

2014

Aviation Annual Report



Aviation Annual Report
USDA Forest Service
2014

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Executive Summary

US Forest Service Agency aviation business data is summarized to characterize annual aviation use and costs for contract and Agency-owned aircraft. Data summaries are presented to generate a picture of annual use at the Agency management scale, and analysis methods are standardized to facilitate observation of trends in future annual reports. Summaries are presented by calendar year (January 1 – December 31) to more thoroughly capture fire seasons and contracting cycles.

Information sources include the Aviation Business System (ABS) and the Aviation Management Information System (AMIS), which are obtained via the FamWeb Data Warehouse. Additionally, some summaries are provided by Agency aviation program specialists, contract specialists, and Regional Aviation Officers.

In 2014, all Forest Service Agency-owned and contracted aircraft flew 57,660 hours, which is below the annual totals for the previous 2 years.

Table 1 summarizes the Agency fleet, showing both the number of aircraft awarded a contract line item and those available to the Agency for use from other sources. These numbers are not reflective of the actual number of aircraft utilized though because a Call When Needed (CWN) aircraft may not have been available at the time of a resource order, and some Exclusive Use aircraft are also awarded CWN contracts.

Report Disclaimer

Aviation Business System (ABS) and Aviation Management Information System (AMIS) archived aircraft use and costs data are stored in the FamWeb Data Warehouse. This information tracks aviation use for the Forest Service, and summaries provided in this report are only as accurate as the archived data. Summaries provided may represent both fire and non-fire flight missions (e.g., wildlife tracking or forest health survey flights).

Not all aircraft utilized by the Agency are billed through ABS (e.g., military aircraft with MAFFS units). Missing data and data entry errors may persist in the archived data and subsequent analyses. ABS is an Agency invoicing tool and was not designed for historical analyses. The Forest Service updates ABS data as payments are processed.

Inconsistencies, omissions, or obvious data errors may be manually corrected prior to completion of the annual analyses; these corrections will be noted.

Summary totals may not align precisely with itemized values due to rounding practices.

Table 1 – CY 2014 Forest Service Aircraft Fleet Summary

Contract Category	Number of Aircraft
Fixed-Wing	
Aerial Supervision Module/ Leadplane (Lease)	14
Light Fixed-Wing (EXU)	17
Light Fixed-Wing (CWN)	211
Smokejumper Aircraft (EXU)	5
Smokejumper Aircraft (CWN)	1
Smokejumper Aircraft (Agency Owned)	7
Large Transport (EXU)	1
Helicopters	
Exclusive Use (EXU)	96
Call When Needed (CWN)	346
Agency Owned	3
Large Airtankers	
Next Generation – EXU	6
Next Generation – CWN	8
Legacy – EXU	8
MAFFS	10
Scoopers	
CL-415 – EXU	1

Introduction: The Forest Service Aviation Program

The Forest Service is responsible for managing 193 million acres of National Forests and Grasslands. Aviation missions targeted at natural resource management and wildland fire objectives support the Agency's top priority to maintain and improve the health, diversity, and productivity of these lands to meet the needs of current and future generations. Fire and Aviation Management contributes to the Agency's mission through various means, including (for example):

- aerial delivery of firefighters by parachute, rappel rope, or on-site landing
- air tactical command and control
- surveillance, reconnaissance, and intelligence gathering
- infrared detection and mapping
- aerial delivery of fire retardant and water
- passenger transport for firefighting and resource missions
- administrative flights
- research
- forest rehabilitation
- forest health protection (aerial surveys, application and photography)
- law enforcement
- aerial photography.

Approximately 300 personnel at the Washington, Regional, and Forest level offices administer the aviation program. The national staff is in Washington, D.C. and at the National Interagency Fire Center (NIFC) in Boise, Idaho. Most of the rest of the aviation personnel are located throughout the forests with local forest and regional office staff providing day-to-day operational oversight and program guidance.

The Forest Service Aviation Program is one of the largest amongst the aviation community (aside from the Department of Defense) and is the leading user of commercial aircraft services. The Agency owns and operates over 20 aircraft and contracts for hundreds of aircraft annually from commercial vendors.

The Forest Service also receives aviation support from numerous Federal and non-Federal partners (e.g., Departments of the Interior and Defense, states, counties, municipalities, and countries). Use statistics from these surge capacity aircraft, Forest Service owned aircraft under the Federal Excess Personal Property (FEPP) program, and any aircraft not billed through Aviation Business System (ABS) are not included in this report, unless otherwise noted.

Aviation Utilization and Cost Information

The Forest Service provides aircraft for both fire and non-fire missions. Although the Agency owns a limited number of aircraft, contract aircraft account for most of the aviation assets available for mission-related work. In 2014, 444 contracted aircraft and 23 Agency-owned aircraft were employed to meet Agency missions.¹

This report categorizes aircraft into four groups: fixed-wing, helicopter, airtanker, and scooper. The data summaries include both Agency-owned and contract aircraft, unless otherwise noted. The fixed-wing category includes the National Interagency Fire Center large transport jet, smokejumper aircraft, leadplanes, air attack, and all other fixed-wing aircraft not operating for the sole purpose of delivering a fire suppressant. The helicopter category includes all rotor-wing aircraft, regardless of flight missions. Unless otherwise noted, the airtanker category includes all flights and charges associated with any fixed-wing aircraft delivering a fire chemical suppressant to a fire (i.e., Single Engine Airtanker (SEAT), Large Airtanker (LAT), and Very Large Airtanker (VLAT)). Finally, scoopers are water scooping fixed-wing aircraft used in fire suppression.

