Spokane County, Washington

Community Wildfire Protection Plan

January 2014

Vision: *Institutionalize and promote a Countywide wildfire hazard mitigation ethic through leadership, professionalism, and excellence, leading the way to a safe, sustainable Spokane County.*

2007 Marshal Complex Fire, Spokane County

This plan was developed by the Spokane County Community Wildfire Protection Plan Planning committee in cooperation with Tetra Tech, Inc., and Bridgeview Consulting, LLC.

Acknowledgments

This Community Wildfire Protection Plan represents the efforts and cooperation of a number of organizations and agencies, coming together through their commitment to work together to improve the preparedness for wildfire events while reducing factors of risk.

Airway Heights Fire Department
Medical Lake Fire Department
Latah Fire Department
Waverly Fire Department

Spokane County Fire District #2
Spokane County Fire District #11
Spokane County Fire District #12

Spokane International Airport Fire Department

Fairchild Air Force Base Fire Department

City of Spokane
City of Spokane Valley
City of Deer Park
City of Cheney
City of Medical Lake
City of Airway Heights
City of Liberty Lake

City of Millwood
Town of Latah
Town of Waverly
Town of Rockford
Town of Fairfield
Town of Spangle

Unincorporated Communities
and
Local Businesses and Citizens of
Spokane County

Copies of this document may be obtained by contacting the Spokane County Commissioner's Office

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Chapter I

1 Overview of this Plan and its Development

This Community Wildfire Protection Plan (CWPP) for Spokane County, Washington, is the result of analyses, professional cooperation, and collaboration. The CWPP consists of assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and unique ecosystems in Spokane County, Washington.

This plan in its entirety also represents the wildfire chapter of Spokane County's Hazard Mitigation Plan (HMP). While the CWPP can be viewed as a stand-alone document, all of the planning processes and public outreach conducted support both the CWPP and HMP planning efforts as defined within both documents. This plan represents a comprehensive review and update of the 2008 plan originally developed by Northwest Management. While portions of the original text remain, for purposes of this document, all data have been reviewed and updated with the most current information available during the 2014 update process. The CWPP and HMP update efforts were led by an over-arching steering committee (discussed in detail within the 2014 HMP), a planning team, and Bridgeview Consulting, LLC (as the consultant facilitating the CWPP update process).

The planning team was established from the participating jurisdictions and agencies that are responsible for implementing the 2008 CWPP projects, and consists of many of the same members leading the previous plan development. As with the HMP, the CWPP effort was led and supported by the Spokane County Commissioners in conjunction with the participating jurisdictions and agencies. The jurisdictions and agencies that participated in the planning process included:

- City of Airway Heights
- City of Deer Park
- City of Liberty Lake
- City of Medical Lake
- City of Millwood
- City of Spokane
- City of Spokane Valley
- Spokane City/County Emergency Management
- Spokane County Commissioners and County Departments
- Spokane County Conservation District
- Spokane County Fire Districts and Departments
- Town of Fairfield
- Town of Latah
- Town of Rockford
- Town of Spangle
- Town of Waverly
- U.S. Fish and Wildlife Service (USFWS), Turnbull National Wildlife Refuge
- Washington State Department of Natural Resources (DNR)
- Washington State University
- Bureau of Land Management
- Bridgeview Consulting, LLC

In July 2012, Spokane County solicited competitive bids from companies to lead the assessment, develop the data, and write the update to the 2014 Spokane County CWPP. Tetra Tech, Inc. (Tetra Tech), as prime contractor and Bridgeview Consulting, LLC, as a subcontractor were selected to provide these services to the County. This process also coincided with the development of the Spokane County HMP. In an effort to increase stakeholder involvement and benefit from the economies of scale, the two planning processes were combined.

1.1 Goals and Guiding Principles

This section summarizes the guiding principles set by various government agencies, and the goals set forth by the planning committee in the update of this CWPP.

1.1.1 Federal Emergency Management Agency Philosophy

Effective November 1, 2004, a HMP approved by the Federal Emergency Management Agency (FEMA) is required for Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM) eligibility. The HMGP and PDM program provide funding, through state emergency management agencies, to support local mitigation planning projects to reduce potential disaster damages.

The local HMP requirements for HMGP and PDM eligibility are based on the Disaster Mitigation Act (DMA) of 2000, which amended the Stafford Disaster Relief Act to promote an integrated, cost-effective approach to mitigation. Local HMPs must meet the minimum requirements of the Stafford Act-Section 322, as outlined in the criteria contained in Code of Federal Regulations: Title 44 (44 CFR), Part 201. The plan criteria cover the planning process, risk assessment, mitigation strategy, plan maintenance, and adoption requirements.

As developed, the 2014 Update to the Spokane County CWPP fulfills all of the requirements for a wildfire chapter of the Spokane County Local HMP.

1.1.2 U.S. Government Accounting Office (GAO)

Since 1984, wildland fires have burned an average of more than 850 homes each year in the United States and, because more people are moving into fire-prone areas bordering wildlands, the number of homes at risk is likely to grow. The primary responsibility for ensuring that preventative steps are taken to protect homes lies with homeowners and state and local governments, not the federal government. Although losses from wildland fires made up only 2 percent of all insured catastrophic losses from 1983 to 2002, fires can result in billions of dollars in damages.

Once a wildland fire starts, various parties can be mobilized to fight it including federal, state, local, and tribal firefighting agencies and, in some cases, the military. The ability to communicate among all parties - known as interoperability - is essential but, as GAO reported previously, is hampered because different public safety agencies operate on different radio frequencies or use incompatible communications equipment (GAO 2005).

GAO was asked to assess the following issues: (1) measures that can help protect structures from wildland fires, (2) factors affecting use of protective measures, and (3) the role technology plays in improving firefighting agencies' ability to communicate during wildland fires.

The two most effective measures for protecting structures from wildland fires are (1) creating and maintaining a buffer, called defensible space, from 30 to 100 feet wide around a structure, where vegetation and other flammable objects are reduced or eliminated; and (2) using fire-

resistant roofs and vents. In addition to roofs and vents, other technologies – such as fire-resistant windows and building materials, chemical agents, sprinklers, and geographic information systems mapping – can help in protecting structures and communities, but they play a secondary role.

Although protective measures are available, many property owners have not adopted them because of the time or expense involved, competing concerns such as aesthetics or privacy, misperceptions about wildland fire risks, and lack of awareness of their shared responsibility for fire protection. Federal, state, and local governments, as well as other organizations, are attempting to increase property owners' use of protective measures through education, direct monetary assistance, and laws requiring such measures. In addition, some insurance companies have begun to direct property owners in high-risk areas to take protective steps.

Existing technologies, such as audio switches, can help link incompatible communication systems, and new technologies, such as software-defined radios, are being developed following common standards or with enhanced capabilities to overcome incompatibility barriers. Technology alone, however, cannot solve communications problems for those responding to wildland fires. Planning and coordination among federal, state, and local public safety agencies is needed to resolve issues such as choosing the technologies to adopt, cost sharing, operating procedures, training, and maintenance. The U.S. Department of Homeland Security (DHS) is leading federal efforts to improve communications interoperability across all levels of government. In addition to federal efforts, several states and local jurisdictions are pursuing initiatives to improve communications interoperability.

Vision for this Century

The Wildfire Fire Leadership Council (WLFC) adopted a vision for this century: "To safely and effectively extinguish fire when needed; use fire where allowable; manage our natural resources; and as a nation, to live with wildland fire." The Cohesive Strategy will address the nation's wildfire problems by focusing on three key areas: Restore and Maintain Landscapes, Fire Adapted Communities, and Response to Fire (WLFC 2013).

1.1.3 Additional State and Federal Guidelines Adopted

This CWPP will include compatibility with the guidelines proposed in the National Fire Plan, the Washington Statewide Implementation Plan, and the Healthy Forests Restoration Act. This CWPP has been prepared in compliance with:

- The National Fire Plan: A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan (December 2006)
- National Association of State Foresters – guidance on identification and prioritizing of treatments between communities (2003)
- The Washington Statewide Implementation Strategy for the National Fire Plan
- Healthy Forests Restoration Act (2003)
- 44 CFR 201 as it relates to the fire portion of the HMP

The objective of combining these three complimentary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts to achieve the protection of people, structures, the environment, and significant

infrastructure in Spokane County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

1.1.4 Planning Philosophy and Goals

During update of the 2014 CWPP, the planning team again reviewed the planning philosophy, goals, mission, and vision statements established during the original plan's development in 2008 by Northwest Management, Inc. The review was conducted to make certain of their applicability to the intended outcome of the CWPP, as well as to confirm their alignment with the overarching goals for the 2014 update to the County's HMP. After review and discussion during the June 2013 meeting, the planning team reconfirmed the following components of the CWPP.

1.1.4.1 Spokane County Fire Mitigation Planning Effort and Philosophy

The goals of this planning process provide for the integration of the County's update to the HMP, National Fire Plan, the Washington Statewide Implementation Strategy, the National Association of State Foresters guidelines, and the Healthy Forests Restoration Act. This effort will utilize the best and most appropriate science from all partners and integrate local and regional knowledge about wildfire risks and fire behavior while meeting the needs of local citizens, the regional economy, and the significance of this region to the rest of Washington and the Inland West.

1.1.4.1.1 CWPP Mission Statement

The mission of the CWPP is to make Spokane County residents, communities, state agencies, local governments, and businesses less vulnerable to the negative effects of wildland fires through the effective administration of wildfire hazard mitigation grant programs, hazard risk assessments, wise and efficient fuels treatments, and a coordinated approach to mitigation policy through federal, state, regional, and local planning efforts. The combined prioritization will be the protection of people, structures, infrastructure, and unique ecosystems that contribute to Spokane citizens' way of life and the sustainability of the local and regional economy.

1.1.4.1.2 Vision Statement

The vision statement of the CWPP is to institutionalize and promote a Countywide wildfire hazard mitigation ethic through leadership, professionalism, and excellence, leading the way to a safe, sustainable Spokane County.

1.1.4.1.3 Goals

The CWPP sets out to achieve the following goals:

- Identify and map Wildland Urban Interface (WUI) boundaries
- Reduce the area of WUI land burned and losses experienced because of wildfires where these fires threaten communities in the WUI
- Prioritize the protection of people, structures, infrastructure, natural resources, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy
- Provide a plan that will not diminish the private property rights of landowners in Spokane County

- Educate communities about the unique challenges of wildfire in the wildland-urban interface (WUI)
- Recommend additional strategies for private, state, and federal lands to reduce hazardous fuel conditions and lessen the life safety and property damage risks from wildfires
- Improve fire agency awareness of wildland fire threats, vulnerabilities, and mitigation opportunities or options
- Address structural ignitability and recommend measures that homeowners and communities can take to reduce the ignitability of structures
- Identify and evaluate hazardous fuel conditions with an emphasis near communities adjacent to forestlands, prioritize areas for hazardous fuel reduction treatments, and recommend the types and methods of treatment to protect the communities
- Provide opportunities for meaningful discussions among community members and local, state, and federal government representatives regarding their priorities for local fire protection and forest management
- Improve County and local fire agency eligibility for funding assistance (National Fire Plan, Healthy Forest Restoration Act, FEMA, and other sources) to reduce wildfire hazards, prepare residents for wildfire situations, and enhance fire agency response capabilities
- Meet or exceed the requirements of the National Fire Plan and FEMA for a County-level CWPP

1.1.5 Integration with Other Local Planning Guidelines

During the development of this CWPP, several planning and management documents were reviewed to avoid conflicting goals and objectives. Existing programs and policies were reviewed to identify those that may weaken or enhance the wildfire hazard mitigation objectives outlined in this document. The following sections identify and briefly describe some of the existing Spokane County planning documents and ordinances considered during the development of this plan.

1.1.5.1 Turnbull National Wildlife Refuge Wildland Fire Management Plan

The Turnbull National Wildlife Refuge (NWR) Wildland Fire Management Plan was completed in 2001, with portions updated most recently within their Comprehensive Conservation Plan. Turnbull's Management Plan is conducive to protecting critical habitat as well as people, structures, and infrastructure both within the refuge and in the surrounding area from the impacts of wildland fire.

1.1.5.2 Spokane County Comprehensive Plan

The Comprehensive Plan is a set of goals, policies, maps, illustrations and implementation strategies that state how the County should grow physically, socially, and economically. The plan emphasizes innovative and flexible strategies to guide growth and development. One of the central themes of the Plan is the promotion of economic development that occurs in harmony with environmental protection and preservation of natural resources. The Plan recognizes the interests of the entire community and promotes cultural and ethnic diversity.

The Spokane County CWPP will be incorporated as a tool for decision makers to further their knowledge of wildland fire risk areas in order to make more informed decisions on how future development should occur in high-risk areas.

1.1.5.3 Spokane County Multi-Jurisdiction All-Hazard Mitigation Plan

Natural hazards impact citizens, property, the environment, and the economy of Spokane County. Flooding, landslides, windstorms, severe winter storms, volcanoes, and earthquakes have exposed Spokane County residents and businesses to the financial and emotional costs of recovering after these natural disasters. Other events such as urban fire, terrorism, and hazardous material spills also pose dangers to the population of Spokane County. The risk associated with natural hazards increases as more people move to areas affected by hazards. The inevitability of natural hazards, and the growing population and activity within the County create an urgent need to develop strategies, coordinate resources, and increase public awareness to reduce risk and prevent loss from future hazard events. The Spokane County Multi-Jurisdiction All-Hazard Mitigation Plan helps identify risks posed by hazards and develops strategies to reduce the impact of a hazard event on Spokane County.

The Spokane County CWPP serves as the wildfire hazard section of the All-Hazard Mitigation Plan. The CWPP provides information and an in-depth analysis of wildland fire risks in and around Spokane County communities.

1.1.5.4 Spokane County Code

The Spokane County Code (Title 3 Buildings and Structures, Chapter 3.16) contains provisions to mitigate the hazards associated with wildfires in the unincorporated areas of the County. These provisions cover building construction standards covering roofing, decking, and balcony materials, attic/roof venting, and the use of spark arresters on chimneys.

The Spokane County CWPP encourages this type of proactive planning at the County level. It is a recommendation of this document that similar building standards be applied to all structures built in high wildfire risk areas.

1.1.5.5 River Bluff Ranch Architecture and Landscaping Standards

The developers of the River Bluff Ranch subdivision have included in their community covenants several direct measures for decreasing the subdivision's risk of experiencing a wildland fire. Not only do the covenants address non-combustible roofing materials, but they also include specific instructions for creating and maintaining a defensible space for fire protection around every home.

The Spokane County CWPP encourages this type of proactive planning by individuals and developers. It is a recommendation of this document that more developers and homeowner's associations include wildfire prevention and mitigation requirements in their community guidelines and covenants.

1.1.5.6 Mullen Hill Terrace Mobile Home Park Community Wildfire Protection Plan 2006

The CWPP for the Mullen Hill Terrace Mobile Home Park is the result of analyses, professional cooperation and collaboration, assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and ecosystems within the park.

Source: Mullen Hill Terrance Mobile Home Park CWPP (2006)
http://www.dnr.wa.gov/Publications/rp_burn_cwppmullenhillterrace.pdf

The Mullen Hill Terrace CWPP was finalized in 2006. Representatives from the core team that worked on the Mullen Hill Terrace CWPP have been invited to the table and are actively participating in the development of the Spokane County CWPP. Specific components of the Mullen Hill Terrace CWPP are being incorporated into the Spokane County CWPP to ensure that the County's Plan smoothly dovetails with the assessments, goals, and mitigation measures outlined in the Mullen Hill Terrace CWPP.

1.1.5.7 Denison Chattaroy Community Wildfire Protection Plan 2006

Residents of the Denison Chattaroy community value their homes, as well as the surrounding forest environment. The Washington State Department of Natural Resources (Washington DNR), Spokane County Fire District #4, and FireSafe Spokane have been concerned with wildfires and potential wildfires in this area. This concern prompted a joint effort to develop and implement a CWPP. The Denison Chattaroy CWPP is designed to protect human life and property and reduce the risk of future wildfire-related disasters in the area.

The Denison Chattaroy CWPP was finalized in 2006. Representatives from the core team that worked on the Denison Chattaroy CWPP have been invited to the table and are actively participating in the development of the Spokane County CWPP. Specific components of the Denison Chattaroy CWPP are being incorporated into the Spokane County CWPP to ensure that the County's Plan smoothly dovetails with the assessments, goals, and mitigation measures outlined in the Denison Chattaroy CWPP.

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Chapter 2

2 Documenting the Planning Process

Documentation of the planning process, including public involvement, is required to meet FEMA's DMA 2000 (44CFR§201.4(c)(1) and §201.6(c)(1)). This section includes a description of the planning process used to develop this plan, including how it was prepared, who was involved in the process, and how all of the involved agencies participated.

2.1 Description of the Planning Process

The Spokane County CWPP was developed through a collaborative process involving all of the organizations and agencies detailed in Chapter 1 of this document. The planning process included five distinct phases, which were in some cases sequential (step 1 then step 2) and in some cases intermixed (step 4 completed throughout the process). The five phases are listed below:

1. **Collection of Data** about the extent and periodicity of hazards in and around Spokane County. This included areas encompassing Stevens, Ferry, and Pend Oreille County to ensure a robust dataset for making inferences about wildfires in Spokane County specifically.
2. **Field Observations and Estimations** about risks, adjacency of structures and infrastructure to risk areas, access, and potential treatments.
3. **Mapping** of data relevant to pre-disaster mitigation control and treatments, structures, resource values, infrastructure, risk assessments, and related data. Maps are included in this CWPP in Appendix A.
4. **Facilitation of Public Involvement** from the formation of the planning committee, to a public mail survey, news releases, public meetings, public review of draft documents, and acknowledgement of the final plan by the signatory representatives.
5. **Analysis and Drafting of the Report** to integrate the results of the planning process, providing ample review by the committee and input from the public, followed by signing of the final document.

2.2 The Planning Team

Individuals from Spokane County leading plan update efforts included Garth Davis from Spokane County Conservation District; Steve Harris from Washington DNR; and Guy Gifford from Washington DNR. Bridgeview Consulting, LLC and Tetra Tech, Inc., supported this plan update effort. These individuals led a team of resource professionals that included members of Spokane County government; incorporated city officials; representatives from fire protection districts, state and federal agencies, and local organizations; and hazard mitigation experts.

The planning team met with many residents of the County during inspections of the communities and infrastructure and at the public meetings. This methodology, when coupled with the other approaches in this process, worked adequately to integrate a wide spectrum of observations and interpretations about the project.

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal and state agencies was integrated into the database of knowledge used in this project. Meetings with the committee were held

throughout the planning process to facilitate a sharing of information between cooperators. Furthermore, when the public meetings were held, many of the committee members were in attendance and shared their support and experiences with the planning process and their interpretations of the results.

2.2.1 Multi-Jurisdictional Participation

CFR requirement §201.6(a)(3) calls for multi-jurisdictional planning in the development of HMPs that impact multiple jurisdictions. This CWPP followed the same process, and therefore is applicable to the following jurisdictions:

- Spokane County, Washington
- City of Spokane
- City of Spokane Valley
- City of Deer Park
- City of Cheney
- City of Medical Lake
- City of Airway Heights
- City of Liberty Lake
- City of Millwood
- Town of Latah
- Town of Waverly
- Town of Rockford
- Town of Fairfield
- Town of Spangle

These jurisdictions were represented on the planning committee in public meetings, and representatives participated in the development of hazard profiles, risk assessments, and mitigation measures. The monthly planning committee meetings were the primary venue for authenticating the planning record. However, additional input was gathered from each jurisdiction in a combination of the following ways:

- During development of the 2014 update to the Countywide HMP, which included participants from both planning committees
- Planning committee leadership visits to schedule municipality public meetings (e.g., County commissioner meetings, city hall meetings) where planning updates were provided and information was exchanged
- One-on-one visits between the planning committee leadership and the representatives of the municipalities (e.g. meetings with County commissioners, cities, fire districts, or communities)
- Special meetings at each jurisdiction by the planning committee leadership requested by the municipality involving elected officials (mayor and County commissioners), appointed officials (e.g., County assessor, sheriff, police), municipality employees, local volunteers, business community representatives, and local citizenry
- Written monthly correspondence between the planning committee leadership and each municipality updating the cooperators in the planning process, making requests for information, and facilitating feedback

Like other rural areas of Washington and the United States, Spokane County's human resources have many demands put on them in terms of time and availability. Several of the elected officials (town mayors) do not serve in a full-time capacity; some of them have other employment and serve the community through a convention of community service. Recognizing this, many of the jurisdictions decided to identify a representative to cooperate on the planning committee and then report back to the remainder of their organization and serve as a conduit between the planning committee and the jurisdiction.

2.2.2 Planning Committee Meetings

In addition to those meetings identified within the 2014 updated HMP, lead CWPP planner Garth Davis also conducted several outreach sessions with the various planning partners, as well as monthly meetings from June through November 2014 for the purpose of updating this CWPP. Specific meeting agenda and minutes are available upon request. The following list includes names of people who participated in those planning committee meetings, volunteered time, or responded to elements of the Spokane County CWPP's preparation:

NAME **ORGANIZATION**

- Bruce Holloway ..... Spokane County Fire District #3
- Bonnie Cobb..... Spokane County Fire District #5
- Chuck Johnson..... Washington Department of Natural Resources
- Tony Neilsen ..... Spokane County Fire District #8
- Gerry Bozarth..... Spokane County Department of Emergency Management
- Doug Bleeker..... Spokane County Fire District #9
- Doug Frederick..... Turnbull National Wildlife Refuge
- Garth Davis ..... Spokane Conservation District
- Guy Gifford..... Washington Department of Natural Resources
- Matt Ugaldea..... Washington Department of Natural Resources
- Randy Johnson ..... Spokane County Fire District #4
- Lisa Jones..... Spokane Fire Department
- Jack Cates ..... Spokane County Fire District #9
- Nick Scharff..... Spokane County Fire District #10
- Keith Yamane..... Spokane County Fire District #13
- Shawna Ernst..... Spokane County GIS
- Steve Harris..... Washington Department of Natural Resources
- Cody Rohrbach ..... Washington Department of Natural Resources
- Edward Lewis..... Washington Department of Natural Resources
- Steve Pietroburgo..... U.S. Fish and Wildlife Service
- Terry Paetow..... Spokane County Homeowner
- Tim Steiner..... Cheney Fire Department
- Richard Parrish ..... Bureau of Land Management, Spokane District
- Tom Mattern..... Disaster and Emergency Management
- Matt Holmquist ..... Spokane Regional Clean Air Agency
- Bev O'Dea..... Bridgeview Consulting, LLC
- Cathy Walker..... Bridgeview Consulting, LLC

The planning meetings addressed various topics, including:

- Purpose of the CWPP
- Integration of the CWPP into the HMP
- Planning guidelines and requirements
- Major document components (document outline)
- Wildland-urban interface
- Community assessments
- Types of projects
- Past or ongoing fuels reduction, education projects occurring in the County
- Mapping and GIS
- Public involvement – survey and public meetings

- Committee responsibilities

Review/Update Mission, Vision, and Goals Statements

The mission, vision, and goal statements were reviewed both during the mitigation planning effort, and separately during a CWPP meeting. Based on the current on-going hazard mitigation planning effort, it was determined that the goals and objectives as defined within the 2008 CWPP align with the 2014 goals of the HMP, and therefore no modifications were required. The planning team reviewed and confirmed the goals as written during the June 2013 planning meeting.

Public Survey and Press Release

Press releases and public surveys were distributed via the County's website, as well as in hard copy form. Each local jurisdiction taking part in the update to the 2014 HMP update distributed the website information via business cards with the survey and website addresses, as well as on hard copy flyers handed out at the public meetings.

Resource and Capability Surveys

The Resources and Capability surveys were discussed, but noted that these were primarily directed at the fire districts and wildland firefighting agencies. The purpose of these surveys is not only to provide a summary of the districts' capabilities, interagency agreements, and equipment, but also to identify problem areas and current needs. Spokane County Fire District #9 currently maintains an equipment list, which is updated annually with information provided by each district. Information on how to obtain this list is included in Appendix B of this CWPP.

2.3 Public Involvement

Public involvement in this plan was made a priority from the inception of the project. There were a number of ways that public involvement was sought and facilitated. In some cases this led to members of the public providing information and seeking an active role in protecting their own homes and businesses, while in other cases it led to the public becoming more aware of the process without becoming directly involved in the planning.

Various community meetings took place since completion of the 2009 CWPP, including Firewise Community Workshops. Appendix C contains notices of the 2011, 2012, and 2013 meetings, which include Wildfire Awareness Week, Firewise Workshops, and community outreach meetings to capture citizen fuel reduction efforts. In addition, during the month of September 2013, various planning team members manned a booth at the local fair. During that time, citizens were asked to comment on potential wildfire projects, as well as provide input on projects they felt were relevant for their communities. In addition to the fair booth, the CWPP was also presented during the mitigation planning outreach sessions, which took place on September 11 and 12, 2013 (see HMP outreach section for more information).

This section describes the outreach activities performed to engage the public in the CWPP update process.

2.3.1 News Releases

Under the auspices of the Spokane County planning committee, news releases were submitted to the publications *Capital Press Spokane*, the *Spokesman Review*, the *Deer Park Tribune, AP Spokane*, *Valley News Herald*, and *Cheney Free Press*; and the television stations KAYU, KHQ, KREM, and KXLY; as well as the Spokane County Public Information Officer. Informative flyers were also distributed around towns and to local offices within the communities. These news releases incorporated both the HMP update, as well as the update of the CWPP.

2.3.2 Survey

In order to collect a broad base of perceptions about the wildland fire risk in Spokane County and homeowners' perception of risk in general, the planning team for the HMP and CWPP determined that a survey was appropriate as one method of capturing local input into the hazards and associated risks. As this CWPP process was joined with the update of the 2014 Countywide HMP, the two surveys were combined, as many similar questions were asked.

The survey was available both via Survey Monkey (web-based) as well as hard copies provided at various community meetings and fairs. In addition, 1,000 business cards were distributed with the web address to invite participation in the survey.

To avoid redundancy, a summary of the survey's results is presented within the 2014 HMP.

2.3.3 Public Meetings

Public meetings were scheduled in a variety of communities in Spokane County during the risk assessment phase of the planning process. Public meetings were scheduled to share information on the planning process, inform details of the community risk assessments, and discuss potential mitigation treatments. Attendees at the public meetings were asked to give their impressions of the accuracy of the information generated and provide their opinions of potential treatments.

The schedule of public meetings included meeting held in multiple locations in the County attended by a number of individuals on the committee and from the general public. Several joint meetings were held for the HMP update, as well as fire-specific community meetings of varying types. Public meeting announcements were sent to the local news media and distributed by committee members. A sample of one flyer is included below in Figure 2.2. Additional flyer samples are shown in Appendix C.

Figure 2.2. Flyer for 2012 Public Meeting.

2.3.4 Documented Review Process

Review and comment on this plan has been provided through a number of avenues for the committee members as well as members of the general public.

During regularly scheduled committee meetings, the committee met to discuss findings, review mapping and analysis, and provide written comments on draft sections of the document. During the public meetings, attendees observed map analyses, photographic collections, discussed general findings from the community assessments, and made recommendations on potential project areas.

The first draft of the CWPP was completed after the public meetings, and was presented to the CWPP planning team in October 2013. After review and comments, recommended changes were incorporated, the second draft was presented to the steering committee and planning team for the 2014 HMP update. Thereafter, the completed draft document was released for public review in February 2014. The public review period remained open for 1 month.

2.3.5 Continued Public Involvement

Spokane County is dedicated to involving the public directly in review and updates of this CWPP and the HMP. The Spokane County Commissioners, through the CWPP and HMP committees, are responsible for the annual review and update of the Plan as recommended in this document.

The public will have the opportunity to provide feedback about the Plan annually on the anniversary of its adoption at a meeting of the County Commissioners. Copies of the Plan will be available for review through the County's website, and the Washington DNR website at www.dnr.wa.gov.

A public meeting will also be held as part of each annual evaluation or when deemed necessary by the planning committee. The meetings will provide the public a forum for expressing concerns, opinions, or ideas about the Plan. The County Commissioner's Office will be responsible for using County resources to publicize the annual meetings and maintain public involvement through the County webpage and newspapers.

Chapter 3

3 Spokane County Characteristics

Spokane County covers an area of 1,763 square miles, making it 19th largest county in the State of Washington. Spokane County is rectangular, except for a jagged northwest corner. Pend Oreille and Stevens Counties lie along the northern boundary, Lincoln County lies to the west, Whitman County to the south, and the State of Idaho makes up the eastern boundary.

Spokane County's terrain is highly variable with forested and mountainous areas to the north, fertile agricultural soils on the Palouse in the southeast, and channeled scablands to the southwest. Mount Spokane, the highest point in the County, is 5,878 feet.

The County has two rivers. The Little Spokane River flows south from Pend Oreille County to the Spokane River in the center of the County and the Spokane River, outlet for Coeur d'Alene Lake, flows west from Idaho into central Spokane County and through the cities of Spokane and Spokane Valley. The Spokane River eventually turns to the northwest, joining the Little Spokane River at the northwestern border of the County.

