

Aerial Survey Working Group Report

January 22-23, 2014 **Mountain View, California**

The Aerial Survey Working Group (ASWG) meeting was hosted in the Pacific Southwest Region, coordinated by Zachary Heath. The group thanks Zack for his work to help secure a cost-effective location at NASA Ames Research Center and NASA for their participation, partnership and the excellent lodging/meeting venue. We also thank Stan Kubota, Regional Fixed-Wing Operations Specialist, for his contributions throughout the meeting and for providing the 2013 USFS Aviation Mishap Review. This report is the responsibility of Jeff Mai, Forest Health Protection (FHP) National Aviation Safety Manager (NASM).

In attendance were:

1. *Amanda Grady FHP, Southwestern Region
2. Amy Jirka UC Davis/FHP, Pacific Southwest Region
3. Ben Smith FHP, Pacific Northwest Region
4. Bill Frament FHP, Northeastern Area, Durham Field Office
5. Brian Howell FHP, Rocky Mountain Region
6. Crystal Tischler FHP, Southwestern Region
7. Charlie Schrader RSAC, Bend, Oregon
8. *Coreen Francis BLM, Nevada
9. Cynthia Schmidt NASA, Ames Research Center
10. *Danny Norlander New Mexico State Forestry
11. *Doug Daoust FHP, Pacific Northwest Region
12. Edwin Sheffner NASA, Ames Research Center
13. *Everette Hinkley NFS, RSAC, WO
14. Frank Sapio FHP, FHTET, WO
15. Jason Moan Alaska Division of Forestry
16. Jeff Mai FHP, FHTET, WO
17. Jeff Moore FHP, Pacific Southwest Region
18. Jennifer Dungan NASA, Ames Research Center
19. Jim Schriever Mason Bruce & Girard
20. Kathleen Matthews FHP, Northern and Intermountain Regions
21. Kerry Halligan Mason Bruce & Girard
22. Kevin Carlin Pennsylvania Department of Conservation and Natural Resources
23. Marc Roberts FHP, Northeastern Area
24. *Mark Zwiefler FHP, FHTET, WO
25. Matthew Fladeland NASA, Ames Research Center
26. Rob Flowers Oregon Department of Forestry
27. Roger Mech Michigan Department of Natural Resources
28. Rusty Rhea FHP, Southern Region
29. *Ryan Hanavan FHP, Northeastern Area, Durham Field Office
30. Stan Kubota FAM, Pacific Southwest Region
31. Tom Heutte FHP, Alaska Region
32. *Vern Thomas FHP, FHTET, WO
33. Vince Ambrosia NASA, Ames Research Center
34. Zachary Heath FHP, Pacific Southwest Region

*attending virtually via LiveMeeting and conference call, several others dialed in but did not identify.

The ASWG Three Key Issues for 2014

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

Approximately 4,201.8 flight hours were reported by FHP and state cooperators conducting aerial survey in 2013. The total aerial survey hours break down as follows: 49% FHP, 42% State and 9% cooperatively flown (both FHP and State on board). AFF was utilized 67% of the total survey flight time, a 6% decrease from last year. AFF is used on all FHP missions. Several cooperators in the Northeastern Area and Region 8 do not appear to be realizing the full benefit of this added safety measure. DASM systems were used 92% of the total survey flight time, a 7% increase from last year. (note: proportions of both AFF and DASM use are often skewed due inconsistent reporting).

In addition to aerial survey, FHP and States cooperated to fly 962.3 hours aerial application. Total flight hours, all operations = 5164.1. Black Hills aerial photography, a cooperative project between SD and the BHNF, is not included; HI aerial detection survey is not included. Neither of these projects were FHP-funded but we did receive forest health data from them.

FHP and cooperators had no accidents, incidents or incidents with potential in 2013, we have had no aerial application accidents for the last 10 years or aerial survey accidents for the last three years (note status of 2010 accident investigation described in Key Issue 2). Using flight hours reported during the last decade, the calculated 10-year average accident rate is 3.56 accidents per 100,000 hours flown for all FHP and cooperator operations; this compares to Fire and Aviation Management's (FAM) 2013 Safety Summary 10-year average accident rate of 3.87 accidents per 100,000 hours flown for all USFS and cooperator operations. Additional National and Regional/Area statistical information is available at www.fs.fed.us/foresthealth/aviation/safety/safety-statistics.shtml.

