

Aerial Survey Working Group Report January 20-21, 2010 Ogden, Utah

The annual Aerial Survey Working Group (ASWG) meeting was hosted by Kathleen Matthews in Ogden, Utah on the above dates. The group thanks Kathy for her work to provide an excellent facility for the meeting. This report is the responsibility of Jeff Mai, Forest Health Protection (FHP) National Aviation Safety Manager.

In attendance were:

1. Kevin Carlin Pennsylvania Department of Conservation and Natural Resources
2. Jim Compton FHP, Southern Region
3. Nicholas Lisuzzo FHP, Alaska Region
4. Zachary Heath FHP, Pacific Southwest Region
5. Brian Howell* FHP, Rocky Mountain Region
6. Dean Bitterman FAM, Bitterroot National Forest
7. Jeff Mai FHP, FHTET, WO
8. Kathleen Matthews FHP, Northern and Intermountain Region
9. J.D. Mullen FHP, FHTET, WO
10. Rusty Rhea FHP, Southern Region
11. Marc Roberts FHP, Southern Region
12. Daniel Ryerson FHP, Southwestern Region
13. George Saufley FHP, Northeastern Area
14. Doug Daoust* FHP, Pacific Northwest Region
15. Charlie Schrader RSAC, Bend, OR
16. Scott Sontag* FHP, Northern Region
17. Crystal Tischler FHP, Southwestern Region
18. Rod Whiteman FHP, Northeastern Area
19. Chad Nelson FHP, Intermountain Region
20. James Truitt FAM, Southern Region
21. Justin Backsen* FHP, Rocky Mountain Region
22. Jeff Moore FHP, Pacific Southwest Region
23. Ben Smith FHP, Pacific Northwest Region
24. Kyle Lombard New Hampshire Division of Forests and Lands

Note:

The ASWG thanks James Truitt, Regional Aviation Safety Manager in the Southern Region, for providing the 2009 National Aviation Accident Review and Safety Management Systems. The ASWG also thanks Dean Bitterman, Bitterroot National Forest Aviation Officer, for participating throughout the meeting and presenting Aerial Lightning Mapper/Google Live Link.

* R2 Unit Aviation Officer (UAO), R6 FHP Director and two Aerial Survey Specialists participated in all/or part of the meeting via conference telephone.

The ASWG Four Key Issues for 2010

1. Continued Development and Implementation of Safety Management Systems (SMS)

As described in last year's key issues, the Forest Service has become the leading federal agency working with FAA to implement SMS. The ASWG supports improved safety awareness and is working to more fully adopt SMS. A significant portion of the meeting was dedicated specifically to SMS and topics throughout the two-day agenda were related to the four SMS pillars: 1) Safety Risk Management, 2) Safety Policy, 3) Safety Assurance, and 4) Safety Promotion. A key issue for 2010 will be to develop SMS further within our agency and cooperative FHP aviation programs.

The FAA, USFS Fire and Aviation Management, FHP, Cooperators and aviation service providers can currently be described as being at varying stages of understanding or development of SMS. Policy and guidelines relating to SMS are being finalized, FHP is actively involved and a more clear and cohesive path to implementation is emerging. SMS is becoming our business model and we are beginning to see benefits now. It is an exciting time for aviation safety and we will come to know SMS as being responsible for some of the most significant aviation safety improvements of our time.

Some examples of agency progress to emphasize and implement SMS include:

- Addressing SMS elements within new Regional Aviation Safety Manager position descriptions.
- Including SMS within FSM 5700 and FSH 5709.16 revisions (currently draft and expected to move through directives this year).
- Drafting the new SMS Guide to fulfill FSM requirements, provide best practices for agency and service providers, and replace former Forest Service Aviation and Accident Prevention Plan.
- Drafting the new Accident Prevention Analysis Guide linking to Just, Reporting and Learning Cultures and Risk Management under Doctrine.
- Referencing SMS within the new Safety & Health Program Evaluation Criteria for 2010-2012.
- Drafting the new National Aviation Management Plan with a chapter dedicated to SMS.
- OIG study indicating airworthiness, safety management, quality assurance weaknesses.

