

Aerial Detection Survey (ADS) / Disturbance Tracking Focus Group

Leaders: Jeff Mai, FS, WO; Aviation Safety Manager FHP, Chair ASWG
Frank Sapio, FS, WO; Director FHTET
Gail Durham, Nevada Division of Forestry

This Focus Group will briefly review and provide updates to FHM Resolutions and relevant Aerial Survey Working Group (ASWG) Key Issues from the January 2007 meetings. The remainder of the session will center on issues identified by the FHM management team.

Focus Group attendees should come prepared to discuss progress on last year’s resolutions and topics for 2008 (Digital Aerial Mapping System, field checks, ADS as it relates to Criterion and Indicators of Sustainability, metadata, and disturbance tracking). Specific issues include:

1. How do we improve the consistency, quality, and coverage of disturbance tracking and reporting nationally?
2. What is the real cost of aerial survey?
Who benefits from this cost?
3. What are the obstacles to “complete” National Reporting?

Evaluating successes and continuing to improve upon existing methods of data collection and reporting will be the focus. Advances in mapping technology and guidelines for ground checks hone aerial sketchmapper skills and increase the reliability and accuracy of data collected. Missions Metadata and standards via DASM may assist users in assessing the conditions under which aerial survey data is collected, facilitating determination of appropriate data use. Perseverance in these endeavors is necessary to best meet the needs of forest health professionals and the public concerned with forest planning and management at all levels. Utilizing these data in related studies and reports, such as the Roundtable for Sustainable Forestry, Criterion and Indicators and pest event reporting, continues to be explored and enhanced where applicable. Near Real Time Disturbance mapping using MODIS will be discussed as a tool to aid identifying areas of mortality and Disturbance immediately prior to surveys being flown to potentially augment flight planning and increase data utility and efficiency. Further development of tools and technology to facilitate cost-effective, safe operations remains a recurring theme in this year’s focus group.

Hours Allotted	Topic	Discussion Leader
1.5	Progress Report on Last Year’s Resolutions & Pertinent ASWG Key Issues. Carryover Resolutions.	Jeff Mai – WO
1.5	Disturbance Tracking. Discuss Resolutions.	Everett Hinkley (Mark Finco or Eric Nielsen) – WO
1	Cost of Aerial Survey. Discuss Resolutions.	Jeff Mai - WO
1.5	Obstacles to National Reporting. Discuss Resolutions.	Frank Krist – WO
1	Wrap-up, Refine New Resolutions.	Frank Sapio – WO

Discussion Timeline for Those Wishing to Attend Multiple Focus Groups

FHTET-Frank- CCC- Coverage, Consistency, Cowuality-Intro

Jeff- Intro and Sign in Sheet.

Jeff explained his role as ADS Coordinator- focus on safety importance

8:30 – 10:30 AM

- 2007 Resolutions – 30 min

ADS/Disturbance Tracking FG

- 1- Be it resolved that: We live up to the National Reporting Standards already in place throughout the U.S. Refer to the Aerial Survey Standards and Aerial Survey GIS Handbook –URL reference here – standards not met everywhere – i.e. provide flown not flown annually: maybe update the process for reminding surveyors what is required in collection, especially important with high turnover
- 2- Be it resolved that in order to develop ground checking standards on a trial basis and provide the ASWG with trial Ground Check Guidelines, Oregon, Washington, California, FHP Southern Region, and Pennsylvania will attempt to ground sample some of their polygons and submit the results to the ASWG. Handouts on guidelines and Internet surveys passed out and are available on the website. This resolution is to help AD Surveyor to hone their skills not for QA/QC. Did the GC help hone your skills – Yes, where the surveyor did the GC. Stressed need to check the ground before flight as well. More of the results are narrative than table format. Found it useful, especially for the surveyor. Number of surveyors are able to take the DASM out in the field before and after the survey. Discussion about getting imagery –photos or satellite imagery (MODIS) before the season to do pre-season survey. Discussion on use and misuse of the data ensued and dissemination of the data to requestors. Request for good disclaimer. Web Survey November -2007-handout discussion Discussed continuing to do this ground checking to improve the quality of ADS as surveyors can and can use this method if it is helpful. Question about how to get this info to all ADS – there seems to be inconsistency in how info is getting out – clearer communication channels are needed. Ground checks are important and important to share this info with everyone. A good blanket email list is needed and used by Jeff when needed, but it is often times up to the regional coordinator what is going out to the states. **WE RECOGNIZE THIS GC GUIDELINE AS A TOOL THAT CAN BE USED BY THE FIELD, AND WE ARE MOVING AHEAD WITH USAGE OF IT AS AD SURVEYORS WANT TO HELP THEM HONE THEIR**

