



Aerial Survey Working Group Report January 20-21, 2016 New Orleans, LA



The 2016 Aerial Survey Working Group (ASWG) meeting was hosted in the Southern Region. The group thanks Chris Steiner for his help in determining cost-effective location and enabling such excellent attendance by all the southern states. The meeting was very well attended nationally. This report is the responsibility of Jeff Mai, Forest Health Protection National Aviation Safety Manager and Aerial Detection Survey Program Manager (FHP NASM/ADSPM).

In attendance were:

1. Aleksandar Dozic Washington Department of Natural Resources
2. Allen Smith Texas Forest Service
3. Amanda Grady FHP, Southwestern Region
4. Ben Smith FHP, Pacific Northwest Region
5. *Beth Willhite FHP, Pacific Northwest Region
6. Bill Cutrer Louisiana Department of Forestry
7. Bill Frament FHP, Northeastern Area, DFO
8. Bill Monahan FHP, FHTET, WO
9. Brian Howell FHP, Rocky Mountain Region
10. *Brian Schwingle Minnesota Department of Natural Resources
11. Chad Nelson FHP, Intermountain Region
12. Chandler Barton Arkansas Forestry Commission
13. Chris Asaro FHM, Southern Region
14. Chris Barnes Georgia Forestry Commission
15. Chris Pearce Florida State Forestry Commission
16. Chris Steiner FHP, Southern Region
17. *Crystal Tischler FHP, Southwestern Region
18. Dana Stone Alabama Forestry Commission
19. Danny Norlander Oregon Department of Forestry
20. David Jenkins South Carolina Forestry Commission
21. *Don Ewing FHP, FHTET, WO
22. Emerson Melton Georgia Forestry Commission
23. *Frank Krist FHP, FHTET, WO
24. *Frank Sapio FHP, FHTET, WO
25. Gentry Carlson Minnesota Department of Natural Resources
26. *Jeanine Paschke FHTET, Cherokee Nation Technologies
27. Jeff Mai FHP, FHTET, WO
28. Jeff Moore FHP, Pacific Southwest Region
29. *Joel Parrington Minnesota Department of Natural Resources
30. Josh Skidmore Mississippi Forestry Commission
31. Kathleen Matthews FHP, Northern and Intermountain Regions
32. Kevin Carlin FHM, Puerto Rico

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| 33. Marc Roberts | FHP, Northeastern Area, SPFO |
| 34. *Mark Zwiefler | FHP, FHTET, WO |
| 35. Nathan Edberg | FHTET, Cherokee Nation Technologies |
| 36. Nathan Hoover | Tennessee Division of Forestry |
| 37. Richard Spriggs | FHP, Southern Region |
| 38. *Ryan Hanavan | FHP, Northeastern Area, Durham |
| 39. Roy Mask | FHP, Rocky Mountain Region |
| 40. Scott Lint | Michigan Department of Natural Resources |
| 41. Scott Sontag | FHP, Northern Region |
| 42. Shane Harrington | Texas Forest Service |
| 43. Stephanie Penske | Idaho Department of Lands |
| 44. Tom Heutte | FHP, Alaska Region |
| 45. Tom Zegler | New Mexico State Forestry |
| 46. *Val Cervenka | Minnesota Department of Natural Resources |
| 47. *Vern Thomas | FHTET, Cherokee Nation Technologies |

*attending virtually via Adobe Connect and conference line, several others dialed in but did not identify.

The ASWG Four Key Issues for 2016

1. Flight Hours, Automated Flight Following (AFF) and Digital Aerial Sketch Mapping (DASM)

Approximately 4008.2 flight hours were reported by FHP and state cooperators conducting aerial survey and remote sensing in 2015. The total hours break down as follows: 44% FHP, 41% State and 15% cooperatively flown (both FHP and State on board). AFF was utilized 62% of the total survey flight time, a 2% decrease from last year. AFF is used on all FHP missions. Several cooperators in the Northeastern Area and Region 8 are not realizing the full benefit of this added safety measure. Digital mapping systems were used 79% of the total survey flight time, a 10% decrease from what was reported last year. Digital Aerial Sketch Mapping (DASM) systems were primarily used but surveys in most regions included at least some carefully planned and controlled operational Beta2 testing of the new Digital Mobile Sketch Mapping (DMSM) in 2015.

