

## Appendix I

### Urban Wildland Interface Communities within the Vicinity of Federal Lands that Are at High Risk from Wildfire - 2001

This updated list of urban wildland interface communities was published in the *Federal Register* on August 17, 2001. It indicates those communities for which the Secretaries have ongoing projects, and identifies reasons why treatments are not planned or ongoing in the remaining communities in FY 2001. The initial list of “WUI” communities, published in the *Federal Register* on January 4, 2001, was prepared in accordance with Title IV of the FY 2001 Appropriations Act for the Department of Interior and Related Agencies (Pub. L. 106-291). The list was compiled from preliminary information provided by the States and Tribes. The information in the updated list was compiled at the State and/or Tribal level by **collaborative interagency groups**. As a result of this collaborative effort, the updated list better reflects the relationship between Federal lands and the urban wildland interface problem in the United States.

Due to the specificity of Congressional direction, the list set out in this notice contains only those communities identified by the States or Tribes as “in the vicinity of Federal land.” The WUI is, however, not limited to communities in the vicinity of Federal land. The Federal agencies do not now plan to publish any subsequent lists in the *Federal Register*, but the **collaborative interagency teams** that developed the lists will update the community lists in each State as necessary. The information contained in the lists will be used by interagency groups of land managers at the State and/or Tribal level to **collaboratively identify priority areas** within their jurisdictions that would benefit from hazard reduction activity. In December 2003, the Chief of the Forest Service, Dale Bosworth, transmitted to the Regions a report by the National Association of State Foresters, entitled *Field Guidance: Identifying and Prioritizing Communities at Risk*, to be used by States to update their lists. The letter directed the Regions to be fully engaged with State Foresters and other federal, Tribal and local partners in implementing this process.<sup>1</sup>

### Wildland Urban Interface Definition

The Southwestern Region has used the following definition for Wildland Urban Interface (WUI) zones:

“WUI includes those areas of resident populations at imminent risk from wildfire, and human developments having special significance. These areas may include critical communications sites, municipal watersheds, high voltage transmission lines, observatories, church

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<sup>1</sup> “Field Guidance: Identifying and Prioritizing Communities at Risk,” National Association of State Foresters, June 27, 2003. <http://www.fireplan.gov/reports/424-438-en.pdf>

camp, scout camp, research facility, and other structures that if destroyed by fire, would result in hardship to communities. These areas encompass not only the sites themselves, but also the continuous slopes and fuels that lead directly to the sites, regardless of the distance involved.”<sup>2</sup>

The HFRA, Section 101 (16), defines WUI as:

- (A) an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or
- (B) in the case of any area for which a community wildfire protection plan is *not* in effect--
  - (i) an area extending ½-mile from the boundary of an at-risk community;
  - (ii) an area within 1 ½ miles of the boundary of an at-risk community, including any that—
    - I. has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;
    - II. has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or
    - III. is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and
  - (iii) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.

All projects under HFRA should use the HFRA definition. If not under HFRA, other projects may continue to use the Region 3 definition.

\*WUI is Wildland-Urban Interface. Public lands within the Wildland-Urban Interface include those near or adjacent to private land with structures (generally within ½ mile), within ½ mile of utility rights of way, and near other structures of value. Within the urban-interface areas, the management/resource objectives are to reduce the hazard of wildfire adjacent to private property and utility rights of way through fuel reduction.

The GAO report *Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats* (RCED-99-65) found that fuel build up was a major problem in the west and recommended that the Forest Service develop a cohesive strategy for reducing fuel accumulations. *Protecting People and Sustaining Resources in Fire-Adapted Ecosystems: A Cohesive Strategy* (Oct.

