8 WILDFIRE PROTECTION

8.1 History of Wildland Fire on the Oregon Coast

Historically, the frequency and severity of wildfires in forests differed based on 1) the type of plants in that forest and 2) the climate where the forest was located. In the Pacific Northwest there are two main types of forest: wet and dry.

Wet forests, located along the western coast of Oregon and Washington, have dense forests, tall trees, and shady, we understories. Because wet forests are so productive, they often contain lots of leaf litter, branches, shrubs, and small trees that can act as fuel for fire.

Because these forests are located in a cool, we climate, they are very productive. Historically, wet forests id not burn very often, only about once every 80 – 500 years. When fires did occur in wet forests, they burned in a mosaic pattern often leaving large areas of

forest burned by severe fire and other areas unharmed. Fires in wet forests are low frequency/high intensity in nature.

Dry Forests, located to the east of the Cascade Range in Oregon and Washington and in southwestern Oregon are naturally less productive due to warmer drier weather. Plants do not grow as quickly in these forests compared to wet forests. Dry forests also experience more natural wildfire ignitions caused by lightning, which in the past led to wildfires about once every 5 – 50 years.

Not only were fires more frequent in dry forests compared to wet forests, but they were also less severe. The frequent wildfires in dry forests burned up the leaves, branches, shrubs, and small trees close to the ground, while larger, older trees often survived the fires. This pattern created dry forests dominated by widely spaced trees and open canopies, keeping extra plant fuel low and limiting severe, out of control fire. Wildfires in dry forests are considered to be high frequency/low intensity in nature.

Fire suppression in wet forests has reduced the amount of non-forested areas, such as meadows, and young, diverse forest. Wet forests no longer exhibit the historical mosaic of tree stands created by infrequent, severe fire.

In dry forests, fire suppression has led to overcrowding by small trees and bushes, leaving lots of leaves and branches littering the ground. Having a heavier load of fuel on the ground only feeds fires, it also endangers larger trees that would normally be fire-resistant. Small trees and shrubs can act as fire "ladders," spreading fire to the canopies of larger trees that would otherwise have been unharmed by fire on the ground. Such dense fuel conditions, along with warming climate and drought, pose the risk of severe, out-of-control wildfire is very high.

8.2 Potential Fire Threat Scenarios for LWC.

- The Coast Range – East of Highway 101
  Large number of logging areas and privately held property with heavy equipment use, some public access, and a history of significant fire, such as the Tillamook Burn and the Depoe Bay fire both occurring in the 1930's.
- Falling Embers from Large Wildland Fires
  Research around wildfire spread and home destruction vs. home and forest survival point to ember and small flames is the main way that the majority of homes ignite in wildfires. Embers are burning pieces of airborne wood and/or vegetation that can be carried more than a mile or more through the wind and can cause spot fires and can ignite homes, debris, and other objects.
- Human caused fire from discarded material or campfires along Highway 101 spreading into the ODOT destruction zone (Scar) with potential fire spread into Forest Unit #2.
- Structure fire within Little Whale Cove.
  The close spacing of our coastal homes increases the potential, if conditions are right, for fire to spread from one house to the next. Homes with cedar roofs are less fire resistant and vegetation too close to the home can also contribute to fire spread. There is an additional potential threat from a fire originating from South Point (north of LWC) and fro Oceania (south of LWC)

- Potential fire threat and spread from open fires, camp fires, and outdoor gas heaters and fire pits.

8.3 Fire Mitigation and Risk Reduction

The purpose of this Fire Risk Mitigation Plan (FRMP) is to identify fire potential and to develop a plan to reduce risk in both the long and short term. Wildland fires have grown in size, intensity, and frequency over the last 20 – 30 years. This has caused many undesirable changes in the composition and structure (age and size) of forest vegetation. One of the primary factors responsible for the increased size, intensity, and severity of wildfires is fire exclusion in all fire-adapted ecosystems, which has led to uncharacteristically high fuel loadings in those ecosystems.

ECOSYSTEM – is a large community of living organisms (plants, animals, microbes) in a particular area. The living and physical components are linked together through nutrient cycles and energy flows. Ecosystems are of any size, but usually they are in particular places.

The increased size, intensity, and severity of wildfires pose greater threats to human life and property. More people are recreating on and building homes in wildland areas (Wildland Urban Interface) increasing their exposure to naturally ignited wildfires and increasing the risk of abnormally high fire intensity and severity resulting from uncharacteristic changes in vegetation, fuel loading, and fire behavior.

WILDLAND URBAN INTEFACE (WUI) – is a zone of transition between wildland and human development. Communities in the WUI are at risk of intense and severe wildfires and the presence of a WUI is disruptive to the ecology.