In addition to aerial survey, FHP and States cooperated to fly 1033.1 hours aerial application. Total flight hours, all operations = 5041.3. Unmanned Aircraft Systems (UAS) and manned remote sensing flights are included in survey hours. Black Hills aerial photography, a cooperative project between SD and the BHNH, was not FHP-funded and is not included.

FHP and cooperators had no accidents, incidents or incidents with potential in 2015; we have had no aerial application accidents for the last 12 years or aerial survey accidents for the last five years. Using flight hours reported during the last decade, the calculated 10-year average accident rate is 3.65 accidents per 100,000 hours flown for all FHP and cooperator operations; this compares to Fire and Aviation Management's (FAM) 2015 Safety Summary 10-year average accident rate of 3.29 accidents per 100,000 hours flown for all USFS and cooperator operations. Flight hours were not completely reported in 2015 (an indicator of needed oversight and increased cohesion) and must be thoroughly tracked and reported by Unit Aviation Officers (UAO). FHP's actual accident rate would be slightly lower for 2015 and the 10-year average if all hours were reported. Additional National and Regional/Area statistical information is available at www.fs.fed.us/foresthealth/aviation/safety/safety-statistics.shtml. Strategic planning, leadership support and implementing Safety Management Systems (SMS) are essential to further accident rate reduction. Our goal is to strive for zero accidents.

2. Strategic Planning and Alignment Across Regions/Area/States

Charters for both the Aerial Survey Working Group (ASWG) and Aerial Application Safety Council (AASC) remain unsigned. Numerous attempts have been made by the FHP NASM/ADSPM and ASWG Liaison to renew charters for both groups over the last two years. The FHP NASM/ADSPM provided a briefing paper for the October 2014 Directors Meeting reminding leadership that both charters were coming up for renewal. The AASC met in November of 2014, revised their charter, and provided it to the FHP Director in December 2014. The Director requested substantial edits which were made and rerouted to the AASC, reviewed by the group and resubmitted for Director approval. The revised AASC charter was returned with more edits and questions from the Director in February 2015. The ASWG discussed its charter updates in January 2015, tasked a committee to complete the final draft provided to the FHP Director in February 2015. WO FHP provided edits back to the committee which were made final through the ASWG and resubmitted to the FHP Director. The last version had all Directors signature blocks returned to the document per communication with ASWG Liaison in May 2015. Attempts continued up through December 2015 by the ASWG Liaison to re-charter prior to the 2016 ASWG meeting. In March 2016, the FHP Director stated the charter was in

review at the Associate Deputy Chief level and would sign if not hearing back within a week. *These documents and the cohesion they provide are absolutely critical to the form, function and safety of all FHP and cooperator aviation programs, the FHP NASM/ADSPM appeals to Regional/Area and National Leadership to engage and renew the AASC and ASWG charters now.*

Further, the FHP Strategic Plan 2003-2007 is significantly outdated, does not contain adequate safety emphasis and does not provide the framework necessary for effective aviation safety and program management. The Strategic Plan must be updated to align partners, leadership and employees with the FHP mission and clearly identify roles and responsibilities for the purposes of program oversight, change management and moving beyond controversial decisions. The need for strategic planning, charters, quality and change management protocol have been documented in numerous briefing papers and ASWG Reports for several years. A few recent examples include:

- ASWG 2011: following the meeting, the Aerial Detection Survey Quality Assurance Review Template was drafted and circulated for review to FHP UAOs, Area Aviation Officer, ASWG Liaison to FHP Directors, and the Director of FHTET. A briefing paper regarding the proposal was also provided to the WO FHP Director without action. *(Rigorous quality assurance is not supported).*
- ASWG 2013: the Report states “It is difficult at best, practically impossible to reorganize for safety and efficiency without a commitment from leadership to adhere to a productive process of change management that empowers assigned subject matter experts to evaluate and recommend opportunities for improvement and yet remain sensitive to existing protocols and hierarchy. Quality assurance and a commitment of time and resources are necessary for basic mission accomplishment and critical to facilitate improvements. Mixed agendas without sideboards and decision points are proven stumbling blocks that have been cause for great frustration and cost.” *(There is no unified national stance on proposed standards changes and responsibilities for critical decisions are not defined).*
- ASWG 2014: the Report states “FHP strives to systematically engage leadership, unit-level users and partners through a variety of venues, and through each of the SMS components; thereby, “strategically” building a more effective, cohesive and increasingly safe organization. However, FHP does not have a strategic plan...” “Absent well-defined mission, goals and strategies for performance FHP is currently challenged but, nevertheless, engaged in strategic developments to better meet FHP and cooperator information and safety needs.” *(We are doing the best we can but our best under these conditions is not attainable).*