2. Status and Performance under Safety Management Systems (SMS)

James Hubbard, Deputy Chief of S&PF, approved the Aviation Safety Management Systems (ASMS) guide June 20th, 2011. His letter cites: compliance with Federal Management Regulations for aircraft, the Federal Aviation Administration's established principles for SMS, industry standards and best practices, and makes reference to our Agency's Safety Journey. On January 17th, 2012 the General Services Administration and Interagency Committee for Aviation Policy (ICAP) awarded the FS with the Gold Standard Certificate for meeting aviation safety requirements. FHP was actively involved with Fire and Aviation Management (FAM) in the development of SMS and remains actively involved in associated performance improvements for the Agency, within FHP and to the extent applicable, for the benefit of partner organizations. We continue to recognize and address opportunities for systematic and strategic change throughout FHP, the following highlights accomplishments and needs for additional effort in the context of SMS:

- a) Policy – The new, 2014 SMS Guide is final draft and will be released imminently. The 2014 National Aviation Safety and Management Plan was approved and made available in January, FHP Regional/Area plans are to append to and tier from this document. Project Aviation Safety Plans are required and FHP units are coordinating with their Regional/Area Aviation Groups (RAG) for improved mutual understanding through review and approval, ensuring these meet the needs of FHP and RAG. Use of the PASP template in the SMS Guide is recommended www.fs.fed.us/foresthealth/aviation/safety/safety-planning.shtml. Policy and procedural gaps continue to be addressed exist in the areas of off-site security, aircraft performance, aviation positions and training, the use of unmanned aircraft systems (UAS) and contracting but are being

addressed through quality assurance, plans and risk assessments, a variety of councils and working groups with which FHP is engaged, as well as other efforts described in this report. The FSM 5700 and FSH 5709.16 is being revised in phases; FHP is engaged on the rewrites, updated chapters/interim directives have been provided to the field and are incorporated into FHP-sponsored training events.

- b) **Risk Management** – Risk assessments for all FHP aviation program areas are periodically and cooperatively updated based on operational feedback, task groups, safety and quality assurance www.fs.fed.us/foresthealth/aviation/safety/safety-riskmgmt.shtml. Project Aviation Safety Plans must include project-specific risk assessment approved by Line and should reference the appropriate program risk assessment. Daily operational risk assessment to include flight crew and to mitigate additional hazards is responsibility of the flight manager. Every effort must be made to reduce risk to the lowest practical level as determined during strategic, deliberate and time critical levels of risk management including analysis and decisions made at the appropriate level. Aviation users, officers, managers and decision makers are each empowered to identify hazards and mitigate risks commensurate with their level of decision-making responsibility to best meet mission goals.

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. (Note: USDA Forest Service Aviation Strategic Plan 2014-2018 has been drafted for review by Staff Directors, including FHP, with final approval by the Director of FAM; Program Plans will be required for all Agency missions). 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. Measures to enhance safety and productivity may include: modification of flight profiles, new cockpit/crew technology, focused use of high performance aircraft, enhanced training, sensor development, the use of satellite technology and more. FHP has developed the Spatial Tool for Aviation Risk (STAR) as a rudimentary multi-criterion model that assigns relative risk to a subset of easily ranked environmental variables (road and tree density, slope, emergency landing opportunities, etc.). Though STAR comes short of adequately evaluating the full complement of aviation risk factors in a practical operational context, it is national in scope and does provide a coarse ranking for areas with relatively higher aviation risk and, coupled with the National Insect and Disease Risk Map (NIDRM) and Survey Coverage Map, is helpful in identifying potential remote sensing opportunities.

As we consider new or modified operations, procedures or programs, special attention to change management is warranted and should be evaluated through change risk management processes. Adequate resources must be allocated to maintain necessary oversight and operational capability, without compromising safety, while analyzing and developing options for the future program.

