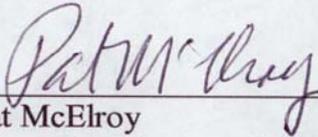


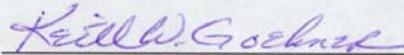
# Leavenworth Area Community Wildfire Protection Plan

December 2005

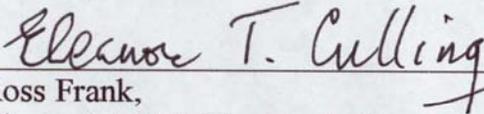
Prepared by  
Chelan County Conservation District  
with assistance from the  
Washington Department of Natural Resources, Chelan County Fire District #3,  
United States Forest Service and concerned citizens of Chelan County



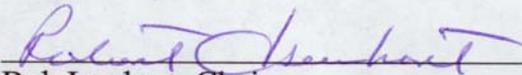
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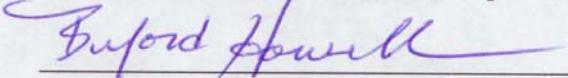
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Chelan County Commissioner



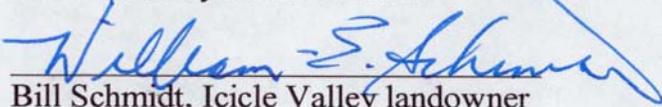
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## **1. Introduction**

Citizens in the Leavenworth area of Chelan County have been concerned about the effects of wildfire for some time. In fact, the Hatchery Creek and Rat Creek fires in 1994 burned around two sides of Leavenworth and were visible from most homes. This event motivated some homeowners to apply for federal grants to reduce fuel loads on private property in the area in 2003. More recently the County Commissioners obtained funds to proactively plan and implement actions to protect lives, the community and reduce the risk of future wildfire-related disasters.

### Vision and Goals

The overarching aim of this Community Wildfire Protection Plan is to protect the lives and property of the community, and essential infrastructure from wildfire through outreach, strategic planning, and action.

The primary goal of the Leavenworth Area CWPP is to identify and implement projects that will protect people in the CWPP area, including residents, firefighters, and emergency personnel, from injury or loss of life. The secondary goal is to minimize or eliminate damage or loss of property and essential infrastructure due to wildfire.

In an effort to make the best use of resources in the Leavenworth area, all options for the utilization of biomass produced from fuels reduction projects will be pursued.

### Community Awareness

The community of Leavenworth and the surrounding areas (Chumstick watershed, Mountain Home, Icicle Valley, and North Road) are very aware of the need to develop a Community Wildfire Protection Plan. Leavenworth businesses and community members have been dramatically impacted by fires. The Rat Creek fire in 1994 was one of four (Tyee, Hatchery and Round Mountain fires were the others in '94) that collectively burned 180,000 acres in Chelan County. The Icicle Complex fire in 2001 burned approximately 6,797 acres was located to the west of town in the Icicle Creek drainage.

More recently, the Fischer fire occurred just east of town in 2004, burning 16,439 acres and forcing the evacuation of 600 people from their homes. It spread into Eagle Creek in the Chumstick Creek watershed before it was stopped. Fires since 1994 have essentially burned all around the town of Leavenworth and have touched every area covered in this CWPP.

The group developing this plan hopes to provide an example that other communities in Chelan County can apply to their areas. The Leavenworth area landowners have provided the community energy, input and guidance essential for the creation of this document. Additionally, it is the hope of the Leavenworth community that residents of the area will start (or continue) efforts to create defensible space and make their properties "Fire Wise".

## Values

The citizens of planning area value their homes, forests and privacy. They want to improve the safety of their community, and many individuals have already conducted work to reduce fuels around their homes by implementing fuels reduction projects in the Mountain Home area through the assistance of grant funding provided by the US Fish and Wildlife Service. Through the CWPP effort they hope provide input on land management decisions for adjacent Federal and State lands.

## **2. Planning Process**

### Background

The enactment of the Healthy Forest Restoration Act (HFRA) of 2003 created opportunities for Counties to participate in community based forest planning and vegetation treatment project prioritization. This landmark legislation includes the first meaningful statutory incentives for the USDA Forest Service (USFS), US Fish and Wildlife Service (USFWS) and the USDI Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuels reduction projects.

In order for communities to take full advantage of this opportunity, a Community Wildfire Protection Plan (CWPP) must first be prepared. The Leavenworth Area CWPP is meant to conform to the intent and letter of HFRA. Leavenworth is an at risk community of catastrophic wildfire.

The process of developing a CWPP helps communities of Chelan County clarify and refine priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface (WUI). It can also lead community members through valuable discussions regarding management options and implications for surrounding watersheds.

The language of the HFRA provides maximum flexibility for communities to determine the substance and detail of CWPPs and the process used to develop them. Because the legislation is general in nature, Chelan County is providing assistance in the preparation of the Leavenworth CWPP. Currently, CWPPs are being developed on the County Fire District scale in coordination between the landowners of the county, County Fire District staff. Representatives of the USFS and Washington State Department of Natural Resources (WDNR) are providing assistance to the effort. There are nine Fire Districts in Chelan County and the CWPPs being developed for them will form the basis of the Chelan County Wildfire Mitigation Plan.

Updates and edits to the CWPPs developed for Chelan County will be performed yearly and will be coordinated by the Chelan County Conservation District. It is expected that updates will be necessary in order to reflect recent work done to address issues identified in the CWPPs. Another important aspect of these plans will be monitoring the effectiveness of projects implemented under these plans.

The WUI is commonly considered the zone where structures and other human developments meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses

tremendous risk to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face.

Both the National Fire Plan and the Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment place a priority on working collaboratively with communities in the WUI to reduce their risk from large-scale wildfire.

The HFRA builds on existing efforts to restore healthy forest conditions near communities and essential community infrastructure by authorizing expedited environmental assessments, administrative appeals, and legal review for hazardous fuels projects on federal land.

The Act emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects, and it places priority on treatments identified by communities themselves identify in a CWPP.

The HFRA provides communities a tremendous opportunity to influence where and how federal agencies implement fuels reduction projects on federal lands and how additional federal funds may be distributed for projects on non-federal lands. A CWPP is the most effective way to take advantage of this opportunity.

The HFRA requires that three entities must mutually agree to the final contents of a CWPP:

- The applicable local government (County or City),
- The local fire departments, and
- The state entity responsible for forest management.

In addition, these entities are directed to consult with and involve local representatives of the USFS and BLM and other interested parties in the development of the plan. The process is intended to be open and collaborative, as described in the Ten-Year Strategy, involving local and state officials, federal land managers, and the broad range of interested stakeholders.

In the absence of a CWPP, the HFRA limits the WUI to within ½ mile of a community's boundary or within 1½ miles where mitigating circumstances exist, such as steep slopes or the presence of a critical evacuation route. At least 50 percent of all funds appropriated for projects under the HFRA must be used within the WUI as defined either by a CWPP or by the limited definition provided in the HFRA where no CWPP exists.

#### Process and Partners

In early February 2003, residents of Leavenworth, Washington were invited to a meeting at Icicle River Middle School to hear a presentation by representatives of the USDI Fish and Wildlife Service (USFWS) on National Fire Plan Community Assistance and Wildlife-Urban Interface Projects. Working with the Chelan County Conservation District (CCCD), Chelan County Fire District #3 (CCFD#3), the USFS, and the USFWS, a group of 15 neighbors was awarded a grant of \$72,000 to assess fuels loading in an area southeast of the town of Leavenworth. An additional \$225,000 was awarded to this project area (\$100,000 in July 2003 and \$125, in September 2005). To date, approximately 83 acres have been treated around 57 homes in the Mountain Home, Dempsey, and Copper Notch Roads area. Additionally, at the

Red Tail Canyon Farm (Chumstick Creek watershed), 15 acres of “demonstration sites” have been completed that reflect the three levels of fuels reduction work that have already been done around area homes.

Education of landowners in the planning area was spearheaded by the Leavenworth Neighborhoods Steering Committee. Education was provided through radio interviews, public meetings, direct mailings, and one-on-one contacts. This outreach resulted in a FireWise workshop that stressed the benefits of defensible space, and videos of the philosophy were shared with many property owners. Homeowners in the planning area were provided with FireWise information and urged to clean up around their homes, driveways, and forest lands. Plans to create defensible space around homes were initiated by individuals through grant applications.

