

REDUCING RISK OF WILDFIRES IN ARIZONA:

YOUR OPINION MATTERS



*Diagram Credit:
ARE YOU FIREWISE FLORIDA?*

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Wildfires in Arizona

Wildfires are uncontrolled fires that burn forests, brush, and grasslands. Wildfires burn about 323,863 acres per year in Arizona (about 4% of Arizona's forest land), and about 47 houses are destroyed by wildfire. In 2011, wildfires burned over 1,000,000 acres and 111 homes were destroyed in Arizona.

Section A: Landscaping Where You Live

In this section, we ask a few questions about the landscaping around your home and in the neighborhood where you live. Then we ask you to assess the risk of your home being damaged if a wildfire occurs in your neighborhood.

- Q1. How would you describe the majority of the ground cover in your yard **within** 30 feet of your house? (CIRCLE ONE)
1. Mostly mowed lawn, gravel, or bare ground
 2. Mostly pine needles
 3. Mostly tall grass
 4. Other (please describe) _____
- Q2. How would you describe the shrubs growing in your yard? (CIRCLE AS MANY AS APPLY)
1. No shrubs
 2. 1-5 shrubs within 30 feet of my house
 3. More than 5 shrubs within 30 feet of my house
 4. Shrubs growing up to, or above, the eaves of my house
 5. Other (please describe) _____
- Q3. How many trees are located within 30 feet of your house? (CIRCLE ONE)
- 1 No trees within 30 feet of my house
 - 2 1-5 trees within 30 feet of my house
 - 3 6 or more trees within 30 feet of my house
 - 4 Don't know
- Q4. How would you describe the view of your house from neighboring property? (CIRCLE ONE)
1. Easily seen from all directions
 2. View partially blocked from some directions
 3. Difficult to view from all directions
 4. Other (please describe) _____

Q5. How would you describe the landscaping in your neighborhood? (CIRCLE AS MANY AS APPLY)

1. Mostly lawns, small shrubs and trees
2. Mostly lawns and large shrubs and trees
3. Easy to walk through forest or brush
4. Difficult to walk through forest or brush
5. Other (please describe) _____

Q6. Are there any natural areas (undeveloped land) within ½ mile of your home that contain woodland or brush?

1. Yes (Go to Q7)
2. No (Go to Q8)

Q7. How would you describe any natural areas near where you live that contain woodland or brush? (CIRCLE AS MANY AS APPLY)

1. The natural area is small (less than 5 acres)
2. The natural area is large (greater than 5 acres)
3. The natural area is mostly covered with scattered trees/ brush (easy to see through)
4. The natural area is mostly covered with dense trees/ brush (difficult to see through)
5. The natural area contains a pond, lake, or wetlands
6. Other (please describe) _____

What You Can Do To Reduce Wildfire Risk

You can reduce the risk of a wildfire damaging your home by removing highly flammable vegetation within 30 feet of your home.

High Fire Risk Landscaping: Wildfire experts in Arizona have determined that your home is at a **high risk** of being damaged by wildfire if most of the following are present around your home and in your neighborhood:

- A thick bed of pine needles on the ground (this carries fire across the ground)
- A continuous layer of highly flammable shrubs over 3 feet tall such as hedges (fire climbs into the trees)
- Vines and small trees underneath taller trees (fire climbs into to the trees)
- Several (6 or more) trees within 30 feet of your house, and a few trees (1-5) touching or extending over your home (trees can carry fire to the roof)
- Dense vegetation blocking the view of your home from the street
- Dense, difficult to walk through areas of forest within ½ mile of your home

Medium Fire Risk Landscaping: Your home would be at a **medium risk** of being damaged by a wildfire if most of the following characteristics are present:

- Unmowed or tall grass, weeds or small shrubs, and fine bark as mulch
- A few (1-5) highly flammable shrubs over 3 feet tall
- No vines or small trees underneath taller trees
- 1 to 5 trees within 30 feet of your house; none touch the house or over the roof
- A partial view of your home from the street
- Easy to walk through areas of forest within ½ mile of your home

Low Fire Risk Landscaping: Your home would be at a **low risk** of being damaged by wildfire if most of the following characteristics are present:

- Mowed lawn, bare ground, pavement or gravel, chunky bark used for mulch
- No highly flammable shrubs over 3 feet tall
- No vines or small trees underneath larger trees
- Trees within 30 feet of your house should not touch each other or touch the house
- A clear view of your home from the street
- Easy to see through areas of forest or brush within ½ mile of your home

Q8. Thinking about the descriptions of fire risk above and the characteristics of the landscape surrounding your house and within ½ mile of your house, how would you describe the risk of your house being damaged if a wildfire were to occur in your neighborhood? (CIRCLE ONE NUMBER)

1. Low risk
2. Medium risk
3. High risk

Chances of Your House Being Damaged by Wildfire

The chances that a wildfire will damage or destroy your house depends on several factors, including the type of vegetation in your yard and your neighborhood and how easy or difficult it is for firefighters to get to a wildfire while it is still small. The average annual chance of your house being damaged or destroyed by wildfire is computed by:

Average Annual Chance = Number of houses burned in one year divided by total number of houses (For example: $0.01 = 10/1,000$; or 1% annually)

To help you think about the average annual chance of everyday hazards happening to you, please examine the “**CHANCE LADDER**” on the insert. Locate the “step” on the ladder that states “A wildfire damaging or destroying your house ...” Think about the location of this step in relation to other steps on the ladder.

