.fed.us/fire/av_safety/fy_safety_reports/index.html

Executive Summary

In FY 2008 the U.S. Forest Service experienced a below average mishap rate, but a significant higher number of fatalities. This follows a five year trend that indicates increasing risk associated with higher consequences.

USFS Aviation Risk Management program is based on the philosophy that all aircraft mishaps are preventable and that mishap prevention is an inherent function of management. The attainment of zero aviation accident/incident occurrence is our ultimate goal.

Risk Management Program Objective:

The objectives of Aviation Risk Management and Training Systems are in keeping with the most modern approaches to the safe management of complex systems. The Forest Service incorporates Safety Management Systems (SMS) in it's aviation program. Safety Management Systems achieve high standards of efficiency and effectiveness within the four primary components which include:

- **Policy** is management commitment, responsibility and accountability for the program and the appointment of key safety personnel. Forest Service manuals are being revised using principle centered management for guidance of aviation operations.
- **Risk Management** identifies hazards and applies risk assessment and mitigation processes.
- **Assurance** is the process of monitoring controls that also includes aviation accident prevention, review and analysis of historical data, accident investigation, error analysis, and corrective action plans.
- **Promotion** includes training for pilots, crews, managers, support personnel and end-users. Other communications, awards and lessons learned help to maintain safety awareness.

Interagency Cooperation to Reduce Aviation Mishaps

Success in aviation safety is a result of coordinated efforts with cooperators and vendors who provide approximately 90% of all Forest Service aviation services.

- The Forest Service is the leading federal agency working with the FAA on implementing Safety Management Systems that target a reduction in the number of accidents experienced by aircraft vendors that service our natural resource missions.
- Interagency Aviation Program Risk Assessments have been completed for fire suppression operation of Airtankers, SEATS, Aerial Supervision, and Helicopters and for FS aviation operations in Infra-Red Surveillance, Forest Health Protection and the Rocky Mountain Research Station.

Executive Summary

Mishap Trends:

The Branch of Aviation Risk Management monitors safety data, hazard reports and mishaps in its effort to identify hazardous trends. We have completed development of an Aviation Accident Database, which will support accident trend analysis, and the identification of Human Factors issues. The database will be housed within the SHIPS program managed by the FS Office of Occupational Safety and Health. Beta testing and data entry is in progress.

- All three of the Forest Service accidents in 2008 occurred supporting fire suppression activities, including two helicopter passenger transport missions and one fixed-wing reconnaissance mission.
- There were three Incidents With Potential (IWP) all of which were also supporting fire suppression activities (2 helicopter, 1 fixed-wing)
- There were a total of 127 incidents reported in the SAFECOM system for 2008.
- The current accident rate of 4.07 is below the average of 5.72; however, over the past ten years the trend line is on a slight increase (pg 8)
- The current fatality rate is 12.22, which is well above the 10-year average of 3.89.
- Forest Service fleet aircraft have not had an accident in 6 years. There have not been any fatalities in fleet operations for 13 years.
- Fixed wing contract operations have generally remained the same for the past ten years with an average of one accident a year.
- Helicopters accounted for 48% of the flight hours in 2008 and 66% of the accidents.
- Helicopters account for 47% of the flight hours over the past 10 years and account for 60% of all the accidents.
- The FS had 594 SAFECOM reports; as a leading indicator of hazards this is 17% below the average of 719 reports.
- The number of helicopter dropped (29) and dragged (21) loads reported accounted for 54% of the incident reports in 2008 compared to 42% in 2007.

Aviation Safety Accomplishments

Accomplishments achieved in aviation safety in FY 2008 include the following:

Safety Initiatives:

- Coordinated nine Interagency Aviation Safety Alerts with AMD
- Produced one FS Safety Alert
- Coordinated 2 Interagency Technical Bulletins with AMD
- Coordinated 3 Interagency Aviation Lessons Learned with AMD
- Produced 4 Monthly SAFECOM Summaries
- Coordinated 2 Interagency Airward Newsletters with AMD
- Chartered SAFECOM Working Group
- Coordinated investigation teams on 3 Forest Service accidents, 1 state accident and 4 incidents with potential
- Promoted Safety Management Systems (SMS) with BLM and AMD
- Finalized Enterprise Team for Aviation Accident Investigations and utilized the team to investigate 4 accidents and 3 incidents with potential.
- Completed program risk assessments for Infrared operations, Forest Health Protection, Rope Assisted Deployment System (RADS), and Emergency Human Extraction Longline (EHELL).
- Reviewed & revised program risk assessments on Single Engine Airtankers (SEATs), Aerial Supervision, and Helicopters (rappel, IA, external load, etc)

Policy/Procedure Recommendations

- Assisted in fire policy rewrite implementing Doctrine
- Continued aviation policy rewrite implementing Doctrine
- Assisted with contract modifications to include safety criteria.
- Assisted with contract evaluation to assess safety criteria.
- Provided ARB action items to get incorporated into training programs and aviation contracts.

Training

- Training is managed through a system of resources including basic Interagency aviation courses, university level education, and NWCG sanctioned skills based training for all FS aviation users.
- The FS sponsored an FAA Safety Management Systems (SMS) course and coordinated interagency attendance for 40 students. This was a first time effort within the federal agencies.
- Sponsored 27 scholarships each for six System Safety Leadership and Aviation Management (SSLAM) modules through UC Davis.

Aviation Safety Accomplishments

Training continued

- To date 31 Forest Service personnel have completed the SSLAM Certificate Program. Students have the option of enrolling in all six courses in a single year or completing the program over a period of five years.
- Interagency Aviation Training (IAT): Forest Service employees completed 9,717 on-line courses, 1,908 classroom courses and 1,689 courses at an ACE conference for a total of 13,314 courses.
- Developed A-314 Aviation Program Overview for FS Agency Administrators to present an overview of policy, safety and accident prevention programs, training and qualification requirements, supervisor liability, procurement, and aviation organizations as the topics relate to Line Officers.
- Coordinated/funded project with DOI for Interagency Aviation Training (IAT) program, including on-line computer based training and contracted course development.
- Two Aviation Conference & Education (ACE) training sessions held in Boise.
- Interagency Aviation Training (IAT) provided 74 “A courses” including 25 online courses with the remainder being classroom instruction of basic safety courses to over 7,800 FS employees to date.
- Coordinated USFS ACE instructor assignments.
- Developed and presented Controlled Flight into Terrain (CFIT) course for NAFA and SSLAM
- Presented A-200 Aviation Mishap Review at 4 Helicopter Crewmember, Helicopter Manager and Helibase Manager Courses
- Conducted eight IAT instructor classes qualifying 28 new FS Instructors.

Statistical Summary

The USFS flew 73,627 hours in FY 2008, which is slightly below the 10-year average of 82,064. The accident rate for FY 2008 is 4.07, which is below the 10-year average of 5.72. We experienced 3 accidents and 4 "Incidents with Potential" (IWP). Unfortunately, we did not make it through the year without any fatalities. One accident claimed the lives of 7 firefighters, the pilot and a pilot inspector. The co-pilot and 3 firefighters suffered serious injuries; this was one of the most tragic accidents in Forest Service history.

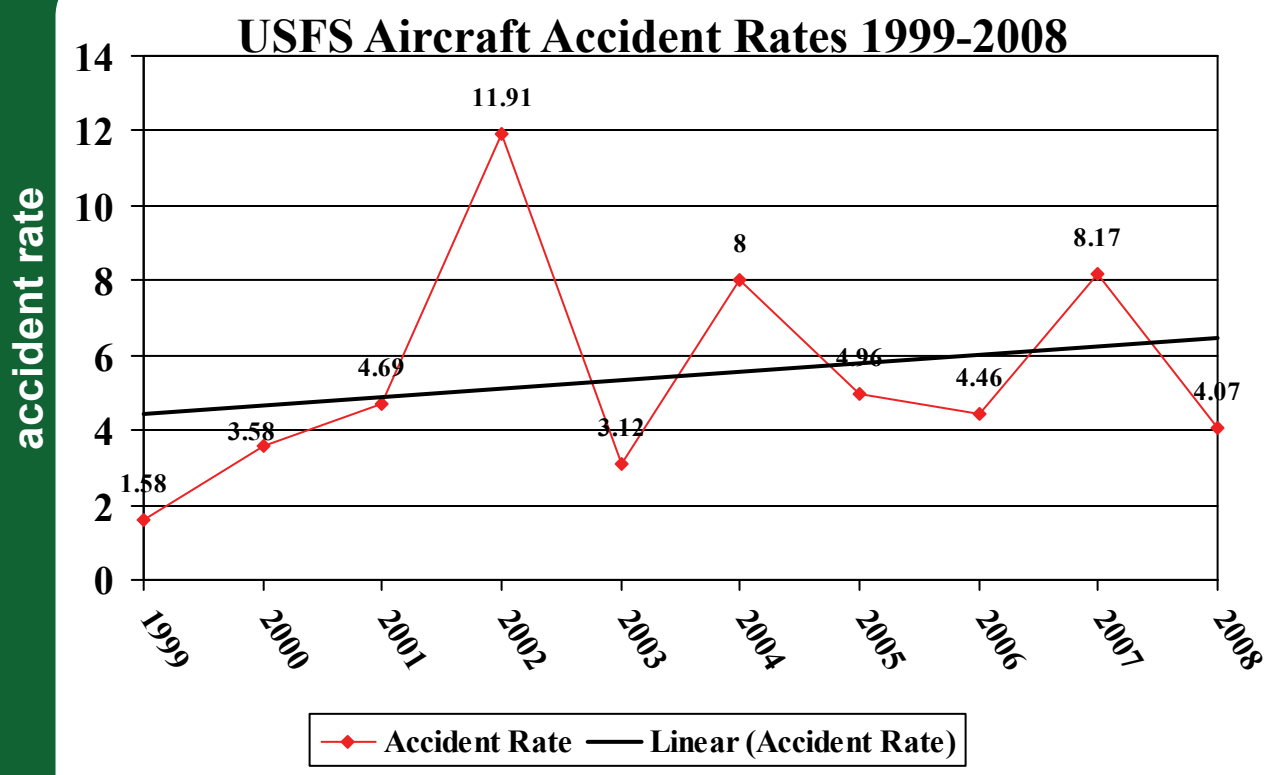
The Forest Service utilizes aircraft mainly for fire suppression. The **primary** mission of Forest Service Aviation is to support the natural resource programs through a variety of means, including, but not limited to:

- Aerial delivery of firefighters by parachute, rappel line, or on site landing
- Air tactical command and control
- Surveillance, reconnaissance, and intelligence gathering
- Infrared mapping
- Aerial delivery of fire retardant and water
- Passenger transport
- Administrative flights
- Research
- Forest rehabilitation
- Forest health
- Law enforcement
- Aerial photography
- Infrared surveillance

Approximately 180 employees at the Washington Office, Regional Offices and Forest levels administer the Forest Service aviation program. The national staff is located in Washington D.C. and at the National Interagency Fire Center in Boise, Idaho. The vast majority of aviation personnel are located at nine regional operations centers around the United States, providing day-to-day operational oversight and program guidance.

The Forest Service annually operates approximately 650 aircraft. These include government owned, cooperators, chartered, leased, and contractor operated aircraft. The Forest Service owns and operates 26 aircraft (23 fixed-wing and 3 helicopters.) Over 200 Forest Service owned aircraft are operated by numerous states under the Federal Excess Personal Property (FEPP) program, these aircraft are not included in these statistics or mishap data. Helicopters and fixed wing aircraft of various makes and models are chartered, leased or contracted annually. The aircraft are inspected and "carded" for government use by interagency inspectors, and are flown and maintained by the contractors.

