**BLM UAS Program
Talking Points
May 2019\_Final**

* The BLM UAS Program goal is to safely, effectively, and efficiently employ UAS in support of resource program or incident management objectives. National, Regional, and State Agency Program Managers are delegated by their respective agencies and are responsible to administer their agencies UAS program.
* In fiscal year 2018, the BLM UAS program conducted 4,044 agency flights (1,223 more than FY17) logging 615 flight hours on wildland fires and resource projects. There was 16 weeks of UAS training consisting of 1,947 flights for 615 hours of flight time.
* For wildland fire operations in fiscal year 2018, the UAS program totaled 916 agency flights (299 more than FY17) clocking 136 hours of flight time. Uses included the following:
* Large fire support to provide fireline situational awareness at the crew-level.
* Support strategic and firing operation planning providing real time images/video along with geo-spatial and photogrammetric products.
* Collect/display thermal and infrared imagery to detect hot spots along the fireline.
* Create accurate perimeter maps of wildland fires while providing real-time video display.
* Reconnaissance missions and fireline scouting.
* Provide orthophotos along with terrain and digital elevation models.
* Enhance the fire investigation process as a mapping tool for origin and cause determination.
* Monitor active fire lines.
* Document prescribed burn operations and analyze fire effects.
* The newly awarded Call When Needed (CWN) contract proved to be a success for the 2018 fire season. CWN flights for fire suppression operations totaled 86 with 381 flight hours. The contract allows the agency to obtain fully contractor-operated and maintained small UAS that are ready when needed to support wildland fire operations, search and rescue, emergency management and other resource missions in the Contiguous 48 States and Alaska.
* UAS data products enhance the safety of wildland fire operations and allow fire managers to make wildland fire suppression decisions. Utilizing UAS on an incident enables manned aircraft traditionally tasked with data collection to be re-purposed for tactical missions. UAS are also authorized and capable of flying at night and in heavy smoke conditions. For example, in 2018:
	+ UAS assigned to the Klondike and Taylor Creek fires were flying night operations in order to provide a live video feed of thermal imagery to identify and communicate spot fires. This capability increased the efficiency of ground crews to locate and suppress spot fires.
	+ UAS were also utilized to supplement the manned aircraft fleet by providing incident mapping services. This capability allowed valuable helicopter resources to directly support tactical missions such as crew shuttles, water drops, etc. while UAS handled reconnaissance and mapping missions.
* For resource and other projects in FY2018, the UAS program totaled 1,100 agency flights with 172 flight hours on 224 projects. Uses included: wildlife habitat surveys; recreation site photos and video imagery; archeological paleontology surveys; hydrologic analysis; erosion assessments; hazmat spill and accident investigation documentation; USGS support for volcano research, and other valuable mapping projects throughout the western U.S.
* The BLM currently owns 172 UAS systems for use in wildland fire operations and other natural resource programs with 146 qualified BLM UAS remote pilots.
* The BLM is utilizing the 3DR Solo quadcopter for the majority of its UAS operations with 165 systems owned by the BLM. This aircraft has proven to be safe to fly and is capable of supporting multiple sensor payloads. The BLM owns six FireFLY6 PRO/S that are being used in Wyoming, Montana and the National Aviation Office.
* The BLM CWN contract includes one each of the following UAS systems: Insitu ScanEagel, Bridger Aerospace/Silent Falcon, Precision Stalker, and Patherwasy2Solutions Bramor. These systems were awarded the contract due to a combination of sensor capability and aircraft performance.
* The BLM is exploring the use of new UAS aircraft including the DJI M600 Private Edition, DJI Mavic Private Edition, Yuneec H520 (R&D), Parrot Anafi, and the Ignis PSD. The BLM will be assessing the performance of these aircraft to further enhance the UAS program. These systems are an evolutionary step up from the 3DR Solo and possess safety, flight and payload characteristics which meet DOI requirements for current and expected mission profiles.
* Since the Federal Aviation Administration (FAA) issued less restrictive UAS regulations in 2016, which increased the frequency of civil UAS use on public lands with a reported 41 “drone” incursions over wildfires that year, BLM Fire and Aviation continues to anticipate and prepare to educate the public about wildland fire UAS incursions and the issues associated with them. In 2018, there were 28 reported “drone” incursions during wildfire operations.
* In October 2018, the National Wildfire Coordinating Group (NWCG) published a position task book to cover four UAS fire positons including UAS Remote Pilot (UASP), UAS Data Specialist (UASD), UAS Manager (UASM), and UAS Module Leader (UASL). Support elements include a UAS Fire Operations Guide (PMS-515), UAS Incident Operations class (S-373), UAS Incident Operations Refresher Training (RT-373) along with adding the positions to ROSS and IQCS.
* The UAS program will continue to carefully integrate into fire operations with an interagency focus. The 2019 initiatives will focus on:
1. Budget and workforce solutions
2. Collaboration with USFS to build a Service First Fire UAS Program
3. Extended Visual Line of Sight (EVLOS)
4. Research and development for UAS platforms, sensors, and applications
	* Wildlife counts (horses/sage grouse)
	* PSD (aerial ignition) Operations – Fire and fuels management
	* Mesh networks to support incident information sharing
	* Integration of data into existing systems
5. Partnering with federal emergency management agencies
6. Exploring exclusive use contract options
* The BLM UAS program aligns with the requirements stated in the recently signed into law S. 47 John D. Dingell Jr. Conservation, Management, and Recreation Act (formerly known as the Natural Resources Management Act) for wildfire technology modernization. Bill S. 47 Section 1114 purpose is to “promote the use of the best available technology to enhance the effective and cost-efficient response to wildfires” and specifically discusses expanding the use of unmanned aircraft systems on wildfires.
* The BLM UAS program was developed in 2015 to support resource and incident management initiatives. BLM UAS operations are conducted in accordance with the FAA Small Unmanned Aircraft Rule (14 CFR, Part 107) and DOI OPM-11. UAS operations on incidents are conducted in accordance with the *Interagency Unmanned Aircraft Systems Guide (PMS 515).*