Spokane County is also the home of the Fairchild Air Force Base, 4 miles west of the City of Spokane. Fairchild Air Force Base is the largest air-refueling wing in the Air Force capable of maintaining an air bridge across the nation and the world in support of United States and allied forces.

This section discusses Spokane County characters including demographics, socioeconomics, cultural resources, transportation and infrastructure, vegetation and climate, air quality, and hydrology.

3.1 Demographics

Spokane County reported an increase in total population from 361,364 in 1990 to 480,000 in 2013. Table 3-1 outlines Spokane County population numbers by jurisdiction.

TABLE 3-1
2013 SPOKANE COUNTY POPULATION BY JURISDICTION

Place	Population as of April 1, 2013
Airway Heights	7,935
Cheney	11,070
Deer Park	3,800
Fairfield	615
Latah	195
Liberty Lake	8,190
Medical Lake	4,945
Millwood	1,790
Rockford	470
Spangle	280
Spokane	211,300
Spokane Valley	91,490
Waverly	107

Unincorporated	137,813
Total	**480,000**

Source: Washington State Office of Financial Management, 2013a

According to the 2011 U.S. Census Bureau's American Community Survey (ACS), the racial composition of Spokane County is predominantly white, at about 90.3 percent. The Hispanic population represents the largest minority population at 4.7 percent of the County total. Figure 3.1 shows the racial distribution in Spokane County (U.S. Census Bureau 2012b).

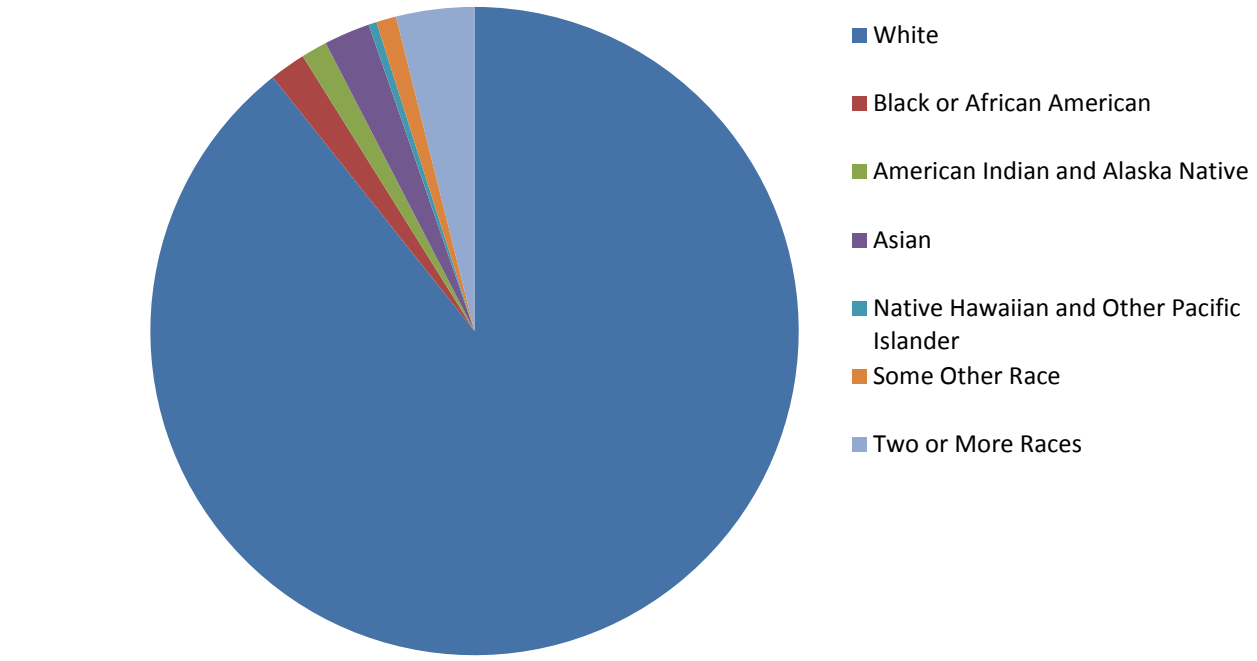

Figure 3.1. Planning Area Race Distribution

3.2 Socioeconomics

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of its projects on minority or low-income populations.

Based on the U.S. Census Bureau's ACS estimates, per capita income in Spokane County for 2007-2011 was $25,752 in Spokane County and $30,481 in Washington State. The median household income was $49,257 in Spokane County and $58,890 in Washington State. It is estimated that about 15.0 percent of the population lives below the poverty level (U.S. Census Bureau 2012a, 2012b).

Approximately 77 percent of Spokane County's employed persons are private wage and salary workers, while around 16 percent are government workers.

Spokane County is the economic hub of the area known as the Inland Northwest. Medical services are the largest economic sector in the County. It also has strong and diversified manufacturing, wholesale trade, and finance sectors. Other functions include a large agricultural

community and a strong retail trade and services sector. The City of Spokane is the retail trade and services hub and a regional center for arts and entertainment.

Spokane County is also the home of Fairchild Air Force Base, the home of a refueling tanker unit, located in the western part of the County. U.S. Census data for 2011 show that Spokane County's economy is strongly based in education, health care, and social assistance, with 26.8 percent of employees, followed by retail trade at 12.8 percent and Retail Trade at 11 percent. Figure 3.2 shows the breakdown of industry types in Spokane County (U.S. Census, 2012b)

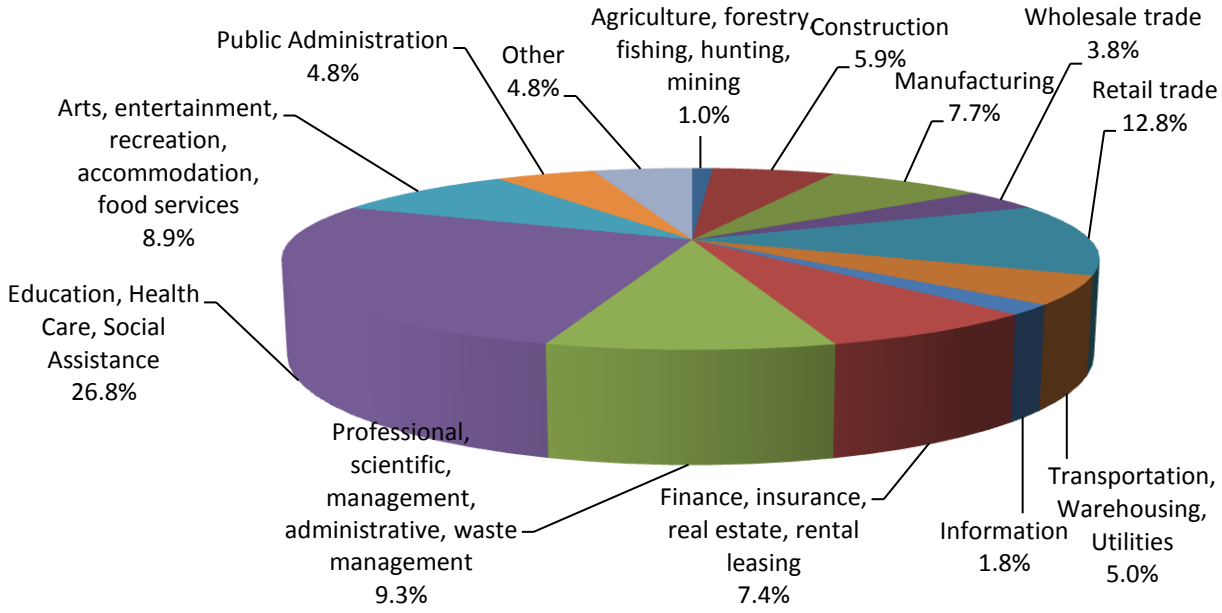

Figure 3.2. Industry Distribution in Spokane County by Number Employed, 3rd Quarter 2010

3.3 Cultural Resources

Mitigation activities in and around cultural sites have the potential to affect historic places. In all cases, the mitigation work will be intended to reduce the potential of damaging the site. Areas where ground disturbance will occur will need to be inventoried depending on the location. Ground-disturbing actions may include, but are not limited to, constructed fire lines (hand line, mechanical line, etc.), new roads to creeks to fill water tankers, and mechanical treatments. Traditional Cultural Properties (TCP) will also need to be identified. Potential impact to TCPs will depend on what values make the property important and will be assessed on an individual basis.

3.3.1 National Register of Historic Places

The National Park Service maintains the National Register of Historical Places as a repository of information on significant cultural locale. These may be buildings, roads, or trails; places where historical events took place; or other noteworthy sites. As of 2012, there are 134 sites in various locations throughout the planning region. In addition, there are also other cultural resources in Spokane County that are not currently listed on the National Register of Historic Places, such as the Spokane House Interpretive Center and the Indian Painted Rocks, both in the Nine Mile area.

3.4 Transportation and Infrastructure

The transportation system within the County is comprised of a significant number of roads, several airports, a rail line, and an extensive trail system. Access is an important component in hazard mitigation planning.

Interstate 90 runs through the heart of Spokane County traveling through the major population and economic hubs of Spokane and Spokane Valley. Additionally, U.S. Highways 2, 195, and 395 and State Highways 27, 278, 290, 291, 902, and 904 provide paved linkages to many of the more rural communities throughout the County. There are also numerous County- and city-maintained routes accessing much of the unincorporated areas of the County. These routes are generally paved as well.

Primary and secondary access routes were identified by committee members and amended by the public during meetings. These routes identify the primary access routes into and out of the County that are relied on during emergencies. As such, they often receive prioritized treatment when allocating resources for hazard abatement. There are approximately 123 miles of interstate highway and 239 miles of state highways in Spokane County.

The Spokane International Airport is located between Highway 2 and I-90 just west of the City of Spokane. The Spokane Airport supports 10 passenger carrier airlines as well as four air cargo carriers. There are also numerous municipal airports serving many of the smaller communities in rural Spokane County.

Burlington Northern Santa Fe and Union Pacific maintain several active railroad lines in Spokane County. These lines form a hub in Spokane with tracks running north along Highway 395, east towards Coeur d'Alene, Idaho, south along Highway 27, and southwest paralleling Highway 395. Amtrak also offers passenger services on their Chicago, St. Paul, Portland/Seattle route.

3.4.1 Communication Sites

A list of names and locations of communication sites throughout Spokane and neighboring counties is available in the Spokane County Field Operations Guide.

3.5 Vegetation and Climate

Vegetation cover types identified in Spokane County were determined with Landscape Fire and Resource Management Planning Tools Project (LANDFIRE) data developed by the U.S. Forest Service, Rocky Mountain Research Station, U.S. Geological Survey (USGS) EROS, and other participants. Vegetation is mapped using predictive landscape models based on extensive field reference data, satellite imagery, biophysical gradient layers, and classification and regression analysis.

LANDFIRE Existing Vegetation Cover data used in this section were developed by the LANDFIRE Project for regional representation. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only (USDI 2010).

The most represented vegetation types are western cool temperature wheat and perennial grassland. Table 3.2 lists the existing vegetation types in Spokane County.

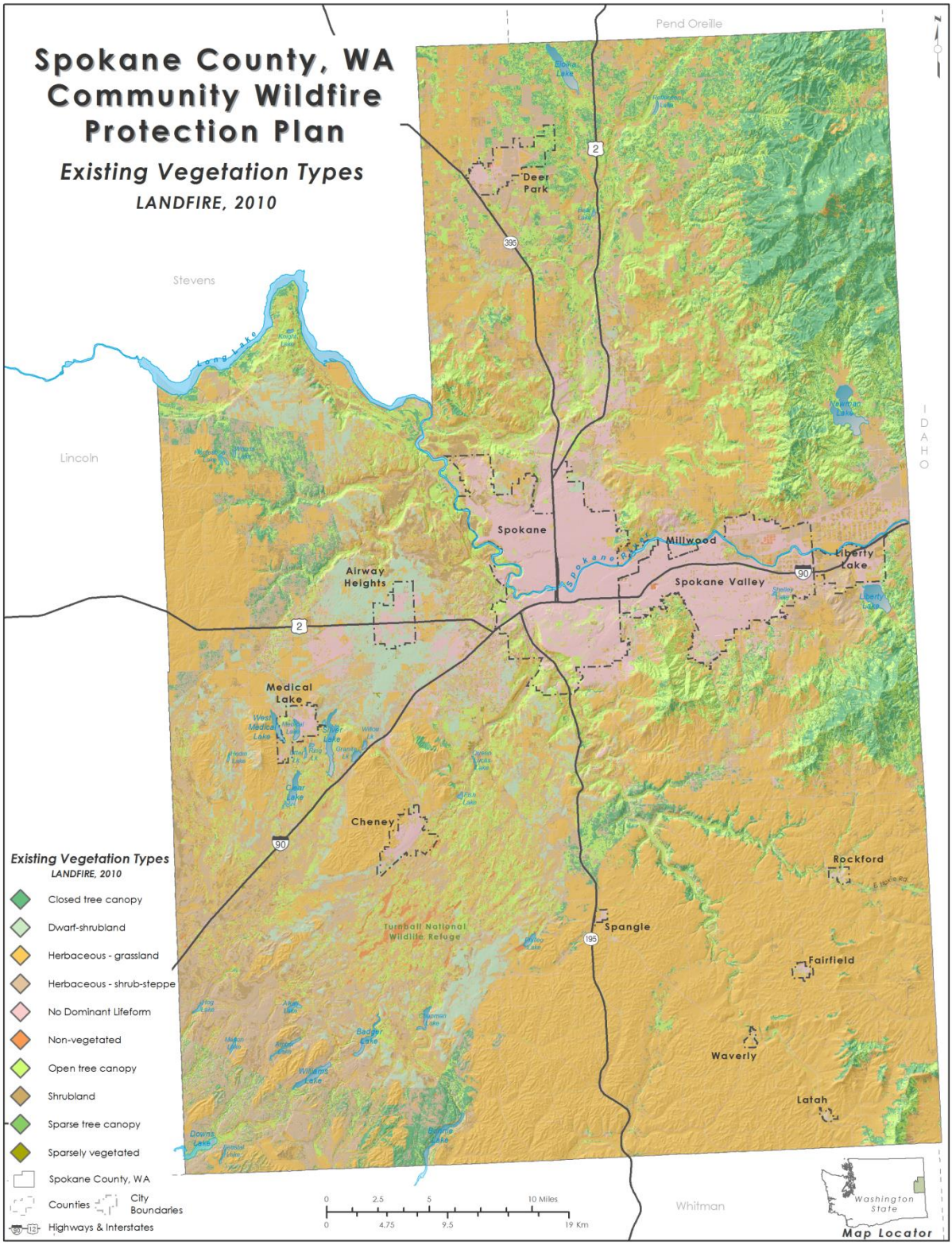
Spokane County, WA
Community Wildfire
Protection Plan
Existing Vegetation Types
LANDFIRE, 2010
Pend Oreille
Stevens
Lincoln
IDAHO
Whitman
Deer Park
Spokane
Millwood
Liberty Lake
Spokane Valley
Airway Heights
Medical Lake
Cheney
Spangle
Rockford
Fairfield
Waverly
Latah
Turnbull National Wildlife Refuge
Long Lake
Spokane R.
Existing Vegetation Types
LANDFIRE, 2010
Closed tree canopy
Dwarf-shrubland
Herbaceous - grassland
Herbaceous - shrub-steppe
No Dominant Lifeform
Non-vegetated
Open tree canopy
Shrubland
Sparse tree canopy
Sparsely vegetated
Spokane County, WA
Counties
City Boundaries
Highways & Interstates
0 2.5 5 10 Miles
0 4.75 9.5 19 Km
Washington State
Map Locator

Table 3.2. Existing Vegetation Types in Spokane County (LANDFIRE 2010)

Vegetation Type	Acres	Percent
Western Cool Temperate Wheat	180,358	15.83%
Introduced Upland Vegetation-Perennial Grassland and Forbland	91,076	7.99%
Dry-mesic Montane Douglas-fir Forest	83,661	7.34%
Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	78,334	6.88%
Inter-Mountain Basins Big Sagebrush Steppe	57,529	5.05%
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	54,733	4.80%
Columbia Plateau Scabland Shrubland	51,802	4.55%
Roads	51,641	4.53%
Western Cool Temperate Row Crop	46,474	4.08%
Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	42,631	3.74%
Low Intensity Urban	33,445	2.94%
Western Cool Temperate Fallow/Idle Cropland	32,621	2.86%
Western Cool Temperate Pasture and Hayland	29,410	2.58%
Northern Rocky Mountain Lower Montane-Foothill-Valley Grassland	26,557	2.33%
Columbia Plateau Low Sagebrush Steppe	24,258	2.13%
Western Cool Temperate Developed Ruderal Grassland	23,537	2.07%
Inter-Mountain Basins Montane Sagebrush Steppe	22,959	2.02%
Mesic Montane Douglas-fir Forest	19,532	1.71%
Inter-Mountain Basins Big Sagebrush Shrubland	17,554	1.54%
Western Cool Temperate Close Grown Crop	16,968	1.49%
Western Cool Temperate Developed Ruderal Shrubland	16,091	1.41%
Artemisia tridentata ssp. vaseyana Shrubland Alliance	15,954	1.40%
Medium Intensity Urban	15,321	1.34%
Water	13,984	1.23%
Inter-Mountain Basins Montane Riparian Systems	13,413	1.18%
Rocky Mountain Montane Riparian Systems	11,837	1.04%
Introduced Upland Vegetation-Annual Grassland	9,098	0.80%
Western Cool Temperate Urban Herbaceous	9,006	0.79%
Columbia Plateau Steppe and Grassland	9,004	0.79%
Western Cool Temperate Urban Shrubland	8,032	0.71%
Rocky Mountain Subalpine-Montane Mesic Meadow	7,262	0.64%
Western Cool Temperate Urban Evergreen Forest	3,818	0.34%
Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland	3,597	0.32%
High Intensity Urban	3,567	0.31%
Western Cool Temperate Urban Deciduous Forest	2,596	0.23%
Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	1,529	0.13%
Inter-Mountain Basins Sparsely Vegetated Systems	1,503	0.13%
Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	1,454	0.13%
Great Basin Xeric Mixed Sagebrush Shrubland	1,396	0.12%
Rocky Mountain Subalpine/Upper Montane Riparian Systems	1,109	0.10%
Western Cool Temperate Developed Ruderal Evergreen Forest	1,082	0.10%
Western Cool Temperate Urban Mixed Forest	1,037	0.09%
Western Cool Temperate Undeveloped Ruderal Shrubland	577	0.05%
Western Cool Temperate Undeveloped Ruderal Grassland	572	0.05%

Table 3.2. Existing Vegetation Types in Spokane County (LANDFIRE 2010)

Vegetation Type	Acres	Percent
Rocky Mountain Aspen Forest and Woodland	178	0.02%
Barren	178	0.02%
Western Cool Temperate Orchard	164	0.01%
Northern Rocky Mountain Subalpine-Upper Montane Grassland	132	0.01%
Northern Rocky Mountain Subalpine Deciduous Shrubland	113	0.01%
Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	106	0.01%
Columbia Basin Palouse Prairie	76	0.01%
Columbia Basin Foothill and Canyon Dry Grassland	72	0.01%
Xeric Montane Douglas-fir Forest	62	0.01%
Other Vegetation Type Categories	*203*	*0.02%*
Total	**1,139,201**	**100%**

3.5.1 Monthly Climate Summaries in Spokane County

Period of Record: 1961-1990

Table 3.3. Monthly Climate for Spokane County, Washington

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.2	40.6	47.7	57	65.8	74.7	83.1	82.5	72.	58.6	41.4	33.8	57.5
Average Min. Temperature (F)	20.8	25.9	29.6	34.7	41.9	49.2	54.4	54.3	45.8	36.	28.8	21.7	36.9
Normal Precipitation (in.)	1.98	1.49	1.49	1.18	1.41	1.26	.67	.72	.73	.99	2.15	2.42	16.49

Percent of possible observations for period of record: Max. Temp.: 87.5%, Min. Temp.: 87.9%, Precipitation: (Source: http://www.wrcc.dri.edu/summary/lcd.html)

3.6 Air Quality

The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (U.S. Department of Agriculture [USDA] Forest Service 2000).

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, the Office for Air Quality Planning and Standards (OAQPS) is responsible for setting standards (NAAQS) for pollutants that are considered harmful to people and the environment. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in northeast Washington are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. Air quality in the area is generally moderate to good. However, locally

adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions that trap smoke and affect dispersion, causing local air quality problems. This occurs most often during the summer and fall months and would potentially affect all communities in Spokane County. Wintertime inversions are less frequent, but are more apt to trap smoke from heating, winter silvicultural burning, and pollution from other sources. Air quality standards set for Spokane County are summarized below.

3.6.1 Spokane Regional Clean Air Agency

The Spokane Regional Clean Air Agency (SRCAA) administers federal, state, and local air pollution regulations throughout Spokane County. Spokane County comprises a network of eight air quality monitoring stations that track fine particulate matter (PM2.5). To better assess air quality in outlying areas of the County, three new locations were added to the network since completion of the 2009 CWPP: Airway Heights, Deer Park, and Spokane Valley. Two other types of monitoring stations are located within the County that do not track particulate matter, which is the determining factor for issuing burn bans. The air monitoring information obtained helps predict daily air quality conditions and significant events (e.g. air stagnations), call burn bans, measure and report air quality in our communities, and operate a "Clean Air Network" to notify businesses and individual subscribers via email of air quality changes and clean air actions. Most recently, the Deer Park PM2.5 monitoring station was shut down in 2012, and a new station was established in Colbert using the monitoring equipment from Deer Park.

The vast majority of air pollution comes from individual behaviors, which is why SRCAA provides a host of education and outreach programs. Public awareness of air pollution problems and solutions are key to achieving long-term behavior change that will result in clean, healthful air. They partner in educational programs and incentives to encourage people to make cleaner choices whenever feasible.

SRCAA also conducts facility inspections and compliance assistance for approximately 650 commercial and industrial operations in the area. This includes issuing federally required permits and providing technical workshops and other resource materials.

SRCAA's designated No Burn Areas for residential burning is evaluated at least every 3 years pursuant to WAC 173-425-040(5) to determine if it should be expanded. In addition, residential burning is prohibited in all urban growth areas (UGA) and former non-attainment areas per SRCAA Regulation I, Article VI, Section 6.01 and WAC 173-425-040(2). For abating fire hazards created by the accumulation of silvicultural debris inside an UGA, the fire district may enter into a Fire Hazard Abatement Burning Agreement with the Clean Air Agency.

3.6.2 Washington State Smoke Management Plan

Washington DNR, Department of Ecology (DOE), U.S. Forest Service (USDA), National Park Service (NPS), Bureau of Land Management (BLM), U.S Fish and Wildlife Service, participating Indian nations, military installations (Department of Defense [DOD]), and small and large forest landowners have worked together to deal with the effect of outdoor burning on air.

Protection of public health and preservation of the natural attractions of the state are high priorities and can be accomplished along with a limited, but necessary, outdoor burning program. Public health, public safety, and forest health can all be served through the application of the provisions of Washington State law and this plan, and with the willingness of those who do outdoor burning on forestlands to further reduce the negative effects of their burning.

The Washington State Smoke Management Plan pertains to DNR-regulated silvicultural outdoor burning only and does not include agricultural outdoor burning or outdoor burning that occurs on improved property. Although the portion of total outdoor burning covered by this plan is less than 10 percent of the total air pollution in Washington, it remains a significant and visible source.

The purpose of the Washington State Smoke Management Plan is to coordinate and facilitate the statewide regulation of prescribed outdoor burning on lands protected by the DNR and on unimproved, federally-managed forestlands and participating tribal lands. The plan is designed to meet the requirements of the Washington Clean Air Act.

The plan provides regulatory direction, operating procedures, and advisory information regarding the management of smoke and fuels on the forestlands of Washington State. It applies to all persons, landowners, companies, state and federal land management agencies, and others who do outdoor burning in Washington State on lands where the DNR provides fire protection, or where such burning occurs on federally-managed, unimproved forestlands and tribal lands of participating Indian nations in the state.

The plan does not apply to agricultural outdoor burning and open burning as defined by Washington Administrative Code (WAC) 173-425-030 (1) and (2), nor to burning done "by rule" under WAC 332-24 or on non-forested wildlands (e.g., range lands). All future reference to burning in this plan will refer only to silvicultural burning unless otherwise indicated.

3.7 Hydrology

The Washington Department of Ecology (WDOE) and Water Resources Program is charged with the development of the Washington State Water Plan. Included in the State Water Plan are the statewide water policy plan and component basin and water body plans that cover specific geographic areas of the state (WDOE 2005). WDOE has prepared general lithologies of the major ground water flow systems in Washington.

The state may assign or designate beneficial uses for particular Washington water bodies to support. These beneficial uses are identified in section WAC 173-201A-200 of the Washington Surface Water Quality Standards (WQS). These uses include:

- **Aquatic Life Uses:** char; salmonid and trout spawning, rearing, and migration; non-anadromous interior redband trout, and indigenous warm water species
- **Recreational Uses:** primary (swimming) and secondary (boating) contact recreation
- **Water Supply Uses:** domestic, agricultural, and industrial; and stock watering

While there may be competing beneficial uses in streams, federal law requires protection of the most sensitive of these beneficial uses.

The geology and soils of this region lead to rapid to moderate moisture infiltration. Slopes are moderate to steep, however, headwater characteristics of the watersheds lead to a high degree of infiltration as opposed to a propensity for overland flow. Thus sediment delivery efficiency of first and third order streams is fairly low. The bedrock is typically well fractured and moderately soft. This fracturing allows excessive soil moisture to infiltrate into the rock and thus surface runoff is rare. Natural mass stability hazards associated with slides are low. Natural sediment yields are low for these watersheds. However, disrupted vegetation patterns from logging (soil compaction), farming, road construction, and wildland fire (especially hot fires that increase soil hydrophobic characteristics) can lead to increased surface runoff and debris flow to stream channels.

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30 percent. The greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

Of critical importance to Spokane County will be the maintenance of the domestic watershed supplies in the Lower Spokane Watershed (WRIA 54), Little Spokane Watershed (WRIA 55), Hangman Watershed (WRIA 56), and the Middle Spokane Watershed (WRIA 57).

Timberlands in the region have been extensively harvested for the past several decades, therefore altering riparian function by removing streamside shade and changing historic sediment deposition. Farming, ranching, and residential areas have altered riparian function and channel characteristics as well. The current conditions of wetlands and floodplains are variable.

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Chapter 4

4 Risk and Preparedness Assessments

This section describes wildland fire characteristics, wildfire ignition and extent profile, wildfire hazard analysis, Spokane County's wildfire-urban interface, Spokane County communities at risk, strategic planning areas, fire department information, wildland fire districts, Spokane County fire protection issues, and current wildfire mitigation activities in Spokane County.

4.1 Wildland Fire Characteristics

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. Human intervention is powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. Because it is not possible to alter these conditions, it is also impossible to alter fire behavior through their manipulation. To attempt to alter the ways in which fires burn, the only option is to manipulate the third component of the fire environment: fuels that support the fire. Altering fuel loading and fuel continuity across the landscape is the best opportunity to determine how fires burn.

This section includes a brief description of each of the fire environment elements to illustrate their effect on fire behavior.

4.1.1 Weather

Weather conditions contribute significantly to determining fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant effect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

4.1.2 Topography

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant role in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore,

we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

4.1.3 Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity, and arrangement all have an effect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber.

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potentially development of crown fire (fire carried from tree crown to tree crown). The graphic to the right is an example of a crown fire crossing a private lane, where no escape route for emergency personnel or homeowners exists (Dennison Chattaroy CWPP 2006: http://www.dnr.wa.gov/Publications/rp_burn_cwppdenisonchattaroy.pdf). That is, they release much more energy. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, that determine how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected affect small changes in any single component has on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, some of the principles that govern fire behavior have been identified and are recognized.

4.2 Wildfire Ignition and Extent Profile

The severity of a fire season can usually be determined in the spring by how much precipitation is received, which in turn, determines how much fine fuel growth there is and how long it takes this growth to cure out. These factors, combined with annual wind events in late summer, drastically increase the chance a fire start will grow and resist suppression activities. Furthermore, harvest is also occurring at this time. Occasionally, harvesting equipment causes an ignition that can spread into populated areas and timberlands.

Fire was once an integral function of the majority of ecosystems in eastern Washington. The seasonal cycling of fire across the landscape was as regular as the July, August, and September lightning storms plying across the mountains. Depending on the plant community composition, structural configuration, and buildup of plant biomass, fire resulted from ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition (Johnson 1998). The fires burned from 1 to 47 years apart, with most at 5- to 20-year intervals (Barrett 1979). With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age (Johnson, et al. 1994). Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels. Fire history data (from fire scars and charcoal deposits) suggest fire has played an important role in shaping the vegetation in the Columbia Basin for thousands of years (Steele, et al. 1986; Agee 1993).