- c) **Assurance** – The basic principles of quality management are “plan, do, check, act” as a continuous cycle. Assurance includes reporting, reviews and accident investigation to provide feedback on safety performance and perpetuate the safety management cycle. Assurance also incorporates the process for managing change. The International Civil Aviation Organization (ICAO) and the Federal Aviation Administration (FAA) identify the management of change as a key element of SMS (2011 Change Management and Implementation Guide, USFS). Preseason

workshops, field visits and postseason after action reviews are also key assurance components. FHP and the Agency are succeeding in some areas and need improvement in still others.

Internal evaluations and field visits have been conducted regularly for aerial application (entering fifth year of safety assurance reviews) but similar reviews and field visits have not been nationally implemented for aerial detection survey (ADS). The joint FHP/FAM WO aviation program review for R9 and NA was completed and out briefed on 12/7/12 and draft findings and recommendations provided, but the final report and cover letter to the R9 Regional Forester and Northeast Area Director was not released until 8/2/13. The report addresses gaps in FAM and FHP, presenting a four-phase process and timeline to develop a SMS program. Priorities include addressing staffing, collateral duties and training. Timing of the phases has been adjusted to accommodate first staffing unfilled positions and then phases shall continue with 2-3 months in between them. R9 has recently hired a Regional Aviation Safety Manager and Regional Aviation Officer, NA has been working to update plans and contracts but the precise status of other recommendations and actions is not yet determined.

An overarching goal of ICAP is to fully implement the International Standards for Business Aviation (IS-BAO) auditing processes. The final draft USFS Aviation Management Review and Quality Assurance Guide provides a method of monitoring and evaluating FS aviation management operations, to ensure accountability in program performance, and to adjust performance or direction as necessary to reasonably ensure achievement of the basic management goals of the FS as cited in FSM 1402. The Guide includes scheduling an external IS-BAO Stage I audit for 2014 and Stage II for 2016. Regional/WO Reviews are planned to cycle through all Regions and the Northeastern Area over the next five years. Program Evaluations are planned this year for Aerial Ignition, Rappelling and Smokejumper programs and, for 2015, Law Enforcement and Investigation, Research and Development, and FHP.

Reporting through accident investigation and general safety communication needs improvement. The purpose of the SAFECOM system is to foster a healthy reporting culture for information sharing and accident prevention. SAFECOM reports also include “kudos”, recognizing mishap prevention measures (such as a precautionary landing last year in Region 1). The FHP NASM is notified by the system when SAFECOMs are submitted, regularly queries reports, communicates event details, and acknowledges prudent accident prevention actions. However, with only eight submissions during 2013, and most coming from WA and AK, the system continues to be underutilized on some units. State cooperators are encouraged to take advantage of the system and FS requirements are to report any incident that affects, or could affect, operational safety using FS-5700-14 as stated in our contracts, plans and policy.

Reporting via the accident/incident investigation process and following through to action items is also critical to mishap prevention. The newly formed Office of Learning has developed and implemented the Coordinate Response Protocol (CRP) Guide to enhance learning and accident prevention. The 2014 Guide provides a framework for Agency response to all types of mishaps, including aviation, and the National Aviation Safety Council (NASC) is engaged in attempting to provide consistency with existing policy for aviation mishaps (FSM 5700 and SMS Guide). Process, timing and release of information from accidents remain an ongoing challenge. To no fault of Agency accident investigators, accident/incident investigation results are not made available in a timely manner. The National Transportation Safety Board (NTSB) completed its investigation of FHP’s June 21, 2010 fatal accident, produced their Factual Report (02/01/12) and Probable Cause (03/08/12). Contributing factors included inadequacy of maintenance,

inspections, and records. However, the USFS Management Evaluation Report and Accident Investigation Report has not been released, therefore, detailed findings and recommendations (not produced out of NTSB reports) and responsibilities for action items remain unknown. A Timely Action on Accident/Incident Recommendations briefing paper was written for the Director of FAM, citing FSH 5709.16, 5720.48d/1e, 5723.4, FSM 5700, the SMS Guide 2.1.1 and 2.7.3.2, and draft USDA Forest Service Aviation Strategic Plan 2014-2018. FHP and FAM Aviation Safety Managers and Unit Aviation Officers (UAO) have remained in contact regarding the status of the investigation and anxiously await final recommendations.