As individual projects were implemented to reduce fuel loads in the Mountain Home area, it was recognized that a broader approach that dealt with all aspects of fire safety should be applied. This resulted in the decision to develop a Community Wildfire Protection Plan for the Leavenworth area. A community meeting was organized and a broad cross-section of stakeholders including citizens and property owners, local elected officials, representatives from CCFD#3, WDNR, USFS, utility companies, Emergency Medical Services, and the Community Emergency Response Team (CERT) attended and discussed the feasibility of creating such a plan.

The Leavenworth Area CWPP is the result of these locally-led efforts and partnerships between private, local, state, and federal interests. The Leavenworth Area CWPP serves as part of the foundation of the county-wide community wildfire protection plan that is currently being developed. By basing the county-wide plan on individual CWPPs, such as the Leavenworth Area plan, the goals, objectives, and recommended projects will be developed by and remain specific to each community (See Section 7. Mitigation Action Plan)

### **3. Planning Area**

The Leavenworth CWPP planning area is approximately 55,121 acres and surrounds the town of Leavenworth in Chelan County, Washington (see Leavenworth CWPP Area Map, Page 6). It includes the Chumstick Creek watershed and private lands in the Icicle Creek valley. The Wildland/Urban Interface area includes nearly the entire Chumstick Creek watershed, Mountain Home area, North Road and the bottom of the Icicle Canyon (where homes are located).

Areas within the Leavenworth planning area are further defined by drainages and include: Chumstick Creek watershed, Icicle Valley, North Road area, and Mountain Home Road area. Also located in the planning area are the Leavenworth National Fish Hatchery and the Icicle and Cascade Orchards irrigation diversion head works and canals.

Within the Leavenworth CWPP area, about 50% (27,734 acres) of the area is federally managed, 3% (1,813 acres) is state owned lands, 16% is industrial timber lands (Longview Fibre) and 31% (16,964 acres) is privately owned lands. New residential development on private lands within the

Leavenworth CWPP area is predominately rural in nature. The demographic center is the town of Leavenworth. Many of the homes at highest risk to wildfire are concentrated in the Chumstick drainage (including the contiguous side drainages), Icicle drainage, Mountain Home Road, and other regions separated by large areas of open forest, patches of dense forest, and grass or brush.

#### General Description of the Area

The Leavenworth planning area includes: the Chumstick Creek watershed, Icicle Valley, North Road area, and Mountain Home Road area. Also located in the planning area is the Leavenworth National Fish Hatchery and the Icicle and Cascade Orchards irrigation diversion and canals. Each general area is serviced by a main road. Chumstick Highway is the main artery to the areas of the Chumstick Valley (including all canyons off of the main Chumstick). Icicle Road provides the main access for the Icicle Valley, and North Road and Mountain Home Road provides the main access for those areas. Each subdivision will be difficult to evacuate and defend in the event of a fast moving wildland fire.

Very few home sites include adequate defensible space, and “common areas” (areas within and adjacent to the communities and individual homes) within the planning area are stocked with medium to heavy fuels. Fuel types are generally grass and trees in the lower slopes grading to open pine stands and then to mixed conifer types, with mature overstocked stands of Douglas fir/Ponderosa pine and Lodge pole pine on the ridges and upper slopes.

Infrastructure consists of overhead and underground power service, irrigation systems and a public domestic water system that serves part of the Icicle Valley. The Icicle Creek watershed is the source of domestic water for the town of Leavenworth. The Burlington Northern-Santa Fe Railroad runs through the majority of the Chumstick valley. This has been a source of frequent small fires. Recent means of mitigating for these small fires is in the form of bulldozing a “fire line” parallel to the tracks to bare earth.

#### General description of existing residential areas

**Icicle Valley** – The Icicle Valley is serviced both by Icicle Road as well as East Leavenworth Road, providing two points of access for the valley. The upper valley (beyond East Leavenworth Road) consists of many larger homes which are spread out and have “one way in one way out”. Many of the homes located in the middle of the valley are relatively easy to defend, as opposed to homes located at the base of the valley walls. Hydrants are located regularly along Icicle Road between Leavenworth and Icicle Island Club group of homes. Electrical service is provided to the area via overhead lines. A fair number of homeowners have livestock; evacuation of which could be a factor. A few homes are located beyond the Icicle Island Club and are outside of the fire protection district.

**Chumstick Creek** watershed (including all side canyons and the Ski Hill area) – The Chumstick Creek watershed is serviced by the Chumstick Highway which provides two points of access for the valley. Most of the smaller side canyons only have “one way in one way out” roads. However, several of the side canyons (Eagle Creek, Clark, and Little Chumstick) have through access into USFS managed lands. There is a mix of older homes which are spread out along the valley and side canyon bottoms and most of these have an adequate defensible space. Homes

located deeper in the side canyons and along the valley walls generally do not have adequate defensible space. Most of the homes located in the northeastern Ski Hill area are surrounded by orchard and have landscaped yards that allow for firefighters to safely defend these homes. All homes are surrounded in the larger scale by a large forested area. There are common areas and/or undeveloped lots that are not maintained and have higher fuel loads that could pose problems.

There are no hydrants throughout the area. Electrical power is either above or below ground. Evacuation of livestock could be a factor. The Burlington Northern-Santa Fe Railroad have tracks that run nearly the entire length of the valley and is a source of frequent, small fires in the Chumstick Creek watershed (See Fire History map, on page 12).

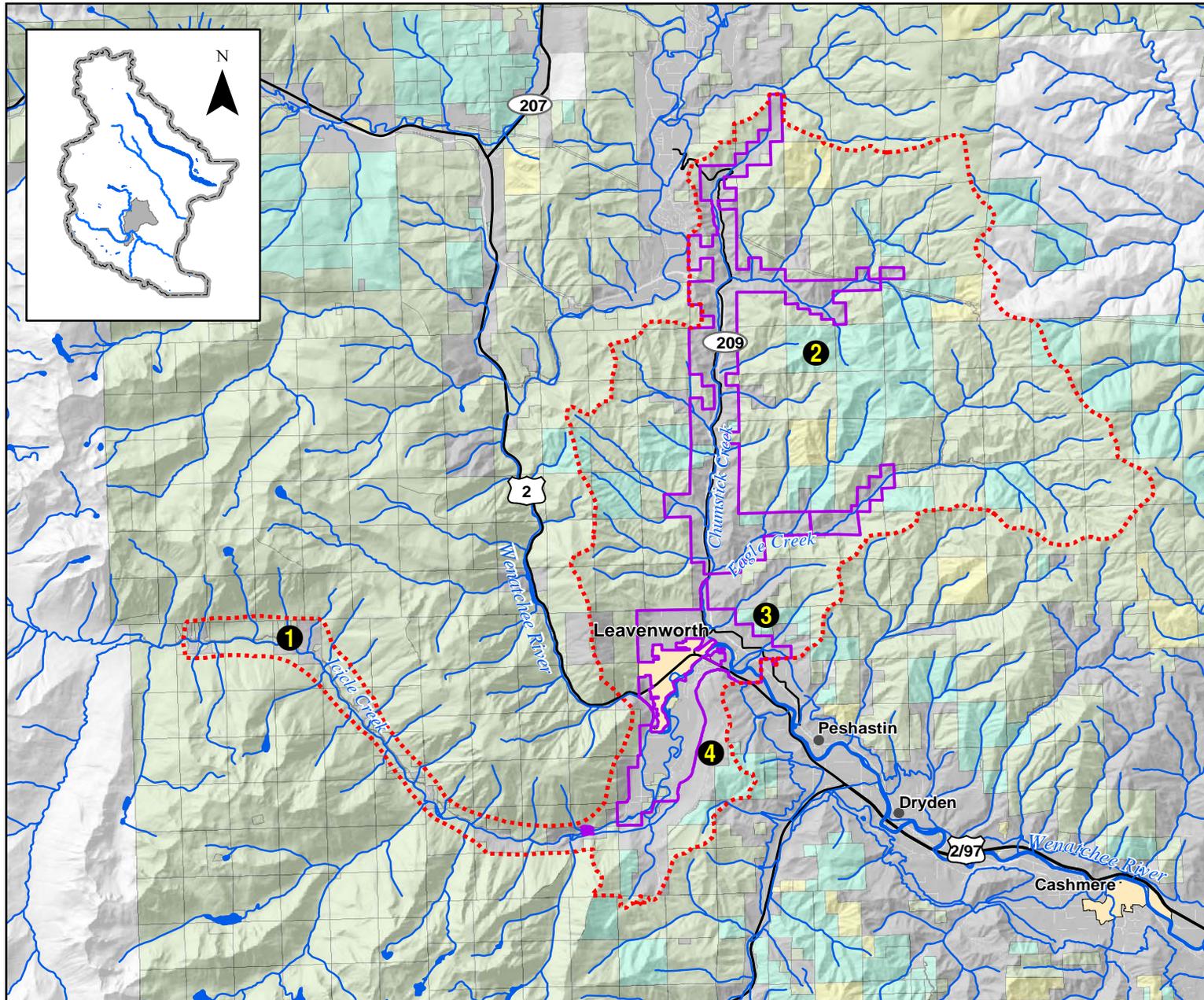
**North Road Area** (including Fox Canyon) – This area lies to the northeast of Leavenworth and is primarily orchard land with older homes scattered amongst the orchards and typically have adequate defensible space. Newer homes have been built along the edges of the orchards at the base of the valley walls and generally have less defensible space due to proximity to the forest.

