



**Community Wildfire Hazard Risk Assessment
Sun Country
Cle Elum, WA**

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Introduction

The Firewise Communities/USA program is designed to provide an effective management approach for preserving wildland living aesthetics. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following community assessment is intended as a resource to be used by Sun Country residents for creating a wildfire protection plan. The plan developed from the information in this assessment should be implemented in a collaborative manner, and updated and modified as needed.

This assessment was prepared by a team representing Firewise Communities/USA that included Suzanne Wade, Kittitas County Conservation District (KCCD), Matt Eberlein, Washington Department of Natural Resources (WADNR), and Russ Hobbs, Chief (Fire District #7).

Definition of the Home Ignition Zone

The Sun Country Community is located in a wildfire environment. Wildfires will happen--exclusion is not a choice. The variables in a fire scenario are when the fire will occur, and where. This assessment addresses the wildfire-related characteristics of this community. It examines the area's exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.

A house burns because of its interrelationship with everything in its surrounding home ignition zone---the house and its immediate surroundings. To avoid a home ignition, a homeowner must eliminate the wildfire's potential relationship with his/her house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing a home ignition zone is an easy-to-accomplish task that can result in avoiding home loss. To accomplish this, flammable items such as dead vegetation must be removed from the area immediately around the structure to prevent flames from contacting it. In addition, reducing the volume of live vegetation will affect the intensity of the wildfire as it enters the home ignition zone.

Included in this assessment are observations made while visiting Sun Country with the DNR Fire Prevention Team as well as information from the Kittitas County Wide Fire Protection Plan (CWFP). The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of affected residents. Sun Country residents can reduce their risk of destruction during a wildfire by taking actions within their home ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 to 200 feet.

The result of the assessment is that wildfire behavior will be dominated by the residential characteristics of this area. The good news is that by addressing community vulnerabilities, residents will be able to substantially reduce their exposure to loss. Relatively small investments of time and effort will reap great rewards in wildfire safety.

Site description

Sun Country is located in Kittitas County, South of Interstate 90 off Exit 78. This community has been identified by the WADNR as a Moderate to High Hazard area for wildfire due to various physical characteristics of landscape and the proximity of home to wildlands.