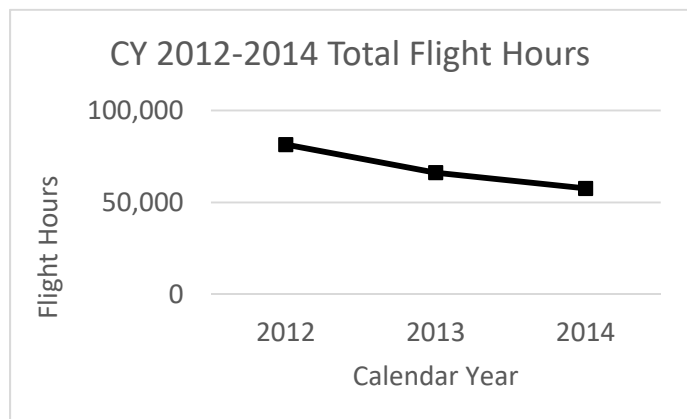
2014 At-A-Glance

Aviation Use

Aircraft utilization in calendar year 2014 was below the previous two years of record (Figure 1). Contract and Agency-owned aircraft flew 57,660 flight hours with peak activity in July and August (Figure 2). These two months accounted for 60% of the total annual flight hours.

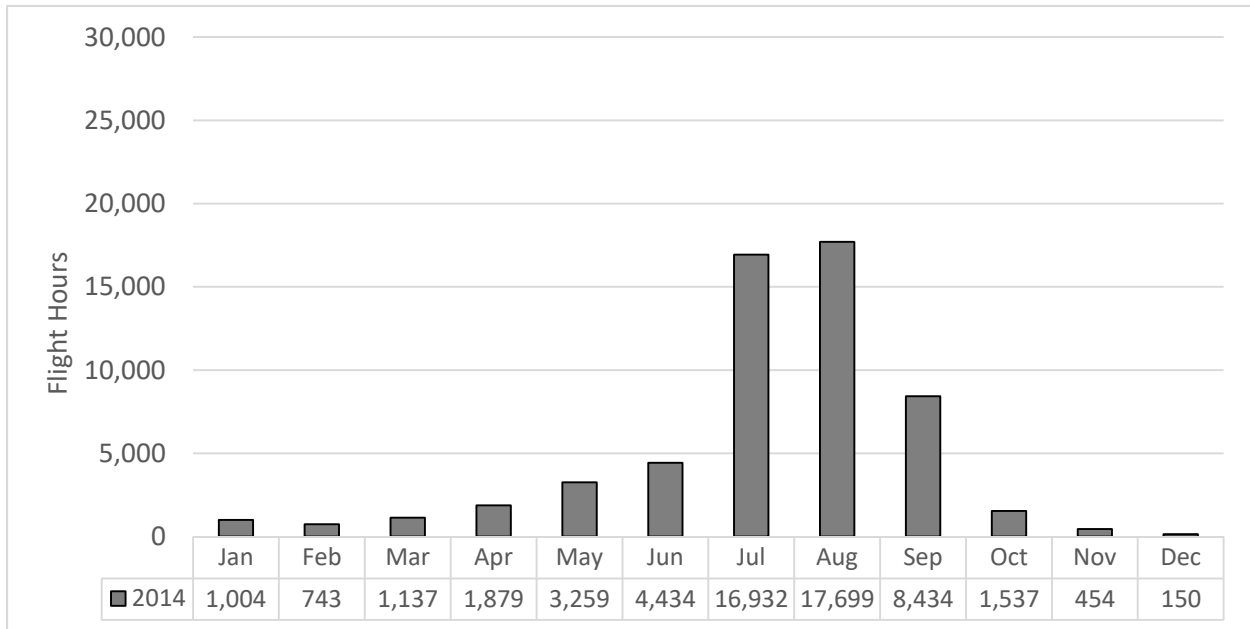
Figure 1 – CY 2012-2014 Total Agency Flight Time

Calendar Year	Flight Hours
2012	81,483
2013	66,222
2014	57,660
3-Year Average	70,583



