SKAGIT COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN

2012 version

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PREFACE

History

Throughout history, the residents of Skagit County have dealt with the various natural hazards affecting the area. Photographs, journal entries, and newspapers from the mid 1800's to the present, show residents of the area dealing with natural disasters, including wildfire. Although there were fewer people in the area many years ago, wildfires did at times, adversely affect the lives of those who depended on the land for food, shelter, and welfare. Our population increase has and will continue to expose the wildland urban interface to a greater wildland fire risk than experienced historically. With an ever-growing population and the development of resource lands, the impact of wildfire hazards will continue to escalate.

It is impossible to predict exactly when a wildfire will occur, or the extent to which it will affect the county, but they will occur – it is only a matter of time. However, with careful planning and collaboration among public agencies, private sector organizations and communities, it is possible to minimize the losses that can result from natural disasters, including wildfire.

Community wildfire protection plans have been in place throughout the nation since shortly after the Healthy Forests Restoration Act was put forth in 2003. This legislation included incentive for the United States Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to local community priorities when developing forest management and hazardous fuels reduction projects. Having a Community Wildfire Protection Plan in place allows communities to take advantage of this opportunity. Within the State of Washington, there are 40 communities that have written and implemented these plans within their jurisdictions.

Past wildfires have threatened homes in Skagit County thereby causing concern among residents about the potential for damage to their property, and the safety of their families. In 2008, Skagit County government recognized the need for cooperative county-wide wildfire planning and requested the Skagit Conservation District to lead efforts on the development of this plan.

Federal Wildfire Legislation

Community Wildfire Protection Plans have been incorporated into National Planning effort. The Federal Land Assistance, Management, and Enhancement Act (FLAME) was signed by President Obama on October 30, 2009. One year after enactment of the FLAME Act, the Secretary of Interior and the Secretary of Agriculture were required to submit a report to Congress containing a cohesive wildfire management strategy.

In response to this legislation the Wildland Fire Leadership Council (WFLC) developed a "Cohesive Strategy" document. The National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) is a collaborative process to seek national, all-lands solutions to wildland fire management issues. The Cohesive Strategy focuses on three key areas: Restore and Maintain Landscapes, Fire Adapted Communities and Response to Fire.

Community Wildfire Protection Plans are part of the Cohesive Strategy. The Cohesive Strategy has a long list of goals and performance measures establishing a common understanding among all entities interacting in the wildland- urban interface, (WUI). All wildland fire protection entities are to assist in the development and implementation of Community Wildland Fire Protection Plans (CWPP) and comparable land resource management plans to create fire-adaptive communities. (www.forestandrangelands.gov).

What is a Community Wildfire Protection Plan?
A community wildfire protection plan is a community based plan that identifies and prioritizes hazardous fuels treatments and recommends way to reduce structural ignitability. Within the plan, collaborative strategies are developed to reduce community risk from wildfires and restore healthy more resilient conditions in the surrounding forests.

Why Develop A Community Wildfire Protection Plan?
The rising cost of responding to and recovering from natural disasters has led to a renewed interest in identifying effective ways to reduce the vulnerability to wildfires and focus on fire prevention. Community wildfire protection plans assist communities in identifying hazards, developing mitigation plans and preventing or reducing the impacts that wildland-urban interface fires pose to the community through a coordinated, multi-jurisdictional approach.

The goals of the Skagit County Community Wildfire Protection Plan (CWPP) are:

- Enhancing public safety
- Improving economic resiliency and protection of critical infrastructure
- Maintaining and/or restoring forest ecosystem health
- Raising public awareness about wildfire risks
- Building partnerships between local, state, and federal fire fighting agencies
- Educating landowners of their shared responsibility in wildfire protection

This plan serves to establish a foundation for coordination and collaboration among local, state and federal agencies, and communities within Skagit County. In addition to identifying wildfire mitigation strategies and future mitigation projects, this CWPP also meets the requirements of various state and federal assistance programs. The Skagit County Community Wildfire Protection Plan completes the process of wildfire mitigation planning that began with the Skagit County Natural Hazards Mitigation Plan.

Who Does the CWPP Benefit?

This plan serves to provide the framework for wildfire hazard mitigation within Skagit County. Much has already been gained in simply developing this plan and establishing the basic mitigation strategies that have been incorporated into the document. We hope the spirit of inter-jurisdictional cooperation that has begun with this planning effort will continue and provide the foundation for future planning as well as to provide guidance and resources to the community to implement mitigation strategies. Skagit County will also be better prepared to pursue funding for projects related to this plan. It is anticipated that a number of communities will follow the guidelines in this plan in order to reduce their risk from wildfire. In addition, individual forest landowners within a community may benefit from forest management funding through the Environmental Quality Incentive Program (EQIP) administered by the U.S. Department of Agriculture.

Furthermore, this plan is an integral element of Skagit County land use planning which focuses on appropriate land use controls in areas that are prone to wildfire as determined by the Washington State Department of Natural Resources rating system. In general, Skagit County will benefit from the implementation of this plan in the health of our forests and other natural resources, and the safety of our communities. Communities will be provided technical assistance to develop individual forest health plans as well as assistance in securing funds to implement those plans. Communities are encouraged to contribute through their participation in the Firewise Communities / USA program. (www.firewise.org/usa)

The Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 (DMA 2000) (P.L. 106-390) provides an opportunity for sates, Tribes and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Act) by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of mitigation plan requirements (Section 322). This new section emphasizes the need for state, Tribal and local entities to closely coordinate mitigation planning and implementation efforts.

The primary purpose of hazard mitigation is to identify community policies, actions, and tools for implementation over the long term that will result in a reduction in risk and potential for future losses community-wide. This is accomplished by using a systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions, following through with an effective mitigation strategy, monitoring and evaluating progress.

The 2012 USFS Technical Report NRS-89 recommends: “Local, customized wildfire management efforts nested within the county CWPP, and the county CWPP nested within the FEMA plan (Natural Hazards Mitigation Plan)”.

Skagit Conservation District followed these recommendations developing and implementing the CWPP process in Skagit County, Washington State.

The Skagit County Natural Hazards Mitigation Plan (NHMP) was developed as a multi-jurisdictional mitigation plan to insure local jurisdictions maintain eligibility for receiving federal natural hazard mitigation grant funding. In developing the NHMP in 2003, wildfire was identified as a natural hazard occurring within Skagit County and the plan identified various strategies to mitigate the wildfire hazard within Skagit County. As part of the 2008 update of the NHMP, Skagit County Department of Emergency Management (DEM) requested that the Skagit Conservation District (SCD) update the Fire Section of the NHMP in an effort to maintain consistency between the NHMP and this plan. It is the intent of the SCD that this CWPP and the NHMP act as supporting documents to guide the implementation of wildfire mitigation efforts within Skagit County. The CWPP follows National guidelines established under Healthy Forests Restoration Act (HFRA) and the CWPP National Task Force.

I. INTRODUCTION

Ecosystems are constantly changing and adjusting. Forces such as storms, earthquakes, and fire keep them in a constant state of change. These natural disasters can happen in any community. Because of our nation's history of suppressing fires, many of our woodlands have become dense with fuel build up. Often fuels accumulate to extreme conditions in areas where forest management is not active. Because of the dense conditions of our forests and the ever-expanding population that is building into these forests, wildfires that occur today are much larger and more catastrophic. Most people do not think of wildfire as a natural disaster they can effectively protect against. However, there are things each of us can do to prepare for and lessen the effects of catastrophic wildfires.

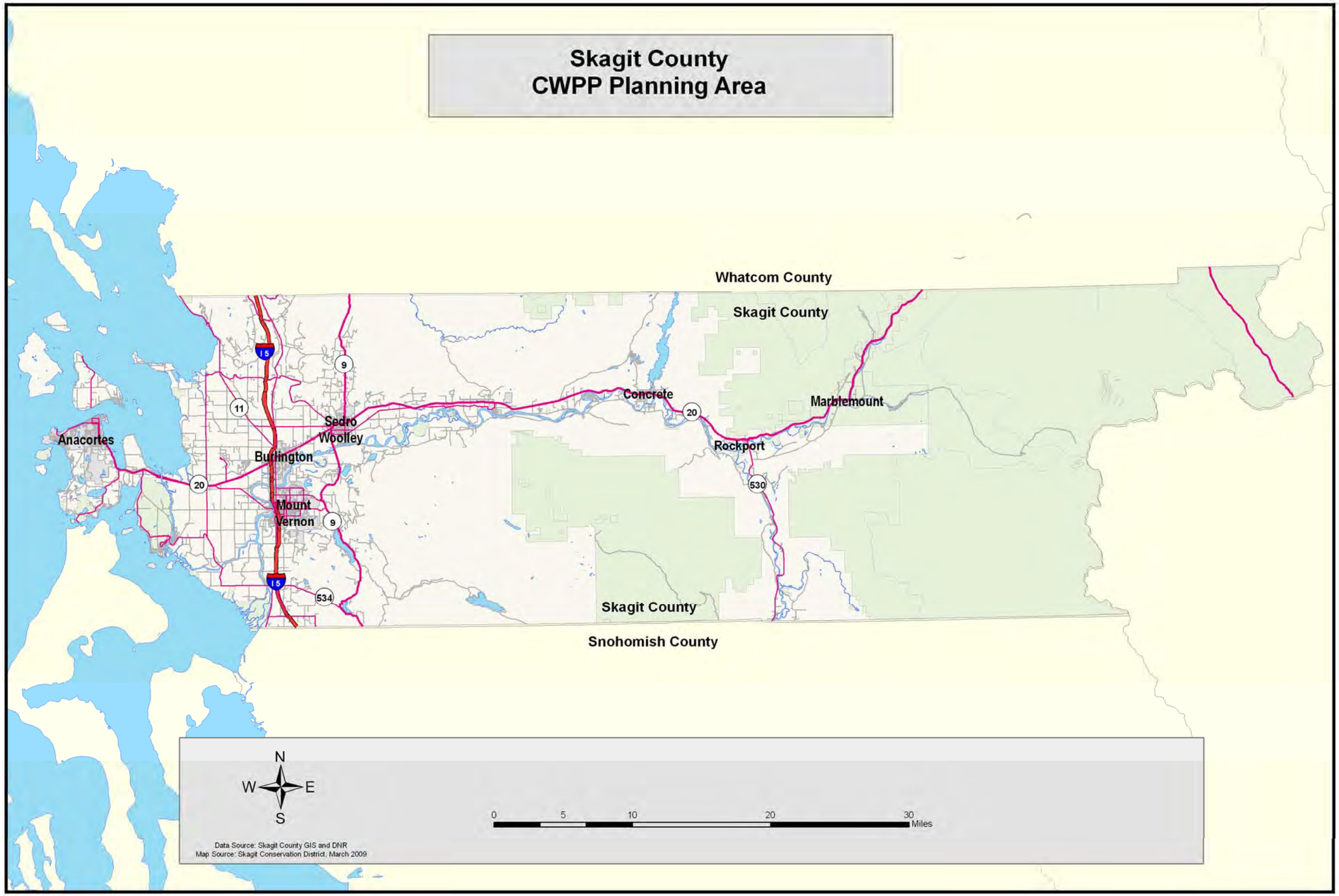
In Washington State, 80% of the population resides on the west side of the Cascade Mountain Range. There is the perception that because the moisture levels are higher on the west side of the state, there is little or no danger of wildfire occurrence. This is not the case during dry summer months, especially when there are heavy ground fuels from dead and downed vegetation. The high fuel load paired with a rapidly expanding population on this side of the state results in more prevalent wildland urban interface problems. The wildland urban interface (WUI) is defined as the zone where structures and other human developments meet, or intermingle with, undeveloped wildlands. These wildland-urban interface issues that we face today can be addressed locally to help reduce the wildfire risk in these areas.

Because Skagit County has such a rich natural resource base, there are many reasons to protect the resources as well as people and property from wildfire damage. The county as a whole is at risk from wildfire; however there are many regions within the county that are considered to be at high or extreme risk for wildfire due to their proximity to unmanaged forestlands.

Forests that are managed for resistance to fire damage will also resist damage by insects, disease organisms, and extreme weather conditions with the additional advantage of protecting fish, wildlife, watersheds, and other public resources. Practice standards set by the Natural Resources Conservation Service will ensure resource concerns and environmental concerns achieve desired results. These standards are in addition to the required standards set by the Washington Forest Practices Act.

In recent years, the numbers of people choosing to build in or very near forested areas has increased dramatically as city limits have expanded into previously unpopulated and forested areas. As the population of Skagit County increases and people desire to live in this more rural and isolated region, the potential risk to lives and property from wildland fire increases.

For the purposes of this plan, the strategic planning area includes all of Skagit County, an area of approximately 1,920 square miles. The United States Forest Service (USFS) owns and manages a large portion of the land area in Skagit County. Most of the land owned by the USFS is located upslope from forested communities; the primary threat to our natural resources is from these communities located down-slope and/or adjacent to USFS lands. Therefore, action taken by these communities to reduce their fuel loads and improve the health of their forests is of direct benefit to the USFS.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CWPP Planning Area
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Skagit County
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Data Source: Skagit County GIS and DNR
Map Source: Skagit Conservation District, March 2009

Goals and Objectives

Proactive planning is the best way for Skagit County to cooperatively address wildfire concerns and achieve significant reductions in the wildfire risk where planning and fire protection have been implemented. Wildfires will be less damaging and costly to society if preventive and protective actions are taken. The citizens living within this planning area value their homes, privacy, and their natural surroundings. The protection of life, property and natural resources are top priorities for these communities in wildfire protection planning. In consideration of that the following goals for the CWPP have been established.

Goals for this CWPP:

- **Identify and rate hazard areas within the County**
- **Develop mitigation strategies through community planning**
- **Provide information and education to the public about wildfire prevention, and preparation**
- **Increase community involvement in the Firewise Communities/USA Program**
- **Make Skagit County more competitive and eligible for funding assistance to implement mitigation strategies**
- **Become a leader to other counties developing CWPPs in the future**

Through outreach, community planning, and development of wildfire hazard mitigation strategies, these goals can be met. Working with Local, State, and Federal Agencies, the Conservation District will assist local communities in developing fire prevention plans under the steps outlined in this county-wide plan.

II. PLANNING PROCESS

The minimum requirements for a conforming CWPP as described in the Healthy Forests Restoration Act are:

Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.

Prioritized Fuels Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the type and methods of treatment that will protect one or more at-risk communities and essential infrastructure.

Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

There are six major steps to developing a CWPP. They include the following:

Step 1: Convene Decision Makers

The Skagit Conservation District (SCD) is leading the planning process for the development of this Community Wildfire Protection Plan (CWPP). SCD is working in partnership with the Washington State Department of Natural Resources (WADNR), the United States Forest Service (USFS), National Parks Service (NPS), Skagit County Fire Marshal's Office (FMO), the Skagit County Commissioner's Office, Skagit County Rural Fire Districts, and the public. Efforts to introduce the CWPP planning process to the Skagit County community and to gather local input began when the Skagit Conservation District collaborated with agency partners to host an informational meeting in the town of Concrete. Fliers were posted around the community to encourage community response. From these efforts, personal contacts within the eastern Skagit County community were developed, as well as partnering agency relations. Since this initial meeting on the CWPP planning process, the SCD has been working with these agency partners in all efforts to educate and involve community members in this planning process and in direct efforts to mitigate wildfire hazards.

