



APPENDIX D: WILDFIRE ASSESSMENT

Community Wildfire Hazard Assessment Report
Johnson County, Kansas
Jason Hartman, Fire Prevention Specialist
Kansas Forest Service
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Objective

To provide base information on the status of Wildland Urban Interface issues that might have an impact on the safety of persons and/or property in Johnson County Kansas. The Wildland Urban Interface (WUI) is any location where a fire can spread from vegetation (wildland fuels) to man-made (urban fuels).

Methods

County wide boundaries of the WUI were downloaded from the USGS website GeoMac (www.geomac.gov), and other sources. This baseline data was then confirmed with a survey conducted by the Kansas Forest Service. During the survey areas both within and outside of the GeoMac WUI boundaries were inspected for any occurrence of threatening fuel types and/or fuel loads in close proximity to structures. Of special note is the area of Johnson county that falls within the GeoMac WUI boundary in the NE corner of the county including the municipalities of; Overland Park, Leawood, Meriam, Westwood, Fairway, Roeland Park, Mission, Mission Hills, Prairie Village, and Elmhurst. This area is a heavily urbanized area and therefore was not surveyed. The urban nature of this area does not mean that there is no hazard of a WUI fire, so a future survey of wildfire hazards in this area may be needed.

Findings (Refer to Map #1):

For the most part the GeoMac boundaries were fairly close to identifying those areas in the county that are the concentrations of population and therefore the most at risk for a wildfire causing structural or personal damage. **There very well may be additional areas and/or individual structures that are at risk, this survey and**

report is a preliminary step and does not assume to have found all areas in the county that may be at risk. Of the Johnson County communities surveyed, most received low to moderate ratings with only a couple receiving a high rating (see attached map #1). This report will now look at each of these areas in more detail.

The municipality of Olathe and the surrounding area were surveyed to have an overall low rating due to an apparent lack of larger and more volatile fuel types and an abundance of crop fields, shorter grasses and urbanized areas that will not carry wildfire as well as some other areas. However the communities around Lakeside Hills golf course could very easily benefit from some education on the clearing of wildland fuels away from structures for 30' in order to create a defensible space around the home or structure.

In most years the communities in and around Spring Hill, Edgerton, Gardner, and De Soto should not have abnormal cause for concern. In years of extreme drought the concentrations of fuels in the timbered areas of these communities will be capable of carrying intense fires through the dead and down hardwood fuels that is mixed in with eastern red cedars and grass in these communities. This concern is one to look into addressing, but since it will be a fairly rare occurrence the overall rating for these communities is moderate. Perhaps the most effective mitigation action that can be recommended for these communities is for homeowner and public education on the practice and effectiveness of treating their properties, with such practices as defensible space, in order to reduce the likelihood of a wildfire igniting any structures.

While the municipalities/communities of Holliday, Shawnee, Zarah, Monticello, Lenexa, and Stilwell did not themselves necessarily have wildfire hazard risks within their city limits, however there seemed to be several sub-divisions, developments, and unincorporated communities in their proximity that had hazard potential ranging from moderate to high. These areas need a more in depth and more detailed assessment to be completed than the broader scope of this initial assessment. **Once that is accomplished it is very likely that these communities could benefit from collaborative wildland/urban interface protection planning in the form of a program such as FIREWISE Communities USA, and/or a prioritized fuel reduction program.**

The only community to receive a high hazard rating at this initial stage is the residences around Gardner Lake. A high hazard exists due to the high number of structures that are intermixed with concentrations of tall grass, brush, cedar and hardwood timber fuels. Additionally it is apparent that there is sufficient fuel loading in the adjacent rural areas to pose a threat of wildfire to the communities around Gardner Lake. A parcel level assessment of the hazards along with plans to reduce them would be the recommendation of this report for this area.

Prioritized Fuel Reduction:

The following are some steps that can be taken by all communities in Johnson County to increase wildfire safety.

- 1) Reduce concentrations of dead and down timber in areas where past storm damage has led to a buildup of this type of wildfire fuel.
- 2) Thin concentrations of flammable eastern red cedars to a level where fire could not travel from one tree to another as a dangerous crown fire.
- 3) In areas with eastern red cedar and other flammable vegetation prune the branches at least twice the height of the surrounding grasses so that a grass fire will not carry into the canopy of the trees.
- 4) Maintain grasses to less than 4" height within 100ft of structures.
- 5) Maintain an area of 30ft cleared of volatile vegetation around structures.

Treatment of Structural Ignitability:

Regardless of the hazard rating of the surrounding area, any rural home is at risk from wildfire. For this reason the following protective recommendations should be passed onto homeowners living in the WUI.

Individual home protection can be made easier by breaking it down into Defensible Space Zones:

Zone 1 – Extends 30 feet from the edge of the home or any attached structure such as a deck or patio. This zone requires the most maintenance and the least amount of flammable material. Only a few scattered trees/bushes and no tall grasses should be in this zone. This is a zone of short green lawn and as little flammable debris as possible.

Zone 2 – Extends 75 feet beyond the edge of Zone 1. This zone contains more vegetation and flammable materials, but still needs regular maintenance activities to reduce fuel load and risk.

Zone 3 – Extends from the edge of Zone 2 to the property boundary. This zone includes the natural surroundings of your home. The vegetation closest to your home in this zone should still receive an annual "clean-up" such as mowing, pruning, removing dead vegetation, and thinning overcrowded trees and shrubs.

Note: Fire moves faster and burns more intensely uphill. Defensible space zones that are down slope from your home need to be extended beyond the above recommended distances based on slope steepness.

Additional Defensible Space Practices

- Fire resistant roofing materials such as metal, tile, or at least Class C shingles prevent your roof from being a source of ignition from the hot embers of a wildfire.
- Windows should be at least double paned. In case of wildfire move flammable materials such as curtains and furniture away from windows. Radiant heat can ignite these materials through windows.
- Stone, brick or other non-flammable siding is safer than wood or vinyl siding.
- Zone 2 should have tree crowns spaced at least 10 feet from each other. All trees in Zones 1 & 2 should be pruned to a height of 3 times the height of surrounding vegetation (usually 6-10 feet), but do not remove more than 1/3 of the live crown.
- Propane tanks, gasoline, and wood piles should be stored 30 feet from home.
- All exterior vents should be covered with a non-flammable wire mesh ½ inch or smaller.
- Remove all dead vegetation from Zones 1 & 2. Especially prune any dead branches that overhang the roof or are within 15 feet of the chimney.
- If your property has no large year-round water source, consider working with neighbors or a home owners association to install one.
- Keep trees pruned and healthy in Zones 1 & 2.
- Maintain power line clearance. Have an arborist assist with existing trees that interfere with power lines. When planting new trees near power lines consider a species that has a mature height less than 25 feet.
- Make sure your address is clearly visible from the road especially in low visibility conditions.
- If you burn trash or use fire for vegetation management, consult local regulations and obtain proper training. Strictly follow all safety precautions!

Conclusions

This survey was an initial step and only overview in scope and scale, more detailed assessments might be needed in the future. No community should consider themselves to be immune to the dangers of Wildland Urban Interface, especially as more and more of the urban population moves out onto small rural parcels. Kansas is not thought of as a state with a great Wildland Urban Interface problem, and only proactive actions will keep us that way! The Kansas Forest Service and national programs such as FIREWISE Communities USA have the tools to help you be proactive, contact Jason Hartman, Fire Prevention Specialist at (785) 532-3316 for assistance.

Johnson County WUI Map #1