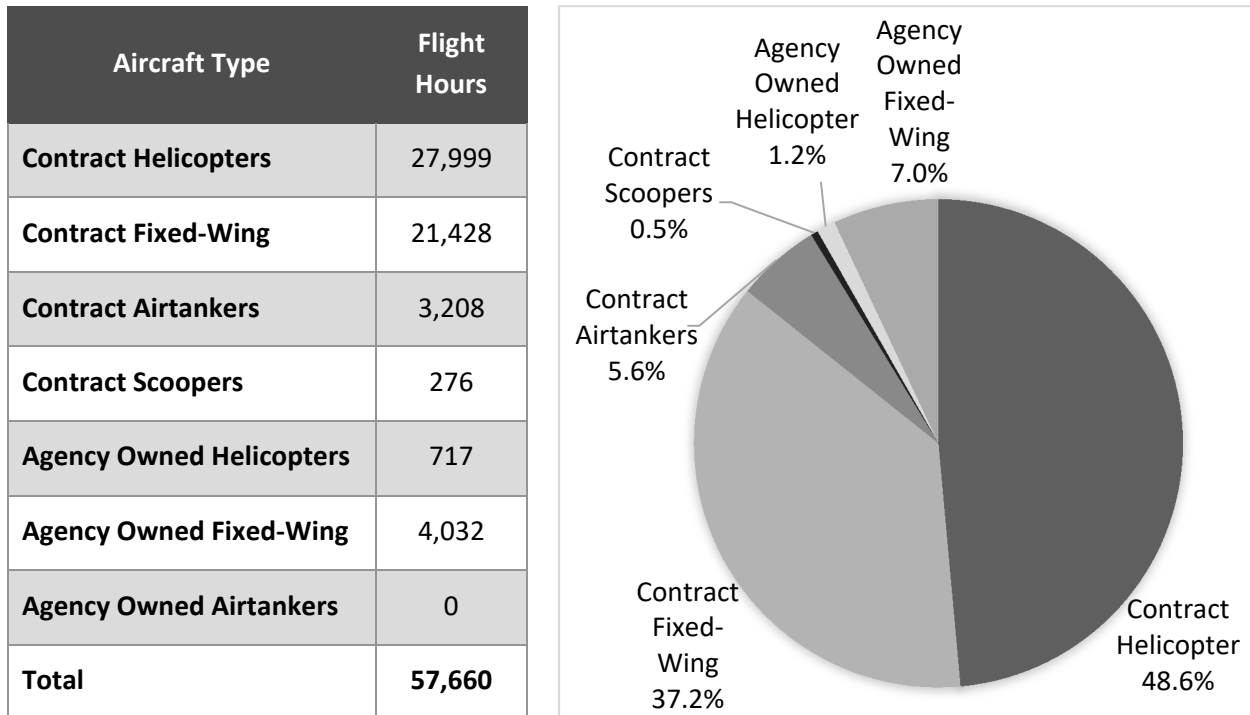
¹ Values reflect the actual number of unique aircraft that operated and do not align with fleet size values due to contract processes (e.g., aircraft swaps, multiple contract awards).

Figure 2 – CY 2014 Total Agency Flight Time by Month



Flight hours for contract aircraft represented 91.8% of the annual total; Agency flight hours accounted for the remaining 8.2% (Figure 3). Nearly half of all use by flight time is associated with contract helicopters (48.6%), and contract fixed-wing aircraft represent the next highest category (37.2%; Figure 3).

Figure 3 – CY 2014 Total Agency Flight Time by Aircraft and Contract Type



By flight hours, all aircraft (contract and Agency) were used mostly to support Agency missions (78.8%); however, significant support was provided to meet partner needs (Department of Interior, 10.8%; non-Federal, 9.9%; <1% to other Federal entities and unknown categories; Table 2).

Table 2 – CY 2014 Total Agency Flight Time by Region/Agency²

Region/Agency	Flight Hours	Percent of Total Flight Hours
FS: Region 1	4,808	8.3%
FS: Region 2	801	1.4%
FS: Region 3	2,819	4.9%
FS: Region 4	3,927	6.8%
FS: Region 5	13,955	24.2%
FS: Region 6	11,175	19.4%
FS: Region 8	2,370	4.1%
FS: Region 9	790	1.4%
FS: Region 10	1,768	3.1%
FS: Region 13 (WO)	2,297	4.0%
FS: Region Other (Northeastern Area, Research Stations, CIO, etc.)	752	1.3%
FS Total	45,463	78.8%
BIA	1,907	3.3%
BLM	3,194	5.5%
FWS	22	0.0%
NPS	1,092	1.9%
DOI Total	6,216	10.8%
Non-Fed Fire (State)	5,696	9.9%
Non-Wildland Fed Fire (DoD)	239	0.4%
NICC	11	<0.1%
Unknown	35	0.1%
Grand Total	57,660	100%

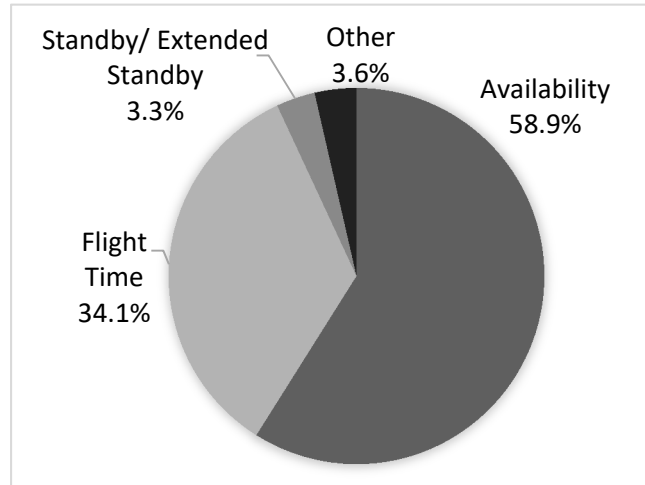
² Region/Agency derived from Incident Finance Job Codes from ABS data.

Aviation Cost

In CY 2014, Agency expenditures for contract aircraft totaled \$397.4 million. 58.9% of costs were charged to availability pay codes, 34.1% went to flight time costs, and 3.3% went to standby and extended standby; all other charges represented <4% of total expenditures (Figure 4).