To gather information and data for this report a number of meetings were conducted and events attended:

1. Meeting with Skagit County Fire Chiefs Association
2. Meeting with Skagit County Fire Commissioners Association
3. Meetings with Local Fire Districts
4. Letters & surveys sent to all Fire Districts
5. Meetings with Skagit County Fire Marshal
6. Meetings with Skagit County Department or Emergency Management
7. Public Meetings on Skagit County Natural Hazards Mitigation Plan. (development of NHMP)
8. Meeting and coordination with Department of Natural Resources
9. Meetings with U.S. Forest Service
10. Plan reviews by the Natural Resources Conservation Service
11. Community meeting for Forest Landowners, Concrete, WA September, 2008
12. Washington Farm Forestry Annual Meeting, April, 2008.

Step 2: Establish Planning Area Boundary and Planning Goals

It was determined that this plan would include all of Skagit County based on the dispersion of wildland-urban interface areas within the county as well as the pre-defined planning area boundaries in the Natural Hazard Mitigation Plan that this document is a component of.

Proactive planning is the best way for Skagit County to cooperatively address wildfire concerns and achieve significant reductions in the wildfire risk where planning and fire protection have been implemented. Wildfires will be less damaging and costly to society if preventive and protective actions are taken. The citizens living within this planning area value their homes, privacy, and their natural surroundings. The protection of life, property and natural resources are top priorities for these communities in wildfire protection planning. Through outreach, community planning, and development of

wildfire hazard mitigation strategies, these priorities can be protected. It was determined that this Community Wildfire Protection Plan (CWPP) will identify the various land owners/managers, stakeholders, and assess and prioritize risk areas, and recommend mitigation strategies. The goal for completion of this document is June, 2009, however, this plan is to be considered a working document that will allow for expansion and incorporation as well as monitoring of the changing risk levels over time.

Step 3: Establish A Community Base Map & Step 4: Hazard Assessment

Steps 3 and 4 were combined since it was determined that the CWPP should cover all of Skagit County. A base map was already in place (developed by WADNR). The base map identifies communities at risk to wildfire on a landscape level, and the level of risk within those identified areas. (Please refer to page 21 & 22 for details on the process of making those determinations). This base map was completed in 2004. Efforts to develop a county-wide CWPP began in 2007, therefore, it was determined that the wildfire risk within the county needed to be reassessed and the areas of risk potentially expanded.

Local fire districts are the first responders regardless of the emergency/disaster in a community therefore they have firsthand knowledge and understanding of the risks within their fire district boundaries. Based on this fact, the hazard assessment process began with a letter and survey to all rural fire district chiefs and commissioners within Skagit County. The survey requested identification of specific areas of wildland urban interface concern, information regarding the current protection resources available, level of community awareness regarding wildfire risk and prevention, an opportunity to identify specific projects and provide input on changes to wildland fire prevention and protection approaches. These areas identified by the fire districts that were not already included in the "Communities at Risk to Wildfire" base map were then assessed by wildfire prevention and forestry experts from the SCD and the WADNR. The standardized National Fire Protection Association (NFPA) 299/1144 assessment form was used as a tool to help determine the hazard severity level of each area. (Please see Appendix 1 for the NFPA assessment form template that was used).

Step 5: Establish Community Priorities & Recommendations

Based on results from the Fire District surveys, local citizen input, and the previously established map of Communities at Risk to Wildfire, the CWPP team created a list of project types and locations.

Project types include:

- Hazardous fuels reduction/forest health improvement projects
- Reducing structural ignitability
- Improving Emergency Response – Natural Hazard Mitigation Plan
- Education and information to homeowners

Project Prioritization Criteria:

- Level of risk (Extreme vs Moderate)
- Community interest
- Proximity to federal lands

- Community capacity
- Current forest health status

Step 6: Communicate Wildland Protection Plan Information to Property Owners
Efforts to educate the public and inform them of the CWPP process have been ongoing throughout this process. Using newsletter articles, public meetings, handouts and other types of outreach materials at local events, this information has been made available to a wide audience.

III. COMMUNITY PROFILE

Environment

Skagit County is geographically diverse from west to east. The Cascade Mountains stand to the east, overlooking a fertile agricultural valley. Carving through the valley is the Skagit River flowing westward toward the Puget Sound. Climate differences between western and eastern Skagit County are notable. The average annual rainfall in the County ranges from 26 inches in the west to 65 - 80 inches (rain / snow) in the eastern part of the county. Approximately 80% of Skagit County is forested with the majority of forested land in the eastern half of the county. Population growth is occurring mainly in the heavily forested upland areas of the county. A significant amount of the population growth is taking place near Federal lands. Overall the climate is considered moderate; but temperature extremes are not uncommon.

Skagit County consists of large-scale forests and wilderness areas. Dominant vegetation ranges from Douglas fir, Western hemlock, Pacific silver fir in higher elevations, and Western red cedar. Red alder and big leaf maple occur in lower elevations in mixed stands.

Ecological Sites

Looking across any landscape it is not difficult to recognize that some parts are different from other parts in regard to the kinds and amounts of vegetation. To understand this variation across the landscape, we classify these different parts into units called ecological sites. An ecological site is defined as “a distinctive kind of land with specific characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation”. Any land inventory, analysis, and resulting management decisions require knowledge of these individual sites and their interrelationships to one another on the landscape. The ecological site description is the document that will contain information about the individual ecological sites.

The data comprising an ecological site description (ESD) is presented in four major categories:

1. **Site Characteristics** - Identifies the site and describes the physiographic, climate, soil, and water features associated with the site.
2. **Plant Communities** - Describes the ecological dynamics and the common plant communities comprising the various vegetation states of the site. The disturbance factors that cause a shift from one state to another are also described.
3. **Site Interpretations** - Interpretive information pertinent to the use and management of the site and its related resources.
4. **Supporting Information** - Provides sources of information and data utilized in developing the site description and the relationship of the site to other ecological sites.

Criteria used to differentiate one ecological site from another include:

- Significant difference in the species or species groups that are in the plant community.
- Significant differences in the relative proportion of species or species groups in the plant community.
- Soil factors that determine plant production and composition, the hydrology of the site, and function of the ecological processes of the water cycle, mineral cycles, and energy flow.
- Differences in the kind, proportion, and production of the overstory and understory plants due to differences in soil, topography, climate, and environment factors, or the response of vegetation to management.

Fire plays a major role in the Douglas-fir/Hemlock type; the dominant ecological site in Skagit County covered by this plan. The stand will typically regenerate after wildfire in partial shade cast by fire-killed trees. Seed is provided by scattered surviving trees or islands of trees. Often young stands are so dense that competition over time results in an unhealthy forest condition. At this point, stands become susceptible to attack by insects, disease, wind and catastrophic fires.

There are two successional pathways for this ecological site, which is *moderately dry to slightly moist*. One that has Douglas fir as the dominant species in the over story; while Western Hemlock is in the understory and would dominate eventually. Later stages can consist of both Douglas fir and Western hemlock in dominant positions. Though Western Hemlock is co-dominant, it will, lacking site disturbance and because it is more shade tolerant, eventually dominate the stands. Fire, both natural and human caused along with catastrophic wind events, are the primary natural causes of disturbance on these sites, thus resulting in a succession of Douglas fir. Other types of disturbance are insects and disease outbreaks. Western Hemlock is a shallow rooted species. Wind events can cause destruction to stands that contain a majority of this species. Western Hemlock is also thin barked, and cannot withstand fires of more than moderate intensity. Many young stands are overstocked and are under stress due to competition for moisture, nutrients, and light. As stands develop to pole size or larger, the trees become stressed and mortality occurs. Ideal conditions are created for bark beetles, root pathogens, windthrow, suppression and

catastrophic wildfires. These sites have understory vegetation, most of which is shade tolerant. Salal is the primary abundant under story species with various percentages of Oregon grape, swordfern, and red huckleberry.

Other Ecological Site Descriptions within Skagit County include:
ABLA-TSME/
(subalpine fir /mountain hemlock)
TSME-ABAM/
(mountain hemlock/pacific silver fir)
TSHE-THPL/
(western hemlock – western redcedar)
TSHE-PSME/
(western hemlock/Douglas fir) (*noted above)
ALRU-ACMA/
(red alder – big leaf maple)
PISI-ALRU
(sitka spruce –red alder)

Fish & Wildlife

This plan covers a large and geographically diverse area, and the wildlife presence is also very diverse. From birds of prey such as the bald eagle, to the many species of salmon, to large mammals like the Roosevelt elk, there is a dependence on healthy forest ecosystems within Skagit County to support these species and their habitat. It is important to recognize the wide-reaching impacts that a catastrophic wildfire in Skagit County could have on the fish and wildlife species here. A catastrophic wildfire can kill animals, destroy their habitat and food source, and displace them. Depending on the characteristics of the fire, certain species of wildlife can benefit from the burnt landscape, by taking advantage of things like new vegetation growth and uncovered, opened seeds.

Fuel treatments can substantially affect stand structure and, as a consequence, the habitat quality. Fires generally have a more extreme impact on habitat than any treatment option. While the no-action alternative might seem to benefit some species of wildlife, it assumes an unlikely eventuality of no fire, and produces unhealthy overstocked stand conditions. Small periodic fires of low intensity were part of the pre-settlement forest, with a more frequent fire interval. Large stand replacement fires would have been low in frequency (100 years+), but moderate to high intensity. Habitat strategies associated with fire risk reduction are inherently local (as noted under the ecological site descriptions) and need to be integrated into other site specific wildlife objectives.

Population and Employment

The population in Skagit County is approximately 117,500 people. The demographics have changed dramatically since 1990. At that time, the majority of the industrial forestlands were sold to investment trusts. These forest lands had been managed for decades by large industrial integrated forest products companies. Since 1990 the

industrial lands have been sold and re-sold many times. Previously, residents of Skagit County worked primarily in forestry-related industries. Employment shift has occurred toward tourism / retail trade, home-based construction and service businesses, and government entities, (National Park Service, US Forest Service, Seattle City Light, Puget Sound Energy, Washington State Agencies, etc). The traditional jobs (of the 1970's & 1980s) have declined significantly and now most commute to Anacortes, Everett, or Bellingham. Many upriver occupations are seasonal in nature.

Economics

In some locations forest products can be removed economically through commercial timber sales, thus reducing the fuel load and the risk to catastrophic fire. However, in many locations the material that needs to be removed are low value small wood or material that has no current market value. Fuel reductions can be costly if market conditions do not improve. Currently, firewood is being generated and material less than 4 inches is being chipped and spread on the forest floor. Developing markets for woody biomass has the potential to offset the costs of non-commercial hazard reduction.

Much research has been done to analyze the economics of different fuel treatment strategies. The USFS Research Station examined fuel management activities in the wildland-urban-interface (WUI) measuring fire risk reduction, economic cost, habitat protection and carbon sequestration to develop an optimal treatment guideline. Taking the above factors into account, the optimal thinning treatment was to thin from below, removing 50 percent of the original basal area. The treatment removed all trees with a DBH less than or equal to nine inches and retained the largest trees with thick bark. An average Westside stand with 238 sq. ft. basal area would be thinned to a 114 sq. ft. basal area to 118 sq. ft. basal area (the number of trees per acre removed varies, depending on dbh). (Ager, A. Western Wildland Environmental Threat Assessment Center, *Science.* July, 2011). This treatment produced the greatest risk reduction and, with low cost assumptions, provided a positive net return. Removal of all trees over 12 inches DBH provided the highest revenue alternative, but not a significant risk reduction.

It is costly to remove small trees that make up fuel loads in dense stands. Large trees can be removed for lumber and other products as reflected in the market. The market value for the smaller logs often is less than the harvest and hauling costs. However, failure to remove small trees results in the retention of ladder fuels that support the transfer of any ground fire to a crown fire with destructive impacts. Treatment costs do not reflect the costs of negative environmental consequences with the no treatment option.

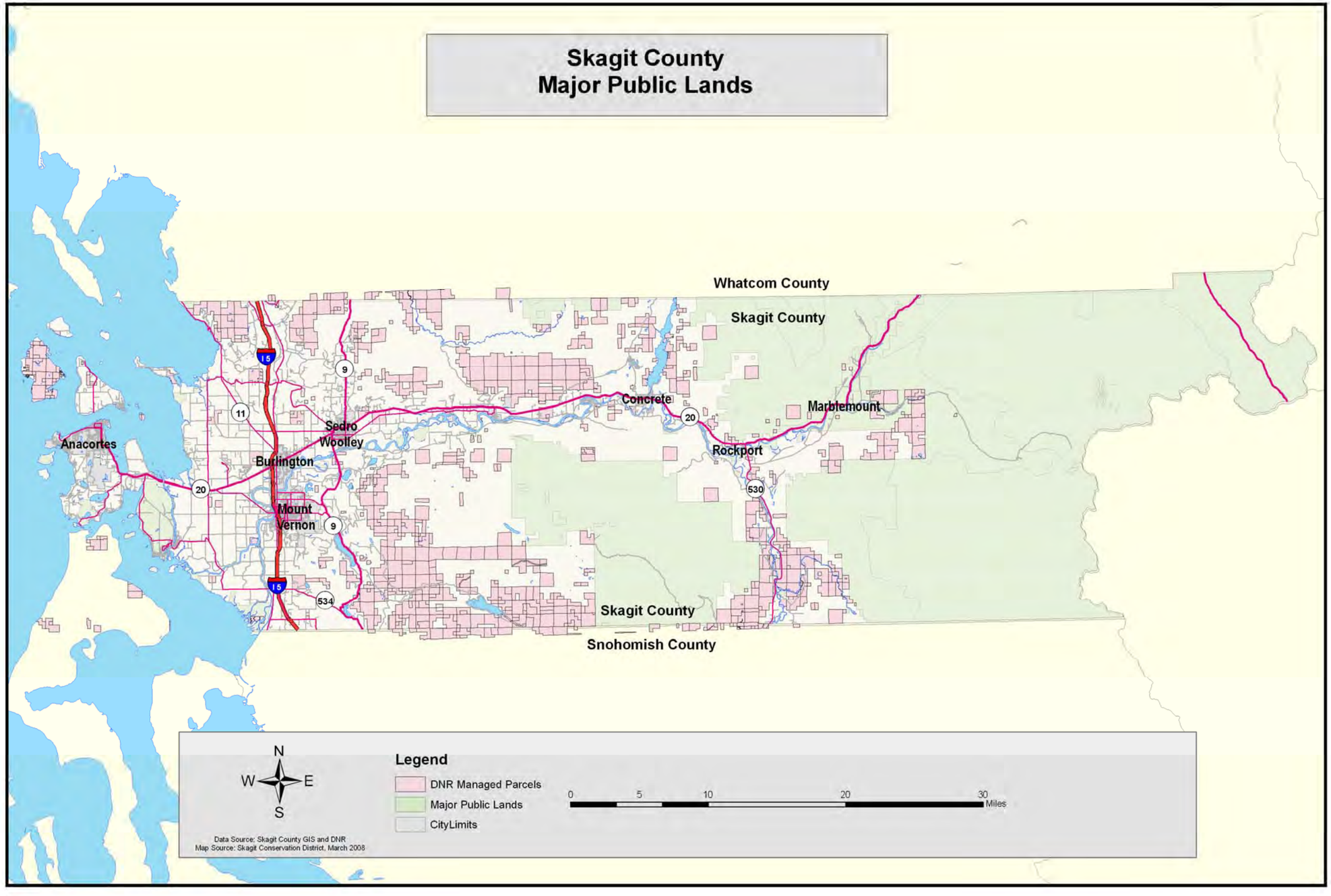
The current research indicates that fire risk can be effectively reduced while creating and protecting other positive environmental, economic, and social values.

