West Wide Wildfire Risk Assessment

Project Update – May 2011

This update provides a summary of the current status of the West Wide Wildfire Risk Assessment (WWA) project being conducted on behalf of the Council of Western State Foresters (CWSF) and the Western Forestry Leadership Coalition (WFLC). Links to more detailed information are listed at the end of this update. The Sanborn Map Company is the primary contractor.

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Why is the West Wide Wildfire Risk Assessment being done?

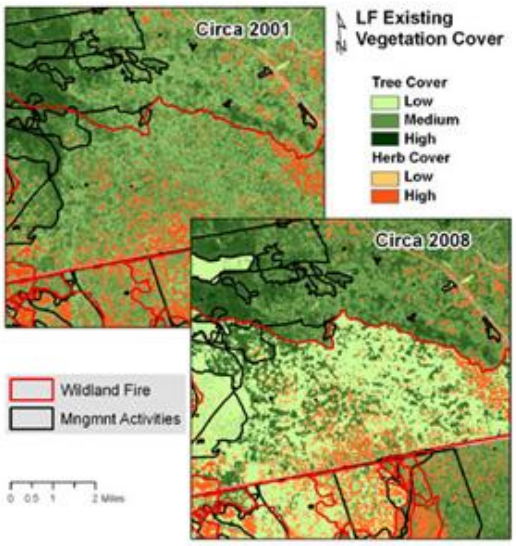
Question: With so many existing wildfire risk assessments at the federal, state, and local level, a frequently asked question is – why is the WWA being done?

Answer: Wildfire risk in the western U.S. is increasing and becoming a more complex challenge that warrants coordinated assessment, planning and response. The WWA is unique because it assesses all lands across the West using consistent data and methods, therefore providing information to support planning and decision making at national, regional, state and local scales. It utilizes one standard method to model wildfire threat, fire effects and wildfire risk, and summarizes the risk to communities. It is being completed at a scale compatible with state and community use – much finer than current national efforts.

- *National/Regional Relevance*: The WWA will serve as a regional policy analysis tool that provides results comparable across geographic areas in the West. It is identified in Phase II of the *Cohesive Wildfire Management Strategy* (www.forestsandrangelands.gov) as one of a suite of risk analyses that will inform the Regional Strategy Committee (West) as they identify strategies to reduce wildfire risks.
- *State/Local Relevance*: Partner States will each receive assessment data and results. The WWA results are ideal for use in future Statewide Forest Resource Assessment updates, helping to identify where more detailed local assessments and protection planning efforts are needed, and providing a foundation for coordinating policy and baseline data for state and county level planning, especially for those states with limited capacity. It is intended to complement, not replace, local and state products as a decision-making tool.

WWA uses LANDFIRE "Refresh" (Circa 2008) data:

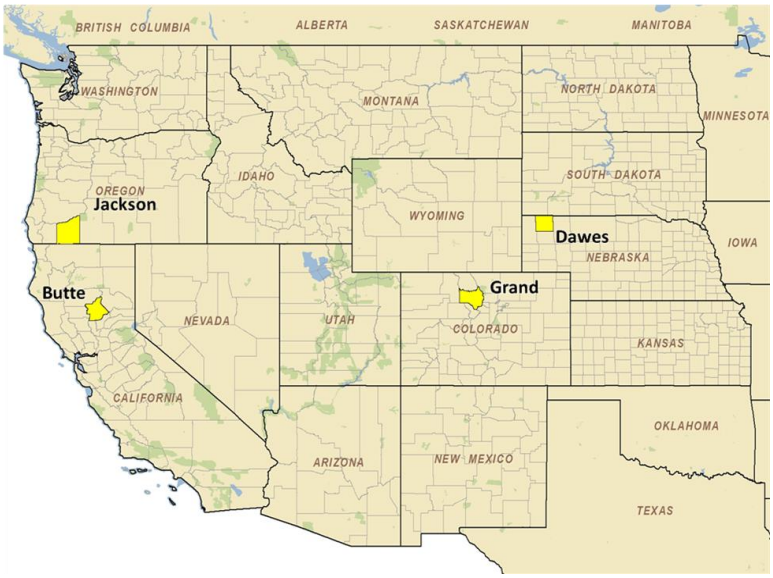
In March, the technical team reported to the Project Steering Committee that they had decided to use the "Refresh" (Circa 2008) version of LANDFIRE for the 17 western states included in the assessment. It includes updates for disturbances from 1999 through 2008 for fire, insects and disease, wind events, and mechanical (including fuels treatments). Using the new data saves work for both the Partner States and Sanborn. Sanborn will utilize the savings for addition work on the fire effects model. Use of the "Refresh" data also provides greater consistency with other projects using LANDFIRE data. Fuels data for the Pacific Islands are being developed using data from the *Pacific Islands Imagery Consortium Vegetation Mapping and Monitoring* (Zhanfeng Liu & Lisa Fischer, USDA Forest Service).