**Mountain Home Road Area** (including Coppernotch, Dempsey Road, East Leavenworth Road) – This forested area is situated to the southeast of Leavenworth and is serviced primarily by East Leavenworth and Mountain Home Roads. East Leavenworth Road is paved and provides two points of entry for the area. Homes located along this road typically have adequate defensible space. Mountain Home Road is primarily a single lane dirt road that is very difficult to access during the winter. Homes located along this road are in a forested setting. Some homes have had fuels reduction work implemented around them as part of an ongoing fuels reduction project.

The general areas listed above are the locations with the highest housing density in the planning area and were not developed in the traditional subdivision method (with the exception of Ski Hill, Fox Canyon, and Icicle Island Club).

# Leavenworth Area Community Wildfire Protection Plan

## Overview of CWPP Area



### Legend

- Leavenworth CWPP Boundary
  - Fire District No. 3
  - County Boundary
  - City Boundaries
  - Rivers & Streams
  - Major Roads
- ### Land Ownership
- Federal
  - State
  - Longview Fibre
  - Private & Other
- ### Residential Areas
- 1 Icicle Valley
  - 2 Chumstick Valley
  - 3 North Road Area
  - 4 Mountain Home Road Area



Note: CWPP boundary created by USFS, WDNR, Chelan County Conservation District (CCCD) employees, and Leavenworth area residents using topography. Hillshade generated using WDNR 30 meter DEM. All other data provided by Chelan County GIS.

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## 4. Assessment

### Existing Information

A substantial amount of data is already available from several sources. Primary fire planning information/GIS data used in this plan came from CCFD#3 (structure protection plan, evacuation plan, etc.), the USFS-Wenatchee River Ranger District (large fire history, some vegetation information), and WDNR (historic/potential vegetation, topography, fire cause statistics). *Note: Portions of this document include intellectual property of the WDNR and are used herein by permission. Copyright 2004, WDNR. All Rights Reserved.*

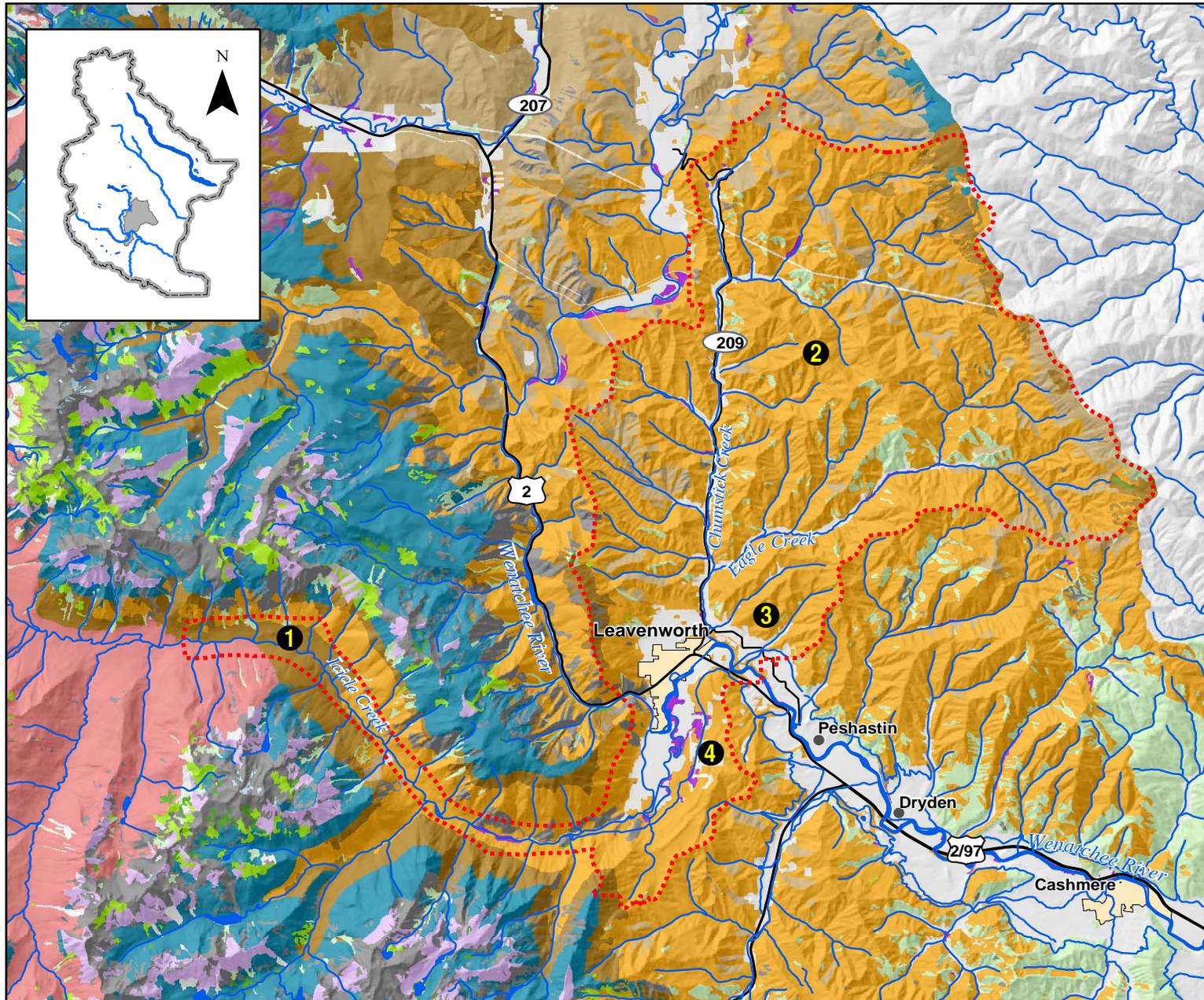
### Vegetation

The Leavenworth Community Wildfire Planning area is located towards the eastern edge of the Okanogan-Wenatchee National Forest in north-central Washington. The planning area varies in elevation from 3800' in the upper reaches of Chumstick Creek near French Creek to 1000' just southeast of Leavenworth near Hwy 2. The large majority of the planning area (80%) is of dry forest vegetation of predominately ponderosa pine with some Douglas-fir and small amounts of grand fir. Ponderosa pine stands dominate the landscape covering 40,668 acres (74%) of the planning area. More mesic sites (e.g. north slopes and creek beds) have developed stands of Douglas-fir and some grand fir on 3,081 acres (6%). More moist vegetation groups such as moist grand fir and more moist montane meadows exist in higher reaches of side drainages such as in the Icicle and upper Chumstick drainages with general elevation gain.

Historically, the planning area supported both pure stands of open canopy ponderosa pine (*Pinus ponderosa*) and some mixed conifer (ponderosa pine, Douglas-fir, and dry grand fir) dominated stands of age classes ranging from seedling to very large diameter. The Douglas-fir and grand fir stands were primarily located on higher north slopes and directly in the creek bottoms.

Currently, the primary vegetation type for the Leavenworth CWPP area is overstocked ponderosa pine forest with large amounts of Douglas-fir regeneration and intrusions of grand fir. Ponderosa pine is a shade intolerant species naturally adapted to survive in areas that experience fire on a regular basis. This frequent fire regime with a fire interval every 2-20 years was standard for the entire lower Wenatchee River valley. Although on north aspect slopes may act as fire refugia and not experience fire on the same interval. Fire plays a major role in how ponderosa pine is established and sustained on the landscape. Regular burning allows pine stands to flourish by removing underbrush and smaller competing trees. As the pines mature their bark thickens and their lower branches are self-pruned, which also makes them better adapted in a fire environment. Older, pure ponderosa pine stands subjected to frequent fire often have a wide, open, park-like feel with scattered large trees (12-25/acre) with a grass and scattered brush species understory. Fire also provides benefit by providing a mosaic of microhabitats across the landscape by creating openings, snag patches, and opportunities for a variety of plant species. In addition, these naturally occurring low intensity frequent fires would keep insects and plant diseases in check. The resulting increase in vegetative diversity benefits wildlife, as well as forest health/disease resistance. Conversely, the exclusion of fire over the last 60-90 years has allowed for the continuous horizontal and vertical fuel profiles of ponderosa pine and Douglas-fir to develop and increase the susceptibility for high intensity, stand replacement fires.