Then, turn the paper over and examine the two “**CHANCE GRIDS**”. Read the information and think about the chances that your house will be damaged or destroyed by a wildfire in a single year and during a ten year period.

Section B: Expected Losses from Wildfire

In this section, we ask a few questions about the chances that your house would be damaged from a wildfire and the monetary losses to you. This is the approach fire professionals and insurance agents use to evaluate fire risk. This information will help you in answering the remaining questions.

Q9. Looking at the **CHANCE LADDER**, is the chance that your house will be damaged or destroyed by wildfire during a typical year greater than or less than the chance of dying from a fall during a typical year?

1. Greater than
2. Less than
3. Unsure

Q10. Looking at the **UPPER CHANCE GRID**, if you lived in this neighborhood, what is the average annual chance that your house would be damaged or destroyed by wildfire?

1. Average annual chance = 5 in 1000
2. Average annual chance = 50 in 1000
3. Unsure

Q11. Looking at the **LOWER CHANCE GRID**, if you lived in this neighborhood, the average chance that your house would be damaged or destroyed by a wildfire over a **ten-year period** is approximately 50/1000 (which is 5%). For the neighborhood where you currently live, do you think this 5% chance is:

1. Too low
2. Too high
3. About right
4. Don't know

Section C: What Fire Managers Can Do To Reduce Fire Risk

In addition to what you can do to reduce flammable vegetation around your home, county and city fire managers attempt to reduce the chance that a wildfire will damage homes by removing some flammable vegetation in forests and undeveloped areas near neighborhoods. In this section, we describe 3 public wildfire prevention programs that are used in Arizona. Then, we ask you about what you think of the public and private wildfire management techniques.

Public Wildfire Prevention Methods

These methods reduce the amount of shrubs and small trees in a forest that could carry fire along the ground or that could carry a fire from the ground up into the tops of trees. There are three major *vegetation management* techniques that fire managers use to reduce wildfire probabilities:

1. *Prescribed burning* – by setting controlled fires, fire managers reduce the amount of forest vegetation that can sustain a fire.
2. *Mechanical treatment* – by “mowing” low and medium height shrubs and small trees fire managers reduce the amount of vegetation that can sustain a fire.
3. *Herbicide treatment* – by using Government approved herbicides which are not dangerous to wildlife or to drinking water supplies, fire managers reduce the amount of forest vegetation that sustain a fire.

A **Ten-year Vegetation Management Program** consists of one or any combination of the three vegetation management techniques defined above used to remove hazardous fuels from the forest floor to reduce the probability of a fire occurrence. Sufficient funding does not currently exist to conduct these three activities everywhere they are needed. Thus, the costs for the above activities could be paid for by a one time lump sum payment into a County trust fund to be used only for the Ten-year Vegetation Management Program. A citizen advisory board would review the expenditures from the fund annually.

NOT SOMEWHAT VERY
-----SUCCESSFUL-----

Q12. How successful do you think a
Prescribed burning program would be? 1 2 3 4 5

Q13. How successful do you think a
Mechanical treatment program would be? 1 2 3 4 5

Q14. How successful do you think a
Herbicide treatment program would be? 1 2 3 4 5

Q15. How successful do you think the Ten-year *vegetation management* program would be? 1 2 3 4 5

Q16. Sufficient funding does not currently exist to conduct these three activities everywhere they are needed. A citizen advisory board would review the expenditures from the fund annually. Would you be willing to pay higher annual property taxes for any of the following Public Wildfire Prevention Activities in undeveloped areas near your neighborhood? (CHECK ONE BOX FOR EACH ACTIVITY)

- | | YES | NO |
|------------------------|--------------------------|--------------------------|
| • Prescribed burning | <input type="checkbox"/> | <input type="checkbox"/> |
| • Mechanical treatment | <input type="checkbox"/> | <input type="checkbox"/> |
| • Herbicide treatment | <input type="checkbox"/> | <input type="checkbox"/> |

Q17. Would you be willing to do any of the following Private Individual Wildfire Prevention Activities yourself, or have you done any of the following activities on your property? (CHECK ONE BOX FOR EACH ACTIVITY)

- | | WOULD DO | HAVE DONE | NO |
|--------------------------------------|--------------------------|--------------------------|--------------------------|
| • Trim lower branches on trees | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Remove vines from trees | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Remove trees and flammable plants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Remove branches hanging over house | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section D: What Wildfire Prevention Methods Do You Prefer?

