



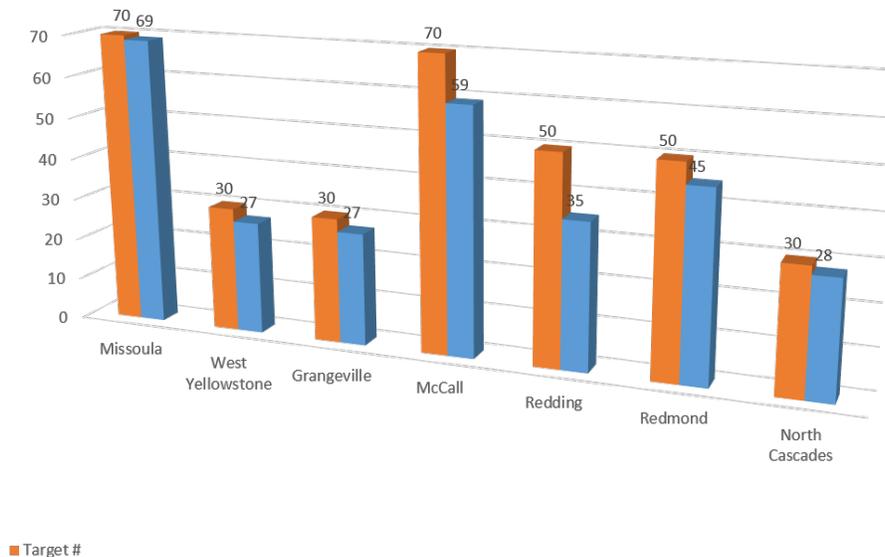
# National Smokejumper Program 2020 Fire Season Summary December 9, 2020



The following is a summary of the fire season, land management support, Joint Precision Air Drop (JPAD), and Ram-Air parachute system transition for the Forest Service Smokejumper program 2020.

## Personnel

This year there were 294 Forest Service Smokejumpers out of a target of 330 -located across seven bases, National Technology and Development Center, and detailed to the Washington Office. Numbers were down by 36 or 11% due to multiple factors such as 1039/perm hiring process, attrition, a desire to minimize rookie hiring until able to train rookies on the ram-air system, and rookies unsuccessful in training.



## Pandemic

This year spring training was heavily impacted by Covid-19. All bases approached the training season in a different manner depending on local outbreaks and directives. Social distancing and smaller modules were the strategy for most bases. Due to some stay-at-home orders and other county and city directives, work was limited to essential activities, because of this, spring prescribed fire activities were also reduced. As there was a national shortage of face masks, the smokejumpers sewed their own face masks and provided to other personnel and health care workers. Approximately 5,000 face masks were manufactured, requiring over a thousand hours of cutting and sewing.

## Fire Season

The 2020 fires season can be characterized as below the 10-year average, but slightly busier than last season. This slower start to the fire season allowed for bases to complete refresher, Ram-Air transition training, and rookie training that was slightly delayed and extended due to Covid-19. The slow start to the fire season was replaced with a busy August and September. The following data is for Forest Service provided support to land managers. It does not include BLM smokejumpers or their national contributions.

<b>2020</b>							
<b>Region</b>	<b>SMJ Base</b>	<b># of SMJs</b>	<b># of Fires Jumped</b>	<b>Fire Jumps</b>	<b>Grnd Action &amp; Jump Fire (Days)</b>	<b>Single Res. Assigmnt. (Days)</b>	<b>Rx Fire Support (Days)</b>
1	Missoula	69	41	288	815	1262	156
	West Yellowstone	27	10	50	279	593	70
	Grangeville	27	16	79	525	503	112
4	McCall	59	59	353	1499	319	384
5	Redding	35	29	140	887	284	0
6	Redmond	45	28	165	793	1145	504
	North Cascades	28	11	55	413	953	0
<b>Total by Year =</b>		<b>290</b>	<b>194</b>	<b>1130</b>	<b>5211</b>	<b>5059</b>	<b>1226</b>

For comparison, listed below is how the totals for this year compare to the 10-year average:

# of Fires Jumped 10-YR Average =	<b>241.4</b>
Fire Jumps 10-YR Average =	<b>1285</b>
Grnd Act./jmp Days 10-YR Average =	<b>8314.7</b>
Single Res. Days 10-YR Average =	<b>4574.3</b>
RX Fire 10 Days-YR Average =	<b>1860.7</b>

This illustrates that while the fire season was somewhat slower than the 10-year average, smokejumpers supported in overhead and single resource assignments substantially; leading modules of military personnel and providing support during the month of September when the West was too smokey for most aerial resources to fly.

Although included in the overall base numbers above, the figures below will illustrate the spike bases that were operational this year within the Forest Service.