# Leavenworth Community Wildfire Protection Planning Area Historic Vegetation



## Legend

- Leavenworth CWPP Boundary
- County Boundary
- City Boundaries
- Rivers & Streams
- Major Roads
- Historic Vegetation**
- Ice/Snow
- Exposed Rock
- Shrub-Steppe, Brush, or Dry Meadow
- Moist Subalpine Meadow
- Upland Meadow
- Wet Meadow
- Dry Forest
- Wet Forest
- Moist Douglas Fir
- Moist Grand Fir
- Subalpine Fir
- Whitebark Pine
- Lodgepole Pine
- Riparian Deciduous

## Residential Areas

- 1 Icicle Valley
- 2 Chumstick Valley
- 3 North Road Area
- 4 Mountain Home Road Area



Note: CWPP boundary created by USFS, WDNR, Chelan County Conservation District (CCCD) employees, and Leavenworth area residents using topography. Hillshade generated using WDNR 30 meter DEM. Vegetation data supplied by USFS and WDNR. All other data provided by Chelan County GIS.

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### Fire Ecology

When the natural fire regime is altered (primarily through fire exclusion) ponderosa pine stands become denser. Shading and competition will inhibit the growth of pine and allow more shade tolerant species, such as Douglas fir and grand fir, to become established along with other understory brush species. This overstocked condition will produce vertical and horizontal fuel profile continuities which often result in high intensity stand replacement fires. Additionally, denser stands are often more susceptible to the spread of insects and disease which provide more dead standing and down fuels. Vegetation within frequent fire regimes (with fires at intervals of 0-35 years) become unstable as fire frequency is disrupted (e.g. by fire suppression or fire exclusion). These forest types rely on the dynamics of fire to lower competition amongst species, keep areas of disease and insects in check and clean up the dead and downed materials (fuel). If there are no fires in a 0-70 year period to manipulate the dry forest, the forest is considered in a Condition Class II (Condition Class I is considered a normally functioning and structured forest community). No fires over a longer period produce a densely stocked stand of pines and shade tolerant species. This Condition Class III situation will result in the loss of forest cover, damage to watersheds, altered wildlife habitat, and potential soil damage when the inevitable uncharacteristic high intensity fire occurs. Most of the forested areas in the Leavenworth CWPP area are in Condition Classes II and III (98%, 54,144 acres).

Thinning may be warranted in an effort to emulate fire as a process (that is, to consume and break up the pattern of fuels) and increase the area conducive to lower intensity fires that allow access to fire suppression forces. Thinning and prescribed burning activities can take place within or adjacent to the Leavenworth CWPP area in an attempt to lower the trend of increasing fuels.

### Fire History

Since 1970, over two hundred fires have occurred within the Leavenworth CWPP area (See Fire History map on page 12 for summary and location of fire starts). Fires are started naturally by lightning in the Leavenworth CWPP area nearly annually and are typically concentrated along ridge tops though random strikes may occur anywhere. In addition, human caused fire starts are also occurring (and increasing) as a result of other activities, such as recreation (campfires) and debris burning. The Chumstick Valley has seen a very high number of fire starts along the Burlington Northern-Santa Fe Railroad tracks in the past but that concentration has diminished somewhat with new maintenance practices employed by the railroad. The size of the fires may vary, but typically small fires of a few to several acres occur on a 5-10 year interval. Large fires (those greater than 1000 acres) have occurred in 1994 (Rat-Hatchery Creek Fire, 43,000 acres), 2001 (Icicle Complex Fire, 6,400 acres), and 2004 (Fischer Fire, 16,439 acres). Conditions are still conducive for a large, high severity fire, particularly in the Chumstick drainage. Large fires have been experienced near the planning area and conditions are conducive to large, high severity fires.

### General Fire Behavior Potential

Weather, topography, and fuels affect wildfire behavior. The Leavenworth CWPP area, like other areas of Chelan County, is prone to severe weather conditions in late summer that can support extreme fire behavior. The terrain is an extremely important aspect of expected fire behavior in this area. Chumstick Creek runs generally north and south but has varied topographic conditions and side drainages that funnel the winds across the Chumstick Creek watershed where the velocity increases as air is forced into the confined area. This influence on fire behavior was observed in 1994 when the Rat-Hatchery Creek fire came out of the Icicle drainage and burned over Mill Creek to the east. The Fischer Fire in 2004 had potential to burn north up the Chumstick valley with typical up valley and upslope winds but an unusual northwest flow during the duration of the fire upheld its advance.

The landscape has many valleys with steep slopes and dense stands dominated by ponderosa pine and thickets of Douglas-fir, with the largest trees primarily less than 18 inches in diameter. Stands in the area are dense and continuous, a perfect setting for large, lethal wildfire. Many stands have closed canopies and abundant ladder fuels. Continuous, tall underbrush also predominates. Insect infestations of western pine beetle and/or fir engraver beetle are becoming more prevalent.

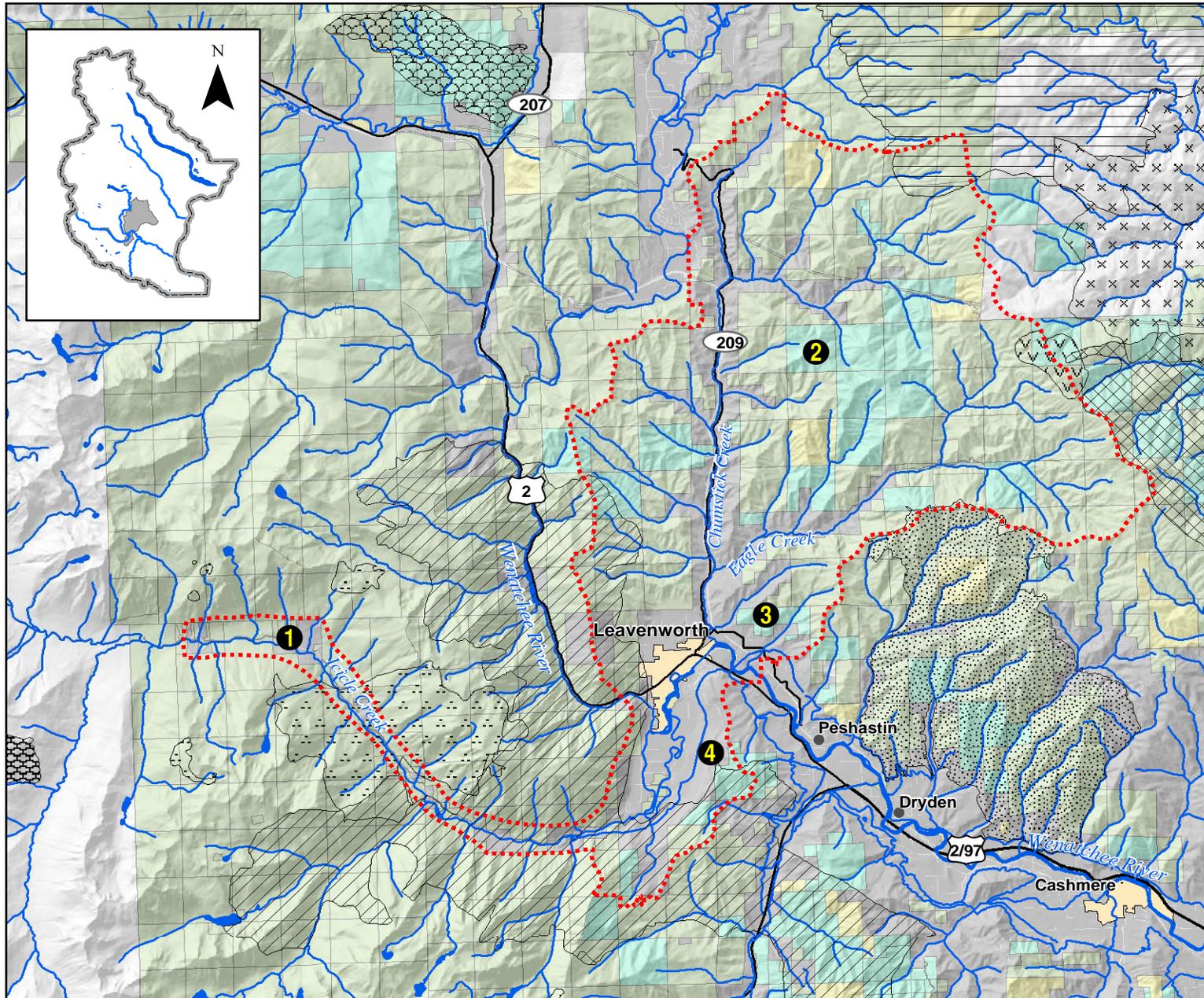
Chumstick Creek watershed residences are adjacent to areas of grass, brush and thick pine fuels on the lower slopes. The mid to upper slopes are more heavily forested. Fire may move rapidly through these common areas with the potential for spotting highest in the adjacent forested areas and could be difficult to manage if wind is a factor. These brush and dense forest fuel types could produce fast moving fires especially in areas of steep slopes or with sustained winds. The threat would soon be in all areas of the communities with fire potential to involve all adjacent structures. Areas less susceptible to rapid rate of spread wildfires are the areas consumed by the 1994 Rat-Hatchery Creek Fire and Icicle Complex fires and the diminishing area of existing agricultural lands, although unregulated vegetation growth will soon make this area conducive to fire as well. Since the weather and topography of a community cannot be changed, the best approach to minimize the risk to people and potential property losses is to modify and/or reduce fuels surrounding the home, as well as at the landscape level. Fuels treatments within and adjacent to a community can improve safety for fire fighters, help overall fire suppression efforts be successful, and reduce potential risk/damage to individual structures/property. Wildlife habitat benefits can also be gained through fuels reduction and natural vegetation restoration projects.