Statistical Summary



FY 2008 Accident Statistics

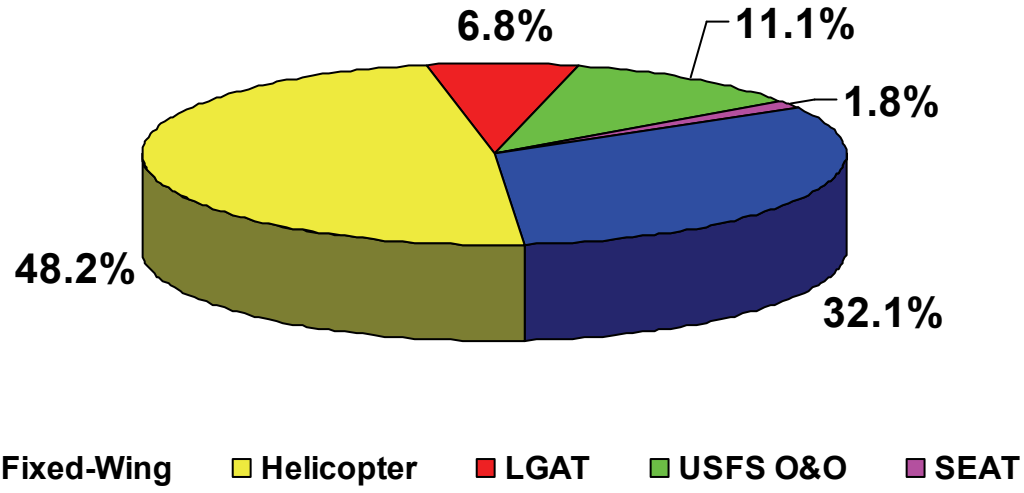
Aircraft Type	Hours	Number of Accidents	Accident Rate	Number of Fatalities	Fatality Rate
Fixed-Wing	23,600	1	4.23	0	0
Helicopter	35,512	2	5.63	9	25.34
Large Airtanker (LGAT)	5,010	0	0	0	0
*Single Engine Airtanker (SEAT)	1,318	0	0	0	0
USFS Owned & Operated (USFS O&O)	8,187	0	0	0	0
Total	73,627	3	4.07	9	12.22

The actual hours flown in FY 2008 are below the 10-year average of 83,665.

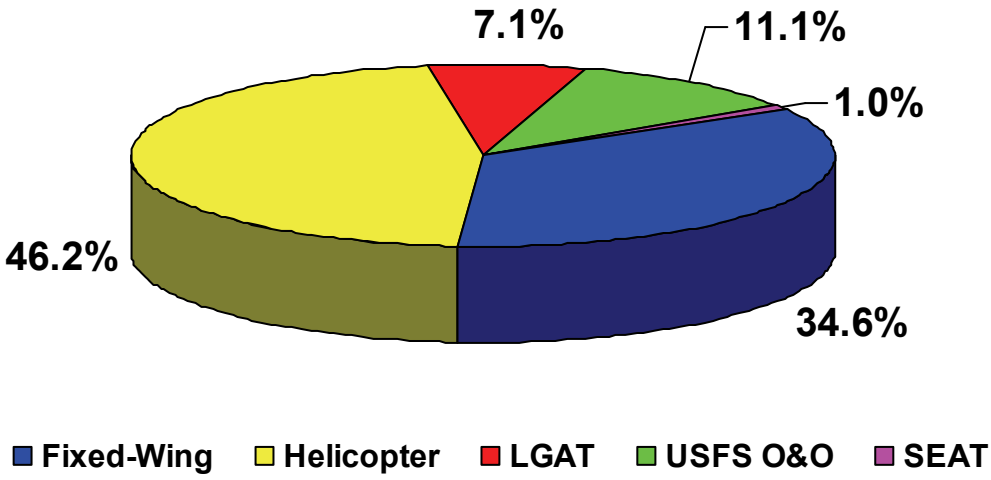
*SEAT—FS flight hours were obtained from DOI—Aviation Management Directorate

Statistical Summary

FY 2008 Flight Hour Percentages

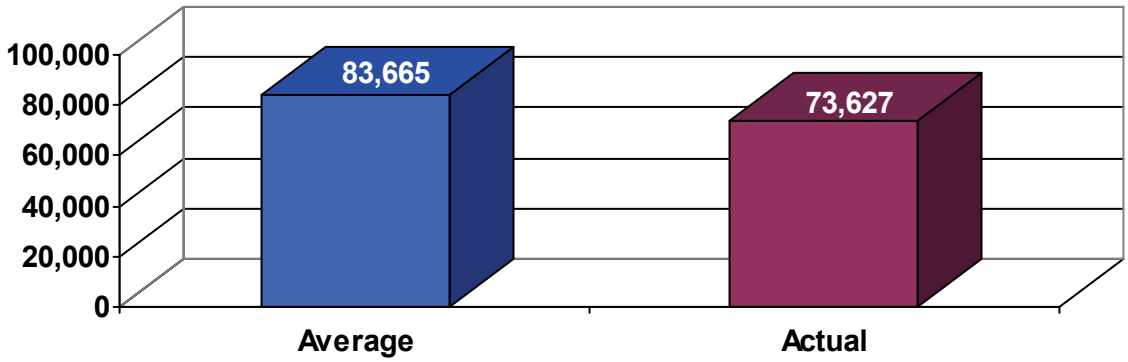


10 Year Average of Flight Hour Percentages 1999-2008



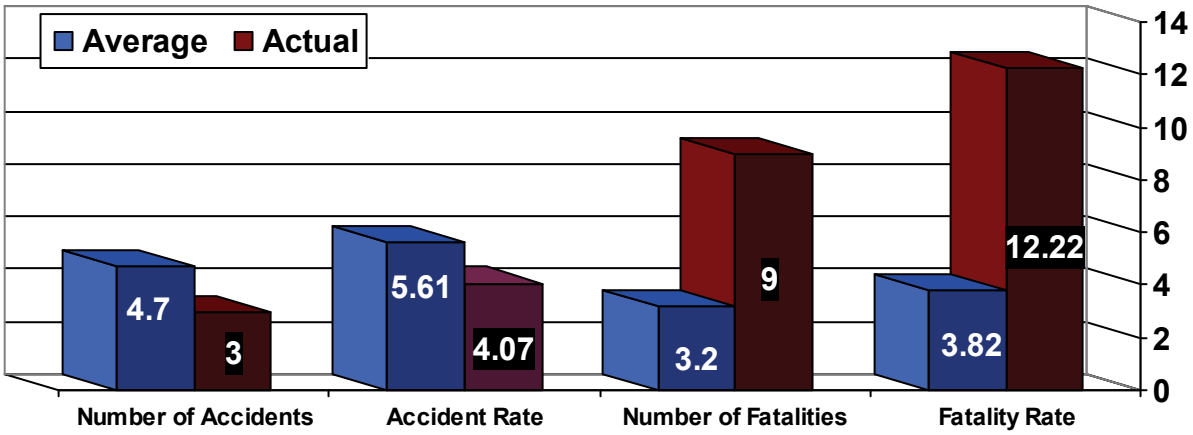
Statistical Summary

Average vs Actual Hours Flown for FY 2008



Comparison of Average vs 2008			
	10 Year Average	2008	Comparison
Hours flown	83,665	73,627	-10,038
Number of Accidents	4.7	3	-1.7
Number of Fatalities	3.2	9	+5.8
Accident Rate	5.61	4.07	-1.54
Fatality Rate	3.82	12.22	+8.4

Average vs Actual for FY 2008



Statistical Summary

10-Year Flight Hour Statistics						
Fiscal Year	Fixed Wing	Helicopter	LGAT	SEAT	USFS O&O	Total
2008	23,600	35,512	5,010	1,318	8,187	73,627
2007	29,631	41,571	5,641	628	8,122	85,593
2006	34,564	39,735	6,659	1,792	6,898	89,648
2005	22,521	28,362	3,682	674	5,185	60,424
2004	22,713	29,885	1,535	1,006	7,333	62,472
2003	32,704	50,662	5,082	765	7,607	96,055
2002	33,011	54,427	8,573	451	13,052	109,063
2001	26,580	39,497	7,832	282	11,241	85,150
2000	34,976	53,145	10,616	750	12,749	111,486
1999	21,873	25,174	6,069	284	10,019	63,135
10-year totals	282,173	397,970	60,699	7,950	90,393	836,653
Averages	28,217	39,797	6,070	795	9,039	83,665

10-Year Accident Rates							
Year	# of Accidents	Total All Aircraft	Fixed-Wing	Helicopter	LGAT	SEAT	USFS O&O
2008	3	4.07	4.23	5.63	0.00	0.00	0.00
2007	7	8.17	3.37	9.62	0.00	318.47	0.00
2006	4	4.46	2.89	7.55	0.00	0.00	0.00
2005	3	4.96	4.44	7.05	0.00	0.0	0.00
2004	5	8.0	8.8	6.69	0.00	99.4	0.00
2003	3	3.12	3.05	3.94	0.00	0.00	0.00
2002	13	11.91	3.02	14.69	23.32	0.00	15.32
2001	4	4.69	3.76	5.06	0.00	354.6	0.00
2000	4	3.58	2.85	3.76	0.00	0.00	7.84
1999	1	1.58	0.00	3.97	0.00	0.00	0.00
10-year Average	4.7	5.61	3.54	7.03	3.29	50.31	3.31

Statistical Summary

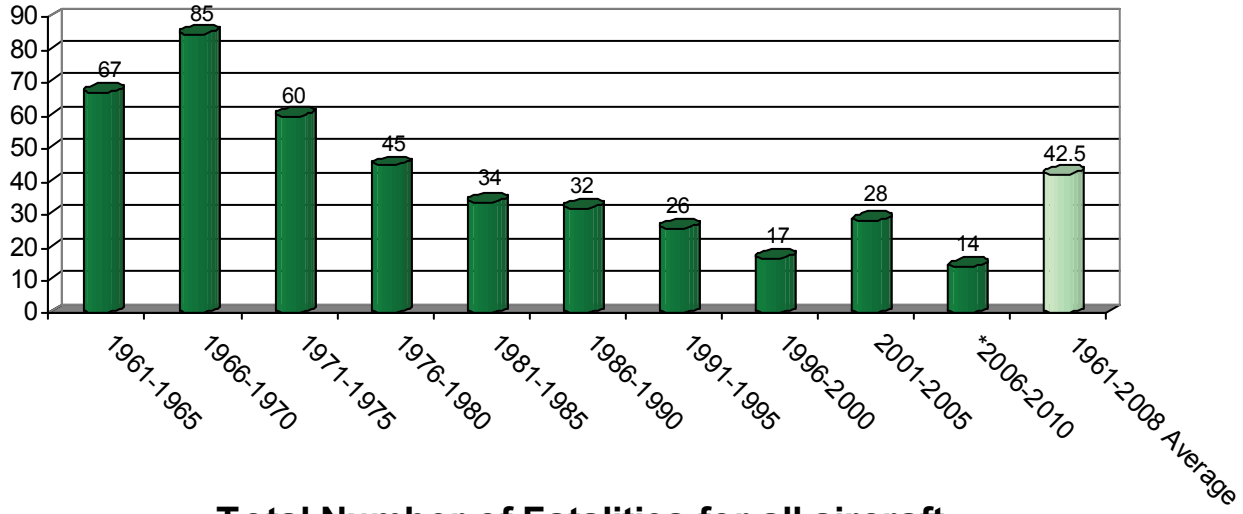
10-Year Fatal Accident and Fatality Rates				
Year	**Fatal Accidents**	**Fatal Accident Rate**	**Number of Fatalities**	**Fatality Rate**
2008	1	1.35	9	12.22
2007	1	1.16	1	1.16
2006	2	2.23	6	6.69
2005	1	1.65	3	4.96
2004	2	3.2	4	6.4
2003	1	1.04	2	2.08
2002	3	2.75	5	4.58
2001	0	0.00	0	0.00
2000	1	0.89	2	1.79
1999	0	0.00	0	0.00
10-year Average	**1.2**	**1.43**	**3.2**	**3.82**