- d) Promotion – The ASWG supports training standards higher than Interagency Aviation Training (IAT) minimums for most aviation positions and use of the position task book for Fixed-Wing Flight Manager Special-Use. A proposal for revised supervisor training was briefed to Directors last year, followed by conference calls with the Acting FHP Director, Patti Hiram and Deputy Director, Anne Hoover to finalize the plan. This has been accomplished as detailed in a briefing paper for the March 2014 Directors Meeting, with a request to review the supervisor checklist and schedule VTC/Webinar sessions for 1st and 2nd-level supervisors prior to flight season. Based on removal of certain courses and new IAT curriculum, the 2014 IAT Guide has been updated and is expected to be published imminently. The FHP training matrix has been updated accordingly, vetted through ASWG, and will be posted at www.fs.fed.us/foresthealth/aviation/training.shtml. Training is scheduled for flight managers in April, aerial application program managers in August, and aerial application project personnel in December.

The fourth recipient of the National FHP Aviation Safety Award has been decided and will be announced soon. This award commemorates and acknowledges contributions made by the aerial survey crew of N30266: Rodney Whiteman, Dan Snider, and Patrick Jessup by annually recognizing excellence in forest health aviation activities: (1) promote a positive aviation safety culture, (2) conduct forest health aviation activities to directly benefit the resource, and (3) build efficiency and effectiveness among federal and state partners in forest health aviation safety. Regions and the Northeastern Area are encouraged to discuss and acknowledge top state and federal performers in this way.

3. Strategic Insect and Disease Survey (IDS) Development

This key issue is carried forward from the ASWG 2013 Report which should be referenced for important background information and current issues that still apply, developments since that report are highlighted.

Two formal letters of correspondence have been drafted by the Survey Requirements Team (SRT) for review and approval in advance of the March 2014 FHP Directors Meeting, detailing status of Survey Coverage Classes and the revised IDS/PER Reporting Timeline. The ASWG met on these and other topics pertaining to strategic developments to improve the safety profile of aerial survey and quality of information collected. The status of Digital Mobile Sketch Mapping (DMSM) was presented, soliciting feedback toward DMSM prototype development and testing. The ASWG also discussed a variety methods in use or that could be deployed, suitable or not, within a synoptic strategy. Coverage issues are occurring, e.g. the only survey damage mapped in WV was done by Region 8 along the border, no damage mapped in KY nor large areas of TN (other shortcomings are described in the SRT Survey Coverage Letter). The use of Forest Disturbance Mapper (FDM) does not constitute “coverage” but is a useful tool to guide aerial and ground survey; FDM utility was demonstrated and reinforced during ASWG. Mixed methods, of varying resolution and units of estimation effect data

quality and confidence. PER is able to compensate in overall conditions reporting, from various methods, but there continue to be time consuming and difficult data interpretation challenges when summarizing impacts that cannot be normalized (e.g. resolution of Black Hills photointerpretation, converting % mortality to TPA and vice versa, areas said to be “covered” with no impacts but absent QA to determine true coverage). Following is a status summary of interrelated activities pertinent to a comprehensive survey strategy:

- a) DMSM – Software and hardware requirements for this new aerial and ground survey mobile device have been gathered and prioritized under contract at FHTET. Subject matter experts including GIS/reporting, surveyors, forest health specialists, and broad client/user groups (exhaustive) have been involved in gathering these requirements. A major function of the SRT is to outreach and communicate with every state, FHP unit, and leadership through the development process. Regretfully, portable systems and software are not currently available allowing a reliable, cost effective and stable development for a system displaying a 3D scrolling map image. The focus remains upon standardization of systems nationally and providing them to partners, simplifying data capture, while improving quality. The prototype systems are expected to accommodate both grid and polygon capture methods; hierarchical, mutually exclusive and exhaustive coding schemes are being examined. Development shall also explore aviation safety functionality similar to current DASM and as seen in electronic flight bags used by pilots and FAM flight managers.