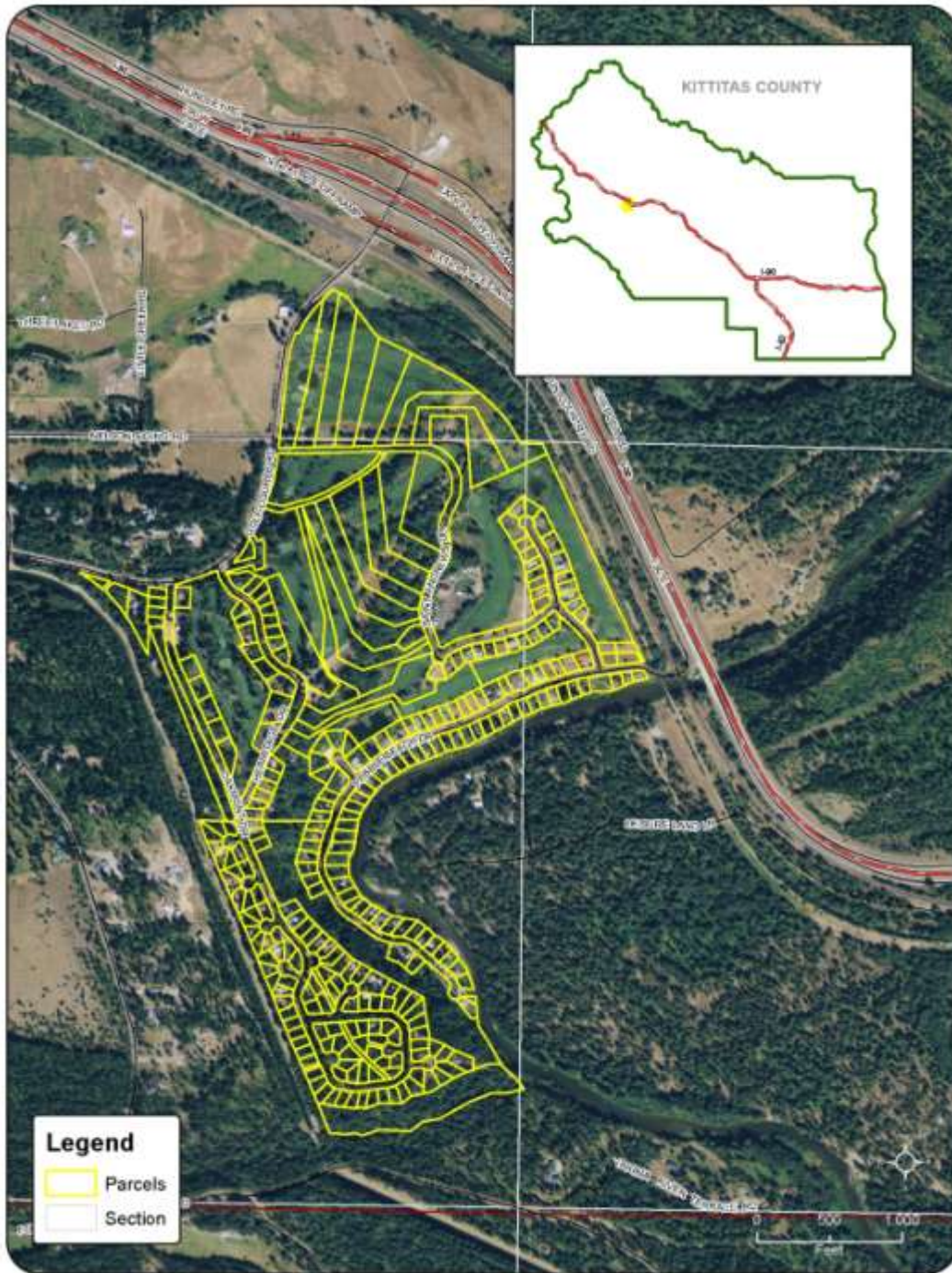


Figure 1 Parcel locations in Kittitas County

Sun Country is located in the Yakima River watershed. The area is predominately comprised of ponderosa pine, Douglas fir, grand fir and some deciduous trees such as alder and vine maple. The area above the golf course, accessed through Oakmont Road, is overstocked with confers and needs both thinning and pruning to reduce wildfire risk. In places, dense patches of smaller diameter trees exist and need to be thinned for forest health as well as firewise purposes.