Figure 4 – CY 2014 Aviation Contract Costs by Pay Code Description

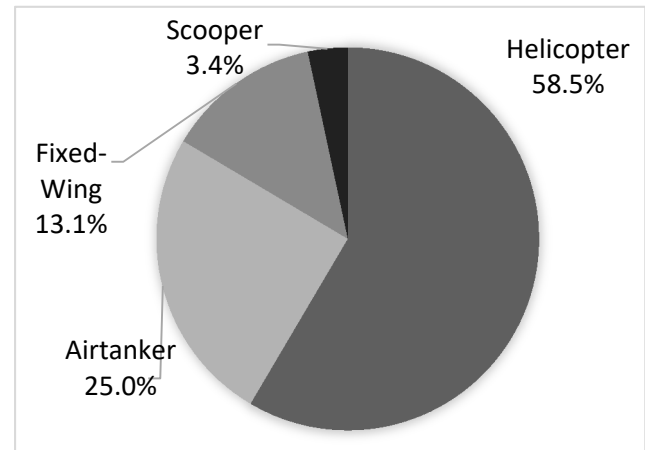
Pay Code Description	Total Costs
Availability	\$234,247,360
Flight Time	\$135,106,844
Standby/ Extended Standby	\$13,307,840
Other	\$14,724,680
Total	\$397,386,723



Helicopter expenses (\$232.4 million) accounted for the largest proportion of contract aircraft costs at (58.5%). 25.0% of expenses were associated with airtankers, followed by fixed-wing (13.1%) and scoopers (3.4%; Figure 5).

Figure 5 – CY 2014 Aviation Contract Costs by Aircraft Type

Aircraft Type	Total Costs
Helicopter	\$232,432,830
Airtanker	\$99,472,819
Fixed-Wing	\$52,102,216
Scooper	\$13,378,857
Total	\$397,386,723



Fixed-Wing Aircraft

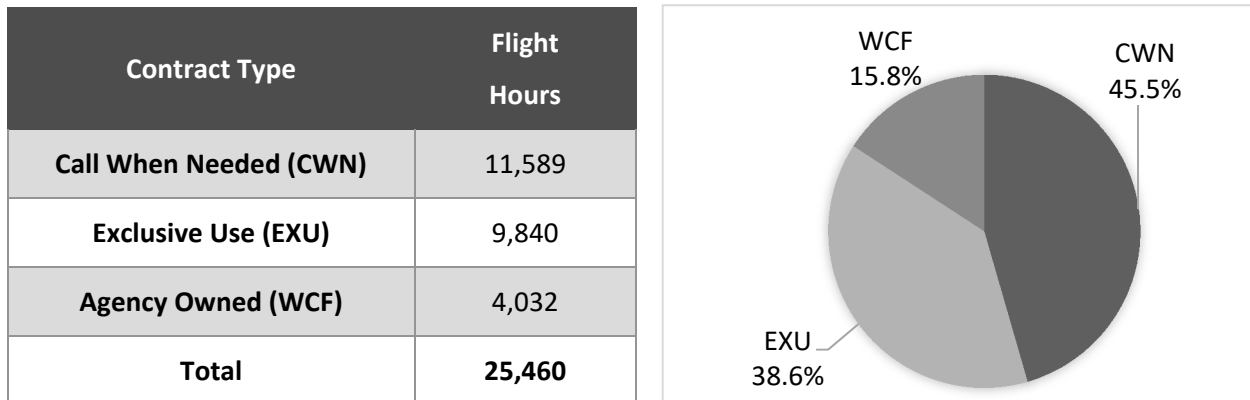
In 2014, the Forest Service issued EXU contracts for 37 fixed-wing aircraft to support various missions for smokejumper, leadplane, air attack, and transportation of firefighters. 212 additional light fixed-wing aircraft were available for use on CWN contracts (Table 3).

Table 3 – CY 2014 Contract Fixed-Wing Fleet Summary

Aircraft Category	EXU Aircraft	CWN Aircraft	Total
Smokejumper Aircraft	5	1	6
Aerial Supervision Modules/ Leadplanes	14	0	14
Light Fixed-Wing	17	211	228
Transport Jet	1	0	1
Total	37	212	249

In addition to the contract aircraft, the Forest owns and operates 20 light-fixed-wing aircraft utilized for smokejumper, leadplane, and other natural resource management missions, such as Forest Health Protection. Fixed-wing aircraft flew 25,460 flight hours, or roughly 44.2% of the total hours in 2014 (Figure 6). By contract type, 45.5 % of total fixed wing flight hours are attributed to Call When Needed (CWN) aircraft, 38.6 % to Exclusive Use (EXU) aircraft, and 15.8% to Agency-Owned aircraft (WCF; Figure 6).

Figure 6 – CY 2014 Total Fixed-Wing Flight Time by Contract Type



Most flights were to support air attack missions (38.9%); other mission codes that were more highly represented include wildfire detection flights (8.2%), survey/observation flights (8.1%), and personnel transport associated with normal activities (7.2%; Table 4).