Detailed records of fire ignitions and extents have been compiled by the Washington DNR. Using the data on past fire extents and ignition, the occurrence of wildland fires in the region of Spokane County has been evaluated.

The Washington DNR database used in this analysis includes ignition and extent data from 2008 through June 2013 for wildfires occurring on DNR-protected lands. An analysis of the DNR-reported wildfire ignitions in Spokane County reveals that during this period approximately 2,073 acres burned as a result of 492 wildfire ignitions. The Miscellaneous ignition source category resulted in the most number of ignitions, but the recreation category resulted in the most acres burned for the period analyzed. Comparatively, the children and lightning categories contributed to a significant amount of ignitions but account for a fairly low percentage of the total acres burned. An average of approximately 98 fires per year was recorded during this period.

Table 4.1. Summary of Ignitions in Spokane County from Washington DNR Database 2008-June 2013

Cause	Acres Burned	Percent	Number of Ignitions	Percent
Arson	18.7	0.9%	34	6.9%
Children	36.2	1.7%	68	13.8%
Debris Burning	143.4	6.9%	60	12.2%
Lightning	33.7	1.6%	79	16.1%
Logging	0.6	0.02%	2	0.4%
Miscellaneous	766.4	37%	173	35.2%
Railroad	0.7	0.03%	3	0.6%
Recreation	1,048	50.6%	60	12.2%
Smoking	25.2	1.2%	13	2.6%
Total	**2,073**	**100%**	**492**	**100%**

The “Miscellaneous” category includes ignitions originating from burning material from aircraft, electric fence, hot ashes, power lines, spontaneous combustion (other than sawdust piles), use of fire (other than silvicultural burning), woodcutting, and an “other” category.

Figure 4.1. Number of Ignitions in Spokane County as Recorded by Washington DNR 2008 - June 2013

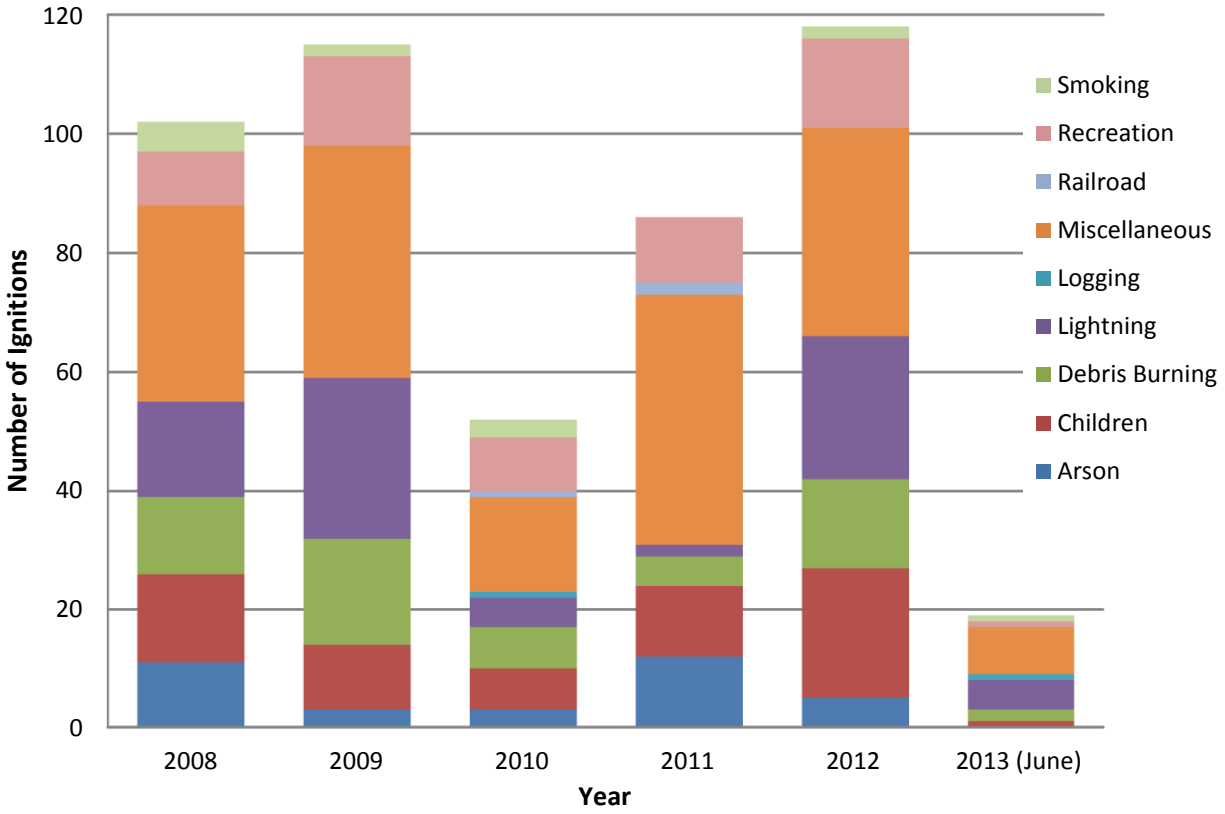
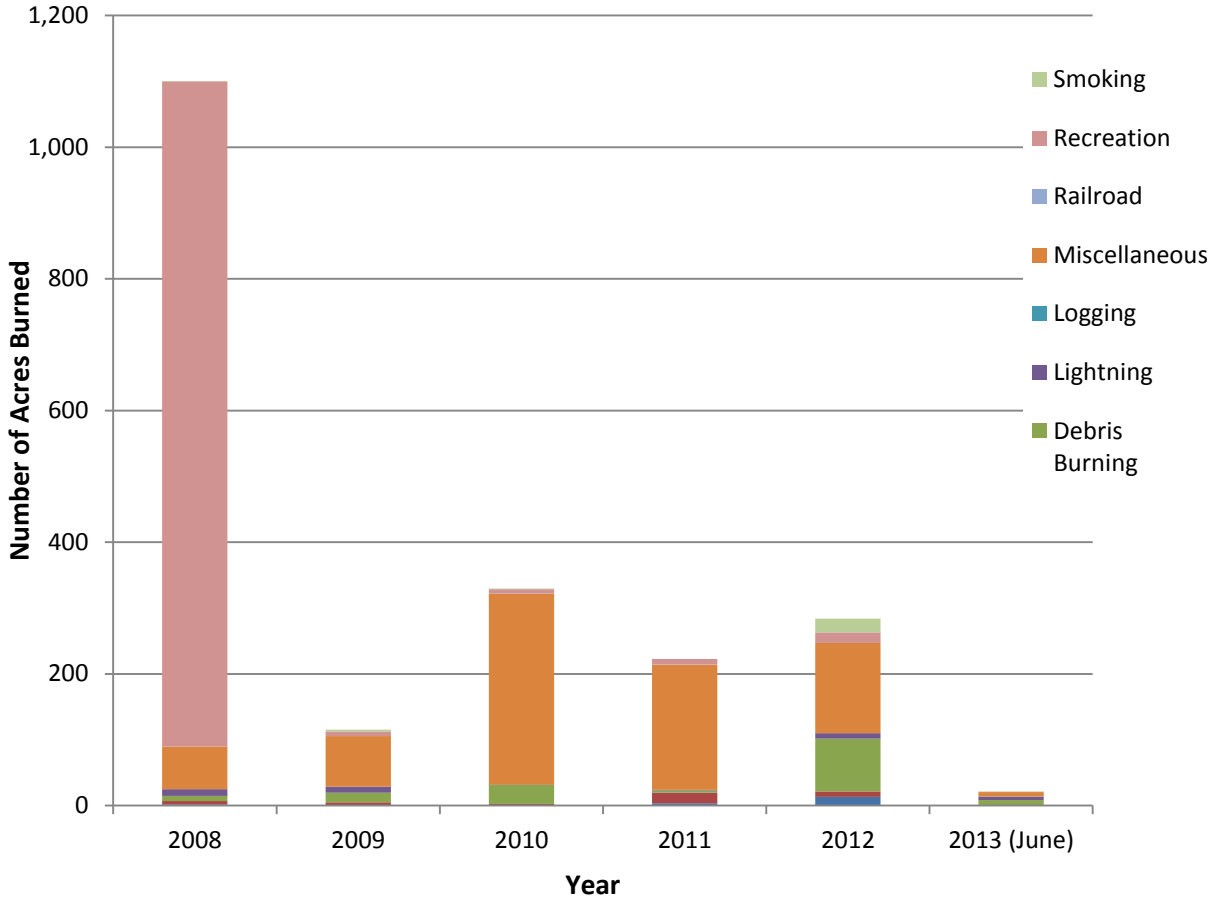


Figure 4.2. Acres Burned in Spokane County as Recorded by the Washington DNR 2008 - June 2013



In 1991, several small fires caused by downed power lines were fanned into a firestorm on October 16, 1991. Of all ownerships in Spokane County, it has been reported that 92 individual fires consumed 35,000 acres, caused two deaths, and resulted in $15 million in damages (Kootenai County 2001).

Across the west, wildfires have been increasing in extent and cost of control. The National Interagency Fire Center (2007) reported over 96,000 wildfires in 2006 that burned a total of 9.9 million acres and cost over $900 million in containment. Based on recent fires, local firefighting agencies and residents believe that they are at very high risk to a large wildfire occurrence. Active fuels management programs coupled with public awareness campaigns are a high priority for lessening this risk.

4.3 Wildfire Hazard Analysis

Spokane County was analyzed using GIS and overlaying various open-source data. Physical features of the County were represented by data layers including depictions of data regarding roads, streams, soils, elevation, and remotely sensed images. This information was analyzed and combined to develop an assessment of wildland fire risk in the planning region. This section discusses Spokane County's historic fire regime and vegetation condition class.

4.3.1 Historic Fire Regime

In the fire-adapted ecosystems of Washington, fire is undoubtedly the dominant process in terrestrial systems that constrain vegetation patterns, habitats, and ultimately, species composition. Land managers need to understand historical fire regimes (that is, fire frequency and fire severity prior to settlement by Euro-Americans) to be able to define ecologically appropriate goals and objectives for an area. Moreover, managers need spatially explicit knowledge of how historical fire regimes vary across the landscape.

Many ecological assessments are enhanced by the characterization of the historical range of variability. This characterization helps managers understand (1) how the driving ecosystem processes vary from site to site, (2) how these processes affected ecosystems in the past, and (3) how these processes might affect the ecosystems of today and the future. Obviously, historical fire regimes are a critical component for characterizing the historical range of variability in the fire-adapted ecosystems of Washington. Furthermore, understanding ecosystem departures provides the necessary context for managing sustainable ecosystems. Land managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components. For example, the departure from historical fire regimes may serve as a useful proxy for the potential of severe fire effects from an ecological perspective.

Fire is the dominant disturbance process that manipulates vegetation patterns in Washington. The historic fire regime (HFR) data were prepared to supplement other data necessary to assess integrated risks and opportunities at regional and subregional scales. The HFR theme was derived specifically to estimate an index of the relative change of a disturbance process, and the subsequent patterns of vegetation composition and structure.

4.3.1.1 Historic Fire Function

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). The historic fire regimes data represents an integration of the spatial fire regime characteristics of frequency and severity simulated using a vegetation and disturbance dynamics model. These groups are intended to characterize the presumed historical fire regimes within landscapes based on interactions between vegetation dynamics, fire spread, fire effects, and spatial context. The five regime groups are described as follows:

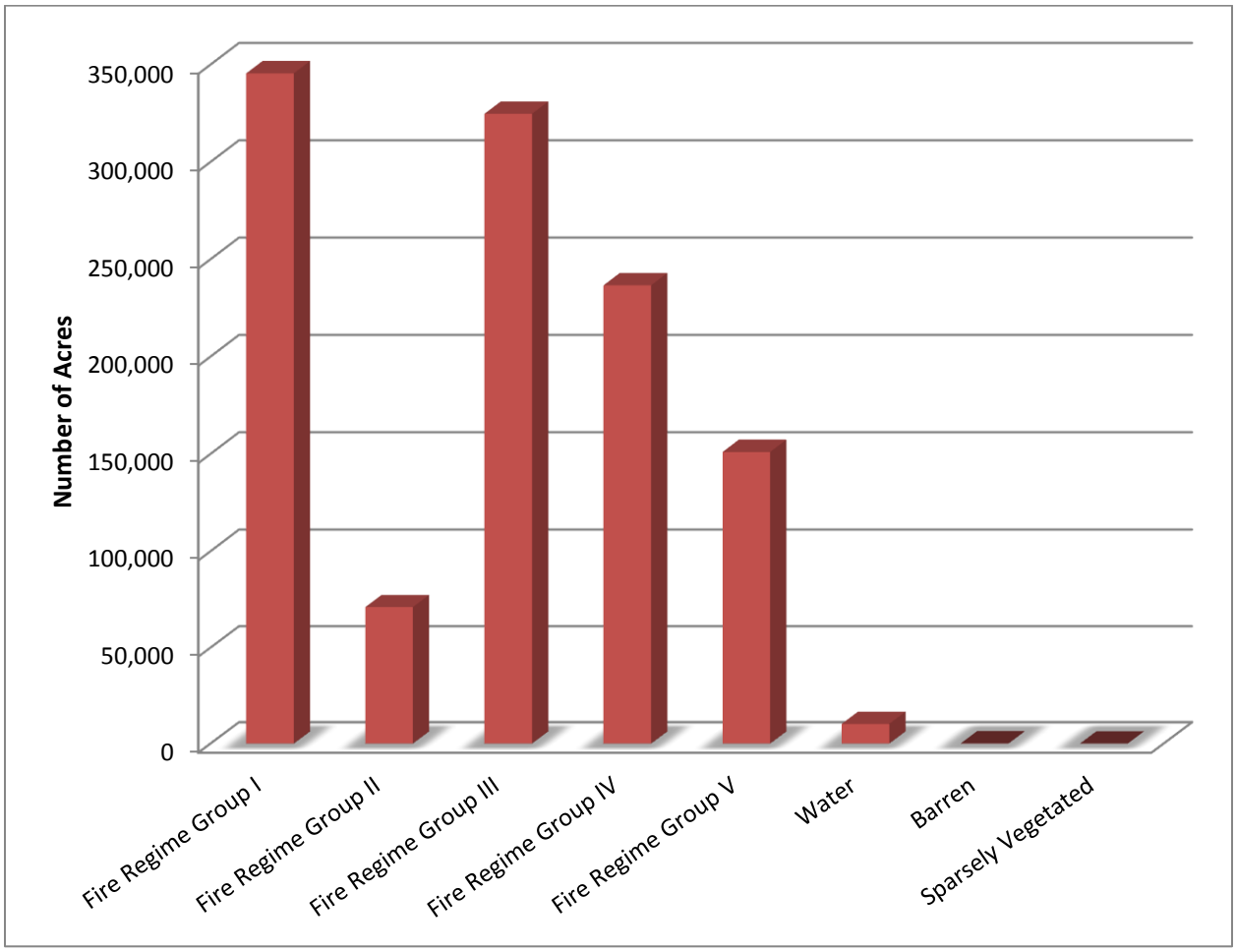
- Fire Regime Group I – 0-35 year frequency and low (surface fires most common) to mixed severity (less than 75 percent of the dominant over story vegetation replaced)
- Fire Regime Group II – 0-35 year frequency and high (stand replacement) severity (greater than 75 percent of the dominant over story vegetation replaced)
- Fire Regime Group III – 35-200 year frequency and low to mixed severity
- Fire Regime Group IV – 35-200 year frequency and high severity
- Fire Regime Group V – 200+ year frequency and any severity

Historic fire regime data used in this CWPP document were developed by the LANDFIRE Project for regional representation. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only (USDI 2008).

Table 4.2. Assessment of Historic Fire Regimes in Spokane County (2008)

Regime	Description	Acres	Percent
I	≤ 35 Year Return Interval, Low & Mixed Severity	345,476	30.3%
II	≤ 35 Year Return Interval, Replacement Severity	71,083	6.2%
III	35 - 200 Year Return Interval, Low & Mixed Severity	324,688	28.5%
IV	35 - 200 Year Return Interval, Replacement Severity	236,593	20.8%
V	> 200 Year Return Interval, Any Severity	150,985	13.3%
	Water	10,248	0.9%
	Barren	109	0.01%
	Sparsely Vegetated	0	0%
	Total	**1,139,182**	**100%**

Figure 4.3. Historic Fire Regimes in Spokane County (2008)



A map of the Historic Fire Regimes in Spokane County is included in Appendix A.

4.3.2 Vegetation Condition Class

The vegetation condition class quantifies the amount that current vegetation has departed from the simulated historical vegetation reference conditions. Previously called the fire regime

condition class, this classification name was changed to the vegetation condition class (VCC) to better reflect the conditions being measured. Vegetation condition class is a discrete metric that quantifies the amount that current vegetation has departed from the simulated historical vegetation reference conditions. The three condition classes describe low departure (VCC 1), moderate departure (VCC 2), and high departure (VCC 3). This departure is calculated based on changes to species composition, structural stage, and canopy closure.

The LANDFIRE Project for regional representation developed VCC data used in this report. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only.

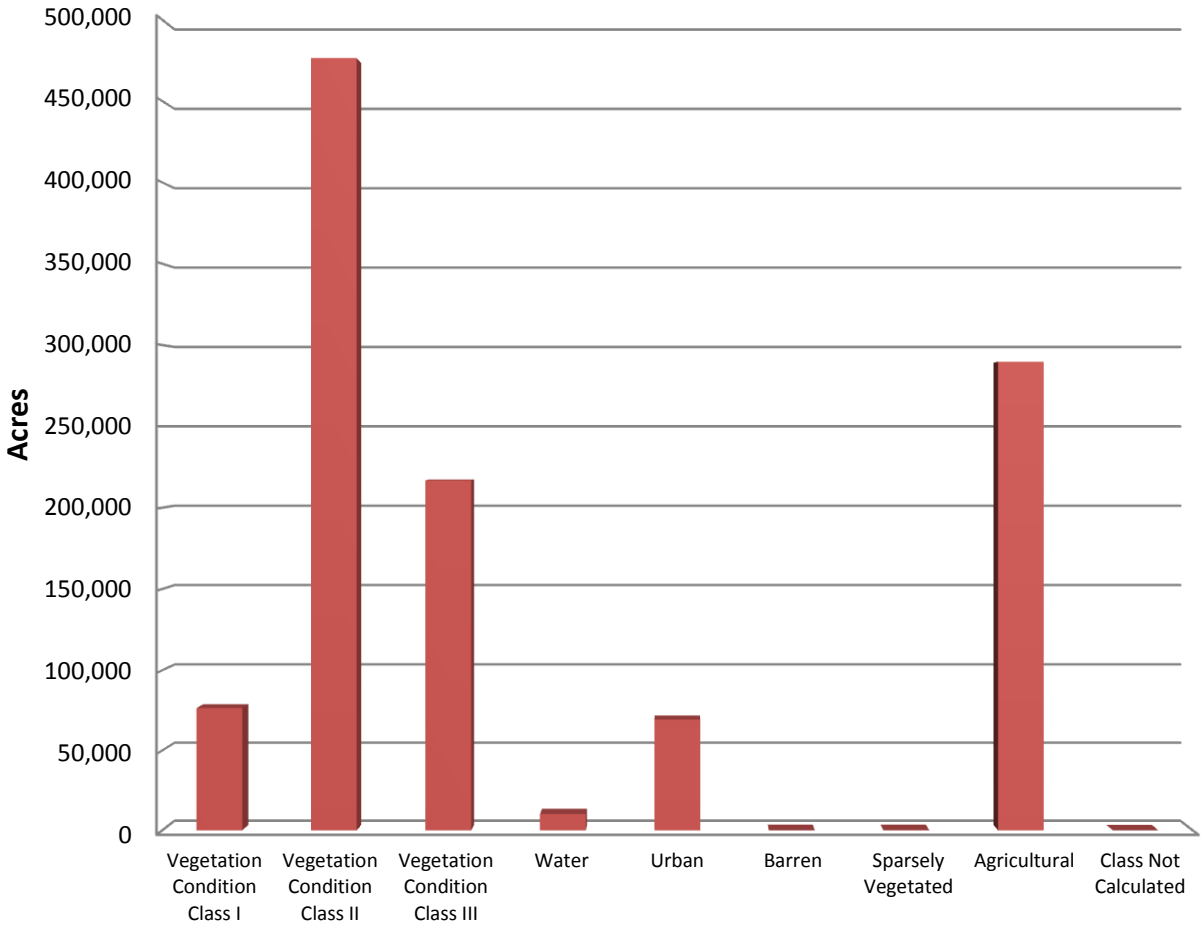
A map of the vegetation condition classes in Spokane County is included in Appendix A.

An analysis of vegetative condition classes in Spokane County shows that only about 10 percent of the County is in Condition Class 1 (low departure), approximately 33 percent is in VCC 2 (moderate departure), with 14 percent of the area in VCC 3 (Table 4.3). Water and agricultural land is considered separately because they cannot be compared to historic fire regimes.

Table 4.3. Assessment of Current Vegetation Condition Class in Spokane County (LANDFIRE, 2008)

Vegetation Condition Class	Acres	Percent of Area
Vegetation Condition Class 1	76,501	6.7%
Vegetation Condition Class 2	476,311	40.8%
Vegetation Condition Class 3	216,814	19%
Water	10,224	0.9%
Urban	69,312	6.1%
Barren	110	0.01%
Sparsely Vegetated	182	0.02%
Agricultural	289,744	25.4%
Total	**1,139,197**	**100.0%**

Figure 4.4. Vegetation Condition Class in Spokane County (LANDFIRE 2008)



The Spokane County Vegetation Condition Class Map is included in Appendix A.

4.4 Spokane County's Wildland-Urban Interface

The Wildland-Urban Interface (WUI) has gained attention through efforts targeted at wildfire mitigation; however, this analysis technique is also useful when considering other hazards because the concept looks at where people and structures are concentrated in any particular region. For Spokane County, the WUI shows the relative concentrations of structures scattered across the County.

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the WUI. The WUI refers to areas where wildland vegetation meets urban developments, or where forest fuels meet urban fuels in the case of wildfires (such as houses). These areas encompass not only the interface (areas immediately adjacent to urban development), but also the continuous slopes that lead directly to a risk to urban developments be it from wildfire, landslides, or floods. Reducing the hazard in the WUI requires the efforts of federal, state, and local agencies and private individuals (Norton 2002). The role of most federal agencies in the WUI includes wildland firefighting, hazard fuels reduction, cooperative prevention and education and technical experience. Structural fire

protection during a wildfire in the WUI is largely the responsibility of state and local governments (USFS 2001). Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures (USFS 2001). With treatment, a WUI can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a WUI that is properly thinned will be less likely to sustain a crown fire that enters or originates within it (Norton 2002).

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing defensible space, landowners would protect the WUI, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity ground or crown fires entering or leaving the area
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires as far as 1.25 miles away during periods of extreme fire weather and fire behavior (McCoy, et al. 2001).
- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire

Three wildland-urban conditions have been identified (Federal Register 66[3], January 4, 2001) for use in wildfire control efforts. These include the Interface Condition, Intermix Condition, and Occluded Condition. Descriptions of each are as follows:

- **Interface Condition** – a situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre.
- **Intermix Condition** – a situation where structures are scattered throughout a wildland area. There is no clear line of demarcation, the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres.
- **Occluded Condition** – a situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size.

In addition to these classifications detailed in the Federal Register, four additional classifications of population density have been included to augment these categories:

- **Rural Condition** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters. The condition of the WUI connects these clusters into a relatively homogenous area.
- **High Density Urban Areas** – those areas generally identified by the population density consistent with the location of larger incorporated cities; however, the boundary is not necessarily set by the location of city boundaries but by very high population densities (more than 15-30 structures per acre or more).

- **Infrastructure Area WUI** – those locations where critical and identified infrastructure are located outside of populated regions and may include high tension power line corridors, critical escape or primary access corridors, municipal watersheds, areas immediately adjacent to facilities in the wildland such as radio repeater towers or fire lookouts. These are identified by county or reservation-level core teams.
- **Non-WUI Condition** - a situation where the above definitions do not apply because of a lack of structures in an area or the absence of critical infrastructure crossing these unpopulated regions. This classification is not WUI.

Review of the designated areas by the planning team has concluded that the planning region includes the following WUI areas:

- High Density Urban Areas
- Interface Condition
- Intermix Condition
- Occluded Condition
- Rural Condition
- Infrastructure Areas
- Non-WUI Condition as present in Spokane County

Population density was determined by mapping structure locations and analyzing this information using a Kernel Density population model. Due to the large number of structures in the County, most structure locations were identified via analysis of parcel data provided by Spokane County on a Geographical Information System (GIS), which occurred as an update during the risk assessment portion of the HMP. To identify structure density, a point location was generated in the center of each parcel identified as having a building in the parcel master listing. Additional structure points were digitized by hand using NAIP aerial imagery where needed. This structure layer was then analyzed with a Kernel Density population model to develop areas of equal population density.

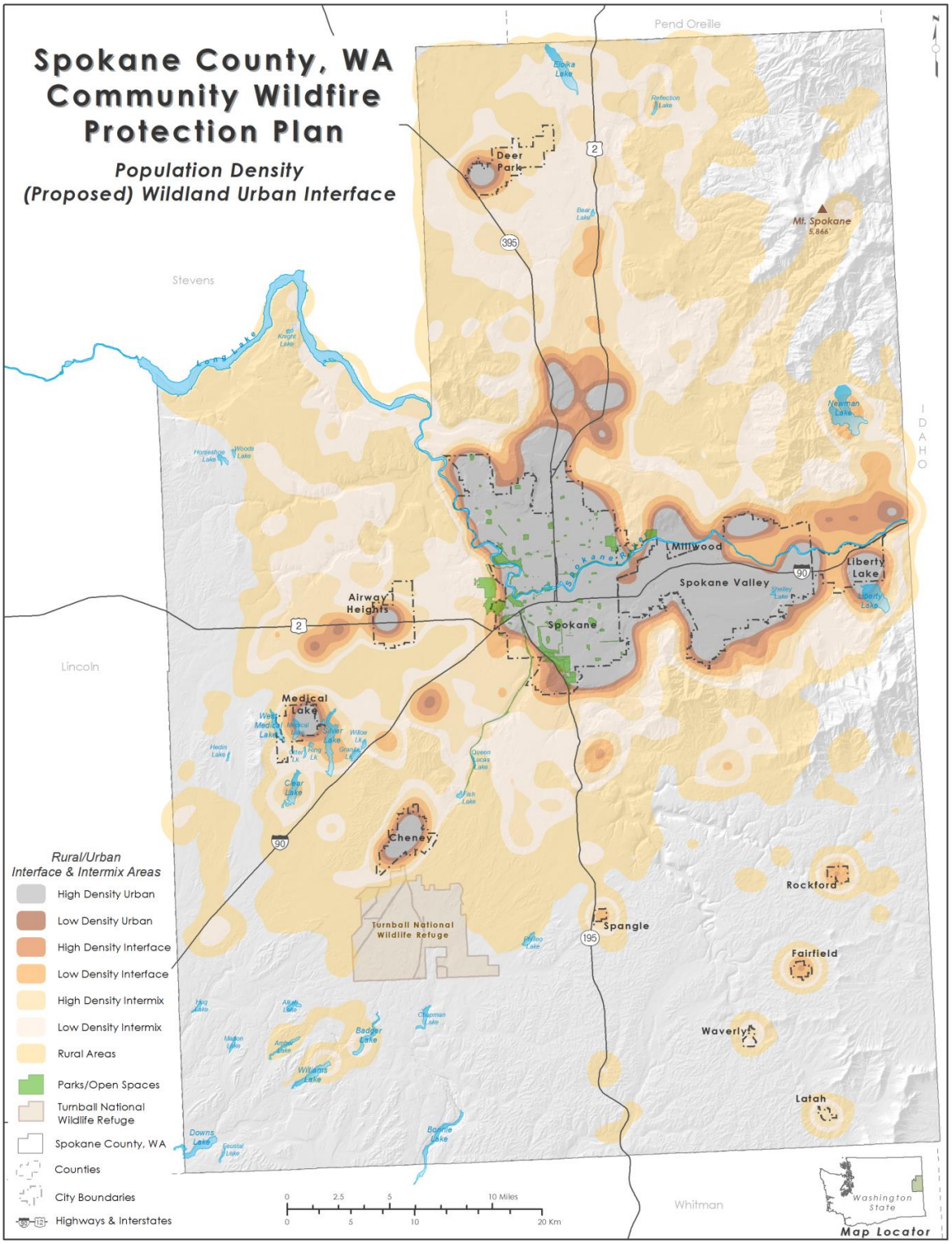
All structures are represented by a “dot” on the map. No differentiation is made between a garage and a home, or a business and a storage building. The density of structures and their specific locations in this management area are critical in defining where the potential exists for casualty loss due to wildfire.