Issues connected to the need for Regional/Area and FHP Director alignment on quality and standardization have been referenced in multiple ASWG Reports dating back to 2011 and earlier. The ASWG supports needed strategic and systematic change and at the 2014 meeting the ASWG Liaison specifically stated the need for “director alignment”. A lack of support among leadership and guidance in moving through our most difficult issues is contributing to systematic failures and frustration among aviation users. A briefing paper for our new FHP Director was requested in 2014, provided by the FHP NASM/ADSPM but the WO redacted 95% of the content intended to inform regarding important aviation-related accomplishments, activities and challenges. Internal issues have culminated to the point of impacting the FHP NASM/ADSPM’s ability to provide critical oversight and representation for WO/Regional/Area and State Cooperator specialists and program managers conducting aviation operations. The situation has been raised repeatedly during external meetings among peers and during internal meetings at FHTET without action. We must restructure now for

safety and quality management while allowing FHTET to continue to provide valuable technological support to stakeholders and fulfill its primary function to report and compile national summaries. *It is recommended that the program management and safety duties of the FHP NASM/ADSPM position be divided into two positions, located outside of FHTET, answering directly to the FHP Director.*

3. Digital Mobile Sketch Mapping (DMSM)

Operational testing of Beta2 software was accomplished by several regions and states in 2015 and out-briefed during ASWG. Many thanks to EVERYONE involved in the development of the much-needed, new system. DMSM improvements over DASM include standardized coding to reduce error and provide for data consistency, synchronization of data to a central service for viewing, editing and reporting, and moving away from notebook computers to a simpler, more cost-effective and portable tablet. Though there have been challenges throughout development and we are still building functionality while attempting to address standards-related disagreements, the system is determined to be operational and DMSM v7 deployed in 2016. The implementation is tightly controlled to provide geographic separation of DMSM and DASM-collected data and coverage during the transition period.

Issues were painstakingly documented throughout operational testing over the 2015 field season with time, budget and continued disagreement regarding new methodology being limiting factors on what issues would be addressed in subsequent DMSM versions. Feedback from the field has been frequent and constructive. FHTET and the FHP NASM/ADSPM have been engaged in issue prioritization providing oversight through software development as much as possible. Organized training, one-on-one assistance and workaround instructions are constant and the field is supported but providing that support contributes significantly to workloads internally and externally. DMSM helpdesk and points of contact are established and generally effective

http://www.fs.fed.us/foresthealth/technology/detection_surveys.shtml; however, the sheer number of features, bugs and standards-related changes imbedded within the software to be tracked is astounding. Many are pleased with DMSM performance, the percent classification methodology, have little trouble with the interface and workflow; others are unable to sync and utilize their draft data as they can with DASM, user interface requests remain to be settled (both in terms of standards-related methods and efficiently streamlining data capture).

- Regions 1, 4, 5, 6 and several states voiced concerns over the methods that would be allowed within DMSM and formed a subcommittee out of ASWG to draft a position paper regarding the percent classification versus number-of-trees/tress per acre estimation methods and other software functionality. This paper was met with tremendous resistance within FHTET. It was drafted and reviewed by the ASWG in February, rejected at FHTET, edited and rejected again. At the time of this report, a third version has been edited and reviewed by the subcommittee and resubmitted to the ASWG Liaison. Some requested functionality is now planned for subsequent DMSM versions but trepidations remain regarding the switch from “trees affected” to “percent of treed area affected”, availability of data to FHP and partners. Essentially, regions and states with well-developed survey programs and skill sets would like the software to accommodate both intensity methods and contend that tree numbers can be processed into the percent classes, a reverse of the method promoted by FHTET. FHTET demonstrated how TPA/NO_TREES could be generated from percent classes using inventory data during ASWG but concerns remain among membership that this does not meet established business needs for quality and timeliness, and question FHTET’s authority to determine and dictate methods. Additionally, data synchronization issues and back-end data access/editing workflows are not

agreed nor fully functional, impeding the field's ability to utilize data immediately, necessitating additional handling and coordination by all. Desktop editing tools are in development and currently being trained and reviewed. A methods document was drafted and delivered at the Sandpoint Fly-In, reviewed to the degree possible during active flight season, and at the time of this report is not final. Samsung 12.2" tablets have now been discontinued, the field was notified immediately and sources for remaining hardware (new and reconditioned) identified. All available DMSM tablets have been distributed by FHTET, except to those field units that do not fully embrace methods changes proposed out of FHTET. This distribution is selective and punitive, forcing states and regions to acquire and configure used tablets to (in good faith) accommodate implementation and further development. The methods problem remains unresolved and, along with other standards-related functionality, the process to controversial decisions and authority for those decisions must be determined among Directors. *Reference the Aerial Survey Standards and Implementation position paper dated July 20, 2016.*