Table 4 – CY 2014 Total Fixed-Wing Flight Time by Mission Code Description

Mission Code Description	Flight Hours	Percent of Total
Air Attack	9,915	38.9%
Detection (Flights for detecting wildfires)	2,081	8.2%
Survey/ Observation	2,064	8.1%
Personnel Transport, Normal Activities	1,823	7.2%
Leadplane	1,459	5.7%
Smokejumper Transport	1,249	4.9%
Ferry	1,114	4.4%
Infrared Imagery, Fire Suppression	831	3.3%
Other	4,924	19.3%
Total	25,460	100%

Total fixed-wing costs in 2014 neared \$56 million, most of which was associated with contract aircraft (93.0%). Of these contract costs, \$18.2 million went to availability (35.0% of contract costs), and \$33.8 million was associated with flight time and other miscellaneous costs (Table 5).

Table 5 – CY 2014 Total Fixed-Wing Costs by Ownership and Pay Code Description

Ownership	Flight Hours	Availability Costs	Flight Time and Other Costs	Total Costs
Contract	21,428	\$18,250,833	\$33,851,384	\$52,102,216
Agency-Owned	4,032	\$0	\$3,895,537	\$3,895,537
Total	25,460	\$18,250,833	\$37,746,921	\$55,997,753

Smokejumper Program

The USFS operates seven smokejumper Bases in four Regions (Regions 1, 4, 5, and 6). In 2014, there were 289 smokejumpers in the program; smokejumpers utilized 13 aircraft to staff 223 unique fires by parachute (Table 6).

Table 6 – CY 2014 Smokejumper Program Summary³

Smokejumper Base	Region	Aircraft Make Model/ Vendor	# Smokejumpers Per Base	# Fires Jumped	# Smokejumpers Staffing Fires via Parachute
Grangeville	R1	(1) DHC-6 Twin Otter/ Leading Edge	27	37	126
Missoula	R1	(1) Sherpa A Model/ USFS (1) DC3T/ USFS	64	12	101
West Yellowstone	R1	(1) Dornier 228/ Bighorn	29	12	72
McCall	R4	(2) DHC-6 Twin Otter/ USFS (1) DHC-6 Twin Otter/ Leading Edge	64	33	186
Redding	R5	(1) Sherpa A Model/ USFS (1) Dornier 228/ Bighorn (1) CASA 212/ Bighorn (CWN)	38	50	375
North Cascades	R6	(1) CASA 212/ Bighorn	28	15	72
Redmond	R6	(2) Sherpa A Model/ USFS	39	64	338
7 bases	4 Regions	13 aircraft	289	223	1,270

³ Annual summaries reflect only fires staffed by parachute and do not include ground actions, single resource assignments, and prescribed fire support.

Helicopters

In 2014, the Agency awarded 96 EXU and 346 CWN contracts (Table 7). From these, the Agency utilized 230 contracted helicopters on fire and natural resource management missions. The actual number of aircraft in operation differs from Table 7 values due to dual contract awards (both EXU and CWN for a single aircraft), vendor aircraft substitutions, or CWN aircraft unavailability.

Table 7 – CY 2014 Contract Helicopter Fleet Summary

Helicopter Category	EXU Aircraft	CWN Aircraft ⁴	Total
Type 1	34	85	119
Type 2	32	100	132
Type 3	29	161 ⁵	190
Type 2 (Night Flying)	1	0	1
Total	96	346	442

⁴ These totals represent the number of aircraft awarded a line item on the CWN contract and are not representative of the number of aircraft that had orders for operational missions. Some of the T3 helicopters are double-counted since they are awarded both EXU and CWN contracts.

⁵ This number represents the total aircraft awarded a line item. 94 T3 CWN helicopters operated for the FS in 2014.

Table 8 summarizes EXU helicopter regional distribution. T1 and 2 EXU helicopters are based in western regions (Regions 1 – 6). Region 5 has the largest proportion of both Type 1 (35%) and Type 2 (48%) aircraft, whereas Region 3 has the smallest proportion (6% Type 1, 3% Type 2).

Table 8 – CY 2014 Exclusive Use Helicopters by Region

Region	Type 1 LFS Aircraft	Proportion of T1 EXU Fleet	Type 2 IA Aircraft	Proportion of T2 EXU Fleet	Type 3 Aircraft ⁶
Region 1	5	15%	3	9%	4
Region 2	3	9%	3	9%	3 ⁷
Region 3	2	6%	1	3%	8 ⁸
Region 4	8	24%	4	12%	9 ⁹
Region 5	12	35%	16 ¹⁰	48%	3
Region 6	4	12%	6	18%	Unknown
Region 8	0	0%	0	0%	Unknown
Region 9	0	0%	0	0%	Unknown
Region 10	0	0%	0	0%	0

⁶ Some T3 helicopters share contracts between regions; here, a helicopter is counted in the Region where the aircraft initially starts its MAP. The proportion by Region for Type 3 helicopters is not provided since the shared contracts skew the data.

⁷ Region 2 has shared contracts on one helicopter.

⁸ Region 3 has shared contracts on three helicopters.

⁹ Region 4 has one shared contract.

¹⁰ Includes one night flying helicopter.

In total, there were 28,716 flight hours for helicopters in 2014. For chemical and water delivery missions, approximately 64.8 million gallons of retardant and 62.8 million gallons of water were delivered (Table 9).