Statistical Summary

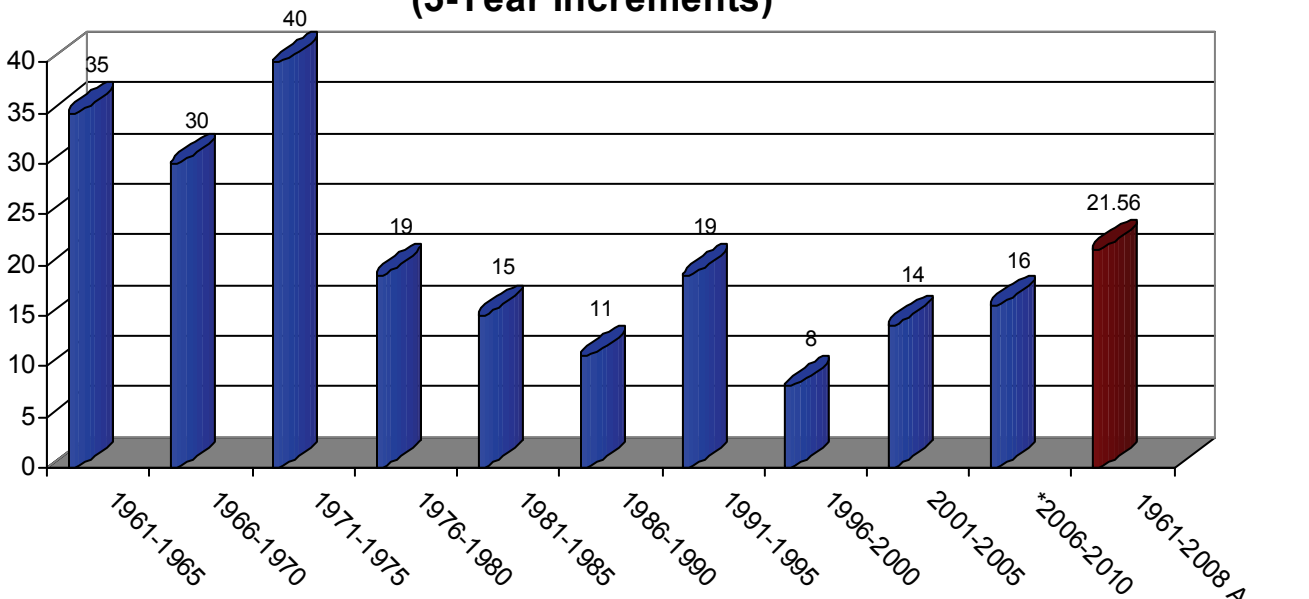
Forest Service Aircraft
Accident Statistics in 5-Year Increments

The total number of accidents in 5-year increments shows a steady decline, until the 2001-2005 period. The total number of fatalities in 5-year increments shows a major decline in the 80's from the 70's; however, since 2001 the number of fatalities has begun to rise.

Total Number of Accidents for all aircraft (5-Year Increments)



Total Number of Fatalities for all aircraft (5-Year Increments)



USFS Owned & Operated Aircraft

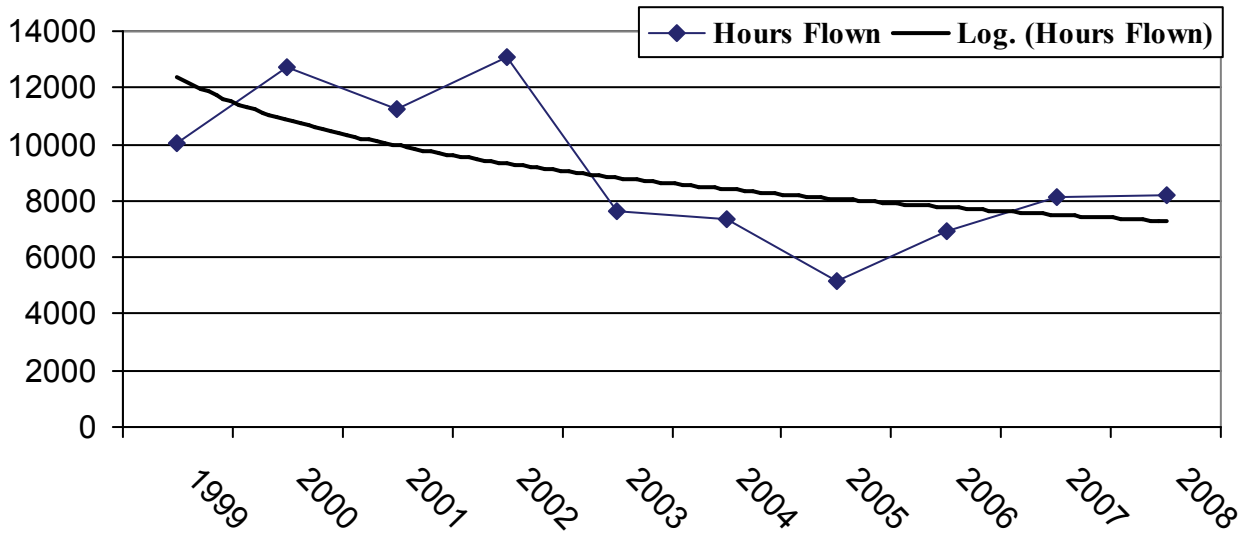
Forest Service owned aircraft accounted for 5,374 flight hours and the leased lead planes flew 2,813 hours. This includes 23 fixed-wing and 3 rotor-wing aircraft. This was 11.1% of the total flight hours, which is slightly above the average of 10.8 percent. There have not been any accidents since FY 2002 and no fatal accidents for thirteen years in USFS owned aircraft.

USFS Owned & Operated 10-Year Statistics

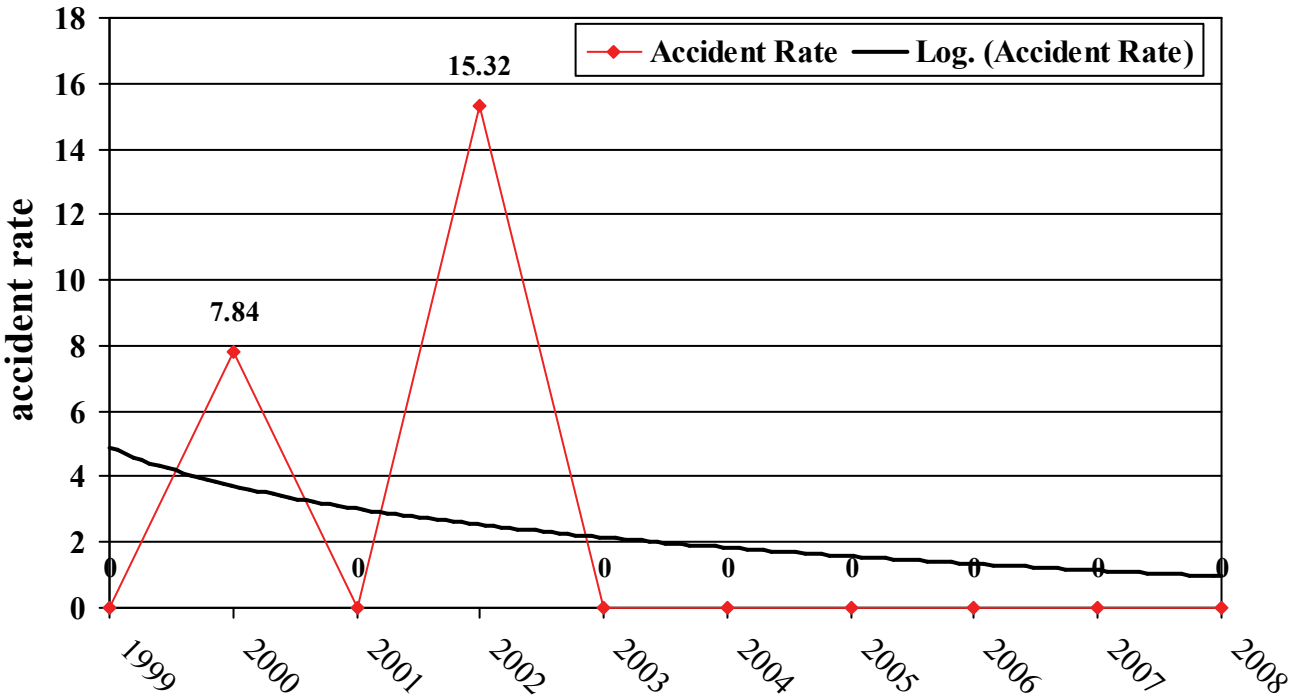
Fiscal Year	Hours Flown	Acci-dents	Accident Rate	Fatal Acci-dents	Fatal Accident Rate	Fatalities	Fatality Rate
2008	8,187	0	0.00	0	0.00	0	0.00
2007	8,122	0	0.00	0	0.00	0	0.00
2006	6,898	0	0.00	0	0.00	0	0.00
2005	5,185	0	0.00	0	0.00	0	0.00
2004	7,333	0	0.00	0	0.00	0	0.00
2003	7,607	0	0.00	0	0.00	0	0.00
2002	13,052	2	15.32	0	0.00	0	0.00
2001	11,241	0	0.00	0	0.00	0	0.00
2000	12,749	1	7.84	0	0.00	0	0.00
1999	10,019	0	0.00	0	0.00	0	0.00
Total	90,393	3		0		0	
Average	9,039	0.3	3.31	0	0.00	0	0.00

USFS Owned & Operated Aircraft

USFS Owned & Operated Hours Flown



USFS Owned & Operated Accident Rates



Fixed-Wing Aircraft (contract)

Fixed-Wing contract aircraft accounted for 32.1% of the total hours flown in FY 2008; the 10-year average is 33.6 percent. There were 23,600 hours flown in FY 2008, which is well below the 10-year average of 28,217. There was one fixed-wing accident in 2008

Fixed-Wing 10-Year Statistics							
Fiscal Year	**Hours Flown**	**Accidents**	**Accident Rate**	**Fatal Accidents**	**Fatal Accident Rate**	**Fatalities**	**Fatality Rate**
2008	23,600	1	4.23	0	0.00	0	0.00
2007	29,631	1	3.37	0	0.00	0	0.00
2006	34,564	1	2.89	0	0.00	0	0.00
2005	22,521	1	4.44	0	0.00	0	0.00
2004	22,713	2	8.80	1	4.40	3	13.2
2003	32,704	1	3.06	0	0.00	0	0.00
2002	33,011	1	3.03	0	0.00	0	0.00
2001	26,580	1	3.76	0	0.00	0	0.00
2000	34,976	1	2.86	1	2.86	2	5.72
1999	21,873	0	0.00	0	0.00	0	0.00
Total	282,173	10		2		5	
Average	28,217	1.0	3.54	0.2	0.7	0.5	1.77

