



Photo by Nick Thompson, ODF LaGrande

Aviation Report

CALENDAR YEAR 2016

It is the goal of the Fire Protection Division to continue to provide direct support to the agency's complete and coordinated forest protection system as well as continually striving to improve the safety and effectiveness of the aviation program.



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Executive Summary

With the passing of the Wildfire Protection Act in 2013, Oregon Department Forestry increased the number of Special Purpose Appropriation funded aircraft, now referred to as severity aircraft, from five to 16 over the course of three years. In addition to severity, there are 14 aircraft funded by landowners and general fund through their respective Association and District base budgets. During the height of the 2016 fire season, there were 30 agency-controlled aircraft available to detect and fight fire.

Severity Stats

Severity aircraft had 865 flight hours, with 47% on ODF fires and the remaining 53% in support of other agencies. Sharing severity resources with other agencies provides additional aircraft, which in turn helps keep fires from spreading to adjacent landowners under ODF and Association Protection. ODF and Association Single Engine Airtanker Bases pumped and delivered over 100,000 gallons of fire suppressant gel (Firelce) to incidents in Oregon and Washington.

Cooperation Highlight

On Thursday August 25, 2016 the High Pass 12.5 fire was reported. It challenged suppression resources for the next two days. The fire was a key example of Aviation's contribution to the complete and coordinated system. Below is a list of Aviation resources and staff that contributed to the success of stopping the High Pass 12.5 fire at 191 acres.

Aviation Resources High Pass Initial & Extended Attack

Severity: two Single Engine Airtankers, one Large Airtanker, one Type 2 Helicopter

Association: Douglas Forest Protection Association one ATGS Platform, one Type 2 Helicopter

Agreement: Weyerhaeuser - one Type 2 Helicopter

Call When Needed: two Type 1 Helicopters

US Forest Service: one Lead Plane, two Large Airtankers



High Pass 12.5 Fire
(By Neal Laugle)



State: one ATGS Platform

Staff: two DFPA Air Tactical Group Supervisors and Pilots, Aviation Unit Salem, Salem Reload Base support from Fire Finance and Partnership and Development.

Support to Other Agencies

- 12 Helicopter Crew Members to Minnesota Support of MN Department of Natural Resources
- Sent critically needed aviation positions (two ATGS, one AOBD (with Type 1 ODF Incident Management Team) to support the Southeast Region

Private Forests Highlights

Flown between June and September, the 2016 survey covered about 35.5 million acres in the state plus additional acres in Washington and California. The observers were able to estimate 705,384 acres of damage (or about 2% of the area surveyed), below the 10-year average of approximately 825,000 acres. This damage included mortality or defoliation resulting from a wide range of agents, including bark beetles, defoliating insects and diseases, and environmental damage, among others.

State Forests Highlights

The State Forests Division uses the aerial application of herbicides to assist in reforestation by restricting plant community growth and channeling limited site resources (mainly soil moisture) to newly planted seedlings. The total treated acres in 2016 is 4,837, which occurred over 70.5 hours of aerial application flights.

Looking Ahead

Although the increase of aircraft utilized by the agency has presented some unique challenges, it has also spawned new partnerships and continued support from land owners, federal agencies, and legislators. The 2016 Aviation Report is the first comprehensive overview of ODF aviation activities and scratches only the surface of those partnerships that are critical to a complete and coordinated system.



Aviation Program Overview

The purpose of the Aviation Program is to provide professional and technical expertise in the coordination and administration of the agency's fire aviation program and natural resource aviation activities. The Oregon Department of Forestry (ODF) utilizes both fixed wing and rotary wing aircraft in the daily management of the department's Fire, State Forests, Private Forests and Administration divisions. ODF's aviation activities are a component of the complete and coordinated forest protection system.

The department currently achieves its aviation objectives with department owned aircraft, chartered aircraft and contracted aircraft. Department-owned aircraft include a six passenger twin-engine Cessna 414A and a twin-engine P-68 observation aircraft capable of carrying up to five passengers. The Cessna 414A is used primarily for point-to-point flights by department personnel and air attack. The observation aircraft is used for Insect and Disease survey work and occasional fire detection. The department currently contracts, charters, or rents both fixed wing and rotary wing aircraft for fire detection and suppression, forest management activities and miscellaneous survey and assessment work. The unit currently administers eight exclusive use contracts providing 16 statewide aviation resources during fire season.

The Aviation Unit, located at ODF Headquarters in Salem is staffed by three fulltime employees; the State Aviation Manager, Chief Pilot, and State Aviation Coordinator. The Aviation Coordinator position was developed and filled in 2016 to support the growing administrative needs of the program including procurement, policy, training and reporting. The coordinator position is currently of limited duration and funded through fire season 2017.

There is one group in ODF dedicated to Aviation Operations, the Aviation Working Team. The purpose of the working team is to provide the department aviation operations with an internal review process and to assist in the development of policy, and safety recommendations, for the overall improvement of all aviation activities. There are three original members of the group serving today Shelly Hoffer, of Grants Pass Unit (representing ODF Dispatch), Mike Totey, District Forester (representing Air Operations Branch Director (AOBD)) and Melvin Thornton of DFPA, (representing Associations). The remaining members include; Dan McCarron, ODF Chief Pilot, Scott Swearingen, AOBD, Karen Swearingen, Salem HQ Fire Operations Manager, Danny Norlander, Private Forests, and Dustin Gustaveson, Air Tactical Group Supervisor.

It is the goal of the Fire Protection Division to continue to provide direct support to the agency's complete and coordinated forest protection system as well as continually striving to improve the safety and effectiveness of the aviation program.



SEVERITY AIRCRAFT



1- DC-7 HEAVY AIR TANKER



5 - SINGLE ENGINE AIR TANKERS



7 - TYPE II HELICOPTERS



1- TYPE III HELITACK

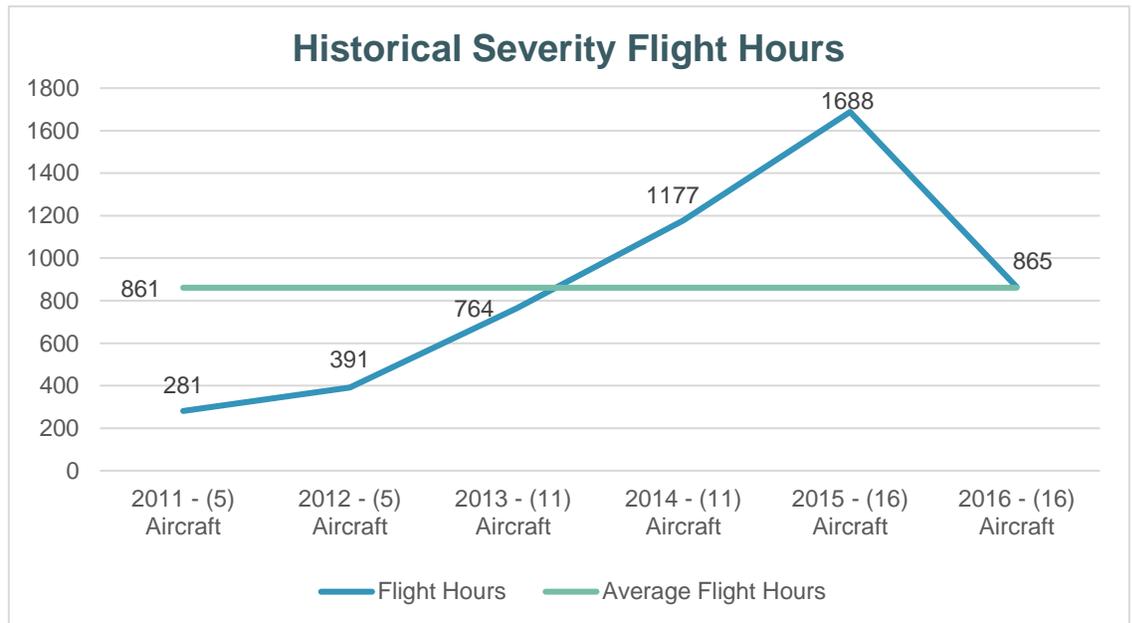


2 - FIXED WING DETECTION AIRCRAFT

Protection from Fire

Severity Program

Severity resources are in place statewide for aggressive initial attack to augment the district’s existing resources. Severity resources are a key part of the complete and coordinated forest protection system in Oregon. Resources and process are designed to be mobile and are strategically located for anticipated events or threats. The success of the Severity program is dependent upon efficient, cost effective use of these resources and the Department’s ability to support our federal partners when possible. The program has experienced significant growth over the last five years, tripling in size, from five aircraft in 2012 to 16 aircraft in 2016. The graph below shows historical flight hours from 2011-2016. Please note, the number of aircraft in the program is listed after the year.