### Fuels/Hazards

The WDNR has classified the area surrounding Leavenworth as a 'high risk' WUI community. Past activities such as logging, grazing and fire suppression have altered the normal fire regime, stand species composition and affected forest health. Dense, overstocked stands of trees are increasing the fire hazard in the Leavenworth CWPP. Many stands of ponderosa pine are dominated by trees less than 18 inches in diameter. Pockets of trees are being affected by low level (~0.3 to 4.5 trees/acre) infestation by mountain pine beetle and/or fir engraver (WDNR GIS; see previous Vegetation map) and root rot (disease) is also a problem. Stands often have contiguous crowns and ladder fuels in the form of young conifers and tall brush species. All of these variables provide a continuous fuel profile which can create conditions for an intense and fast moving fire.

# Leavenworth Area Community Wildfire Protection Plan

## Major Fires 1970-2004



### Legend

Leavenworth CWPP Boundary

County Boundary

City Boundaries

Rivers & Streams

Major Roads

### Major Fires 1970-2004

Unnamed (1970)

Van Creek (1987)

Dinkelman (1988)

Black Jack (1990)

Rat-Hatchery (1994)

Round Mountain (1994)

Tye (1994)

Icicle Complex (2001)

Fischer (2004)

### Land Ownership

Federal

State

Longview Fibre

Private & Other

### Residential Areas

1 Icicle Valley

2 Chumstick Valley

3 North Road Area

4 Mountain Home Road Area

0 0.5 1 2 3 4 Miles

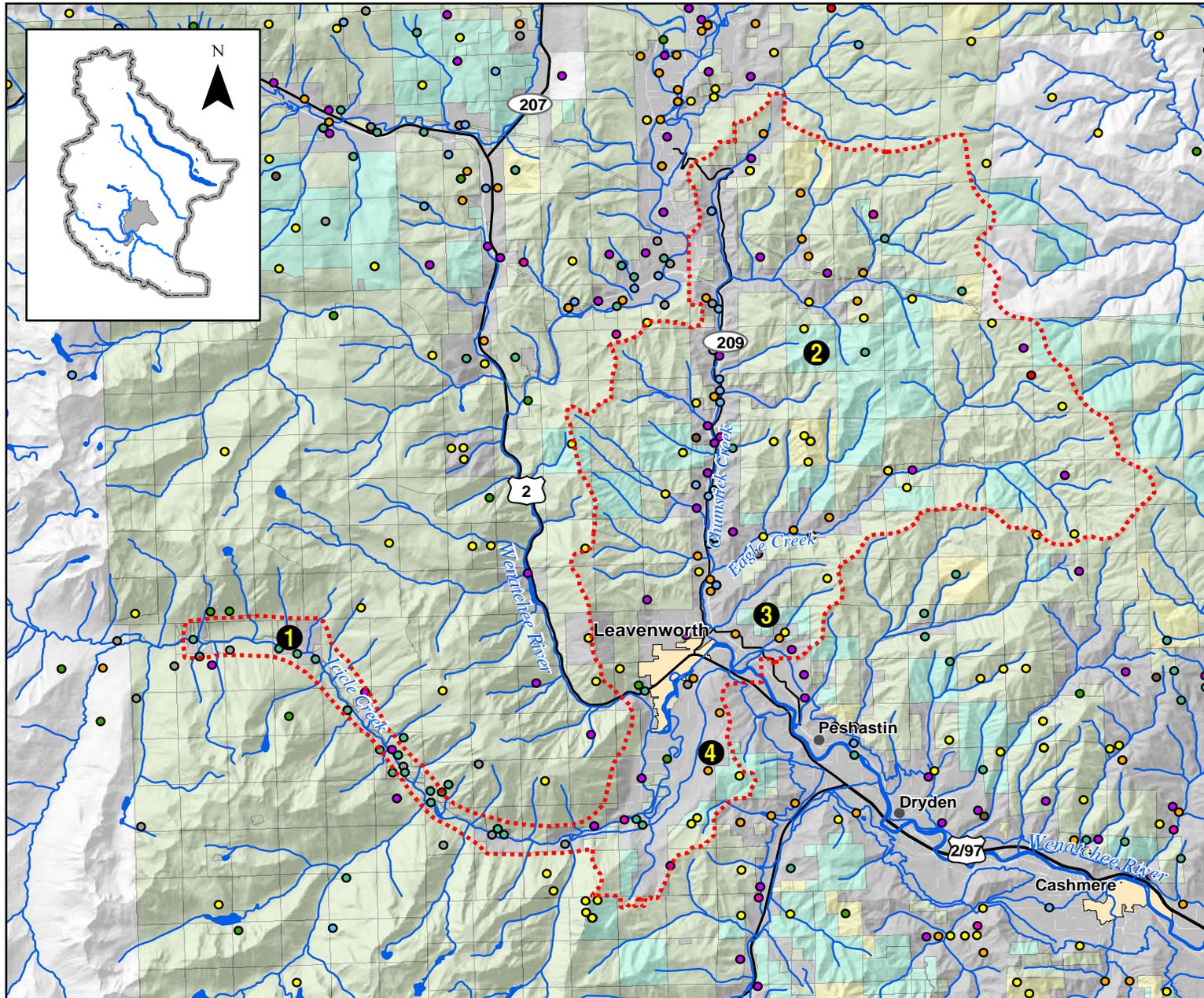
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# Leavenworth Area Community Wildfire Protection Plan

## Reported Fire Starts 1970-2003



### Legend

- Leavenworth CWPP Boundary
- County Boundary
- City Boundaries
- Rivers & Streams
- Major Roads

### Reported Fire Starts 1970-2003

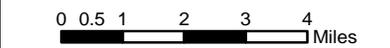
- Children
- Debris Burning
- Incendiary
- Lightning
- Logging & Equipment Use
- Railroad
- Recreation
- Smoker
- Miscellaneous

### Land Ownership

- Federal
- State
- Longview Fibre
- Private & Other

### Residential Areas

- 1 Icicle Valley
- 2 Chumstick Valley
- 3 North Road Area
- 4 Mountain Home Road Area



Note: CWPP boundary created by USFS, WDNR, Chelan County Conservation District (CCCD) employees, and Leavenworth area residents using topography. Hillshade generated using WDNR 30 meter DEM. Fire data supplied by WDNR and USFS. All other data provided by Chelan County GIS.

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### Protection Capabilities

Chelan County Fire District #3 is responsible for protection of private property in the area surrounding the community of Leavenworth. District boundaries include the Chumstick Creek watershed, Ski Hill Drive, Icicle Road, East Leavenworth Road, and Highway 2. The City of Leavenworth is not part of the fire district however the district provides fire protection to the City through a contract (see the attached district boundary map). The WDNR is the primary agency responsible for fire protection on forested private and state lands while the USFS is the primary agency responsible for management of fires on federal land. Areas outside the boundaries of the Fire Protection District #3 are not guaranteed fire response from the District. DNR will respond to forest fires however they do not have responsibility for structures. The District maintains mutual aid agreements with WDNR and all fire districts within Chelan and Douglas Counties.

