

INTERAGENCY UAS OPERATIONS

Objective

INTRODUCE UAS TYPING AND CALL SIGNS

DISCUSS INTEGRATION OF UAS INTO FIRE OPERATIONS AND THE FTA.

DISCUSS UAS UTILIZATION LESSONS LEARNED



Operational Safety

STANDARDIZED PROCEDURES

A publication of the
National Wildfire
Coordinating Group



NWCG Standards for Fire Unmanned Aircraft Systems Operations

PMS 515

February 2019

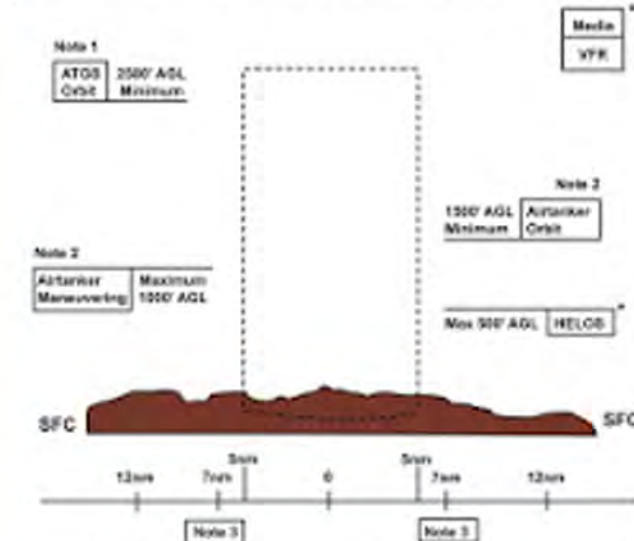
FIRE TRAFFIC AREA (FTA) 01 JAN 09 **FTA**

INITIAL RADIO CONTACT: 12 nm on assigned air tactical frequency.

CLEARANCE IS REQUIRED TO ENTER FTA

NO RADIO CONTACT: Hold a minimum of 7 nm from the incident.

Note: Airtanker maneuvering altitude determines minimum airtanker and ATGS orbit altitudes. Assigned altitudes may be higher and will be stated as MSL.



- Note 1 | 1000' min. separation between ATGS orbit and airtanker orbit altitude.
- Note 2 | 500' min. separation between airtanker orbit and maneuvering altitude.
- Note 3 | On arrival reduce speed to cross 7 nm at assigned altitude and 150 KIAS or less.

- * **HELOS** - Fly assigned altitudes and routes.
- * **MEDIA** - Maintain VFR separation above highest incident aircraft or position and altitude as assigned by controlling aircraft.

AIR TANKER BASE	AIR GUARD	ARTS AIR	NATIONAL FLIGHT FOLLOWING
123.375	198.625 To 199.1103	AS ASSIGNED	166.000 To 166.1103



National Interagency Airspace: <http://www.airspace.nifc.gov>

UAS Typing

Type	Configuration	Endurance	Data Collection Altitude (agl)	Max Range (miles)	Typical Sensors*
1	Fixed-Wing Rotorcraft	6-14 hrs. NA	3,500-8,000 NA	50 NA	EO/ Mid Wave IR High Quality IR
2	Fixed-Wing Rotorcraft	1-6 hrs. NA	3,500-6,000 NA	25 NA	EO/Long Wave IR Moderate Quality IR
3	Fixed-Wing Rotorcraft	20-60 min. 20-60 min.	2,500 and Below 2,000 and Below	5 5	EO/IR Video and Stills Moderate Quality IR
4	Fixed-wing Rotorcraft	Up to 30 min. Up to 20 min.	1,200 and Below 1,200 and Below	<2 <2	EO/IR Video and Stills Moderate Quality IR

CONTRACT - TYPICALLY TYPE 1 OR 2

AGENCY OWNED - TYPICALLY TYPE 3 OR 4

CHECK OUT THE FEDERALLY APPROVED SYSTEMS ON THE [INTERAGENCY FIRE UAS WEBSITE](#)

Unmanned Aircraft

- Configuration (fixed or helicopter)
- Type
- Agency/Interagency assigned aircraft number.

Call Sign Examples

- Unmanned R41: Rotor-Wing, Type 4 UAS, Agency/Interagency #1
- Unmanned F12: Fixed-Wing, Type 1 UAS, Agency/Interagency #2
- Unmanned R23: Rotor-Wing, Type 2 UAS, Agency/Interagency#3

Type 1 and 2 UAS

- CONTRACTOR OWNED
- COMS ON FM AND AM
- LARGE SCALE MAPPING/RECON
- TYPICALLY TRANSPORTED IN VANS
- REQUIRES UASM AND UASD
- EQUIPPED WITH MODE C TRANSPONDER
- STATIONARY LAUNCH LOCATION (LRZ)
- EMERGENCY PROCEDURES