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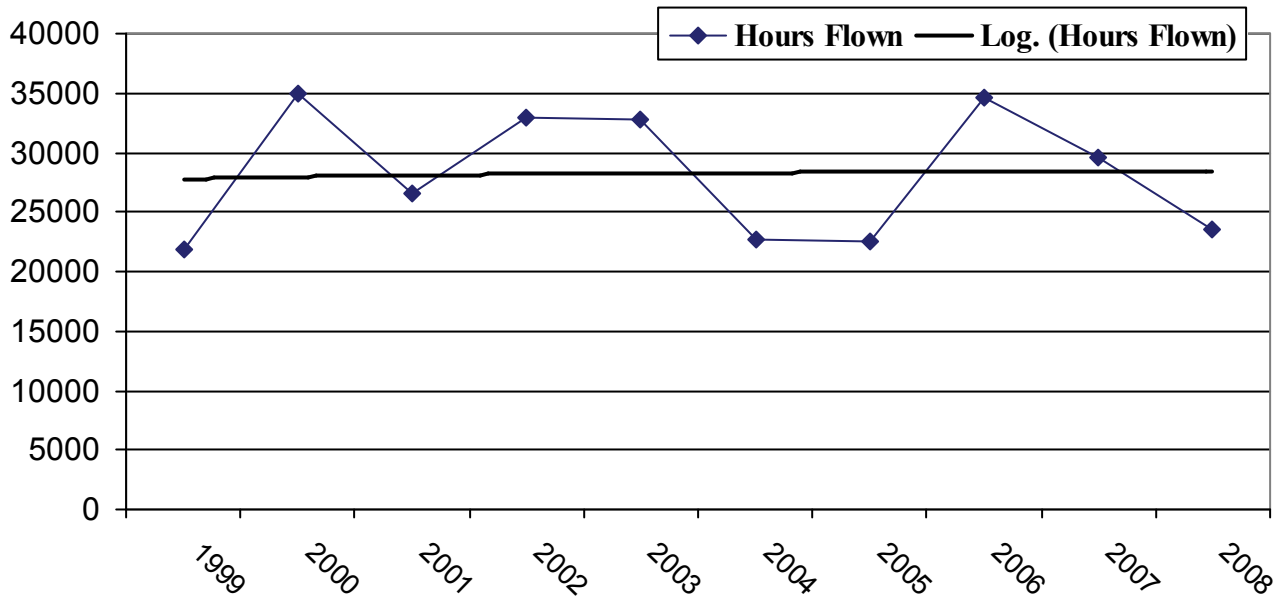
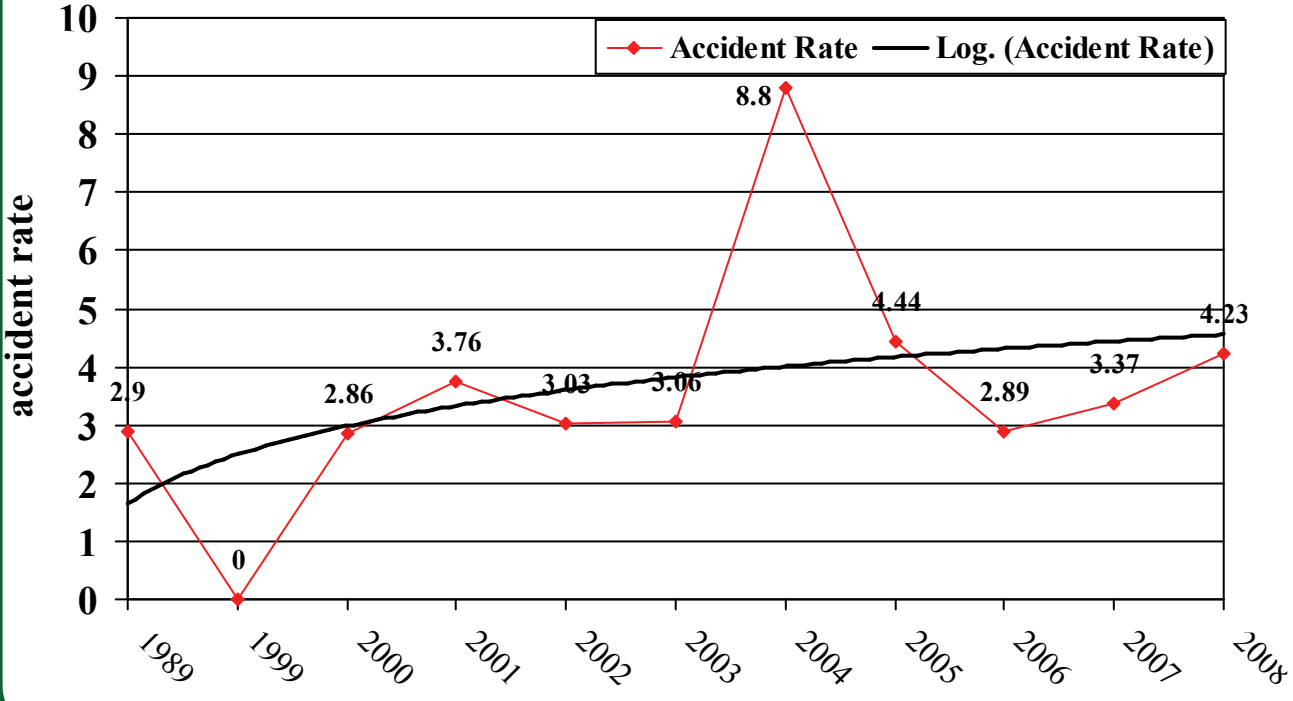
Fixed-Wing Aircraft (contract)

Fixed-Wing Hours Flown



Fixed-Wing Accident Rates



Airtankers (contract)

Large Airtankers accounted for 6.8% of the total hours flown in FY 2008; which is slightly below the 10-year average of 7.2 percent. While there were not any accidents under the operational control of the Forest Service, there was one fatal accident with one of our contract aircraft under state operational control. There were no SEAT accidents under Forest Service operational control.

All Airtanker 10-Year Statistics							
Fiscal Year	**Hours Flown**	**Accidents**	**Accident Rate**	**Fatal Accidents**	**Fatal Accident Rate**	**Fatalities**	**Fatality Rate**
2008	6,328	0	0.0	0	0.00	0	0.00
2007	6,269	2	31.9	0	0.00	0	0.00
2006	8,451	0	0.00	0	0.00	0	0.00
2005	4,356	0	0.00	0	0.00	0	0.00
2004	2,541	1	39.35	0	0.00	0	0.00
2003	5,847	0	0.00	0	0.00	0	0.00
2002	9,024	2	22.16	2	22.16	5	58.32
2001	8,114	1	12.32	0	0.00	0	0.00
2000	11,366	0	0.00	0	0.00	0	0.00
1999	6,353	0	0.00	0	0.00	0	0.00
Total	68,649	6		2		5	
Average	6,865	0.6	8.74	0.2	2.91	0.5	7.28

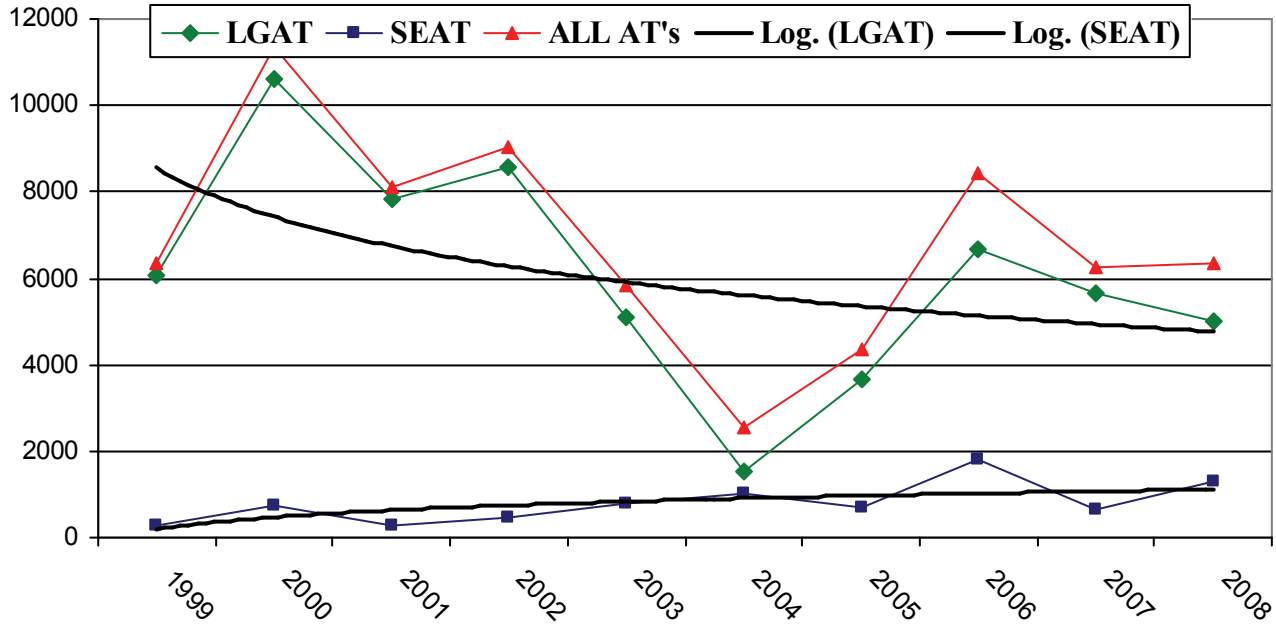
Airtankers (contract)

Large Airtanker 10-Year Statistics							
Fiscal Year	**Hours Flown**	**Accidents**	**Accident Rate**	**Fatal Accidents**	**Fatal Accident Rate**	**Fatalities**	**Fatality Rate**
2008	5,010	0	0.00	0	0.00	0	0.00
2007	5,641	0	0.00	0	0.00	0	0.00
2006	6,659	0	0.00	0	0.00	0	0.00
2005	3,682	0	0.00	0	0.00	0	0.00
2004	1,535	0	0.00	0	0.00	0	0.00
2003	5,082	0	0.00	0	0.00	0	0.00
2002	8,573	2	23.33	2	23.33	5	58.32
2001	7,832	0	0.00	0	0.00	0	0.00
2000	10,616	0	0.00	0	0.00	0	0.00
1999	6,069	0	0.00	0	0.00	0	0.00
Total	60,699	2		2		5	
Average	6,070	0.2	3.29	0.2	3.29	0.5	8.23

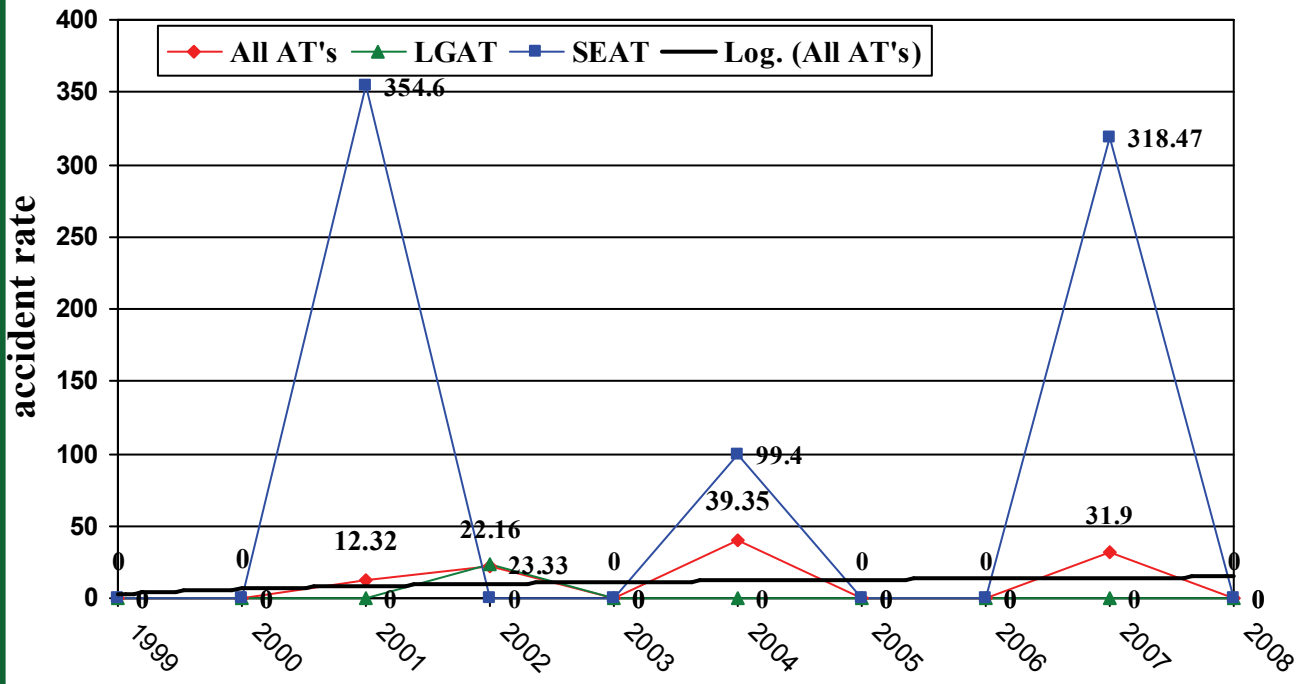
Single Engine Airtanker 10-Year Statistics							
Fiscal Year	**Hours Flown**	**Accidents**	**Accident Rate**	**Fatal Accidents**	**Fatal Accident Rate**	**Fatalities**	**Fatality Rate**
2008	1,318	0	0.00	0	0.00	0	0.00
2007	628	2	318.47	0	0.00	0	0.00
2006	1,792	0	0.0	0	0.00	0	0.00
2005	674	0	0.0	0	0.00	0	0.00
2004	1,006	1	99.4	0	0.00	0	0.00
2003	765	0	0.0	0	0.00	0	0.00
2002	451	0	0.0	0	0.00	0	0.00
2001	282	1	354.6	0	0.00	0	0.00
2000	750	0	0.0	0	0.00	0	0.00
1999	284	0	0.0	0	0.00	0	0.00
Total	7,950	4		0		0	
Average	795	0.4	50.31	0	0.0	0	0.0

Airtankers (contract)