The District is a small combination department covering approximately 30 square miles. The District employs three career employees and estimated 26-30 volunteers. CCFD #3 has two stations with the primary station being at 228 Chumstick Road just off Highway 2 and the second being 7 miles north along Chumstick Road.

#### Current Equipment:

- 3 type 1 structure engines
- 2 type 3 wildland engines
- 1 type 6 brush truck
- 1 type 2 2,000 gallon tender
- 1 85' aerial platform
- 2 Command vehicles

The objective of the CCFD#3 structure protection plan is to safely and efficiently manage resources to protect life, property and resources in the event of an approaching wildfire. Strategy decisions shall take into account the following tactical considerations:

1. Bottomlands are commonly grasslands with some scattering of timber, and creek beds. Slopes are steep and heavily timbered. Fire may move rapidly through bottomlands igniting slopes where spotting, torching, and crowning can occur. Slopes and bottomlands are heavily populated with structures.
2. Most homes will require maximum effort to defend, requiring prompt implementation of this plan and the need to triage (determine which can safely be defended) structures for defensibility.
3. Access to areas differs in locations. Bottomlands are commonly accessed by county road or state highway. Slopes are accessed by long private drives in varying conditions. Access to localized structures is critical in completing structure triage.
4. Homes range from small trailer homes to very large stick frame and log dwellings in the district to multistory commercial structures in the City of Leavenworth.
5. A community water system exists within the city limits including Icicle road and East Leavenworth Road to the City of Leavenworth treatment facility 3 miles southwest from Leavenworth along Icicle creek. The Chumstick has no water system except for an occasional personal water system; the fire station at mile 7 has 30,000 gallons in

underground tanks available. Water for the Chumstick will have to be provided by Fire District water tenders.

6. CCFD#3 and its cooperators cannot assemble enough structure protection capabilities to protect all resources within the District. Successful defense from wildfire will depend upon structural triage, and time for pre-treatment with mobile tactics. Resources from state and federal agencies will be necessary to implement the strategies described.

Structural Vulnerability

Residences within the boundaries of CCFD#3 are wildly dispersed and are somewhat entwined into the forest landscape. Access, topography, slope, and fuels all play a role in each structure’s fire risk; timber mixed with light fuel is conducive to fast moving wildfires. For these reasons, residences within the Chumstick Creek watershed and connected drainages are at the highest risk for large fire loss. Not having a water system in the drainage limits the amount of protection the district can supply. Structures within the City limits and the bottomlands along the Icicle Creek and Wenatchee River are primarily concerned with widespread spotting potential as their primary risk.

Residents within the Chumstick Creek watershed and connected drainages are of highest potential for large fire loss due to access, topography, aspect, fuels and slope. Timber mixed with light fuels creates a fast moving fire situation with the highest potential for large fire loss. Not having a water system in the drainage limits the amount of protection the district can supply.

Key Contacts

Organization	Contact	Phone Number
Chelan County Fire District #3	Main Station RiverCom	(O) (509) 548-7711 911 or (509) 663-9911
Chelan County Fire District #3 Administration	Chief Kelly O’Brien  Asst Chief Gil Eggleston  Bat. Chief Dewayne Bradley	(O) (509) 548-7711 (H) (509)548-7995  (O) (509) 548-7711 (H) (509)  (O) (509)548-7711 (H) (509)
Chelan County Sheriff	Sheriff Mike Harum  RiverCom	(O) (509)667-6851 (C) (509)630-1700  911 or (509) 667-6851
Wenatchee River Ranger District (USFS)	FMO Keith Satterfield	(509) 548-6977

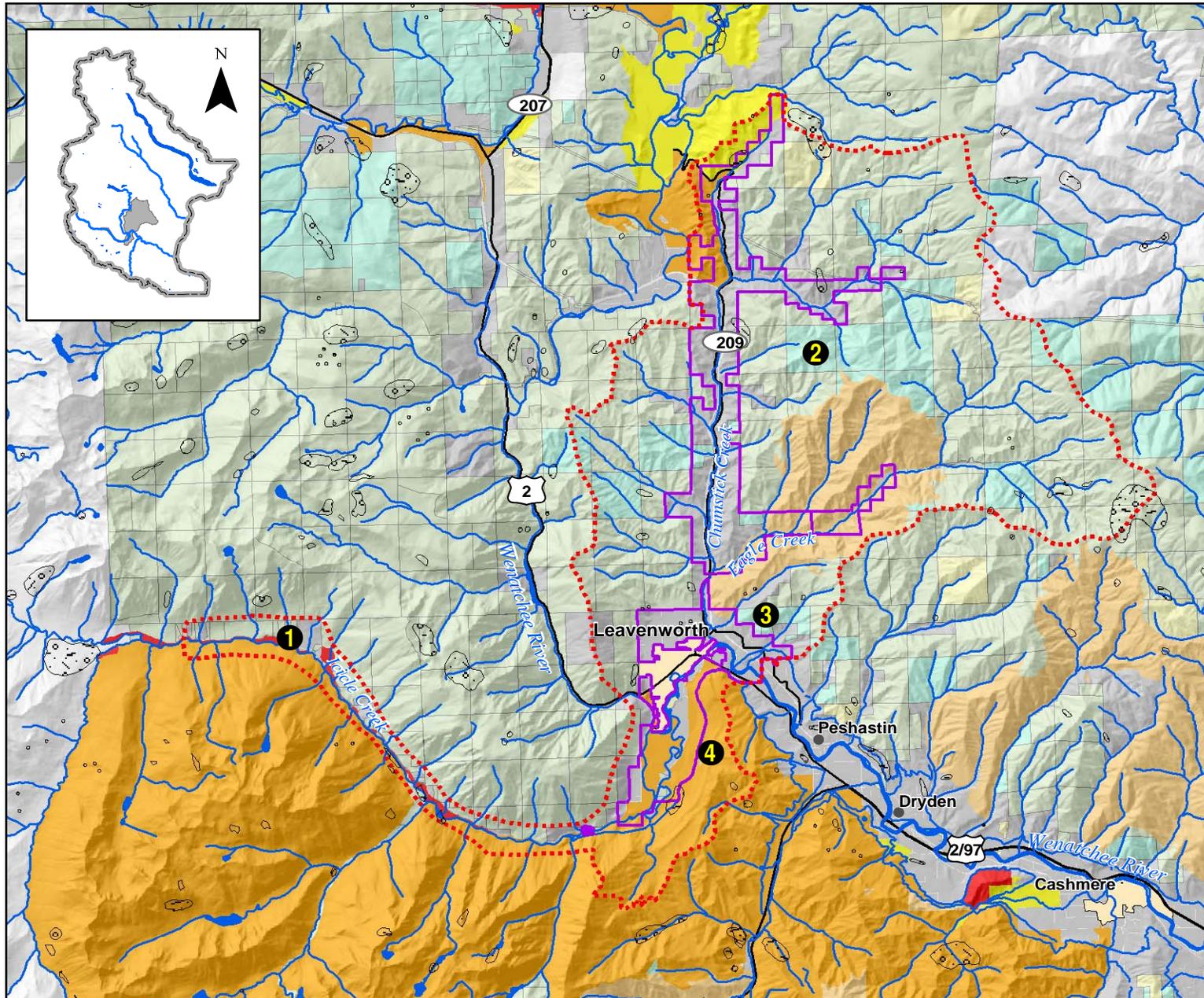
Central WA Interagency Comm. Center (CWICC)		(O) (509) 662-4393
Chelan County P.U.D.		(O) (509) 663-8121 (E) (877) 783-8123
Leavenworth Neighborhoods Group	Buford Howell	548-6017
Chumstick Neighborhoods Group	Ross Frank	548- 4512

## 5. Risk Evaluation

An area risk assessment was completed by WDNR (NFP-299 area risk assessment) that grouped the area rather than analyzing risk to individual structures. The fire risk assessment for the area surrounding Leavenworth ranked as high.