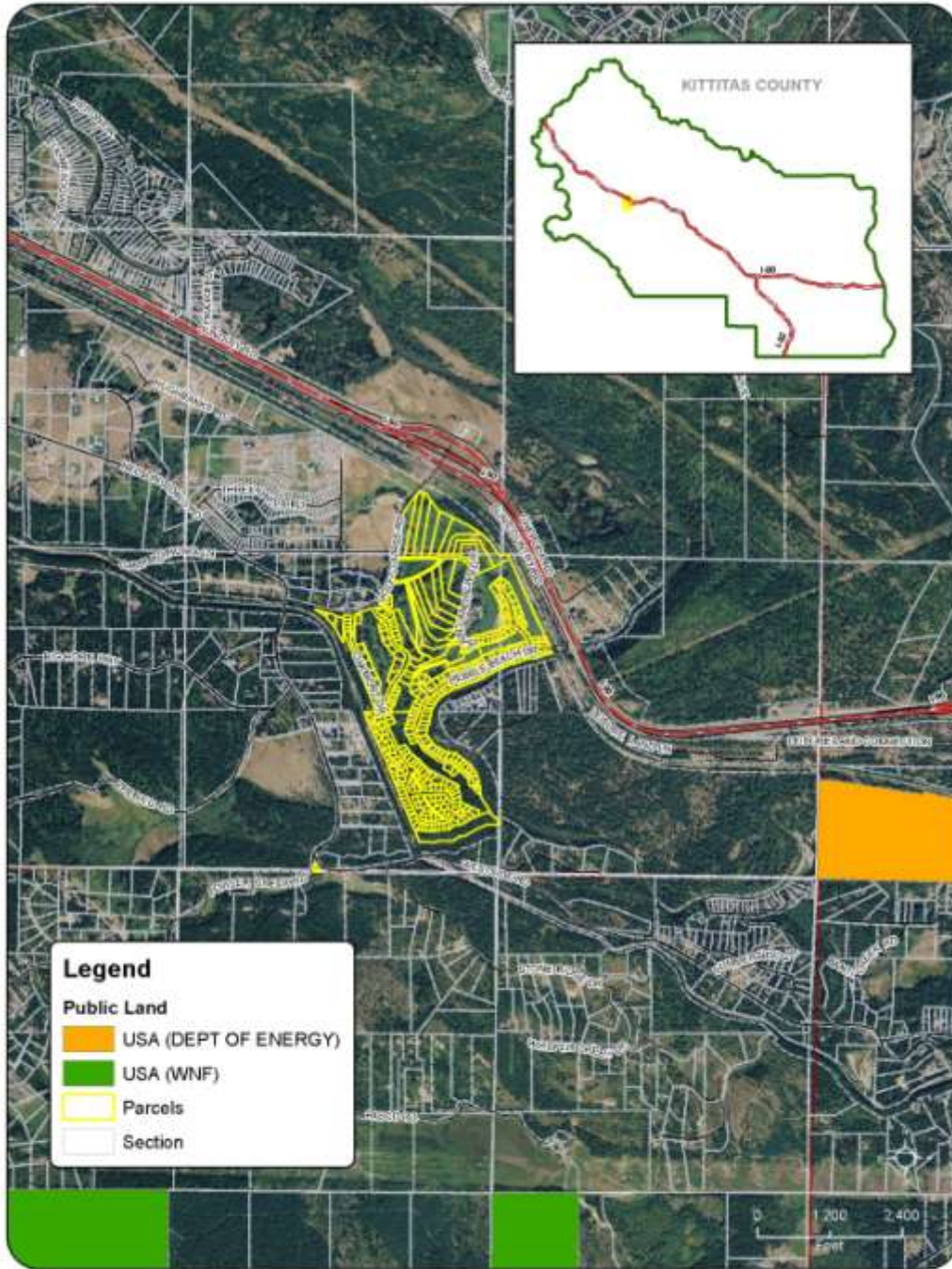


Figure 2 Public Land locations in the area.

Assessment process

WA DNR, staff from the Conservation District and Fire District 7 collaborated on this assessment. Individual assessments will be offered to each landowner.

Important considerations

The Firewise Communities/USA program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a wildland/urban interface setting. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones during a wildfire.

Insect Damage

Western Spruce Budworm had caused a lot of damage in the upper county (see figure 3). The dead and dying trees caused either by the budworm, or other insects that preyed on the diseased trees, need to be addressed because of the added fuels they provide in the area. During a recent visit, spruce budworm activity was noted in the area.

Insect surveys conducted by the WA DNR point out that western pine beetle and Fir Engraver are also in the area. These surveys are indicating mortality (caused by the western pine beetle) may be increasing over historical levels. With more small ponderosa pine present, moisture competition is high, which results in small stands that are of poor vigor. This can cause an increase of beetle infestation. Once the infestation begins in the small trees, they often attack large healthy ponderosa pine still present in the stand. Attacks by these insects can leave large patches of dead trees that dry out and will more easily ignite.