We are making progress and working to apply SMS principles and management techniques within all FHP and cooperator aviation programs, some examples include:

- Emphasizing SMS within new charters for the ASWG and Aerial Application Safety Council (AASC).
- Assessing region, area and cooperator consistencies and deficiencies in terms of SMS.*
- Developing targeted, operations-specific aviation safety training that includes SMS.
- Utilizing FHP program risk assessments to ensure hazards are continually identified and mitigations implemented during aviation planning and contracting, job hazard analysis and operations; FHP assessments were also incorporated into the new Risk Management Workbook.

* The SMS assessment exercise completed during ASWG outlines consistencies and deficiencies in context of the "four pillars", will be analyzed further and summarized separately from this report, and utilized to focus safety management efforts for FHP over the coming months.

- Requiring fixed-wing managers to possess familiarity with SMS as part of the new FHP position task book.
- Developing a new Aerial Application Safety Assurance Review (AASAR) for agency and cooperator aviation programs.[†]

2. Quality Management and Safety Summary

FHP did not experience any aviation accidents during any of our 2009 agency and cooperator operations. Our goal is to strive for zero accidents and success is realized with proactive and coordinated efforts of all FHP and cooperator aviation users, aviation officers and management.

Accident rates for aerial survey operations are, on average, lower than agency and cooperator accident rates overall; however, FHP and cooperator aerial application accident rates are higher. See “Production and Safety Statistics” www.fs.fed.us/foresthhealth/aviation/safety/safety-statistics.shtml. FHP’s accident trend is declining compared to the agency overall, which has increased slightly during the last decade. We have made steady progress to control risk in operations during recent years. Key to our future success will be to more fully utilize program and operational risk management tools, improve training curriculum and assure all aviation users, managers and supervisors receive appropriate training. We will continue to utilize and improve upon risk assessments, enhance reporting and implement quality management for the benefit of the program overall and for functional areas with the greatest need.

Improvements will be realized by more fully utilizing the Safecom system with other enhanced reporting/information sharing methods, conducting site visits and quality assurance reviews, providing constructive feedback for increased safety awareness and accident prevention. A quality assurance review process will be developed for aerial survey programs during 2010. This audit will be modeled after that conducted for aerial application, currently scheduled for the state of Indiana in May.

3. Survey Hours, Automated Flight Following (AFF) and Digital Mapping

Approximately 4,184 hours were flown by FHP and state cooperators conducting aerial survey in 2009. In terms of hours flown, 2009 was our second largest year for aerial survey and for all operations combined. AFF was utilized 75% of the total survey flight time, a slight decrease from last year’s estimate. Use would be closer to 100% except that state cooperators in the Northeastern Area are not realizing the full benefit of this added safety measure. Every year more digital aerial sketchmapping (DASM) systems are being used by FHP and cooperators. Currently, DASM use is 86% of the total survey flight time, an increase from last year’s estimate. (These statistics are graphed by region/area and also available at the above website).

4. Aviation Safety Training

Training is once again a key issue. Policy required IAT training currency by January 31, 2010. We have made progress to better define training needs, clarify requirements, make training available at multiple venues and assure most of our personnel are current. However, periodic reviews indicate a need for improvement to accomplish and maintain our training goals. Training needs have been

[†] Risk assessments and accident rate analyses conducted by FHP indicate that agency and cooperator aerial application operations have the greatest potential to benefit and are, therefore, the priority for implementing the new AASAR.

identified for all aviation-related positions including Flight Managers, Aviation Managers and Supervisors.