# Leavenworth Area Community Wildfire Protection Plan

## WDNR Fire Hazard Assessment and Insect & Disease Aerial Survey Data



### Legend

- Leavenworth CWPP Boundary
- Fire District No. 3
- County Boundary
- City Boundaries
- Rivers & Streams
- Major Roads
- 2003 Insect & Disease Aerial Survey
- 2000 Fire Hazard Assessment**
- High
- Moderate
- 2004 Fire Hazard Assessment**
- Extreme
- High
- Moderate
- Land Ownership**
- Federal
- State
- Longview Fibre
- Private & Other
- Residential Areas**
- 1 Icicle Valley
- 2 Chumstick Valley
- 3 North Road Area
- 4 Mountain Home Road Area

0 0.5 1 2 3 4 Miles



Note: CWPP boundary created by USFS, WDNR, Chelan County Conservation District (CCCD) employees, and Leavenworth area residents using topography. Hillshade generated using WDNR 30 meter DEM. Fire assessment and aerial survey data provided by WDNR. All other data provided by Chelan County GIS.

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### Access

There are several main roads that serve as designated emergency evacuation routes including Chumstick Highway, North Road, Highway 2, Ski Hill Drive, Mountain Home Road and Icicle Road. However, several of the roads that access canyons or valleys are dead end roads. Not all roads in the planning area are paved or in suitable condition for fire equipment. Therefore, road access has been identified as a concern. The lack of improved roads that could serve for two access roads for emergency evacuations has been identified as a concern in some areas.

### Evacuation

The Chelan County Emergency Management Program administers the evacuation of the area surrounding Leavenworth in the event of a wildfire.

### Staging Area for Tactical Resources

If a fire threatens the area surrounding Leavenworth area, WDNR is primary agency for fire protection on forested private and state lands and USDA Forest Service is the primary agency responsible for management of fires on federal lands. Chelan County Fire District #3 will provide first response with mutual aid resources available throughout the county. These resources may respond to a pre-designated staging area.

Staging area options include;

If fire threatens any portion of Fire District #3, the District will respond with mutual aid resources throughout the Chelan and Douglas County. These resources may use any one of the following locations can be pre-designated as a staging area.

- Chelan County Fire District #3, Station #1 at 228 Chumstick Highway
- Cascade High School, 10190 Chumstick Highway
- Leavenworth Fish Hatchery at 12790 East Leavenworth Road
- Chelan County Fire District #3, Station #2 at 7 miles north along Chumstick Highway

### Command Post Locations

Chelan County Fire District #3, Station #1, 228 Chumstick Road

Mainline	(509) 548-7711
Second line	(509) 548-4091
Fax line	(509) 548-0307
Email	<a href="mailto:chief3@nwi.net">chief3@nwi.net</a>

Leavenworth Fish Hatchery, 12790 East Leavenworth Road

Additional Phone lines would need to be connected	
Office	(509) 548-7641

### Water Supplies

The location of water sources available for fire fighting efforts has been identified. Water sources are primarily surface water withdrawal sites located on private land and right-of-ways at stream crossings. Additional sites for water storage tanks for fire fighting purposes have been

tentatively identified. Finding funding for the development of tanks will be pursued as part of the Mitigation Action Plan of this CWPP.

### Fuel Breaks and Safety Zones

A primary treatment goal in the CWPP area is the creation of strategically-placed fuel breaks adjacent to federally managed lands in the planning area and along roads to allow for safe ingress and egress.

In the event of a fire, the Wenatchee Valley Humane Society will work with landowners to find a safe location for livestock as well as domestic animals for homeowners who can not take their animals with them. Additionally, Chelan County Fairgrounds in Cashmere has been identified as a location that can accommodate livestock in the event of a wildfire.

## **6. Current Activities**

### Protection Measures

Fire protection for the Leavenworth area is provided by CCFD#3. Depending on the location within the planning area, response times average 20-25 minutes.

### Existing Procedures

Two groups of landowners in the planning area organized themselves to address fire issues in the community. One group, the Leavenworth Neighborhoods group, has been awarded funds and has implemented home assessments (160 structures) and fuel reduction projects around homes (about 80) in the Mountain Home area of Leavenworth. The second group, the Chumstick Neighborhoods, is in the initial phases of assessing the fire risk to homes in the Chumstick Creek watershed. Representatives of these two groups provided the bulk of the steering committee during the development of the Leavenworth CWPP.

### Project Proposals

A proposal submitted by the Leavenworth Neighborhoods group for implementing larger scale fuels reduction projects has been awarded. Locating this project will most likely be in that planning area, but is expected to benefit the CWPP effort. Additionally, the CWPP effort expects to prioritize where future project proposals will take place.

### Coordination with Forest Service Activities

In order to maximize the fuels reduction work planned for private land, it would be desirable for complementary projects to take place on adjacent USFS managed lands in and adjacent to the Chumstick Creek watershed. The CWPP is recognized as the instrument necessary to organize and educate the public to further encourage and suggest design of such future projects.

The USFS-Wenatchee River Ranger District has prepared a 5-year Action Plan that will prioritize fuels reduction projects in the WUI. For the Leavenworth Area CWPP, the only ongoing project is the salvage logging in the Fischer Fire area south of Eagle Creek. While this project will reduce some excess fuel loadings as a result of the 2004 fire, later thinning

treatments (e.g. "Green Blag") in this area and in the Natapoc area will further the objective of landscape fuels reduction and discontinuity in the pattern of fuels in the proximity of WUI. In the future, the entire Chumstick drainage will be reviewed for potential landscape fuels treatments toward the end of the current 5-year Action Plan.

In the interim, efforts to coordinate other projects that maximize the benefits of landscape fuels reduction involving other public and private entities, and as outlined within the Leavenworth Area CWPP Mitigation Action Plan, can be considered for inclusion in the USFS-Wenatchee River Ranger District 5-year Action Plan as it is amended in the future.

#### Landowner Committee

A landowner committee was established during the development of the Leavenworth CWPP to provide feedback for the development of the plan. This committee was made up of people who were already involved with fuels reduction and fire education efforts in the area. The committee provided the bulk of feedback from community members during the development of the plan. It was decided by the committee that the focus of the Leavenworth CWPP is to help ensure human safety and structure protection on private land. Based on this, committee members decided to have the Mitigation Action Plan concentrate on safety issues in the following categories: education and outreach, fuels reduction, and improved protection capabilities. Projects that address human safety issues will be of a higher priority than projects that benefit homes. No home is worth a life.

Education and outreach was identified as one of the most important tools to be included in the plan. It was recognized by the committee that landowners will need to be informed of the need and means to "FireWise" their property and ensure safety. In addition, education and outreach will reach people who visit but may not live in the planning area. Several items were identified as a means to get fire information out to the public (See 8. Mitigation Action Plan, page 19). The objective of this portion of the plan is to provide information to landowners and visitors to increase knowledge and understanding of fire related issues. Some things considered to accomplish this include hosting future "FireWise" presentations and workshops and work to support the volunteer firefighter program.

Fuels reduction, both around homes and across the landscape was the second priority of the landowner committee. The committee agreed that implementing defensible space around homes was the first priority for fuels reduction and the second priority was the general landscape. Landowners will be encouraged (and information provided on how) to create a defensible space around their own homes, but financial assistance should be provided to assist those landowners that do not have the funds or ability to do it all on their own. While shaded fuel breaks maybe the first line of defense and should be pursued for implementation, the scale of this work will not return the immediate benefits that come from creating defensible space around individual homes. Creating defensible space and maintaining it to protect structures will provide a type of "back-up" if in the future fires escape the shaded fuel breaks. The most important thing about the shaded fuel breaks is that they are located where appropriate based on geographic features and vegetation type and do not stop and start due to public/private ownership. The location should be based on terrain, fuel conditions, etc. and the treatments take place where needed regardless of ownership.

The landowner committee will assist with investigating and prioritizing on-the-ground wildfire prevention and protection projects in the Leavenworth CWPP (Mitigation Action Plan, Page 19). In general, projects will be prioritized based upon their location in the planning area. The focus will first be on in the neighborhoods contained within the planning area and work outward toward adjacent public lands.

Communication was identified as another item to be addressed in the plan. Specifically, immediate communication of accurate information to landowners and appropriate emergency personnel in the event of a fire related emergency is critical. Through this planning effort, the best means of developing a defined method of communication between landowners will be pursued.

The steep, rugged topography of the Leavenworth CWPP area limits most roads to valley bottoms and ridge tops. Limited roads, particularly a lack of secondary access roads into populated areas of the planning area were identified as a substantial concern to safety. Means to improve/upgrade existing roads to provide for secondary access during emergency evacuation conditions should be pursued with the appropriate landowner.