Spike Base Host	Spike Base Location	Days Operational	# of Fires Jumped	Fire Jumps
Missoula	Silver City	44	7	44
	Miles City	79	18	147
McCall	Winnemucca	89	14	92
	Pueblo	34	6	32
	Ft. Collins	18	1	4
	Laramie	28	3	24
Redding	Porterville	7	2	7
<b>Total =</b>		<b>299</b>	<b>51</b>	<b>350</b>

It should also be noted that due to the pandemic and the concept of “module-of-one” practices, the number of boosters filled and received was substantially below average. The strategy this year was to initial attack the fire direct from the smokejumper base, regardless of geographic location.

### Single Resource Assignments

Forest Service Smokejumpers spent a total of 5,059 days on single resource assignments (includes initial/extended attack), which averages to 15-days per smokejumper and is slightly above the 10-year average. The table below highlights the number of both qualified and training assignments by advanced qualifications.

Single Resource Assignments (include training)						
	ICT3	DIVS	TFLD	ATGS	CRWB	All
Grangeville	2	6	2	3	5	22
West Yellowstone	4	7	15	0	4	61
Missoula	9	15	14	7	9	79
McCall	2	10	11	2	0	36
North Cascades	1	6	9	2	7	56
Redmond	2	12	9	12	2	83
Redding	2	5	10	7	14	19
<b>Total # of assignments:</b>	<b>22</b>	<b>61</b>	<b>70</b>	<b>33</b>	<b>41</b>	<b>356</b>

### Paracargo 2020

This year, fire staff were keenly aware of the need to decrease large fire camps and increase the utilization of smaller spike and remote camps. Because of this necessity, this season marked an increase in paracargo and operational Joint Precision Air Drop System (JPADS). A JPAD delivers paracargo on a GPS guidance system. These units can be dropped at an altitude above ground between 3,000-15,000 feet. This is a promising technology for delivering critical supplies at night and during periods of poor visibility due to smoke.

The table below displays the number and pounds of paracargo delivered in support of fire suppression. Normal smokejumper paracargo operations for initial/extended attack are not included.

Base	# of PC Request Filled	Pounds of PC Dropped
Grangeville	1	800
West Yellowstone	1	961
Missoula	3	7,225
McCall	1	762
North Cascades	1	5,532
Redmond	10	19,013
Redding	14	39,700
<b>Total =</b>	<b>31</b>	<b>73993</b>

It should be noted that the Redding Smokejumpers filled an additional 5 requests for JPADS and delivered 9,300 pounds of paracargo via JPAD. These successful missions are highlighted below:

- 8/20- August Complex/Mendocino Forest/NOPS- 4 JPADS- 2300 pounds. Critical supplies to 15 SMKJs.
- 9/2- August Complex/Mendocino Forest/NOPS- 5 JPADS- 2500 pounds. Critical supplies to SMKJ/fire personnel.
- 9/8- Creek Fire/Sierra Forest/SOPS- 5 JPADS-2500 pounds. Critical supplies to fire personnel.
- 9/12- Approached by Team on Mendocino August North Complex to deliver Radio Repeater to Yolla Bolly Mtn – elevation 7625. With no visibility and no aircraft able to fly for several days, the team needed a Radio Repeater installed at this location. Visibility on ground was reported at ½ mile and smoke layer ceiling was about 12,500’. No other aircraft on fire. JPAD bundle landed within 200’ of target and was easily located by proximity and audio chirper attached to the bundle.
- 9/14- California Fire ordered food and water delivery by JPAD to approximately 200 civilians sheltered in place.

### Days Committed to Fire Suppression, Prescribed Fire & Project Support

This year smokejumpers were committed on fire suppression for a total 10,270 person days. Prescribed fire accounted for 1,226 person days. The table below does not include training, daily fire preparedness/support, paracargo support, and miscellaneous projects.

Days on Fire (JMP, SR & GRD)	Rx Fire Support (days)	Other Land Management Projects (days)	Mask building (days)	Total
10,270	1,226	311	712	12,519

### Smokejumper Injury Rates

Smokejumper injuries are reported through two systems: eSafety and the Smokejumper Parachute Landing Injury Database which is managed by the National Technology and Development Program (NTDP). Parachute landing injuries are categorized into either minor or serious. A minor injury is

defined as: any injury less severe than a serious injury. A serious injury is defined as: any injury that requires hospitalization for more than 48 hours; results in a bone fracture except simple fractures of the toes or fingers; causes severe hemorrhage, nerve, muscle or tendon damage; involves an internal organ; second or third degree burns or burns over more than 5% of the body.

The following table displays the number and type (minor or serious) of injury by location. Injury rates for 2020 include both round and Ram-Air parachute types. The 28-year average includes all parachute types of the time period. The FS-12 round parachute was phased out in 1998. The Eiff (Ram-Air) was phased out in 2012. Both parachutes contributed to higher injury rates. Injury rates are derived by dividing the number of injuries by the total number of jumps and then multiplying that figure by 100. By diligently tracking minor and serious injury rates for 28 years, the smokejumper program has been able to mitigate some contributing factors resulting in injuries. In addition, program managers can draw some conclusions from the data. For instance, we know that the injury rate has decreased slightly as we have begun the transition to the Ram-Air system. This is something we had hoped for, but didn't expect to occur so quickly since we understood that smokejumpers were moving from expertise in the round canopy to a canopy that we had no experience in piloting; however, initial findings and injury rates are lower than expected. Overall, what the data below illustrates is that in 2020, a jumper had a 99.75% likelihood of a successful outcome on any jump, regardless if it was a practice or a fire jump. Data for the following table is from the NTDP Smokejumper Parachute Landing Injury Database and is compiled by an NTDP Statistician.