"Uneven-age stand treatments (harvesting trees from all size classes) were found to offset harvest costs on more acres than even-aged treatments. Harvesting the smallest trees and diseased trees first, followed by progressively larger trees is the most effective silvicultural treatment". **(PNW Research Station, 2008)**

Land Use/Management, Transportation, and Infrastructure

Skagit County is a mosaic of land management and ownership. The U.S. Forest Service manages 282,812 acres, (26%). The National Park Service manages 214,378 acres, (20%). The Washington State Department of Natural Resources manages 131,206 acres, (12%). Private forest lands (investment trusts, industrial lands, and family forest owners) own 331,700 acres, (30%) in Skagit County. The largest area of contiguously owned land is in the Mount Baker-Snoqualmie National Forest managed by the USFS. The WADNR also manages a large acreage of land but the ownership is non-contiguous across the county. The NPS controls lands in North Cascades National Park and the Ross Lake Wilderness Area in the northeastern portion of the county. There are six major travel corridors within this planning area. Many areas of these travel corridors are bordered by forested hillsides where communities and dispersed single homes are located.

Skagit County
Major Public Lands



Development Trends, Zoning and Fire Policies

In Skagit County, the planning goal is to have 80% of the growth occur in the incorporated areas, and 20% occur in the unincorporated areas. This is to discourage urban sprawl and preserve the character of rural areas. Also, public services and facilities such as fire protection can be most efficiently provided within the Urban Growth Areas (UGAs).

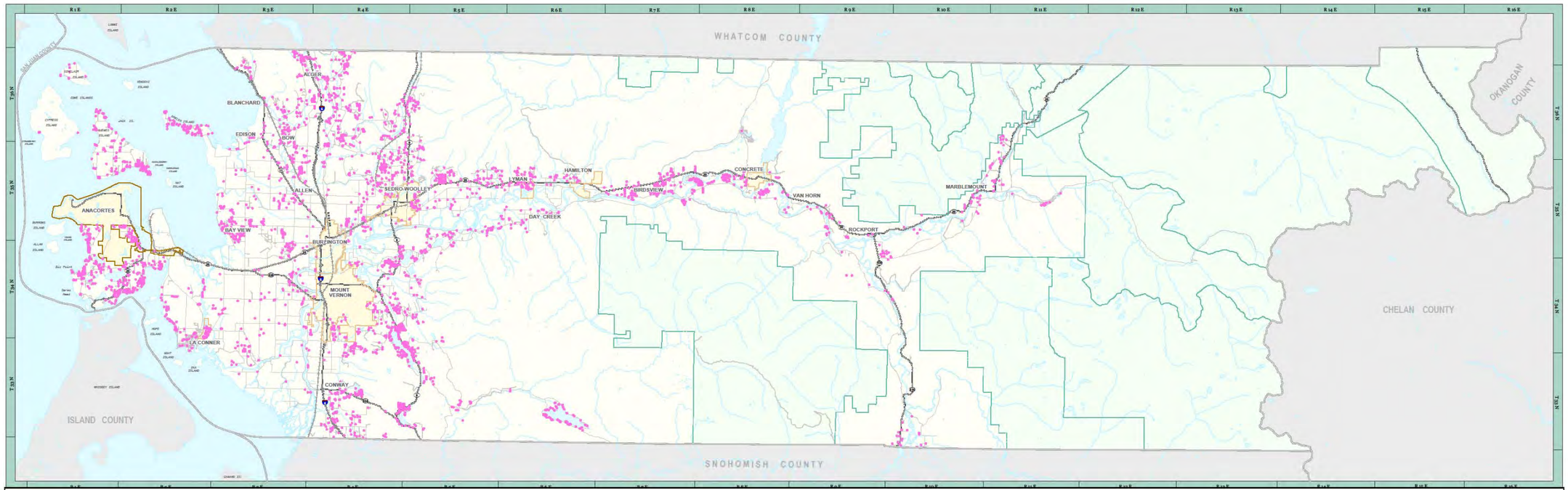
331,700 acres are in private forest lands (30%) and vulnerable to WUI fires. Building within this area requires meeting zoning regulations and certain building codes. According to Skagit County Code 14.16.410, a permitted use may include single family residential dwellings, together with the usual accessory buildings and uses only when all of the following criteria are met:

i. The residence is located within 200 feet of an existing County road or State highway;
ii. The residence is located within the boundaries of a fire district;
iii. The residence is an accessory use to timber resource management activities;
iv. Ingress and egress for fire vehicles meets the standards of the Uniform Fire Code Section 902, as amended
v. There is a 200-foot slash abatement maintained around the exterior portion of the dwelling;
vi. There is a safety zone cleared of flammable vegetation 30 feet from any portion of the exterior of any structure on level ground and 100 feet downhill on sloped ground;
vii. The dwelling or any accessory structure is constructed of a noncombustible roofing material; and
viii. There is availability of 300 gallons of water on-site, 400 feet of 1-inch fire hose with nozzle, and an internal combustion engine powered pump.

Any new residential development in zoned industrial forest areas is limited to those with an existing fire protection district and within 200 feet of a county road or state highway. Skagit County requires owners of all structures built in these areas to address wildfire prevention, reduction and control.

Unlike in the industrial forest zone, the areas zoned secondary forest, (38,008 acres), (3.5%), are not required to be located within a fire district. Secondary forest is a transitional area between industrial forest and rural zoned lands and is designated primarily for forestry with some residential allowed. Housing density is 1- 4 per 20 acres.

According to Skagit County Planning, there have been 1741 acres of forestlands converted between 2003 and 2008. The following map shows where residential building permits have been approved in the last ten years across the planning area.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SEDRO-WOOLLEY
LYMAN
HAMILTON
DAY CREEK
BIRDSVIEW
CONCRETE
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MARBLEMOUNT
ROCKPORT
ANACORTES
BAY VIEW
BURLINGTON
MOUNT VERNON
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Skagit County
New Building Permits 1998-2008
Skagit County
Washington State

IV. WILDFIRE RISK ASSESSMENT

Skagit County experiences three types of fire threats: structure fires, wildland fires, and wildland-urban interface fires. Structure fires do not typically pose a great threat to the community except when the fire spreads to other nearby structures and quickly expands to a size that could threaten large numbers of people and overwhelm local fire resources. Wildland fires are a natural part of the ecosystem in Washington State. However, wildfires can present a substantial hazard to life and property. Statistics show that on an annual basis, an average of 905 wildland fires burn 6,488 acres resulting in a resource loss of $2,103,884 in Washington State.

Most wildland fires are started by human causes including outdoor burning, discarded cigarettes, the discharge of fireworks, and deliberate acts of arson. Many of these fires are usually extinguished in their initial stages being less than one acre in area. Depending upon temperature, wind, topography, and other factors, wildland fires can spread rapidly to over 100,000 acres and may require thousands of firefighters working several weeks to extinguish. One challenge Skagit County faces regarding the wildfire hazard is from the increasing number of homes being built in the urban/rural fringe (known as the wildland-urban interface) as well as the industrial forest. Due to a growing population and the desire of some people to live in rural or isolated areas or on forested hillsides with scenic views, development continues to expand further and further into traditional forest resource lands.

Wildfires occur primarily in undeveloped areas; these natural lands contain dense vegetation such as forest, grasslands or agricultural croplands. Because of their distance from firefighting resources and personnel, these fires can be difficult to contain and can cause a great deal of destruction. Lightning and human carelessness are the primary causes of wildland fires. Fortunately, due to the proximity of advanced fire protection capabilities and our normally wet climate, large-scale wildland fires are rare in Skagit County.

Fire History

Between 2003 and 2008, Skagit County experienced a total of 89 wildland fires. 2003 and 2006 had the highest occurrence of fires with 22 fires in 2003 and 14 fires in 2006. In 2006, the Concrete area experienced the Burpee Hill fire that burned 44 acres of replanted timberland on Burpee Hill just north of the town of Concrete.

Skagit County typically has numerous fires that occur in forestlands each year, but almost all of these fires are extremely small (less than .2 acres in size) and remain so due to the relative high moisture content in fire fuels. Although small fires are the norm in this area, larger fires still occur that are costly and dangerous. The largest of these most recent fires (the Jordan Creek Fire) occurred near the community of Marblemount in 1998 and burnt 1,162 acres of forestland and threatened several homes in the area. The costs to fight this fire were in excess of 3 million dollars.

Mostly, private forestland sites have been harvested for timber (and usually burned afterwards) since settlement days, although remnant mature trees may still remain. The historic fire regime would have been relatively low in frequency (100 to 200 years), but moderate to high intensity. These fires would, in effect, be stand-replacing although individual trees would survive, providing a seed source. Settlement activities since 1890 have altered the landscape resulting in a fire history and frequency (20 to 50 years) shift. Modern fire control methods have contained most fires to smaller burns, but the potential for a large fire of high intensity has increased as a result of these efforts. Fuel loads are higher than historic accumulation.

A combination of factors is required for a large wildfire to occur: (fuel accumulation, fuel moisture, weather patterns, and source). Fire spread rate will be influenced by vegetation type, slope, aspect, and topography. Western hemlock, with its thin bark and shallow root system, is not able to tolerate fire while western redcedar is only somewhat more tolerant. Douglas-fir, however, is well adapted to withstand fire, so even a moderate fire would likely change the species composition.

Stand replacement fire 90 – 100 years ago.

Environmental Impacts

Overly dense forests can have detrimental effects on wildlife habitat, species, diversity, carbon sequestration and clean air even before they burn. As forests change in response to overcrowded conditions, many species are losing their habitat. Overcrowded forests block sunlight and precipitation from reaching the forest floor. Flowering shrubs, grasses, and herbaceous plants don't get the nutrients, moisture, or sunlight they need and they die out. The loss of these species results in the suffering of the wildlife that depends on them for survival such as deer, rabbits, songbirds and others.

As wildfires trend toward being more catastrophic, forest animals are less able to escape their detrimental effects. Catastrophic fires can also increase water temperatures to lethal levels and cause death to aquatic life. It is most often the smoke inhalation as opposed to the heat that kills animals. Clouds of smoke can stretch far ahead of a fire suffocating mammals and birds in its path. Smoke and ash in the air also result in poor air quality and cause public health issues. Burning forests release a large amount of carbon monoxide pollution that can trigger ozone production. When a forest is not burning, it is helping to clean the air by absorbing greenhouse gases, approximately 17% of the total annual U.S. greenhouse gas emissions. Healthy Pacific Northwest forests sequester carbon at the rate of 8.3 metric tons per acre per year. Healthy forests are the single best long-term land use.

Intense fires also cause water pollution from excess nutrients and sediment from eroded soils. Layers of topsoil can get washed into the rivers and streams after the vegetation that holds it in place is burned. Loss of riparian vegetation results in increased water temperature from direct sunlight and alteration of the healthy habitat.

Soil exposed to prolonged intense heat during a wildfire turns a distinctive red color. The heat volatilizes soil nutrients and kills subterranean microbial communities. The heating process oxidizes the upper soil layers reducing soil permeability. Severe burning is associated with reduced soil productivity by killing the soil-dwelling fungi, bacteria, and other microorganisms that are required for tree growth. The beneficial relationship between below ground mycorrhizal fungi and tree growth is well documented. Mycorrhizae connect with plant and tree roots, helping them absorb soil nutrients and water. In turn, the fungi obtain carbon and sugars from trees and shrubs. The potential for severely burned soils increases where substantial areas of land have large amounts of down, dead wood before a fire. Plant cover is slow to return to severely burned soils. (PNW Research Station, 2010).

"Catastrophic fires can be damaging to wildlife populations and can even threaten species. Not all the damage is as evident as massive flames overrunning wildlife but more burning up den trees and sources of food and cover. Without forest cover, soil erosion greatly increases and can clog stream channels and damage fish and other aquatic populations. Wildfire is now cited as serious threat to spotted owl and Pacific fisher recovery." **(NACD Forestry Notes, 2006)**.

In 2004, the Washington State Legislature directed the Commissioner of Public Lands to assemble a "Forest Health Strategy Work Group." The Work Group was asked to examine forest health problems in Washington's forests.
The Work Group asserted the following key principles and facts:

- Achieving forest health outcomes is a shared responsibility between landowners and the public.
- The key to achieving forest health across all ownerships in Washington is that well managed forests are healthy forests.
- Fire suppression costs are rising due to extreme fire behavior caused by high fuel loads and increased tactical complexities when homes and structures are intermixed with forests. Fire prevention continues to be a very important component of an overall strategy, but activities that promote forest health by reducing tree crowding and fuel loads will provide long-term benefits by altering the trend.
- Fire ecology is the key to restoring proper forest health. Forests managed for resistance to fire damage will also resist damage by native insects, disease organisms, and extreme weather conditions with the additional advantage of protecting fish, wildlife, watersheds and other public resources.
  (Washington State Department of Natural Resources)

"We know that in order to restore our forests and reduce threats:

- The need to actively manage and reduce tree densities through landscape-level treatments is critical in restoring natural ecological processes and maintaining habitat conditions and connectivity.
- It will take many years of concentrated effort, using a wide variety of tools to restore our forests to a healthy condition.
- Continuing to work together, collaboratively – federal agencies, states, counties, communities and homeowners can make a difference."
  (NACD Forestry Notes, 2006)

Healthy forests act like a filter and a sponge, helping to remove impurities and to control runoff. In well- managed forests, the canopy, or tree branches and leaves intercept rainfall, absorbing their erosive energy. Roots bind soils to resist erosion and stabilize slopes. Despite the commonly held misperception, forest management or harvesting trees rarely leads to unacceptable increases in erosion or sediment reaching streams. In fact, studies have shown many cases where harvesting has led to no increase in sediment delivery to water-courses.