## **7. Plan Maintenance**

The landowner committee will be responsible for monitoring existing projects and proposing and prioritizing future projects aimed at wildfire prevention and protection in the Leavenworth CWPP. Members of this committee will take on the task of coordinating with outside groups and agencies to investigate, write, and submit future grants. This group is also responsible for partnering with appropriate agencies to review and update this CWPP at least once a year under the direction and assistance of the CCFD#3 and the Chelan County Conservation District.

## **8. Mitigation Action Plan**

There are three main categories of mitigation actions identified by members of the Leavenworth CWPP committee. Categories include fuels reduction, education and outreach, and fire prevention and suppression in the WUI area. Natural vegetation and habitat restoration activities are incorporated into fuels reduction projects. Recommendations are organized into categories and listed in order of priority.

- Fuels Reduction

1. Implement “FireWise” recommendations within 200 feet of all private homes and essential infrastructure. Actions include the establishment of defensible space, adequate turn-around space for emergency equipment, and clear consistent address signs.
2. Create 200-foot wide shaded canopy fuel breaks on strategically located areas that will have the greatest benefit for the entire project area. The objective of the proposed project is to help reduce the potential of a wildfire moving from public to private lands and vice

versa across the landscape. Particular attention will be placed on lands in the Chumstick Creek watershed and other more densely populated areas.

3. Encourage the USFS to continue current fuels reduction activities at the landscape scale with an emphasis of creating strategic fuel breaks that will enhance local fire suppression efforts and utilize “natural” fuel breaks where feasible (such as orchards, ridge tops, highways, rock outcrops and irrigated pastures). Encourage similar activities on other National Forest lands adjacent to private ownership within the CWPP area as risk assessment and prioritization process continues.
4. Encourage the USFS to continue permitting sheep grazing allotments in the Chumstick Creek watershed and align grazing routes with strategic fuel breaks (such as ridge tops).
5. Treat vegetation within 100 feet of roads and driveways. This can include shaded canopy defensible space on both sides of the road.
6. Develop and maintain safe areas, shelters, and staging location as a base for fire fighting operations.
7. Encourage adjacent landowners and agencies to perform complementary treatments on their land by being more involved in the public planning process and inviting neighboring private landowners to participate in annual “FireWise” workshops to be held locally.
8. Current County regulations on riparian management and set back along streams are problematic for implementing effective fire orientated vegetation management. Many homes along streams may not be able to do the needed vegetative work and still comply with these rules. Thus, for the short term, request a waiver or special standard could be established for this type of work. Alternatively, a more comprehensive solution for County management consideration that accommodates ecological and social values may be a better long term solution for all interests. Accurately mapping specific high value areas for streamside protection rather than a one size fits all.
9. Work with Chelan County to modify Shoreline/Riparian restrictions to allow establishing defensible spaces around structures and along ingress-egress routes by trimming of shrubs, pruning ladder fuels and generally reducing the fuels loads. This may include requesting that the County adopt WDNR Forest Practice Standards for fuels reduction projects in Shoreline/Riparian designated areas.
10. Encourage Chelan County to acquire a smaller, more mobile chipper(s) that can be used by folks in the CWPP area to dispose of brush generated through fuels reduction efforts rather than burning. The reduction of material going to landfills and improving air quality is the objective.
11. Investigate biomass conversion technology for opportunities to implement biomass utilization technology in the CWPP area and County wide as part of fuel reduction projects.

12. Identify extreme hazard sites and work with landowners to reduce fuel loads of these sites to improve safety for an entire area (mouth of Spromberg Canyon)
- Education and Outreach
    1. Conduct risk assessments of individual structures and essential infrastructure for the entire planning area and implement identified recommendations.
    2. Utilize existing billboard on highway to provide fire-related information such as fire danger level, burn ban regulations, informational messages or reminders (i.e. “No campfires” or “use your ashtray”), and/or what to do if smoke or a fire is detected. (i.e. “Report signs of smoke or fire immediately Call 911” or perhaps establish with the local telephone company an easy-to-remember number that connects directly to the Chelan County Fire District #3 station, such as “Dial #FIRE”)
    3. Compile essential “FireWise” information and distribute it to landowners in and adjacent to the Leavenworth CWPP area. Information presented should cover landowner responsibilities and residential security options (i.e. creating defensible spaces and fire breaks, “FireWise” construction materials, etc.), and individual preparedness (i.e. how to create a Personal Emergency Action Plan, what to do and what not to do in the case of a wildfire, etc).
    4. Participate in Forest Service and State Forest Management policy issues during amendment processes to provide input to insure local land/home owner interests are considered. Input to the Forest Plan revision is a good conveyance of community concerns for all aspects of forest management. There are land allocations in the drainage that are not conducive to effective fire prevention or control. It is hoped that through the development of this CWPP and WUI designation for the planning area, that this will allow for fuel reduction management in areas that would not normally allow for it due to the land allocation identified in the Forest Plan. Existing allocations may limit the degree and extent of fuels reduction treatment in areas that may need it the most
    5. Incorporating burn bans, campfire closures etc into the CWPP is highly appropriate based on community concerns. This would require special orders or dictate closer interagency communication (USFS, WDNR, and Fire Protection Districts) which is a desired outcome of the process. It would require discussion amongst agencies but SHOULD be inserted into the CWPP as a community concern. Potentially could propose campfire closures to coincide with the appropriate Fire Precaution Level and County burn bans. Coordinate fire danger level with IFPL, right now you can be at extreme fire danger and still at an IFPL 2
    6. Provide information to non-residents who own property and/or vacation homes on steps they can do to reduce the threat of fire to their homes and property. Especially since their non-action is putting their neighbors lives and properties at risk.

7. Produce emergency evacuation route maps - Provide maps of emergency evacuation routes and emergency contact information to landowners in the CWPP area
  8. Work with the County planning department - to get FireWise building materials information provided to developers and home builders during the permitting process.
- Improving Protection Capabilities/Human Safety
    1. Emergency Safety Issues
      - Address coordination
      - Road Signs
      - Evacuation Escape routes  
Develop warning systems and safe escape routes, including the following:
        - Mark exit routes on maps. (Emergency Management may already have)
        - Make directional emergency exit signs. (may require State and County involvement)
        - Procure and install warning siren.
        - Contact radio station for possible help with emergency information.
        - Make signs saying incase of emergency tune your radio to **KOHO**.
    2. Address coordination – Eagle and Chumstick Creek properties need to be renumbered in a logical, sequential way. This should be completed anywhere this is a problem. After completion of address assignments we suggest the following.
      - Standardize location of address signs.
      - Standardize appearance of signs
      - Contact person at Chelan County responsible for assigning addresses to assist and verify correct information.
      - Road signs - Develop uniformity of all road signs and install signs at strategic locations. Sign design will meet County and State (if appropriate) requirements.
        - Location
        - Size and type of lettering.
        - Mounting heights.
        - Special signage (i.e. dead ends, curves, fire risk area, FireWise block watch community etc.).
    3. Develop water sources for fire fighting efforts - Identify and improve water sources in the CWPP planning area. Specifically, locate sites and install 5,000 to 10,000 water storage tanks to provide additional water site for fire fighting efforts. This will include improving existing water drafting sites for the same purpose. Sites for tanks have already been identified in Eagle Creek (2 sites), Marry Canyon (2 sites) and Chumstick (3 sites).
    4. Fuel reduction along County roadways. The Fire District should prioritize roadways for fuel reduction actions. Neighbors should be encouraged to organize their own clearing projects too (these might include driveways and clearing along non-county roads). The Fire District should collaborate on roadway projects with neighbors and landowners.

Mitigation actions should improve access for fire equipment and evacuation for residents while maintaining and enhancing the neighborhood's sense of place and esthetic value.

5. Fuel reduction along Primitive roadways. Chelan County has established road standards, conditions of design and construction. However many of the rural roads in the County and District are classified as primitive. These primitive roads can be steep, narrow, dead-ended, and seasonal or in some other way limit access to fire fighting equipment. The considerable expense of upgrading these roads means that most will remain primitive for the foreseeable future.
6. The Fire District should collaborate with neighbors and landowners in order to develop fuel reduction plans and to inform the residents on the level of service they should expect. The Fire District is encouraged to try to accommodate the many special circumstances found on primitive roads in the Leavenworth area including seasonal contracts. There may be landowners who will provide safe zones and/or turnarounds for fire fighters and equipment
7. Plan for neighborhoods outside the Fire District. The Fire District needs to present a clear, well defined, procedure for neighborhoods outside the fire district to apply for inclusion in the fire district. This procedure needs to define any requirements that a neighborhood needs to meet for inclusion in the district plus outline the steps for applying for inclusion.