Airtanker Hours Flown



Airtanker Accident Rates



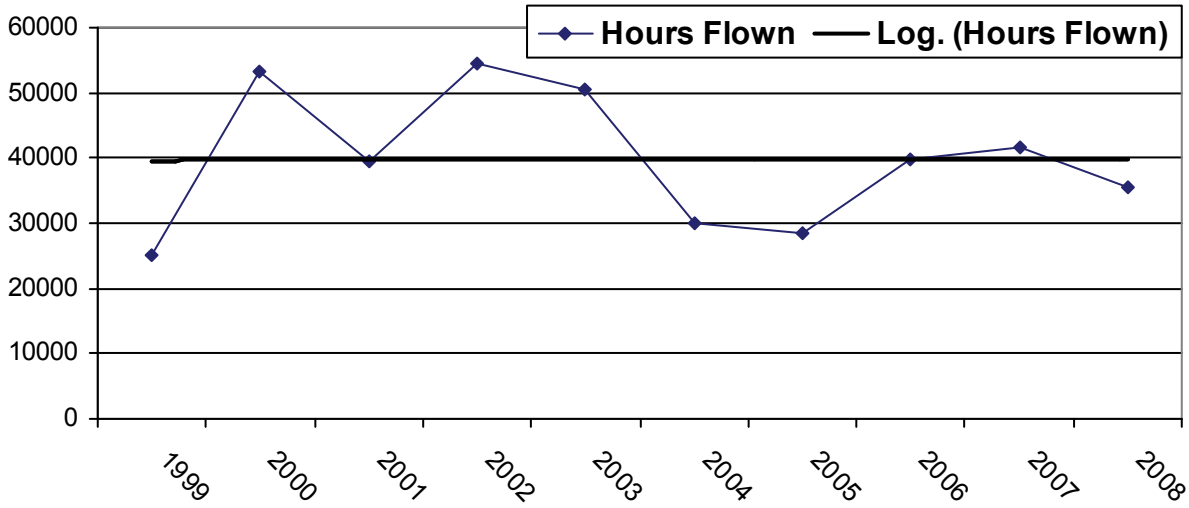
Helicopters (contract)

Helicopters accounted for 48.2% of the flight hours in FY 2008, which is above the 10-year average of 47.4%. There were 2 helicopter accidents, one with 9 fatalities and 4 serious injuries, which was one of the worst accidents in the history of the Forest Service. The other accident had a much better outcome with no injuries.

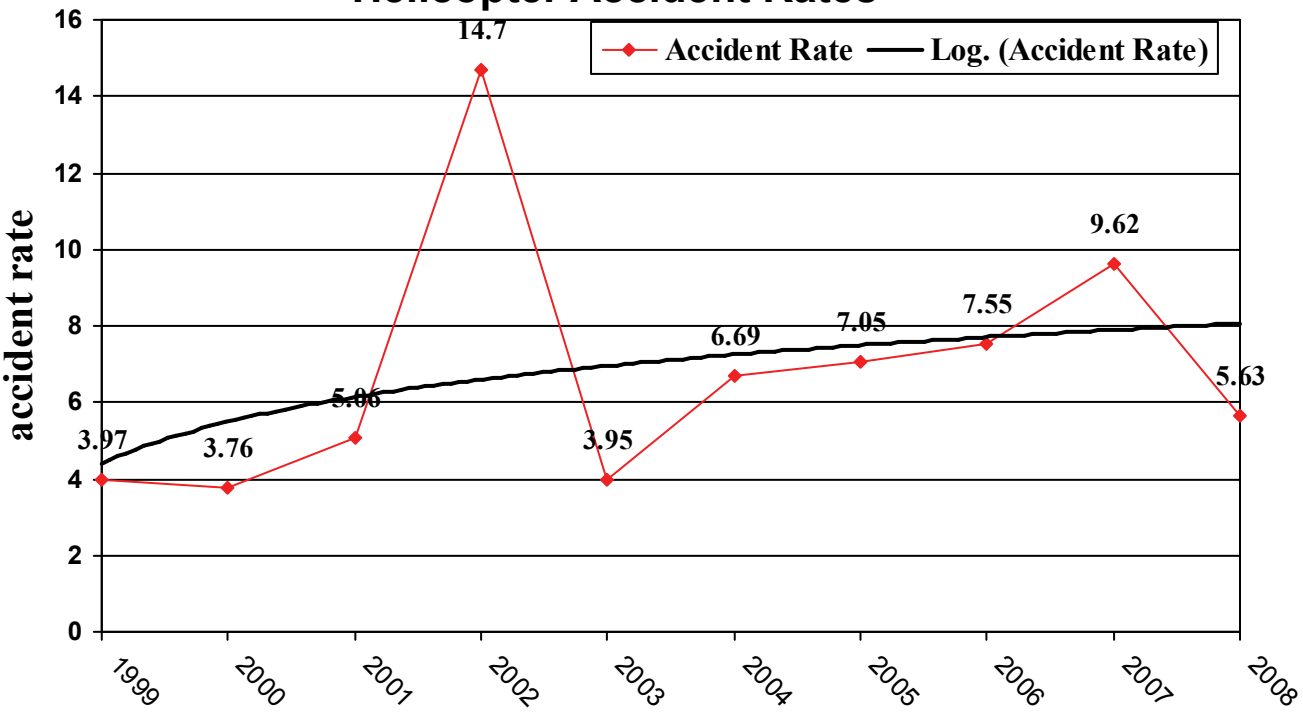
Helicopter 10-Year Statistics							
Fiscal Year	**Hours Flown**	**Accidents**	**Accident Rate**	**Fatal Accidents**	**Fatal Accident Rate**	**Fatalities**	**Fatality Rate**
2008	35,512	2	5.63	1	2.81	9	25.34
2007	41,571	4	9.62	1	2.40	1	2.40
2006	39,735	3	7.55	2	5.03	6	15.01
2005	28,362	2	7.05	1	3.52	3	10.57
2004	29,885	2	6.69	1	3.34	1	3.34
2003	50,662	2	3.95	1	1.97	2	3.95
2002	54,427	8	14.70	1	1.84	1	1.84
2001	39,497	2	5.06	0	0.00	0	0.00
2000	53,145	2	3.76	0	0.00	0	0.00
1999	25,174	1	3.97	0	0.00	0	0.00
Total	397,970	28		8		23	
Average	39,797	2.8	7.03	0.8	2.01	2.3	5.77

Helicopters (contract)

Helicopters Hours Flown



Helicopter Accident Rates



SAFECOM Summary

The SAFECOM system satisfies Federal Aviation Regulations requirements for incident reporting, but more importantly, it provides management and front line supervisors with near real time trend information. Armed with data on emerging safety and effectiveness challenges, operators and management can take appropriate actions before a mishap occurs.

There were a total of 959 SAFECOM's submitted to the Interagency SAFECOM internet database. These include Forest Service, all DOI bureaus, States, Military and other. There were 594 Forest Service, 412 DOI, 77 State and 6 Military/Other/Unknown SAFECOM's.

The following charts trend the Forest Service SAFECOM data submitted to the Interagency SAFECOM Internet database at http://www.safecom.gov/. In FY 2008 there were 594 Forest Service SAFECOM's submitted, which is below the 10-year average of 719

The most reported SAFECOM's in FY 2008 were engine (68), communications (60), electrical (54), precautionary landing (33), chip light, (30), mission equipment (30), dropped load (29), dragged load (21) and intrusion (21). In an analysis of the past five years these have been the most reported, with the exception of the number of precautionary landings and mission equipment reported this year.

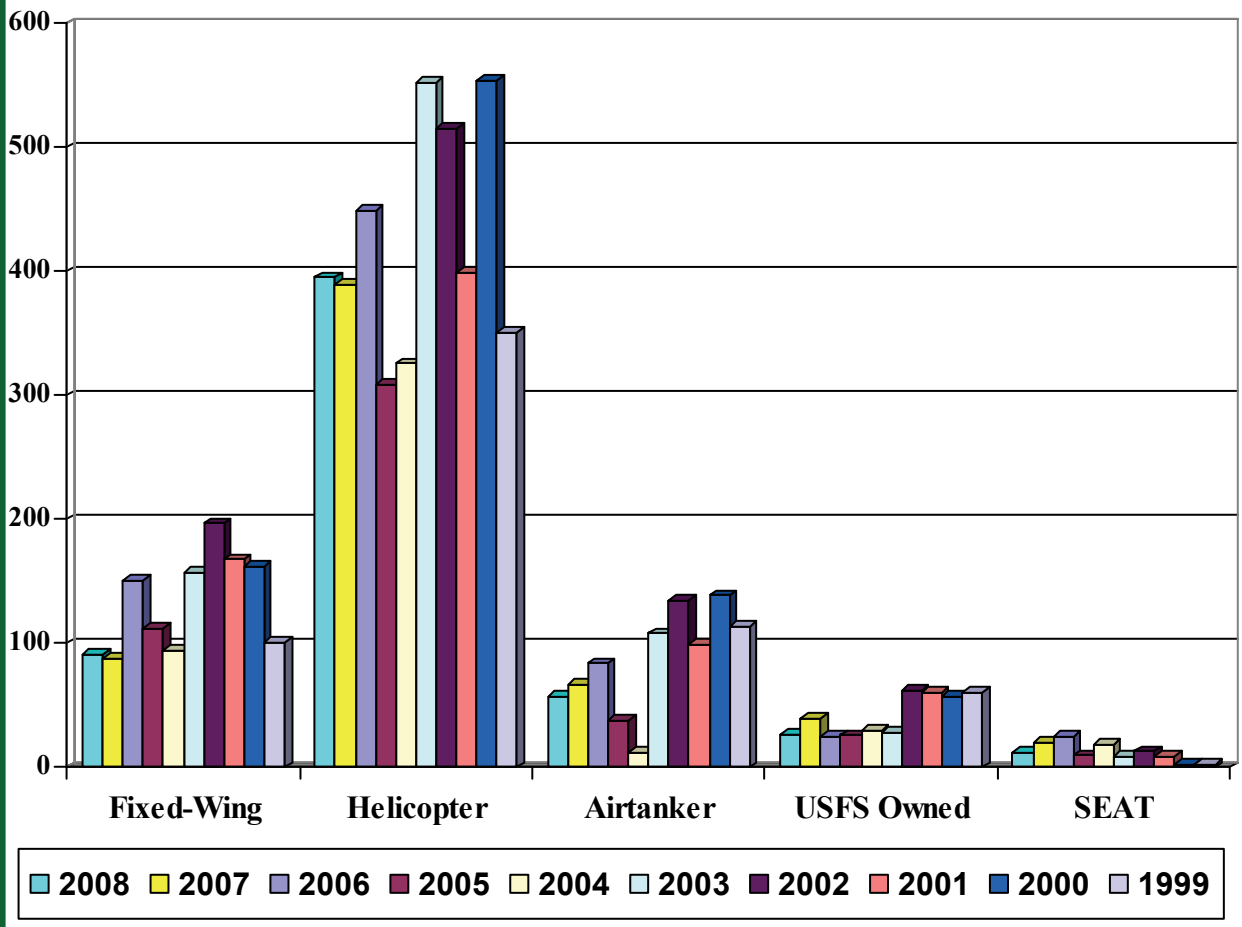
Yearly Forest Service SAFECOM Totals	
YEAR	Number of SAFECOM's
2008	594
2007	620
2006	753
2005	516
2004	494
2003	887
2002	962
2001	773
2000	949
1999	640
Total	7,188
10 YR Average	719

SAFECOM Summary

SAFECOM's by Aircraft Type

Aircraft Type	Number
Fixed Wing	91
Helicopter	395
Airtanker	58
N/A	11
SEAT	12
USFS Owned/Operated	27
Total	594