Injuries 2020	MSO	GAC	WYS	MYL	RDD	RAC	NCSB
Minor	0	0	2	2	0	0	2
Serious	2	0	1	0	0	0	0

Injury Rates 2020/28-yrs	2020		1992 to 2020	
	Practice	Fire	Practice	Fire
Minor Rate	0.06%	0.31%	0.10%	0.37%
Serious Rate	0.04%	0.21%	0.06%	0.28%

Data on parachute landing injuries are intended to track trends specific to the smokejumper program. This data is not intended, and should not be used for risk, trade-off decisions, until all fire programs have comparable injury tracking procedures.

### Smokejumper Aircraft

There were 9 agency owned aircraft and 7 contracted aircraft utilized for smokejumper missions this summer. Seven of the nine agency owned aircraft flown were SD3-60, B model, Sherpas. In our fleet, but not utilized this summer, were several A model Sherpas. In our fleet are also 3 B model Sherpas that will be mission equipped and ready for next season. Agency aircraft flew a total of 1090 hours, and contract aircraft flew a total of 481 hours for a combined total of 1,572 hours in support of training, fire suppression, and support of land management activities. The table below displays the total hours of flight time by each aircraft.

<b>Aircraft Utilization</b>			
	<b>Aircraft: (J-#)</b>	<b>Aircraft (Tail-#)</b>	<b>Total Flight Hours (all)</b>
<b>Contract</b>	J-11 (Twin Otter)	N537AR	83.8
	J-13 (Dornier)	N263MC	87.4
	J-52 (Dornier)	N257MC	96.2
	J-09 (Casa 212)	N109BH	54.4
	J-07 (CWN Casa 212)	N107BH	27.7
	J-12 (CWN Casa 212)	N112BH	40.6
	J-21 (CWN Casa 212)	N217BH	91.3
<b>Agency</b>	J-41 (Twin Otter)	N141Z	107.8
	J-43 (Twin Otter)	N143Z	148
	J-48 (Sherpa SD3-60)	N148Z	128.2
	J-42 (Sherpa SD3-60)	N142Z	105.4
	J-45 (Sherpa SD3-60)	N145Z	97.7
	J-61 (Sherpa SD3-60)	N161Z	28.8
	J-62 (Sherpa SD3-60)	N162Z	174
	J-63 (Sherpa SD3-60)	N163Z	129.5
	J-14 (Sherpa SD3-60)	N114Z	170.8
<b>Total =</b>			<b>1571.6</b>

**Ram-Air Transition**

This is the fifth year of the USFS Smokejumper Ram-Air Transition which officially began program wide in 2016. The Forest Service began the transition with 71 Region 1 smokejumpers already on the system, trained by the BLM smokejumpers during a FS operational evaluation period. Due to the current pandemic, spring training goals as outlined in the fall operational meeting were reduced to accommodate smaller class sizes; however, this season's training of new individuals to the ram-air system did not diminish from the previous year. For comparison, in 2019, the USFS added 39 individuals on the ram-air system. This year, 40 individuals were successfully trained on the ram-air system. The total numbers came from both rookies and ram-air transition training for round jumpers. The chart below illustrates personnel new to the ram-air system this year.



<b>Base</b>	<b>RATT</b>	<b>Rookie</b>	<b>Total</b>
Missoula (MSO)	0	4	4
West Yellowstone (WYS)	0	3	3
Grangeville (GAC)	0	4	4
McCall (MYL)	7	3	10
Redding (RDD)	5	7	12
Redmond (RAC)	7	0	7
North Cascades (NCSB)	0	0	0
National Office	0	0	0
<b>TOTALS:</b>	<b>19</b>	<b>21</b>	<b>40</b>

To date, there are 232 Forest Service smokejumper employees trained on the ram-air parachute system out of a total of 294 smokejumpers. This equates to 78% of Forest Service smokejumpers on the Ram-Air system.

<b>Base</b>	<b>Total Employees</b>	<b>Ram-Air Parachute</b>	<b>Round Parachute</b>	<b>% Transition</b>
Missoula	69	65	4	94%
West Yellowstone	27	25	2	92%
Grangeville	27	27	0	100%
McCall	59	50	9	84%
North Cascades	28	10	18	35%
Redmond	45	18	27	40%
Redding	35	33	2	94%
WO	4	4	0	100%
<b>TOTALS:</b>	<b>294</b>	<b>232</b>	<b>62</b>	<b>78%</b>

Any questions on this report should be directed to Mark Belitz, Acting FS National Smokejumper Program Manager ([mark.belitz@usda.gov](mailto:mark.belitz@usda.gov)).