With fire season 2016 being less severe than the two previous seasons ODF still ended the year with above average annual flight hours. The busiest year for severity aircraft to date was 2015 where aircraft accumulated over 1,688 flight hours.

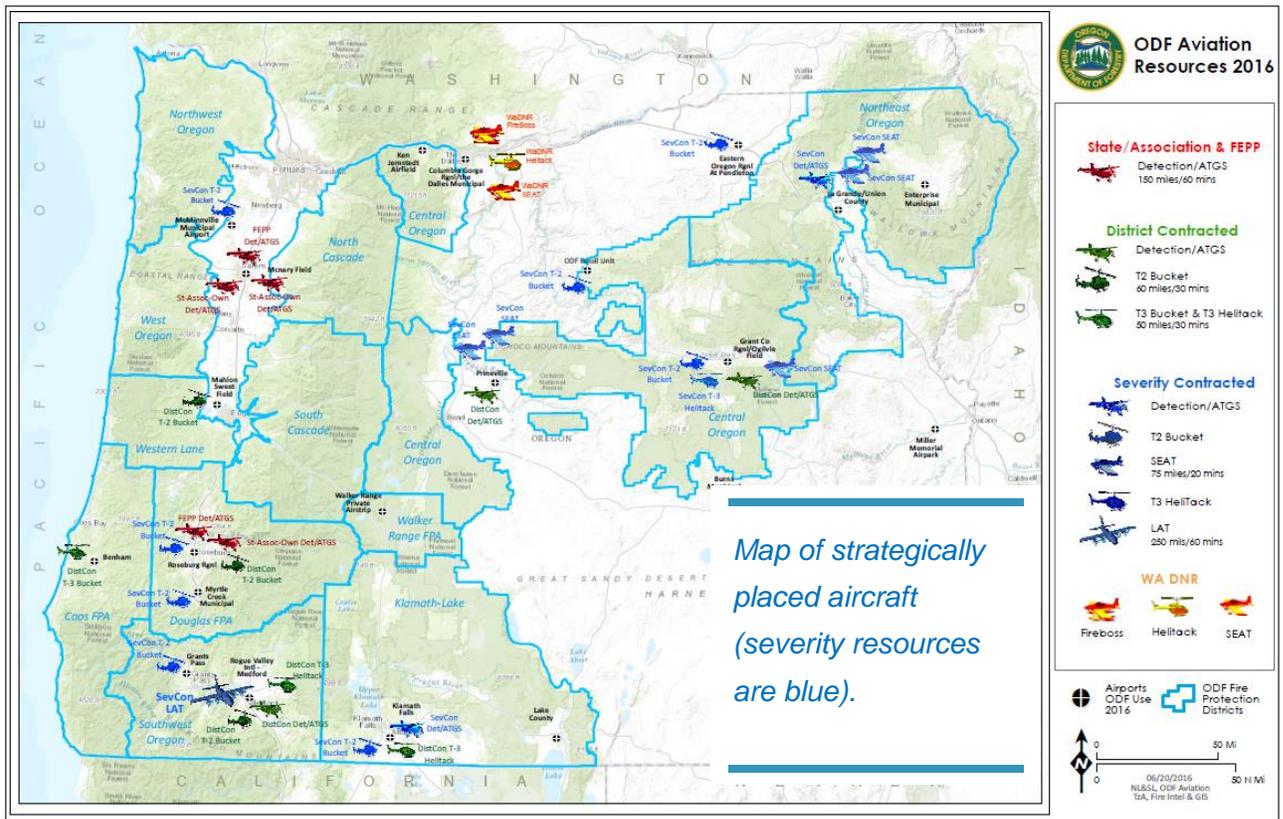
Program Details and Statistics

The first severity aircraft contract started on July 27, 2016 and the last aircraft contract ended on October 10, 2016 for a total of 106 consecutive days of resource availability and coverage. All aircraft combined had 865 flight hours.

The 2016 fire season officially ended on Friday, October 14, 2016, with the Central Oregon District being the last to lift restrictions. ODF and its fire protective association partners suppressed 807 fires in 2016 that burned 5,554 acres and cost about \$17.4 million.

In comparison, the volatile fire seasons from 2013-2015 accounted for an annual average of 81,467 acres and about \$88 million in fire suppression costs. With fewer lightning caused fires and a less extreme fire season, ODF was able to support cooperating agencies with available aircraft. Over 50% of incident flight hours in 2016 were on incidents of other agency jurisdiction. There were no extensions for statewide exclusive use contracts this fire season.

Map of State Aviation Resources 2016 (By Teresa Alcock, ODF Salem)



AREA FLIGHT HOURS

NWOA: 7

SOA: 247

EOA: 611

SEAT BASES

ODF & Association

THE DALLES

Firelce (approx.): **40,923** gal.

PRINEVILLE

Firelce (approx.): **32,145** gal.

ROSEBURG

Firelce (approx.): **6,365** gal.

SALEM

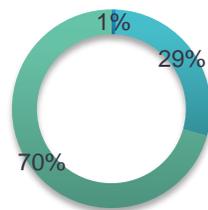
Firelce (approx.): **20,720** gal.