The ASWG supports prototype development and several FHP units and states have volunteered as test sites. ASWG input to prototype design and damage capture attribute scheme was not entirely accepted by the development team; however, the group is open to testing and comparison to current methods with the expressed understanding that feedback during the testing phase will be managed in order to arrive at a product meeting FHP, state and client needs. Testing is expected to commence in August/September. Nearly real-time feedback to the development team and data output analysis, compared to current method, will be necessary to determine suitability of proposed changes and shape the product. Risk assessment will be part of the process, evaluating impacts or improvements to the cockpit production environment, availability and utility of flight safety data.

- b) Insect and Disease Survey Requirements Team (SRT) – Under guidance from the Acting FHP Director, Patti Hiram and cosigned by the FHM Program Manager, Borys Tkacz (September 11, 2013), the SRT is intimately involved with DMSM development. The team has an established communication plan reaching Leadership, FHM, ASWG, and 47 partner states.

Tasks include finalizing the Survey Coverage Map which was briefed to ASWG and further refined in coordination with original contributors engaged under the former Survey Standards Team. Six survey classes have been established to categorize various levels of survey intensity and intervals conducted by air, ground and other methods. All survey classes have been collaboratively mapped for the lower 48 and AK. Two of the six classes, annual full ADS and annual full IDS, provide a commitment to “core” regular coverage and a basis for more consistent analysis of forest health trends. Approximately $\frac{3}{4}$ of the nation’s forests at risk are covered by these two classes. In terms of aviation management and safety, it is important to prioritize and identify a regular program of ADS; as well as where aircraft may be operated at irregular intervals, maintaining capacity to accommodate special survey needs. FHP and cooperator personnel and aviation assets can then be optimized for efficiency and risk management. The annual full IDS class is not well defined, in that it may include any combination of aerial, ground,

remote sensing, methods etc. Nevertheless, the six classes as presented to the FHP Directors represent unit-level and state commitments as to what the detection survey program can accomplish. The classes also provide a framework for standards development, accounting for the variety of methods currently deployed, and a beginning to developing standards for those that meet the needs of a synoptic survey strategy. Through the ASWG and following, the SRT is drafting a survey methods matrix to identify for each method: limitations/expectations, whether the method is in practice or developmentally important, measures for determining coverage, the survey class within which acceptable methods would fit, quality assurance measures, costs and metadata requirements. The ASWG also discussed improvements and shortcomings discovered in the trial implementation of the revised IDS/PER timeline. Though some Fall impacts would be carried forward into the following year's IDS and data and photo interpretation processing time crowds due dates, the revised timeline works for the most part and has benefits in ensuring data are available for timely PER reports.

Letters addressing both survey coverage and revising the IDS/PER timeline have been prepared by the SRT for Director review and approval. The team will communicate the outcome of the March Directors meeting to the ASWG, FHM, and partners determining next steps according to its guidance.

- c) Light Fixed-Wing Multi Mission Aircraft Replacement Integrated Project Team (IPT) – FHP has been working with FAM through the aircraft replacement process for four Working Capital Fund (WCF) aircraft to be replaced over the next four years. The goal of the team is to examine current multi-mission requirements that support FS natural resource management including wildland firefighting and adding capability for additional missions that broaden the overall use of the aviation assets. The path forward is through the Office of Management and Budget (OMB)-mandated Aviation Business Case (ABC) prior to acquisition of replacement aircraft. FHP subject matter experts including UAOs, reconnaissance pilot and aircraft users defined special mission profiles for aerial detection and remote sensing, giving consideration to areas and environments that would be better served by aircraft with superior performance characteristics (e.g. turbine and/or twin engine) and strategic goals to develop remote sensing capability.