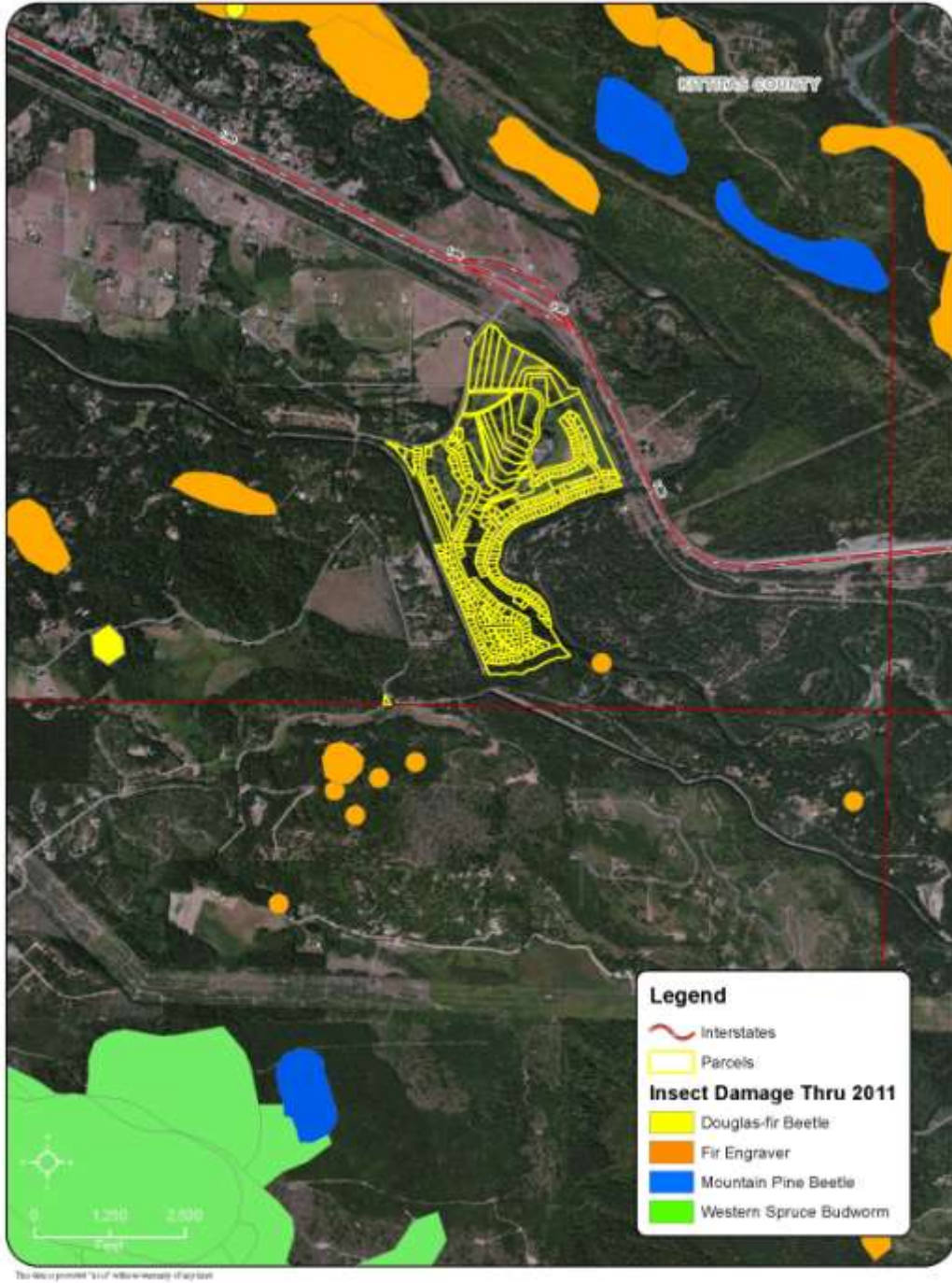


Figure 3 Insect damaged areas 2007-11.

Fire History

High temperatures in Kittitas County during wildfire season dry out fuel sources and allow fuels to ignite and burn faster. Low humidity and lack of precipitation also increases the chance of wildfire ignition. Most sources agree that the winds in this area can have the biggest impact on wildfire's behavior. The dry windy weather of Kittitas County can cause wildfires to grow quickly and also carry firebrands as far as a mile or

more. Drought conditions must also be taken into consideration given that drying vegetation can ignite and burn more easily. Based on data collected by the WA DNR, in the last 42 years, within a 3-mile radius of this community, approximately 200 fires have occurred—primarily from recreation or debris burns, children, lightning, and smokers (figure 4).