This portion of the analysis allows us to determine where the highest concentrations of structures are located in reference to high-risk landscapes, limiting infrastructure, and other points of concern. The WUI, as defined here, is consistent and allows for edge matching with other counties and most important – it addresses the entire County, not just communities in proximity to federal land. It is a planning tool that demonstrates where homes and businesses are located and the density of those structures leading to identified WUI categories. Utilizing a similar process for future updates will allow the planning team to determine how the WUI has changed in response to increasing population densities.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the County or Reservation when a formal and adopted CWPP is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. For the 2014 update of the Spokane County CWPP, the planning team evaluated a variety of different approaches to determining the WUI for the County and selected this approach, which has been adopted for these purposes. In addition to a formal

WUI map for use with the federal agencies, it is hoped that these boundaries will also serve as a planning tool for the County and local fire districts.

Figure 4.5. Wildland Urban Interface Map in Spokane County



4.4.1 Potential WUI Treatments

The definition and mapping of the WUI is the creation of a planning tool to identify where structures, people, and infrastructure are located in reference to each other. This analysis tool does not include a component of fuels risk. There are a number of reasons to map and analyze these two components separately (population density vs. fire risk analysis). The primary among these reasons is the fact that population growth often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the WUI dependent on all ranking criteria would eliminate populated places with a perceived low level of fire risk today, which may at a later date become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately, the planner is able to evaluate these layers of information to see where the combination of population density overlays on top of areas of high current fire risk and then take actions to mitigate the risk by reducing the fuels, improving readiness, addressing factors of structure ignitability, improving initial attack success, mitigating resistance to control factors, or (more often) a combining a several different approaches that best suit the needs of the planning area.

It should not be assumed that just because an area is identified as WUI, that it will therefore receive treatments because of this identification alone. Nor should it be implicit that all WUI treatments will be the application of the same prescription. Instead, each location targeted for treatments must be evaluated on its own merits: factors of structural ignitability, access, resistance to control, population density, resources and capabilities of firefighting personnel, and other site specific factors.

It should also not be assumed that WUI designation on federal or state lands automatically equates to a treatment area. Public land management agencies are still obligated to manage according to their respective management plans. Their management plans have legal precedence over the WUI designation until such a time that they are revised to reflect updated priorities.

All planning in relation to wildfire mitigation must be taken in light of the existing regulatory and environmental laws in place. The owner of the parcel implementing the treatment will determine this. Thus, if proposed activities are to occur on federal lands, then the National Environmental Policy Act (NEPA) will determine environmental protection measures. Similarly, if the proposed action were to occur on state or private lands, the Forest Practices Act and SEPA would govern environmental impacts. We have not diminished private property rights through the development of this document. Environmental protection is inherent to all projects because of the existing regulatory environment in Washington State.

Most treatments may begin with the home evaluation, the implicit factors of structural ignitability (roofing, siding, deck materials), and vegetation within the treatment area of the structure. However, treatments in the low population areas of rural lands (mapped as yellow) may look closely at access (two ways in and out) and communications through means other than land based telephones. On the other hand, the subdivision with densely packed homes (mapped as brown – interface areas) surrounded by forests and dense underbrush, may receive more time and effort implementing fuels treatments beyond the immediate home site to reduce the probability of a crown fire entering the subdivision.

4.5 Spokane County Communities At Risk

Spokane County's fire history is a mixture of events of varying size, severity, and frequency. In the dry ponderosa pine forests dominant in the lower elevations, on south aspect slopes, and

along the Spokane River, fire regimes have changed from frequent, low-severity fires to less frequent, high severity or stand replacing fires. In the more mesic, mixed conifer forests (Douglas fir, grand fir, ponderosa and lodgepole pine, larch, cedar, hemlock) typical of the higher elevations, on north slopes, and dominating much of the northeastern portion of Spokane County, fires were historically less frequent, but much larger. Fire severity in these landscapes was varied with infrequent stand replacing fires.

Population growth rates have been steadily increasing throughout the County and the region. The growing appreciation for seclusion has led to significant development in the most accessible forestland areas, particularly along the river and around several of the lakes. Frequently, this development is in the dry ponderosa/Douglas-fir forest types where grass, needle, and brush surface litter create forest fuel conditions that are at a high propensity for fire occurrence. Human use is strongly correlated with fire frequency, with increasing numbers of fires as use increases. Discarded cigarettes, tire fires, and hot catalytic converters increase the potential for fire starts along roadways. Careless and unsupervised use of fireworks also contributes to unwanted and unexpected wildland fires. Further contributing to ignition sources are the debris burners (burn barrels) and "sport burners" who use fire to rid ditches of weeds and other burnable materials. Farming and logging equipment have also been a source of accidental ignitions. The increased potential for fire starts and the fire-prone landscapes in which homes have been constructed greatly increases the potential for fires in interface areas.

Communities in Table 4.4 with "yes" in the right-hand column have been identified in the Federal Register, Vol. 66, Number 160, Friday, August 17, 2001, as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires." All of these communities have been evaluated as part of the development of this Plan update.

Table 4.4. Spokane County Federal Register Communities At Risk

Community Name	Planning Description	Vegetative Community	Federal Register Community At Risk
Airway Heights	City	Agricultural	No
Chattaroy	Community	Forestland/Rangeland	No
Cheney	City	Agricultural/Rangeland	No
Deer Park	City	Forestland/Agricultural	No
Denison	Community	Forestland/Agricultural	No
Elk	Community	Forestland	No
Fairchild	Community	Agricultural	Yes
Fairfield	Town	Agricultural	No
Latah	Town	Agricultural	No
Liberty Lake	City	Forestland	No
Mead	Community	Agricultural/Rangeland	No
Medical Lake	City	Agricultural/Forestland	No
Mica	Community	Agricultural	No
Millwood	Town	Urban	No
Newman Lake	Community	Forestland	No
Nine Mile Falls	Community	Forestland/Rangeland	No
Opportunity	Community	Urban	No
Rockford	Town	Agricultural/Rangeland	No
Spangle	Town	Agricultural	No
Spokane	City	Urban	No
Spokane Valley	City	Urban	No
Waverly	Town	Agricultural	No

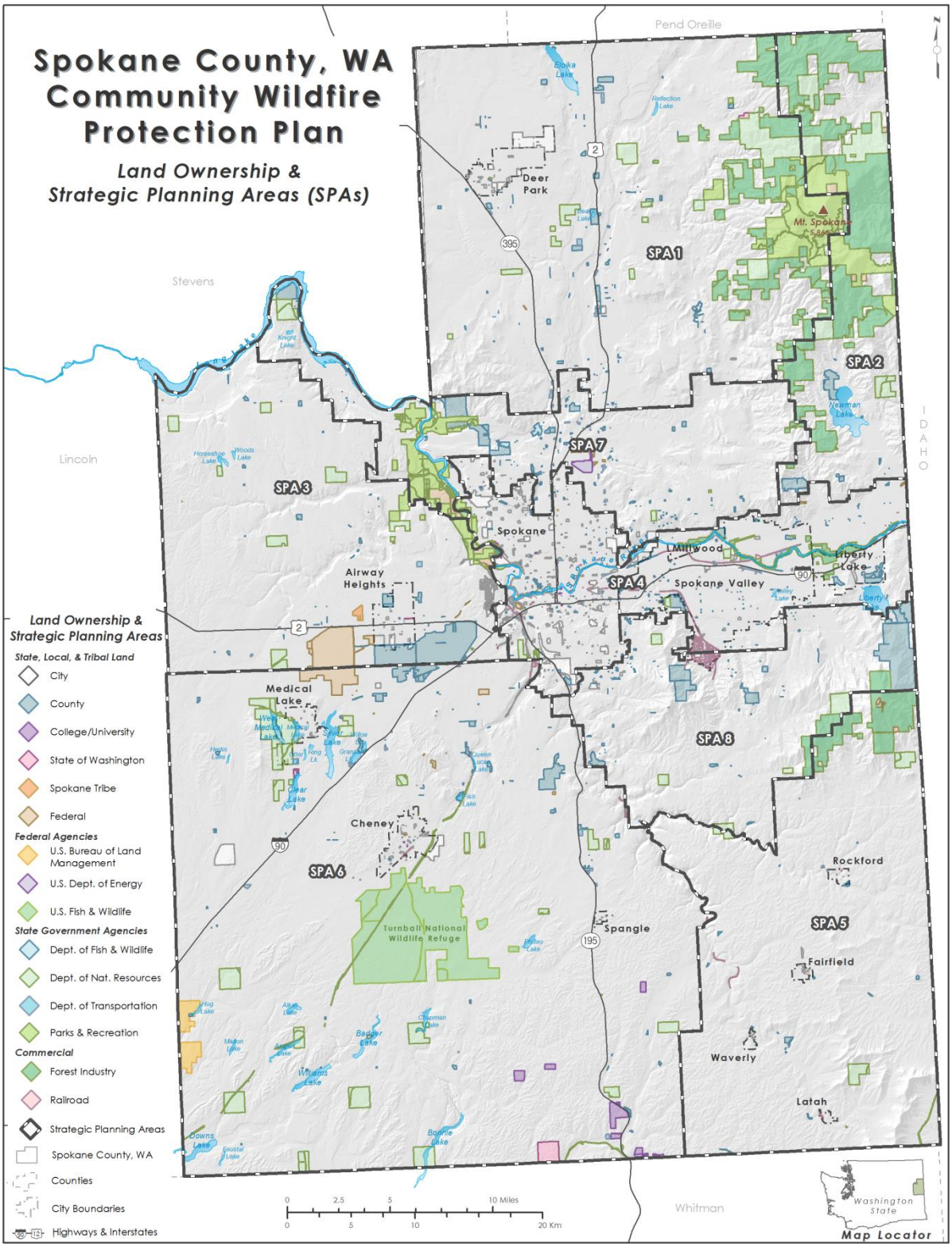
Because the WUI map for Spokane County was based primarily on population density as described above, all of these communities and the populated areas surrounding them are within the Spokane County Wildland-Urban Interface.

4.6 Strategic Planning Areas in Spokane County

In order to facilitate the mutual understanding of wildfire risks specific to commonly referred-to areas in Spokane County, the planning committee identified sub-regions on a map they felt not only had similar fuel conditions, but also would render similar initial attack techniques. These sub-regions are called strategic planning areas (SPA) shown on Figure 4.6. Typically, SPA boundaries lie along local fire district boundaries or known anchor points such as roads or ridgelines. All of the strategic planning areas lie within or mostly within the WUI and will typically include several communities at risk. Where the WUI boundaries are primarily based on population density, the SPA boundaries are strategic boundaries based on fire suppression capabilities.

This section also discusses vegetative associations, overall fuel assessment, other mitigation activities, and individual SPA risk assessments performed for Spokane County.

Figure 4.6. Strategic Planning Areas



4.6.1 Vegetative Associations

Vegetative structure and composition in Spokane County is closely related to elevation, aspect, and precipitation. Relatively mild and dry environments characterize the undulating topography of the region, which transitions from the forestland in the northern region to agricultural in the middle and eastern regions to scablands left over from the Missoula floods in the southwestern region. The higher elevation forest ecosystems in the north and northeast regions typically contain higher fuel accumulations that have the potential to burn at moderate to high intensities. The highly variable topography coupled with limited access is likely to make suppression difficult. The patchy forests occurring along the Spokane River and many of its tributaries as well as in the scabland areas are very different. These forests are much less productive due to the lack of soil. Scattered, lower density stands of primarily ponderosa pine and a minor component of Douglas fir are found in many of the sheltered drainages or where there are accumulations of loess due to topographic features. Under natural conditions, this type of forestland would burn at frequent intervals keeping brush and other ladder fuels to a minimum.

At higher elevation mountainous regions (Mount Spokane being the highest point in the area at just over 5,000 feet), moisture becomes less limiting due to a combination of higher precipitation and reduced solar radiation. Therefore, vegetative patterns shift based on the elevation of the area and create specific conditions that impact fuels and fire speed. In some instances, forested conditions possess a greater quantity of both dead and down fuels as well as live fuels. Rates of fire spread tend to be lower than those in the grasslands; however, intensities can escalate dramatically, especially under the effect of slope and wind. These conditions can lead to control problems and potentially threaten lives, structures and other valued resources.

As elevation and aspect increase available moisture, forest composition transitions to moister habitat types. Increases in moisture keep forest fuels unavailable to burn for longer periods during the summer. This increases the time between fire events, resulting in varying degrees of fuel accumulation. When these fuels do become available to burn, they typically burn in a mosaic pattern at mid elevations, where accumulations of forest fuels result in either single or group tree torching, and in some instances, short crown fire runs. At the highest elevations, fire events are typically stand replacing as years of accumulation fuel large, intense wildfires.

Insects and disease can cause widespread mortality of forest stands in a very short amount of time. Pine bark beetle populations have continued to increase at epidemic levels throughout Eastern Washington State; however, mortality increases are most pronounced in eastern Washington. Ponderosa pine and lodgepole pine seem to be the most affected species at all elevations in Spokane County. In general bark beetle are not causing widespread mortality of forest stands, but are generally causing pockets of mortality. The pine bark beetle is currently at an endemic level in Spokane County. The occurrence of *Ips Pini*, western pine beetle, Douglas-fir beetle, Douglas-fir tussock moth, and root disease have also been recorded in eastern Washington (Washington DNR 2006). All of these disease and insects are currently in Spokane County. Insects and disease often focus and cause the most mortality in forest stands that are overcrowded or otherwise stressed by drought, recent fires, or other factors. Large areas of dead trees are a significant fire hazard. Often, dry, dead needles hang on the killed trees for several years making them prime for a potential ignition and subsequent crown fire. Thinning overcrowded stands can help reduce stress on individual trees allowing them to better withstand insect attacks. Planting of appropriate species for the site and continual management can also help ward off future outbreaks.

Many lower elevation forested areas throughout Spokane County are highly valued for their scenic qualities as well as for their proximity to travel corridors and city services. These attributes have led to increased recreational home development and residential home

construction in and around forest fuel complexes. The combination of highly flammable forest types and rapid home development will continue to challenge the ability to manage wildland fires in the WUI.

4.6.2 Overall Fuels Assessment

The moderate topography and moisture availability across much of Spokane County permits extensive farming operations, particularly in the southeastern and northwestern corners. Agricultural fields infrequently serve to fuel a fire after curing; burning in much the same manner as consistent low grassy fuels. Fires in grass and rangeland fuel types tend to burn at relatively low intensities, with moderate flame lengths and only short-range spotting. Suppression resources are generally quite effective in such fuels. Homes and other improvements can be easily protected from the direct flame contact and radiant heat through adoption of precautionary measures around the structure. Although fires in these fuels may not present the same control problems as those associated with large, high intensity fires in timber fuel types, they can cause significant damage if precautionary measures have not taken place prior to a fire event. Wind driven fires in these short grass fuel types spread rapidly and can be difficult to control. During extreme drought and pushed by high winds, fires in grassland fuel types can exhibit extreme rates of spread, thwarting suppression efforts.

Much of northeast Washington is a patchwork of dry ponderosa pine and Douglas fir forests that, in many areas, have become overstocked, resulting in multistoried conditions with abundant ladder fuels. During pre-settlement times, much of the fire activity in the area consisted of low-intensity fires caused by the relatively light fuel loading, mostly consisting of small-diameter fuels. Frequent, low-intensity fires generally kept stands open; free of fire intolerant species and maintained a primarily large-diameter ponderosa pine forest with Douglas-fir being a minor component of the forest. In some areas, low-intensity fires stimulated shrubs and grasses, maintaining vigorous browse and forage. The shrub layer could either inhibit or contribute to potential fire behavior, depending on weather and live fuel moisture conditions at the time of the burn.

Increased activities by pathogens will continue to increase levels of dead and down fuel, as host trees succumb to insect attack and stand level mortality increases. Overstocked, multi-layered stands and the abundance of ladder fuels lead to horizontal and vertical fuel continuity. These conditions, combined with an arid and often windy environment, can encourage the development of a stand replacing fire. These fires can burn with very high intensities and generate large flame lengths and fire brands that can be lofted long distances. Such fires present significant control problems for suppression resources, often developing into large, destructive wildland fires.

A probability that needs to be planned for is the likelihood of extended spot fires. Large fires may easily produce spot fires from 0.5 to 2 miles away from the main fire. How fire suppression forces respond to spot fires is largely dependent upon the fuels in which they ignite. Stands of timber that are managed for fire resilience are much less likely to sustain torching and crowning behavior that produces more spot fires. The objective of fuel reduction thinning is to change the fuels in a way that will moderate potential fire behavior. If fire intensity can be moderated by vegetation treatments, ground and air firefighting resources can be much more effective.

4.6.3 Overall Mitigation Activities

There are many specific actions that will help improve the safety in a particular area; however, there are also many potential mitigation activities that apply to all residents and all fuel types.

General mitigation activities that apply to all of Spokane County are discussed below while area specific mitigation activities are discussed within the individual community assessments.

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to avoid human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional "Smokey Bear"-type campaigns that spread the message passively through signage can be quite effective. Signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can be quite effective. It's impossible to say just how effective such efforts actually are, however the low costs associated with posting of a few signs is inconsequential compared to the potential cost of fighting a fire.

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed to the reduction in human-caused ignitions by running a weekly "run blotter," similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a "tip of the week" to reduce the threat from wildland and structure fires. The federal government has been a champion of prevention, and could provide ideas for such tips. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary device. Such a campaign would require coordination and cooperation with local media outlets. However, a campaign is likely to be worth the efforts, costs, and risks associated with fighting unwanted fires.

Fire Reporting: The success of the Enhanced – 911 (E-911) emergency reporting system can be measured by the frequency that fire calls route to the County emergency centers. Some wildland firefighting agencies maintain direct Forest Fire Reporting numbers, but the bulk of fire reports go to the Communication Centers.

When a fire call comes into Spokane County E-911 Communication Center, the local fire protection districts are paged out to respond. The Communication Center staff calls the appropriate wildland agency (usually Washington DNR) and relays the fire report info along with the reporting party's phone number.

Fire Reporting Numbers:

- Spokane County - 911
- Washington DNR 1-800-562-6010

Burn Permits: Washington DNR is the prime agency issuing burn permits in forested areas of Spokane County. Washington DNR burn permits regulate silvicultural burning.

The Spokane Regional Clean Air Agency (SRCAA) is the primary agency issuing burn permits for improved property and agricultural lands. All SRCAA burn permits are subject to fire restrictions in place with Washington DNR and local fire protection districts. Washington DNR has a general burning period referred to as "Rule Burn" wherein a written burn permit is not required in low to some moderate fire dangers. However, as of this 2014 update, SRCAA is not allowing any burning on improved property, unless the Fire District agrees to take over the regulation of the burning on the improved areas outside of the UGAs. Anyone wishing to conduct a burn needs to first check with appropriate departments to determine the process in place at that time as they are changed based on current fire conditions.

The timeframes for the Rule Burn are from October 16 to June 30. Washington DNR allows for Rule Burns to be 4-foot piles of forest, yard, and garden debris. Individuals that wish to burn are required to call 1-800-323-BURN daily prior to ignition to determine if burning is allowed.

Defensible Space: Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Spokane County must be made aware that home defensibility starts with the homeowner. Once a fire has started and is moving toward a structure or other valued resource, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Spokane County should be encouraged to work with local fire departments and fire management agencies within the County to complete individual home site evaluations. Home defensibility steps should be enacted based on the results of these evaluations. Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens a community.

Evacuation Plans: Development of community evacuation plans is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. Community safety zones should also be established in the event of compromised evacuations. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Accessibility: Also of vital importance is the accessibility of the homes to emergency apparatus. If a home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event. In many cases, homes’ survivability can be greatly enhanced by following a few simple guidelines to increase accessibility such as widening or pruning driveways and creating a turnaround area for large vehicles.

Fuels Reduction: Recreational facilities should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting pre-commercial thinning, pruning, and possibly controlled burns.

Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations. The high-tension power lines crisscrossing the County are primary electrical power supplies to much of the state and region; thus, protecting this corridor should be a high priority. Ensuring that the area beneath the line has been cleared of potential high-risk fuels and making sure that the buffer between the surrounding forestlands is wide enough to adequately protect the poles as well as the lines is imperative.

Emergency Response: Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, fire protection districts are the first to respond and have the best opportunity to halt the spread of a wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of departments through funding and equipment acquisition can improve response times and subsequently reduce the potential for resource loss.

Rural Addressing: In order to ensure a quick and efficient response to an event, emergency responders need to know specifically where emergency services are needed. Continued improvement and updating of the rural addressing system and signage is necessary to maximize the effectiveness of a response.

Other Activities: Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Furthermore, building codes should be revised to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking or implementing road standards in rural areas.

4.6.4 Individual SPA Risk Assessments

This section outlines the fire potential, ingress-egress, infrastructure, fire protection, fire ignition, risk assessment, and mitigation activities for each of the eight SPAs in Spokane County.

4.6.4.1 SPA 1: Fire District #4

SPA 1 is located in the northern part of Spokane County coinciding with Fire District 4 and includes the communities of Deer Park, Chattaroy, and Elk. This area has a diverse mix of land uses including farming, ranching, forestry, and recreation. The eastern side of the planning unit is large expanses of forestland that includes Mount Spokane State Park as well as commercial forestland owned by forest industry, private individuals, and the Washington DNR. The central and western portion of the planning area is prairie land gently carved by the Little Spokane River and several of its tributaries creating a mosaic of wooded riparian areas, farmland, rangeland, woodlots, and open space. This area's proximity to the Spokane Metropolitan area in addition to good road access and favorable terrain, make it a popular area for rural home site development. Housing development is heaviest on the south end of the SPA near Mead as well as surrounding the communities of Deer Park and Chattaroy and along the Highway 2 and 395 corridors. Outside of these areas, development is widely scattered and very rural consisting mostly of individual home sites and small subdivisions surrounded by wildland fuels in secluded areas; many with one way in, one way out access.

4.6.4.1.1 Fire Potential

Fire potential in SPA 1 is moderate to high in the wooded areas and moderate to low in the farmland and semi urban areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Development is on the rise in both the forested and non-forested areas changing the continuity and condition of the vegetation. Vegetation management, land use, and landscaping differ on a parcel by parcel basis creating conditions that can both hinder and enhance a fire's rate of spread and ultimately the fire hazard potential in an area. As development continues to increase in areas with high concentrations of wildland fuels, the probability of loss by a wildfire increases. Measures taken to reduce fuel continuity and rate of spread can help minimize loss and will give emergency services an opportunity to suppress a potentially devastating wildfire.

Mount Spokane State Park is located on the east side of this planning area. The park provides winter recreation as well as seasonal camping, hiking, and biking. Camping, picnicking, hiking, and day-use facilities are developed throughout the park area adjoining wildland fuels. Due to the proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural, range, and riparian land adjacent to forestlands are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush, and agricultural crops can easily ignite. If these fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly

advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these types of fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire. Subdivisions or home sites in the path of a rapidly advancing range fire can suffer damage from radiant heat and embers. Add to this dense landscaping or heavy accumulations of litter and the potential for a destructive structural fire dramatically increases.

4.6.4.1.2 Ingress-Egress

Highway 2 and 395 are the primary ingress and egress routes traveling north and south through SPA 1. Deer Park-Milan Road, Eloika Lake Road and Elk to Highway Road provide east-west access between Highways 2 and 395, Deer Park, and Elk. Highway 206 (Mount Spokane Park Drive) is the primary access into Mount Spokane State Park and the surrounding timberlands. Ingress and egress into subdivisions near Deer Park and Chattaroy are typically well developed due to urban planning and building codes. This minimizes hazards associated with emergency access in the residential areas and provides multiple emergency escape routes. However, many rural areas are accessed via unimproved, narrow roads accessible only by small emergency vehicles. In these areas, roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turnaround areas for emergency vehicles. The inability of emergency response resources to safely access structures reduces or may even eliminate suppression capability. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide-turning radii and easily negotiable grades for large emergency equipment.

4.6.4.1.3 Infrastructure

Residents within the community of Deer Park have a municipal water system. Public fire hydrants are available to a limited extent throughout the community and within newer subdivisions. Outside this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this system is rural addressing that identifies home locations by address. Rural address numbers are displayed at the entrance of many home sites along access routes to assist in emergency response.

Remote forested areas within the planning area, in general, have logging road access enabling ingress for fire suppression equipment as well.

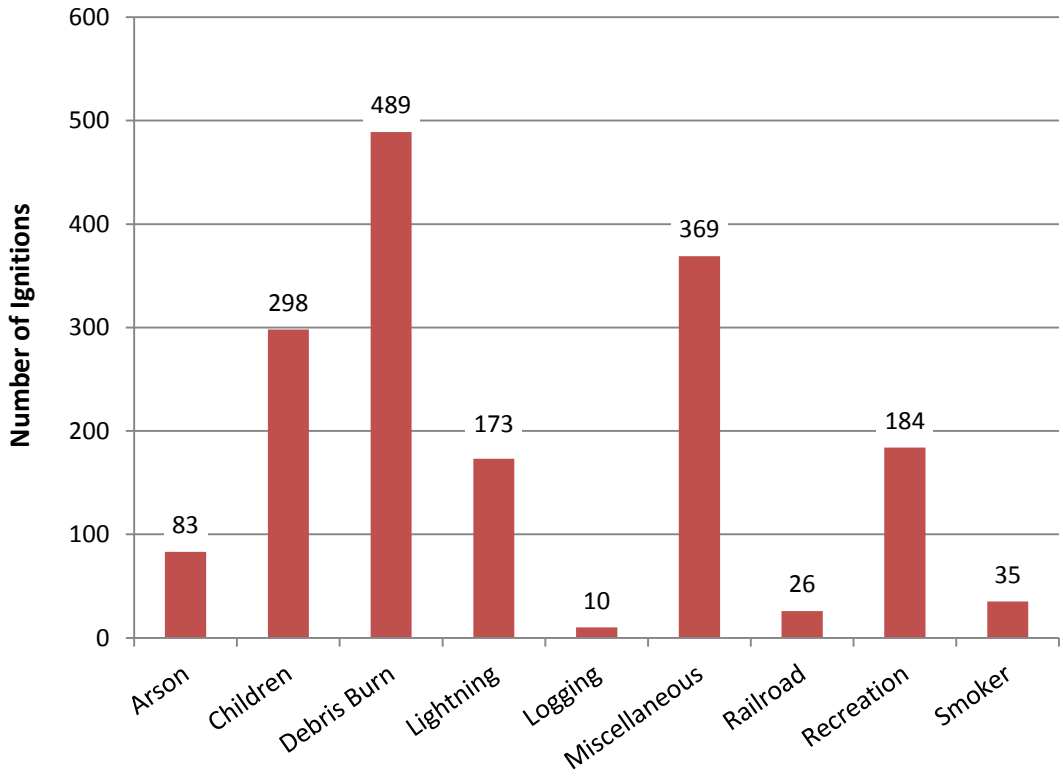
Above ground, high-voltage transmission lines cross SPA 1 from north to south in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

4.6.4.1.4 Fire Protection

Fire Protection in SPA 1 is primarily under the joint jurisdiction of Fire District 4 and the Washington DNR. Fire District 4 has nine fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR Forestland Fire Response Agreement.

4.6.4.1.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 1. Lightning accounted for only 10.4 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.1.6 Risk Assessment

Residents within SPA 1 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residence within the forest and woodland areas are at the highest risk and residences in the semi-urban and rural farmland are at a lower risk. As more

forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. Under a fast-moving wildfire situation, escape and containment is the priority.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire spreading to the forested areas. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.1.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and wide spread mitigation treatments, significant loss of life and property during a wildfire event is likely.

Many access routes in this SPA are restricted and/or are located in areas of moderate to high fire risk due to the proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen a fire's potential of escaping. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly fire-prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.2 SPA 2: Newman Lake – Blanchard Valley

SPA 2 is located on the northeast side of Spokane County and includes all of Fire District 13 and the community of Newman Lake as well as surrounding unincorporated areas, which includes industrial and non-industrial forest and part of Mount Spokane State Park. This planning area is predominantly forest and recreational land with areas of semi-urban and agricultural land on the south end. Major river drainages in the planning area include Blanchard Creek to the north and Newman and Thompson Creeks to the south. Newman and Thompson Creeks converge to form Newman Lake. Landownership is distributed between forest industry, private, and State land administered by the Washington DNR and Washington State Parks and Recreation. Land development for rural home sites and cabins is common around Newman Lake, the Thompson Creek Drainage, and in the Blanchard Creek area. Much of this development is in remote areas adjacent or in proximity to wildland fuels on widely varying terrain. Many of these homes are accessed by timbered forest routes; some with one-way in, one-way out roads.

4.6.4.2.1 Fire Potential

Wildfire potential in SPA 2 is low to moderate in the rural farmland and moderate to high in the forested and wooded riparian areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Timber management has created a mosaic of timber stands with widely varying age and size classes enhancing stand density and structure, which often increases ladder fuels and therefore, the wildland fire potential. Forested areas to the south and along Blanchard Creek are generally adjacent to agricultural crops or rangeland.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these types of fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.2.2 Ingress-Egress

Starr Road, West Newman Lake Drive, and Thompson Creek Road are the primary ingress and egress routes traveling north and south through the south end of SPA 2. Highway 206 (Mt Spokane Park Drive) is the primary access into Mount Spokane State Park and surrounding timberlands. Blanchard Road, traveling east and west through the northern part of this planning area, is a major access route between home sites along Blanchard Creek and the Highway 2 corridor north of Spokane. Many residences in the forested areas are accessed via unimproved, steep, narrow roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turnaround areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been

designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide-turning radii and easily negotiable grades for large emergency equipment.