The FHP NASM has continued to work closely on the IPT evaluating a full compliment of resource aviation needs. The Aircraft Requirements Analysis (ARA), as a supporting document to the ABC, has been drafted and the associated ranking of multi-mission evaluation criteria is nearly complete for replacement of the first two aircraft N148Z and the former FHTET airplane N127Z (an AC 500B and KA A100, respectively). The multi-mission goals for these aircraft include lead plane, aerial supervision, infrared (IR) and remote sensing. FHP has advocated building into the requirements the ability for at least one of the replacement aircraft to accommodate scalable sensor packages that would meet the needs of IR for FAM and forest health data acquisition for FHP. Two commercially available systems have been identified that can meet these requirements. Work remaining includes an aviation risk assessment for a subset of the preferred makes and models, request for information and approval of funding. Solicitation can be expected by 2015 with delivery likely in 2016. The same process, partially begun, will follow for the replacement of N181Z and N147Z (both AC 500Bs). The multi-mission objectives for these aircraft include air attack/lead plane and air attack/IR/FHP survey with delivery dates of 2017/2018. FHP has demonstrated the need for high performance survey aircraft through mission profile definition, risk assessment and the need for national availability aircraft to accomplish forest health survey. Furthermore, a recent attempt to contract turbine survey aircraft in one Region failed due to contracting issues preventing selection.

The ASWG supports partnering with FAM to modernize and leverage national assets to better meet Agency resource management objectives (reference “Additional Information” in the 2012 ASWG Report and “Capital Investment in People, Aircraft and Management” in the 2013 ASWG Report). WCF funds will cover acquisition. Beyond that, decisions are necessary regarding shared funding to support pilot salary, fixed operating rate and purchasing peripheral equipment (e.g. sensors). FHP needs now to consider cost/benefit and budgetary needs in order to develop remote sensing within its synoptic strategy, and the added safety and efficiency of procuring a high performance survey aircraft.

Additional Information

A. Previous recipients of the FHP Aviation Safety Award are Ken Zogas, Alaska Region 2011; Dan Zimmerman, Northeastern Area 2012; Joe Duda, Colorado State Forest Service 2013 for their outstanding efforts and achievements in the areas of safety promotion, supporting forest health, building efficiency and effectiveness among partners. Nominees for the 2014 Award have been evaluated and the recipient will soon be announced.

B. FHP Director update to the ASWG included budget status (fairly healthy for 2014), current personnel changes in the Director ranks and those expected over the next 18 months, and support for investing in safety and quality (with linkage to SMS, and need for consistency across federal and state programs). Important pest detections were highlighted, with recognition that ADS is essential to FHP and critical to partners, that pest activity detected from ADS is key to national funding distribution. There is some support for safety improvements, aircraft and technology including DMSM development. It was recognized that FHP aviation, safety management oversight, coordination of coverage and various survey methods, reporting and timely response is more complex than ever. The need for ASWG, partner, and Director alignment was emphasized.

C. Annual safety assurance reviews for aerial application have been cooperatively conducted in Indiana, Minnesota, Ohio and Illinois with the Slow The Spread Program likely to be scheduled this year. Aerial survey reviews proposed have not been supported due to a variety of reasons including travel. Travel/budget restrictions are affecting quality/safety assurance and field visits, key meeting attendance, increasing aircraft ferry time to avoid per diem and significantly impacting the ability to conduct ground checks. Leadership and support for travel and reviews is needed for program improvements, promotion and assurance (Key Issue 2c emphasizes other assurance needs).

D. Quality assurance and a commitment of time and resources are necessary for basic mission accomplishment and critical to facilitate improvements. The ASWG and FHP NASM strongly support investment in personnel and aircraft, strategic improvements for consistency and safety and also warn against collateral duties overload. Personnel gaps from leadership down and through to state and federal aviation users need to be continually addressed and compensated for. Collateral duties overload is occurring, identified in the R9/NA Review, experienced in FHP NASM position, and observed on a few FHP field units. The FHP NASM has been involved in assisting Regions to develop PDs with current safety and management-related duties and encourages mentoring and development from technician into professional series’; filling positions to support today’s operational and safety complexities and meet the highly technical and strategic needs of FHP. Aircraft availability challenges were discussed in terms of contract availability and, particularly, for high

performance survey aircraft (in relatively higher risk environments coarsely identified using STAR) and for remote sensing as advocated in procurement of multi-mission capable aircraft. These would provide tremendous benefit to FHP as national assets, are strongly recommended and justified.