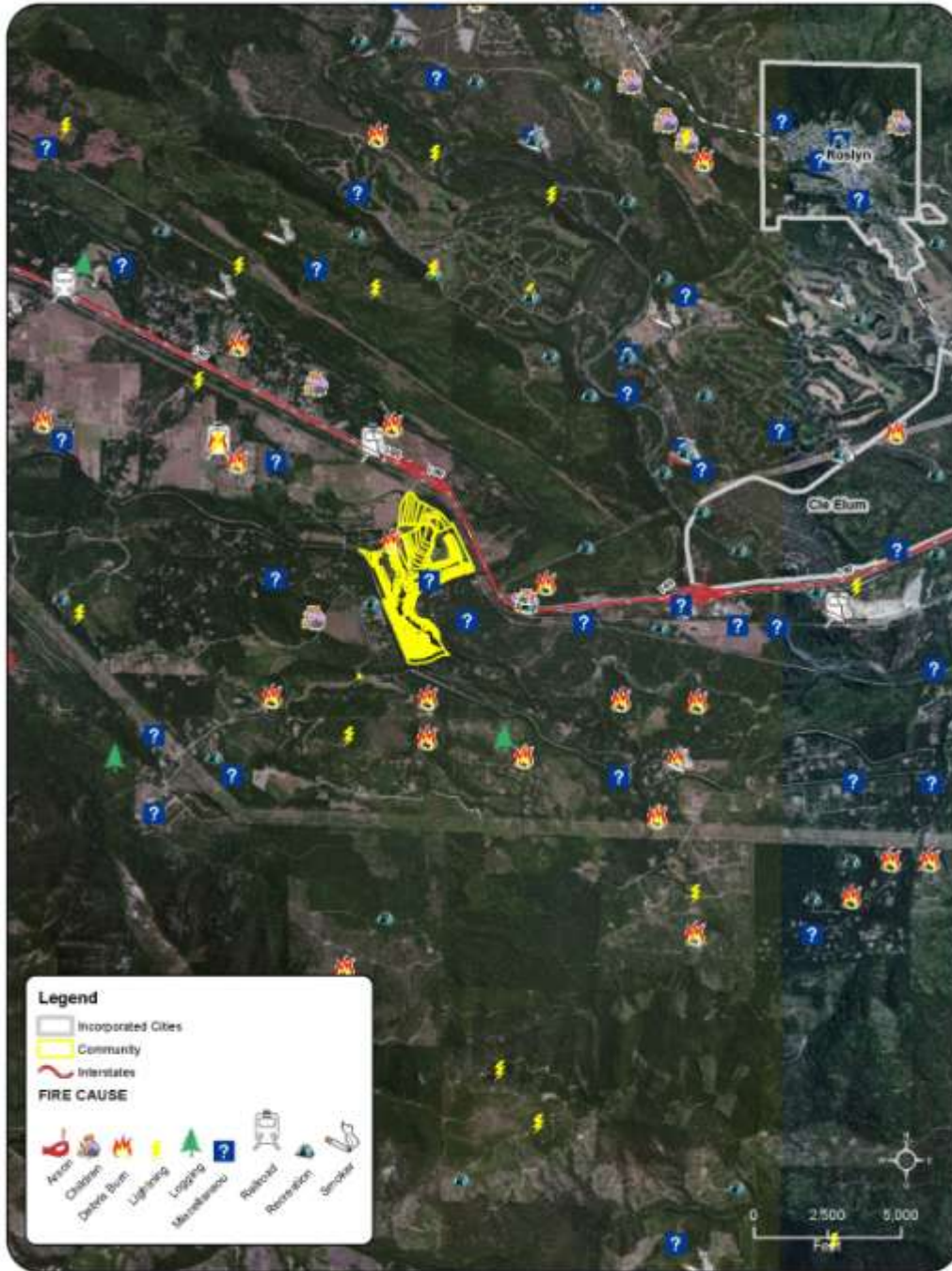


Figure 4 Fire Statistics/causes in the surrounding area

Access

Roads leading into and out of a community play an important role in safety and survivability. Roads are the primary escape routes for residents during a fire, and the primary routes for fire trucks to fight the fire. Depending on the direction a fire approaches a community; roads may have to be large enough for both evacuation and fire fighting to occur simultaneously.

Fire trucks may be unable to negotiate access roads if the roads are too narrow to drive safely or to turn around if needed. Street signs and house numbers that are hard to see in dark or smoky conditions can result in delays for firefighters to take action. Combustible signs are not reliable, as they may not survive even low intensity fire.

Fuels

Fire intensity and the rate a fire spreads depend on the type of fuel and the amount ready to burn at any given time of the year. Different fuel types burn at different rates. Live fuels; trees, brush and grasses burn slower than if they are dead. The weather conditions affect the moisture of live and dead vegetation. Lower relative humidity and higher temperatures will reduce the fuel moisture content, and produce higher fire spread rates and intensities. Wind speed significantly increases the rate of fire spread and fire intensity. The higher the wind speed the greater fire will spread.

Fine fuels such as grasses ignite more easily and spread faster than other types of fuels. They also burn out faster. There are no high intensity ember showers associated with grass fires. Shrubs and brush also burn fast, and depending on the amount of dead fuel present can create embers and result in spotting into the community.

When large trees, especially conifers, are present with grass and shrubs, there is a possibility for fire to travel from the fuels on the ground and into the treetops, especially on steep slopes with high wind speeds. Crown fires are a big concern since this type of fire produces vast quantities of fire embers. During a large fire, embers trapped in the roof and under the deck are a major cause of home loss.

Observations and recommendations

Defensible Space

Homes near the golf course have better defensible space than those up the hill in the timbered region. Most of the homes in the area have composite or metal roofs. Most of the properties in the community could improve on the defensible space. Homeowners are especially cognizant of the danger of fire and how far embers can travel after the recent Taylor Bridge Fire. They are taking steps to educate the community through their community website and are working together on chipping programs offered by the Conservation District.