Table 9 – CY 2014 Helicopter Use Summary by Contract and Helicopter Type

Helicopter Type	Flight Hours	Gel/ Foam (gallons)	Water (gallons)	Retardant (gallons)
Exclusive Use Helicopters				
Type 1	8,793	0	49,109,828	51,085,379
Type 2	6,837	0	6,363,506	6,407,290
Type 3	7,615	0	1,506,819	1,519,057
EXU Subtotal	23,246	0	56,980,153	59,011,726
Call When Needed Helicopters				
Type 1	1,000	0	3,663,409	3,709,745
Type 2	1,253	0	1,782,169	1,795,205
Type 3	2,342	0	215,973	218,383
CWN Subtotal	4,595	0	5,661,551	5,723,333
Agency Owned Helicopters				
Type 2 (Firewatch)	158	0	117,501	117,501
Type 3	717	0	0	0
Agency Owned Subtotal	875	0	117,501	117,501
Total	28,716	0	62,759,205	64,852,560

Total flight time was relatively evenly distributed across aircraft type (Figure 7), and most aircraft use by flight time was attributed to EXU aircraft (81.5%; Figure 8)

Figure 7 – CY 2014 Total Helicopter Flight Hours by Type

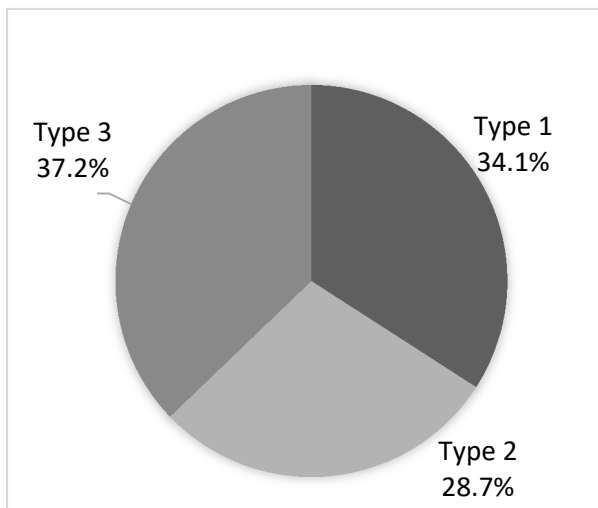
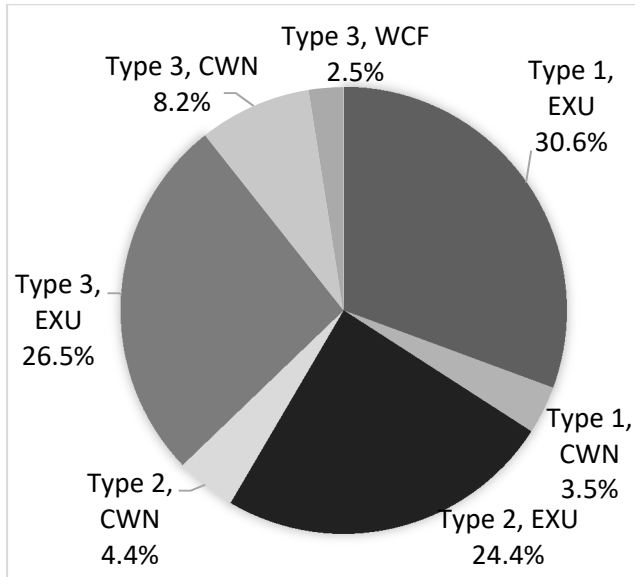


Figure 8 – CY 2014 Total Helicopter Flight Hours by Helicopter and Contract Type



Helicopter expenditures were \$232.4 million in CY 2014; approximately 60% went toward availability costs and 40% went toward flight and other charges (Table 10).

Table 10 – CY 2014 Contract Helicopter Use and Costs Summary

Helicopter Type	Flight Hours	Availability Costs	Flight and Other Costs	Total Costs
Type 1	9,793	\$88,113,556	\$57,927,698	\$146,041,254
Type 2	8,249	\$33,644,380	\$19,574,762	\$53,219,142
Type 3	9,957	\$17,693,245	\$15,479,189	\$33,172,434
Total	27,999	\$139,451,181	\$92,981,649	\$232,432,830

Rappel Program

In 2014, the USFS Rappel Program had 14 aircraft across 12 bases in 4 Regions, staffed by 230 rappellers (Table 11). Rappellers supported 246 IA fires by rappel and 231 IA fires in a helitack capacity; additionally, 111 large fires were supported by rappel crews. Rappel aircraft flew 2,697 flight hours in 2014.

Table 11 – CY 2014 Rappel Program Use Summary

Base	Region	Aircraft	Rappellers	Fires (Rappel)	Fires (Helitack)	Large Fires Supported	Flight Time
Gallatin	R1	9122Z	13	14	4	7	218
Lucky Peak	R4	205DY	10	5	34	10	221
Salmon 1	R4	932CH	15	7	9	4	167
Salmon 2	R4	933CH	16	11	11	7	127
Price Valley 1	R4	16HX	15	9	29	7	186
Price Valley 2	R4	28HX	14	7	19	5	220
Scott Valley	R5	183HQ	16	10	38	5	269
Trimmer	R5	215KA	13	12	36	6	213
La Grande	R6	669H	19	31	2	13	157
Sled Springs	R6	689H	17	32	25	3	214
Wenatchee	R6	502HQ	23	21	9	4	164
John Day	R6	510WW	25	20	7	3	122
Siskiyou	R6	205RH	18	36	2	36	246
Central OR	R6	223HT	16	31	6	1	174
12 Bases	4 Regions	14 Aircraft	230	246	231	111	2,697
				477 IA Fires Staffed			

Airtankers

In 2014, the Forest Service had 15 airtankers available under EXU contracts, including 2 VLATs, 12 LATs (4 Next Generation and 8 Legacy), and 1 CL-415 scooper. 2 additional Next Generation airtankers were awarded CWN contracts, and up to 10 Modular Airborne Firefighting Systems (MAFFS) units were available for use on military C-130s to meet potential surge capacity demand (Table 12).