Forested watersheds left to nature, however, can wreak havoc on water quality for aquatic species and human consumption. Unmanaged forests can become overgrown, and create overly dense stands of trees stressed by the competition for moisture and nutrients. Nature will ultimately thin the forests. Over many decades, insufficient soil moisture will lead to increased tree mortality. Disease and insect infestations will set in, creating conditions ripe for wildfire. Fire becomes the thinning agent, with more devastating effects on water quality than controlled harvest. High intensity fire burns away the vegetation and duff that protect and build soils. Unnatural fuel accumulations

lead to catastrophic, high intensity fires. High intensity fires create a crust like hydrophobic layer below the surface, an oil-based film that greatly slows the penetration of water. When rain follows catastrophic fire, water quickly saturates the exposed topsoil and hits the hydrophobic layer about 2 inches underground. Since the water cannot seep into the ground any further, the topsoil, ash and debris gets washed away. Mud fills nearby watercourses. Well-managed forests can reduce the threat of catastrophic high intensity wildfire that can leave a costly mark on watersheds. (Pillsbury, 2008).

Environmental Benefits

Air related concerns are off-set by promoting vigorous tree growth. Chipping slash will be the primary treatment method for fuel reduction. Pile burning is not anticipated, but if utilized will be in accordance to burn permits issued by the Department of Natural Resources, Skagit County Fire Marshal's Office, and Northwest Clean Air.

Reducing wildland fires eliminates a major source of greenhouse gas emission and prevents the release of carbon stored in forest biomass. Healthy forests can absorb 6 to 8 tons of carbon dioxide per year and add 4 tons of oxygen to the air each year.

Fire Hazard

Unlike other disaster events, the direct effects of even a large fire are generally limited to the immediate area where the fire occurred. However, the community's normal as well as emergency services may be affected as large numbers of agencies and individual responders focus their efforts on the fire. Adjacent fire agencies may be asked for assistance in one form or another and access to a city's business district may be restricted or closed and the influx of sightseers and media personnel can further add to the disruption. Furthermore, since most fire fighters in Skagit County are volunteers, large fire events could significantly affect not only their lives, but their source of employment should economic impacts continue.

Evacuation of a fire zone is one of the first tasks that may need to be undertaken by emergency responders. Depending upon the size of the fire zone, the population density of the area, and the number of persons needing emergency shelter, evacuation efforts may have a significant effect on other parts of the community. The fire season in Skagit County can begin as early as mid-May and continue through October though unusually dry periods can extend the fire season.

The possibility of a wildland fire depends on fuel availability, topography, the time of year, weather, and activities such as debris burning, land clearing, camping, and recreation. In Washington State, wildland fires start most often in lawns, fields or other open areas, along transportation routes, and forested areas. Due to their size and complexity, large fires can put a tremendous strain on a wide variety of agencies and jurisdictions within the area that the fire occurs and local resources could be quickly overwhelmed in dealing with the impacts of a large fire. Those persons living or doing

business in the area of a large fire could be affected in several ways. Access to the area will probably be controlled or entry may be denied entirely. If a recreational area is involved, this closure may have a severe impact on tourist industry and logging operations. In many cases, evacuations may be necessary if the fire directly threatens residential or commercial areas or in the event health issues could result from heavy volumes of smoke associated with large fires.

Should a large wildland fire occur, the effects of such an event would not be limited to just the loss of valuable timber, wildlife and habitat, and recreational areas. The loss of large amounts of timber on steep slopes would increase the risk of landslides and mudslides during the winter months and the depositing of large amounts of mud and debris in streams and river channels could threaten valuable fish habitat for many years. In addition, the loss of timber would severely impact the watershed of the Skagit River and could drastically increase the vulnerability to flooding for many years. The loss of large amounts of timber in the industrial forest areas of Skagit County could severely impact the logging industry and possibly overall economy of the county for many years. With a fixed number of acres of timber land available for harvest, timber owners must limit the acres harvested each year in order to properly manage their timber holdings and maintain a continual and sustainable supply of timber. The immediate loss of several hundred or thousands of acres of timber could potentially equal several years of timber harvest acreage. If a significant portion of the business area has been affected, the loss to the community can be overwhelming. Reduction of payrolls and long-term layoffs during recovery from a large fire could have a serious impact on the buying power of a large sector of the population. A long-term business closure could also have a large impact to the community's tax base.

Fire Risk

The West-side Cascades are often perceived as not having a wildfire problem. History tells a different story, major events are not every year, more like every 20 years. In addressing the west-side fire regime and risk/fire potential, the NRCS Ecological Site Descriptions are a useful tool in identifying potential wildland urban interface high-risk sites. Not all sites within a community are at the same risk level. Ecological Site Descriptions are one tool used to measure risk potential and a way to narrow the focus in fuel treatment efforts.

Because of lack of vigor, dense forests are highly susceptible to insects and diseases and, consequently, increased tree mortality. Excess tree mortality causes increased fuel loading, resulting in hazardous wildland fire conditions that can put homes, watersheds, wildlife habitat, and other forest values at risk. These conditions also increase fire suppression costs and make wildfire control more difficult. A dominant factor affecting forest health is stand density.

Site specific prescriptions and practices can be employed to manage stand density, reduce vulnerability to insects and diseases, and reduce tree mortality, thereby reducing the buildup of hazardous fuels and the risk of catastrophic wildfire. Improper operations can

move the forest the opposite direction. Good silvicultural practices will promote regeneration of desired species and achieve desired forest conditions, maintaining diversity of tree species and age classes across the landscape.

Often times, wildfire hazard is treated on a case-by-case basis rather than in a landscape-level context. In order to best facilitate the assessment of the wildland-urban interface wildfire problem in the county, the NW Region WADNR conducted a landscape level wildfire hazard risk assessment in 2004. Being able to clearly define the high-risk wildfire zones is imperative to providing support for informed land use decisions.

The NW Region WADNR conducted a systematic wildfire risk assessment using the Wildland Urban Interface Fire Hazard Assessment Methodology and risk assessment components from NFPA 299(now NFPA 1144). Census data was queried to identify potential WUI areas. These landscape areas were assessed for risk using a representative sample scored against NFPA 299 criteria. Hazard levels were identified and subsequently mapped using a hazard ranking from Low to Extreme.
Using guidance provided by the National Association of State Foresters, WADNR used this Wildfire Risk Assessment to identify Landscapes of Similar Risk. Members of local fire management agencies assisted with this effort along with County Departments of Emergency Management, Fire Marshal's Offices and other local state and federal fire managers. They took the current regional risk assessment and consolidated risk assessment boundaries down to the landscape level. The landscapes were named and digitized to create a GIS map layer.

These identified landscapes were then prioritized using a computer program called RAMS (Risk Assessment & Mitigation Strategies). Federal agencies, as well as WADNR, have adopted RAMS to prioritize, plan and track fire prevention activities. A component of RAMS is the communities' module. This module allowed the systematic assessment of the landscapes of similar risk using the following standard criteria:

- Fuels Hazard
- Ignition Risk
- Historical Fire Ignition
- Fire Return Interval
- Values, and
- Protection Capability

Based on this wildland fire hazard assessment, there is moderate to high potential for a large wildland fire to occur in Skagit County. Many Wildland – Urban Interface Areas are isolated areas of extreme risk to people and property in the event of a catastrophic wildland fire in Skagit County.

In 2007 it was determined that a CWPP be developed for the entire County, therefore an updated assessment of the wildland-urban interface risk areas were needed. Using the WUI Risk map that was already developed as a base of information and the most up to date fire statistics map (see page 23), we worked with federal, state, and local agencies

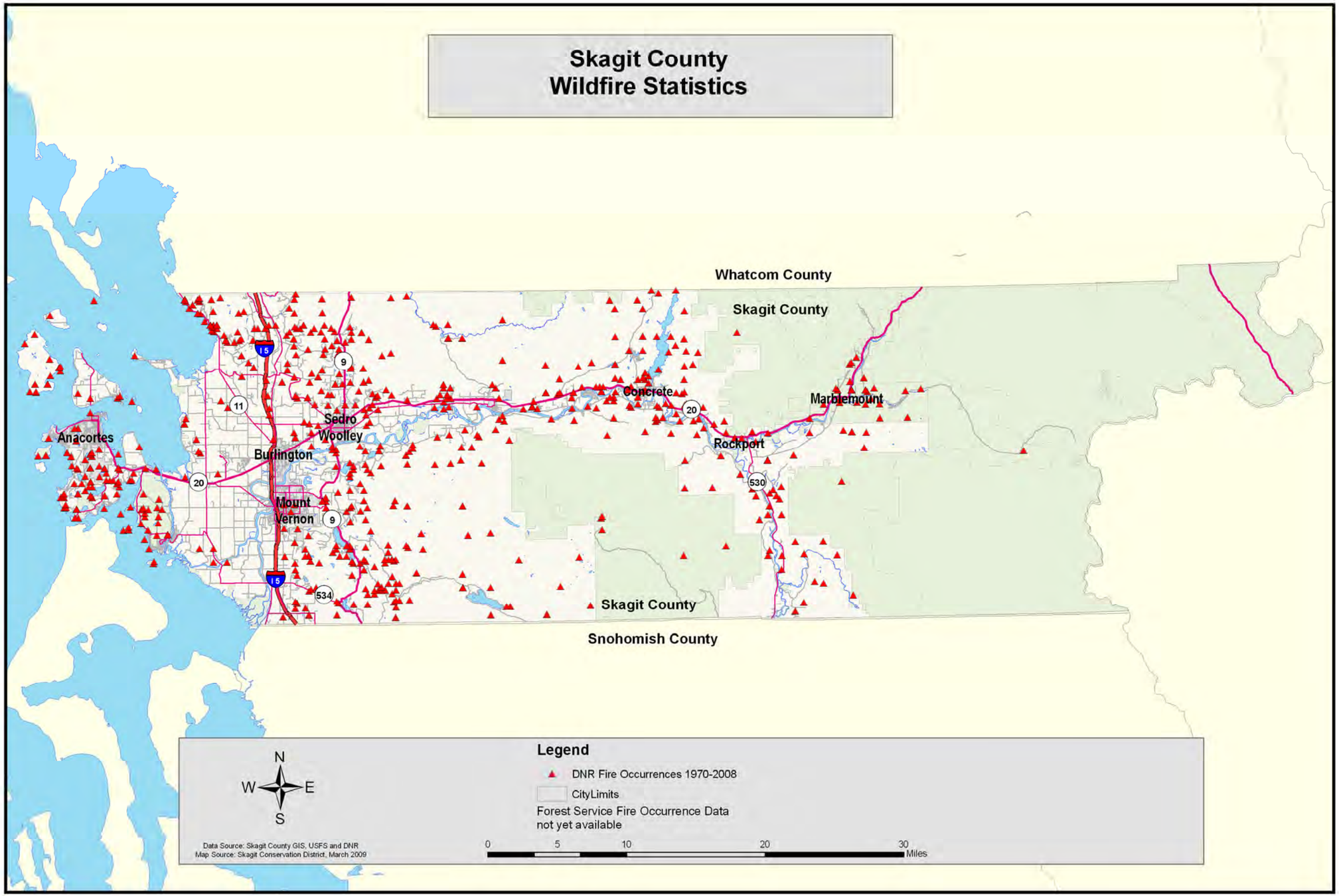
and the public to assess areas of risk that were either not included on the current map, or needed reassessment.

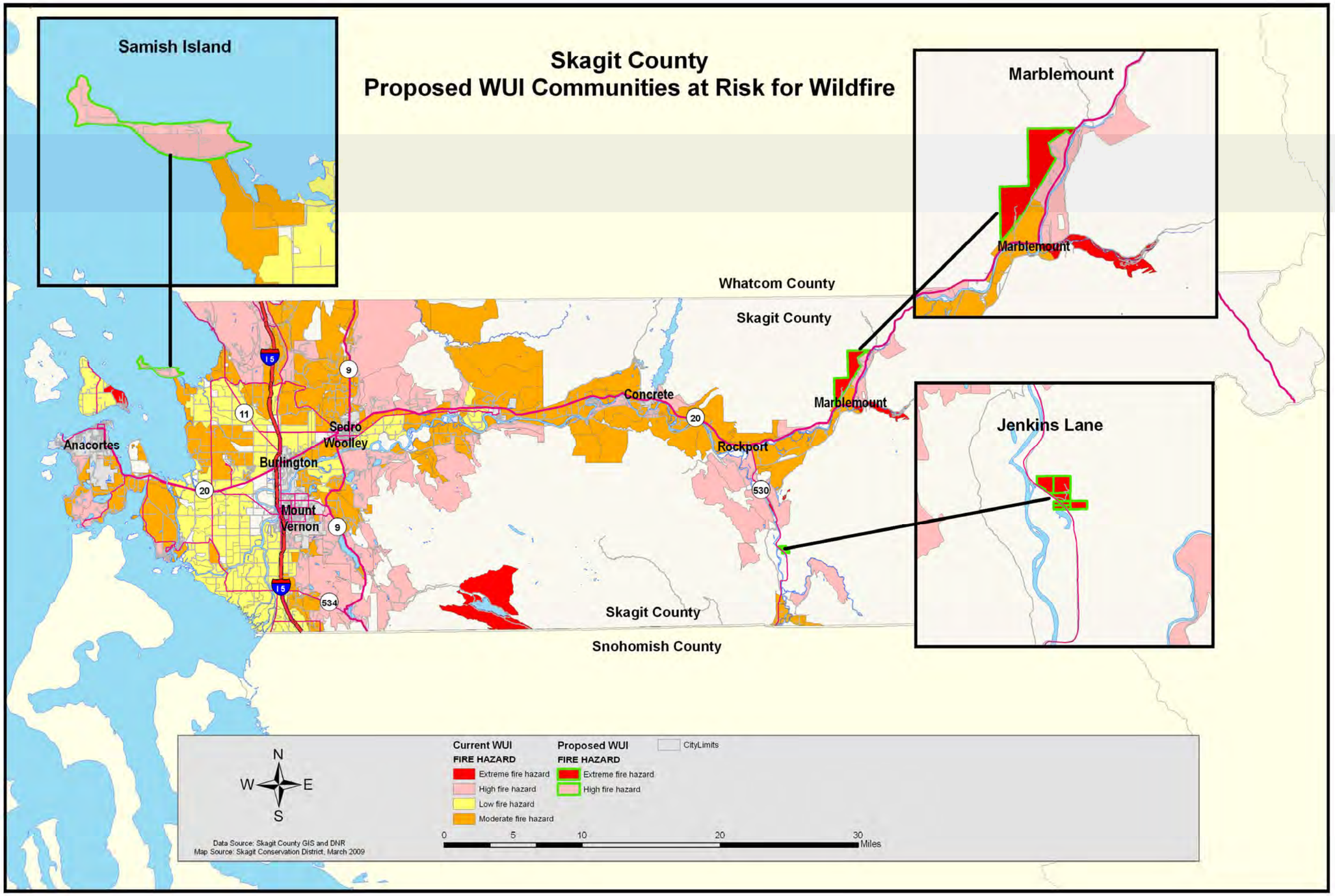
Meetings were held with local fire districts as well as the Chief's Association and Commissioner's Association to discuss CWPP efforts and gather verbal input. It was suggested at one of these meetings that we send out a survey to fire districts to get more thorough information. We followed up on this suggestion by sending a letter and survey to all rural fire district chiefs and commissioners in Skagit County requesting input on wildland-urban interface fire risk and concern within each district. (See Appendix 2)

Out of the results of these surveys as well as verbal recommendations throughout the planning process, a list was created of areas of local concern that needed assessment. They include the following areas/communities:

- Jenkins Lane – Rockport/Darrington area
- Emerald Lane, Honeysuckle Lane, Diobsud Creek (all in the same vicinity) – Marblemount area
- Samish Island

Skagit County
Wildfire Statistics




Skagit County
Proposed WUI Communities at Risk for Wildfire
Samish Island
Marblemount
Marblemount
Whatcom County
Skagit County
Concrete
Marblemount
Jenkins Lane
Rockport
Anacortes
Sedro
Woolley
Burlington
Mount
Vernon
Skagit County
Snohomish County
Current WUI
FIRE HAZARD
Extreme fire hazard
High fire hazard
Low fire hazard
Moderate fire hazard
Proposed WUI
FIRE HAZARD
Extreme fire hazard
High fire hazard
CityLimits
N
W
E
S
0
5
10
20
30
Miles
Data Source: Skagit County GIS and DNR
Map Source: Skagit Conservation District, March 2009

Each of these areas was assessed by a fire professional using the NFPA 1144 form and on-site visual evaluation to determine whether there was risk and at what level. The criteria provided in the NFPA Assessment form and professional experience was used as a way to determine low, medium, high, or extreme risk in these areas. (Please see Appendix 3 for Risk Assessments for each community area listed above). It was determined that both the Marblemount and Jenkins Lane areas were rated at Extreme Risk level. Samish Island was reevaluated and determined to be high risk, as opposed to its medium level risk previously assigned. The goal for these proposed risk areas is to be added to the state WADNR map of Wildland Urban Interface Communities at Risk for Wildfire so that the appropriate resources and attention be distributed in their direction.