SAFECOM's by Aircraft Type for 10 Years

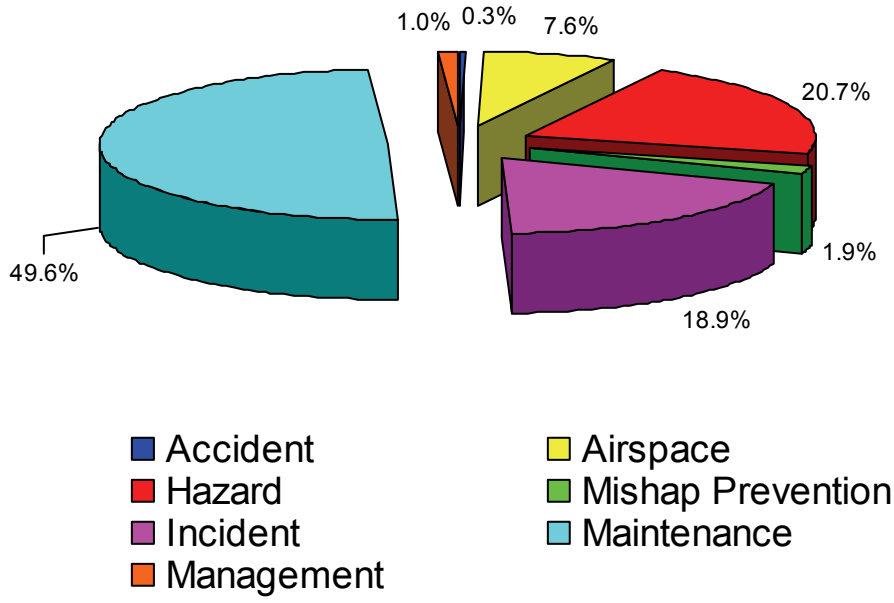


SAFECOM Summary

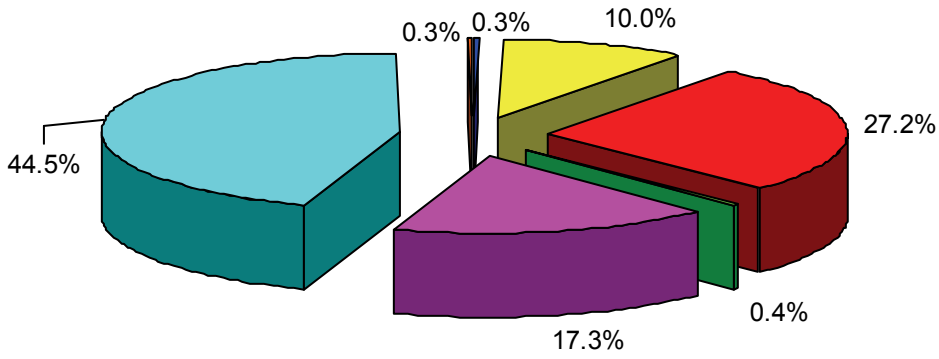
SAFECOM's by Category

The numbers of SAFECOM's by category will be more than the total number of SAFECOM's reported as each SAFECOM may have more than one category assigned to it.

2008 Percent of SafeCom's by Category



10-Year Average Percent of SafeCom's by Category

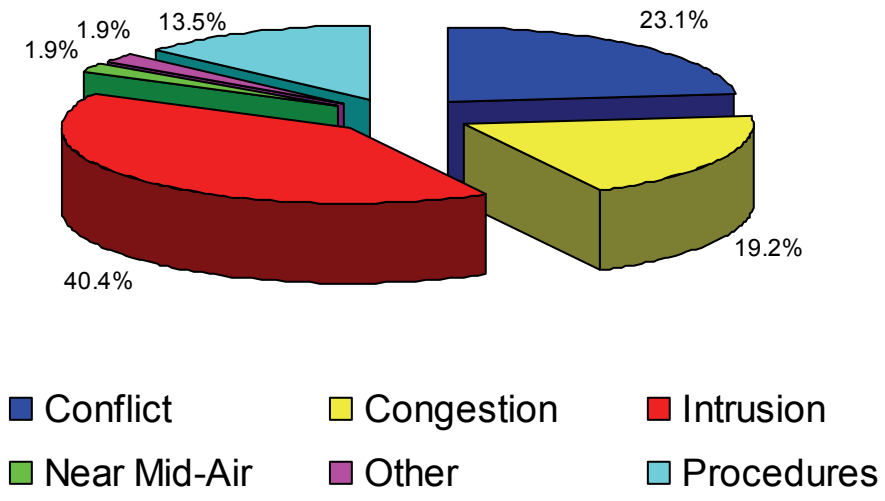


SAFECOM Summary

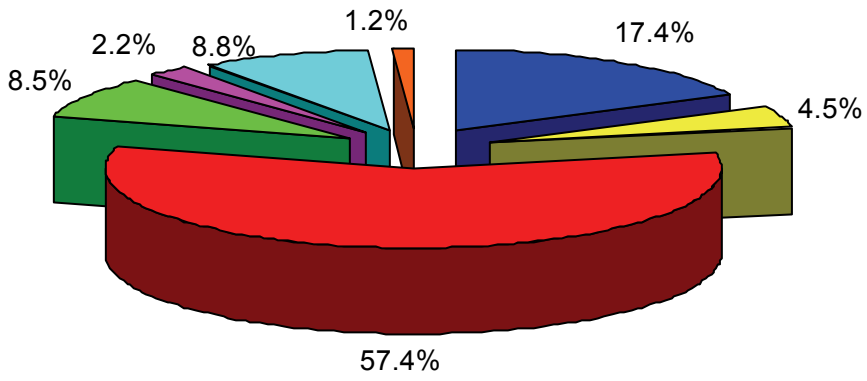
Airspace SAFECOM's by sub-category

While the number of intrusion and near mid-air events reported this year decreased from the 10-year average, the number of conflict, congestion and procedures reported were above the average. Poor communications in complex airspace contributed to many of the airspace issues reported.

2008 Percent of Airspace SafeCom's



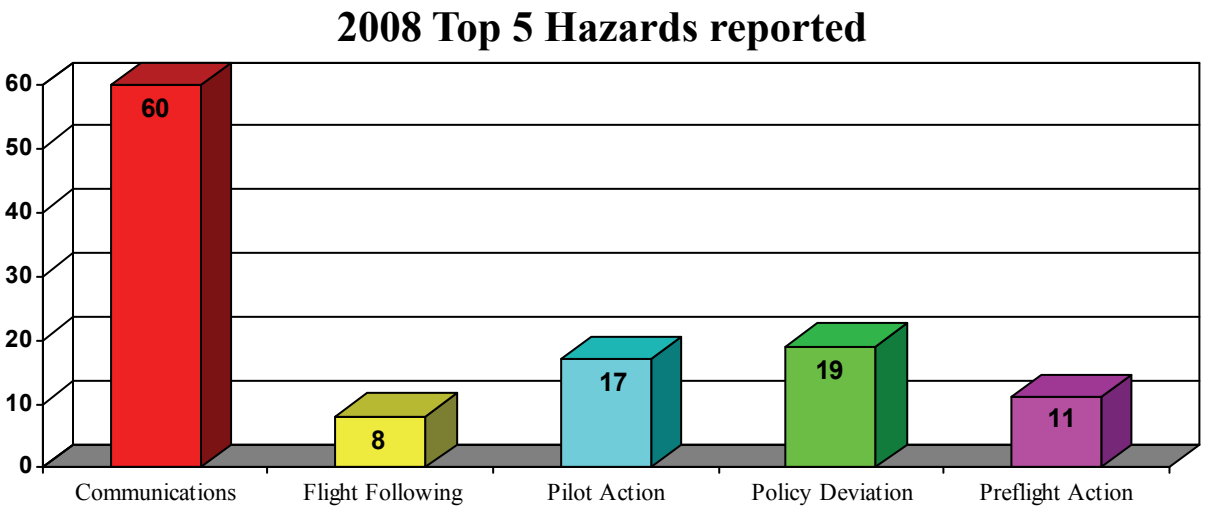
10-Year Average Percent of Airspace SafeCom's

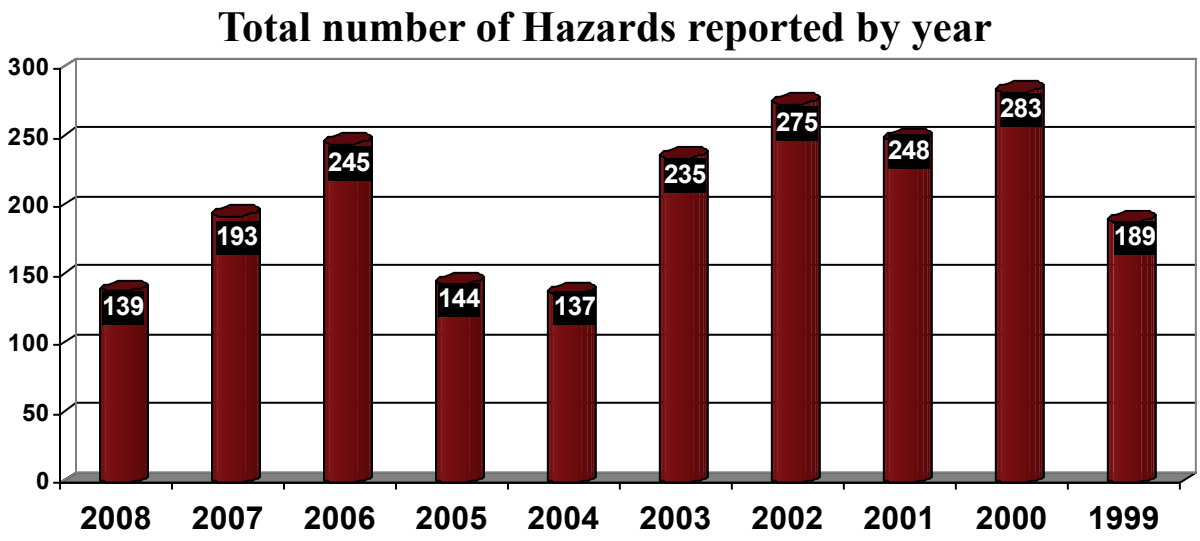


SAFECOM Summary

Hazard SAFECOM's by sub-category

Communication issues are the most reported hazard, accounting for almost half of the Hazard SAFECOM's. Verbal communications including wrong or incomplete instructions/directions reported were considerable. Frequency management and congestion also continues to be a frequent issue plaguing our air resources. Below are charts indicating the top 5 Hazard SAFECOM's reported and the total number of Hazard SAFECOM's reported for the last 10-years.