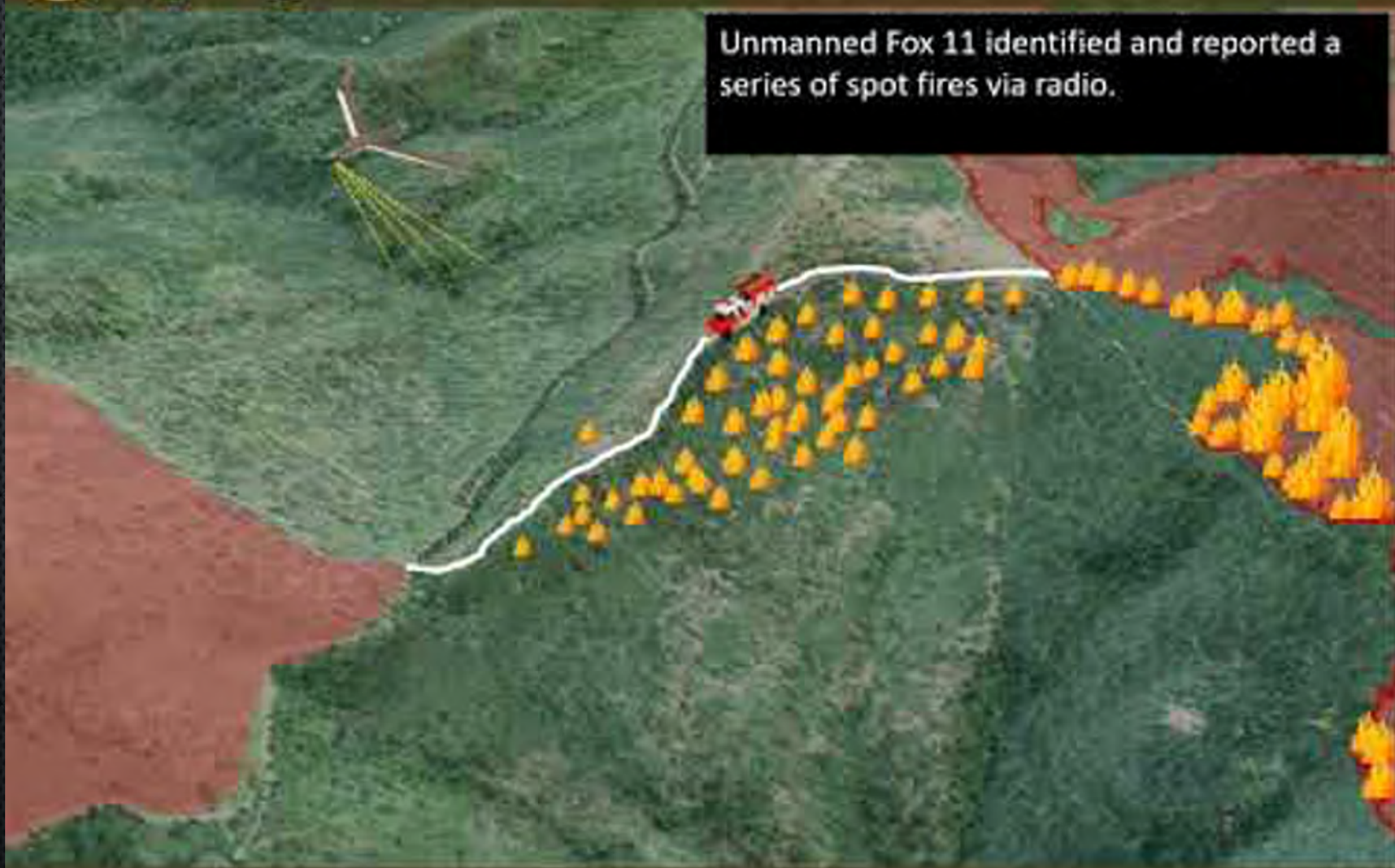


Spot Fire Detection and Mitigation Using UAS Imagery

Taylor Creek Fire, Oregon



Unmanned Fox 11 identified and reported a series of spot fires via radio.



Type 3 and 4 UAS

- AGENCY OWNED
- COMS ON FM/AG
- SMALL SCALE MAPPING/RECON
- AERIAL IGNITION (PSD)
- VARIABLE LAUNCH LOCATIONS
- EASILY TRANSPORTED
- UASP REQUIRED
- **Not** EQUIPPED WITH MODE C TRANSPONDER OR ADS-B
- EMERGENCY PROCEDURES



SYSTEMS - Agency Owned

- 3DR SOLO
- FIREFLY 6 PRO
- MATRICE 600 PRO
- MAVIC PRO
- ANAFI
- ANAFI THERMAL



Matrice 600 Pro



Mavic Pro



Anafi



Firefly6Pro



3DR Solo

Aerial Ignition Equipment

DJI M600 WITH PSD PAYLOAD



[Ignis 2 Intro](#)

ZENMUSE XT2 CAMERA



[Ignis 2 Overview](#)

QUESTIONS?