Current ADS Standards are documented in Aerial Survey Standards, October 1999 http://www.fs.fed.us/foresthealth/technology/pdfs/standards_1099.pdf while a variety of methods are currently deployed in an ad hoc manner and, in spite of heroic efforts by many, we do not yet have a revised standards document accepted by FHP and its stakeholders. The history of difficulty in resolving issues at the lowest possible level and by FHTET, absent consensus and direction from leadership at critical points, continues to command excessive amounts of time and cause unnecessary frustration (significantly impacting other core program functions):

- The Survey Standards Team was established in 2010 to determine business needs and subsequent standards changes to best meet those needs. The group was micromanaged to the point of failure, group chairs changed, and the charter lapsed in 2012. A new Survey Requirements Team was established in 2013. Also micromanaged and lacking decision-making power, this group did have *some* success in revising reporting timelines and producing a draft Survey Coverage Map addressing the variety of data capture methods and coverage frequency. The survey classes mapped and area covered, identifying classes considered "core" and repeatable to enhance reporting consistency, was presented to FHP Directors in an April 2013 Briefing Paper specifically recommending that an FHP Director decision be distributed via formal correspondence. It was not. *The final Survey Requirements Team Briefing Paper was provided to the FHP Directors in October of 2014 and to date, no decisions have been made regarding classes and coverage.*
- Key to FHP survey mission production and safety is agreement upon how, where and when surveys will be conducted. A revised FHP Strategic Plan that reinforces our mission, business needs, methods, roles and responsibilities is critically needed for the purposes of safety and program management. As a consequence of not being able to implement a rigorous QA program for aerial survey since 2008, and continued lack of leadership, procedures around a half dozen methods in use have grown increasingly varied. FHP struggles, operating outside of the current standards and lacking unified procedures.
- The DMSM project strives to improve data collection and increase tablet performance and is successful/implementable on many accounts but, as can be expected during any development project to some degree, DMSM has struggled with performance under certain circumstances and for some operations ignoring user requirements and repeated requests for functionality where the software can be made compatible for our broader field needs. Consequently, as has

been voiced during the 2016 ASWG and the Sandpoint Fly-In, subject matter experts and users are constrained to the abilities of the software which is favorable to some and not others. DMSM's development construct and user interface forces surveyors to work within the confines of the software, effectively presented as a "mandate" from FHTET, rather than providing for user flexibility as requested through a process that enables surveyors to perform to the best of their abilities addressing both local and national needs.

The development process attempts at times but is often less than objective, resulting features and functions support the needs of many but fall short of providing the comprehensive package we are capable and obligated to provide. FHTET's mission focus is on reporting, software development and application support but the FHP NASM/ADSPM and Regional/Area/State stakeholders also have obligations for managing other status quo duties, ensuring program accomplishments, with collateral responsibilities to an extremely complex aviation program that suffers as a result of the workload created by DMSM. *Directors must be engaged to develop change management and decision protocol around this project, please reference previous ASWG Reports available on-line at <http://www.fs.fed.us/foresthealth/aviation/aerialsurvey.shtml>.*

4. Safety Management Systems (SMS)

SMS is a comprehensive system of safety and business management to minimize aviation risk, extremely effective when engaged and supported. The Agency can be considered in a growth period regarding continued development and implementation, we have received GSA's Gold Standard for our SMS but are still working toward certification through International Standard for Business Aviation Operations (IS-BAO) SMS Audits. As discussed during ASWG, FHP has room for improvement including development of an Aviation Safety Assessment Tool that quantifies our safety performance and enables managers to easily identify what is working well and what is not. The FHP NASM/ADSPM was tasked with development but has not had sufficient time and support to accomplish relative to other duties. Other shortcomings and accomplishments are highlighted within each of the four components of our Agency SMS Policy

http://www.fs.fed.us/foresthealth/aviation/resources/docs/FS_SMS_Guide_2014.pdf:

A. Policy – The Forest Service is committed to developing, implementing and continuously improving the aviation operation. Our number one job is to protect our most valuable resource—our employees. Unless we do that, we cannot be a world-class leader in natural resource management. Every line officer, manager, supervisor, and employee has the responsibility to manage risk exposure. That means identifying and abating hazards, refusing to accept unnecessary risk, and making risk-related decisions at the appropriate level.