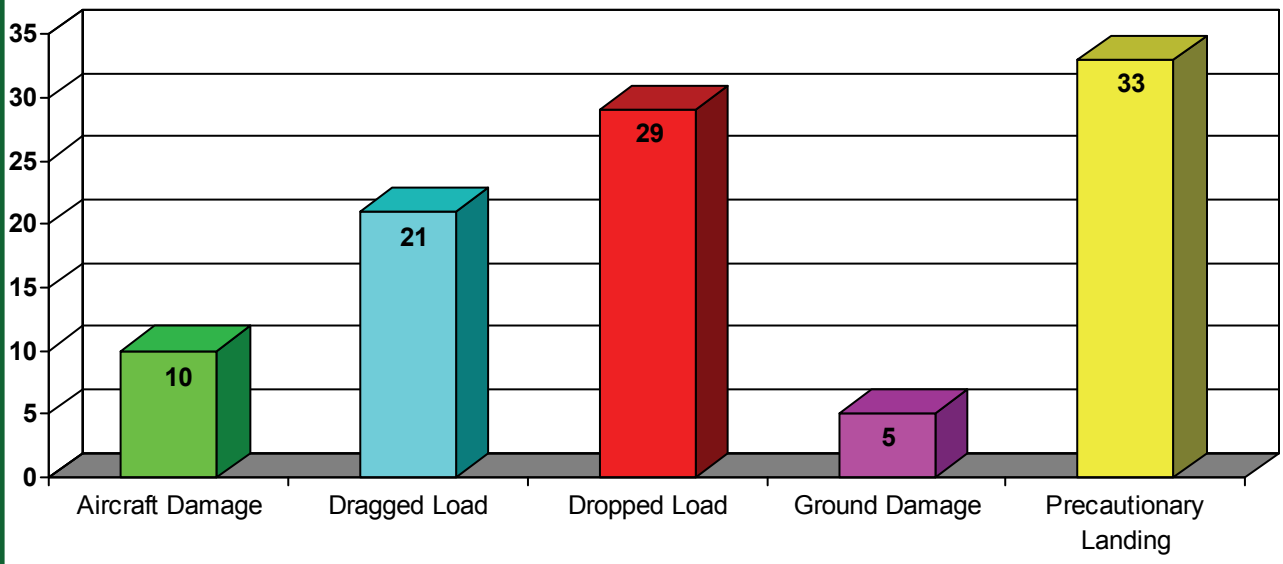


SAFECOM Summary

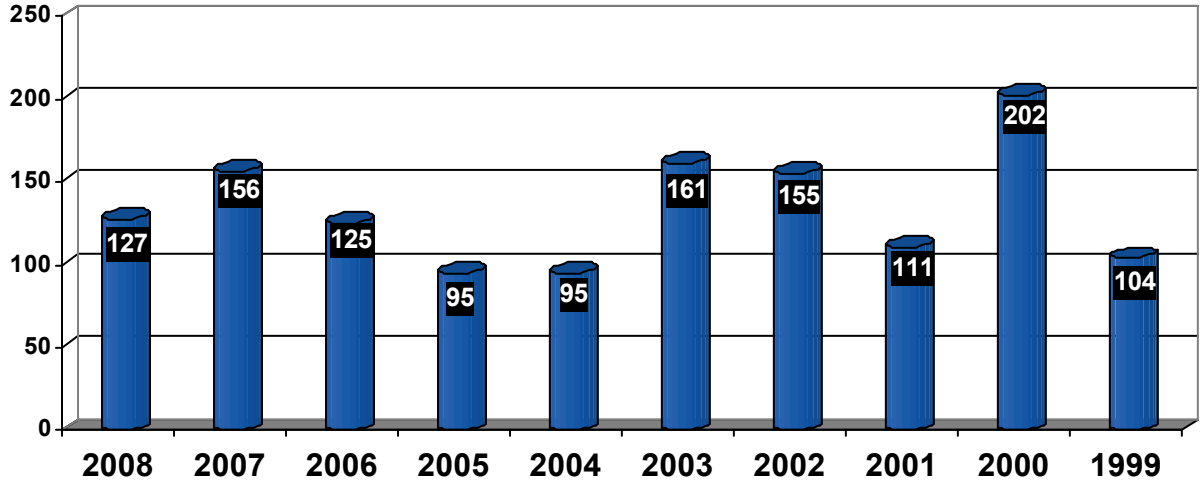
Incident SAFECOM's by sub-category

Dropped Loads were the highest number of SAFECOM's reported in this category until the last four years where the number of precautionary landings became the most reported. Below are the top 5 Incident SAFECOM's reported in 2008 and the total number of Incident SAFECOM's reported for the last 10-years.

2008 Top 5 Incidents reported



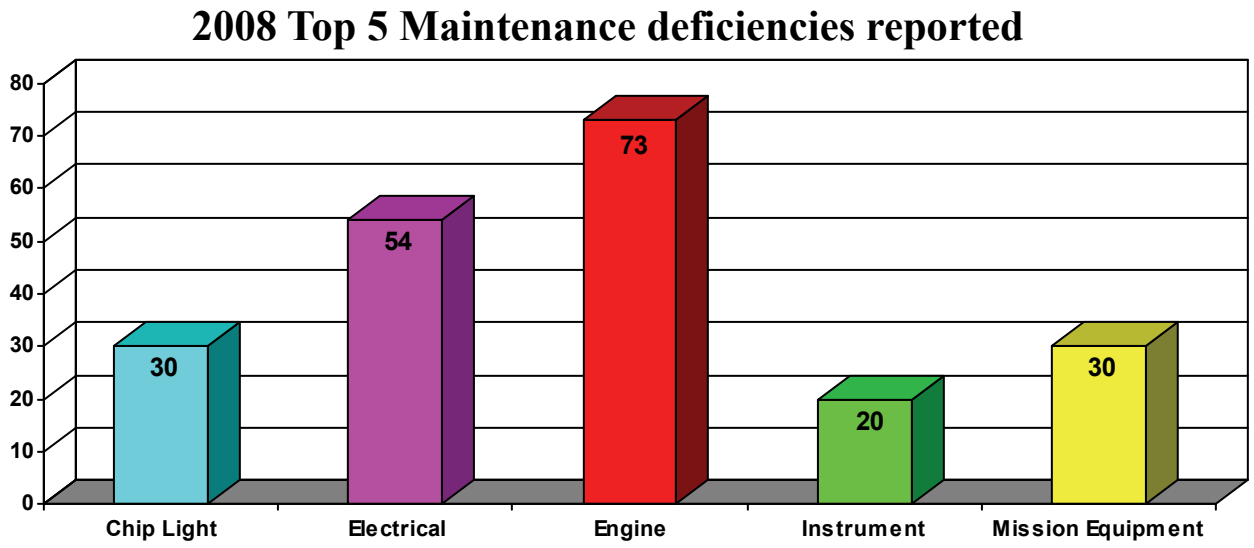
Total number of Incidents reported by year

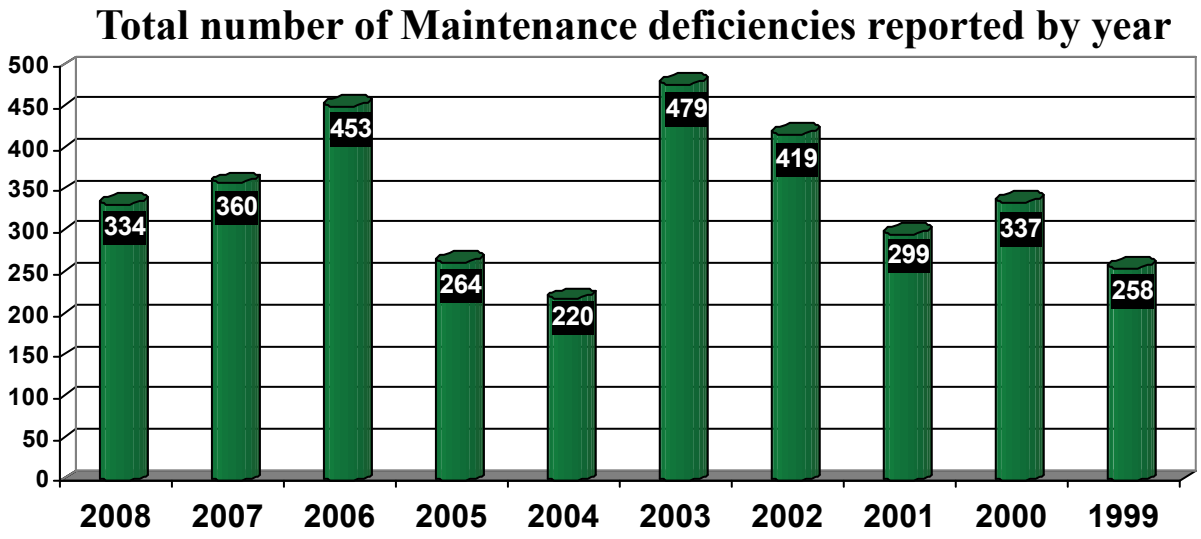


SAFECOM Summary

Maintenance SAFECOM's by sub-category

Engine maintenance discrepancies continue to be the most reported. In 2004 we added a sub-category under engine to capture more severe engine events (failures & shut-downs) which included five last year. Mission Equipment was a new category as well and was one of the top 5 maintenance discrepancies reported. Below are the top 5 Maintenance SAFECOM's reported in 2008 and the total number of maintenance SAFECOM's reported for the last 10-years.

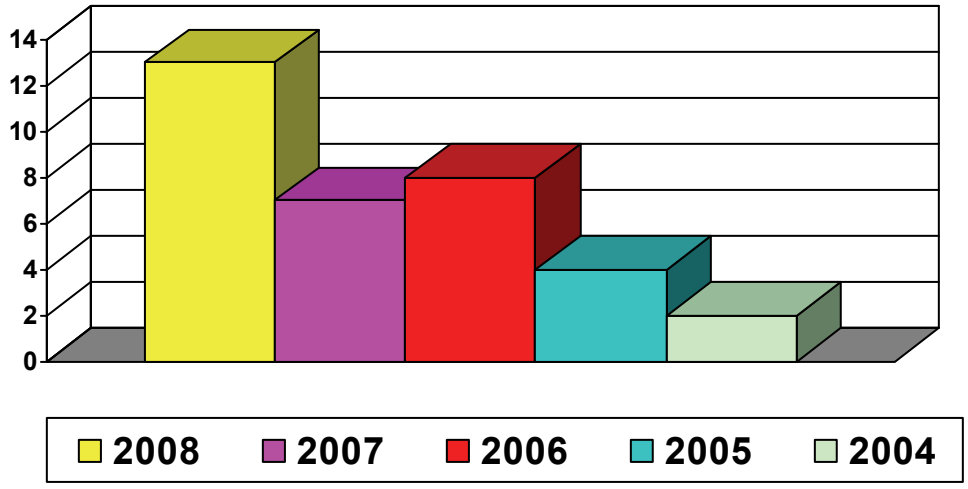




SAFECOM Summary

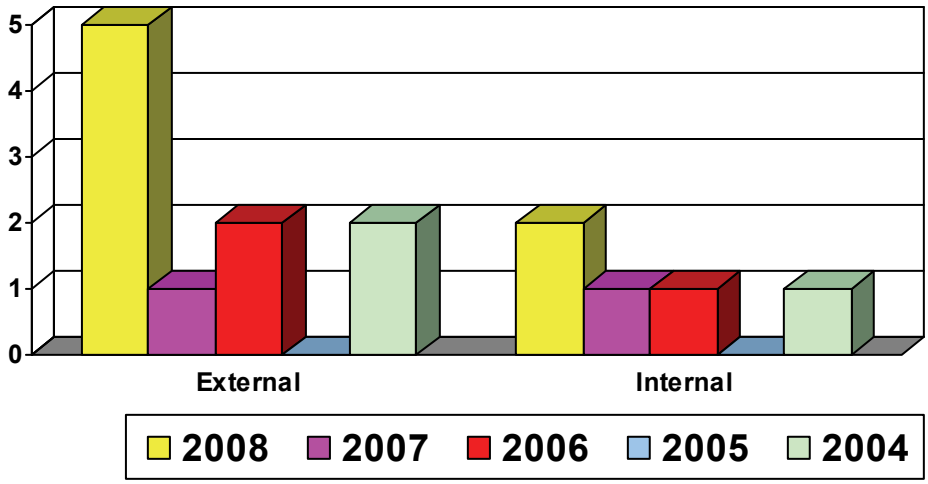
Forest Service Mishap Prevention

This was a new category added in 2004 to attempt to capture the good things that individuals are doing for mishap prevention. This category is slowly catching on; however, it is apparent that we need to do a much better job in promoting the use of SAFECOM's in a positive manner.



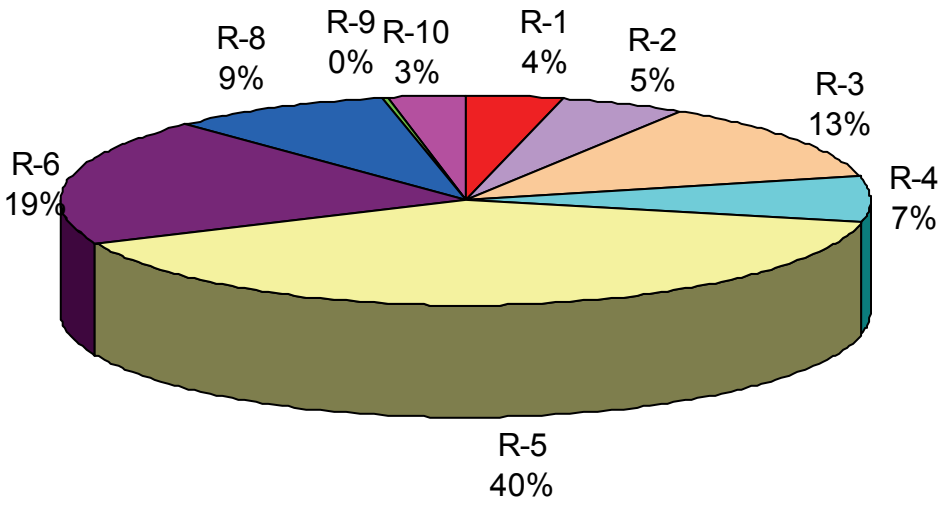
Forest Service Management SAFECOM's by sub-category

Management was a new category added in 2004 as well with the intent of capturing management issues internally and externally.