E. Average annual ADS production rates typically exceed 100,000 acres per hour but vary widely. Factors contributing to unit-level variations were discussed including contour vs. grid flight, multi vs. single observer, ferry time, environmental limitations and more. Adjustments to improve efficiency are being made as needed, such as transitioning to grid patterns where feasible.

F. The value of ASWG efforts and utility of FHTET products generated from survey data and risk modeling were reviewed as available through the FHP Mapping and Reporting Portal foresthealth.fs.usda.gov/portal, IDS placemat www.fs.fed.us/foresthealth/technology/adsm.shtml, and the new 2012 National Insect and Disease Risk Map Viewer foresthealth.fs.usda.gov/nidrm/. Special attention was given to HFRA Amendment Sec 602 Designation of Treatment Areas and utilizing survey and NIDRM data to help prioritize and designate subwatersheds and fund treatments to reduce the risk or extent of insect or disease infestation.

G. Policy, procedures and strategic use of UAS is in development and progressing and FHP is engaged on the UAS Advisory Group. New policy acknowledges Agency use of UAS and the Forest Service Unmanned Aircraft Systems Operations Guide is currently being drafted. The Advisory Group has a number of specially tasked subgroups addressing contract specifications, airworthiness, strategic and project planning, a change management plan and SMS audit for integration of UAS into the Agency. A formal mission request process has been developed and approved to implement a selection of UAS projects to conduct a handful of justified operations, which will also serve to provide feedback to UAS strategic plan development. The FHP Region 10 UAO is working with the Regional Remote Sensing Coordinator on one such project, utilizing a multicopter for bridge/dam inspection and forest canopy imaging and is likely to be implemented in June/July.

H. The Northeastern Area, Durham Field Office is partnering with NASA to deploy and test the G-LiHT sensor gathering forest health information over the Merrimack. The project will collect LiDAR, VNIR and thermal image data, is scheduled for June, and utilizes the Region 6 C206T aircraft (which is also being positioned in NA to support ADS).

I. Each year there are several significant detections, such as the dramatic increase in spruce beetle mortality in the Rockies building since 2012 and continuing in 2013. Current highlights also include tamerisk leaf beetle damage in the Southwest; though not discovered from ADS, defoliated tamerisk is visible from the air and special surveys were conducted. Special surveys were also conducted for Swiss needle cast and bear damage in the Pacific Northwest. FDM used by MFO detected change in northwestern PA and followed by ground checks indicating gypsy moth defoliation and frost damage, setting stage for egg mass surveys; MFO with MD Dept. of Agriculture used FDM to detect change likely due to salt water intrusion along MD eastern shore. NJ ADS provided initial damage estimates following Super Storm Sandy and early detection continues to enhance the effectiveness of the SPB control program (NJ also successfully implemented Guardian Mobility AFF). Region 5 detected Sudden Oak Death in several new important locations, an increase of flagging and mortality in foothills pine, expansion of goldspotted oak borer damage, and mapped dramatic increases in mortality prior to the 2013 RIM Fire (the largest recorded wildfire in the Sierra Nevada Range).

J. The ASWG continues to coordinate with FHM through this meeting and was briefed regarding the status of FHM Resolutions, some of which have progressed through both groups and the SRT to varying degrees as described in this report.

K. The group discussed data standards, codes, reporting, timeline, coverage, GIS issues and opportunities for improvement in detail. Data quality was generally good, came in a bit piecemeal but was all in prior to ASWG, with most units making the due dates in the revised IDS/PER timeline. A new Damage Causal Agent (DCA) Appendix E was released in January with a few common and scientific name changes. There are now 907 codes with four new DCAs: koa looper moth, polyphagous shot hole borer, apple scab and bur oak blight. Current survey and GIS standards, including pest/host lists are available at www.fs.fed.us/foresthealth/technology/ads_standards.shtml. Draft 2013 data was not loaded to IDS Explorer because it trickled in after Oct 31. The importance of posting draft data at intervals is emphasized to facilitate: a) event status alerts to adjacent Units/clients conducting survey (user password required); and, b) for quality assurance supporting field review/feedback, ground checks, and informing ongoing survey. Draft data are very fractional but easily posted “quick & dirty”, must include at least Damage Type, Host, Agent attributes. Regional/Area GIS can work directly with FHTET to have posted. Providing draft data to FHTET during survey season is encouraged, as it comes available, keeping in mind that all Units providing draft data must replace their entire data set and provide to FHTET prior to Nov 15. ADS Tools is no longer supported. The new Data Reviewer was successfully used in 2013 by R10 and R2 (at least), is quite a bit different than ADS Tools and training will be scheduled to fully implement in all Regions/Area this year.