4.6.4.2.3 Infrastructure

Residents within the community of Newman Lake have a municipal water system. Public fire hydrants are available to a limited extent throughout the community up to West Newman Lake Drive. Outside of this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical, or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are displayed at the entrance to many home sites along access routes to assist in emergency response, but addressing is inconsistent or missing for many cabins surrounding Newman Lake.

Remote forested areas within the planning area in general have logging road access enabling access for fire suppression equipment as well.

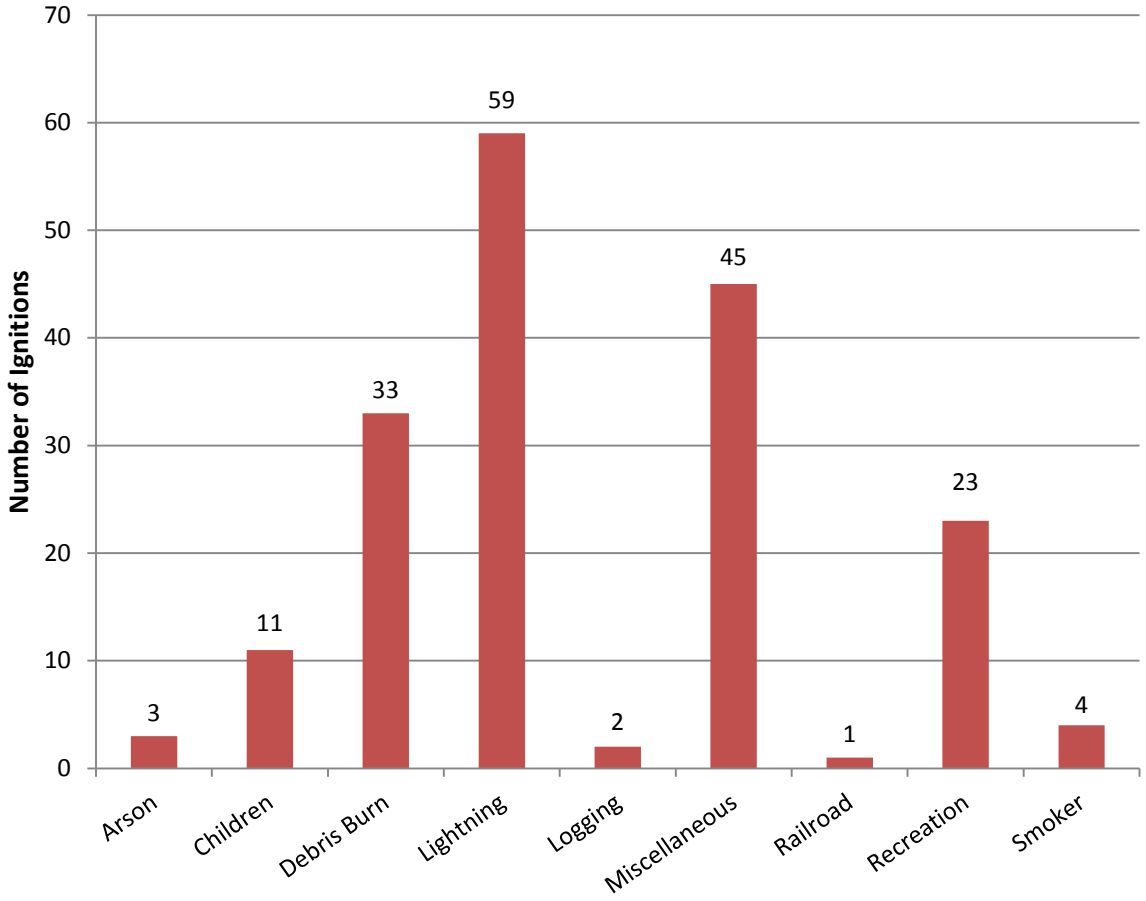
Above ground, high-voltage transmission lines cross the southern end of the planning area from east to west in cleared corridors that would not be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildland fire.

4.6.4.2.4 Fire Protection

Fire District 13 covers much of the southern end of SPA 2; however, the central and northern portions are not incorporated into any organized fire protection organization. Fire District 13 has two fire stations in the district; one in the Newman Lake community, and one on the north end of Newman Lake. These stations provide the first level of emergency response within the district. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.2.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), lightning is the primary source of wildfire ignition in SPA 2. Lightning accounted for the largest number of ignitions during this period of time, but human-caused fire ignitions accounted for the largest number of total acres burned. Human-caused fire ignitions include debris burning, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.2.6 Risk Assessment

Residents within SPA 2 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forestland and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. Under a fast-moving wildfire situation, escape and containment is the priority.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads during a wildfire event. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.2.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildfire is likely.

Many access routes in this SPA, especially those surrounding the Newman Lake waterfront properties, have restricted access and are located in areas of moderate to high fire risk due to the proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural lands that lie adjacent to forest and riparian areas would significantly lessen a fire's potential of escaping to the forest canopy. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.3 SPA 3: Airway Heights – Four Mound Prairie

SPA 3 is located in the northwest corner of Spokane County and includes all of Fire Districts 5 and 10 as well as the community centers of Airway Heights and Fairchild Air Force Base. This area is characterized by the gently rolling agricultural land of the Indian and Four Mound Prairies dissected by the shallow, but often steeply sloped Coulee and Deep Creek drainages. Landownership is primarily private with scattered parcels of Washington State land. The Washington State Parks and Recreation Commission administers much of the land along the eastern boundary of the SPA, which roughly follows the Spokane River and includes Riverside State Park. Spokane County owns a large piece of land south of Airway Heights and the United States owns the Fairchild Air Force Base and much of the surrounding area.

The southern end of the SPA is heavily populated, particularly along the U.S. Highway 2 corridor; however, the rest of SPA 3 is populated by scattered homes and farming operations. Many of the forested areas in the draws and canyonlands have been subdivided into fairly large

5- to 20-acre parcels. Wildland fuels typically surround these homes with one-way in, one-way out driveways.

4.6.4.3.1 Fire Potential

Wildfire potential in SPA 3 is low to moderate in the farmland and moderate to high in the forested areas. Wildland fuels in forested areas consist primarily of a ponderosa pine overstory with Douglas fir and ponderosa pine regeneration in many understory openings. In most areas, shrubs and other vegetation in the understory is negligible due to canopy closure. Many stands are overcrowded in addition to having severe ice storm damage causing a buildup of dead material on the forest floor as well as ladder fuels. Timber management by some landowners has created a mosaic of stand types with widely varying age and size classes enhancing stand density and structure. Forested areas are generally limited to the Coulee Creek and Deep Creek drainages and along the Spokane River. Scattered timber also occurs in the area surrounding Horseshoe, Woods, and Davis Lakes in the northwest corner of the SPA.

Agricultural and riparian lands lying next to forested land can also become a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these types of fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.3.2 Ingress-Egress

U.S. Highway 2 is the primary access route in SPA 3 and connects Airway Heights and Fairchild Air Force Base to the other nearby population centers of Spokane to the east and Reardan and Davenport to the west. This route is primarily bordered by homes, pasture, and agricultural crops and does not have a high wildland fire risk. There are also several main routes accessing the northern end of the SPA at a rate of approximately one northbound route per square mile splitting off of Highway 2. Coulee Hite Road and Garfield Road are the main access routes into the Coulee Creek and Deep Creek drainages. Numerous graveled secondary routes split from these two main access roads. SPA 3 can also be accessed from the north via Charles Road or Four Mound Road as well as several less traveled gravel roads.

Many residences in both the forested and agricultural areas are accessed via unimproved, narrow roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turnaround areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either connecting loops or cul-de-sacs with wide-turning radii, easily negotiable grades for large emergency equipment, and engineered surfaces.

4.6.4.3.3 Infrastructure

Residents within the community of Airway Heights and on Fairchild Air Force Base have a municipal water system. Outside of this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical, or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are displayed at the entrance to many home sites along access routes to assist in emergency response, but addressing is inconsistent or missing for many homes, particularly in the northern end of the SPA.

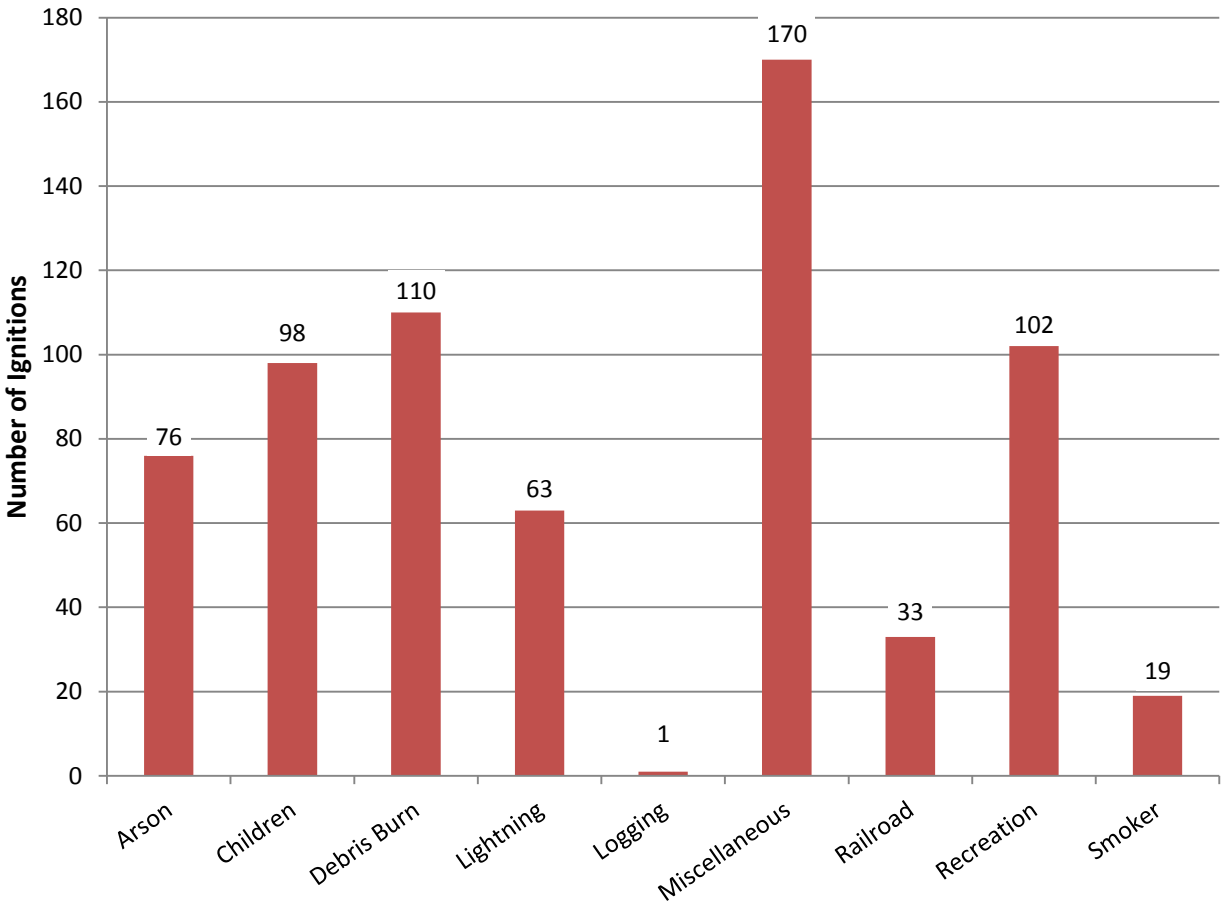
Above ground, high-voltage transmission lines originating from the Long Lake Dam and Nine Mile Falls Dam cross the central region of the planning area in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildland fire.

4.6.4.3.4 Fire Protection

Fire Protection in SPA 3 is under the jurisdiction of Fire District 5 and 10. Fire District 5 has two stations located on the north end of the planning area. Fire District 10 has five fire stations. The City of Airway Heights, Spokane International Airport, and Fairchild Air Force Base also maintain their own fire departments with a station at each location. These fires stations provide the first level of emergency response. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.3.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 3. Lightning accounted for only 9.4 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.3.6 Risk Assessment

Residents within SPA 3 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening agricultural or surface fire spreads to the forestland and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. Under a fast-moving wildfire situation, escape and containment is the priority. High-risk forest fuels surround many homes in the forested drainages and only a few residents have taken measures to reduce this risk by creating a survivable space. The desire for seclusion, viewsheds, and privacy creates dangerous living conditions in the forest environment often without the landowner's awareness of the potential consequences. Fuels along private driveways also increase homeowner's risk as both access by fire equipment and escape from the area may become difficult during a fire event.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads during a wildfire event. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of

fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.3.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

A few of the main roads accessing the forested draws are located in areas of moderate to high fire risk due to the proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lie adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.4 SPA 4: Spokane and Spokane Valley

SPA 4 is located in the center of Spokane County and includes the City of Spokane Fire Department and Spokane Valley Fire District, as well as the communities of Liberty Lake and Millwood. This is a heavily developed residential and industrial area with significant areas of parkland, forestland, grassland, open space, scattered agricultural fields, and the Interstate 90 corridor. The Spokane River and several of its tributaries pass through the middle of this planning area providing recreation and other open space amenities. Forest vegetation is common in residential areas developed on the foothills surrounding the valley, especially near Hangman Creek to the southwest, Liberty Lake to the east, Dishman-Mica Road, and the South Hills Area. Home site and subdivision development is increasing throughout the area expanding further into the foothills as well as the remaining farmland. Landownership is predominantly

private with several large tracts of park or open space/woodland owned by State, city, or County governments.

4.6.4.4.1 Fire Potential

Wildfire potential is low in the urban areas of the Spokane Valley, but increases in the residential areas adjacent to open space, wooded foothills, and river drainages. Large ponderosa pine and other conifer and deciduous species are common landscape vegetation throughout the wooded foothills and in many of the older residential areas. This creates a semi-continuous canopy cover producing tree litter accumulations in yards and on rooftops. Seclusion and privacy created by landscaping is highly desirable in dense residential housing areas, which limits opportunities for a defensible space. Under extreme wildfire conditions, residential areas have the potential to carry an advancing fire front fueling the fire with landscape vegetation, litter and ultimately the home itself as seen in many of the Southern California fires of 2007. Residential areas in the foothills surrounded by wildland fuels have compounded problems created by radiant heat, embers, and the effect of slope and draft. This characteristic is common in many areas of SPA 4.

4.6.4.4.2 Ingress-Egress

Ingress and egress within the heavily populated urban areas of SPA 4 is well developed through urban planning and building codes. This minimizes hazards associated with emergency access and provides multiple emergency escape routes. However, some residences in the foothills are accessed via unimproved, single-lane roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turnaround areas. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide-turning radii and easily negotiable grades for large emergency equipment.

4.6.4.4.3 Infrastructure

Residents throughout most of SPA 4 have municipal water systems that provide public fire hydrants. New development is required by the International Fire Code to have hydrant placement in their building plan. Areas outside the UGAs typically rely on personal, co-op, or multiple home well systems.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is an addressing system that identifies home or business locations. In general, address numbers are clearly displayed on or at the entrance to home sites along access routes to assist in emergency response.

Above ground, high-voltage transmission lines cross the planning area in many directions in cleared corridors that would not be significantly affected by a wildfire. Local public electrical utility lines travel through back yards, along roads and highways, and are exposed to damage from falling trees in the forested foothills. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

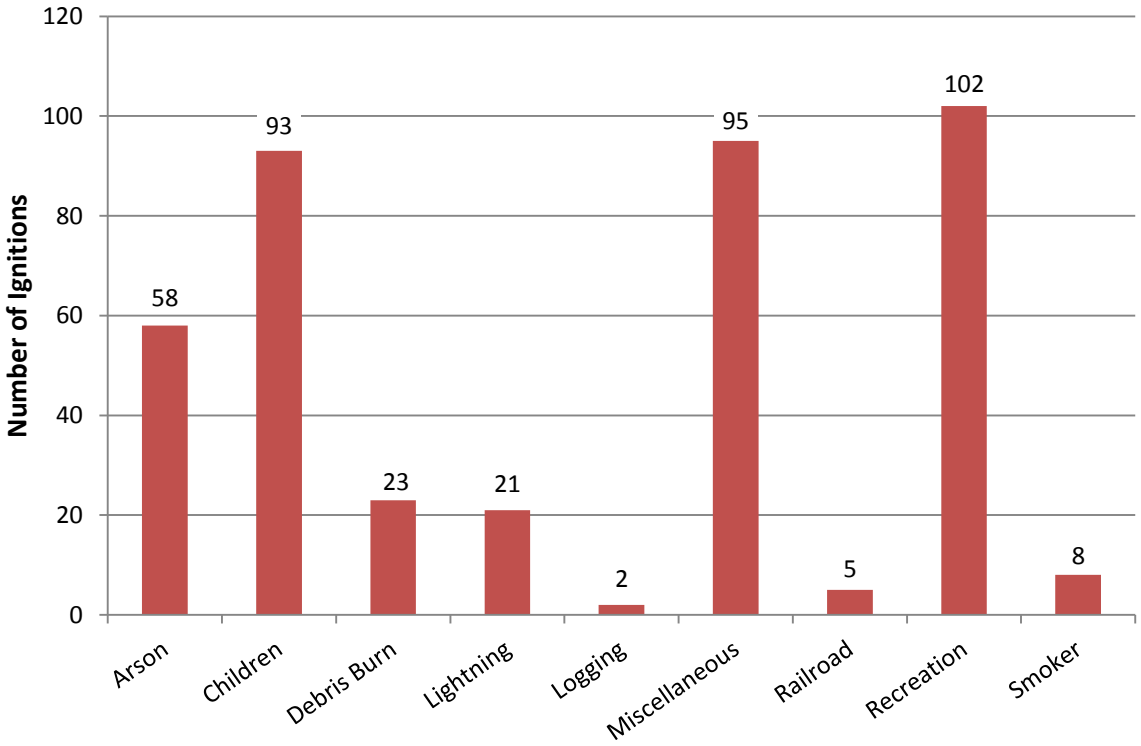
4.6.4.4.4 Fire Protection

Fire Protection in SPA 4 is under the jurisdiction of the City of Spokane Fire Department and Spokane Valley Fire (Fire District 1). There are 28 fire stations and/or fire response facilities in SPA 4. Seventeen are within the City of Spokane Fire Department's jurisdiction and eleven are in the Spokane Valley Fire District. These stations provide the first level of emergency response within their respective districts. Emergency response is coordinated by the County emergency dispatch system. Spokane County planning has established a policy that states that (1) urban areas are served by a fire district with at least a Class 6 insurance rating, (2) fire hydrants are placed according to the Uniform Fire Code, (3) all urban areas must be within 5 road miles of a station with a Class A pumper, and (4) urban areas shall be served by a basic life support (BLS) agency.

All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.4.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 4. Lightning accounted for only 5.2 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.4.6 Risk Assessment

Residents within SPA 4 have a moderate to low risk of experiencing a wildland fire in the urban areas, and moderate to high risk in the outlying foothills adjacent to forests and open space. Residential areas with dense landscaping adjacent to wildland fuels are at a higher risk within the urban confines due to the continuity of fuels and litter accumulation. Development is increasing in the forested foothills as people seek to live in seclusion and remain in proximity to urban amenities. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. In a fast-moving wildfire situation, escape and containment is the priority. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.4.7 Mitigation Activities

Due to the low risk of wildfires in urban areas, mitigation is less of an issue than it is in the wooded foothills. Measures that can be taken in densely landscaped urban residential areas include watering yards, clearing litter accumulations from both the yard and the roof, and mowing grass and weeds. Designing fuel breaks between wildland fuels and residential areas would significantly lessen a fire's potential of igniting landscape vegetation.

Mitigation measures needed in forested areas include construction of a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property is possible.

Many access routes in the wooded foothills are located in areas of moderate to high fire risk due to the proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time during a wildfire. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby residential areas.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks in areas that do not have a municipal hydrant system will increase the effectiveness and efficiency of fire suppression in a wildfire situation.

4.6.4.5 SPA 5: Palouse Prairie – Mica Peak

SPA 5 is located in the southeast corner of Spokane County and includes Fire Districts 2, 11, and 12, and the communities of Rockford, Fairfield, Waverly, and Latah. This planning area is predominantly rural farmland interspersed with wooded hilltops and riparian areas. On the northern end of this planning area there is a significant amount of commercial forestland. Major river drainages include Hangman Creek and Rock Creek, which are both tributaries of the Spokane River. Landownership is predominantly private with several large tracts of timberland owned by the forest industry or is comprised of land administered by the Washington DNR. Land subdividing for home sites is common in the forestlands adjacent to the state and industrial tracts. This development is occurring in semi-remote areas along timbered forest routes some with one-way in, one-way out roads. Most of the structures lie adjacent to or in proximity to wildland fuels on widely varying terrain.

Development in the rural farmland is widely distributed. New development occurs primarily near communities or along major roads. Occasionally, farmland is subdivided for new home sites between family members or for development of new farming facilities. In nearly all developed areas, structures are in proximity to vegetation that at certain times of the year becomes a fire risk. Topography in this planning area is rolling to steep near the mountainous areas to the north and flat to gently rolling throughout the farmland associated with the Palouse Prairie.

4.6.4.5.1 Fire Potential

Wildfire potential in SPA 5 is low to moderate in the rural farmland and moderate to high in the forest and wooded riparian areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Timber management has created a mosaic of timber stands with widely varying age and size classes enhancing stand density and structure and often increasing ladder fuels and the wildfire potential. Forests in this area are often adjacent to or surrounded by agricultural crops or rangeland.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these fuel types are within proximity to forested areas, a surface fire may move into the forest creating a wildfire situation during times of the year when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.5.2 Ingress-Egress

Highway 27 is the primary ingress and egress route traveling north-south through SPA 5. Highway 27 is also the main route between the communities of Rockford, Fairfield, and Latah. Primary routes traveling east and west include Highway 278 and the Spangle/Waverly Road. Many residences in the forested area are accessed via unimproved, narrow roads accessible by only small emergency vehicles. Many of these roads lack adequate turnout and turnaround areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been

designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide-turning radii and easily negotiable grades for larger emergency equipment.

4.6.4.5.3 Infrastructure

Residents within the communities of Rockford, Waverly, Fairfield, and Latah have municipal water systems. In these areas, public fire hydrants are available to a limited extent. Outside of these communities, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

Remote forested areas within the planning area in general have logging road access enabling access for fire suppression equipment.

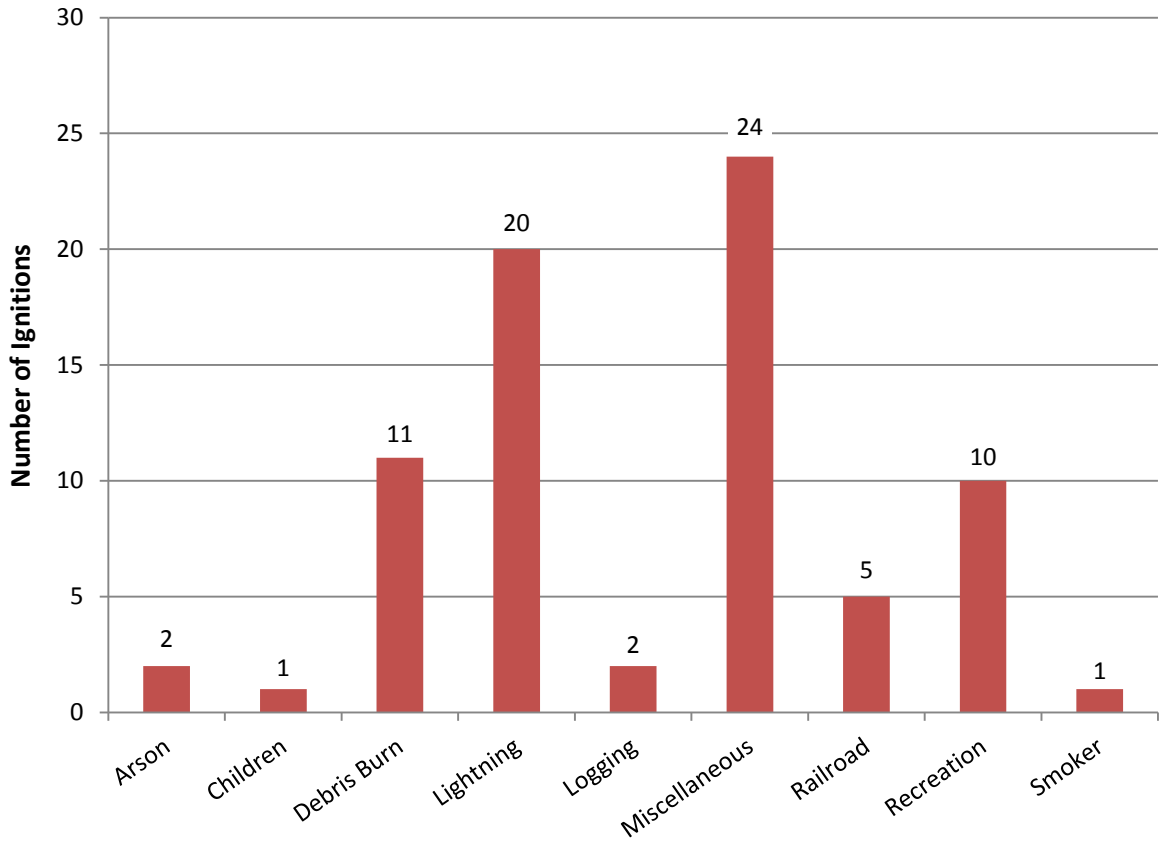
Above ground, high-voltage transmission lines cross the planning area from north to south in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from wind and falling trees in the forested areas. Power and phone services throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas in a wildfire situation.

4.6.4.5.4 Fire Protection

Fire Protection in SPA 5 is primarily under the jurisdiction of Fire District 2, 11, and 12. Fire District 2 has three fire stations; two near Fairfield and one on the north end of the district on Valley Chapel Road. Fire District 11 has one fire station located in Rockford. Fire District 12 has two fire stations; one in Waverly and one in Latah. These stations provide the first level of emergency response within their respective districts. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.5.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 5. Lightning accounted for only 26.3 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.5.6 Risk Assessment

Residents within SPA 5 have variable risk of experiencing a wildland fire depending on the location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forest and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. During a fast-moving wildfire event, escape and containment is the priority.

Agricultural and ranching activities throughout the area have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.5.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to a wildfire is likely.

Many access routes in this SPA, especially on the north side, are located in areas of moderate to high fire risk due to the proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Roads and driveways accessing rural residential areas may or may not have adequate road widths for firefighting equipment depending on when the residences were constructed. Most fire codes now require compliance with minimum standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lie adjacent to forest and riparian areas would significantly lessen a fires potential of escaping to the forest. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response during a wildfire.

4.6.4.6 SPA 6: Fire District #3

SPA 6 is located in southwest Spokane County and covers all of Fire District 3 and the communities of Medical Lake, Cheney, Spangle, Tyler, and the Turnbull National Wildlife Refuge. This planning area is very rural outside of the communities of Cheney and Medical Lake. The southwest corner is dry, agricultural farmland with areas of mixed conifer forest and riparian shrub land on rolling terrain. To the west and north the prehistoric Missoula flood waters have shaped the landscape exposing vast areas of basalt scablands. This rocky terrain is spotted with numerous lakes and riparian areas surrounded by ponderosa pine forests. Where soil is available in the scablands, there are extensive areas of irrigated and non-irrigated farmland.

There is a wide variety of land uses throughout the area including forestry, agriculture, a college campus, commercial properties, industrial properties, and a National Wildlife Refuge. Landownership is predominantly private with several large tracts of land administered by the Washington DNR, BLM, and U.S Fish and Wildlife Service. Extensive home site development is

occurring in rural areas surrounding Cheney, Tyler, Medical Lake, the Interstate 90 corridor, and in the ponderosa pine dominated scablands. Home site development in the rural forested areas is often along forest routes; some with one-way in, one-way out access adjacent to wildland fuels.

4.6.4.6.1 Fire Potential

Wildfire potential in SPA 6 is low to moderate in the rural farmland and moderate to high in the forested and wooded riparian areas. Wildland fuels in the forested areas are variable density stands of ponderosa pine mixed with a variety of understory shrubs and grasses. Due to the dry site conditions and rocky terrain prevalent in the ponderosa pine scablands on the west side of this planning area, forest cover is often intermittent. Areas between forest stands consist of rock outcrops, grass, shrubs, and riparian areas. These changing fuel types would produce a variable intensity fire depending on wind conditions and terrain.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush, and agricultural crops can easily ignite. If these fuels are adjacent to forested areas, a surface fire may move into the forest creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.6.2 Ingress-Egress

Primary ingress and egress routes traveling through SPA 6 include Interstate 90, Highway 195, Highway 902, the Cheney-Spokane Road, and the Mullinix-Martin Road. Primary access through Turnbull National Wildlife Refuge is by way of the Cheney-Plaza-Rock Lake Road. Access to rural subdivisions is typically well-developed allowing escape by people living in the area as well as access by emergency services during a fire event. Many access routes in the rural wooded areas have wildland fuels in proximity to the road. In a wildfire situation, access may be blocked or restricted unless mitigation measures are taken to reduce wildland fuels along these routes.