TOTAL FLIGHT HOURS: 865

ODF HOURS: 406

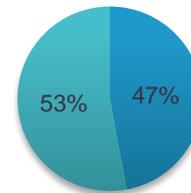
OTHER AGENCY SUPPORT HOURS: 459

Percent Total Flight Time by Area



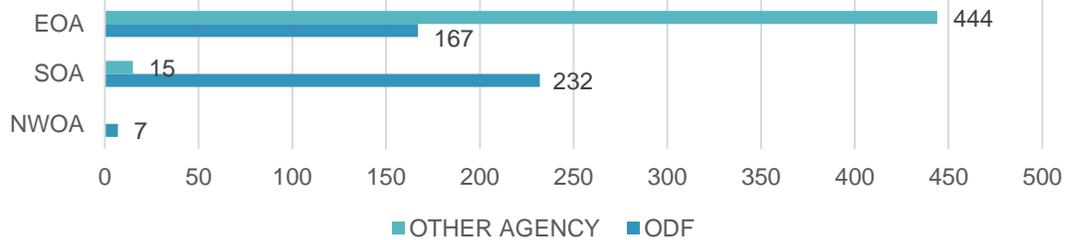
■ NWOA ■ SOA ■ EOA

Percent Total Flight Time by Incident Jurisdiction

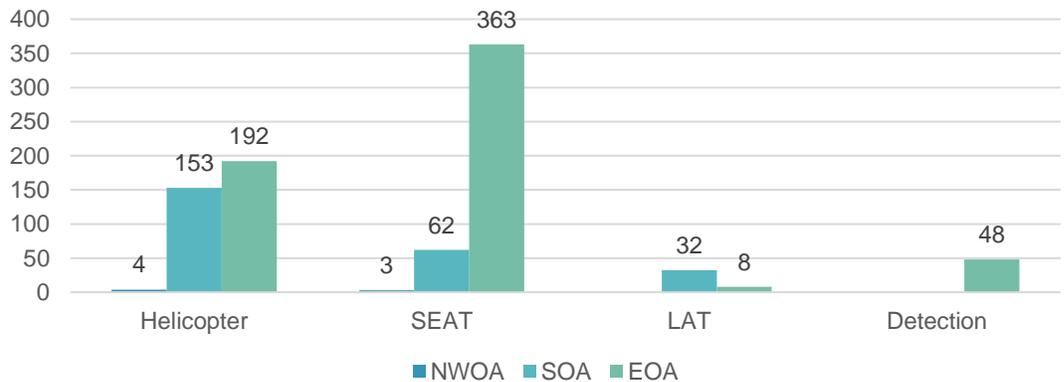


■ ODF ■ Other Agency Support

State vs. Federal Hours by Area



Hours by Area and Aircraft Type



AIR TANKER BASES

Other Agency

MEDFORD

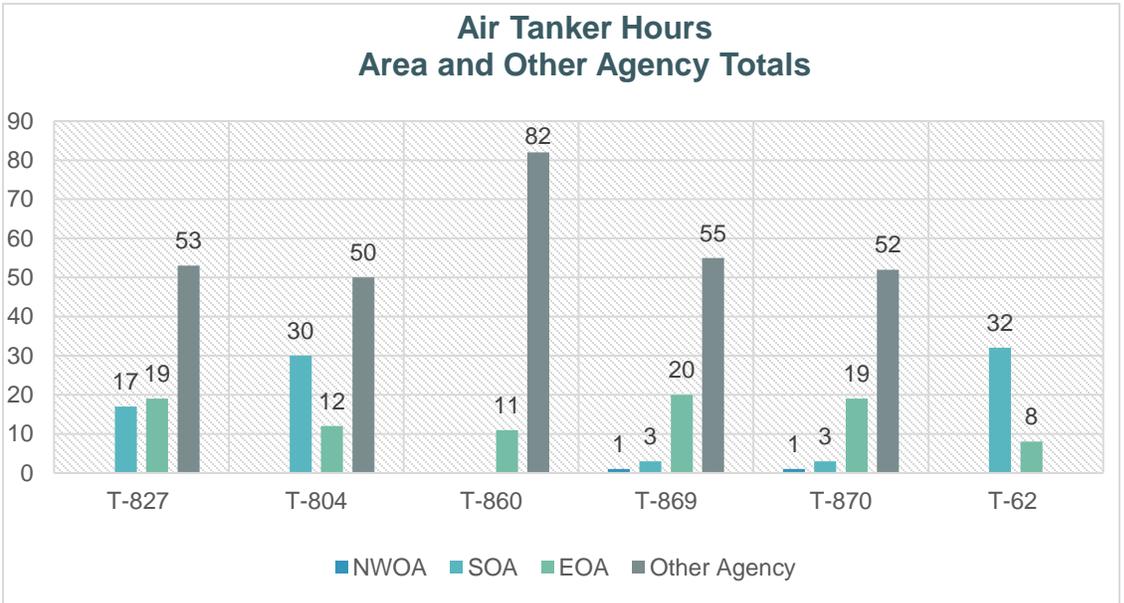
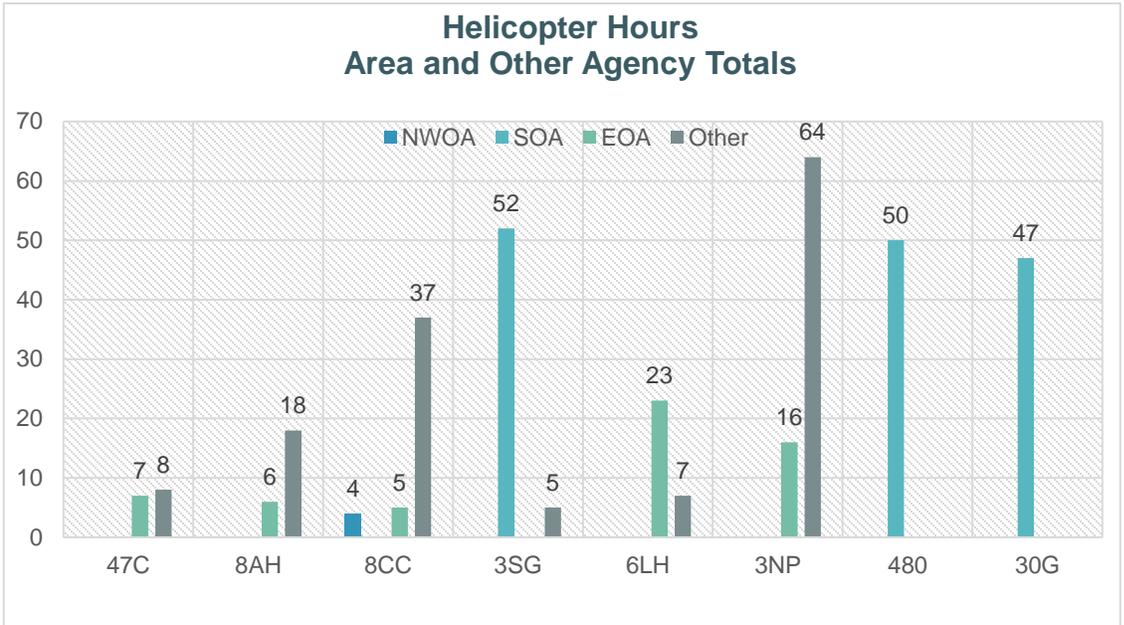
Retardant to ODF fires:
150,983 gal (approx.)

REDMOND

Retardant to ODF fires:
142,057 gal.

LA GRANDE

Retardant to ODF fires:
95,425 gal.

