UAS Integration

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Objectives

• Discuss Forest Service governing updates
• Talk about acquisition of UAS
• Discuss educational campaigns
• Brief on agency UAS projects in 2016
• Discuss Interagency efforts of fire UAS integration
Policy

• Chief’s Letter
• UAS Desk Guide
• Policy updates
Chief’s Letter

• Signed and released in July

• Topics covered included:
  • Agency Vision
  • Privacy
  • Data Management
  • Acquisition
  • Group efforts
  • Campaigns
UAS Desk Guide

- Marshall Wallace detailer.
- Draft released August 30th for review and comment
- 134 comments to address from typos/grammar to content
- Feedback from multiple functional areas within agency
- Meeting 508 standards and will be posted on the intranet
- Regional supplement area
- Living Document
Policy Update

- Aviation policy re-write group
  - Airworthiness standards
  - Operational protocols
  - Employee pilot training and certifications
Acquisition Efforts

• Flight Services Contract
• Aviation Business Case development
FHP/FM contract

• Beta specifications
  • PIC flight hours
  • Airworthiness
• Amendments to clarify.
• ABS is set up for complex UAS contracts. Simple contracts will use different system already in place.
Aviation Business Case

• Acquisition of Federal aircraft requires an ABC
• UAS Advisory Group tasked with staffing out ABC
• Information Needs Analysis survey
  • Captures use and mission data
  • Captures data management projections
  • Sent out through AG, ESC and Councils
  • Link posted on intranet. Closes Dec. 9th
• DOI analysis for uses and data needs
Educational Campaigns

• Wildfire aviation safety
  • AKA “If you fly, we can’t”
• Recreational Drone tips
Wildfire

• NIFC tools include
  • Posters
  • News release template
  • Social Media template
  • PSA videos
  • FAQs sheet
  • Talking points
UAS Incursion Statistics

- 38 Incursions. 20 affected fire aircraft
- Three Federal, four State and one County
  - USFS = 23  MN = 1
  - BLM = 4  NV = 1
  - BIA = 2  WA = 1
  - CALFIRE = 5  County = 1
- Reported in 11 states
  - AZ  NM  UT
  - CA  NV  WA
  - CO  MN  WY
  - ID  MT
Recreational Users

• Printed material coordinated with Office of Communication
• Shared through the National Trails Board.
• Posted on intranet and internet UAS sites as well as Recreational sites.
• Featured on USDA blog and Forest Service main landing page.
Resource Projects

- Forest Health/Forest Management Aerial Imagery
- Aquatic Milfoil mapping
- Surface Mine survey
• Apache-Sitgreaves National Forest.
• Contracted with Ryka UAS.
• Matrix Turbo Ace E quadcopter.
• 2.5 hours of flight time.
Forest Health Protection/Forest Management

• Five complete flights. On sixth, aircraft controls were non-responsive and aircraft “fluttered and dropped”.
• 160 acres of 200 project acres covered.
• **Issues**- Weather delay, flight control incident.
• **Successes**- contracting process, high quality data.
RGB encoded point cloud
Aquatic Milfoil mapping

- Fish Lake National Forest in collaboration with Utah Department of Wildlife Resources and Utah State University.
- Sept. 15-16 and 27-28. Six successful flights. Entire flight line was flown 5 times.
- Issues - data capture, weather delays, shading.
- Successes - communication and spotting plans, launch & recovery.
Surface Mine Survey

- Mine sites flown on the Umatilla, Umpqua and Wallowa-Whitman using DOI pilots and DOI fleet (3DR Solo) quadcopters.
- About 2 hours flown
- **Issues** - Weather delays, administrative issues.
- **Successes** - 90 acres captured from three sites.
Wildland Fire

• North Fire
• Interagency Partner’s Efforts
• Fire Prevention Team
• IFUASS Efforts
North Fire

- The Cibola hosted a T&E mission on the North Fire in June.
- The Falcon fixed wing flew 2 mission for 56 minutes to capture data for processing.
- The 3DR Solo quadcopter flew 23 missions for 5.75 hours providing ground crews with real time situational awareness imagery.
North Fire

• **Successes**- real time data to the ground crews, interagency coordination.

• **Challenges**- lack of processes for qualifications and ordering along with no Operations Plan. Data processing was not timely for the fire mission.

• AAR Report available.
Interagency Efforts

- DOI collaboration with AirMap
  - Provides data from IRWIN
  - Data updates in AirMap’s pilot apps and DJI’s geofencing portion of their flight control app.
- FAA outreach to registration database
- DJI tweet
Fire Prevention team efforts

- June 23-July 6 in Southern Utah
- Joint effort by USFS, BLM and Utah DNR
  - UAS risks over wildland fires-safety and legal
  - High fire danger
  - Fireworks
- Leveraged hobby communities, partners, media, movie theaters, social media and billboards.
- Report available
IFUASS Efforts

- Incursion definition and protocols
- Risk Assessment
- Fire Operations Guide
- UAS Operator training and qualifications
Going Forward

• Continued T&E until interagency policy is in place
• Continue developing the Aviation Business case for acquisition
• Utilization of DOI partners
• Contract for UAS services
• Work towards ensuring we have adequate infrastructure for data management.
Questions?