FHP Directors, Unit Leaders, Field Representatives, Group and Zone Leaders are aware of the requirements remaining for first and second-level supervisors and our goal to comply prior to flight season. (See Jeff Mai's 2/5/10 email "FHP Supervisor training status & opportunities before flight season"). Four first-level supervisors still needed classroom training, most first and second-level supervisors needed on-line training. Second-level supervisors attending the Arlington training in 2007 will be provided the new "A-314 Aviation Program Overview for Agency Administrators" course prior to the 2011 flight season (schedule TBD). All other first and second-level supervisors will be contacted to schedule any classroom needs and on-line training must be current prior to the 2010 flight season.

Position requirements are provided within the FHP IAT Matrix and Supplemental Information documents available at www.fs.fed.us/foresthhealth/aviation/training.shtml. Supervisors have previously been informed of training opportunities prior to the 2010 flight season including:

1. Aviation Centered Education (ACE), April 12-16 in Fairbanks
2. Aerial Survey Aviation Safety & Management (AS2M), April 20-23 in Albuquerque
3. ACE, May 3-7 in Boise

Go to www.iat.gov to query for other available classroom training and take on-line courses.

Additional training sponsored by FHP includes Aerial Survey and Aerial Application for the National Forestry Commission of Mexico (CONAFOR) in May, Aerial Application for State and Federal Program Managers in August, Aerial Application for Project Personnel in November.

The ASWG encourages developing certified IAT instructors. There are opportunities to assist with FHP-sponsored training and other FS and DOI-sponsored training such as the East Coast Aviation Training (ECAT) held November, 2009 and the Rocky Mountain Aviation Training (RMAT) held March 2010. FHP and FAM instructors have been coordinating to provide interagency training including ECAT and RMAT, AS2M and others.

Additional Information

- A.** All four Key Issues identified from 2008 and included in the 2009 Report were addressed during 2009. Those partially addressed and needing further attention are again included for 2010.
- B.** The ASWG meeting is extremely important regarding national safety, quality, and technical issues. Three FHP UAOs did not participate in the meeting. Though it is understood scheduling conflicts arise, continued success and program improvement is compromised when key members are not present to contribute or interact for the benefit of ASWG and aviation users as a whole.
- C.** State budgets are down affecting training and travel. Some surveys normally conducted by state(s) were impacted by forced furlough days that were picked up by FHP (St. Paul Field Office). All must remain aware of the potential for declining budgets to affect safety, survey coverage and quality – adjust programs of work and provide assistance accordingly.

D. The ASWG continues to coordinate with FHM through this meeting and through participation at the annual FHM meeting. A review of FHM Aerial Survey & Disturbance Tracking Focus Group Resolutions from 2009 and the Focus Group abstract for 2010 was provided and discussed during ASWG. Forest health topics not well described nationally have been identified as part of the roll-up strategy to better query and summarize damage agents, groups of agents and decline phenomena. Region/area queries of the aerial survey data can be quite complex depending on geographic area, possible host/pest combinations and associated coding. A draft roll-up topics list, sample query results and maps were presented to ASWG.

Work is continuing and at the time of this report, the roll-up topics list is in final draft (v5). Data queries for each topic provided by each region/area have been through multiple reviews and are now being processed to generate the first draft roll-up. Tabular and spatial outputs incorporating 2009 survey data will receive at least one more review prior to reporting. This work represents a coordinated effort between the aerial survey community, GIS specialists, FHM and FHTET. Additional coordinated efforts for 2010 include updating national aerial survey standards including a QA/QC component, delivery and use of MODIS disturbance mapping products to help prioritize survey, and further development of interactive forest conditions web pages assimilating a variety of survey and pest data.

E. Pre-Season Survey Workshops are scheduled for the week of June 14th in Montana and in Oregon for Regions 1-6. These workshops include important topics relating to safety, pest/host recognition, mapping techniques and technology. They also include practical flight exercises, mapping critique, ground checks and provide an excellent example of a strong QA/QC program in terms of safety, quality and efficiency. One digital mapping system training session was held in Region 8 and two similar, on-the-ground sessions are planned in the Northeastern Area. For more information pertaining to standardization of methods, annual training and evaluation please see “A Guide to Conducting Aerial Sketchmapping Surveys” and “Aerial Survey Standards” at www.fs.fed.us/foresthealth/aviation/qualityassurance.shtml.