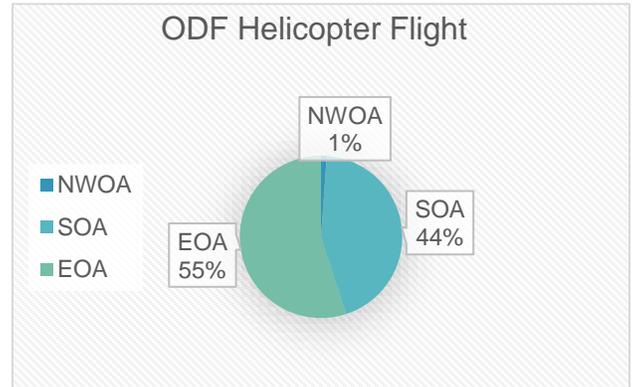


DETECTION

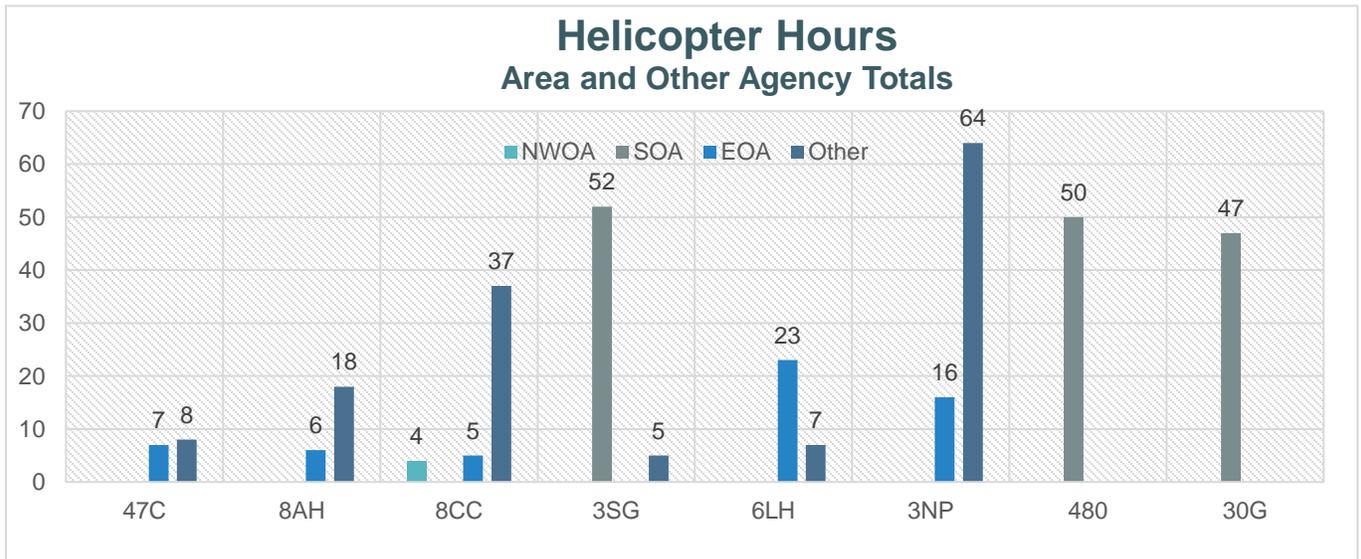
With a less than average season of lightning the two fixed wing detection planes (018 La Grande and 6ZC Klamath Falls) accumulated 21 ODF flight hours and 27 other agency flight hours. Total detection flight time was 48 hours.

Helicopters

Helicopters accounted for over 40% of total flight time this season. All helicopters (Type II and Type III) combined had 349 flight hours. The pie chart to the right shows total flight time percentages by area. Eastern Oregon Area had 192 helicopter flight hours making up 55% of the total helicopter flight time this season. Southern Oregon Area accounted for 44% of flight hours with 153. Northwest Oregon Area had four flight hours (approximately 1% of total flight time).



FLIGHT TIME BY RESOURCE



NOTABLE FIRES

Gold Canyon Fire - Southwest Oregon District of south of Selma, OR.

Approximately 200 structures were threatened by the fire.



Gold Canyon Fire, photo courtesy of ODF ATGS Jesse Blair

SWO Fire Blog
 Tuesday, August 30, 2016
Gold Canyon Fire stopped at 120 acres
 "...Air attack was an integral part of today's firefight. Heavy air tankers and helicopters made numerous drops on the fire..."

Cleveland Ridge Fire



A view from ODF air attack on the Cleveland Ridge Fire on August 22, 2016.

SWO Blog
Tuesday, August 23, 2016
Cleveland Ridge Fire Grows to 574 Acres

“...Helicopters with water buckets flew throughout the day to cool spot fires and hot spots along the fire lines. (One of the helicopters made 105 bucket drops.)...”

Juniper Bluffs Fire



Photo by Drake Dryden, ODF

Juniper Bluffs was a USFWS fire northeast of Hermiston, OR adjacent to the Columbia River. Helicopter 3NP was able to deliver 117 buckets, some 35,000 gallons of water, in approximately 4.7 hours of flight time.

HELICOPTER PERSONNEL

Each helicopter has a designated agency Manager or Aircraft Contract Administrator (ACA) who travels to each incident with the aircraft to ensure safe coordination with ground crews. The 2016 ODF Managers and ACA's included:

Brooklynn Griffith – Helitack Supervisor, ODF John Day Unit (47C, Type III)

Mike Mckeen – Helicopter Manager, ODF Salem HQ (8CC, Type II)

Drake Dryden – Helicopter Manager (T), ODF Pendleton Unit (3NP, Type II)

Kelly Foster – Helicopter Manager, ODF Grants Pass Unit (3SG, Type II)

David Machado – Helicopter Manager, DFPA (480, Type II)

Stephanie Celluci - Helicopter Manager (T), DFPA (30G, Type II)

Helicopter 8AH (Klamath Falls) had several agency personnel assigned this season to include:

Randy Barleen – Helicopter Manager, ODF Klamath

Sarah Cantrell – Helicopter Manager (T), ODF Klamath (8AH)

Matt Flock – Helicopter Manager (T), ODF Klamath (8AH)

Ryan Millsap – Aircraft Contract Administrator, ODF Klamath (8AH)



Thank you to **MNDNR**
and **AKDNR** for
helping out this fire
season!



Due to the high demand and low volume of qualified helicopter managers in the state, the ODF Aviation Unit reached out to fellow state agencies for assistance. Minnesota Department of Natural Resources (MNDNR) for the second year in a row, came through in a huge way, providing highly skilled and motivated personnel to manage the Type II Helicopter (6LH) prepositioned at the Morrow County OHV Park (Fossil, OR). Personnel that assisted from the MNDNR include; Bob Carlson, Mathew Kearns and Neil Normandin.

ODF also welcomed two experienced helicopter managers from the Alaska Department of Natural Resources (AKDNR), Torrey Short and Nikos Kilcher, who provided relief for the ODF Helitack foreman and crew.

To all Helicopter personnel, thank you for your effort, dedication, and for keeping safety at the forefront of every mission. To those who provided relief for managers and ACA's your efforts did not go unnoticed or unappreciated. Thank you.

Single Engine Air Tankers and SEAT Bases

This was the fourth year that ODF contracted Single Engine Air Tankers for exclusive use. As an initial attack air tanker, the AT-802F is a fast, maneuverable aircraft that's both operationally effective and economical. Single Engine Air Tankers had a combined 428 hours (ODF and Other Agency).



Tanker #	Location	Fires Supported	Flight Hours	Gallons Delivered (approx.)*
T-869	La Grande	12	79	48,900
T-870	La Grande	12	75	46,450
T-804	Prineville	31	92	76,000
T-827	Prineville	31	89	76,000
T-860	John Day	17	93	57,000

*Gallons delivered includes all water, gel and retardant products combined.

NORTH EAST OREGON (NEO) SEATS

La Grande Tanker Base

Both T-869 and T-870 started contract in La Grande on July 19th and were released from contract on October 1st. T-869 and T-870 were released from NEO Preposition on September 9th and relocated to Salem and Prineville to support an increase in fire occurrence potential in Northwest and Central Oregon. Gary Riedmiller returned for his second season as the NEO SEAT Manager (SEMG). Gary performs at a level well above standards and expectations and we truly appreciate his efforts. Jamie Knight, NEO District, also had a role in base operations as the SEMG Trainee this season.

The USFS supplied highly qualified base personnel to operate the retardant facilities and ramps while the Blue Mountain Interagency Dispatch Center provided exceptional dispatch support and resource tracking. In addition, the pilots and support crew from Columbia Basin Helicopters were professional, performed well above average and integrated well with other contractors and base personnel. The effort and cooperation put forth by all ODF, USFS and contractor employees was the catalyst for the continued success in the fourth year of the SEAT program in NEO.

CENTRAL OREGON DISTRICT

Prineville SEAT Base

T-804 and T-827 came on contract in Central Oregon on July 1st and were released from contract on September 14th. The SEATs are provided by Air Spray (T-827) and Columbia Basin Helicopters (T-804). Steve Drake, ODF was the SEAT Manager and did an excellent job tracking and managing base operations.

The ODF SEATs delivered 152,427 gallons to 31 different incidents on ODF, USFS, BLM, U.S. National Park Service (NPS), and Washington Department of Natural Resources (WADNR) state lands logging 181 flight hours. Firelce, a water enhancing gel, was used at the base this season. The Prineville SEAT base pumped 32,145 gallons of orange and clear Firelce. Clear Firelce was made available for Cooperator use in August.