Insects

Western spruce budworm appears to be moving through Washington on a three year cycle. Pine Beetle is also a concern in the area. The best thing that landowners in the community can do is to use such practices as thinning less than vigorous trees, favor the healthier trees when deciding which trees to thin in the defensible space area, and take out any trees that have died from beetle or budworm infestation after consulting a forester or licensed contractor.

Access

Fire vehicle and equipment access could be improved. There are many tight turns and narrow driveways. The community has access to more than one means of egress but needs to work on educating the landowners on the emergency evacuation routes as well as coordinating with adjacent landowners. Educating the landowners on the evacuation routes should be considered in the community action plan, as well as continued thinning and pruning along the roads to ensure suitable emergency vehicle access.

Fuels

During episodes of extreme fire weather, combined with long-term regional drought conditions, the likelihood of extreme fire behavior is high. Heavy pockets of brush and timber are present, as well as ground and ladder fuels. The dry windy weather of Kittitas County can cause wildfires to grow quickly and also carry firebrands as far as a mile or more. Fuels reduction projects on community property would be a good start and be an example to individual private landowners on how fuels reduction projects can help reduce the risk of wildfire spreading.

Current Fire Protection

Although District 7 is a well-trained fire protection district, it would be under-equipped to deal with a major wildfire emergency. During a wildfire, additional forces may not be able to respond due to the limited access without adequate safety zones near the homes. The worst-case scenario should be addressed in the Community Action Plan. The evacuation plans should continue to be updated and distributed to landowners in the community.

Community Wildfire Risk

The Sun Country area is divided into two distinct areas. The homes on the golf course fall into moderate hazards, while the homes at the top of the hill are in a more overstocked area and rate moderately high to high using the NFPA 299, wildfire hazard assessment methodology. The good news is that each homeowner has the ability to significantly reduce the risk of home ignition during a wildfire event. The community management has supported these activities by using covenants and internal regulations that support homeowners' ability to mitigate these risks.

Successful Firewise modifications

When adequately prepared, a house can likely withstand a wildfire without the intervention of the fire service. Further, a house and its surrounding community can be both Firewise and compatible with the area's ecosystem. The Firewise Communities

/USA program is designed to enable communities to achieve a high level of protection against wildland/urban interface fire loss even as a sustainable ecosystem balance is maintained.



Figure 5 Defensible Space

A homeowner/community must focus attention on the home ignition zone and eliminate the fire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it (see figure 7).

Next steps

After reviewing the contents of this assessment and its recommendations, the Sun Country Firewise Board in cooperation with the Kittitas County Fire District 7 will determine whether or not it wishes to continue seeking Firewise Communities/USA recognition.

If the site assessment and recommendations are accepted and recognition will be sought, the Sun Country Firewise Board will create agreed-upon, area-specific solutions to the Firewise recommendations and create an action plan in cooperation with the Kittitas County Fire District 7.

Assuming the assessment area seeks to achieve national Firewise Communities/USA recognition status, it will integrate the following standards into its plan of action:

- Sponsor a local Firewise board, task force, committee, commission or department that maintains the Firewise Community program and status.
- Enlist a wildland/urban interface specialist to complete an assessment and create a plan from which it identifies agreed-upon, achievable local solutions.

- Invest a minimum of \$2.00 annually per capita in its Firewise Communities/USA program. (Work done by municipal employees or volunteers, using municipal or other equipment, can be included, as can state/federal grants dedicated to that purpose.)
- Observe a Firewise Communities/USA Day each spring that is dedicated to a local Firewise project.
- Submit an annual report to Firewise Communities/USA. This report documents continuing participation in the program.

Residents are reminded to be conscious of keeping high-intensity fire more than 100 feet from their homes. It is important for them to avoid fire contact with their structures. This includes firebrands. The assessment team recommends the establishment of a 'fire free zone', allowing no fire to burn within ten feet of a house by removing fuels located there. It is a bad idea for fire to touch a house during a wildfire. Remember that, while wildfire cannot be eliminated from a property, it can be reduced in intensity.

Weather is, of course, of great concern during wildfire season. At such time as fire weather is severe, homeowners should remember not to leave flammable items outside. This includes rattan doormats, flammable patio furniture, firewood stacked next to the house, or other flammables.

Homeowners are reminded that street signs, addresses, road widths and fire hydrants do not keep a house from igniting. Proper attention to their home ignition zones does.