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<sup>2</sup> FSM 5140, R3 Supplement No.: 5100-2000-2

2000) is the Forest Service’s response to the GAO report. It established a framework to restore and maintain ecosystem health in fire-adapted ecosystems in the west. It defined five Fire Regimes and three categories of Fire Regime Condition Class:

Fire Regime Group	Frequency (Fire Regime Interval)	Severity
I	0-35 years	Low severity
II	0-35 years	Stand replacement severity
III	35-100+ years	Mixed severity
IV	35-100+	Stand replacement severity
V	>200 years	Stand replacement severity

*Condition Class 1* – Lowest risk of destructive wildfires, closest to natural conditions, fire intensities low and generally ecologically beneficial.

*Condition Class 2* – Vegetation denser because several cycles of fire have been missed and natural “thinning effect” of fire lost. Higher risk of destructive wildfires due to increased fuel load.

*Condition Class 3* – Many fire cycles missed, many small trees and much dead and down material on forest floor, highest risk of intense and damaging wildfire.

The Cohesive Strategy identifies four priority areas for treatment:

- Wildland urban interface
- Readily accessible municipal watersheds
- Threatened and endangered species habitat
- Maintenance of existing low risk Condition Class 1 areas.

Southwest Quadrant

Wildland Urban Interface Methodology

May 8, 2005

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### Extent of Analysis

The analysis was done for all lands containing, or adjacent to, WUI within the Southwest Quadrant of the Uncompahgre Plateau. This methodology is derived from and is consistent with previous Interagency analysis of the Spring Creek and Dry Creek watersheds located in the Southeast Quadrant of the Uncompahgre Plateau. The WUI methodology developed for the Spring Creek and Dry Creek was adopted based on recommendations of the SW Quadrant Mosaic Working Group during a collaborative workshop in Delta, CO on January 18-19, 2005 and in a public meeting and working group session in Norwood, Colorado on January 20, 2005. All aspects of the methodology were reviewed again by the Norwood Interagency Fire Management Officer, Assistant Fire Management Officer, GMUG Forest Fire Planner and the Montrose Interagency Fire Ecologist. Some modifications were incorporated to reflect the specific fire management situation on the SW Quadrant of the Uncompahgre Plateau.

All private lands within the watersheds, as well as federal lands within one mile of those private lands, were analyzed. Lands outside of the watershed boundary within one mile of WUI were also included since treatment of those locations might be necessary to protect WUI. In addition all lands within one mile of power lines were analyzed. Federal lands more than one mile from private lands or power lines were not considered, unless they contained significant structural improvements. The rationale for evaluating the WUI interface at one mile is due to the past fire history of the area which includes the majority of the large fire events in the last ten years in the Montrose Interagency Dispatch Zone, reported naturally ignited fire starts, the general southwest aspect of the SW Quadrant reflecting direction of primary storm fronts, prevailing winds, diurnal solar heating loads, and the general slope of the southwest Plateau's topography that contributes to the potential for significant wildfire runs where fuels are continuous.

### Primary Factor Descriptions, Risk Levels, and Justification

Density of Development data was obtained by the US Forest Service from San Miguel, Montrose and Ouray County plat data for subdivisions that have been filed on at present. Some of these subdivisions have been developed while others have not. By including planned, but undeveloped, subdivisions in the analysis the agencies can analyze future needs and begin planning and implementing projects which will be needed within 5-10 years. Planning and

implementation of projects is much easier prior to lots being sold because only the developer is involved in coordination and notification.

Vegetation data was derived from existing data being utilized by the Uncompahgre Project. Vegetation types used, from low elevation to high elevation, were salt desert shrub, grassland, sagebrush, pinyon/juniper, ponderosa pine, mountain shrub, aspen, and spruce/fir.

Aspect and Slope were derived from existing GIS data.

Fire Occurrence data for public land was derived from 10-year historic data held by Montrose Interagency Dispatch Center. Private land fire occurrence data is difficult to obtain and may be inaccurate due to different Fire Districts reporting fires with various consistency. Because of these inconsistencies all private land fire occurrence was rated as moderate.

The four primary factors of Density of Development, Vegetation, Aspect and Slope, and Fire Occurrence were each broken into 3 fire risk levels; high, moderate, and low. These risk levels, or ratings, are shown in Table 1.