**Tanker 869
By Gary Riedmiller**



**Tanker 804
By Gary Riedmiller**

The Central Oregon Interagency Dispatch Center hosted the SEATs, providing top notch service for both dispatching and tracking aircraft. We appreciate your continued service and support.

John Day SEAT Base



John Day Airport Terminal

The John Day SEAT base is home to T-860 provided by CO Fire Aviation. T-860 started on exclusive use contract on July 8th, and was released on September 20th. The John Day Air Base is a great example of strong interagency relationships paying dividends to all. This year the SEAT flew 92 hours and delivered over 57,000 gallons of retardant, gel, and water. The SEAT supported 17 incidents (ODF and other agency) with the highest number of hours on the Rail Fire.

Charles Howe of the U.S. Forest Service has been managing the ODF SEAT in John Day for two seasons and has done a phenomenal job. We appreciate his willingness to learn our processes and his ability to communicate effectively. All Airbase staff have been extremely supportive of ODF Aviation operations and we look forward to making this relationship even stronger.

Roseburg SEAT Base



Aerial Photo Roseburg SEAT Base

The Roseburg SEAT base is operated by the Douglas Forest Patrol Association (DFPA). This season the tanker base pumped and delivered 6,365 gallons. The base reloaded four aircraft, three SEATs and one Fire Boss with combined flight time of 16.3 hours. Jordan Lane, DFPA was the SEAT Manager this season and did a great job with getting the base up and operational. We would like to thank Rory Collins, DFPA for his continued coordination and support of district aviation activities.

Walker Range SEAT Base



During the summer of 2015, the Walker Range Fire Patrol completed development of the Black Rock Ranch Air Strip. The airstrip was designed to provide another location for Single Engine Air Tankers to reload for nearby fires. In 2016, the base was operational but did not need to activate in support of any fires.



Black Rock Airstrip



Illinois Valley SEAT Base
(Photo courtesy of Shelly Hoffer)

Illinois Valley SEAT Base

The Illinois Valley SEAT base was organized and established by staff in the Southwest Oregon (SWO) District in 2016. Early in the season, the district provided hands on training for SEAT loaders to ensure personnel would be available in the event the base was activated. The base was active for two days in support of the Redwood Fire, however the base did not pump any fire suppressant gel during this period (the fire was hooked and lined on the first evening).



Salem SEAT Base
(Photo by Neal Laugle)

Salem SEAT Base

The Salem SEAT base supported two large fires this year:

- The 2500 Road Fire in Northwest Oregon Area.
- The High Pass 12.5 Fire in Southern Oregon Area.

The SEAT base pumped and delivered 20,720 gallons of Firelce in support of the two fires mentioned above. Prior to fire season, the ODF Aviation Unit offers hands-on-training to those interested in loading Single Engine Air Tankers. This year over 20 agency personnel attended from Salem, Headquarters and Northwest Oregon Area.



2500 Road Fire
By Neal Laugle

A special thanks goes out to Spence Ellis and Steve Strunk (ODF, Salem) for manning the base and loading the SEATs in support of the 2500 Road Fire and High Pass 12.5 Fires.

The Dallesport SEAT Base (Columbia Gorge Airport)

The year marked the first season ODF and Washington Department of Natural Resources (WA DNR) operated out of a joint base at the Columbia Gorge Airport. In previous seasons, ODF had a SEAT reload base at the airport which is now jointly supporting both WA DNR and ODF SEATs. ODF arranged for setup of the reload base equipment and supplied Firelce. In turn WA DNR made several aircraft available for ODF use and provided additional personnel to support base operations.



The Dallesport Reload Base

The sharing of resources with our state partners continues to benefit all. Early in the season (June 6th), WA DNR provided crucial support to the Akawana Fire (COD) by sharing an exclusive use SEAT (T-851). T-851 flew over seven hours, dropping



WILDFIRE



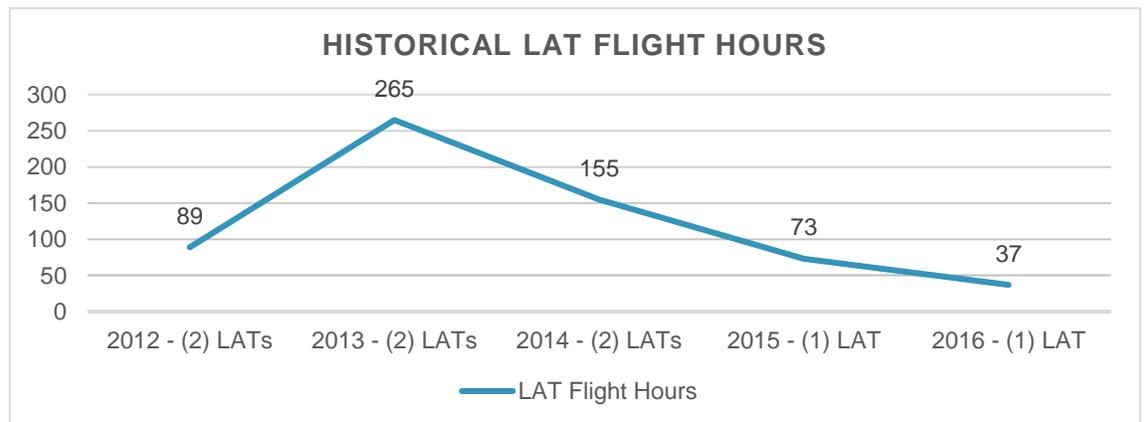
Tanker-62, provided by Erickson Aero Tanker

approximately 21,000 gallons of gel, foam, and retardant on the fire. T-851 also supported the Jewel Road Fire (COD- The Dalles) dropping 1,700 gallons of foam and Firelce.

We would like to thank the Columbia Gorge Regional Airport staff for being so accommodating and supportive of wildland firefighting activities. Their personal effort and dedication toward our mission success means so much to the Aviation Unit and the Protection Division.

Large Air Tanker

Fire season 2016 marked the 12th year ODF has contracted a large air tanker for exclusive use. The DC-7, T-62, is provided by Erickson Aero Tanker and based at the Medford Air Tanker Base. T-62 started contract on July 22nd and ended contract on October 4th. The air tanker supported 13 ODF fires delivering 132,099 gallons of retardant. The air tanker flew a total of 37.6 hours which is below the five-year annual per airtanker flight hour average of 72.6. The graph titled Historical LAT Hours below depicts historical (ODF contracted) large air tanker flight hours from 2012 to current. From 2004 – 2015, ODF had two large air tankers on exclusive use contract.



Harry Kelley (ODF) manages the large air tanker. Harry’s level of knowledge and experience with air tanker operations is valued and appreciated agency wide. Tyler Hoffer (ODF) also managed the air tanker when Harry was in need of days off. We appreciate each of them for providing this important service.

Fixed Wing Detection



Detection Aircraft D-018
By Gary Riedmiller, ODF

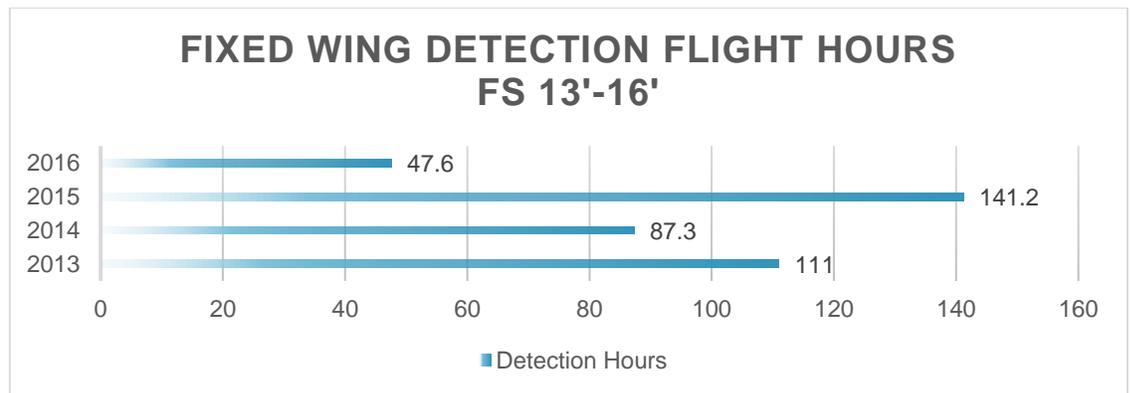
Fixed wing detection planes had fewer flight hours this season. With significantly less lightning this season, the need for detection flights decreased. The number of lightning caused fires between January 1st and October 3rd was only about 20% of the 10-year average for the same time period.