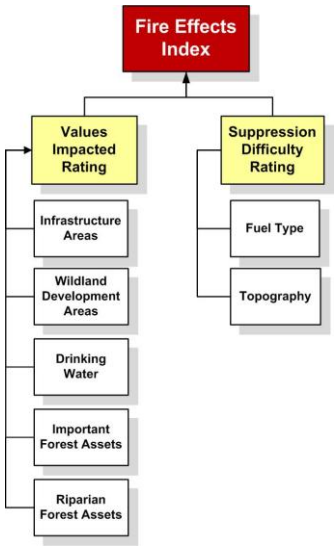


Above: *LANDFIRE "Refresh" overview graphic from www.landfire.gov*

Fire Effects data investigation pilot project is complete:

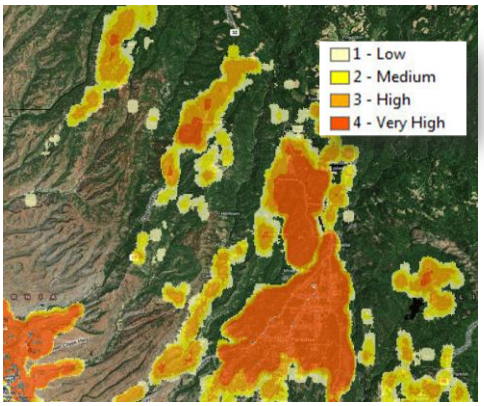
Investigations into which data will be used for the Fire Effects components of the assessment are complete. Three new data sets to assess potential fire effects on Wildland Development Areas (WDA), Important Forest Assets (IFA) and Riparian Forest Assets (RFA) were compiled for four pilot counties in California, Oregon, Colorado, and Nebraska (below). The investigation began a year ago. Below is a brief summary of the findings from the fire effects pilot project.





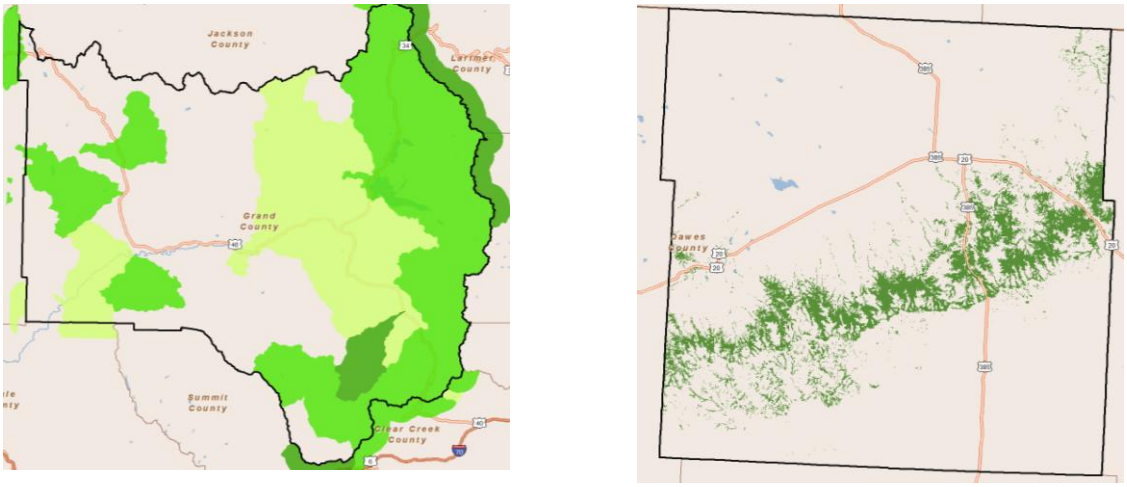
Above: *Components of the Fire Effects Index*