Prioritization of Communities at Risk

Based on the following criteria, WUI communities in Skagit County were prioritized for future wildfire risk reduction projects:

Prioritization Process
For Community Wildfire Risk Reduction Projects

- ***Utilize agency partners***
  - Partnering with WADNR, USFS, NPS to access completed statewide and county level risk assessment information
    - Maps showing landscape level data on communities at risk for wildfire and the different levels of risk

- ***Identify Communities at Risk***
  - Locate communities that have been identified as having the highest risk based on biophysical factors according to the WADNR Risk Assessment maps
  - Identify new areas of risk based on public input, ground-truthing, and 299/1144 hazard assessment

- ***Prioritize high risk communities keeping proximity to USFS lands in mind***

- ***Assess social factors of high risk communities***
  - Consider community interest
    - Willingness of the community to participate in the project and keep moving forward
    - Level of energy and enthusiasm for participation
  - Consider community capacity
    - Communities less able to prepare for, respond, and recover from a wildfire were put at the top of the list

- ***Assess ecological impacts/benefits***
  - Consider current health of forest
    - A fuels reduction project should not only improve fire safety but also the health of the forest and wildlife

The following communities were identified as priority project areas in 2008-2009:

Jenkins Lane
This community was identified by one of the Fire District 19 Commissioners as being a concern for wildfire because of its poor accessibility, topographic features that adversely affect wildland fire behavior, and the condition of the structures, and health of the forest. The residents of Jenkins Lane have showed strong interest in improving their wildfire safety and the health of their forests and are currently in the midst of a coordinated hazardous fuels reduction project. This community is bordered by Washington State Dept. of Natural Resources and U.S. Forest Service lands. The hazard rating form for Jenkins Lane Community can be found in Appendix 3.

Cascade River Park
Cascade River Park is a community in the eastern part of Skagit County that is bordered by very steep heavily forested hillsides owned by both a private timber company and the U.S. Forest Service. This community has been identified over and over again by fire officials as having an extreme risk for wildfire. This community was threatened by the Jordan Creek wildfire in 1998. A risk assessment was completed for Cascade River Park in September of 2006.

Eagles Nest
This small community is perched on a steep, wind-exposed hill with one narrow, steep and windy road. Part of this community is located on the hill above a beach that allows recreational fires. This community was identified by the Fire Chief of District 13 as a wildfire safety concern. A community assessment was done for Eagles Nest in 2006. The residents have expressed interest in the Firewise Communities/USA program in the past.

Oyster Creek (and surrounding developments)
Oyster Creek is in the Chuckanut mountain area, which is a steep, dry, forested hillside with large draws defining the landscape. Spread across the base of this mountain are train tracks and very popular recreation areas. The entire built areas on the mountain have been identified by the Washington State Department of Natural Resources as high risk wildfire hazard area. A hazard assessment has not been completed for this community; however it is adjacent to the Chuckanut Ridge neighborhood, which has been a recognized Firewise Community for 5 years. This community and its neighboring communities have expressed interest in the Firewise program in the past.

Lake Cavanaugh
This community is identified as having an extreme wildfire hazard according to the Washington State Department of Natural Resources (WADNR). Lake Cavanaugh is

nestled in a remote area of Skagit County, surrounded by very steep forested hills. The surrounding land is owned by the WADNR. Fire officials have identified this area as a huge concern. A number of homes in this neighborhood are nestled deep in the forest with no defensible space. Also, because the buildable area is relatively small, the housing density is high. This community has expressed interest in Firewise concepts in the past, specifically the local Fire Chief.

Marblemount area

On the north side of Highway 20 in Marblemount there are a number of properties tucked back against the base of steep U.S. Forest Service land. A lot of this area is heavily forested. Some forested areas have evidence of disease. These areas also get very dry in the summer, with fuel moisture levels dropping below 20% toward the end of summer. Based on the NFPA wildland fire hazard severity rating system, this area is considered an Extreme hazard. The population density is lower in this part of the County however the structural ignitability tends to be greater.

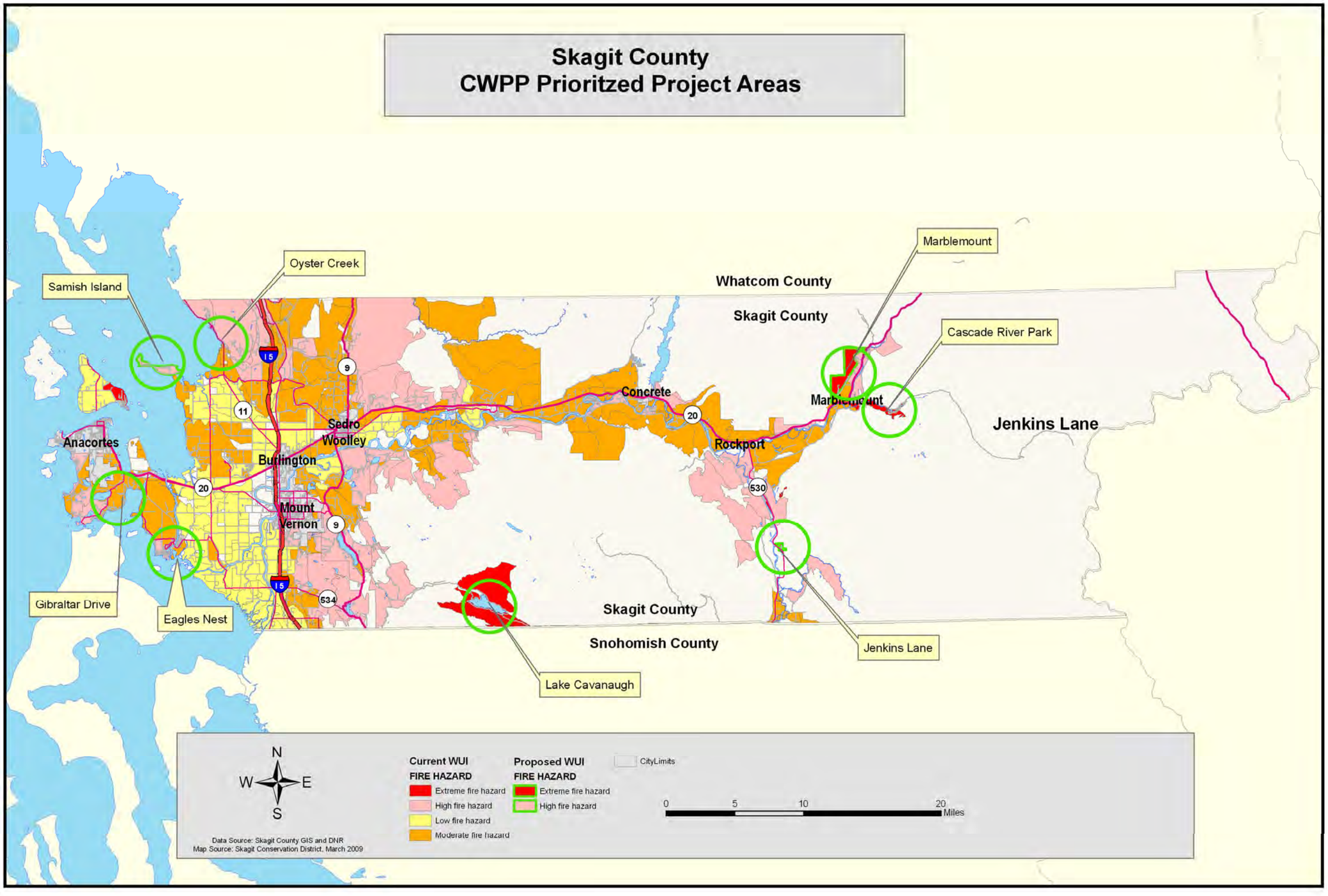
Gibraltar Drive/Hoxie Lane

The Fire Chief for District 11 identified this area as a wildfire concern due to the population density, topography and one road ingress and egress. He would like to see some Firewise outreach done here. Some folks from the community have shown a strong interest in pursuing the Firewise program. This area has been identified as high risk by the WADNR.

Samish Island

Samish Island has two very different landscapes from one end of the island to the other. One end consists of homes and manicured lawns and the other end is forested and steep. Because this island is not sheltered by other islands or geographic features, it has a high level of wind exposure. Camp Kirby is a Campfire camp located on the forested end of the island. This 47+ acre property has forest health and wildfire hazard issues. They currently have a large forest health improvement project planned and are looking for more Firewise type projects in the future, including chipping options for their slash. The caretakers of Camp Kirby and nearby residents have expressed interest in the Firewise program and working together as a community to reduce their wildfire hazard. The fire chief on the island is very supportive of the Firewise Program.

Skagit County
CWPP Prioritzed Project Areas



Fire Protection/Resources

The Skagit County Fire Protection Districts have jurisdiction protecting structures and receive tax dollars for that protection. Some structures in Skagit County are not within a Fire Protection Agreement. Washington State Department of Natural Resources receives Forest Fire Patrol Assessment for wildland protection services. Mutual aid agreements exist between the Department of Natural Resources, some Fire Protection Districts, and the U.S. Forest Service. When there is a wildland fire that threatens structures it becomes a joint jurisdictional fire. The risks to structures are extreme in the wildland-urban interface due to proximity of structures to fuels and the amount, type and location of fuels. The Skagit County fire statistics map shows the number of fires occurring in the wildland-urban interface within the past decade. Fire protection is a concern, but implementation of "Firewise" practices will assist fire control measures.

A scope of work for individual projects within a community will be developed with input from our partners: WADNR, USFS, Skagit County Fire Marshal's Office, and local Fire Districts.

V. MITIGATION STRATEGIES

In Skagit County, all aspects of wildland fire are addressed at an inter-agency cooperative level. Collaboration between federal, state, and local fire agencies results in strong cooperative relationships amongst the partnering agencies as well as the mobilization of a unified command. As part of the inter-agency cooperation process, basic fire prevention and mitigation strategy consists mainly of pre-suppression. Pre-suppression involves interagency training and communication; wildfire awareness, prevention outreach and education; and collaboration among fire agencies.

Because Skagit County is a large area that encompasses many different land ownership/management types, the mitigation strategies in this CWPP have been written from a broad perspective. Recommendations and mitigation strategies for each land ownership/management type are provided below.

Private Property located in the Wildland Urban Interface

The Wildland Urban Interface (WUI), where the "trees meet the eaves" is an area of great concern to the wildland fire fighting community. Because the lush, forested setting of Skagit County is often what draws people to live there, it also is the cause for much concern. The WUI areas in Skagit County are also the areas where fire prevention and education activities can have the greatest positive impact. Only individual property owners have the power to enhance their safety by implementing Firewise practices around their homes. Firewise practices include things like using non-flammable construction materials when building and/or remodeling, landscaping to prevent the ability of fire to travel from the wildlands to the home, and maintaining a defensible

space around the home so that firefighters can safely defend it. By educating people and providing them tools in which to do this, they are empowered to protect themselves and their property from wildfire damage. While it is the government's responsibility to provide for the protection of public health, safety, and welfare, it is everyone's responsibility to protect homes, neighborhoods, and communities from the hazard of wildfire. (Please refer to the Fire Treatment Zones & Checklist in Appendix 4).

Mitigation Strategies

1. Education, outreach/awareness: WADNR, SCD, FMO, community members
    - Coordinate efforts with Local Fire Districts, WADNR and U.S. Forest Service
    - Fire prevention education.
    - Forest health & stewardship education
    - Defensible space and forest zone treatment area prescriptions
    - Firewise construction and landscaping practices
    - Community meetings & Firewise presentations
    - Home wildfire risk assessments
    - Firewise training for fire districts
    - Firewise training for professionals, i.e. contractors/builders, real estate businesses, insurance agents, nursery professionals

2. Community Firewise practice demonstrations and work parties: SCD, WADNR, FMO, local community members

3. Participation in Firewise Communities/USA program: Community associations, SCD, WADNR, FMO

4. Fuels reduction projects around individual homes and within community greenbelt areas for forest health and wildfire safety improvement: Community members, forestry professionals, SCD, WADNR

5. Implement, enforce, and maintain Codes, Covenants, Conditions, and Restrictions regarding building and defensible space within communities and at the county planning level: community boards/committees, Skagit County PDS.
    - Examples of ordinances pertaining to defensible space can be found on The National Database of State and Local Wildfire Mitigation Programs, www.wildfireprograms.usda.gov

6. Consideration of Shelter in Place or Stay and Defend plan and standards
    - Examples of Shelter in Place standards can be found at www.rsf-fire.org

U.S. Forest Service

282,812 acres of land in Skagit County, (26%).

Mitigation Strategies

1. Suppression

2. Education, outreach/awareness in heavy recreational use areas
   - Wildfire prevention education
   - Using media to promote prevention messages

3. Risk Assessment and Mitigation Strategies (RAMS) to analyze wildland fuels, hazard, risk, value, and suppression capabilities from a holistic approach

4. Cooperate with WADNR, counties and conservation districts to write and update a CWPP according to Healthy Forest Restoration Act

5. Identify fuels reduction opportunities as needed and work with partnering agencies and communities to implement fuels reduction projects

6. Implement Firewise landscaping and construction practices around vulnerable structures on U.S. Forest Service lands

National Park Service

214,378 acres within Skagit County, (20%).