L. FHTET hosted a visiting delegation from Hunan Province, China for the purposes of technology transfer between our countries. Three representatives from the Hunan Academy of Forestry and General Station of Forest Disease and Insect Pest Control and Quarantine of Hunan Province spent a week working with FHTET. We exchanged information regarding pest status, pest reporting methods, use of UAS and DASM; conducted aerial detection survey, trained mapping techniques and safety procedures, followed by ground visits. We thank our visitors for a very productive, informative week, Region 2 for making contract aircraft available, Sky Stephens (with the CSFS at the time) for organizing field visits and Colorado State University for hosting a portion of the field trip in Pingree Park.

M. DASM updates include a new version of GeoLink 6.4.1, now available for download at www.fs.fed.us/foresthealth/technology/dasm.shtml, existing licenses will work with this version. The version corrects the compatibility problems with Windows 7 and these other annoyances: can now save Toolbar Customizations, crashing when 'Background Maps' opened, Map List buttons not visible, ability to disable the metadata prompts. Windows XP - Some updated XP configurations are incompatible with GeoLink, functionality with XP is not confirmed. Desktop tests with Windows 7 (simulated log sessions) revealed no errors. If anyone gets Geolink running in XP, let Charlie Schrader know.

N. Agency aviation contracts for CWN and Exclusive-Use Light Fixed Wing must adhere to minimums in the national template. Safety evaluation scoring and SMS contract criteria have been further developed; section “C” provisions requesting bidder synopsis of operator safety program (organization, safety systems, accident history, etc) have been provided to NIFC Contracting for use in all new contracts.

O. 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.

P. Pre/post-season workshops and reviews are paramount to improving safety and quality. Calibration flights coupled with ground checks are recommended annually. R1, 2, 3, and 4 are planning safety training, calibration with ground checks June 17th-19th; R6 is hosting similar June 24th-26th; R10 is synchronizing with their regional forest health coordination meeting to provide a one-day workshop; NA typically holds state coordination meetings and DASM classroom training. Notify Jeff Mai if you plan any pre or postseason workshops and training.

Q. The ASWG recommends pinch-hitter training for flight managers on a two-year cycle. Position Task Books for Fixed-Wing Flight Manager Special-Use (available on the FHP Aviation website) completed in 2013 include: Region 1, 2, 3, 10 and New Mexico State Forestry. Training updates are expected to be finalized in the IAT Guide and the FHP Matrix and Supplement have been updated accordingly, and will be posted at www.fs.fed.us/foresthealth/aviation/safety/index.shtml. AgLearn migration of training records from IAT continues for FS employees, make sure employee IAT profiles have individual Empower IDs entered, state employees are not affected. Training will continue to be recorded through the IAT database for all state and federal aviation users and supervisors. Treasure Valley Community College (TVCC) advanced aviation training announcements are periodically made to the UAOs, these sessions combine to provide students on-line education eventually leading to Aviation Safety Officer qualification. Training and workshop announcements have been requested and will be posted on FHP Aviation News www.fs.fed.us/foresthealth/aviation/news.shtml.

R. Assistance across Region/Area boundaries is encouraged for employee development, teamwork and achieving FHP mission goals. In 2013, Region 5 conducted cooperative flights with Region 4, shared surveyor with Oregon Dept. of Forestry and expects to contract a surveyor this year. There are state observer vacancies in R1 and a UAO vacancy in R6. R3 is hoping to fill an aerial observer vacancy this year and is looking for assistance (the FHP NASM has agreed to cover one week; at least another week of help is needed). Contact individual UAOs for more information and to request or share aircraft and personnel.

S. The 2015 ASWG meeting will be held January 21nd – 22rd in Region 2 or Region 8, TBD.

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