4.6.4.6.3 Infrastructure

Residents within the communities of Medical Lake, Cheney, Spangle, and Tyler as well as developed subdivisions have access to municipal water systems. In these areas public fire hydrants are available for structural protection. Outside of these areas, development typically relies on personal or multiple home well systems. Lakes and ponds are very common throughout the planning area providing additional water sources for wildfire suppression.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are

clearly displayed at the entrance to home sites along access routes to assist in emergency response.

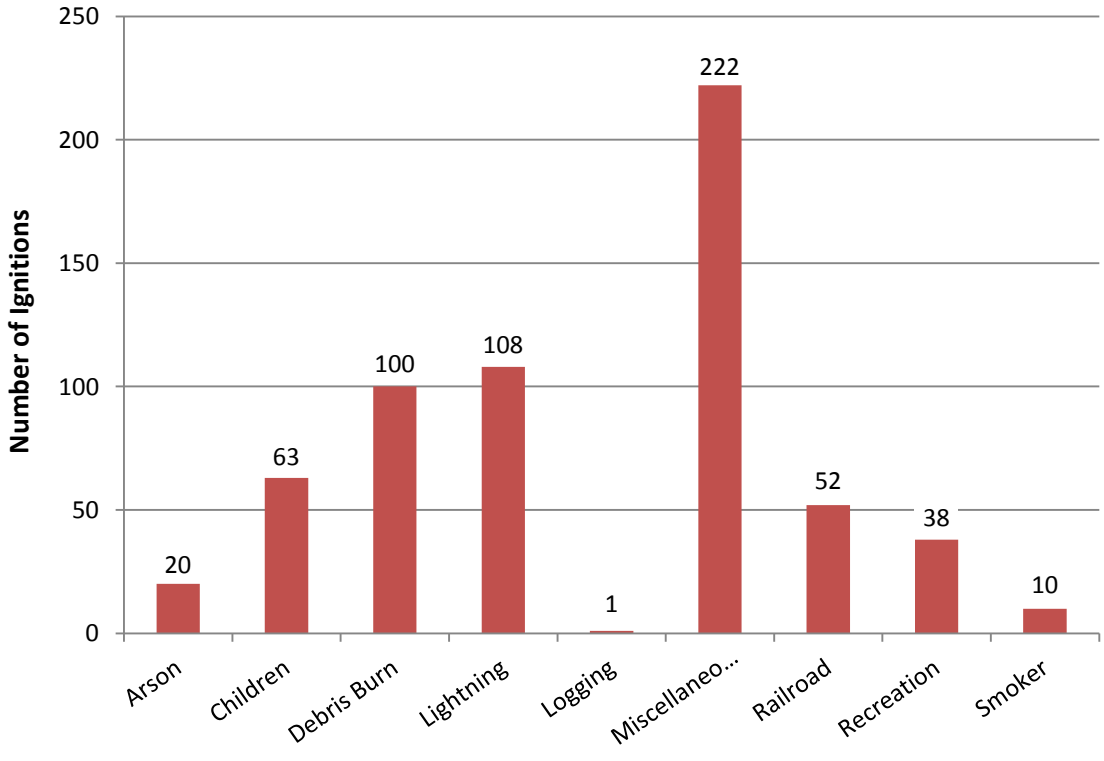
Above ground, high-voltage transmission lines crisscross the planning area and would generally not be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees. Power and phone services into forested areas are both above and below ground. Power and communications may be cut to some of these areas in a wildfire situation.

4.6.4.6.4 Fire Protection

Fire Protection in SPA 6 is primarily under the jurisdiction of Fire District 3 in addition to the Medical Lake and Cheney city departments. Fire District 3 has ten fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.6.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 6. Lightning accounted for only 17.6 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.6.6 Risk Assessment

Residents within SPA 6 have a moderate to high risk of experiencing a wildland fire due to the diversity of vegetation cover present and the current trend in rural forest home site development taking place. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. During a fast-moving wildfire situation, escape and containment is the priority.

Agricultural and ranching activities throughout the area have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses of fields, CRP, or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.6.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildfire is probable.

Many access routes in this SPA are located in areas of moderate to high fire risk due to the proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP fields and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.7 SPA 7: Fire District #9

SPA 7 is centrally located in Spokane County just north of the city of Spokane and Spokane Valley and includes all of Fire District 9 as well as the unincorporated area associated with Riverside State Park. Mead is the largest urban area in this planning unit with its southern urban boundary blending with the city of Spokane. SPA 7 is predominantly a rural area outside of Mead and the highway 2 and 395 corridors. There are a wide variety of land uses throughout the area including forestry, agriculture, several schools, a college campus, commercial properties, industrial properties, major petroleum pipelines and storage facilities, railways, and two dams. The Spokane and Little Spokane Rivers pass through this SPA converging at the boundary with Stevens County to the northwest. Landownership is predominantly private with several large tracts of State land administered by the Washington DNR and Washington State Parks (Riverside State Park). Extensive home site development is occurring in the rural forested areas adjacent to wildland fuels. These homes are typically accessed by timbered forest routes; some with one-way in, one-way out roads.

4.6.4.7.1 Fire Potential

Wildfire potential in SPA 7 is moderate to high in the rural areas and moderate to low in the developed, urban corridor. Wildland fuels in rural areas consist of mixed conifer forest, seasonal agricultural crops, wooded riparian areas, shrub land, and pasture. The more urban areas contain parks and open space as well as vacant land with a variety of cover vegetation. Topography is rolling to steep near the mountain areas to the east and river breaks to the west and flat to gently rolling throughout the prairie lands and river valleys. In the forested areas the timber is a patchwork of age classes created by differing land management objectives. In many areas, agriculture and forested land lies adjacent to residential developments and individual home sites.

Riverside State Park is located along the Spokane and Little Spokane Rivers in the west central portion of this planning area. The park provides overnight camping for individuals and groups as well as a system of hiking and biking trails in proximity to the Spokane metropolitan area. Camping, picnicking, hiking, and day-use facilities are developed throughout the park area and adjoining wildland fuels. Due to the proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope and weather, agricultural fuels can ignite easier and have the potential to spread into the forest creating a wildland fire during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel buildup from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire. Agricultural burning adjacent to wooded areas without the appropriate precautions can lead to an escaped wildfire.

4.6.4.7.2 Ingress-Egress

Primary ingress and egress routes traveling north-south through SPA 7 include Highway 2 and 395, Forker Road, and Market Street. Primary and secondary routes traveling east-west include Hastings, Hawthorn, Mount Spokane Park Drive, Bigelow Gulch, Rudder Parkway/Waikiki, Nine Mile Road/Highway 291, and Charles/South Bank Roads. Charles Road and South Bank Road on the west side of the planning area are narrow, windy routes with mostly one way in, one way out access passing through a heavily forested area. During a fire event, escape by people living in this area as well as access by emergency services would be difficult.

4.6.4.7.3 Infrastructure

Residents within the urban corridor and the community of Mead as well as developed subdivisions have access to municipal water systems. In these areas, public fire hydrants are available. Outside of these areas, development typically relies on personal or multiple home well systems. The Spokane and Little Spokane Rivers provide additional water sources for emergency fire suppression in the rural areas to the west.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this system is a rural addressing that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

Remote forested areas within the planning area generally have logging road access enabling access for fire suppression equipment. Most of these roads were designed for logging trucks, which also accommodates larger fire equipment.

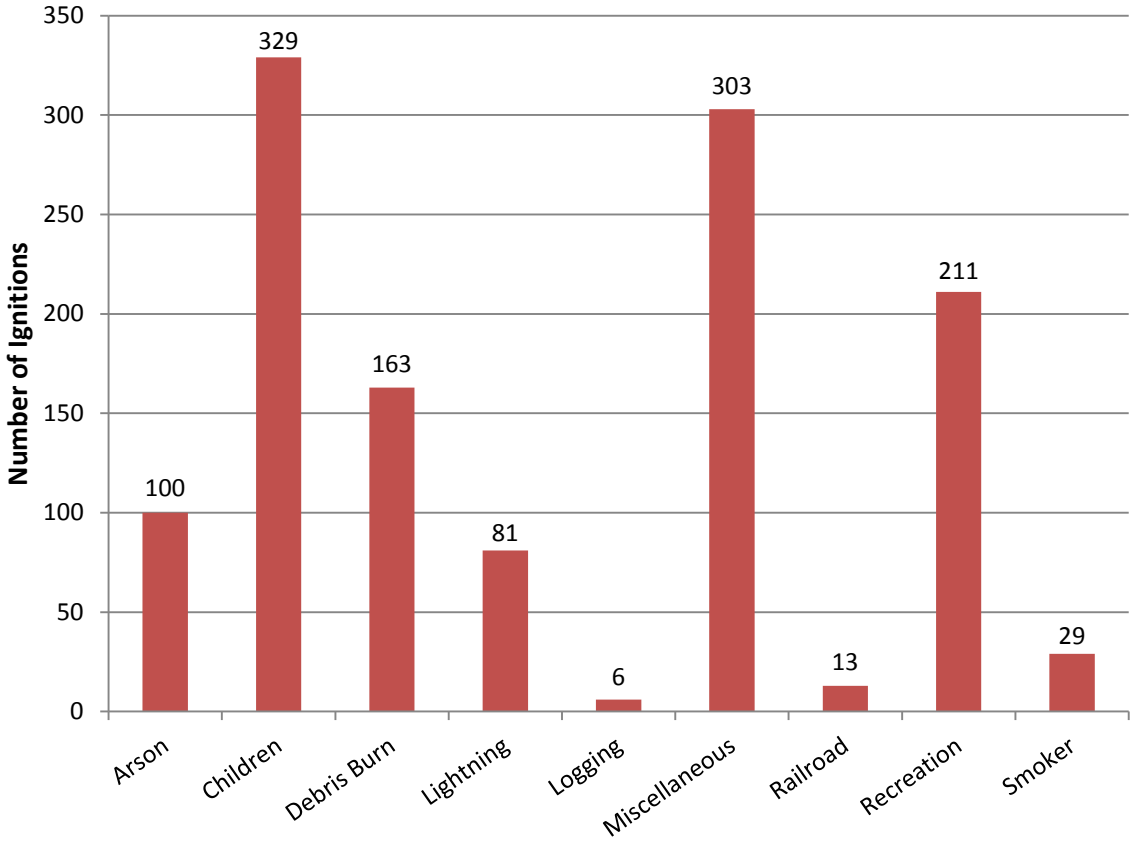
Above ground, high-voltage transmission lines crisscross the planning area in wide, cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travelling along roads and highways are exposed to damage from falling trees. Power and phone service into forested areas are both above and below ground. Power and communications may be cut to some of these areas during a wildfire.

4.6.4.7.4 Fire Protection

Fire Protection in SPA 7 is under the jurisdiction of Fire District 9. Fire District 9 has eight fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.7.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man is the primary source of wildfire ignition in SPA 7. Lightning accounted for only 6.6 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.7.6 Risk Assessment

Residents within SPA 7 have a moderate to high risk of experiencing a wildland fire in the wooded forests and river breaks and moderate to low risk in the urban corridor and agricultural land. Home site development appears to be on the rise within the rural areas of this SPA and many of the developed sites are surrounded by wildland fuels. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Defensible space treatments were observed around many homes in the wooded areas, but many others obviously lacked mitigation work or adequate escape. The desire for seclusion, viewsheds, and privacy creates dangerous living conditions in the forest environment often without the landowner's awareness of the potential consequences. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. During a fast-moving wildfire, escape and containment is the priority.

Agriculture, grazing, and wooded riparian areas lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these fuels are within proximity to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat

make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.7.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

Many access routes in this SPA, especially on the west side, are located in areas of moderate to high fire risk due to the proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP fields and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.8 SPA 8: Hangman Valley – Liberty Lake

SPA 8 is located in the center of Spokane County just south of the city of Spokane and the Spokane Valley. It includes the southern portion of Liberty Lake and Liberty Lake Regional Park to the east, the Dishman-Mica/State Route 27 corridor through the mid-section, high-density residential areas outside the Spokane Municipal Boundary on the north end, and portions of Hangman Valley and the Moran Prairie to the west. SPA 8 takes in all of Fire District 8 and a section of unincorporated fire protection to the east. This planning area is heavily populated with rural and semi-rural residential areas located in the midst of heavy wildland fuels.

Most of SPA 8 is a mosaic of rural farmland, wooded stream channels, shrub land, and mixed conifer forest except on the east side, which is dominated by continuous commercial forestland and County parks. Major drainages through the planning area include Hangman Creek, California Creek, Chester Creek, Cottonwood Creek, and Liberty Creek, which are all tributaries of the Spokane River. Landownership is predominantly private with several large tracts owned

by forest Industry, Spokane County, and the Washington DNR. Land subdivision for home sites is common throughout the area. Some of this subdivision is for large organized multi-home development, but most of it is for secluded semi-remote sites in timbered areas or converted farmland with one-way in, one-way out roads. Most structures lie adjacent or in proximity to wildland fuels on widely varying terrain.

4.6.4.8.1 Fire Potential

Fire potential in SPA 8 is moderate to high throughout the area. Wildland fuels consist of mixed conifer forest, seasonal agricultural crops, wooded riparian areas, shrub land and pasture. These fuels lie adjacent to home sites and organized housing developments in many locations. Topography is rolling to steep near the mountains to the east, wooded foothills south of Spokane, and flat to gently rolling terrain in the creek valleys and prairie.

Liberty Lake Regional Park on the east side of the planning area provides overnight camping for individuals and groups as well as a system of trails in proximity to the community of Liberty Lake and the Spokane metropolitan area. Camping, picnicking, hiking, and day-use facilities are developed throughout the park area adjoining wildland fuels. Adjacent to the park are vast areas of commercial timberland with varying age classes and stocking densities capable of carrying a high intensity crown fire. Due to the proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, grasses, brush and agricultural fuels can ignite easier and have the potential to move a surface fire into the forest creating a wildland fire during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.8.2 Ingress-Egress

Primary ingress and egress routes traveling through SPA 8 include State Highway 27, Dishman-Mica Road, and Hangman Valley Road. These routes are well developed, paved arterials providing access to and from the Spokane Valley. Access to rural subdivisions and small ranches is well-developed allowing escape by people living in the area as well as access by emergency services during a fire event. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide-turning radii and easily negotiable grades for large emergency equipment. Many residences in the forested areas are accessed via unimproved roads accessible only by small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Generally, these roads lack adequate turnouts and turnaround areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response.

4.6.4.8.3 Infrastructure

Residents within residential areas on the southern outskirts of Spokane as well as most developed rural subdivisions have access to municipal or co-op water systems. In these areas,

public fire hydrants are available for structural protection. Outside of these areas, development typically relies on personal or multiple home well systems. Creeks and ponds are common throughout the planning area providing additional water sources for emergency wildfire suppression.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

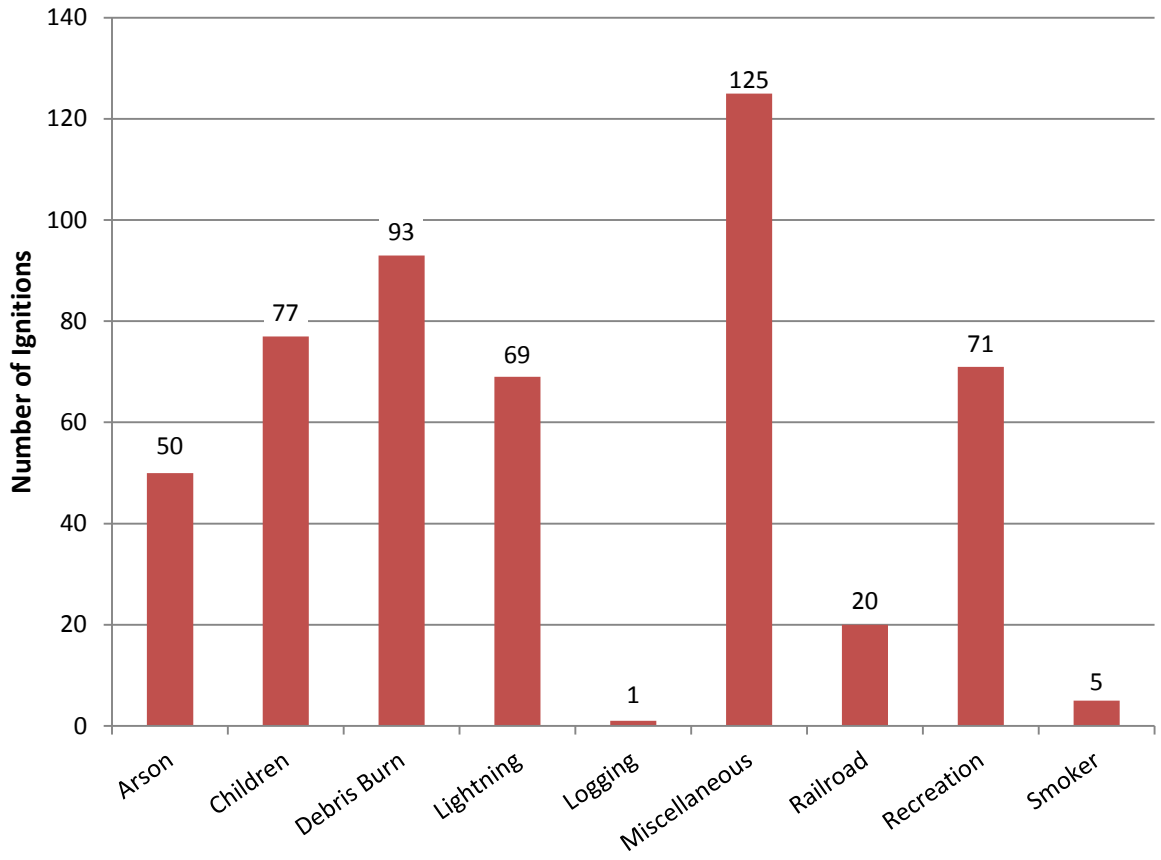
Above ground, high-voltage transmission lines crisscross the planning area and would generally not be affected by a wildfire. Local public electrical utility lines travel along roads and highways are exposed to damage from falling trees in the forested areas. Power and phone service into forested areas are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

4.6.4.8.4 Fire Protection

Fire Protection in SPA 8 is primarily under the jurisdiction of Fire District 8. Fire District 8 has five fire stations to provide the first level of emergency response. Emergency response is coordinated by the County emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the County based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington DNR under mutual aid agreement.

4.6.4.8.5 Fire Ignition

According to data provided by the Washington DNR for the period of 1970 through 2013 (June), man has been the primary source of wildfire ignition in SPA 8. Lightning accounted for only 13.5 percent of all the fire ignitions. Human-caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.8.6 Risk Assessment

Residents within SPA 8 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire protection services for protection. Vegetation, slope and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forest and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow-moving wildfire enabling successful suppression. In a fast-moving wildfire situation, escape and containment is the priority.

Agricultural and ranching activities have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses of CRP fields or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.8.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

Many primary access routes in this SPA are located in areas of moderate to high fire risk due to the proximity of continuous fuels along the roadway. These access routes include State Route 27, Dishman-Mica Road to the east, and Hangman Valley Road to the west. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen a fires potential of escaping to the forest canopy. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or man-made barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.7 Fire Department Information

Fire district personnel are often the first responders during emergencies. In addition to structure fire protection, they are called on during wildland fires, floods, landslides, and other events. There are many individuals in Spokane County serving fire protection departments in various capacities. The following is a summary of the departments and some of the issues they currently face. A list of each department's current equipment resources is available in the County Resource Guide. A map of the fire protection organization's coverage areas is presented in Appendix A.

The firefighting resources and capabilities information provided in this section is a summary of information provided by the fire chiefs or representatives of the wildland firefighting agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized in the sections below. These synopses indicate their perceptions and information summaries.

4.7.1 City of Spokane Fire Department

Chief: Bobby Williams
Telephone: (509) 625-7001
E-mail: bwilliams@spokanefire.org
Address: 44 W. Riverside Ave., Spokane, WA 99201

District Summary: This department encompasses expanding Spokane City limits and has a variety of service areas to include heavy, medium and light commercial/industrial areas, a densely populated urban core area (downtown and Browne's Addition), mixed residential areas, suburban and urban/wildland interface areas. As an events/destination center, Spokane plays host to a variety of major events and their visitors (Bloomsday, Hoopfest, conventions, etc). Spokane is also host to Fairchild Air Force Base and a significant medical and academic community, which is playing an increasing role in the local economy and vitality.

The Spokane Fire Department is a professional, paid department with a total of 306.75 employees (274 uniformed positions and 32.75 civilian positions). The Service area is 69.46 square miles with a population of 210,000 (as of April 2012 per Washington State Office of Financial Management). With 15 fire stations, Spokane Fire Department provides fire, emergency medical, regional hazardous materials and other emergency response for the community in addition to participating in mutual aid response to neighboring districts.

Issues of Concern:

1. The population within the Spokane City limits has steadily increased over time. This trend is expected to continue. Some areas of the City have a greater response time due to City's (infrastructure) inability to keep up with development (i.e. development occurring too far from fire stations). Increased population and development in the WUI and "in fill" areas matched with an increase in service calls continue to be chief concerns. Issues associated with access and education/awareness of fire service coverage and limitations also continue to be a challenge.
2. The current radio system is being updated due to the Federal Communications Commission's (FCC) requirement that all new or modified radio systems are narrowband after June 2013. None of our current radio equipment will work on this new band. In addition, the International Association of Fire Chiefs (IAFC) has adopted P25 (digital format) for communication systems under homeland security. Funding for upgrade is being secured.
3. Most outdoor burning is not allowed within the city limits. Recreational fires less than 3 feet in diameter and/or less than 2 feet in height such as a cooking fire and campfires using charcoal or firewood that occur in designated areas or on private property for cooking, pleasure, or ceremonial purposes are allowed. Fires used for debris disposal are not considered recreational fires. Spokane Clean Air may issue written permits for fires greater than 3 feet in diameter and/or greater than 2 feet in height (e.g. special/social events).

Cooperative Agreements: Various cooperative agreements exist with neighboring jurisdictions.

District Needs: The City of Spokane Fire Department, like many jurisdictions, struggles with a lack of resources for services expected and provided. Apparatus replacement is critical, and the City does not have a vehicle replacement plan in place for fire apparatus. Personnel are another critical area that is lacking to include line and staff personnel. With continuous growth in population and an increasingly challenging demographic environment, the City of Spokane

Fire Department will need to manage and increase staffing and equipment levels to keep up with service demands.

4.7.2 City of Cheney Fire Department

Chief: Mike Winters
Telephone: (509) 498-9291
E-mail: mwinters@cityofcheney.org
Address: 611 Fourth Street, Cheney, WA 99004

District Summary: One station covering 4.37 square miles within the city and 33.5 square miles of auto aid coverage. The population of Cheney is 11,400 residents and 12,000 students at Eastern Washington University. There are 23 total personnel including 1 Chief, 9 firefighters, 6 residents, 6 paid on-call firefighters, and 1 secretary. The Cheney Department's 2013 budget was $1,531,300. They responded to 1,393 calls in 2012 with an average response time of 3:52 minutes.

Issues of Concern:

1. Growth on the north and east side of the city may impede response times. The east side of the city is dissected by railroad tracks and also presents a significant wildland concern.
2. No open burning is allowed within the city limits.
3. Access issues in regards to response to east side of the city, especially with 63 trains passing through the city daily.

Cooperative Agreements: Auto aid agreements with SCFD #3 and participation in the Spokane County Fire Resource plan**.**

District Needs: More staffing, more brush equipment (hose, nozzles, packs, shelters, tools).

4.7.3 Spokane Valley Fire Department

Chief: Bryan Collins
Telephone: 509-928-1700
E-mail: collinsb@spokanevalleyfire.com
Address: 2120 N. Wilbur
Spokane Valley, WA 99206

District Summary:

The Spokane Valley Fire Department serves an area of approximately 75 square miles, encompassing the cities of Spokane Valley, Liberty Lake, Millwood, and unincorporated areas of the Spokane Valley. Within these bounds are 116,952 residents, 50,000 homes, 4,500 businesses, 53 schools, 20 nursing homes, and a major hospital. The area is predominately suburban with some commercial centers and light agriculture. Much of the perimeter consists of timbered urban interface, with approximately 1,000 homes being identified as "at risk".

The Department is governed by a five-member board of fire commissioners and employs approximately 162 uniform and 18 civilian full-time, fully paid personnel staffing 10 fire stations. See below for details on apparatus.

Issues of Concern:

1. The Spokane County Population Study – October 2012 plans on a population growth between 2010 - 2013 at 1.9 percent in the City of Spokane Valley and 7.9 percent in the City of Liberty Lake and population growth between 2000 - 2013 at 8.5 percent in the City of Millwood and 14.23 percent in the incorporated areas of the County. This would indicate much more significant growth in semi-rural urban interface areas. While some of this new construction might serve to mitigate dangerous fire potential by "filling in" the wildland voids, limits on minimum lot size will ensure that significant interface areas will continue to exist and likely grow.
2. Fire Department/District communications are handled predominately through the Combined Communications Center (CCC), which provides voice and data services throughout the County. The current equipment has been updated with a new CAD and the infrastructure for the new 700/800 mhz radio system are due to come online in 2013/2014 timeframe meeting the latest federal mandates.
3. The majority of the district is within the Regional Clean Air Agency (Spokane Clean Air) no-burn boundaries for residential (yard and garden) burning and within an urban growth area (UGA), which substantially limits fuel reduction burning. The Washington DNR issues permits beyond these restrictions.
4. Another significant area of concern is limited access into developing urban interface areas. The Department has taken a proactive role in slowing such expansion until the safe ingress and egress of citizens, as well as firefighting resources, can be ensured.
5. In 2011 a wildland/urban interface Risk Assessment was completed with all of our residents living within the wildland/urban area receiving updated information concerning their current risk levels.

Cooperative Agreements: The firefighting agencies within Spokane County, including DNR, have signed mutual aid agreements in accordance with the Washington State Interlocal Cooperation Act. Requests for assistance and operations conducted under this agreement are facilitated under the procedures outlined in the Spokane County Fire Resource Plan.

4.7.4 Spokane County Fire District #3

Chief: Bruce Holloway
Phone: 509-235-6645
Address: 10 S. Presley
Cheney, WA 99004

District Summary:

Spokane County Fire District 3 is located in the Southwest part of Spokane County. There are 565 square miles in the district and a population of approximately 15,000 people. There are 120 paid call firefighters, 7 full-time career staff, 5 full-time career command staff, a fabricator and a secretary. There are 10 fire stations, 33 in service apparatus and 7 command units. The majority of the area protected is rural but there are significant areas of residential development consisting of lot sizes from 1 to 10 acres, most of it WUI. There is a growing area of commercial/industrial/high density residential development in the northeast part of the district with water and sewer provided by the City of Spokane.

Spokane County Fire District 3 is a full-service fire department. They provide fire suppression for industrial/commercial, residential and wildfire risks. The district has a significant potential for wind driven wildfire events with WUI problems and we expend considerable effort preparing for this. Emergency Medical Service is provided in a tiered response system with the district

providing the initial BLS response, including the use of automatic external defibrillation (AED) for heart attack patients. EMS is provided out of nine stations: Station 31, Station 32, Station 33, Station 34, Station 35, Station 36, Station 37, Station 310 and Station 312. Personnel are trained to a minimum level of first responder/AED. Paramedic service is provided by the transport agencies.

Issues of Concern:

1. There is significant residential growth in the northeast corner of our district utilizing Spokane City water and sewer. This is increasing our population dramatically and we are seeing an increase in call volume as a result. There is also a dramatic increase in residential growth in the WUI areas in our pine forests. The new lot sizes are generally ten acres but there are numerous structures already built in these areas with smaller lots. All of these areas are prone to fast-moving wind driven fires under the right conditions. New development adheres to stringent requirements for defensible space and road access but there are large areas of older development that do not incorporate these measures.
2. The district has an adequate communication system that enables them to utilize more than one repeated frequency all over the district. A Countywide communications center dispatches all the fire agencies in Spokane County. the district also has access to tactical channels to manage large incidents.
3. The district also has a modern, updated fleet of fire apparatus and continually replaces older apparatus with newer ones. They plan to continue to replace at least one truck per year to maintain the currency of the fleet.
4. The State DNR and Spokane Clean Air regulate debris burning. They have had a few incidents regarding burning but they are usually not significant.