Mitigation Strategies

1. Suppression (including preparedness)

2. Education, outreach/awareness in heavy recreational use areas
   a. Fire prevention education
   b. Outdoor burning, campfires
   c. Implementation of Wildland Fire Use
   d. Use of media to promote prevention messages

3. Implement Firewise landscaping and construction practices around vulnerable structures on Park Service lands

State Managed Timberlands

131,206 acres in Skagit County, (12%).

Mitigation Strategies

1. Fuel break buffers
   - Thinning
   - Pruning

2. Reduction of diseased stands

3. Control of pests

Private Timberlands

Approximately 331,700 acres in Skagit County, (30%).

Fire is a natural part of the ecosystem. But when fuel levels are unnaturally high, after a century of aggressive fire suppression, recent drought, and insect outbreaks that have weakened or killed trees, a spark can lead to a fire much more severe than might have burned through the area historically. Thinning, to reduce stand density is one way to make forests more resilient to fire, drought, and insects. Thinning treatments can be designed to reduce hazardous fuels so that when a fire does ignite, it remains a low intensity surface fire rather than becoming a more severe crown fire, moving through the tree tops. In dense stands, thinning not only lowers the amount of flammable material, it also reduces competition for water and nutrients among the remaining trees so they can better withstand a surface fire. (PNW Research Station, July 2008).

Please see Appendix 5 for an example of a Forest Zone Prescription.

Mitigation Strategies

1. Education, outreach/awareness
    - Skagit County Forest Advisory Board
    - Farm Forestry Association events
    - Forest Stewardship short courses
    - Forest Owners Field Days
    - Provide EQIP information to landowners

2. Forest Stewardship Plans
    - Thinning
    - Pruning
    - Reduction of disease in stands
    - Control of pests
    - Fuel Breaks
    - Forest Trails & Landings
    - Forest Site Preparation
    - Critical Area Seeding
    - Firewise Plantings

3. Clearing ladder fuels

4. Fuel breaks

5. Use of a chipper for slash rather than burning

6. Biomass utilization for slash treatment

7. Suppression
    - Payment of Forest Patrol Assessment tax for WADNR suppression

Tribal Lands

Upper Skagit Tribe - information not available at this time.
Swinomish Tribe – information not available at this time

Major Travel Corridors/ Recreational Uses

I-5, Hwy 20, Hwy 530, Hwy 9
It is important to include temporary/short term visitor use of areas such as travel corridors and recreational use areas in this planning process because these areas are accessed by high volumes of people. Wherever there is a high volume of people in the proximity of forested areas, the potential for wildfire danger grows. In eastern Skagit County this is the case along the well-traveled Highway 20 corridor as well as the Highway 530 and Highway 9 corridors that are bordered by forestlands in many areas. Highway 20 closes in the winter but the towns of Marblemount and Rockport remain accessible year-round for travelers coming from the west. This highway experiences high volumes during the summer months when most of the traffic consists of travelers from the west heading east to the drier side of the mountains for recreation. In general, these highways are busier during the summer months due to people wanting to access the outdoor recreational activities that make this area so appealing. Most of these recreational use areas are managed by agencies that have previously been addressed above.

Mitigation Strategies

1. Education/Outreach
    a. Coordinated Cross Cascades Prevention efforts along Hwy 20 during fire season
    b. Promote car maintenance to prevent oil leaks and car fires
    c. Use of the media to promote fire prevention and safety messages during wildfire season
    d. Smokey Bear fire danger signs
    e. Clear burn restriction/ban information
    f. No littering signs/cigarette butts

2. Fuel reduction projects along travel corridors where risk areas are highest

VI. MONITORING AND EVALUATION

Because the biggest concern for wildfire safety occurs in the wildland urban interface areas of Skagit County, a majority of the mitigation efforts will be focused at this level.

Efforts to date have been focused mainly on educating and working with homeowners in the WUI areas through the Firewise Communities/USA program. The Firewise Communities/USA recognition program is a very effective tool for measuring success within Skagit County. This program focuses on reducing the ignition potential around individual homes and in community green spaces. Through the Firewise Communities/USA program communities are nationally recognized for their fire safety improvement efforts. These communities perpetuate their success by renewing their membership in the program each year and promoting their accomplishments to other communities.

Long-term Success

According to the USFS document, "Best Management Practices for Creating a Community Wildfire Protection Plan" it is important to document accomplishments, share those accomplishments with those who have an interest in the goals of the plan, and identify how it fits into the bigger scope of planning within the County.

"Help ensure long-term success by quickly showing progress on CWPP goals, linking the CWPP to other plans and frameworks, and allowing the CWPP to evolve as conditions change. Implementing the action plan of a CWPP is a longer term, multiyear effort. So sustaining interest, participation, resources, and support must be a priority throughout the planning process. The relatively stable group of participants from public fire and land management agencies can help maintain commitment to implementing the CWPP. Continued involvement by community members can help ensure that the document represents and addresses changing conditions.

• ***Incorporate projects into the CWPP that can be accomplished quickly to foster homeowner buy-in and broaden support for the longer term effort.***
The importance of planning is in achieving on-the ground results. A CWPP should include projects that can be implemented quickly to demonstrate the importance of the CWPP to community well-being and to provide successes that the community can celebrate and build on.
• ***Nest local CWPPs within broader plans or link them with other types of plans to augment resources, broaden support, and enhance implementation.***
A CWPP at one scale can be linked to CWPPs at other scales to expand the plan's impact and relevance. CWPPs at the county level, which tend to be more strategic and less prescriptive, can have local value through projects that are identified in neighborhood CWPPs and implemented at the local level. Similarly, the importance of projects identified in neighborhood CWPPs can be magnified if they complement projects that other communities are undertaking—thereby contributing to broader strategic goals in a county level plan. Working early in the development of a local CWPP to identify other plans that it can link to is important for nesting it into larger scale regional and statewide initiatives and coordinating groups. Working together to remove flammable roadside vegetation is a doable project that the community can celebrate and build upon.

Best Management Practices for Creating a Community Wildfire Protection Plan
• ***Where possible, incorporate the CWPP into a formal government structure.***

Some CWPPs have gained efficiencies and relevance by coordinating with other types of planning efforts, such as county disaster mitigation plans mandated by FEMA or Forest Service fire plans. In some communities, CWPPs have been adopted by a local government department, making the CWPP goals the department's goals and providing further support for longer term sustainability of the CWPP.

• Quickly identify changes affecting the CWPP and adapt the plan to new conditions as they arise.

When changes happen—whether social, ecological, or otherwise—analyze how they will affect implementation of the CWPP. Then take steps to minimize the potential negative impacts and build on the potential positive impacts. A diverse, representative CWPP "core team" is critical for this, because members are well connected to many different organizations and social networks within and outside the community. Their different roles and contacts help identify and respond to critical changes." **(USFS, 2012)**.

There are currently six nationally recognized Firewise communities in Skagit County. Washington State has 71 Firewise Communities, ranking it 2nd in the nation. This program has proven successful all over the country and is well supported by local fire fighters and fire officials. When residents and communities take responsibility for mitigating their wildland fire risk, it helps save lives, homes, and resources. Fuels reduction efforts in the county thus far have focused on the creation of defensible space, shaded fuel breaks, reducing structural ignitability and the implementation of forest stewardship and greenbelt plans.

Throughout this CWPP development process, there have also been implementation activities occurring. One of these activities includes a fuels reduction project. A community was identified by the local Fire Commissioner as being of great concern for wildfire for reasons of slope, accessibility, unusually severe fire weather conditions, and forest health deterioration. After being assessed by fire professionals, the community is being added as a community at risk to wildfire on the state map. It was also targeted for a fuels reduction project. 14 acres of fuels were treated, three homes were given defensible space, and the community is applying for Firewise Communities/USA recognition. The homeowners in this community will most likely continue with their forest health improvement activities after the fuels reduction project is completed, by pursuing the EQIP program through USDA. This program provides federal funding for forest health improvement work. This community is a perfect example of how collaboration, between agencies and local communities can bring about successful, on the ground improvements, not only for wildfire safety but also forest health.

Another important accomplishment that was part of the directive of this CWPP development was the update of Skagit County's Natural Hazards Mitigation Plan. This plan was sent to FEMA and is currently awaiting final approval, with a final version to be available in April.

This CWPP is a working document that will be used as a tool for approaching wildfire safety and forest health improvement efforts across Skagit County. It will be updated and expanded as is appropriate. It will serve as a benchmark for future accomplishments.

Progress in partnerships, hazardous fuels reduction, and Firewise Communities/USA successes will all be tracked in this document.

Please refer to Appendix 5 for specific updates and accomplishments for 2009 and 2010.

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Bonnicksen, Thomas M. The Forest Foundation. "Protecting Communities and Saving Forests," 2007.

Chewelah Community Wildfire Protection Plan

Community Guide to Preparing and Implementing a Community Wildfire Protection Plan, CWPP Task Force, August 2008.

Preparing a Community Wildfire Protection Plan: A Handbook for Wildland –Urban Interface Communities. March 2004, Draft update May 2008

Community Wildfire Protection Plan for the City of Cascade Locks, January 2005.

Concrete Chamber of Commerce Website

North Cascades Chamber of Commerce Website

Population and Employment Forecasting and Allocation, 2025 for Skagit County

Skagit County Comprehensive Plan, Natural Resource Conservation Element

Skagit County Natural Hazards Mitigation Plan

PARTNERS

National Association of Conservation Districts

National Parks Service, North Cascades National Park

Seattle City Light
Skagit County Commissioners Office

Skagit County Department of Emergency Management

Skagit County GIS Department

Skagit County Planning and Permit Office

Skagit Land Trust

U.S. Forest Service, Mt. Baker-Snoqualmie Headquarters

USDA Natural Resources Conservation Service

Washington State Department of Fish and Wildlife

Washington State Department of Natural Resources

Western Governors' Association

SKAGIT COUNTY FIRE DISTRICTS

Fire Marshal (911 Center)	428-3250
Alger District #14	724-3451
Allen District #5	755-0261
Anacortes City	293-1925
Bayview District #12	429-2343
Big Lake District #9	422-5391
Birdsview District #10	826- 3500
Bow District #5	707-5835
Burlington City	755-0261
Cedardale District #3	424-1661
Clear Lake District #4	856-6283
Concrete City	853-8821
Conway District #3	445-4345
Day Creek District #16	826-6060
Edison – Bow District #5	766-6325
Grassmere District #10	853-8361
Guemes District #17	293-8681
Hamilton City	826-3027
Hope Island District #13	466-3339
LaConner City	466-3125
Lake Cavanaugh District #7	422-7577
Lake McMurray District #15	445-4044
Lyman District #8	826-3033
Marblemount District #19	873-2501
McLean Road District #2	424-7296
Mount Vernon City	336-6277
Mt. Erie District #11	299-1281
Prairie District #8	724-4703
Rockport District #19	853-8889
Samish Island District #5	429-4693
Sedro-Woolley City	855-2252
Summit Park District #11	293-7432
Darrington (Snohomish) District #24	

SKAGIT COUNTY CWPP COMMUNITIES & CONTACTS

SKAGIT COUNTY CWPP COMMUNITIES	FWC/USA YEAR ESTABLISHED	FIREWISE COMMUNITY CONTACT
Cascade River Park	2010	Ted Irvin
Chuckanut Ridge	2003	Roger Mitchell
Diobsud Creek Area	2011	Tom Clement
Hoxie Lane	2009	Kenny Bullock
Jenkins Lane	2009	Auburn Parent
Shelter Bay	2005	Judy Grosvenor
Skagitwilde	2007	Jack de Yonge

ACRONYM LIST

CC&Rs – Covenants, Conditions & Restrictions

DEM – Department of Emergency Management

FEMA – Federal Emergency Management Agency

FWC/USA – Firewise Communities USA

HFRA (2004) – Healthy Forests Restoration Act

NFPA – National Fire Protection Association

NOCA – North Cascades National Park

NPS – National Parks Service

NRCS – Natural Resources Conservation Service

RAMS – Risk Assessment and Mitigation Strategies

SCD – Skagit Conservation District

SCFMO – Skagit County Fire Marshal's Office

UGAs – Urban Growth Areas

USFS – United States Forest Service

WADNR – Washington State Department of Natural Resources

WDFW – Washington State Department of Fish and Wildlife

WUI – Wildland Urban Interface

Appendix 1

L. Home Ignition Zone Structure Assessment Guide

Note: This assessment is designed to help determine "how vulnerable the structure" will be during the wildfire and to convey recommendations that should be taken so that the home will have a better chance to survive a wildfire.

Remember, the following assessment items are for prevention/mitigation measures to be done well in advance of wildfire season.

Date of Assessment:	Property Address:	Resident Name:	Property Owner:

	Assessment Items	Mitigation Recommendations
1.	**OVERVIEW OF SURROUNDINGS:**	
	How is the structure positioned in relationship to severe fire behavior?	
	Type of Construction.	
2.	**PEAKS TO EAVES:**	
	Inspect the roof – noncombustible? Shingles missing? Shingles flat with no gaps?	
	Gutters – present? Noncombustible?	
	Litter on roof, in gutters, and crevices.	
3.	**EAVES TO FOUNDATION:**	
	Attic, eaves, soffit vents, and crawl spaces.	
	Inspect windows and screens – metal screens? Multi-paned windows? Picture windows facing vegetation? Metal screening on all windows. Walls and attachments: noncombustible? Will they collect litter?	
	Decks (combustible materials?)	

[1] National Fire Protection Association 1144: Standard for Reducing Structure Ignition Hazards from Wildland Fire, 2008 Edition, www.nfpa.org. Courtesy of Pat Durland.

	Assessment Items	Mitigation Recommendations
3.	**EAVES TO FOUNDATION:** *(Continued)*	
	Fences.	
	Flammable materials next to or under the structure.	
	Crawl space, attic vents, soffits.	
	Nooks and crannies and other small spaces.	
4.	**FOUNDATION TO IMMEDIATE LANDSCAPED AREA:**	
	Landscaped (Managed) Vegetation – separation distances, maintenance, plant selection; Firewise Landscaping Zones?	
	Propane Tanks.	
	Vehicle and RV use and parking, including lawn mowers, etc.	
5.	**IMMEDIATE LANDSCAPED AREA TO EXTENT OF THE HOME IGNITION ZONE:**	
	Inspect vegetation clearance and crown separation.	
6.	**Ingress & Egress**	
	Is there more than one road in and out?	
	What is the condition or the road/ driveway? Are there turnarounds?	
	Are there street signs? Are address numbers visible?	
7.	**Available Fire Protection**	
	Is there a water source available on site? GPM? Pressurized?	