- SMS Guide revisions have been made through the National Aviation Safety Council (NASC) and the 2016 SMS Guide should be final mid-summer.
- The FS Accident Investigation Guide 2016 has been finalized and distributed, clarifies mishaps and investigation process, intent is for FAM Accident Investigators to retain the appropriate span of control as a party to the investigation (when aircraft are involved, Coordinated Response Protocol is part of the investigation and learning process, as opposed to driving it).

- The complete overhaul of FSM/FSH Aviation Policy is still in process, numerous changes are included affecting plan approvals, documenting operational risk management, performance requirements, and FHP aviation positions. The FHP NASM/ADSPM has been engaged over the last two years but continues to struggle with keeping our responsibilities in policy - critical in the context of our SMS and program oversight. This will be a continuing topic through the rewrite and during the Fall NASC/RAO Joint Council Meeting. *Support for our positions in policy and for the duties performed continues to be requested of FHP Leadership.*

B. Risk Management – *Risk is an expression of the impact of an undesired event in terms of event severity and event likelihood. Throughout the risk management process, hazards are identified, risks analyzed, assessed, prioritized, and results documented for decision-making. The continuous loop process provides for validation of decisions and evaluation for desired results and/or the need for further action. The goal is risk management is not eliminate all risk, but to manage those risks that cannot be eliminated so the mission can be accomplished with minimum negative impact. Risk management is a robust component of the Agency’s SMS and shall occur throughout Agency aviation operations.*

- Risk Assessments for Aerial Application and for Aerial Detection Survey were updated in 2015, the ASWG tasked updates to the Remote Sensing Risk Assessment for 2016 (need to schedule and complete). QA efforts are a critical part of the system safety process and provide feedback to these RAs by capturing new hazards and mitigations or modifying existing <http://www.fs.fed.us/foresthealth/aviation/safety/safety-riskmgmt.shtml>.
- Consistent with the principles of risk management and our commitment to improve FHP’s safety profile, alternative technology including Unmanned Aircraft Systems (UAS), satellite-based operational remote sensing, manned airborne remote sensing, and use of turbine aircraft are all being explored by FHP. Alternative methods are not currently in production nor replacing conventional ADS but costs/benefits of each are being developed to provide leadership and aviation managers with the information necessary to make better strategic risk decisions (reference 2015 ASWG Report, Additional Information, item ‘C’).
- Continue to implement DMSM while giving the necessary time to safely plan and conduct surveys; requires advance familiarization with software functionality, methods, and post-survey workflow (numerous training sessions have been and will continue to be provided by FHTET). Additional time may be necessary to brief pilots/crew, to make adjustments during survey operations, provide for post-flight data synchronization and editing. Manage workloads and duty time.
- The FS is transitioning to a turbine fleet (FS Aviation Strategic Plan 2014-2018). Consistent with that plan and as determined through risk management efforts, FHP has identified relatively higher risk flight environments providing justification and mission profile definitions to the national replacement effort (reference the 2014 ASWG Report). The effort stalled but is regaining traction in 2016 and remains multi-mission in its objective. In the meantime, Region 2 and Region 6 have entered the second season of Interagency Agreements (IAA) with F&WS utilizing two of their Quest

Kodiak aircraft, these aircraft are performing exceptionally well to increase performance and reduce risk (STOL equipped, more power and increased reliability). These IAAs include very reasonable flight rates but are temporary. It is recommended that FHP Leadership consider budget adjustments in 2017 and beyond to accommodate supplemental funding for aircraft acquisition/pilot salary/sensor purchase and fixed operating rates.

Through the efforts of the excellent field staff and cooperators, risks are identified and hazards mitigated while accomplishing core survey coverage but, given the level of effort to manage changes in survey methodology and other administrative processes, accident prevention efforts and emphasis on SMS accomplishments are not given deserved attention. We are losing ground on earlier SMS accomplishments and unable to stay in front of important technological and safety improvements.