- **Wildland Development Areas (WDA)** – Interface areas are referred to as Wildland Development Areas to avoid confusion with the "wildland urban interface" (WUI) term as used in legislation to allocate funding. The Project Steering Committee (PSC) agreed that the Department of Homeland Security (DHS) LandScan provides the best available data to define areas where people live. In addition to the pilot counties, the data were informally evaluated in very rural areas in Alaska and reservations in Washington and performed well. The WDA is derived by modeling LandScan population count data into density classes. Some filtering of the LandScan data occurs using "influence layers" to eliminate outlying low density pixels. The PSC will help define model parameters later on as the technical process is developed.



Above: *Concept WDA's for Butte County, California*

- **Important Forest Assets (IFA)** –Landscape forest values vary greatly from state to state across the West and Pacific Islands. The pilot project investigated the feasibility of having each state provide a layer that represented Important Forest Assets for their state. This layer could reflect potential economic value (such as production forest, tree farms or plantations) or other criteria (such as forest stewardship or legacy areas, forested areas key to recreation or important to the conservation of biodiversity). The pilot project found that state-provided data were too diverse and would not meet the needs of a regional assessment. LANDFIRE vegetation data will be used to identify important forest assets. The technical team is continuing to investigate methods to delineate the forest cover into fire susceptibility classes.

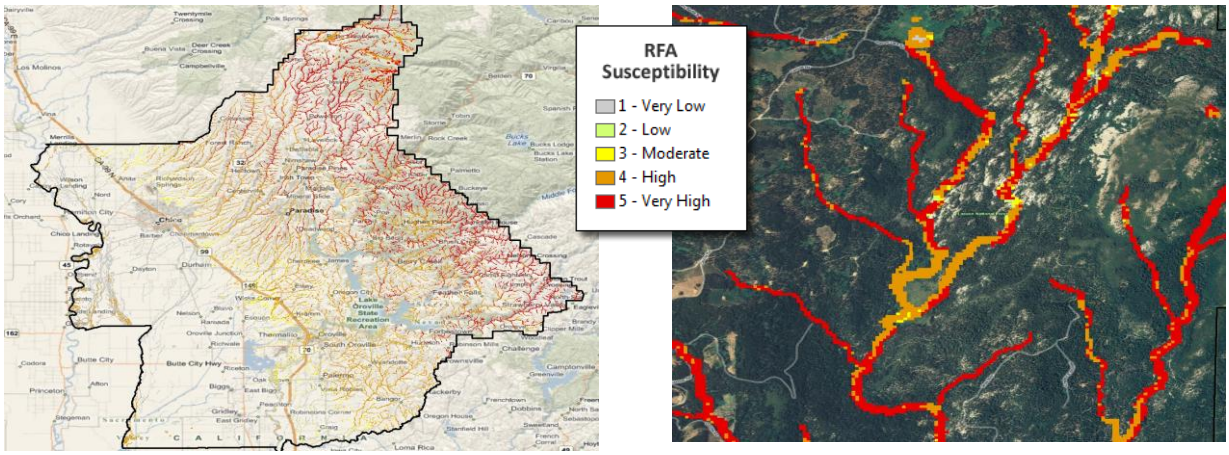


Above: *Pilot IFA data provided by states for Grand County, Colorado (left) and Dawes County, Nebraska (right). Colorado data reflect a low, medium, and high rating of erosion risk to drinking water supplies that were part of their recent Statewide Forest Resource Assessment. Nebraska's data were derived to show all forested areas in the state.*

- **Riparian Forest Assets (RFA) –** The importance of forested riparian areas for water quality, water quantity, and other ecological functions is recognized by all western states. The RFA model was developed by the WWA technical team with support from state representatives. CAL FIRE provided in-kind technical resources to define analytical procedures for deriving RFA data layers for the pilot counties. Additional technical support was provided by partner states and the Rocky Mountain Forest & Range Experiment Station. The process involves identifying the footprint of riparian areas and then assigning a rating based upon two important riparian functions – water quantity and quality, and ecological significance.