Wildfire Hazard Severity Form Checklist NFPA 299 / 1144					
This form may be used for individual houses or larger areas like developments or other types of applications.					
Name of area or address receiving assessment					
A. Subdivision Design	Points	House or area	Short term	Long term	Notes
1. Ingress and egress (main road)					
Two or more roads in/out	0				
One road in/out	7				
2. Road width (main road)					
Greater than 24 feet	0				
Between 20 and 24 feet	2				
Less than 20 feet wide	4				
3. All-season road condition (main road)					
Surfaced, grade < 5%	0				
Surfaced, grade > 5%	2				
Non-surfaced, grade < 5%	2				
Non-surfaced, grade > 5%	5				
Other than all-season	7				
4. Fire service access (driveways)					
< = 300ft, with turnaround	0				
> = 300ft, with turnaround	2				
< = 300ft, no turnaround	4				
> = 300ft, no turnaround	5				
5. Street signs					
Present (4 in. in size and reflectorized)	0				
Not present	5				
B. Vegetation (Fuel Models)					
1. Predominant vegetation					
Light (grasses, forbs)	5				
Medium (light brush and small trees)	10				
Heavy (dense brush, timber, and hardwoods)	20				
Slash (timber harvest residue)	25				
2. Defensible space					
More than 100 ft of treatment from buildings	1				
More than 71 -100 ft of treatment from buildings	3				
30-70 ft of treatment from buildings	10				
Less than 30 feet	25				
C. Topography					
1. Slope					
Less than 9%	1				
Between 10-20%	4				
Between 21-30%	7				
Between 31-40%	8				
Greater than 41%	10				

D. Additional Rating Factors	Points	House or area			Notes
1. Topography that adversely affects wildland fire behavior	0 - 5				
2. Area with history of higher fire occurrence	0 - 5				
3. Areas of unusually severe fire weather and winds	0 - 5				
4. Separation of adjacent structures	0 - 5				
E. Roofing Materials					
1. Construction material					
Class A roof (metal, tile)	0				
Class B roof (composite)	3				
Class C roof (wood shingle)	15				
Non-rated	25				
F. Existing Building Construction					
1. Materials (predominant)					
Noncombustible siding/ deck	0				
Noncombustible siding/ wood deck	5				
Combustible siding and deck	10				
2. Setback from slopes > 30%					
More than 30 feet to slope	1				
Less than 30 feet to slope	5				
Not applicable	0				
G. Available Fire Protection					
1. Water source availability (on site)					
500 gpm pressurized hydrants < 1000ft apart	0				
250 gpm pressurized hydrants < 1000ft apart	1				
More than 250 gpm non-pressurized, 2 hours	3				
Less than 250 gpm non-pressurized, 2 hours	5				
No hydrants available	10				
2. Organized response resources					
Station within 5 miles of structure	1				
Station greater than 5 miles	3				
3. Fixed fire protection (interior sprinklers)					
Sprinkler system (NFPA 13, 13R, 13D)	0				
None	5				
H. Utilities (Gas and Electric)					
1. Placement					
All underground utilities	0				
One underground, one aboveground	3				
All aboveground	5				
Totals for this page		0	0	0	
I. Totals for Risk Assessments					
Totals for page 1 and 2		0	0	0	
1. Low Hazard: < 39 points					
2. Moderate Hazard: 40-69 points					
3. High Hazard: 70-112 points					
4. Extreme Hazard: 113 > points					

Appendix 2

May 29, 2008

Dear Skagit County Fire Chief,

As you may already be aware, the Skagit Conservation District has been provided funding through Skagit County to develop a county-wide **Community Wildfire Protection Plan** (CWPP). A CWPP is a community developed plan that identifies and prioritizes hazardous fuels treatments and suggests ways to reduce structural ignitability. As part of the process, the Conservation District is collaborating with federal, state, and local entities to develop this plan. We would like to invite you and your fire district to offer input/insight into the wildfire hazards/issues that are faced within your fire district boundaries. The Conservation District attended both the Fire Chiefs' Association meeting on May 6, 2008 and the Fire Commissioners' Association meeting on May 15, 2008 to present this information. A suggestion was made at the Fire Commissioners' meeting that to get the most useful feedback a questionnaire should be developed and sent in the mail requesting specific information from the Fire Chiefs and Commissioners.

Attached to this letter are the questionnaire, and a map for your reference. Please answer the questions as best you can and use the map to mark areas of concern and return them in the stamped return envelope. Please do not hesitate to call me if you have any questions or would like more information. It is very important that local fire districts be part of this process as you are the folks that have the most knowledge of where the risks are in your communities. Your input is extremely valuable to this plan.

Thank you again for your time in filling out this survey. For more information on the CWPP process and progress, please visit the Skagit Conservation District website at www.skagitcd.org and click on the CWPP link.

Sincerely,

Jennifer Hinderman
Firewise Program Coordinator
Skagit Conservation District
(360) 428-4313
jenny@skagitcd.org

Name: _____ Fire District # _____

1. Please identify any communities/neighborhoods/geographic areas that are a concern to your fire district as far as wildfire hazards, and the reasons why.

2. Please list your current protection resources (i.e. brushtrucks, fire engines, water tenders).

3. On a scale of 1-10 (1 being low risk and 10 being high risk) how do you think your fire district rates overall for wildland fire risk?

4. On a scale of 1-10 (1 being low awareness and 10 being high awareness) how aware of wildfire danger and prevention practices do you think the communities in your Fire District are?

5. Are there any communities or individuals you know who would like/need assistance with the Firewise program or concepts? If so, please provide their contact information.

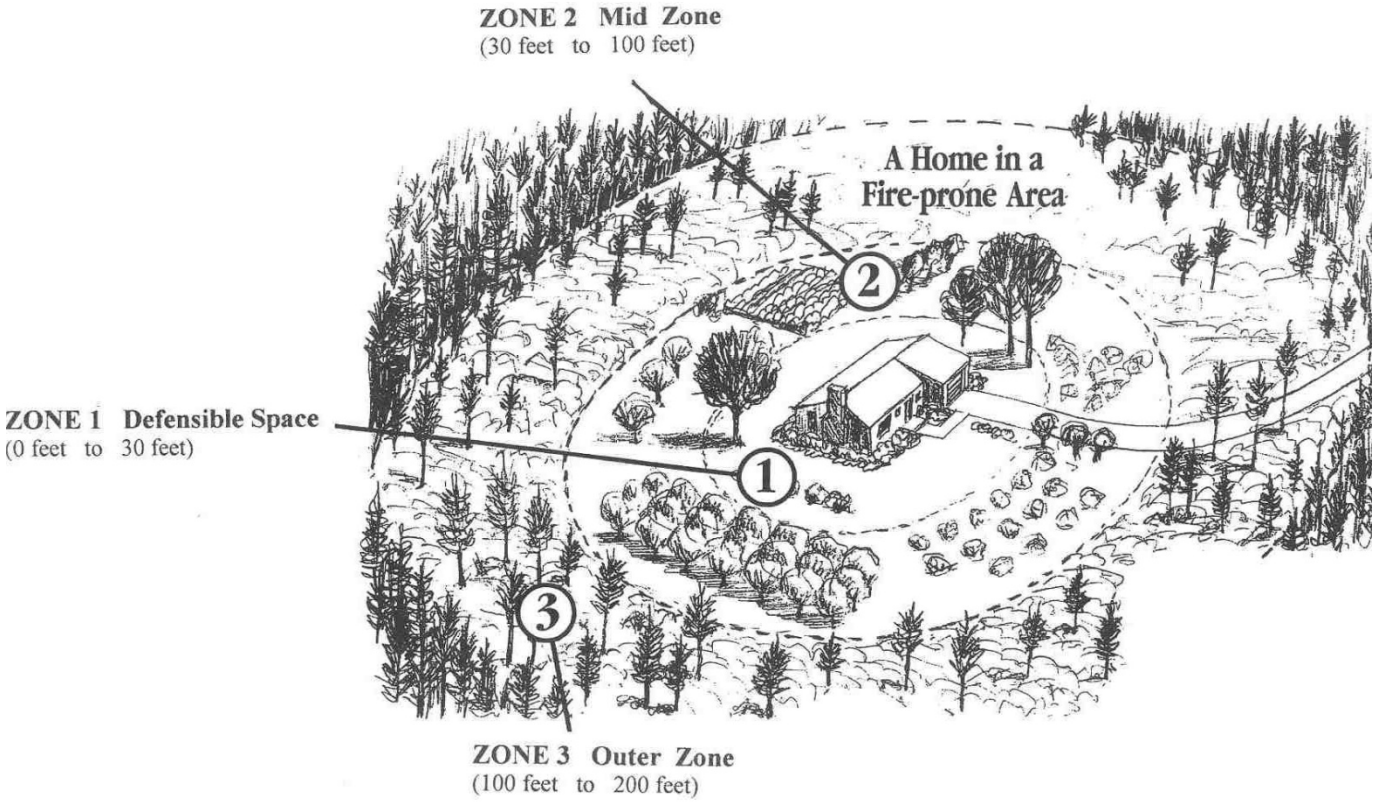
6. Do you think the Firewise program is a useful tool? Please explain.

7. What changes, if any would you like to see in the county regarding wildland fire prevention and protection?
    - ❑ Stricter building codes
    - ❑ Ban on fireworks
    - ❑ Improved resources for fire districts in wildfire prone areas
    - ❑ Individuals taking more responsibility for their own safety (better education)
    - ❑ Other (please list)

8. Are you interested in 50% cost share opportunities for wildfire hazard reduction projects? Please list any project ideas you may have in mind.

Appendix 3

FIRE TREATMENT ZONES



FIRE TREATMENT ZONE CHECK LIST

ZONE #1 : DEFENSIBLE SPACE (0 – 30 FEET)

- Clear leaves and needles from base of house.
- Create a three foot, fire-free area on all sides of structures.
- Clear gutters of leaves, needles, and debris.
- Remove all dead vegetation and snags.
- Trim any limbs on trees hanging over structures.
- Prune lower limbs to reduce ladder fuels.
  *(refer to “How to Prune Woodland Plants”)
- Clean trees and shrubs of dead material and keep them pruned.
- Choose deciduous fire resistant trees, rather than evergreen trees when planting close to structures. Eliminate foundation conifers, such as junipers.
- Store firewood well away from your house, particularly during fire season.
- Plant native fire-resistant plants; keep lawns green.
- Utilize rock gardens and xeriscapes near structures. Low growing herbaceous (non-woody) plants that stay green during fire season, (lawns, clovers, bedding plants, bulbs, perennial flowers).
- Minimize the use of wooden fences and trellises and never attach them to the house.

- Use fire resistant building materials. (see Firewise Construction Check list).

ZONE #2 : The Mid-Zone (30 – 100 feet)

- Allow adequate access for emergency vehicles.
- Removal all dead material and snags.
- Thin trees to a wider spacing.
- Prune lower limbs to 10 to 15 feet from ground, over time, removing no more than 50% of live crown. (refer to "How to Prune Woodland Plants")
- Remove ladder fuels, keeping the volume of vegetation low.
- Locate driveways, walkways, pathways on topographic breaks to slow or stop the spread of wildfires.
- Use only fire resistant plant materials.
- Maintain space between shrubs at least twice as wide as their diameter.

ZONE 3 : The Outer Zone (100 to 200 feet)

- Thin forest stands to improve forest health. Tree crowns are separated by at least 10 feet.
- Pruning of lower limbs in lifts over time, depending upon the size of the tree. Do not remove more than 50% of live crown. (refer to "How to Prune Woodland Plants")
- Remove dead material, slash and snags that are danger trees.

- Remove excess vegetation along roads.
- Construct trails on topographic breaks as fuel breaks.
- Prevent ladder fuels from developing.
- Allow adequate access for emergency vehicles.

Appendix 4

FOREST ZONE PRESCRIPTION :

Ribbon colors used to mark the fuel break are as follows:
(Red = Shaded fuel break outer boundary).

- Dead and down material up to 4 inches in diameter will be chipped and chips scattered over the work site.
- The limbs of dead and down trees greater than 1 inch in diameter will be removed or chipped, and the remaining trunk will be left in place unless several trees have created a piled concentration. In this case, the remaining tree trunks will be separated by at least 10 feet from any other logs and left on site. Recent blow-down can be removed, but leave old logs in contact with soil on site.
- Standing dead trees with red needles still attached shall be felled and treated using the dead and down prescription as required in item 1 and 2 above.
- Snags will be felled if within zones 1, 2, 3 and will be treated using the dead and down prescription as required in item 1 and 2 above. Snags that pose a hazard to crews working in the area will be felled. Snags will be left in the forest zone, unless they are danger trees.
- The Contractor will not cut any green trees from the premises that are greater than 10 inches diameter at breast height (DBH) without prior approval from the Landowner.
- Trees 5 inches and greater in diameter (DBH) will be pruned (live and dead limbs) up to a height of 15 feet. No pruning will be done to a height greater than 50% of total tree height. The cut limbs will be chipped and scattered on site.
- Trees less than 10 inches DBH will be spaced leaving 2 feet to 5 feet between live crowns. Live and dead limbs will be pruned up to a height of 15 feet. No pruning will be done to a height greater than 50% of total tree height. The cut limbs and stems will be chipped and scattered on site. Trees less than 3 feet high do not require pruning.
- Non-coniferous brush will be cut and chipped / mowed on site unless islands are pre-designated or agreed to.
- Ground disturbance from machinery used shall not exceed 15% on each acre and berms, ruts and other operator caused ground disturbance will be smoothed out to original contours before leaving the immediate work area.

COMPLIANCE:
The zone prescriptions are included in the fuel reduction contract.

PAYMENT:
Practice payments will be based on established E.Q.I.P. rates. (Environmental Quality Incentives Program, U.S.D.A. – N.R.C.S.).

SCOPE OF ACTIVITY:
Construct a shaded fuel break in the areas shown on the attached "Project Maps" according to the Practice Specifications listed in the Forest Conservation Plan.

WORK PERFORMANCE:
The contractor will follow the Forest Conservation Plan of Operations (CPO) regarding implementation of this contract; including but not limited to, planned start date, operating schedule and order of treatment unit completion.

The contractor shall perform the work in accordance with DNR Forest Practices and NRCS Practice Specifications:

i. NRCS Practice Standard #666 (Forest Stand Improvement).
ii. NRCS Practice Standard #660 (Tree / Shrub Pruning).
iii. NRCS Practice Standard #490 (Forest Site Preparation).
iv. NRCS Practice Standard #383 (Fuel Break).
v. NRCS Practice Standard #655 (Forest Trails & Landings).
vi. NRCS Practice Standard #612 (Tree / Shrub Establishment).
vii. NRCS Practice Standard #342 (Critical Area Seeding).