Table 12 – CY 2014 Airtanker Fleet Summary

Contract Category	EXU Aircraft	CWN Aircraft
Next Generation Airtankers	6	2
Legacy Airtankers	8	
Scoopers	1	
MAFFS		10

Contract airtankers logged 3,484 flight hours in 2014, which represents 6.0% of the Agency's total calendar year use billed in ABS (Table 13). Contract airtankers also delivered approximately 11.6 million gallons of retardant, with 68.5% of total delivered by LATs and 31.5% by VLATs (Table 13).

Table 13 – CY 2014 Airtanker Use Summary by Aircraft and Contract Type

Airtanker Type	Flight Hours	Retardant (gallons)
Exclusive Use		
LAT	2,814	7,980,545
VLAT	390	3,664,909
Scooper	276	0
EXU Subtotal	3,480	11,645,454
Call When Needed		
LAT	0	0
VLAT	4	0
CWN Subtotal	0	0
Total	3,484	11,645,454

49.2% of use by flight time was in support of Forest Service fires (derived from ABS job code); the remaining 50.8% of use on non-Agency fires went to state and local cooperators (27.3%), Department of Interior (22.6%), and other Federal partners (1.0%; Table 14).

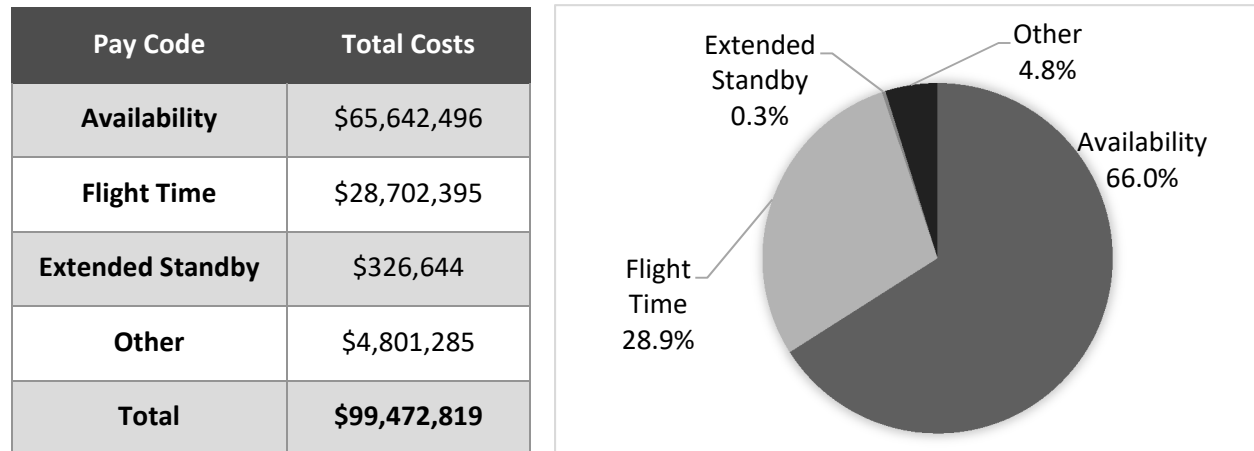
Table 14 – CY 2014 Airtanker Flight Time by Region/Agency¹¹ (LAT/VLAT)

Region/Agency	Flight Hours	Percent of Flight Hours
FS: Region 1	49	1.5%
FS: Region 2	15	0.5%
FS: Region 3	250	7.8%
FS: Region 4	95	3.0%
FS: Region 5	938	29.2%
FS: Region 6	208	6.5%
FS: Region 8	0	0.0%
FS: Region 9	0	0.0%
FS: Region 10	0	0.0%
FS: Washington Office	22	0.7%
FS Total	1,577	49.2%
BIA	245	7.6%
BLM	414	12.9%
FWS	5	0.1%
NPS	60	1.9%
DOI Total	724	22.6%
Non-Fed Fire (State)	874	27.3%
Non-Wildland Fed Fire (DoD)	33	1.0%
NICC	0	0.0%
Grand Total	3,208	100.0%

¹¹ Region/Agency derived from Incident Finance Job Codes from ABS data.

Contract LAT/VLAT expenditures were \$99.5 million in CY 2014. Availability charges totaled \$65.6 million (66.0%), and flight time costs were \$28.7 million (28.9%). Standby and other expenses accounted for the remaining costs (\$5.1 million, 5.1%; Figure 9). All LAT/VLAT expenditures (not including scoopers) represented approximately 25% of total Agency aircraft expenditures billed in ABS.

Figure 9 – CY 2014 Contract LAT/VLAT Costs by Pay Code Description



For EXU airtankers, by aircraft model, P2V aircraft flew the most in 2014 (1,335 hours), followed next by BAe-146 aircraft (798 hours). BAe-146 aircraft represented the highest availability cost (\$17.9 million), but they also delivered the most retardant, compared to other LAT aircraft models (2.9 million gallons). DC-10 VLATs delivered the most retardant by airtanker type in 2014 (3.7 million gallons; Table 15).