C. Assurance - *Safety management requires feedback on safety performance to perpetuate the safety management cycle. Through monitoring and feedback, SMS performance can be evaluated and any necessary changes to the system effected. In addition, safety assurance provides employees an indication of the level of safety performance affected by the safety management system.*

- The ASWG reviewed sample IS-BAO Audit questions and discussed the importance of reviews; FHP would benefit by hosting an internal Stage I IS-BAO Audit (as scheduled for Region 9 in 2016). The Aviation Strategic Plan scheduled FHP for a Program Review in 2015 but neither the audit nor review have been programmed yet. The draft Management Review and Quality Assurance Guide has not been finalized; however, the National Aviation Safety and Management Plan does provide guidance and emphasis on assurance.
- Regional/Area and State preseason workshops and meetings and postseason After Action Reviews (AARs) are becoming more regular but formats and content vary and need to be consistently implemented nationwide. Reference FHP Supervisor Preseason Checklist provided during A-314 training sessions beginning in 2015. Assurance remains our biggest opportunity for safety and management improvement and support from leadership is needed for success.
- The FHP NASM/ADSPM did not conduct any functional assistance trips or safety reviews in 2015, nor attended any preseason workshops or postseason AARs in 2015; although did attend the 2015 Region 10 ADS AAR via conference call. Some of the noteworthy actions out of that call included Automated Flight Following (AFF) troubleshooting and resolution, reinforcing requirements for Day Trip Authorizations for non-federal crew, and clarifying survey findings for year-end reporting.
- The last aerial application project the FHP NASM/ADSPM attended was in 2013. After tremendous effort, including a request letter from the Chair of the AASC, the trip was approved for the 2016 Pennsylvania Department of Conservation and Natural Resources aerial application Safety Assurance Review (SAR). The SAR was developed by the FHP NASM/ADSPM working through the AASC in 2010, and involves a rotating panel of state and federal spray program managers. The AASC SAR has successfully evaluated six state and federal programs since 2010. A similar review processes for ADS has been proposed and briefed to leadership repeatedly

without success; reference previous ASWG Reports, QA Brief to the Directors in April 2011, Briefing Paper for our new FHP Director in May 2014. The 2014 Brief was provided in accordance with the requested format and length but program accomplishments and issues/needs were unilaterally removed (including the need for “robust quality and safety assurance throughout FHP mission areas”). The last survey missions attended by the FHP NASM/ADSPM were in 2014 in Region 2 (local, no travel costs) and in Region 3 (travel funded by Region 3), both supported by FHTET to conduct DMSM prebeta testing. The FHP NASM/ADSPM has never been nationally funded for ADS assurance or functional assistance trips since hired into the position in 2007. Region 1 FHP proactively requested a QA Review of light fixed wing contract services due to local concerns in 2015, which was accommodated by FAM. Findings and recommendations from the Region 1 RASM include 1) Create an FHP specific QA audit checklist, 2) Contract administration training for Inspectors, 3) FHP Crew Resource Management training, 4) Create an FHP day of risk assessment of Green Amber Red (GAR). National funding and emphasis upon assurance needs to continue for aerial application and be expanded to include aerial survey, the revised FHP Strategic Plan must address these needs.

- Use of SAFECOM <https://www.safecom.gov/> as a reporting system fulfills both the assurance and promotion roles in accident prevention, lessons learned and safety communication. UAOs were provided with database query results and the ASWG reviewed seven 2015 FHP SAFECOMs. Categories included mishap prevention “kudos”, airspace conflicts, communications and maintenance issues. As SAFECOMs are submitted, the FHP NASM/ADSPM and Area Aviation Officer or Regional Aviation Safety Manager are notified by email which precipitates follow-on communications with the UAO and others as needed to address any issue(s) and finalize the SAFECOM. A mobile web application is available for convenience <https://www.safecom.gov/mobile/#/>. The open communication fostered by this system regarding safety of flight through the ranks is invaluable and frequently SAFECOMs help generate Safety Alerts and a variety of bulletins http://www.fs.fed.us/fire/av_safety/promotion/index.html. FHP and cooperator use of the system needs improvement.