  The PSC found that the RFA provides a level of detail that is more spatially specific than the Important Forest Assets layer. They felt that RFA will be important for multiple stakeholders and assessments, including the Cohesive Strategy, and that failure to include RFA would significantly understate the importance of the wildland/forest asset in the West.

  Including RFA as a fire effect was not in the original scope of the project. However, cost savings resulting from the decision to use LANDFIRE "Refresh" data for fuels and Important Forest Assets, along with in-kind contractor and state resources will allow the RFA to be included in the model.



Above: *Prototype RFA data provided for Butte County, California. The range of RFA susceptibility values from very low to very high are derived based on key riparian area characteristics: rainfall, slope, soil erosion potential, and riparian vegetation life form.*

State Representatives and Fuels Technical Contacts briefed:

On March 29, 2011, Don Carlton, the wildfire technical lead for the WWA, provided a briefing paper and presentation to 13 state representatives and fuels technical points of contact. He shared that the WWA will be using the LANDFIRE 2008 "Refresh" data for the 17 states, and a crosswalk from vegetation to fuels for the Pacific Islands. Since the LANDFIRE data include disturbance updates, there is no need to request specific data or technical help from states. States may provide their own fuels data for consideration by the technical team if they so choose.

Western State Fire Managers given project progress report at their spring meeting

The WWA project team provided a progress report to the Western State Fire Managers at their annual meeting in Scottsdale, Arizona on March 22. They were provided an updated project schedule; status of the data acquisition for fire occurrence, weather and fuels; and an update on the decisions related to what values impacted will be included in the WWA.

- Janet Hoyt, Sanborn project manager, reviewed the status of the project schedule. Data acquisition has taken longer than anticipated; however, the project is still on track to be completed by November 2011. The delays have allowed the project to take advantage of the latest LANDFIRE products and have given the steering committee time to investigate various fire effect input options.
- Don Carlton, project wildfire technical lead, reported that the acquisition of fire occurrence, weather, and fuels data is nearly complete. He also opened the hood of the WWA risk model and provided an explanation of how threat is calculated, as well as provided some initial results from Oregon.
- David Buckley, project GIS technical lead, reviewed the results of the fire effects data investigation and pilot project and status of the fire effect data development. He provided examples of the primary WWA model outputs – fire effect, threat and risk – for two pilot counties. He also touched on the upcoming reports and technology transfer components of the project.
- Jim Wolf, agency project manager, closed the presentation by reviewing upcoming decisions and deliverables for Partner States and the steering committee.

Project Timeline

The WWA began in July 2009 with a projected two year timeframe focusing on delivery of the assessment results and final report in November 2011. A complete project schedule is available on the WWA web site.

Upcoming milestones and events in May and June:

- Webinars will be held to assist state representatives in defining fire effects scores and weightings for each state. The project steering committee will establish region-wide values.
- States will be asked for some datasets to be used for reference (not model inputs, e.g. land ownership, protection boundaries).
- Pacific Island fire occurrence and fuels data will be acquired.
- The project steering committee will finalize "community" criteria and begin a scoping process to determine technology transfer components.

Helpful Links

The West Wide Wildfire Risk Assessment project has a dedicated web-page at http://www.westwideriskassessment.com/

LANDFIRE project - www.landfire.gov

Questions may be directed to Jim Wolf, WWA Coordinator jwolf@westwideriskassessment.com, 541-324-3446

Partner States

- Alaska
- Arizona
- California
- Colorado
- Hawái
- Idaho
- Kansas
- Montana
- North Dakota
- Nebraska
- New Mexico
- Nevada
- Oregon
- South Dakota
- Utah
- Washington
- Wyoming
- Territory of Guam
- Republic of Palau
- Federated States of Micronesia
- American Samoa
- Commonwealth of Northern Mariana Islands