



Wildfire Hazard Severity Rating Checklist for Arizona Homes and Communities

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ISSUED AUGUST 2002 BY:

DOUGLAS RAUTENKRANZ
Interim Forest Health
Specialist

FRED DENEKE
Interim Fire Education
Specialist

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College of Agriculture and Life Sciences P.O. Box 210036 • Tucson, Arizona 85721-0036

Introduction

Many Arizona residents own homes in or near the forests, woodlands, chaparral, and grasslands to take advantage of the amenities of living in a natural environment. Fire protection for homes in rural and remote areas is limited when compared to living in an urban area. This checklist is designed to assist an individual homeowner or a group of homeowners living in a remote area to assess the relative wildfire hazard severity around a home, neighborhood, subdivision, or community. Once wildfire hazard severity is determined, information on measures to mitigate wildfire hazards can be obtained from these additional fact sheets:

- *AZ 1288, Homeowners "Inside/Out" FIREWISE Checklist*
- *AZ 1289, FIREWISE Plant Materials*
- *AZ 1290, Creating Wildfire-Defensible Zones*
- *AZ 1291, Fire Resistant Landscaping*
- *AZ 1299, Forest Home Fire Safety*

How to use the checklists

Evaluating wildfire hazard severity for an individual home.

1. Use the **Home** checklist.
2. Assign points in each category according to the values given in the **Points** column.
3. Record the assigned point values in the **Home Points** column.
4. Total the points in the **Home Points** column and compare it to Table 1 to find your overall **home wildfire hazard severity**.

Evaluating wildfire hazard severity for a neighborhood, subdivision or community.

1. Use the **Community** checklist.
2. Begin by evaluating individual homes in the community as described above.
3. Calculate the community points for each category by averaging the category points for all homes.
4. Record the average values in the **Community Averages** column.
5. Total the points in the **Community Points** column and compare it Table 1 to find the overall **wildfire hazard severity** that exists in your community or subdivision.

Table 1. Wildfire Hazard Severity Rating Scorecard.

Rating	Hazard Severity	Total Points
Excellent	Low	< 49
Good	Moderate	49 - 68
Poor	High	69 - 83
Very Poor	Extreme	84 +

The Wildfire Hazard Severity Checklists are adopted from the wildfire hazard severity analysis developed by the NFPA Forest and Rural Fire Protection Technical Committee. NFPA 299 Standard for the Protection of Life and Property from Wildfire, 1997, is the basis for the hazard severity evaluation

Home Wildfire Hazard Severity Checklist

Elements	Points	Home Points
A. Community Design		
1. Ingress and egress		
Two or more, primary roads	1	
One road, primary route	3	
One way in/out	5	
2. Primary road width		
Minimum of 20 feet	1	
Less than 20 feet	3	
3. Road Accessibility		
Smooth road, grade of 5% or less	1	
Rough road, grade of more than 5%	3	
Other	5	
4. Secondary road terminus (if applicable)		
Loop roads, cul-de-sacs		
Outside turning radius is greater than 50 feet	1	
Outside turning radius is 50 feet or less	3	
Dead-end roads		
Dead-end roads 200 feet or less in length	3	
Dead-end roads more than 200 feet in length	5	
5. Average lot size		
More than 10 acres	1	
Between 1-10 acres	3	
Less than one acre	5	
6. Street signs		
Present (4 inches or greater in size and reflectorized)	1	
Present (4 inches or less in size or not reflectorized)	3	
Not present	5	
B. Vegetation (Fuel Models)		
1. National Fire Danger Rating System fuel models		
Light (grasses, forbs, and sawgrasses)	1	
Medium (light brush and small trees)	5	
Heavy (dense brush, timber, and hardwoods)	10	
Slash (timber harvesting residue)	10	
2. Defensible space		
100 feet of defensible-space treatment around buildings	1	
30-70 feet of defensible-space treatment around building	5	
No defensible-space treatment around buildings	10	
C. Topography		
1. Slope		
Less than 9%	1	
Between 10-20%	4	
Between 21-30%	7	
Between 31-40%	8	
Greater than 41%	10	

Elements	Points	Home Points
D. Additional Rating Factors		
1. Rough topography that contains steep canyons	2	
2. Areas with a history of higher fire occurrence than surrounding areas due to special situations such as heavy lightning, railroads, escaped debris burning, arson, etc.	3	
3. Areas that are periodically exposed to unusually severe fire weather and strong dry winds.	4	
E. Roofing Material		
1. Construction material <i>(See explanation of Uniform Building Code fire-resistance classes)</i>		
Class A roof	1	
Class B roof	3	
Class C roof	5	
Non-rated	10	
Any roof with plastic skylights	10	
F. Existing Building Construction		
1. Materials (predominant)		
Noncombustible siding/deck	1	
Noncombustible siding/wood deck	5	
Combustible siding and deck	10	
G. Available Fire Protection		
1. Water source availability (on site)		
500 gallons per minute hydrants less than 1000 feet apart	1	
Hydrants producing less or other on-site water source available	2	
No hydrants or other on-site water resource available	10	
2. Water source availability (off site)		
Sources within 20 minute round-trip	1	
Sources within 21-45 minute round-trip	5	
Sources greater than a 46 minute round-trip	10	
H. Utilities (Gas and Electric)		
1. Placement		
All underground utilities	1	
One underground, one aboveground	5	
All aboveground	10	
I. Total for Home (Total all checklist points)		
1. Low Hazard: Less than 49 points		
2. Moderate Hazard: 49-68 points		
3. High Hazard: 69-83 points		
4. Extreme Hazard: 84+ points		