D. Promotion – *The safety efforts cannot succeed by mandate or strictly through implementation of policies. Safety promotion sets the tone and enhances the organization’s policies, procedures and processes, providing a sense of purpose and direction. Aviation Managers must make every effort to communicate objectives, as well as the current status of SMS activities and significant events. Likewise, we must strive to create and maintain a channel of upward communication in an environment of openness.*

- A primary function of the ASWG and the AASC is safety promotion throughout all FHP and cooperator aviation operations but charters for these groups remain unsigned and, consequently, we are losing our safety emphasis in all FHP aviation mission areas. Absent leadership support and acknowledgement, our membership nevertheless remains committed to the responsibilities and services provided by those charters <http://www.fs.fed.us/foresthealth/aviation/aviationprogram.shtml>.
- FHP proudly announced Don Eggen, Forest Health Manager with PADCNR, as the recipient of the 2015 FHP Aviation Safety Award. Don has been a leader affecting

positive change in forest health monitoring, management and aviation safety for over three decades. He was a principal advocate in establishing and chairing the Aerial Application Safety Council, is regularly engaged with the Forest Health Monitoring and Aerial Survey Working Groups and frequently orchestrates key meetings and training for state a federal personnel. Don routinely emerges as a positive and well-respected expert, going far beyond the duties of his position and settling for nothing less than excellence in forest health and aviation safety. His efforts have significantly influenced and measurably contributed toward an exceptional safety record not only for his state personnel, but for FHP and partner organizations nationally. The award was made during the 2015 Gypsy Moth Program Managers meeting by Bob Rabaglia, FHP WO Entomologist <http://www.fs.fed.us/foresthealth/aviation/news.shtml>. Congratulations and thank you Don!

- Training accomplishments in 2015 include Aerial Survey Aviation Safety and Management (AS2M) provided in Lakewood CO and attended by approximately 25 state and federal aviation users. The ASWG recommends AS2M for all state and FHP aerial observers and flight managers on a three-year recurrence. Aviation Program Overview for Agency Administrators (A-314) was provided to FHP first and second-level supervisors through two webinars in 2015. Following a request made to the AASC at the 2015 Annual Gypsy Moth Review, pre-operations safety and spray efficacy training sessions were scheduled for ODA/WADNR spray program managers and project personnel. In addition to classroom training, on-line requirements for all positions with aviation responsibilities are found at <http://www.fs.fed.us/foresthealth/aviation/training.shtml>. Meetings management for AS2M 2016 was initiated in a timely manner and monitored frequently, nevertheless, at the last minute it was not approved. After the location was changed for the training twice, the decision memo approving the training was signed February 18, 2016 (one month before the training). The hotel contract was signed the next day, registration set up on the IAT website and revised agenda sent to the field immediately, which was not in time for many of our state participants to get their travel approved (estimate 10 state employees did not attend as a consequence). Further, national funding for AS2M instructor travel and development, programmed early fiscal, was denied also at the last minute. Upon request by the FHP NASM/ADSPM, Directors from two of the three regions agreed to fund their instructor's travel, the third instructor was unable to attend. *Quality of instruction, mentoring/development and attendance were significantly impacted, FHP needs to increase national support for critical training.*
- The IAT Guide will be updated in 2016 and FHP's requirements will be updated accordingly. The ASWG has tasked a subcommittee to revise our 2010 FWFMSU Task Book. In 2015, five Task Books were signed off for state and federal FHP flight managers. Advanced aviation safety training continues to be made available each Fall, Winter and Spring quarter through Treasure Valley Community College (TVCC). TVCC scholarships are available for federal employees but all are welcome to attend this training. Contact your RASM/AAO and the FHP NASM/ADSPM if interested.
- The IAT Steering Committee has been diligently working to make AT.2.0 <https://www.iat.gov/> more user-friendly and powerful, the two don't necessarily complement each other and development continues. Unit Aviation Training Administrator access has been provided to all FHP UAOs for the purpose of

monitoring training compliance and generating reports (as one of the new functions in AT2.0). Instructions have been provided to all FHP and, presumably, all cooperators for how to update their profiles to the appropriate unit. Direct any questions on profile set up, use of the website to your FHP UAO or the FHP NASM/ADSPM. Technical difficulties will continue to be addressed through the IAT Help Desk.