SKILLS.

- 3- Be it resolved that in order to assist FHTET at the National Level in expediting data dissemination, States will consider using and the Regions will use the new FHTET ADS Tools to clean up the data before it is submitted to the National Database for the 2007 ADS. ARC-GIS Tool so not usable in ARCVIEW so may not be usable by a state if they don't have ARCGIS. Trees per acre not always recorded in Lake States – severity recording – not doable in east. West does it in 3 different ways, so it is not rolled up nationally.
- 4- Be it resolved that: In order to recommend changes for next years AS Focus Group, FHTET, Regional GIS staff, ASWG, will review the National AS GIS Standards to determine needs for improvement (for example an attribute for paper maps versus digital, etc) .
- 5- Be it resolved that in order to implement the coordination of the Aerial Survey Working Group and the Forest Health Monitoring Working Group, let it be resolved that the ASWG Chair/Interim Chair should lead/co-lead the ADS Focus Group. Jeff is here – Done.

- ASWG Issues – 30 min
ASWG Charter reviewed and Issues from 2007 and this year's issues;
Staff vacancies
Lack of mentoring program – budget reductions make this even more
IAT
Program Risk Assessment for Aerial Program
- Cost Aerial Survey – 30 min
< \$0.01/acres for the survey alone
Who Benefits? – NFS, Other Fed, State and Local, public, National Office FHM
\$ to programs, local/national analysis, conditions reporting, C/I, cooperator/partner
awareness, requests, media, other countries
Discussion about 2009 budget cuts how to do ADS – include all costs including all overhead
and administrative data input, etc. Risk of losing the overall US aerial survey maps. Rob
stated that we will get house marks in May so don't labor over this at this time. Bill
discussed how this fiscal year there will not be enough \$ to fly all requests- regional issue to
be resolved at the regional level. Remote Sensing does not work for this application at our
level, but can augment it. Doug recognized Rob Mangold for R-6's 60+ years of ADS and in
the US for all the ADS in the US support. Discussion about why coverage as well as damage
areas are not reported.
- Current Data Issues & Possible Resolutions
 - National Reporting Issues from FHTET - 30 min
Consistency, Coverage and Cowuality Theme – We are doing great. All the ADS data is
in this year so National Summaries should be done by March 1 (except for R-8). For
National Access of the Data –ARCGIS server application selective pest application
retrieval by state will be available by each year of data, with toggle between data table
and map view and be able to download shape files, print button, legend tool. May have a
behind the firewall GIS user site and a general user website. Out on the street before
summer. Download portion will be outside the firewall. Add risk maps. Still need
improvement.

Frank's 3 resolutions;

- 1- Flown/Not Flown collected with GPS submitted and logged in National Database-
include flown/not flown, visibility, surveyor. Discussion from various participants
about how it is flown in various areas and how it will be difficult to get all states to do
this. Look at a timeline – i.e. 3 year timeline.
- 2- Updated Pest List – PTIPS - errors – fix with specialists –addresses biological
complex issue. Group formation for fixing PTIPS codes.
- 3- Simplify ADS Standards to a level that we can realistically meet as a National
Program.