Community Wildfire Hazard Severity Checklist

Elements	Points	Community Averages
A. Community Design		
1. Ingress and egress		
Two or more, primary roads	1	
One road, primary route	3	
One way in/out	5	
2. Primary road width		
Minimum of 20 feet	1	
Less than 20 feet	3	
3. Road Accessibility		
Smooth road, grade of 5% or less	1	
Rough road, grade of more than 5%	3	
Other	5	
4. Secondary road terminus (if applicable)		
Loop roads, cul-de-sacs		
Outside turning radius is greater than 50 feet	1	
Outside turning radius is 50 feet or less	3	
Dead-end roads		
Dead-end roads 200 feet or less in length	3	
Dead-end roads more than 200 feet in length	5	
5. Average lot size		
More than 10 acres	1	
Between 1-10 acres	3	
Less than one acre	5	
6. Street signs		
Present (4 inches or greater in size and reflectorized)	1	
Present (4 inches or less in size or not reflectorized)	3	
Not present	5	
B. Vegetation (Fuel Models)		
1. National Fire Danger Rating System fuel models		
Light (grasses, forbs, and sawgrasses)	1	
Medium (light brush and small trees)	5	
Heavy (dense brush, timber, and hardwoods)	10	
Slash (timber harvesting residue)	10	
2. Defensible space		
100 feet of defensible-space treatment around buildings	1	
30-70 feet of defensible-space treatment around building	5	
No defensible-space treatment around buildings	10	
C. Topography		
1. Slope		
Less than 9%	1	
Between 10-20%	4	
Between 21-30%	7	
Between 31-40%	8	
Greater than 41%	10	

Elements	Points	Community Averages
D. Additional Rating Factors		
1. Rough topography that contains steep canyons	2	
2. Areas with a history of higher fire occurrence than surrounding areas due to special situations such as heavy lightning, railroads escaped debris burning, arson, etc.	3	
3. Areas that are periodically exposed to unusually severe fire weather and strong dry winds.	4	
E. Roofing Material		
1. Construction material <i>(See explanation of Uniform Building Code fire-resistance classes)</i>		
Class A roof	1	
Class B roof	3	
Class C roof	5	
Non-rated	10	
Any roof with plastic skylights	10	
F. Existing Building Construction		
1. Materials (predominant)		
Noncombustible siding/deck	1	
Noncombustible siding/wood deck	5	
Combustible siding and deck	10	
G. Available Fire Protection		
1. Water source availability (on site)		
500 gallons per minute hydrants less than 1000 feet apart	1	
Hydrants producing less or other on-site water source available	2	
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2. Water source availability (off site)		
Sources within 20 minute round-trip	1	
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Sources greater than a 46 minute round-trip	10	
H. Utilities (Gas and Electric)		
1. Placement		
All underground utilities	1	
One underground, one aboveground	5	
All aboveground	10	
I. Total for Community (Total all checklist averages)		
1. Low Hazard: Less than 49 points		
2. Moderate Hazard: 49-68 points		
3. High Hazard: 69-83 points		
4. Extreme Hazard: 84+ points		

Explanation of Uniform Building Code Fire-resistance Classification

The Uniform Building Code Standard 32-7 specifies the test standard for rating the fire-resistance of roof assemblies. Tests are based on Standard Specification 790, December 15, 1978, of the Underwriters Laboratories, Inc. See Sections 1712 (b) 5, 3202, 5207 (a) 2 and Table No. 32-A, Uniform building Code.

Class A. Class A roof coverings are effective against severe fire test exposures. Under such exposures, roof coverings of this class are not readily flammable, afford a high degree of fire protection to the roof deck, do not slip from position, and pose no flying-brand hazard. Examples are concrete shingles and tile, slate singles, clay tile, mineral or fiberglass reinforced asphalt shingles. Metal roof or fiber-cement shingles also qualify as Class A if they have a gypsum underlayment.

Class B. Class B roof coverings are effective against moderate fire test exposures. Under such exposures, roof coverings of this class are not readily flammable, afford a moderate degree of fire protection to the roof deck, do not slip from position, and pose no flying-brand hazard. Examples are metal sheets or metal shingles without a gypsum underlayment.

Class C. Class C roof coverings are effective against light fire test exposures. Under such exposures, roof coverings of this class are not readily flammable, afford a measurable degree of fire protection to the roof deck, do not slip from position, and pose no flying-brand hazard. Examples are asphalt shingles and wood shingles chemically treated to resist fire.

Non-rated. Non-rated roof coverings do not provide protection against fire exposure. Non-rated roof assemblies are readily flammable and do not protect the building interior from fire. Flying-brands may be produced which will threaten surrounding structures. Examples are untreated wood shakes and shingles.

More information, including test descriptions, is available at

<http://www.ucfpl.ucop.edu/UWI%20Documents/005.PDF>

Arizona FIREWISE Communities Cooperators

University of Arizona, Northern Arizona University, Arizona State Land Department, Arizona Fire Chiefs Association, Arizona Fire Districts Association, Arizona Emergency Services Association, Arizona Planning Association, Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, Inter-Tribal Council of Arizona, National Park Service, USDA Forest Service, USDA Natural Resources Conservation Service, U.S. Fish and Wildlife Service

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