SAFECOM Summary

FY 2008 SAFECOM's by Region



FY 2008 SAFECOM's by Aircraft Type and Region							
Region	Fixed-Wing	Helicopter	Airtanker	SEAT	USFS Owned	N/A	Total
Region 1	0	20	1	0	2	0	23
Region 2	10	17	0	0	2	0	29
Region 3	13	35	22	3	1	1	75
Region 4	10	24	4	1	2	0	41
Region 5	28	171	23	3	8	4	237
Region 6	19	71	5	5	14	1	115
Region 8	3	44	3	0	1	1	52
Region 9	0	1	0	0	1	0	2
Region 10	7	6	0	0	1	4	18
NEA	1	0	0	0	0	0	1
WO	0	0	1	0	0	0	1
Total	91	389	59	12	32	11	594

SAFECOM Summary

SAFECOM's by Region

The numbers of SAFECOM's by category are more than the total number of SAFECOM's reported as each SAFECOM can have more than one category assigned to it.

SAFECOM's by Category and Region								
Region	Accident	Airspace	Hazard	Incident	Maint.	Mgmnt	Mishap Prevention	Total
1	1	3	11	7	8	1	2	33
2	0	3	7	5	17	0	0	32
3	0	4	14	20	45	1	2	86
4	0	6	11	15	13	0	1	46
5	1	29	49	46	143	2	5	275
6	1	2	28	24	76	1	2	134
8	0	3	11	8	26	2	0	50
9	0	0	1	0	1	0	0	2
10	0	0	7	2	4	4	1	18
NEA	0	1	0	0	0	0	0	1
WO	0	0	0	0	1	0	0	1
Total	3	51	139	127	334	11	13	678

Mishap Summary

USFS Accidents

Date	Region/Forest	Aircraft Type	Tail #	Mission
6/30/2008	R-6, Deschutes NF	Cessna 182RG	N7XZ	Reconnaissance
8/5/2008	R-6, Shasta-Trinity NF	Sikorsky S-61	N612AZ	Passenger Transport
8/18/2008	R-1, Idaho Panhandle NF	Hughes 369	N622PB	Passenger Transport

NON-USFS Accidents

Date	Region/Forest	Aircraft Type	Tail #	Mission
9/1/2008	CAL FIRE	Lockheed P2V	N4235T	Retardant Drop

The following are the NTSB Reports for the accidents. All of the reports are the preliminary reports which are subject to change, and may contain errors. Any errors in these reports will be corrected on the NTSB web-site when the final reports are completed. Links are provided to the NTSB reports where updated information may be posted after the completion of this report.

Mishap Summary

NTSB Identification: **SEA08LA156**
Aircraft: Cessna TR182, registration: N7XZ
Injuries: 1 Serious, 1 Minor.
R-6, Deschutes NF

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On June 30, 2008, at 1720 Pacific daylight time, a Cessna TR182, N7XZ, was substantially damaged during a forced landing near Bend, Oregon. The airplane was registered to and operated by Spirit Flight Inc. doing business as Wings of the Cascades, Redmond, Oregon, under contract with the United States Forest Service. The local fire reconnaissance flight was operated under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135 with a company flight plan filed. Visual meteorological conditions prevailed. The airline transport pilot sustained serious injuries and the sole passenger sustained minor injuries. The flight departed from the Roberts Field Airport (RDM), Redmond, Oregon about 1530.

The pilot reported that as she initiated a descent from 7,500 feet mean sea level, she felt a significant vibration that wasn't normal and diverted towards Bend. As the vibration continued to become strong, she noticed the propeller RPM was "in the red" and that the oil temperature was rising steadily. Subsequently, oil began streaking across the windscreen, and the pilot initiated a forced landing to a nearby field. During the landing roll, the airplane struck a barbwire fence and came to rest on a two-lane highway.

Examination of the airplane by local law enforcement revealed that the right wing was buckled throughout and the engine firewall was bent. Oil was observed on the windscreen of the airplane. The airplane was recovered to a secure location for further examination.

Mishap Summary

NTSB Identification: **LAX08PA259**
Aircraft: Sikorsky S-61N, registration: N612AZ
Injuries: 9 Fatal, 4 Serious.
R-5, Shasta-Trinity NF

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On August 5, 2008, at 1941 Pacific daylight time, a Sikorsky, S-61N helicopter, N612AZ, experienced a loss of power to the main rotor during takeoff initial climb, and subsequently impacted trees and terrain near Weaverville, California. Postimpact fire destroyed the helicopter. The airline transport pilot and 8 passengers were fatally injured, and the commercial copilot and 3 passengers were seriously injured. The helicopter was being operated under contract to the United States Forest Service by Carson Helicopter Services, Inc., as a public-use flight. Visual meteorological conditions prevailed for the cross-country flight that was originating at the time of the accident. A company visual flight rules (VFR) flight plan had been filed. The helicopter was departing from Helispot 44 (H-44, elevation 5,935 feet) en route to Helispot 36 (H-36, elevation 2,516 feet) when the accident occurred.

The helicopter had been assigned to transport approximately 50 wildland firefighter helitack crewmembers out of the Trinity Alps Wilderness of the Shasta Trinity National Forest due to forecasted worsening weather conditions. The helicopter had completed two trips, and had gone to Trinity Helibase to refuel. After it had refueled, it returned to H-44 for its third load of passengers. During departure, the helicopter impacted trees and subsequently terrain, coming to rest on its left side. A postcrash fire consumed the aircraft.

Mishap Summary

NTSB Identification: **SEA08TA188**
Aircraft: Hughes 369D, registration: N622PB
Injuries: 4 Uninjured.
R-1 Idaho Panhandle NF

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On August 18, 2008, at 1640 Pacific daylight time, a Hughes 369D, N622PB, collided with terrain near Bonners Ferry, Idaho. The United States Forest Service (USFS) was operating the helicopter as a public use flight. The helicopter sustained substantial damage; the commercial pilot and three passengers were not injured. Visual meteorological conditions prevailed and a visual flight rules (VFR) company flight plan and flight following were in effect. The pilot departed from Bonners Ferry Ranger Station about 1600.

According to the USFS safety officer, the pilot was picking up firefighters and had landed on a pinnacle. After loading the helicopter, the pilot began to depart and 10 to 15 feet above the horizon and approximately 30 to 40 feet above the trees, the pilot was having difficulty maintaining altitude in the helicopter. He then performed a 180-degree turn back to his departure point and the helicopter landed. During the landing, the tail rotor drive shaft sheared.

This accident was upgraded from an incident on August 25, after verification of the helicopter damage.

Mishap Summary

NTSB Identification: SEA08GA194
Aircraft: Lockheed SP-2H, registration: N4235T
Injuries: 3 Fatal.
CAL FIRE

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On September 1, 2008, about 1810 Pacific daylight time, N4235T, a Lockheed SP-2H airplane, was destroyed after impacting terrain following a loss of power and loss of control about 2 miles northwest of the Reno/Stead (4SD) Airport, Reno, Nevada. The airplane was registered to Neptune Aviation Services Inc., of Missoula, Montana, and operated by the California Department of Forestry and Fire Protection (CAL FIRE). The airline transport first pilot, who occupied the left crew seat, the airline transport second pilot who occupied the right crew seat, and the flight mechanic who occupied the cockpit jumpseat, were killed. Visual meteorological conditions prevailed for the Public Use air drop flight, which was being operated in accordance with 14 Code of Federal Regulations Part 137, and a company flight plan was filed and activated. The flight was originating at the time of the accident.

An air tanker base employee who witnessed the accident reported observing the airplane taxi to Runway 32 "...and everything appeared normal." The witness reported watching the airplane takeoff, and at an elevation estimated to be between 100 to 300 feet above the ground, he observed the left jet engine emitting flames, followed by the left wing being engulfed in flames. The witness further reported that about 2 seconds later the airplane entered a left wing down attitude before impacting terrain and bursting into flames.

Mishap Summary

Lockheed SP-2H, registration: N4235T continued.
The National Transportation Safety Board investigator-in-charge (IIC), accompanied by representatives from the Federal Aviation Administration (FAA), the United States Department of Forestry, and representatives from Neptune Aviation Services, Inc., responded to the accident site on September 2, 2008. The initial onsite examination revealed that about 500 feet from the departure end of Runway 32, several identifiable pieces of the airplane's left jet engine were located. It was also revealed that prior to impacting terrain the airplane had collided with a set of powerlines, estimated to be about 50 feet high. An initial ground impact scar was observed about 25 feet west of the powerlines, followed by the airplane's energy path proceeding in a westerly direction, covering a measured distance of about 755 feet on a magnetic heading of 250 degrees. The damage assessment also revealed that the airplane had sustained significant fragmentation and thermal damage throughout the debris path.

USFS Incidents with Potential

Date	Region/Forest	Aircraft Type	Tail #	Mission
7/3/2008	R-5, Tahoe NF	Bell 205 A1++	N58HJ	External Load, Longline
7/5/2008	R-5, Los Padres NF	Boeing 234	N245CH	Water Drop, Bucket
8/13/2008	R-5, Mendocino NF	AC 500	N900DT	Air Attack

Bell 205 A1++ Rotor Strike, Tahoe NF

On Thursday July 3rd, an exclusive use Bell 205++ helicopter, N58HJ. departed Blue Canyon Airport (helibase) on a long-line cargo mission to provide supplies to wrap a remote cabin on the American Fork District of the Tahoe National Forest.

On final approach the aircraft's main rotor blades contacted an approximately 170' conifer on the pilot's 4:00 position. The pilot heard the blades contacting the tree and arrested the decent of the helicopter

The pilot repositioned the aircraft and lowered the load, releasing the load once it was in contact with the ground. The pilot returned to the helibase and upon shutdown, the pilot and ground crew noticed the damaged rotor blades.

Mishap Summary

Boeing 234 Dragged Load, Los Padres NF

At 1840 the ship returned from 3rd cycle of the day with a damaged bucket. Pilot said visibility was poor and he was focused on the drop, and allowed the bucket to hit the top of a ridge. This mission was assigned by Air Attack. They indicated that there were visibility issues .

There had not been any visibility issues earlier in the day while dipping out of the Los Padres Reservoir, so the pilot assumed that would be the best route for getting to the fire.

On arrival at the operations area, the pilot established visual and radio contact with a second helicopter working that fire and proceeded into the area. There was a lot of smoke, but the pilot assumed the visibility was workable since the other helicopter was in the area.

He followed the other helicopter down the ridge noting his dip point (which was a pond) and then he continued to an ocean dip.

After the dip, he located the second helicopter (again) going up the ridge. He followed behind toward his drop at the top of the ridge and then lined up for the drop. As he came up on the drop, he opened the gate, lowered the collective slightly, and commenced the downhill run. During the downhill run, the bucket contacted the ridge. The pilot immediately pulled up. Having damaged the bucket, he reported the incident to Air Attack and returned to the helibase.

Mishap Summary

Aero Commander 500 Nose Gear Failure, Mendocino NF

August 13, 2008, the mishap occurred while assigned on an Air Tactical mission for the Yolla Bolly Complex on the Mendocino National Forest. The aircraft was based at Redding Municipal Airport in Redding, CA where the nose-gear-up landing occurred.

Upon take off, the pilot noticed the nose gear did not fully retract. There was an audible noise from the nose wheel area and the red gear unsafe light was illuminated. The pilot cycled the gear several times to no avail.

Shortly thereafter, something began banging against the bottom of the fuselage in the nose wheel area. The pilot was concerned about something dislodging from the aircraft and damaging someone or something on the ground. He informed the ATGS to prepare for landing by securing the cockpit area

The pilot gained approval for landing and performed a “soft field” landing. He kept the nose up as long as possible reducing speed and while on roll, closed the mixtures and shut off the emergency fuel shut offs. The nose dropped and the aircraft skidded about 100-150 yards.

Fortunately, there were no injuries. Damage to the aircraft consisted of damage to the nose gear doors, to several stringers and skin under the fuselage. The nose gear centering mechanism consists of a pin that slides into a cam. The centering pin had two flat spots on it, but when or how the pin became damaged could not be determined.


Damage to left gear door

Findings: 1)The pilot displayed outstanding airmanship to safely land the aircraft without the benefit of nose gear steering after a malfunction. 2) Human Factors were not a factor as the cause of this incident, although they were in the successful outcome of the event. 3) Failure of the gear centering mechanism caused the gear to retract into a cocked position. Failure can be caused by towing that exceeds turn limitations or a steering valve leak. Neither cause could be confirmed.