January 1, 2016, through Oct. 3, 2016:

70 lightning-caused fires burned 2,343 acres
710 human-caused fires burned 3,184 acres
780 total fires burned 5,527 acres

10-year average (for this period of the year):

308 lightning-caused fires burned 29,179 acres
631 human-caused fires burned 5,586 acres
940 total fires burned 34,765 acres



Detection aircraft N60018 was based at the La Grande Airport. D-018 flew seven ODF missions and three for the USFS totaling 28 flight hours. D-018 had a start date of July 11th and was released September 23rd. The aircraft was provided by Butler Aircraft and managed by Gary Riedmiller, ODF.

Detection Aircraft N756ZC based in Klamath Falls flew one ODF mission and five USFS missions totaling 20 hours. D-6ZC had a start date of July 8th and was released September 20th. The aircraft was provided by Skinner Aviation and managed by Randall Baley (ODF).

Host Dispatch Centers

Salem Coordination Center

Grants Pass

Douglas Forest Protective Association

Blue Mountain Interagency Center

Central Oregon Interagency Center

John Day Interagency Center

Lakeview Interagency Center

Severity Aircraft Host Dispatch Centers

We would like to thank our ODF and Interagency Dispatch Center hosts for doing an outstanding job dispatching aircraft swiftly and safely to wildfires of all jurisdictions this season. The host centers processed and filled over 300 aircraft resource orders this season and we appreciate their willingness to provide this service for ODF statewide aviation resources.

District Contracted and Association Aviation Resources**DOUGLAS FOREST PROTECTIVE ASSOCIATION (DFPA)**

DFPA contracted a Type II Helicopter (5MM) provided by Marble Mountain Helicopters for exclusive use. This year 5MM had 31 flight hours, flew 45 missions, and delivered over 78,000 gallons of water.

The two DFPA air attack/ recon platforms (Cessna N0911H and Piper Cub N23557Z) had 180 flight hours this season. The Cessna 11H flew 53 missions (11 out of district), totaling 169 flight hours, 71 of which were air attack.

Coos Forest Protective Association**Apex Helicopters – Type 3 - Tail Number H24TV**

- 25 flights total - 37.75 total flight hours
- 22 IA flights - 32.75 hrs. (of total)
- 2 recon flights – 3 hrs. (of total)
- 1 training flight – 2 hrs. (of total)
- 8 flights cancelled directly after launch
- 37 total bucket drops (majority of bucket drops (32) on Tioga Tie)
- 2960 gallons of water delivered

IA SUCCESS STORIES

Saunders Creek initial attack resources were struggling to get onto the fire scene, helicopter 4TV assisted crews by leading them to the fire, helping them gain access and begin suppression efforts.

Tioga Tie and Miller Ranch fires started at the same time, 4TV was on scene at Tioga Tie and beginning bucket work. There were two severity aircraft responding to Tioga Tie and because helicopter 4TV was already on scene working, dispatch was able to divert the severity aircraft to the Miller Ranch fire.

On several fires helicopter 4TV was first on scene and was able to give a quick and quality size up of the fires, giving heads up on fires burning in slash, reprod, gorse, and / or timber.

Protection from Fire

Helicopter 4TV was an amazing reconnaissance resource. When the Rhonda fire was detected on cameras it was difficult to determine whether there was one or two fires burning. Helicopter 4TV completed a recon of the fire and relayed to dispatch there was only one fire, allowing for better resource allocation and planning.

SOUTHWEST OREGON (SWO) DISTRICT

Fixed Wing - Cessna 206 - N5152U (contract period 7/19 - 9/20/16)

- 52U was hired as a CWN for Sugar Pine Lightning Complex from June 7th-10th.
- Over the duration of the 75 day contract, 52U flew 39 mission for 77.3 hours (on District).
- The aircraft only accumulated 2.6 hours of reconnaissance due to very little lightning events during the season.
- Supported the Rogue Siskiyou National Forest with 2 ATGS missions

52U FLIGHT TYPE	HOURS	PERCENT OF TOTAL HOURS	TRAINEE IN FRONT SEAT
RECON	2.60	3%	1.6
MAINTENANCE	3.10	4%	
PROFICIENCY	4.80	7%	4.8
FIRE	67.30	87%	38.2
TOTAL FLIGHT HOURS:	77.30		

Type 2 Helicopter – UH-1H – N5517N

(Contract Period 7/18 – 9/30/16)

- H-17N flew 69.4 hrs. on ODF SWO initial attack and extended attack fires
- Supported two USFS incidents
- Total buckets: 499
- Supported 18 total incidents delivering 149,700 gallons

Type 3 Helicopter – Bell 206 BIII, Jet Ranger – N84CK

(Contract Period 7/19 – 10/1/16)

- 84CK flew for 44.1 hrs. on district
- 55 buckets = approximately 5,225 gallons on 14 incident responses
- 24 recon/ATGS missions
- 35 PAX Transports

SWO Notables:

Over 118 ROSS orders for aircraft in 2016 SWO.

CENTRAL OREGON DISTRICT

Detection Plane (887) – Prineville

- Total hours: 139 (ODF & Other Agency)

Detection Plane (74F) – John Day

- Total hours: 33.3 (10.1 ODF and 23.2 other agency)

NORTHEAST OREGON DISTRICT

Initial Attack Success

- Weigh Station, Pendleton Unit, July 30, T-869, T-870 & 3NP were all used in the initial/extended attack phases. Aircraft played a role in minimizing acres.
- Gibbon Ridge, Pendleton Unit, August 7, T- 869, T-870 were used in initial attack phase. SEATs held entire south flank of the fire which ended up being the final southern perimeter. 6HL was used to transport ODF firefighters into the fire and used for logistical support due to the remote location of the incident.
- Pedro Mountain Complex, Baker Sub-Unit, August 7, 3NP flew four days providing bucket support on ODF & BLM jurisdiction fires being managed by a local BLM Type 3 team.

Northeast Oregon District Interagency Helitack Module

Flight Hours: 16.5

Cargo Transported:
3,620 lbs.

Personnel Delivered: 57
firefighters

Water Dropped: 5,440
gallons

Cooperation Highlight

(Written by Joseph Goebel, Wallowa ODF and Jamie Knight)

Utilizing the Cohesive Wildfire Strategy as a template, the Northeast Oregon District utilized a Severity helicopter to increase initial attack capabilities in the rugged canyon country that is prevalent across northeast Oregon and southwest Washington. In response to a significant lightning threat, an interagency Helitack module was formed. Led by the Wallowa ODF

and supported by strong interagency relationships personnel from ODF, Minnesota DNR, the Umatilla and Wallowa-Whitman National Forests made –up the module. The helicopter was supported using the USFS Wallowa Fire Zone Helibase at Sled Springs.