Quality Issues:

- Overlapping polygons that are not rectified – in damage and flown layer
- Multipart polygons (FHTET can add functionality in ADTools to find there)
- SPB numbers of questionable derivation.
- SPB Polygons that are randomly distributed by county.
- Missing surveyor and or date information for flown layers
- Entire states depicted as flown.

Map of Season Flown by FHTET- not on the website so let Frank know if you want a
copy of it.

Consistency Issues:

- Difference in Mortality Coding:

- Mortality with TPA in West and NE Pattern and Severity codes

Multi-Agent/Multi-damage/Complexes: - improved coding of similar phenomena.
Should fire polygons be in the database? – ASWG decided not to map in most cases due to reporting issues.

Participants would like clarification as to the specific problems that FHTET is encountering in rolling up national data.

9:45 – 10:10 AM Break

11:00-12:00 PM

- Current Data issues & Possible Resolutions
 - National Reporting Issues from FHTET – 45 min – see above.
 - PTIPS List (Clean up and How to Deal with Biological Complexes) -15 min
 - PTIPS codes Handout by Frank- Discussion on addressing this to PTIPS group with this issue.
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12:00 – 1:30 PM – Lunch

1:30 – 3:00 PM

- Current Data Issues and Possible Resolutions
 - Public Discussion – 30 min
- MODIS Disturbance Tracking – 45 min talk 15 min Q&A
 - How can Disturbance Mapping Help in ADS Mission Planning to Near Real Time?
 - How can Disturbance Mapping Help in QA/QC?

National Report questions in respect to Pest Condition Report – Frank answered that it is sent to Regional Coordinators, but asked that Regional Coordinators pass the info down to next level. Next year will put in Website. Fairly new development at this point.

Frank talked about the upcoming release of host maps – available in 3 years on the website. Frank talked about how there is a great need to be able to roll this national mortality for the whole US and the inconsistencies make this impossible right now. Discussion about TPA and defoliation mapped as part of the National Standard with different measurements used in different areas of the nation, so he can't roll it up. Discussion about what is the real issue for handling the different data at FHTET level in order to come to a consistent approach to mapping across the country. Catastrophic vs. non-catastrophic categories, or % or class of severity. Concern about dummied down the data in order to have National Roll up work.

Disturbance Tracking PowerPoint by RSAC – MODIS Everett Hinkley and Eric Nielsen: MODIS Sat- used for fire daily with low resolution – free data- Single date mapping and Change detection mapping – trend. ADS is more like single-date mapping. May make it harder to compare outputs of ADS and MODIS. Difficult to get accurate levels from MODIS. 250 and 500 M pixels resolution. Change detection only – not sure what the change represents. To use this for prioritized aerial detection survey flights – 2-week response time is good. Beyond a month information is useless. A standardized and repeatable method for producing spatial summaries of disturbed forest land. – varying intensity of state surveys creates spatial biases in results using current methods. Same system can detect anomalies and produce statistical summaries

Knowledge of expected phenology is critical

Finer resolution imagery is needed for validation. Looking for a typical appearance of each pixel at each point through the yearly cycle as a baseline. Maybe a baseline typical pixel. Clouds will be a big problem as well as spatial resolution – 250 M grid –not sure what kind or how much of

change is needed to detect change at this scale. Problems of backscattering and forward scattering light effects so different composite views of area. Landsat is 30 M data. Showed disturbance models for PNW and CO, NM, UT, E NV. Developing Pilots nationally being done. Want to work with local surveyors to flesh it out.

3:00 -3:30 PM Break

3:30 – 4:30 PM

❖ 2008 Resolutions to Enhance National Reporting and Any Other Resolutions – 1 hr

Action Item: Jeff Mai will email Disclaimer to ADS FG list.

Action Item: Jeff will send the web survey out again to capture those that did not initially respond with a request to read guidelines before completing it. Jeff will add in the Regional FHM/FHP contacts into his email distribution list.

Action Item: Jeff will remind ASWG to make contact with the field to conduct pre-survey prior to flights.