Cooperative Agreements:

Spokane County has a fire service mutual aid plan that includes all of the fire departments in Spokane County. This plan enables us to access all of the resources in Spokane County. We also have mutual aid with the Turnbull Refuge for wildfire response and joint jurisdiction responsibility with the Washington DNR. Washington State has a fire mobilization plan that gives us access to all of the local fire resources in our state. Spokane County has two type III teams available to help with major incidents. We provide initial attack for the Bureau of Land Management for fires in their protection areas in our district and in areas in Whitman and Lincoln Counties.

District Needs:

Spokane County Fire District 3 will continue to be actively engaged in upgrading and modernizing existing vehicles and equipment assets. Protecting our community and our firefighters is our paramount objective. The building of a new fire station the area of the suburban development at Thomas Mallon and Hallet are in the planning stages at this time. This new station will provide added space for apparatus necessary to provide better coverage and house specialized equipment for the commercial/industrial area of the district. In doing so, District 3 can continue to provide the level of service to which the community has become accustomed.

4.7.5 Spokane County Fire District #4

Chief: Randy M. Johnson
Phone: (509)467-4500

Address: 3219 E. Chattaroy Road
Chattaroy, WA 99003

District Summary: Spokane County Fire District 4 is located in Northern Spokane County and serves the communities of Deer Park, Chattaroy, Elk, Colbert, Wild Rose, Riverside, Green Bluff, Mount Spokane and Wayside. District 4 is a combination fire department with volunteer and career firefighters that protect 330 square miles of rural and suburban areas north of the City of Spokane, including the City of Deer Park. The district is bordered on the north by Pend Oreille County; the east by Mount Spokane; the south by Fire District 9, and the west by Stevens County.

The population in District 4 is approximately 40,000 residents. Service is provided from nine stations with 11 Class A pumpers, 7 water tenders, 15 wildland/brush engines, and 16 support vehicles. The District includes residential, light commercial, agricultural and heavily forested properties. During 2012, the District responded to 2631 incidents.

Issues of Concern:

1. During the past years, District 4 has experienced a good percentage of the new home starts in the County. Residential growth has occurred in all areas of Fire District 4, but primarily in large housing developments in the southern portion of the District. Large farms have been sub-divided into small acreage building sites and poor access and lack of adequate water systems have created response issues for the department.

2. District 4 currently uses a Countywide dispatch system that is operating with very old infrastructure and at times limits our ability to effectively communicate with units throughout the County. A funding plan to upgrade the system is currently being implemented to meet the current and future mandates. In addition to the VHF radio system used today, cell phone coverage across the District is very limited due to the lack of cell towers.

3. Increased “No-Burn” areas substantially limit homeowners from reducing the fuels on their property by burning the material. Hauling the material to a disposal site or chipping is cost prohibitive due to the quantity. Financial assistance to the property owners would greatly enhance the fuel reduction. Additionally a review of the current “No Burn” area as mandated by Spokane Regional Clean Air Agency is warranted to allow options for hazard fuel reduction.

4. Due to the large geographic area of District 4, there are still some very remote areas where homeowners have chosen to build. Access to these areas to provide service is very difficult due to inadequate road systems. Education to homeowners prior to issuing building permits and follow-up inspections would be very beneficial.

Cooperative Agreements: All Spokane County fire service agencies have signed a mutual aid agreement. With all fire departments in Spokane County dispatched from one communications center, this allows for a coordinated effort in resource allocation during a major incident. District 4 also has an agreement with Washington DNR for response to joint jurisdiction areas. This agreement provides initial attack during the summer months when DNR has staffing available.

District Needs: District 4 is currently updating apparatus needs as financial resources become available. Future station locations are being defined to provide a more timely response and

improve the insurance ratings. Two areas identified include the Elk-Chattaroy and the Eloika Lake area.

4.7.6 Spokane County Fire District #5

Chief: Bonnie Cobb
Telephone: 509-981-1713 (cell)
E-mail: b.cobb@scfd5.org
Address: 17217 W. Four Mound Road.
Nine Mile Falls, WA 99026

District Summary:

Spokane County Fire Protection District 5 is located in the northwest section of Spokane County, Washington. District 5 has 25 volunteer firefighters who provide fire and emergency medical services (EMS) to approximately 1,800 residents within a rural 90-square mile area. There are no fire hydrants and the roads consist mainly of rough gravel and dirt. District 5 also provides mutual aid to five surrounding districts, which substantially increases the service area, and makes an average of 75 runs annually. District 5 has been meeting district needs with the limited resources available while developing standard operating procedures (SOP) consistent with federal, County, and local codes.

District 5 is also part of a tiered response area within Spokane County and are called on to protect high-risk areas with accelerated fire behavior and support the Office for Domestic Preparedness in and out of the district. District 5 covers the following critical infrastructures with first due response: (1) numerous tanks of anhydrous ammonia for agricultural use throughout the district; (2) lands under daily flight patterns for both Spokane International Airport and Fairchild Air Force Base (aircraft refueling base); (3) an active railroad line supporting hazardous material (hazmat) crews as well as fires caused by sparks, urban interface communities (a rapidly growing feature in the district); (4) 6,914 acres of Conservation Reserve Program land, heavily forested State Park areas, and (5) DNR land (District 5 is an initial response and contract resource) and communities during Washington State Mobilization and Spokane County MIST Team.

District 5 has two large dams (Washington Water Power's Long Lake Dam and Coulee Dam) and the oldest, active, steel-towered, transmission power line in the world. The history of fires in the district and adjacent areas are characterized as having a frequent fire return interval. The potential for more large fires remains and grows right along with the wild grasses from Conservation Reserve Program coupled with frequent, extreme high winds. The Federal Register categorizes the area as a Risk Factor 1, Situation 1 for Infrastructure where there are no fire hydrants, no pressure water systems, and no evacuation plan in an area surrounded by a fire conducive landscape. In the last 15 years, over 40,000 acres and over 120 homes and outbuildings have burned in our area with winds in excess of 60 miles per hour.

1. **Issues of Concern:** District 5 would like to collaborate more closely with Spokane County Building and Planning/Engineering and the County's GIS department regarding tracking of plat development/mapping for more current demographics in order to make accurate risk assessments. The district believes that public education before plat development is crucial for fire prevention, and the district would like to have funding to help educate current and future residents to emergency preparedness.
2. District 5 requests the following: (1) help in planning multi-agency training drills regarding communications with current resources as well as possibly plan grant projects on a region-wide basis where our volunteers receive the same or equivalent training as

career departments receive; (2) communications equipment that is interoperable with other entities; (3) funding for more Incident Command training (hands on) for department leaders.

3. District 5 has not had many issues with burn permits or regulations of them. The district has an agreement with Spokane County Air Pollution Control Agency to issue residential yard and garden burn permits and charge a fee to cover District 5 administrative costs, which has worked out well. The district would be great to have funds to set up a chipper/shredder day for the public.

Cooperative Agreements: Automatic mutual aid contracts with: Spokane County FD10, Spokane County FD9, Spokane County FD3, Stevens County FD1, Lincoln County FD4, Washington State DNR, Spokane City FD.

District Needs: District 5 is currently requesting funding for public education including website management, volunteer retention, and recruitment including incentives, and training. Funds for a third station more centrally located will be useful to provide space for public meetings and multiple public uses. In addition, funding awarded to District 5 would be used for updated structure gear, a new tender vehicle, an exhaust removal system, and an automatic generator.

4.7.7 Spokane County Fire District #8

Chief: Tony Neilsen
Telephone: (509) 926-6699
Address: PO Box 345
12100 E Palouse Hwy
Valleyford, WA 99036

District Summary: Every aspect of District 8's work and service is managed by one of the four division managers in an effort to best service its citizens. Spokane County Fire District 8 was formed on August 29, 1947, and operates under the statutory authority provided by RCW Title 52. This district is subject to the rules of municipal corporations within the laws and constitution of the state of Washington.

The district is governed by a three-member Board of Fire Commissioners who is elected, at large, by the citizens of the District, for staggered 6-year terms on a 2-year rotating basis to ensure continuity of the governance. One position on the board is up for election at the general election held in November of every odd numbered year. The Board of Fire Commissioners must act together as a unit to govern the affairs of the District. This governance includes the setting of policy and approval of the annual revenue and expense budget for the District as well as the selection, appointment and hiring of the Fire Chief/Chief Executive Officer to manage the affairs of the District. The Board of Fire Commissioners meets regularly on the third Wednesday of each month beginning at 6:00 p.m. at Headquarters - Station 82. Meetings are open to the public and are subject to very specific laws related to the Open Public Meetings Act.

District 8 lies south of the City of Spokane and south of the City of Spokane Valley encompassing approximately 110 square miles of urban, suburban, and rural properties. The district includes the communities of Saltese, Ponderosa, Painted Hills, Mica, Freeman, Valleyford, Moran, Glenrose, and a very diverse population of approximately 23,000 citizen customers. The assessed value of the district is approximately $1.8 billion, which provides for an annual budget of approximately $3.7 million through property tax levies for fire and emergency medical services as provided for by statute.

The district operates out of four strategically located facilities to provide a full range of services to the citizens. The facilities are located at the following locations: Station 81, at S. 6117

Palouse Highway; Headquarters Station 82 at E. 12100 Palouse Highway; Station 84 at S. 4410 Bates Road; and Station 85 at S. 3324 Linke Road.

The agency responds to over 1,000 requests for service each year. This response is provided by a highly trained, well equipped, and very competent staff of personnel made up of volunteer, full-time, resident, and temporary hourly members. The district currently has authorized 28 full-time positions, 16 temporary hourly positions, up to 16 resident firefighter positions, and 70 volunteers. The District also uses volunteers to support the operations of the agency in a number of very key positions and we are seeking ways to continue to enhance the use of members of the community in the pursuit of our mission.

Issues of Concern:

1. The district wants to make sure they have requirements in place to ensure adequate access and egress to areas experiencing growth and that this takes into consideration the totality of the user population.
2. The district wants to ensure that the community is aware of evacuation and provide education on shelter-in-place needs.
3. The district would like to explore the possibility of having a central number and clearing house for people to call in burn permits then notification to dispatch.

Cooperative Agreements: Spokane County Mutual Assistance Agreement, DNR, and District 8 Agreement.

4.7.8 Spokane County Fire District #9

Chief: Jack Cates
Telephone: (509) 466-4602
Address: 3801 E. Farwell Road
Mead, WA 99021

District Summary: Formed by the taxpayers in 1948, Spokane County Fire District 9 encompasses an area of approximately 122 square miles with a population of about 45,000. Located north of the city of Spokane, Washington, the district stretches 25 miles from east to west. This area represents a variety of land uses. Within Fire District 9 are single-family and multi-family residential dwellings, rural forested lands, agricultural areas, several schools, a college campus, commercial properties, industrial properties, major petroleum pipelines, and storage facilities, railways, two dams, and two major state highways. Providing emergency services within this growing and evolving suburban area is a complex and demanding business.

The District's 150 personnel operate from nine fire stations, four of which are staffed with a combination of full-time career companies and volunteer on-call firefighters. One station is staffed by full-time career personnel, and the other four stations are staffed solely by volunteer on-call firefighters. Fire District 9 also hosts a residential firefighter program to enhance staffing and provide training and experience opportunities for program participants working toward a career in the fire service. The district has earned an ISO Class 4 fire insurance rating, which provides significant savings to district property owners and ratings. In addition to fire prevention and suppression services, Fire District 9 also provides emergency medical services including Advanced Life Support (Paramedic) care. The emergency medical services are delivered through a tiered response system using the response of the closest engine company staffed by ALS-qualified personnel and backed up by BLS staff. Private companies provide EMS transport services (air and ground transport available).

Fire District 9 is home to several progressive programs including a technical rescue team, a fire investigation task force, public education, and regional training opportunities. Rescue and emergency medical services generate about 68 percent of our call volume and fires generate about 4 percent. Of all fire calls, wildland fires constitute roughly 33 percent and structure fires constitute about 33 percent of all fire calls.

Issues of Concern: Residential growth is usually constrained by water system availability. Current Spokane County codes require that water supply for firefighting be in place before approval of residential development unless parcels are 5 acres or greater in size, 1 to 4 acres in size where more than four parcels are created, or 1 to 4 acres in size and any parcel is within 350 feet of a water system. Larger lots of 5 acres or more are developed without any water supply. Smaller groupings of lots 1 to 4 acres in size can also be developed without water supplies. Another concern with residential growth is periodic assaults on road standards. Spokane County has a rather comprehensive set of road standards based on nationally recognized standards and local experience that provide for adequate fire service access to homes. Proponents often challenge established road standards as too burdensome, and attempts to reduce access for fire departments are not uncommon.

District 9's problems with burning does not stem from permit regulations. Burn regulations appear to be adequate for the district's needs. Our illegal burning tends to come from individuals who refuse to comply with any burn regulations. We do receive periodic complaints from taxpayers about logging operations where logging slash is not removed expeditiously. County code does not require this and in some cases logging slash is left in place for long periods of time.

Cooperative Agreements: District 9 utilizes a very extensive mutual assistance program of sharing resources (giving and receiving) across jurisdictional boundaries to maximize available resources and enhance the services available to our citizens. The Fire District has mutual aid agreements with every fire agency within Spokane County and participates in the Washington State Fire Resource Mobilization Plan. In addition, the Fire District has intergovernmental assistance agreements with the Washington DNR, Washington State Parks, and the federal fire agencies providing protection for parks and natural areas.

District Needs: With such a large urban-wildland mix, the greatest demand for fire suppression service in the district is in the wildland arena. Involvement in the national Firewise workshop efforts show that District 9 codes and laws regarding wildland fire-safe construction and development are better than in many Washington counties. The greatest contribution to fire protection can be realized through fuel treatments in wildland areas. In some areas of the district, fuel accumulations are so thick firefighters have trouble walking through the brush. In many cases, fuel accumulations are too thick to allow wildland fire apparatus to access the fire. Fighting fire in such areas is dangerous and in some cases impossible, forcing firefighters to try and attack the fire when it gets to areas where safe access and anchor points exist. Vegetation treatments that reduce surface fuel loads, decrease biomass accumulations, open up timber stands, and eliminate ladder fuels can help slow fire spread, create areas where firefighters can stop advancing fires, and reduce risks of higher-intensity crown fires. Such actions would also promote greater forest health, enhance ecosystems, and improve forest resistance to disease and insect infestations.

Many property owners have been reluctant to implement nationally recommended fuel treatments on their land. In some cases, the problem has been absentee landlords. The costs and labor involved are too great for some landowners. In still other cases, landowners do not

want anything done to their land regardless of the fire hazards. With grant funding support, District 9 hopes to assist those landowners who are interested in mitigating fuel hazards, but lack resources to deal with the problem.

4.7.9 Spokane County Fire District #10

Chief: Nick Scharff
Telephone: (509) 244-2425
E-mail: nscharff@scfd10.org
Address: Box 2199
Airway Heights, WA 99001

District Summary: District 10 covers just under 100 square miles on the West Plains of Spokane County. District 10 is a full-service fire department that protects areas that may be considered urban at some future time; however, today it is suburban and mostly rural by land mass. The District 10 response to an average of 1,000 calls annually for services of which 80 percent were medical in nature. The remainder includes commercial or residential structure responses, wildland fire, hazmat calls, and others.

The District is served by a three-member board of commissioners, a paid staff of 8, and a volunteer force of 65 to 75, which varies by time of year, schooling commitments, other jobs, and family commitments.

Much of District 10 is flat with the main drainage of Deep Creek that runs perpendicular through the district. Most of the significant fires in the past have been wind driven in light, flashy fuels along with patches of timber and variable topography.

Issues of Concern:

1. Residential growth in the rural areas has seen a significant growing trend in the past 10 years with single-family homes on 5-, 10-, and 20-acre parcels and some larger tracts of land and some lot size subdivisions. Many of the homes are in or near forested lands.
2. The Deep Creek drainage seems to present the most difficult communication issue with limited cell phone coverage and limited VHF emergency radio availability in many places. Also, digital paging seems to have weak spots either in the system or in the hardware.
3. The Washington DNR writes all burn permits for forest debris and logging slash disposal. It would have some benefit to the fire districts and their dispatch center (CCC) to have burn permit information available for their review.
4. Access to some private properties and homes is limited to bridges across drainages and seasonal waterways that have or appear to have weight limits inadequate for fire apparatus. It seems there may be a need to get insurance carriers to recognize this as a deficiency. Currently Christensen Road bridge at Deep Creek, which is a public roadway, has been deemed impassable by Spokane County bridge engineers for weights of more than 14 tons. This limits a main thoroughfare for not only property owners but also emergency vehicle traffic needing to cross the drainage to only small brush truck-type vehicles. Structure engines, water tenders, or dozer lowboys must take alternate routes extending travel time.

Cooperative Agreements: District 10 currently has a cooperative agreement with the BLM. In the past, the district has hosted an interagency wildland engine with the DNR and the BLM.

District Needs: District 10 needs include the following: establish more rural water sources for fire suppression needs; better/updated mapping of higher fire hazard areas in district, including

bridge load capacities; establish a reliable communication system throughout entire fire district, which may include a mobile repeater in a district vehicle; and establish a good public network to deliver prevention materials to land/homeowners. Some of the best protection is prevention work being done in the way of fuel reduction. These efforts need to continue by property owners building a better, safer ingress and egress for fire fighters to manage fires.

4.7.10 Spokane County Fire District #13

Chief: Keith Yamane
Telephone: (509) 226-1482
E-mail: keith.newmanlake@comcast.net
Address: P.O. Box 70
Newman Lake, WA 99025

District Summary: District 13 staff includes 1 full-time paid Chief, 1 part-time Chief, and 25 volunteers. District 13 is located in the East portion of Spokane County. It borders the Idaho State line to the East, Trent (Hwy 290) to the South, Spokane Valley Fire Department to the West, and Fire District 9 to the North. District 13 covers 25 square miles that are mostly wildland and urban interface areas. There is a population of 2,000 to 3,000 year-round residents with potential for 5,000 during the summer months. The district has hydrants located only on the Southern portion of the district and a fire boat supplied by Newman Lake in the summer months. The terrain is hilly with the primary fuel being heavy timber.

Issues of Concern:

1. Because the district is all residential with virtually no commercial, District 13 would like to see a Countywide, or failing that, an ordinance requiring residential fire sprinklers in the area. Continued residential growth impacts the ability to provide services with an all-volunteer force. There is not currently enough revenue to go to paid staffing.
2. Communication is very problematic in the area. With the cutover to the new radio system in February 2014, District 13 is hopeful that the situation will improve.

Cooperative Agreements: DNR, Spokane Valley Fire Department, Hauser Lake Fire Department

District Needs: Wildland Fire prevention and pre-fire mitigation would be a high priority.

4.8 Wildland Fire Districts

State and federal agencies such as the Bureau of Land Management and Washington DNR generally provide wildland fire suppression services on their ownership. Furthermore, these agencies will also work with local fire departments to form mutual aid agreements for wildland fire suppression assistance outside of their jurisdiction. The following sections describe agencies in Spokane County who currently have wildland fire responsibilities and resources.

4.8.1 Washington Department of Natural Resources

Northeast Region
Colville, WA 99114
509 684-7474

Washington DNR provides wildfire protection and suppression on privately-owned forestland and state-owned forestland in the State of Washington.

The Arcadia District of the DNR encompasses approximately 2.1 million acres of private and state lands in the counties of Spokane, Stevens, Lincoln and Pend Oreille in northeast Washington. Mutual aid agreements with 18 rural fire protection districts, the Colville National Forest, the Spokane Indian Agency, The Kalispel Indian Agency, USFWS, and the National Park Service provide for DNR assistance in fire protection assistance in and adjacent to the Arcadia District. The border of the Arcadia District includes all of Spokane County, the portion of Lincoln County north of U.S. Hwy 2, the portion of Stevens County south of Deer Lake and east of the Hunters divide, and the portion of Pend Oreille County South of Tiger and Sullivan Lake.

Special features within the district include the Cities of Spokane and Spokane Valley, the Kalispel Indian Reservation, Spokane Indian Reservation, Turnbull National Wildlife Refuge, Mount Spokane State Park, Riverside State Park, Lake Roosevelt National Recreation Area, and portions of the Colville National Forest.

The district's primary workstation is located in Deer Park, north of Spokane. The DNR utilizes a "home guard" approach in that the seasonal engine drivers park their assigned engines at their residence within their assigned geographic portion of the district. The Arcadia District staffs eleven 3-person brush engines within the district each season. Engine staffing is on a varied schedule that provides seven day per week coverage, June through September. The Arcadia District is also home to a fixed wing contract air tanker. The DNR maintains "call when needed" contracts for Dozers and operators trained and equipped for fire suppression throughout the district.

The Arcadia District is also home to the Airway Heights Camp Program, which staffs four 10-person inmate hand crews trained in wildland fire suppression. DNR crews are neither trained nor equipped for structure suppression. Primary protection responsibilities are on private and state forestland throughout northeast Washington and the DNR also responds to fires off of DNR jurisdiction that threaten DNR protection. The DNR does not provide formal EMT services. The crews are trained in first-aid, and some staff members have EMT and first-responder training, but this is not a service the DNR provides as part of their organization.

Personnel: The Arcadia District fire program staff totals 39-41 individuals, including 4 permanent employees, 4 career-seasonal employees who work up to 9 months each year and 33 seasonal employees on staff from roughly June to September. These are all paid staff members trained in wildland fire, but not in structure protection. Within the District an additional 5-8 permanent employees work in other programs, but assist in the fire program during the summer as needed.

Mutual Aid Agreements: The DNR has individual mutual aid agreements with local fire protection districts. Through the "Master Agreement" and "Northwest Compact", the DNR has mutual aid agreements with federal agencies, neighboring states, and Canada.

Make/Model	Capacity (gal)	Pump Capacity	Type
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	420	120	Wildland T5
Ford	420	120	Wildland T5
Ford	420	120	Wildland T5
Ford	420	120	Wildland T5
Ford	420	120	Wildland T5
Chevy	600	120	Wildland T5

The Arcadia District contracts dozers as needed. The Arcadia District is home to the 4 to 10-person airway heights crews, and is District is base to the Fireboss, Tanker 890. The Arcadia District staff includes a Type 2 Operations Section Chief, Type 3 Incident Commanders and Division Supervisors, as well as other various NWCG-rated overhead staff. The Arcadia District maintains a supply cache and two mop-up support trailers with portable pumps, hose, and fittings.

Additional suppression resources include:
Helicopter: The DNR has six type-2 helicopters based out of Ellensburg, and they are staged throughout the state as needed. In times of high fire danger, there is often a helicopter staged at Colville, Omak and occasionally at Deer Park.

Fixed-Wing: The DNR Northeast Region often partakes in contracting a fixed-wing platform for Air-Attack during peak fire periods.

Air Tankers: In addition to the fixed wing air tanker in Deer Park, the Arcadia district has access to federal tankers. Coeur d' Alene Air Tanker Base is nearby and often has a tanker on base during high fire danger periods, although with reduced aircraft the availability has decreased. In addition, the DNR is able to utilize Canadian air tankers through agreements.

4.8.2 U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge

Chief: Nancy Curry
Telephone: 509-235-4723
E-mail: Nancy_Curry@fws.gov
Address: 26010 S. Smith Road.
Cheney WA 99004

Refuge Summary: Turnbull NWR was established by executive order in 1937 for the conservation and enhancement of wildlife, specifically ducks. This 17,000-acre preserve is in the channeled scablands ecosystem that is highlighted by over 350 temporary wetlands dotted through the refuge. In addition, there are 160 permanent wetlands that provide year around breeding and forage for the resident wildlife species. Due to our location in the urban interface, our appropriate management response is to suppress all fires. We also do a fair amount of prescribed fire and our goal is to ignite around 800 acres per year. We have cooperative agreements with SPCFD#3 to provide assistance in suppressing wildfires. We also are signers to the master agreement with the Washington DNR that also provides assistance for fire suppression on their lands.

Issues of Concern:

1. Expansive development and subdividing of lands around the refuge is of great concern for not only wildlife but fire suppression too.
2. Turnbull NWR have been directed to go narrow band ahead of the rest of the wildland fire community and this issue has caused problem in fire operations.
3. Burning in the area is regulated by the DNR as a silvicultural treatment. PM 2.5 will have significant impact to the program in as little as 2 years. This could lessen the ability to burn by 50 percent.

Cooperative Agreements: The NWR has one Type 6 engine and one Type 5 engine that assist Spokane County Fire District 3 and DNR through mutual aid agreements.

District Needs: Replacement of engines over 10 years old.

4.8.3 Bureau of Land Management, Spokane District

Fire Management Officer: Dennis Strange
1103 N Fancher
Spokane, WA 99212
Email: dstrange@blm.gov
509 536-1237

Spokane District Mission Statement:

The mission of the Spokane District is to share the district's unique capability and interest in sustaining the full diversity of natural and cultural landscapes across Washington State and invite their discovery and use. This includes protecting the natural resources, such as water for fish and wildlife; preserving environmental and cultural values on the lands they manage; providing for multiple uses, that include some commercial activities; and enhancing opportunities for safe and enjoyable outdoor recreation. The Spokane District also assesses energy and mineral resources and works to ensure that their development is in the best interest of the public. Another major responsibility is to ensure consideration of Tribal interests and administration the Department of Interior's trust responsibilities for American Indian Reservation communities.

District Summary:

Up through the 1970's, BLM's policy was to divest ownership of all federal public (BLM) lands in the state of Washington. But in 1980, at the height of the Sage Brush Rebellion (a social movement to give control over federal lands to the states and local authorities), Washington voted to have the public lands remain under federal ownership and management. In the 1980 general election, the state put a measure on the ballot asking voters if the state constitution should "be amended to provide that the state no longer disclaim all rights to unappropriated federal public lands." Approximately 60 percent of the people and the majority in every County voted "no," signaling to BLM that there was strong support for continued federal management of the public lands in the state.

In response to this vote, the Director of BLM approved a proposal by the District to begin a process of consolidating the scattered BLM lands around the state. Today the Spokane District BLM manages 425,000 acres across Eastern Washington for multiple uses, providing wildfire protection, suppression, support, and training for the BLM-managed lands and other federal/state/county agencies.

The Spokane District Fire Management Program currently consists of two type six wildland engines (300 gallons) with two full-time Engine Captains, four engine crew members, one ten-person hand crew, one Fuels Technician, Seasonal Dispatcher, Assistant Fire Management

Officer (AFMO), and a Fire Management Officer (FMO). The hand crew and one engine is stationed in Spokane at the District office and the other in Wenatchee at the field office. There are approximately 16 other specialist (staff) from across the district that assist the Fire Management Program in wildland and/or prescribed fire efforts. With the District's scattered ownership pattern, the engines are usually on scene after initial attack forces have arrived. Our engines and personnel are available for off district and out of state fire assignments that aide in support, training, and experience.

Cooperative Agreements

The Spokane District BLM has Coop agreements with the Colville National Forest, USFWS, Washington DNR, Spokane County FDs #3, 4, 9, 10, Spokane Valley FD, Benton County FD #1, Chelan County FDs #1, 6, Douglas FDs #2, 4, 5, 15, Franklin County FD #5, Grant County FD #5, Lincoln County FDs #1, 7, and Yakima County FDs #4, 5.

4.9 Spokane County Fire Protection Issues

This section summarizes fire protection issues in Spokane County related to increased wildfire education and awareness, continued residential growth, accessibility, and yard and garden waste burning program.

4.9.1 Increased Wildfire Education and Awareness

As more and more people move into the WUI of Spokane County, the need for a coordinated wildfire education program becomes paramount. Many new residents in high wildland fire risk areas are not aware of the potential threat nor do they recognize the lack of defensibility and/or accessibility of their homes. It is important that the local fire districts and departments in Spokane County have the funding and materials they need to develop educational programs for citizens in their response areas. General awareness of the risk, home defensible space, evacuation procedures, sheltering, and adequate access to structures are just a few of the potential topics that could be covered. A concerted effort to provide basic materials to all fire districts and other cooperating organizations should be considered by Spokane County. This would reduce the overall and individual cost to the districts as well as improve the quality of education and materials to be presented.

4.9.2 Continued Residential Growth

Growth will continue to present the greatest challenge to fire management in the urban interface over the long term. The dramatic increase in demand for homes throughout Spokane County has resulted in significant changes in land use patterns. Many agricultural lands and private non-industrial forestlands have been sold and subdivided over the last few decades, pushing residential development further into the WUI. This trend will continue into the future, as forestland and rangelands are sold for real estate development. This will have a dramatic effect on the ability of emergency resources to maintain current levels of fire protection without considerable increases in funding for equipment, personnel, and training. Indeed, several emergency response resources in Spokane County are already at a critical threshold. Further increases in protection responsibility will come at the expense of preparedness, as emergency resources are increasingly spread over an expanding protection area.