Chronology and Significant Events

- 8/5 – 6LH was prepositioned in northeast Oregon due to threat of lightning.
- 8/6 – Northeast Oregon Interagency Helitack Crew Module was assembled.
- 8/7 – Completed fire reconnaissance missions to look for new fire starts. Aided in two fire size-ups and recon work for incoming ground resources. Rapidly staffed a USFS incident that was threatening WA DNR protected lands and structures in proximity to ODF protection.
- 8/8 – 8/12- Completed critical fire support missions for the Gibbon Ridge Fire burning on Oregon Department of Forestry protected lands as well as Umatilla National Forest lands.
- 8/12 – 6LH was released at the conclusion of the lightning threat and support of the Gibbon Fire.

Agency Owned Aircraft

The ODF Partenavia P-68 (9000V) flew approximately 30 hours as an Air Attack platform in support of the 2500 Road Fire (NWOA) and High Pass 12.5 Fires (SOA). All other flight hours accumulated for the P-68 were Private Forests insect and disease survey flights (see [Private Forests](#) section).

Call When Needed (CWN) Program

The Aviation Unit prepares an annual solicitation for fixed wing and rotary aircraft CWN to ensure a wide variety of air resources are available for hire on a call when needed basis. This year ODF had 18 fixed wing vendors and 43 rotary wing vendors on the list. A summary of 2016 CWN aircraft by type is below.

Resource Category	# of Type I	# of Type II	# of Type III
Air Tankers	6 (VLAT)	1	28 (SEATS & FIRE BOSS)
Helicopters	63	53	73

There were 25 fixed wing aircraft for charter and/or detection missions on the CWN list in addition to those listed above. These CWN resources become critical when regional and national activity draws contracted aircraft out of the area.

Support to Other Agencies

In May, ODF sent 12 agency and Association personnel on assignment to Minnesota in support of the Department of Natural Resources, which was faced with five days of very critical fire weather and extreme conditions. All personnel were sent as Helicopter Crew Members. This was a great opportunity to support another state agency which is always willing to help ODF in times of need. A big thank you to the Areas and Associations for making their staff available and to the personnel who took the assignment.

In November, Scott Swearingen (Air Operations Branch Director) and Matt Hoehna (Air Tactical Group Supervisor) deployed with a Type 1 ODF Incident Management Team to the Party Rock Fire in North Carolina (Southern Region). Jeff Turchetto (Air Tactical Group Supervisor) also deployed to North Carolina to support the Southern Region.



Helicopter Crew Members Assigned 2016 Aviation Support, MN

- ANDRADE, RYAN (OR-JDCC)
- BITNEY, BRETT (OR-71C)
- BRYANT, COREY L (OR-72C)
- CANTRELL, SARAH (OR-LFC)
- CARRIER, IVAN (OR-712)
- CHASE, JEFFREY A (OR-72C)
- COLLINS, RORY (OR-73C)
- FLOCK, MATT (OR-LFC)
- FRIELER, CODY (OR-73C)
- FULLER, MITCHELL (OR-71C)
- PEASE, DANA (OR-73C)
- RAMOS, TYLER (OR-72C)

Private Forests

Aerial Insect and Disease Survey

Aerial surveys for damage resulting from insects and diseases has been an annual affair since 1947 in Oregon. The survey is a cooperative effort between the Oregon Department of Forestry (ODF) and the USDA Forest Service (USFS). Flown between June and September, the 2016 survey covered about 35.5 million acres in the state plus some additional area in Washington and California. The observers were able to estimate 705,384 acres of damage (or about two percent of the area surveyed), below the ten year average of approximately 825,000 acres. This damage included mortality or defoliation resulting from a wide range of agents including bark beetles, defoliating insects and diseases, and environmental damage, among others.

Area and Time to Complete the Various ODF Surveys

Survey	Total Area covered	ODF Area Covered	Total Time	ODF Total Time
<i>Statewide Survey</i>	35,598,000	15,152,000	131.4	63.8
<i>Swiss Needle Cast</i>	4,221,000	4,221,000	30.7	30.7
<i>SOD Fixed-wing</i>	400,000	400,000	5.5	5.5
<i>SOD Helicopter</i>	630,000	630,000	19.4	19.4

While the statewide general survey has been going on the longest, ODF does several other more specific surveys including Swiss needle cast and sudden oak death. The Swiss needle cast survey, comprised of 4.2 million acres of the coast range and portions of the Cascade foothills. During the Swiss needle cast survey, about 550,000 acres of moderate and high-severity defoliation was observed.

Sudden oak death was first detected in Oregon during an aerial survey and has subsequently been incorporated into an ongoing effort to locate and delimit the range of infection in Curry County. This incorporates the use of both fixed wing and helicopter surveys and covered approximately 1 million acres during several surveys through the year.

State Forests

The State Forests division uses the aerial application of herbicides to assist in reforestation by restricting plant community growth and channeling limited site resources (mainly soil moisture) to newly planted seedlings. These applications occur within the first 0-2 years after planting, and are used to both prepare the site for planting and to release seedlings from competing vegetation. These early years are critical to seedling establishment. Reducing competition during this time frame has been shown to increase survivorship and growth. After these early years, the pre-treatment vegetation community rapidly re-establishes in the treated area with little affect to seedling survivorship.

District	Flight Hours	Acres	Loads (100 gal tank)	Projects	Month of Application
Astoria	7.0	516	52	Spring Conifer Release	April
Astoria	15.5	931	93	Fall Site Prep	September
Forest Grove	8.6	646	65	Fall Site Prep	August
Coos Bay	9.0	432	43	Fall Site Prep	September
Tillamook	13.9	1398	140	Fall Site Prep	August
Tillamook	5.5	173	17	Fall Conifer Release	October
W. Oregon	4.5	240	24	Fall Site Prep	October
W. Lane					No aerial application
Grants Pass					No aerial application
North Cascade	3.2	271	0	Spring Conifer Release	April
North Cascade	3.3	230	0	Fall Site Prep	September

SAFECOM & ODF INITIAL REPORTS

- **Helicopter (2)**
 - (2) Maintenance Related
- **Air Tanker (2)**
 - (1) Maintenance
 - (1) Aircraft Damage
- **Safety Kudos (1)**

ODF INITIAL REPORT & SAFECOM DETAILS

There were no serious incidents or accidents in 2016. This season five safety reports and one safety kudos were filed.

Helicopter Reports:

- (1) Engine power issue caused pilot to make precautionary landing. Maintenance personnel corrected the issue.
- (2) Small hole in fuel tank was identified and fixed by maintenance personnel.

Air Tanker Reports:

- (1) During landing rollout, left main tire skidded and blew out. Wheel was replaced and issue resolved.
- (2) Mechanical issue (broken trim linkage) identified during morning preflight. Maintenance personnel replaced the part and fixed the issue.

Safety Kudos:

- The safety kudos submitted was for Dan McCarron, ODF Chief Pilot. Dan cancelled a survey flight due to the identification of metal flakes in engine oil during a routine 50-hour inspection. He did not let the pressure to complete the survey the following day override the safety of flight operations.



AVIATION TRAINING COMPLETED**Summary**

- Aerial Supervision Training (ODF Hosted) – 13 ODF and Association attendees
- 13 Aviation task books completed;
 - (1) Aircraft Dispatcher
 - (1) Air Tactical Group Supervisor
 - (8) Helicopter Crew Member
 - (3) Helicopter Manager (Single Resource)
- SEAT Reload Base Training – Salem Airport (25 participants) Hands on training for agency personnel to load Single Engine Air Tankers. This training is to ensure ODF has locally trained personnel to staff the Salem Reload Base.
- Basic Air Operations and Air Base Radio Operator Training (15 participants) ODF hosted this training as a pilot with Team Rubicon, a non-profit volunteer organization, to increase the pool of critically needed Air Base Radio Operator Trainees.
- SEAT Reload Base Training was provided to the Columbia Gorge Airport staff which provided a cost effective means for manning the base during fire season.