Additional Information

- A.** The national multi-mission aircraft replacement effort stalled due to other FAM priorities but is expected to be revived later in the year. R6 and R2 have entered Interagency Agreements with USFWS for use of their Quest Kodiak turbine aircraft. These agreements were highly successful in 2015, are consistent with needs demonstrated through risk assessment and mission profile definitions completed by FHP and the USFS Aviation Strategic Plan, and will continue into 2016.
- B.** Aircraft availability, staffing, advancing technology and the use of high performance aircraft remain high priority. It is strongly recommended that leadership consider turbine aircraft acquisition along with DMSM, ORS and UAS in outyear budget planning to accommodate technological and safety improvements considering the suite of tools presented for a more comprehensive and increasingly safe survey strategy.
- C.** Under the guidance of the UASAG, FHP and Forest Management are coordinating with R3 and FAM to implement the Agency's first UAS contract in 2016. This is a beta project with primary purpose to inform Agency policy and procedures development; secondarily, FHP and FM will begin to gather platform, sensor, production and utility information for cost/benefit analyses. The UAS mission request process, policy and procedures around Agency UAS remain under development through the UASAG under the direction of the Executive Steering Committee. Notify the FHP NASM/ADSPM prior to considering any UAS activities. Reference the 2016 Chief's Letter https://ems-portal.usda.gov/sites/fs-wo-csa1/Mercury/_layouts/15/DocIdRedir.aspx?ID=CV22QSYQPP7S-2-287834.
- D.** The Northeastern Area, Durham Field Office partnered with NASA to deploy and test the G-LiHT sensor for EAB, SPB and other damage. The project has collected LiDAR, VNIR and thermal image data in 2014 and 2015. Additional flights are planned for 2016. Continued feedback to the ASWG and FHTET regarding the results of this work is necessary for our overall strategy.
- E.** There is a continuing need for qualified IAT Instructors to assist with a variety of FAM, FHP and externally-sponsored training. This is a great opportunity for state and federal employee development and sharing resource aviation expertise; personnel are encouraged to take advantage and assist with training events currently being planned for aerial application and aerial survey programs.
- F.** The R6 portal has been taken down <http://www.fs.fed.us/r6/fire/aviation/airspace/web/>; digital aeronautical sectionals, TFRs, vertical obstructions, APIB charts, etc. will need to be downloaded from a variety of sources including FAA, DINS, and USFS. NIFC has a new service called the NESS Application Portal or "NAP", FS employees may request accounts

<https://nap.nwgc.gov/NAP/>. Also, controlled/restricted airspace layers are available through Google Earth <http://www.soaringdata.info/aviation/airspaceTab.html>; convert to a GDB in ArcMap and clip to your project area, shows all controlled and restricted airspace for use in TPK or shapefile generation. For viewing DMSM survey data, utilize these platforms [Google Earth](#) [ArcGIS.com Map](#) [ArcMap](#).

- G.** Automated Flight Following (AFF) <https://www.aff.gov/> is due for overhaul, contract for support extended; NASC should release a technical or information bulletin soon regarding current system status, acceptable and preferred equipment, future development. Flight history remains unsupported but is a known requirement.
- H.** The ASWG recommends pinch-hitter training for flight managers on a two-year cycle and currency for all aviation positions, including Fixed Wing Flight Manager-Special Use, per the FHP Matrix www.fs.fed.us/foresthealth/aviation/resources/docs/FHP_IAT_Matrix_2014.pdf; Position Task Books for Fixed-Wing Flight Manager Special-Use and Helicopter Manager – Resource are available at www.fs.fed.us/foresthealth/aviation/training.shtml. On-line, classroom and webinar training is available through www.iat.gov. FHP’s training and workshop announcements will be posted on www.fs.fed.us/foresthealth/aviation/news.shtml.
- I.** Pre/post-season workshops and reviews are vital to improving safety and quality. Calibration flights coupled with ground checks are recommended annually. Notify Jeff Mai if you plan any pre or postseason workshops and training www.fs.fed.us/foresthealth/aviation/training.shtml#workshops.
- J.** Assistance across Region/Area boundaries is encouraged for employee development, teamwork and achieving FHP mission goals. There are opportunities to assist with the drought response in California. Aircraft are being shared to the Northeastern Area Durham Field Office for remote sensing and to the Southwestern Region for aerial survey. Contact individual UAOs for more information and to request or share aircraft and personnel.
- K.** Regional and Area UAO contacts <http://www.fs.fed.us/foresthealth/aviation/regionalaviation.shtml>
- L.** The 2017 ASWG meeting will be held January 18th – 19th hosted in the Intermountain Region or Pacific Southwest Region (TBD).

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