8.4 Fire Mitigation and Risk Reduction for LWC

It is recommended that this FRMP mirror the General Goals of *LWC Resolution 19-03 – Forest, Cove & Wetland Management Plan (GG 1-6)* of Little Whale Cove. To Achieve these goals we recommend the following:

- Maintain the natural forest throughout the Community. (FMP – GG-1)
- Leave the native spaces as natural as possible.
- Clear out dead trees and shrubs. DO NOT clear out all undergrowth. Doing so causes the soil to lose its moisture retention, creating an environment for invasive species and making the forest more susceptible to wildfire.
- Thin as needed but with caution. Allow the undergrowth to remain. Thinning can lead to greater stress and should be limited to removing twig trees, dead wood and invasive species.
- Prohibit the removal of fire-resistive native plants.
- Encourage the planting of native deciduous trees and shrubs i.e. Alder, Salmonberry, Elderberry, Red and Green Huckleberry, Fern and Twinberry. They are generally more fire resistant due to a higher moisture content when in leaf, and a lower fuel volume when dormant.

- Removal of invasive species with minimal disruption of the soil to protect from erosion and loss of soil moisture. Replant as necessary with native fire-resistant plants.
- Fuel Reduction: Removal of lighter, fine fuels from the forest floor i.e. small dead branches, leaf litter, and debris. This can be accomplished with scheduled volunteer work parties.
- Identification and reduction of ladder fuels in the forested Common areas.
- Encourage homeowners to remove overhanging branches and to remove underbrush away from all structures a distance of ten (10) feet.

LADDER FUEL(S) or FUEL LADDER(S) – is a firefighting and forestry term for live or dead vegetation that allows a fire to climb up from the landscape or forest floor into the tree canopy, includes tall grasses, shrubs, and tree branches, etc., both living and dead.

8.5 Fire Mitigation and Risk Reduction Forest Unit #1

- Encourage homeowners to cut overhanging limbs back from roof and chimney and to clear underbrush back ten (10) feet from any dwelling, unit or structure.
- Identify and remove ladder fuels.
- Fuel Reduction: Removal of light, fine fire fuels, i.e. small dead branches, leaf litter, and debris.
- Removal of invasive species and replanting with native fire-resistant plants.

8.6 Fire Mitigation and Risk Reduction Forest Unit #2

- Fuel Reduction: Removal of lighter, fine fuel, i.e. dead branches, leaf litter, and other small debris with minimal soil disturbance.
- Identification and reduction of ladder fuels.
- Aggressive removal of invasive species, specifically Scotch Broom.
- ODOT Scar: Removal of lighter fuels, i.e. dead branches, twigs, and small debris. Maintenance of the Coast Trail as a fire break, cutting back the dry grass along the trail during the summer months to reduce the risk of human caused fire spread into Little Whale Cove.
- Additional plantings in the ODOT Scar with native fire-resistant plants.
- All of the above can be accomplished with a community wide volunteer cleanup program.
- Reduce the fire risk in areas close to residential properties by encouraging the planting and maintenance of fire-resistant native deciduous trees and shrubs as a natural fire barrier.

8.7 Fire Mitigation and Risk Reduction Forest Unit #3

- Aggressive removal of Scotch Broom along the Coast Highway (101). Scotch Broom presents a greater fire risk due to its flammability.
- Identification and reduction of ladder fuels.
- Fuel Reduction: Removal of dead branches, leaf litter, and debris with minimal soil disruption.
- Encourage homeowners to trim overhanging branches from roof's and chimneys and to clear underbrush back ten (10) feet from any dwelling, unit or structure.

- Prohibit the planting of and require the removal of all non-native ornamental grasses. These grasses can contribute to fire growth and rapid fire spread.
- Maintain the mosaic wetlands in a natural state. The wetlands, if maintained, provide a natural and effective fire break.
- Establish a fire-resistant or "firewise*" privacy and fire barrier between Innisfree and Tract D utilizing native fire-resistant deciduous trees and shrubs from the Fire-Resistant Plant List, *(Refer to Section 8.10)* and from *Appendix A: Approved PNW, Plants, Trees and Shrubs* as adopted by Little Whale Cove Homeowners Association, Inc.

*Firewise - The **Firewise** Communities/USA Recognition Program empowers neighbors to work together in reducing the wildfire risks around their communities.

8.8 Fire Mitigation and Risk Reduction Forest Unit #4

- Removal of invasive species with minimal soil disruption. Soil disturbance and the removal of deciduous shrubs can cause loss of moisture retention on the forest floor and the introduction of additional invasive species, making the forest more susceptible to wildfire.
- Fuel Reduction: Clearing of dead trees and shrubs, twig trees and other deadwood.
- Identify and reduce ladder fuels.
- Encourage property owners to trim overhanging branches from roof's and chimneys ad to clear underbrush back from any dwelling, unit or structure at least ten (10) feet.
- Reduce fire risk to residential units by planting a fire barrier using deciduous fire-resistant trees and shrubs. Pacific Rhododendron, Vine Maple, Serviceberry, Red-twig Dogwood, and Alder are examples from the Fire-Resistant Plant List *(Refer to Section 8.10)* and *Appendix A: Approved PNW Plants, Trees and Shrubs* as adopted by the Little Whale Cove Homeowners Association, Inc.