SWO District (on Cessna 206 – 52U)

- Four proficiency flights with T-62 and Air Tactical Group Supervisor Trainees from around SOA.
- Seven Air Tactical Group Supervisor trainees from ODF SWO, CFPA and Salem were provided 264 total training hours (on the ground/in air).
- 43.6 hours of in-flight training occurred during mission flights (56% of the total flight hours)

Valued Vendors

We cherish the strong relationships we have with our aircraft vendors. We appreciate the excellent service they provide to our agency, our landowners, and cooperators. This year we gave our vendors the option of writing a short narrative for inclusion in our annual report about the services they provide and their history with ODF.

Erickson Aero Tanker – Heavy Air Tanker (DC-7)

(Write-up courtesy of Jeff Tobolski, Vice President Flight Operations)

Aero Air LLC, dba Erickson Aero Tanker, is a highly experienced and capable vendor/partner of the Oregon Department of Forestry. Formed by Jack Erickson and Kevin McCullough, Erickson Aero Tanker works to empower firefighting agencies with efficient aircraft that are well suited to the aerial tanker mission. The partnership of Jack and Kevin began in the 1990s; however, their combined experience in firefighting activities spans several decades and encompasses heavy-lift helicopter and air attack support in addition to the large air tanker operations. Aero Air is an Oregon based, privately held company dedicated to safety, reliability, performance and customer service. We provide both next generation and legacy tanker aircraft to enable agencies with the most capable and cost-effective firefighting tools. At present, we operate three DC-7s and three Next Gen MD-87 large fixed wing tankers.



In more than 55,000 flight hours over the past five years, Erickson Aero Tanker and Aero Air achieved a perfect safety record, with zero accidents. Our tanker performance is excellent. In 2016 we provided one DC-7 tanker on contract and also provided another DC-7 for a call-when-needed engagement early in the season. These tankers carry 3,000 gallons of retardant and can deliver multiple drops at reduced loads and coverage levels.

Combined we delivered nearly 175,000 gallons of retardant on Oregon fires with an availability rate of over 99%. Aero Air greatly appreciates the opportunity to provide air tanker services to ODF, and we look forward to serving the citizens of Oregon long into the future.

Columbia Basin Helicopters, Inc. – SEATs & Type 2 Helicopter
(Write-up Courtesy of Albert Hansen, Director of Marketing)

Columbia Basin Helicopters, Inc. started in 1996 with one 12E Hiller. We have since grown to four Bell UH1H helicopters, one Bell OH58 helicopter, four Air Tractor 802 air tankers, and three support fixed wing aircraft.



In 2016 we purchased a full motion flight simulator and dual cockpit Air Tractor 802 to assist us with our annual recurrent pilot training. Throughout our history we have worked with the Oregon Department of Forestry with aerial forest fire fighting and aerial application (spray and fertilizing). We currently have four aircraft on exclusive use contracts with ODF (3-SEATs / 1-Type 2 Helicopter).

CO Fire Aviation - Single Engine Air Tankers
(Write up courtesy of Chris Doyle, Owner)



CO Fire Aviation was formed in the fall of 2014 by Chris Doyle and Kyle Scott. The company is based out of Fort Morgan Colorado. CO Fire started working for the Oregon Department of Forestry (ODF) in 2015 with one SEAT on a Call When Needed (CWN) Agreement. CO Fire now has one SEAT on exclusive use contract in John Day and a second SEAT on the CWN list.

Henderson Aviation Co. (HAC) - Type 3 Helicopter
(Write up courtesy of Kristine Henderson)

Henderson Aviation Co. (HAC) started 70 years ago in 1946, originally founded as Livingston Air Dusting. In 1961, Charles “Herb” Henderson, then chief pilot,



**HENDERSON
 AVIATION**
 HELICOPTER SERVICES

purchased the company and changed the name to Henderson Aviation. Herb retired in 1993, and his son John took over as president of the company. John began his flight training in 1974 at the age of 15 and has been flying ever since. Over these years HAC has performed Call When Needed and contracted fire suppression services for the Oregon Department of Forestry (ODF). These past three years included contracted services in John Day, Oregon. HAC will continue to provide support to ODF for many years to come.

General Aircraft Services – Type 2 Helicopter**Write-up courtesy of Carl Hagglund**

Photo Courtesy of
Carl Hagglund



General Aircraft Service was founded at the Pendleton Airport in 1977 by Carl Hagglund and has been owned and operated by the Hagglund Family continuously the past 39 years. Carl's entrance into aviation started in 1973 at Yakima when he was taught Basic Airmanship with an unapologetic emphasis on stick and rudder flying by Charlie McAllister, (at that time the last surviving pilot who received license from Orval Wright).

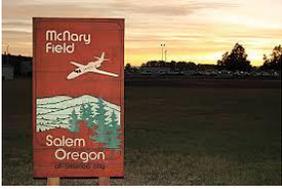
In 1974, Carl attended college to obtain an Aerospace Engineering degree and college level flight and aircraft mechanic training. These extraordinary elements of training and education gave him building blocks to provide for a successful outcome of his aviation endeavors. Even today after more than 30,000 hours of flight time, Carl credits Charlie McAllister's dedication to the teaching of the well proven Basic Airmanship stick and rudder syllabus as essential to his safety of flight. Carl still passes this invaluable training on as a certified flight instructor.

Carl began General Aircraft's flight operations with a single small helicopter he purchased as a winter project to rebuild and refurbish. This helicopter provided General Aircraft its first opportunity to fly for Oregon Department of Forestry in the summer of 1980, hauling dedicated ODF fire line crew two at a time with their packs and tools in skid mounted baskets. More than 20 persons per hour were moved to otherwise inaccessible fire line. The 35 year relationship with the Oregon Department of Forestry has been a foundational part of the commerce of the Hagglund Team.

As is common with General Aviation operators, General Aircraft has a comprehensive portfolio of varying types of aviation endeavors very successfully accomplished through the years. The types and numbers of aircraft have grown through the years. The Safety First attitude practiced from the very first operation, long before current codification of these principles, has made for a stellar safety record of aircraft operations by General Aircraft in the most demanding environments.

Through the last 36 years, the creed at General Aircraft has been to engage in applications of the expertise available from the Hagglund team to provide for customer satisfaction. The fact that the Oregon Department of Forestry has customer satisfaction as a common goal, and uses the highest standards of team organization, has produced a safe, highly productive working environment that General Aircraft Services is honored to be part of.

**We truly appreciate
the Airports
supporting ODF
firefighting
operations.**



McNary Field
Salem, OR



Columbia Gorge Airport



Illinois Valley Airport
Cave Junction, OR



Roseburg Regional Airport
Salem, OR

Butler Aircraft Services - Fixed Wing Detection Plane

Write up courtesy of Nan Garnick



Butler Aircraft Company has been in business since 1946 and has been in aerial firefighting since 1958. Butler Aircraft started working directly with the State of Oregon in 2004, providing D-C7 air tankers. Since then, we have expanded by providing aircraft in La Grande and Prineville for the aerial detection of fires as well as providing transportation for Department of Forestry personnel. In 2016, we were also privileged to provide an aircraft to help Forestry out by providing aerial support for the forest health survey.

Skinner Aviation - Fixed Wing Detection Plane

Skinner Aviation has been providing Aviation Services in Southern Oregon since 1993. Skinner Aviation based at the Ashland Municipal Airport has supported the Oregon Department of Forestry in Aerial Reconnaissance, Smoke Detection, and Air Attack Platforms for the last 18 years. Skinner Aviation is committed to continuing their effort to ensure Southern Oregon is supported for years to come.

A big thanks to the vendors who prepared a narrative and to all of our aircraft and product vendors for the amazing service and support through the years.



Marble Mountain Helicopters, LLC

Terra Helicopters Inc.



We continue to appreciate strong aviation partnerships and the support of our fellow state agencies and interagency cooperators.





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For more information regarding this report, please feel free to contact Aviation Unit Staff.



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