

Orcas Highlands



The Orcas Highlands Association, an Orcas Island community of approximately 100 homes, has been a Firewise Communities/USA site for seven years. Residents there deal with wildland/urban interface wildfire issues including dense stands of mixed conifers on steep slopes, serious ingress/egress issues, a buildup of down and dead timber, thick vegetation around many structures and a lack of viable evacuation opportunities should a wildfire occur.

Extreme fire behavior within the Highlands would be largely determined by a fire burning in areas of dense, continuous conifer forest accompanied by drought and episodes of low relative humidity (<30%) and strong winds (>20%). The presence of steep slopes throughout the area will significantly enhance uphill crown fire spread. The forest in this area was previously harvested and initially did not have the tree canopy height, density and continuity to readily support crown fire. It is now developing into a forest canopy that can produce high intensity crown fire. Locations of heavy accumulations of down and dead woody surface fuel will enhance the crown fire potential. The extent of the high intensity crown fire spread will be limited by the presence of hardwoods. However, under extreme fire behavior conditions, extensive firebrand showering will likely generate numerous downwind spot ignitions and thus, high rates of area involvement---including structures. The highest likelihood for generating high intensity crown fires exists in the continuous dense conifer stands largely dominated by Douglas-fir (*Pseudotsuga menziesii*) with associated conifers such as western hemlock (*Tsuga heterophylla*) and western red cedar (*Thuga plicata*). Locations of steep slopes with accompanying heavy accumulations of down and dead surface fuel will enhance this

crown fire potential in these dense conifer stands. High intensity, active spreading crown fires will not occur in the areas having high proportions of red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*) and madrone (*Arbutus menzeisii*). However, areas of hardwoods and mixed hardwoods-conifers having heavy accumulations of surface fuels can produce persistent burning with torching conifers in the mixed wood areas. Under extreme conditions, fields of cured grass and/or dense shrubs with high proportions of dead material can produce high spread rates and moderate to high intensities.

Citizen Leadership

Citizen based leadership has been a key component to the success of the Orcas Highlands. Similar to most Firewise Communities, it is the “spark plug” leadership of concerned neighbors that defines the positive outcome. Citizen leadership must be well organized, communicated, and coordinated for mitigation programs to flourish.

Residents of the Highlands have worked hard over the years to improve their wildfire readiness, and at the end of 2011 had invested \$34,572 into wildfire mitigation projects. This total includes volunteer time, a budget line adopted by the Association, and two small grants.

Project Prescription

Vegetation thinning is the key to reducing home loss in the Highlands, starting in the home ignition zones. Further treatment of the mixed conifer stands within the Highlands needs to be conducted, including tree and/or ladder fuel removal.

Further wildfire education within the development that deals specifically with home preparation and other wildfire mitigation issues, including:

- Clearing of dead vegetative material and heavy concentrations of live material from at least ten feet around each house.
- Removing dry needles and other vegetative debris from gutters.
- Separating wood fences and walkways attached to homes with metal flashing. Storing wood and other flammable items away from the house.
- Removing vegetative and other flammable materials from beneath decks and porches.
- Keeping exterior walls free of dead and/or dry vegetation. Cleaning roofs and gutters.

Homeowners also need education concerning home preparation during a wildfire event. Among other things, safe zones---or safe homes---should be identified for shelter for the residents. Pockets of the Highlands could share specific zones or areas.

With neighbors working together as a Firewise Community, the Orcas Highlands has demonstrated significant success in wildfire mitigation.