Table 1: Ratings of Primary Factors

	Density of Development	Vegetation Type	Aspect and Slope	Fire Occurrence
High Fire Risk	.1-10 acre lot size	Ponderosa Pine, Ponderosa Pine /oak Pinyon/Juniper	135-315 degree aspects, all slopes	Highest Density of Fire Occurrence
Moderate Fire Risk	10-40 acre lot size	Sagebrush, Mountain Shrub including oak and Mountain mahogany, Aspen, Aspen with conifer understory, Spruce/Fir	315-135 degree aspects, slopes >20%	Moderate Density of Fire Occurrence (All private lands rated as moderate)
Low Fire Risk	40 plus acre lot size	Grassland, Salt Desert Shrub, Semi-	315-135 degree aspects,	Lowest Density of Fire Occurrence

	Density of Development	Vegetation Type	Aspect and Slope	Fire Occurrence
		desert grasslands	slopes <20%	

Justifications for Density of Development ratings relate to life and property and include 1) higher population density requires greater protection of life and 2) higher development values justify greater effort to reduce risk to that property value.

Justifications for Vegetation Type ratings include 1) ponderosa pine stands are often unnaturally dense and support greater fire intensities with higher potential for occurrence than other vegetation types, 2) Pinyon/juniper stands are often unnaturally dense and continuous and have potential to support high fire intensities with high resistance to control, and 3) other vegetation types generally support lower fire intensities (grass, shrub, and aspen types) or have lower fire frequencies (spruce/fir). In addition the ponderosa pine and pinyon/juniper vegetation types always rate as a Fire Condition Class 2 or 3, while some of the other vegetation types rate as FCC 1 or sometimes 2.

Justification for Slope and Aspect ratings include 1) fire risk is generally higher on south and west aspects due to increased exposure to the sun and subsequent increased drying and heating and 2) increased exposure of these aspects and slopes to both general and frontal winds. The justification for Fire Occurrence ratings was that areas with higher fire occurrence are exposed to more frequent risk than areas with lower fire occurrence.

### Weighting of Primary Factors

Socially and statistically, the four primary factors are not of equal importance. For example, the National Fire Plan emphasizes treatment of vegetation to protect structures. Because our primary purpose and strategy is to protect structures by treating fuels, the Density of Development and Vegetation Type factors were weighted higher than Slope/Aspect or Historic Fire Occurrence. The weightings for each primary factor are shown in Table 2.

Table 2: Weighting of Primary Factors

<u>Primary Factor</u>	<u>Weighting</u>
Density of Development	0.4
Vegetation Type	0.3
Aspect/Slope	0.2

Historic Fire Occurrence	<u>0.1</u>
Total	1.0

### Conclusion

Based on the above factors, ratings, and weightings, a map displaying high, moderate, and low risk was developed. The map was analyzed by fire managers, fuels staff, and ecologists for accuracy and was deemed to be accurate. It was presented to the UP Technical Committee and was accepted. Subsequently the “high risk” areas have become Wildland Urban Interface polygons in which emphasis is on creating a desired vegetative mosaic for each vegetation type. The desired mosaics were developed by fire, fuels, and ecology staff and were designed to reduce fire occurrence, fire behavior, and resistance to control while increasing public and firefighter safety in the WUI polygons.

### Future Needs

Over time, more subdivisions will be approved and developed, leading to a continued need to reduce fuels in new locations. This process can be re-run in the future to obtain modified, or new Wildland Urban Interface polygons. In addition, the primary factors could be modified and the breakdown of high, moderate, and low for each factor could be modified. Weighting factors could also be changed in future runs. Lastly, the breakdown in the final high, moderate, and low ratings could be modified; for this run the breakdown was low (0-.8), moderate (.8-1.6) and high (1.6-2.4).

**Modified By John Moore and Cheryl O’Brien on June 23, 2005. See new Methodology for an addition of two more risk rating**