F. Kansas City Server and the new ‘O’ Drive – major issues are being experienced affecting product delivery in Region 6 (pilot implementation). FHP has been housed deep within the FS structure causing files to be lost, web and database links to be constantly broken as file structure changes. File names are becoming so long that they are causing corruption. Similarly, the proposed agency web structure including the national FHP aviation website buries our program and degrades the look, feel and access (after significant efforts were recently made to upgrade our website). These new structures present major problems for product delivery and support.

G. Annually at the ASWG meeting there is an agenda item for those who needing assistance conducting survey. The UAOs indicated aerial survey-related positions are to be fully staffed for the first time in years. A number of aerial observers in these positions require training. There were no specific requests for survey assistance; however, the ASWG supports opportunities to assist other regions during survey to help train or accomplish programmed work.

H. Status and information regarding new digital radios (Project 25) and digital emergency locator transmitters (ELT) was provided. Following the meeting, the FHP Aviation Safety Manager was contacted for input to the new National Light Fixed-Wing Contract Template regarding radios.

P25 background: As of January 1st, 2010 P25 digital FM radios are required for FS and DOI fire aircraft. Aircraft radio upgrade requirements precede infrastructure upgrades but P25 ground infrastructure is coming on line now. Currently, some DOI units are P25-only and analog radio flight following is not possible with DOI in certain areas. The FS is beginning to upgrade its repeater system to P25 and similar results are expected. The the timing of repeater upgrades is unknown. Most aircraft currently used by FHP is procured under the same contracts as fire and, therefore, complies with P25 specifications. Other FHP contracts are exclusive-use and already requiring P25 expect to after this field season. However, FHP in Region 10 and portions of the Northeastern Area wish to continue using alternatives to P25 including satellite phones in combination with AFF to provide for flight following. P25 repeaters are not likely to provide for radio communications within the remote areas that FHP flies in Alaska. This is not the case in the Lower 48, efficiencies gained and the margin of safety provided by moving resource aviation toward P25 compliance is expected to offset costs. Input to the National Template is to allow FHP to exclude the P25 requirement within Region 10 and exclude as needed elsewhere for the duration of this contract (January 1, 2013 term). This should allow ample time for the few FHP contracts and vendors operating analog to make the switch.

Digital ELTs: A briefing paper and risk assessment was completed comparing analog and digital ELTs and provided to the ASWG. Though there may be some improved function of digital ELTs in mountainous terrain and upgrades are encouraged as contracts are renewed, there is no FAA or FS requirement for digital ELTs.

I. The ASWG Charter was updated, provided to FHP Directors and renewed on January 27, 2010. www.fs.fed.us/foresthealth/aviation/resources/docs/ASWG_2010_Charter.pdf

J. The draft position task book for Fixed-Wing Manager Special-Use was reviewed, edited and finalized for printing (will be distributed soon).

K. The 2011 ASWG meeting will be hosted by Rusty Rhea in the Southern Region January 19-20, 2011 (location to be determined).

L. There was discussion about the possibility of changing the survey reporting deadline to November 15th. The current data submission deadline of December 15th is difficult for some staffs to accommodate. An earlier reporting deadline is not realistic given the time it takes to complete surveys safely within the biological window, conduct ground checks, compile, audit and finalize results reported to FHTET. Efforts to improve data quality, provide for consistency and meet national standards would be compromised.

M. Other topics covered in depth: real-time live link map updates in the cockpit, special surveys (need to maintain capability), ground check accomplishments, conditions trends and new pests, data uses and reporting (damage and flown/not flown data consistency), imagery and background maps, hardware/software and technical approval process. Information sharing and progress continues in all these areas.

Meeting notes are available and questions will be answered upon request - End of Report.