Table 15 – CY 2014 EXU Contract LAT/VLAT Use Summary by Aircraft Model

Aircraft Model	Flight Hours	Retardant (gallons)	Availability Costs
BAE 146	798	2,856,854	\$17,899,489
AVRO 146-RJ85A	184	576,758	\$6,327,239
DC-10	390	3,664,909	\$11,498,722
MD-87	208	925,831	\$6,356,785
EC130Q	209	766,989	\$6,220,942
P2V	1,335	2,701,182	\$15,661,059
P3	80	152,931	\$1,363,403
Total	3,204	11,645,454	\$65,327,639

Tables 16-19 summarize historical airtanker use by year, aircraft type, and contract category. These summaries do not include Modular Airborne Fire Fighting Systems (MAFFS) or cooperator airtanker use data.

2014 EXU LAT total flight time (2,814 hours) was similar to the previous 2 years, but aircraft delivered more retardant (e.g., roughly 60% more retardant than in 2012; Table 16). EXU VLATs flew 390 hours and delivered 3.7 million gallons of retardant (Table 17).

Table 16 – CY 2012-2014 EXU LAT Use Summary

Calendar Year	Flight Hours	Retardant (gallons)
2012	2,745	4,971,000
2013	2,302	5,345,435
2014	2,814	7,980,545

Table 17 – CY 2012-2014 EXU VLAT Use Summary

Calendar Year	Flight Hours	Retardant (gallons)
2012	0	0
2013	Unknown	Unknown
2014	390	3,664,909

No CWN LAT use was noted in 2014 (Table 18), with the exception of 4 flight hours attributed to a single VLAT (Table 19).

Table 18 – CY 2012-2014 CWN LAT Use Summary

Calendar Year	Flight Hours	Retardant (gallons)
2012	658	Unknown
2013	Unknown	Unknown
2014	0	0

Table 19 – CY 2012-2014 CWN VLAT Use Summary

Calendar Year	Flight Hours	Retardant (gallons)
2012	336	2,963,276
2013	Unknown	Unknown
2014	4	0

MAFFS

The Forest Service utilizes military C-130 aircraft with a Modular Airborne Fire Fighting System (MAFFS) to support surge capacity mission needs. The totals represented in the summary tables shown are not included elsewhere in this report because MAFFS aircraft do not report their flight hours into ABS for payment.

Table 20 – CY 2012-2014 MAFFS Use Summary

Calendar Year	Flight Hours	Retardant (gallons)	Total Costs
2012	356	531,403	Unknown
2013	767	1,291,295	Unknown
2014	133	253,356	Unknown
3-Year Average	419	692,018	Unknown

Table 21 – CY 2012-2014 MAFFS Activation Summary

Due to data limitations at the time of the analyses, MAFFS summaries are not available in CY 2014.

Table 22 – CY 2012-2014 MAFFS Costs by Charge Category

Due to data limitations at the time of the analyses, MAFFS summaries are not available in CY 2014.

Water Scoopers

The Forest Service contracted one water scooper on an EXU contract in 2014, which billed 276 flight hours in ABS (Table 23). This aircraft delivered 1.5 million gallons of water. Associated costs were \$13.3 million, with 81.5% of this total attributed aircraft availability charges.

Table 23 – CY 2014 Scooper Use Summary

Calendar Year	Flight Hours	Water Delivered (gallons)	Availability	Flight and Other Costs	Total Costs
2014	276	1,465,673	\$10,902,850	\$2,476,007	\$13,378,857

Agency-Owned Aircraft Summary

The Forest Service owned and operated 23 aircraft in 2014.

Agency aircraft accounted for 4,749 (8.2%) of the 57,660 total flight hours billed in ABS in 2014.

Table 24 – CY 2014 Agency Aircraft Use Summary by Aircraft Make and Model

Registration #	Make	Model	Flight Hours
N149Z	BEECH	KING AIR 300	439
N182Z	BEECH	KING AIR 300	169
N106Z	BELL	206A	115
N107Z	BELL	209 COBRA	342
N109Z	BELL	209 COBRA	260
N4704A	CESSNA	185 SKYWAGON	450
N111Z	CESSNA	206 STATIONAIR	75
N126Z	CESSNA	206 STATIONAIR	214
N166Z	CESSNA	206 STATIONAIR	251
N144Z	CESSNA	CITATION I 500	455
N191Z	DE HAVILLAND	BEAVER	97
N192Z	DE HAVILLAND	BEAVER	166
N106FS	DE HAVILLAND	BEAVER FLOAT	78
N193Z	DE HAVILLAND	BEAVER FLOAT	111
N141Z	DE HAVILLAND	TWIN OTTER DHC-6	169
N143Z	DE HAVILLAND	TWIN OTTER DHC-6	151
N115Z	DOUGLAS	DC-3 TURBINE	166
N147Z	GULFSTREAM	COMMANDER 500 B	141
N4340Z	PIPER	SUPER CUB PA-18	262
N173Z	SHORT	3-30	184
N175Z	SHORT	3-30	228
N178Z	SHORT	3-30	124
N179Z	SHORT	3-30	101
Total			4,749