Appendix 5

2009-2010 Accomplishments

Outreach & Education Efforts

Skagit Conservation News Publication: Fire & Forestry Pages
Summer 2009 Edition

- Feature articles included: Considering the True Cost of Wildfire, Carbon Cycle Diagram, Wildfire Evacuation Checklist, Firewise Website Update Announcement, & Information on EQIP Program

Winter 2010 Edition

- Feature articles included: Forestry & Clean Water, Forest Health & Wildfire Mitigation, & Interesting Forestry Facts

Summer 2010 Edition

- Feature articles included: Skagit County Communities Thinking Ahead – Firewise and forest health projects featured around Skagit County, EQIP Helps Small Forest Landowners, Defensible Space Zones

Firewise Presentations
Fidalgo Island Firewise Informational Night – August 2009

- Hosted by Mt. Erie FD, Skagit CD, DNR

Cedargrove Community Firewise Presentation – August 2009

- Hosted by Skagit CD & DNR

Hoxie Lane Firewise Presentation – September 2009

- Put on by Skagit CD

Cascade River Park Firewise Presentation – September 2009

- Put on by Skagit CD

Diobsud Creek Firewise Presentation – September 2010

- Put on by Skagit CD

Events
Family Forest Owner Field Day – Hamilton, August 2009

- Featured Firewise presentations by Skagit CD & DNR to rotating groups – 100 total attendees

Shelter Bay Community Fire Safety Fair – March 2010

- DNR NW Region hosted an educational display and brought Smokey Bear

Wildfire Awareness Week Proclamation – May 2010

- Firewise updates & presentation to Skagit County Commissioners by Skagit Conservation District, DNR, & Skagit County FMO

Samish Elementary-Sedro Woolley End of School Year Events – June 2010

- Fire Prevention & Smokey Bear by USFS

Verlot Campgrounds 4th of July Outreach – July 2010

- Fire & firework prevention education by USFS

Darrington 4th of July Parade – July 2010

- Town parade, USFS

Darrington Ranger District Smokey 66th Birthday Celebration – July 2010

- Birthday potluck for Smokey Bear, USFS

Skagit County Fair – August 2010

- Information and education booth with Smokey Bear, USFS

Heather Meadows Visitor Center – August 2010

- Fire prevention education with Smokey Bear, USFS

Cascade Days –Concrete, August 2010

- Skagit CD Firewise display with DNR, DNR Smokey Bear appearance, USFS fire trucks in street parade

Gold Basin Amphitheater in Verlot – August 2010

- Fire prevention education with Smokey Bear, USFS

Burlington Fall Festival & Pumpkin Patch – September 2010

- Information and education with Smokey Bear, USFS

Risk Assessments

Individual Home Risk Assessments

- 13 Home Risk Assessments throughout Skagit County

Community Level Risk Assessments

- 4 Community level Risk Assessments: Samish Island, Hoxie Lane, Cedargrove, Cascade River Park

Projects

Hoxie Lane
December 2009

Hoxie Lane Fuels Reduction Project Photos

Before Fuels Reduction

After Fuels Reduction

Before Fuels Reduction

After Fuels Reduction

Work in Progress:

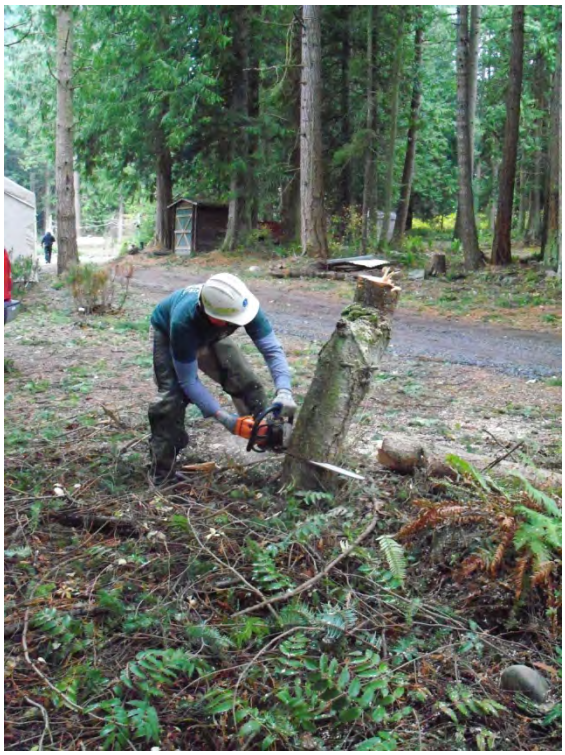
Falling crew does some thinning

SCD Forester shows unhealthy tree

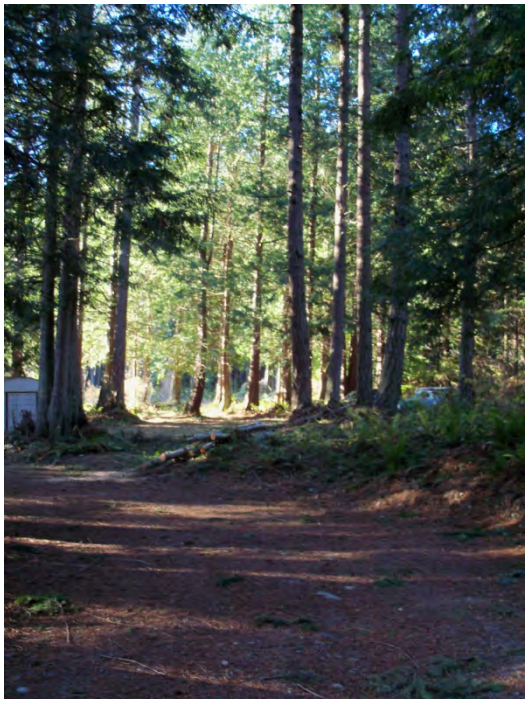
A tree marked: unhealthy

Community members participate

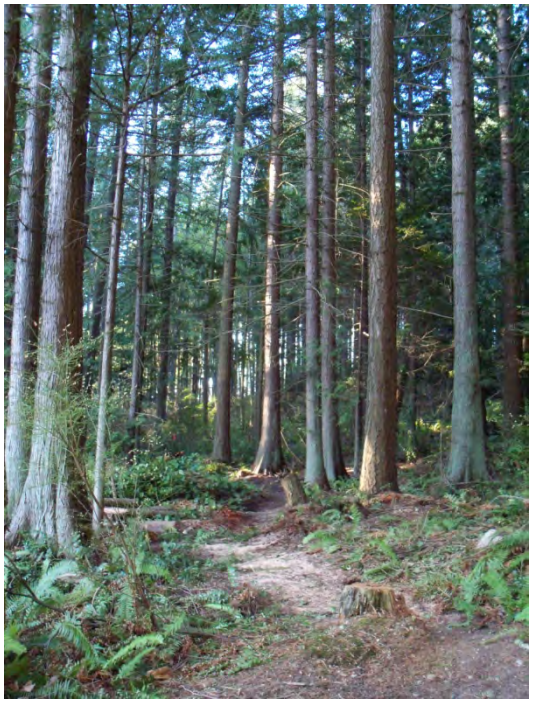
DNR crew



Chainsaw work by DNR crew member



Driveway access clearance



Pruning & Thinning done

Cascade River Park

Cascade River Park Community Fuels Reduction Demonstration Project

The Cascade River Park Firewise demonstration project was made possible by a joint effort between the Skagit Conservation District, Washington State Department of Natural Resources (WADNR), and the Cascade River Park Firewise Committee.

The Skagit Conservation District provided the planning and technical assistance in developing the project; WADNR provided the manpower and the funding; the Skagit County Fire Marshal's Office provided a chipper to the project; and the Firewise Committee provided the property to conduct the project on as well as some of the labor.

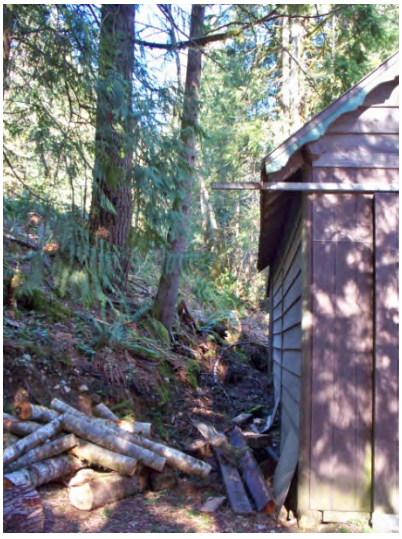
This project took place on June 10th – 11th, 2010 at the property where the caretaker for the Park resides. The location of the caretaker's residence is highly visible and the first thing you see as you enter the community. This property was selected for its visibility to community residents and because of the need for mitigation. Approximately 1.0 acre of vegetation surrounding the home was treated. Fuels reduction work included pruning; thinning; removal of ladder fuels and invasive species; and chipping the resulting debris that was created. Work around the immediate vicinity of the structures was started, and continues, including removal of wood debris, clean up of pine needles and other dead vegetation that had collected in gutters and on rooftops, and relocation of the woodpile.

Cascade River Park held their annual meeting the weekend after the project was completed and gave a presentation at the meeting about the project. Folks were invited to see the results of the project. Also at the meeting there was a sign-up sheet for those who were interested in participating in a clean-up project the following spring.

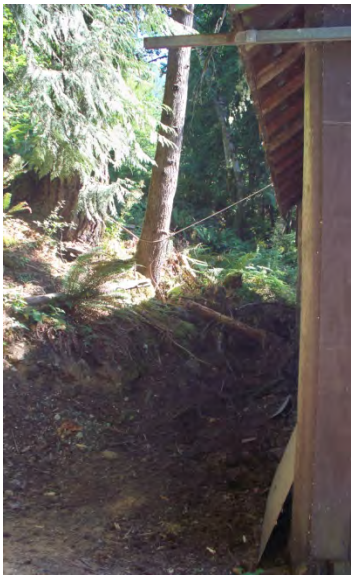
As Cascade River Park works toward becoming a Firewise Community/USA, they will continue to identify and implement projects to improve the safety and health of the community. They are expected to reach the goal of becoming a Firewise Community/USA before the end of 2010.

Below are some pictures from the project.

BEFORE



AFTER



BEFORE

AFTER

DURING

Jenkins Lane
December 2010

Jenkins Lane Road Access Fuels Reduction Project

This project was a cooperative effort between the Skagit CD & the DNR and included roadside treatment of vegetation along the main road through the Jenkins Lane Community. Approximately 1.12 miles of road was treated. Activities included brush clearing, pruning, thinning, removal of ladder fuels, chipping debris, and fire break maintenance. An average of 20 feet from the edge of the road on either side was treated.

Skagitwilde
June & August 2010

Skagitwilde Fuels Reduction Project #1 & #2

In June the NW Region DNR did a fuels reduction project in Skagitwilde that involved chipping blow down piles that were collected after storm damage. In August the NW Region DNR did a road brushing project to enhance an existing fire break/access road and a hand trail down to the river.

Fuels reduction/chipping project in June, 2010.

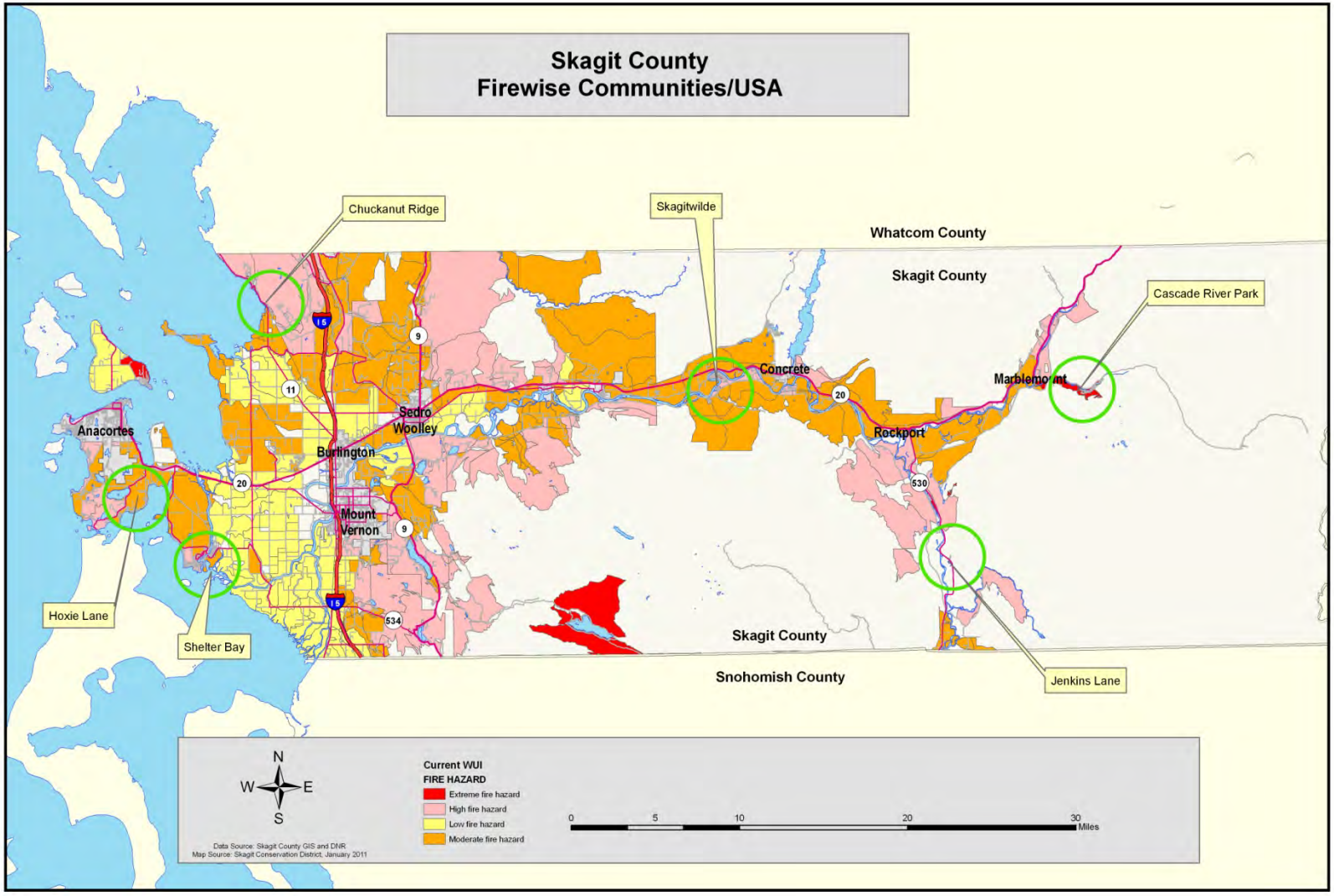
Road brushing project in August, 2010.

Firewise Communities/USA

Jenkins Lane, Rockport, WA
Established Spring, 2009

Hoxie Lane Firewise Community, Anacortes, WA
Established Winter, 2009

Cascade River Park Firewise Community, Marblemount, WA
Established Winter, 2010


Skagit County
Firewise Communities/USA
Chuckanut Ridge
Skagitwilde
Whatcom County
Skagit County
Cascade River Park
Concrete
Marblemount
Rockport
Sedro
Woolley
Burlington
Anacortes
Mount
Vernon
Hoxie Lane
Shelter Bay
Skagit County
Snohomish County
Jenkins Lane
N
W
E
S
Current WUI
FIRE HAZARD
Extreme fire hazard
High fire hazard
Low fire hazard
Moderate fire hazard
0
5
10
20
30
Miles
Data Source: Skagit County GIS and DNR
Map Source: Skagit Conservation District, January 2011