- In this section, we are interested in learning what you personally are willing to do (if anything) to reduce the risk of a wildfire damaging your home. For each question in this section, you are presented with 3 alternatives, two of which reduce wildfire risks (expressed as 10 year average chances). Then, you are asked which, if either, of the alternatives you would choose.
- The chance of your house being damaged by a wildfire is varied across the alternatives, as is the amount of monetary damage, because wildfire conditions and property values vary between locations in Arizona. For your convenience, we have computed the Expected Loss associated with each alternative by multiplying the “Chance of your house being damaged in next 10 years” times the amount of “Damage to property”.
- The one time cost to you of the ten-year program is also varied so that we may better understand the importance of the cost in your decision. Please answer each question in this section without referring to previous questions.

Q18.	Alternative #1a	Alternative #2a	Alternative #3
	Public Fire Prevention	Private Fire Prevention	Do nothing additional
Chance of your house being damaged in next 10 years	10 in 1,000 (1%)	40 in 1,000 (4%)	50 in 1,000 (5%)
Damage to property	\$75,000	\$50,000	\$100,000
Expected 10 year loss = Chance x damage	\$750 during 10 years	\$2,000 during 10 years	\$5,000 during 10 years
One time cost to you for the ten-year program	\$200	\$1,000	\$0
I would choose: Please check one box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q19.	Alternative #1b	Alternative #2b	Alternative #3
	Public Fire Prevention	Private Fire Prevention	Do nothing additional
Chance of your house being damaged in next 10 years	10 in 1,000 (1%)	25 in 1,000 (2.5%)	50 in 1,000 (5%)
Damage to property	\$10,000	\$50,000	\$100,000
Expected 10 year loss = Chance x damage	\$100 during 10 years	\$1,250 during 10 years	\$5,000 during 10 years
One time cost to you for the ten-year program	\$100	\$500	\$0
I would choose: Please check one box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q20.	Alternative #1c	Alternative #2c	Alternative #3
	Public Fire Prevention	Private Fire Prevention	Do nothing additional
Chance of your house being damaged in next 10 years	40 in 1,000 (4%)	10 in 1,000 (1%)	50 in 1,000 (5%)
Damage to property	\$40,000	\$80,000	\$100,000
Expected 10 year loss = Chance x damage	\$160 during 10 years	\$800 during 10 years	\$5,000 during 10 years
One time cost to you for the ten-year program	\$300	\$100	\$0
I would choose: Please check one box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q21. Please describe why you chose the alternative you did in Questions 18-20.

Section E

In this section, we would like to learn a little bit about you for statistical purposes. We would like to remind you that all of your answers to this survey are strictly confidential. However, we need this information to be able to compare your responses with other people in Arizona.

Q22. Have you ever made any changes to your house or to the landscaping around your house to reduce the risk of wildfire?
(CIRCLE ONE)

1. YES 2. NO

Q23. Has your health, or the health of anyone else in your family, ever suffered from breathing smoke from a wildfire? (CIRCLE ONE)

1. YES 2. NO

Q24. Have you, or anyone else in your family, ever been bothered by smoke from a prescribed fire? (CIRCLE ONE)

1. YES 2. NO

Q25. Have you ever had to change your travel plans because of a wildfire? (CIRCLE ONE)

1. YES 2. NO

Q26. How concerned are you about wildfires in Arizona (CIRCLE ONE)

1. I am very concerned
2. I am somewhat concerned
3. I am not concerned at all

Q27. Do you currently have homeowners insurance? (CIRCLE ONE)

1. YES 2. NO

Q28. What is your gender? (CIRCLE ONE)

1. Female 2. Male

Q29. What are your ethnicity / race?

Ethnicity (CIRCLE ONE)

1. Hispanic or Latino 2. Not Hispanic or Latino

Race (CIRCLE ONE OR MORE)

1. American Indian or Alaska Native
2. Asian
3. Black or African American
4. Native Hawaiian or Other Pacific Islander
5. White

Q30. How old are you? (FILL IN THE BLANK) _____

Q31. What is the highest level of education you have completed?
(CIRCLE ONE NUMBER)

1. Less than high school
2. High school graduate or GED
3. Some college or technical school/ associate's degree
4. College graduate (Bachelor's degree or technical degree)
5. Postgraduate (Master's degree, Doctorate, Law degree, other professional degree)

Q32. What was your total household income before taxes for last year?
(CIRCLE ONE)

- | | |
|------------------------|--------------------------|
| 1. LESS THAN \$9,999 | 6. \$75,000 – 89,999 |
| 2. \$10,000-\$14,999 | 7. \$90,000 - \$104,999 |
| 3. \$15,000-\$29,999 | 8. \$105,000 - \$119,999 |
| 4. \$30,000 - \$44,999 | 9. \$120,000 or more |
| 5. \$60,000 - \$74,999 | |

Q33. Suppose that you are the only income earner in the family, and you have a good job guaranteed to give you and your current family income every year for life. You are given the opportunity to take a new and equally interesting job. The new job may be better (a 50-50 chance that it will double your family income; for example, from \$50 thousand to \$100 thousand annually.) or it may be worse (a 50-50 chance that it will cut your family income by one-half; for example, from \$50 thousand to \$25 thousand annually.). Would you take the new job?

1. YES
2. NO