4.9.3 Accessibility

Fire chiefs throughout the County have identified home accessibility issues as a primary concern in some parts of Spokane County. Many homes and driveways have been constructed without regard to access requirements of large emergency vehicles. Lack of accessibility restricts engagement by fire suppression resources. Enforcement of Spokane County's existing road standards regarding road and driveway construction regulations for fire apparatus would prevent accessibility issues in new developments. Wildfire risk can be lessened and firefighter safety can be improved by keeping vegetation including tall grass, brush, and trees a safe distance from the road right-of-way. This will not only improve accessibility, but will also allow the road to serve as a control point for suppression activities. Furthermore, locked or electronically controlled gates, overhead obstructions, low load-capacity bridges, or other obstacles should not impede firefighter access.

4.9.4 Yard and Garden Waste Burning Program

The burning of yard and garden waste is a vital part of many landowners' fuels reduction and property protection program. In many cases this is the only option available for landowners to get rid of hazardous fuel loads on their property due to a variety of reasons including physical capacity, limited access to necessary hauling equipment, distance to disposal sites, and many others. Burning yard and garden waste is an efficient and effective tool for fire mitigation; therefore, it is important that Spokane County maintain this type of public burning program.

4.10 Current Wildfire Mitigation Activities

Several organizations in Spokane County have been successful in developing, funding, and implementing wildland fire mitigation projects. These projects have been well supported by the community and are helping to lessen the impact of wildfires on Spokane County residents, structures, ecosystems, and economy.

Throughout the Northeast Region of Washington, the Washington DNR is working with several of the surrounding counties and communities in an effort to promote Firewise Communities. Since the original 2008 CWPP was completed, the number of communities expressing an interest in, or becoming a Firewise Community has significantly increased. At present, a total of 27 communities have either expressed interest in becoming a Firewise Community; has become certified as a Firewise Community, or is in the process of becoming a Firewise Community. This enhanced level of effort within the Northeastern Washington region will provide benefits through not only enhanced resiliency of the area, but also assist in lessening the impact on scarce resources as fires erupt. The breakdown by county within the northeastern region is as follows:

- Pend Oreille County - Blue Slide is initiating the process of becoming a Firewise Community.
- Stevens County - Deer Lake and Suncrest have expressed interest in becoming Firewise Communities; Flowery Trail is a certified community.
- Ferry County – Curlew Kai is initiating the process of becoming a Firewise Community; Martin Creek is in the process of becoming a Firewise Community, and Ponderosa is a certified Firewise Community.
- Okanogan County – Edelweiss, Foster Guest Ranch, Pine Forest and Lost River are interested in becoming Firewise Communities; Liberty Woodlands is in the process of becoming a Firewise Community; and Chiliwist is a certified Firewise Community.
- Spokane County has a total of 14 Firewise Communities:

- Certified Communities: Bella Vista and Palisades, (both of which are new since the 2008 update), Mullen Hill, Ridge at Hangman, Riverbluff Ranch;
- Initiated process of becoming a Firewise Community: Bridlewood, Four Mound, Friends of Bluff, Palisades HOA, Deer Park Airport, Riverside Park 9 Mile
- Expressed interest in becoming a Firewise Community: Excelsior, Riverside Park Fiske, Nevada Road

In addition, the Spokane County Conservation District also initiated and completed several projects since completion of the 2008 CWPP, including: fuels reduction projects for 10 acres in the Regal Court Development; a 5-acre fuels reduction project in Hambled Park and another 5-acre fuels reduction project San Souci Developments, all within the City of Spokane. In addition, the District also completed a 200-acre fuels reduction project in Four Mound and a fuels reduction project on five acres of demonstration sites at Palisades Park. Specific fire mitigation projects are described in the following sections.

4.10.1 River Bluff Ranch Estates, Firewise Community

River Bluff Ranch in the southwestern part of Fire District 4 has been designated as a Fire-Wise Community. This development was in a heavily wooded area with little to no access and now includes covenants restricting certain building materials; providing defensible space areas around the homes; and fuel reduction has occurred with defensible space around the homes.

4.10.2 DNR Fuels Reduction Projects

Fuels reduction and forest health projects are currently cost-share funded by the DNR for multiple private landowners in Spokane County through the Forest Stewardship Program. Landowners are encouraged to complete and implement forest management plans and prescriptions that reduce the risk of fire and disease.

4.10.3 Mullen Hill Terrace Mobile Home Park CWPP

The Mullen Hill Terrace Mobile Home Park is located about one mile south of the Spokane city limits on State Route 195 in Spokane County. It is secluded in the middle of a ponderosa pine and Douglas-fir forest and consists of 120 small lots with manufactured and mobile homes. A community assessment and CWPP have been completed. Fuel reduction, landscape changes, and access improvements were identified as wildfire risk mitigation measures. Many of these measures, including fuel reduction, have occurred as a result of the Mullen Hill Terrace Mobile Home Park CWPP.

4.10.4 Ridge at Hangman

Since completion of the 2008 edition of the CWPP, the Ridge at Hangman community has become a Firewise Community. Located approximately 3.5 miles south of the Spokane city limits on State Route 195 in Spokane County, they are located in a ponderosa pine and Douglas fir forest. The 1987 Hangman Hills Fire resulted in the loss of several structures in this development and impacted many of the residents. A risk assessment has been completed and several mitigation measures have been proposed including addressing improvements, fuels reduction projects, and defensible space improvements. The community has already sponsored fuels reduction projects in common areas and along trails. Since completion of the 2008 CWPP, four projects have been completed; four additional projects have been proposed, and five additional projects are currently underway with the assistance of the Spokane County Conservation District and DNR.

4.10.5 Multi-Jurisdictional Mutual Aid Agreements

Currently the cities, towns, fire protection districts, and wildland fire agencies within Spokane County have extensive mutual aid agreements that serve to increase the protection and effectiveness of all Spokane County fire response jurisdictions. Municipal and County fire departments provide mutual aid for each other to the fullest extent possible. The Spokane County Fire Districts have the opportunity for a suppression agreement with the Washington DNR. The agreement with the DNR allows for a Spokane County fire district to provide fire protection services to an area within the jurisdiction of the DNR located within the district and for the district to contract with the DNR to assist in fire protection services (on a limited basis) on forestland within the district's jurisdiction. These agreements significantly improve the capabilities and effectiveness of any and all individual fire departments as well as provide assistance to the DNR, USFWS, and BLM wildland fire departments. Not only does this improve the safety of Spokane County residents, structures, infrastructure, and lands, but it also facilitates good interdepartmental working relationships.

Chapter 5

5 Administration and Action Items

Critical to the implementation of this CWPP will be the identification of, and implementation of, an integrated schedule of treatments targeted at achieving a reduction in the number of human-caused fires and overall impact of wildland fires on Spokane County. As there are many land management agencies and thousands of private landowners in Spokane County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of compliance will be observed across all ownerships.

Spokane County encourages the philosophy of instilling disaster resistance in normal day-to-day operations. By implementing plan activities through existing programs and resources, the cost of mitigation is often a small portion of the overall cost of a project's design or program.

The land management agencies in Spokane County are participants in this planning process and have contributed to its development. Where available, their schedule of land treatments have been considered in this planning process to better facilitate a correlation between their identified planning efforts and the efforts of Spokane County.

All risk assessments were made based on the conditions existing during 2008 and 2012 timeframe, thus, the recommendations in this section have been made in light of those conditions. However, the components of risk and the preparedness of the County's resources are not static. It will be necessary to fine-tune this plan's recommendations annually to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

As part of the policy of Spokane County in relation to this planning document, this entire CWPP should be reviewed annually (from date of adoption) at a special meeting of the planning committee, open to the public and involving all municipalities/jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. The Washington DNR Project Section Manager and/or Spokane County Disaster and Emergency Management (or an official designee of the Spokane County Commissioners) is responsible for the scheduling, publicizing, and leadership of the annual review meeting. During this meeting, participating jurisdictions will report on their respective projects and identify needed changes and updates to the existing plan. Maintenance to the plan should be detailed at this meeting, documented, and attached to the formal plan as an amendment. Re-evaluation of this plan should be made on the 5th anniversary of its acceptance, and every 5-year period following.

5.1 Prioritization of Mitigation Activities

The prioritization process will include a special emphasis on benefit-cost analysis review. The process will reflect that a key component in any funding decision is a determination that the project will provide an equivalent or more in benefits over the life of the project when compared with the costs. Projects will be administered by County and local jurisdictions with overall coordination provided by the Washington DNR Project Section Manager, and/or Spokane County Disaster and Emergency Management.

County Commissioners and the elected officials of all jurisdictions will evaluate opportunities and establish their own unique priorities to accomplish mitigation activities where existing funds,

staffing, and resources are available and there is community interest in implementing mitigation measures. If no federal funding is used in these situations, the prioritization process may be less formal. Often, the types of projects that the County can afford to do on their own are in relation to improved codes and standards, department planning and preparedness, and education. These types of projects may not meet the traditional project model, selection criteria, and benefit-cost model. The County will consider all pre-disaster mitigation proposals brought before the County Commissioners by department heads, city officials, fire districts and local civic groups.

When federal or state funding is available for hazard mitigation, there are usually requirements that establish a rigorous benefit-cost analysis as a guiding criterion in establishing project priorities. The County will understand the basic federal grant program criteria that will drive the identification, selection, and funding of the most competitive and worthy mitigation projects. FEMA's two grant programs (the Post-Disaster Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant programs) that offer federal mitigation funding to state and local governments all include the benefit-cost and repetitive loss selection criteria.

The prioritization of new projects and deletion of completed projects will occur annually and be facilitated by the CWPP planning committee to include the County Commissioner's Office, city mayors and councils, fire district chiefs and commissioners, agency representatives (BLM, Washington DNR, USFWS, etc.), and other community organizations. All mitigation activities, recommendations, and action items mentioned in this document are dependent on available funding and staffing. Projects will be selected based on a balanced approach to mitigation, and will be prioritized based on the following hierarchy of treatment (highest first):

- People
- Infrastructure
- Local and Regional Economy
- Traditional Way of Life
- Ecosystems

5.1.1 Prioritization Scheme

A numerical scoring system is used to prioritize projects. This prioritization serves as a guide for the County when developing mitigation activities. This project prioritization scheme has been designed to rank projects on a case-by-case basis. In many cases, a very good project in a lower priority category could outrank a mediocre project in a higher priority. The County mitigation program does not want to restrict funding to only those projects that meet the high priorities because what may be a high priority for a specific community may not be a high priority at the County level. Regardless, the project may be just what the community needs to mitigate disaster. The flexibility to fund a variety of diverse projects based on varying reasons and criteria is a necessity for a functional mitigation program at the County and community level.

To implement this case-by-case concept, a more detailed process for evaluating and prioritizing projects has been developed. Any type of project, whether county or site-specific, will be prioritized in this more formal manner.

Since planning projects are somewhat different than non-planning projects when it comes to reviewing them, different criteria will be considered, depending on the type of project.

The factors for the non-planning projects include:

- Benefit / Cost

- Population Benefit
- Property Benefit
- Economic Benefit
- Project Feasibility (environmentally, politically, socially)
- Hazard Magnitude/Frequency
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development
- Potential project effectiveness and sustainability

The factors for the planning projects include:

- Benefit / Cost
- Vulnerability of the community or communities
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development

Since some factors are considered more critical than others, two ranking scales have been developed. A scale of 1-10, 10 being the best, has been used for cost, population benefit, property benefit, economic benefit, and vulnerability of the community. Project feasibility, hazard magnitude/frequency, potential for repetitive loss reduction, potential to mitigate hazards to future development, and potential project effectiveness and sustainability are all rated on a 1-5 scale, with 5 being the best. The highest possible score for a non-planning project is 65 and for a planning project is 30.

The guidelines for each category are as described in the sections below.

5.1.1.1 Benefit / Cost (BC)

The analysis process will include summaries as appropriate for each project as well as benefit / cost analysis results. Projects with a negative BC analysis result will be ranked as a 0. Projects with a positive BC analysis will receive a score equal to the project's BC analysis results divided by 40. Therefore a project with a BC ratio of 200:1 would receive 5 points, a project with a BC ratio of 400:1 (or higher) would receive the maximum points of 10.

FEMA Requirement §201.4(c)(4)(iii) details criteria for prioritizing communities and local jurisdictions that would receive planning and project grants under available funding programs. This should include consideration for communities with the highest risks, repetitive loss properties, and most intense development pressures. Further, the requirement states that for non-planning grants, a principal criterion for prioritizing grants shall be the extent to which benefits are maximized according to a BC review of proposed projects and their associated costs. For many of the initiatives identified in this plan, the County may seek financial assistance under FEMA's HMGP or PDM programs. Both of these programs require detailed BC analysis as part of the FEMA award process. Spokane County is committed to implementing mitigation strategies with benefits that exceed costs. For projects that do not require financial assistance from grant programs that require this type of analysis, the County reserves the right to define "benefits" according to parameters that would otherwise be considered subjective, while still meeting the needs and goals of the plan.

5.1.1.2 Population Benefit

Population benefit relates to the ability of the project to prevent the loss of life or injuries. A ranking of 10 has the potential to impact the entire population. A ranking of 5 has the potential to impact 50 percent of the population, and a ranking of 1 will impact approximately 10 percent of

the population. In some cases, a project may not directly provide population benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly effects the population, but should not be considered to have no population benefit.

5.1.1.3 Property Benefit

Property benefit relates to the prevention of physical losses to structures, infrastructure, and personal property. These losses can be attributed to potential dollar losses. Similar to cost, a ranking of 10 has the potential to save $400 million or more in losses. Property benefit of less than $400 million will receive a score of the benefit divided by $400 million, times 10. Therefore, a property benefit of $80 million would receive a score of 2 ([80,000,000÷400,000,000] x 10 = 2). In some cases, a project may not directly provide property benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly effects property, but should not be considered to have no property benefit.

5.1.1.4 Economic Benefit

Economic benefit is related to the savings from mitigation to the economy. This benefit includes reduction of losses in revenues, jobs, and facility shut downs. Since this benefit can be difficult to evaluate, a ranking of 10 would prevent a total economic collapse, a ranking of 5 could prevent losses to about half the economy, and a ranking of 1 would not prevent any economic losses. In some cases, a project may not directly provide economic benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly affects the economy, but should not be considered to have no economic benefit.

5.1.1.5 Vulnerability of the Community

For planning projects, the vulnerability of the community is considered. A community that has a high vulnerability with respect to other jurisdictions to the hazard or hazards being studied or planned for will receive a higher score. To promote planning participation by the smaller or less vulnerable communities in the State, the score will be based on the other communities being considered for planning grants. A community that is the most vulnerable will receive a score of 10, and one that is the least, a score of 1.

5.1.1.6 Project Feasibility (Environmentally, Politically, and Socially)

Project feasibility relates to the likelihood that such a project could be completed. Projects with low feasibility would include projects with significant environmental concerns or public opposition. A project with high feasibility has public and political support without environmental concerns. Those projects with very high feasibility would receive a ranking of 5 and those with very low feasiblitliy would receive a ranking of 1.

5.1.1.7 Hazard Magnitude/Frequency

The hazard magnitude/frequency rating is a combination of the recurrence period and magnitude of a hazard. The severity of the hazard being mitigated and the frequency of that event must both be considered. For example, a project mitigating a 10-year event that causes significant damage would receive a higher rating than one that mitigates a 500-year event that causes minimal damage. For a ranking of 5, the project mitigates a high frequency, high

magnitude event. A 1 ranking is for a low frequency, low magnitude event. Note that only the damages being mitigated should be considered here, not the entire losses from that event.

5.1.1.8 Potential for Repetitive Loss Reduction

Those projects that mitigate repetitive losses receive priority consideration here. Common sense dictates that losses that occur frequently will continue to do so until the hazard is mitigated. Projects that will reduce losses that have occurred more than three times receive a rating of 5. Those that do not address repetitive losses receive a rating of 1.

5.1.1.9 Potential to Mitigate Hazards to Future Development

Proposed actions that can have a direct impact on the vulnerability of future development are given additional consideration. If hazards can be mitigated on the onset of the development, the County will be less vulnerable in the future. Projects that will have a significant effect on all future development receive a rating of 5. Those that do not affect development should receive a rating of 1.

5.1.1.10 Potential Project Effectiveness and Sustainability

Two important aspects of all projects are effectiveness and sustainability. For a project to be worthwhile, it needs to be effective and actually mitigate the hazard. A project that is questionable in its effectiveness will score lower in this category. Sustainability is the ability for the project to be maintained.Can the project sustain itself after grant funding is spent? Is maintenance required? If so, are or will the resources be in place to maintain the project. An action that is highly effective and sustainable will receive a ranking of 5. A project with effectiveness that is highly questionable and not easily sustained should receive a ranking of 1.

5.1.1.11 Final Ranking

Upon ranking a project in each of these categories, a composite score can be derived by adding together each of the individual scores. The project can then be ranked high, medium, or low based on the following thresholds:

Project Ranking Priority Score Non-Planning Projects:

- High 40-65
- Medium 25-39
- Low 1-24

Project Ranking Priority Score Planning Projects:

- High 18-30
- Medium 12-17
- Low 1-11

The ranking of each project is included in the following tables. Additionally, the individual scores and final ranking of each action item are included in the Appendix D.

5.2 Possible Wildfire Mitigation Activities

As part of the implementation of wildfire mitigation activities in Spokane County, a variety of management tools may be used. Management tools include but are not limited to the following:

- Homeowner and landowner education
- Policy changes for structures and infrastructure in the WUI
- Home site defensible zone through fuels modification
- Community defensible zone through fuels alteration
- Access improvements
- Emergency response enhancements (training, equipment, locating new fire stations, new fire districts)
- Regional land management recommendations for private, state, and federal landowners

Maintaining private property rights will continue to be one of the guiding principles of this plan's implementation. Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gains to the public benefit will be an important component of decisions.

Of significant focus during the 2014 plan update cycle will be an outreach effort to increase landowners with stewardship plans, as it has been demonstrated that areas with such plans are very active in taking precautionary measures (such as working to reduce bark beetles), thereby reducing the risk of catastrophic wildfires. Working with the WSU, DNR will strive to increase involvement in this area during the life cycle of the plan.

5.3 Safety and Policy

Wildfire mitigation efforts must be supported by a set of policies and regulations at the County level that maintain a solid foundation for safety and consistency. The recommendations enumerated here serve that purpose. Because these items are regulatory in nature, they will not necessarily be accompanied by cost estimates. These recommendations are policy related in nature and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

Table 5.1. Action Items in Safety and Policy

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.1.a: Consider developing County policy concerning building materials used in high-risk Wildland Urban Interface (WUI) areas on existing structures and new construction.	**Protection of people and structures** by improving the ability of emergency response personnel to respond to threatened homes in high-risk areas. Planning Priority: High	**Lead** Spokane County Commissioners Office **Support:** Spokane County Fire Districts #1-13 and city fire departments.	(2013): On-going effort. Continue working with various agencies and departments to consider and develop policy to address construction materials for homes and businesses located in high wildfire risk areas. Specifically, a County policy concerning wooden roofing materials and flammable siding, especially where adjacent to heavy wildland fuels. 2008-2014 Progress: Working with appropriate County departments to determine feasibility of new standards.

Table 5.1. Action Items in Safety and Policy

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.1.b: Improve collaboration efforts between Spokane County and city building departments and local fire districts to increase the safety, defensibility, and emergency response aspects of plat development and mapping.	**Protection of people and structures** by improving plat development techniques to account for wildland fire issues. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Spokane County Building, Planning, and Engineering Departments and Spokane County Fire Districts #1-13.	2014 On-going effort. Will continue to work with various agencies and departments to provide information for consideration in developing policy to provide for improved collaboration between the County and local fire departments on plat development and planning processes. 2008-2014 Progress: Have provided County Planning Dept. with Firewise Building checklist and the defensible space brochures to have available to citizens and contractors who come in to apply for permits.
5.1.c: Continue to test and evaluate evacuation plans in communities throughout Spokane County.	**Protection of people and structures** by improving emergency responder's ability to evacuate an area as quickly and efficiently as possible. Planning Priority: High	**Lead:** Spokane County and city law enforcement departments **Support:** Spokane County Fire Districts #1-13	2014: On-going effort. Continue identifying areas with difficult or limiting ingress and egress and conduct tests and evaluations of evacuation plans. Ongoing: Educate area residents regarding the existence of an evacuation plan and how it works in their area. 2008-2014 Progress: Evacuation Plans have been updated to incorporate relevant information.
5.1.d: Consider developing County policy to encourage new home and business construction to install underground utilities.	**Protection of people and structures by** reducing the risk of wildfire ignitions. Planning Priority: High	**Lead:** Spokane County Planning Department **Support:** Spokane County Commissioners Office and utility companies.	2014: On-going effort. Continue working towards development of a policy to provide incentives for new utility lines to be buried underground. Collaborate with Spokane County Public Utilities District and local utility companies to implement this policy. 2008-2014 Progress: Much of the new construction throughout the County has buried utility lines underground.

Table 5.1. Action Items in Safety and Policy

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.1.e: Incorporate the Spokane County Community Wildfire Protection Plan (CWPP) into the Spokane County Comprehensive Plan, where applicable.	**Protection of people and structures** by incorporating this planning process with other County planning documents. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Spokane County Planning Department.	2014: On-going effort. Continue to incorporate the information from the CWPP into other Countywide planning efforts to make sure risks, strategies, goals and projects outlined in this plan coincide with elements of the County's Comprehensive Plan. (New 2014 Use the information from the CWPP to help develop exercises and training efforts that support planning efforts of the CEMP. 2008-2014 Progress: The CWPP planning team became heavily involved in the update of the 2014 Hazard Mitigation Plan (HMP) in an effort to enhance information exchange and planning efforts Countywide by providing valuable information for the risk assessment and strategy development.
5.1.f: 2014 Modification - Consider adopting Countywide regulations to insure fire-safe development of rural subdivisions (see National WUI Code from the International Code Council [ICC] or similar programs for specific recommendations).	**Protection of people and structures** by improving the ability of emergency services personnel to safely and effectively respond to home fires and decrease the overall fire risk in WUI areas. Planning Priority: High	**Lead:** Spokane County Planning Department **Support:** Spokane County Commissioners Office and Building Department, Spokane County Fire Districts #1-13, city fire departments, developers, and interested residents.	2014: Revised. Continue researching fire-safety related programs such as Firewise to determine specific recommendations for policy changes regarding development of rural subdivisions. Continue gathering public support of new regulations through outreach and public education programs educating citizens. Produce and submit necessary documentation to facilitate County adoption of recommended regulations. 2008-2014 Progress: Several residential developments have implemented programs internally to help regulate and mitigate fire danger. Mullen Hill Terrace Mobile Home Park and Denison Chattaroy have also developed CWPPs to help educate citizens and have taken appropriate land management actions to help reduce fire impact to their communities.

Table 5.1. Action Items in Safety and Policy

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.1.g: Consider developing a management plan to implement a fuels reduction program at recreational or high-use areas and trailheads.	**Protection of people and structures by** reducing the risk of wildfire ignitions. Planning Priority: High	**Lead:** Washington Department of Natural Resources (DNR), Bureau of Land Management (BLM), and U.S. Fish and Wildlife Service (USFWS), Spokane County, and Washington Parks and Recreation **Support:** Spokane County Fire Districts #1-13.	2014: On-going effort. Continue working with land management agencies to identify potentially hazardous locations, particularly in high use areas and obtain funding to complete and implement a wildland fire management plan. Complete management plan(s) and begin implementation process. 2008-2014 Progress: During this time period, several fuels reduction projects were completed based on the risk assessment conducted during the 2008 CWPP planning effort. These include fuels reduction at Hamblen Park within the City of Spokane (5 acres); San Souci Development, within the City of Spokane; 4 mound projects of 200 acres; 5 acres of demonstration sites at Palisades Park; and 10 acres at Regal Court Development within the City of Spokane.
5.1.h: Encourage the development of a separate fire marshal's office in Spokane County.	**Protection of people and structures by** improving fire departments' ability to complete fire inspections of new homes. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Incorporated cities of Spokane, Spokane Valley, Deer Park, Cheney, Medical Lake, Airway Heights, Liberty Lake, Latah, Waverly, Rockford, Fairfield, Spangle, and Millwood, and Spokane County Fire Districts #1-13.	2014: On-going effort. Continue working with County Commissioners and public to develop a plan to fund a separate fire marshal's office. 2008-2014 Progress: Due to the economic downturn, the development of a new position was not possible. However, the planning team feels this is an important strategy and will continue to work towards developing such a position in the future.
5.1.i: Expand the existing debris chipping efforts to a coordinated program that includes the development of set public dump days at collection points throughout the County; thus, one mobile chipping operation can travel to each site, chip the materials, and haul the debris off site for disposal.	**Protection of people and structures by** improving the efficiency and effectiveness of existing chipping programs. Planning Priority: High	**Lead:** Spokane Clean Air **Support:** DNR, Conservation District, and Spokane County Fire Districts #1-13.	2014: On-going effort. Continue working with interested partners to put together a concerted effort to develop an effective chipping program. 2008-2014 Progress: Since the development of the CWPP, the planning partners have held 2-3 chipping events annually throughout the planning region.

5.4 People and Structures

The protection of people and structures will be tied together closely as the loss of life in the event of a wildland fire is generally linked to a person who could not, or did not, flee a structure threatened by a wildfire. The other incident is a firefighter who suffers the loss of life during the combating of a fire. Many of the recommendations in this section will define a set of criteria for implementation while others will be rather specific in extent and application.

Many of the recommendations in this section involve education and increasing awareness of the residents of Spokane County. These recommendations stem from a variety of factors including items that became obvious during the analysis of the public surveys, discussions during public meetings, and observations about choices made by residents living in the WUI. Over and over, the common theme was present that pointed to a situation of landowners not recognizing risk factors:

- Fire district personnel pointed to numerous examples of inadequate access to homes of people who believe they have adequate ingress.
- Discussions with the general public indicated an awareness of wildland fire risk, but they could not generally identify risk factors.
- A large number of the respondents to the public mail survey (50 percent) indicated that they want to participate in educational opportunities focused on the WUI and what they can do to increase their home's chances of surviving a wildfire.

Residents and policy makers of Spokane County should recognize certain factors that exist today, that in their absence would lead to an increase in the risk factors associated with wildland fires in the WUI of Spokane County. The items listed below should be encouraged, acknowledged, and recognized for their contributions to the reduction of wildland fire risks:

Livestock grazing in and around the communities of Spokane County has led to a reduction of many of the fine fuels that would have been found in and around the communities and in the wildlands of Spokane County. Domestic livestock not only eat these grasses, forbs, and shrubs, but they also trample certain fuels to the ground where decomposition rates may increase. Livestock ranchers tend their stock, placing additional sets of eyes into the forests and rangelands of the County where they may observe ignitions or potentially risky activities. Livestock grazing in this region should be encouraged in the future as a low cost, positive tool of wildfire mitigation in the WUI and beyond.

Forest management: The forest management program of the Washington DNR has led to some reduction of wildland fuels; however, there is significant room for growth in fuels reduction programs. In addition, many private and industrial forestland owners have implemented very active forest management programs that are leading to a significant decrease in high-risk fuels. Furthermore, forests are dynamic systems that will never be completely free from risk. Treated stands will need repeated treatments to reduce the risk to acceptable levels in the long term.

Agriculture is a significant component of Spokane County's economy. The original conversion of these lands to agriculture from rangeland and forestland was targeted at the most productive soils and adjacency to water. Many of these productive rangeland ecosystems were consequently also at some of the highest risk to wildland fires because biomass accumulations increased in these productive landscapes. The result today is much of the landscape historically prone to frequent fires has been converted to agriculture, which is at a much lower risk than prior to its conversion. The preservation of a viable agricultural economy in Spokane County is integral to the continued management of wildfire risk in this region.

Prescribed fire can be used as a tool in forest and rangeland management programs to accomplish several goals. Prescribed fire, when done correctly and in appropriate areas, can help reduce hazardous fuel loads. Prescribed fire has also been used to prepare sites for seeding or planting, improve wildlife habitat, manage competing vegetation, control insects and disease, improve forage for grazing, enhance appearance, and improve access.

Table 5.2. Action Items for People and Structures

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.2.a: Incorporate forest health messages into all Firewise messages distributed Countywide. This effort will be led by WSU, with DNR providing information that can be incorporated in all outreach activities related to Firewise in attempt to increase forest health throughout the County. This is a 2014 explanation of the 2008 project that read: "Implementation of youth and adult wildfire educational programs."	**Protect people and structures** by increasing awareness of wildland-urband interface (WUI) risks, and instructing citizens on how to recognize risk factors and how to modify those factors to reduce risk. Non-Planning Priority: High	Cooperative effort including: • Washington Department of Natural Resources (DNR) • Washington State University Extension • State and Private Forestry Offices • Bureau of Land Management (BLM) • U.S. Fish and Wildlife Service (USFWS) • Local School Districts • Spokane County Conservation District • Local Non-Governmental Community Organizations • Local Fire District and Departments in Spokane County • Incorporated cities and communities of Spokane County	2013:On-going effort. Maintain funding for needed personnel and materials. 2008-2014 Progress: Utilizing existing resource, the planning team has held two Firewise workshops; has displayed Firewise information at County fairs, Ag Expo, the Big Horn Show; and countless in-class presentations since adoption of the Community Wildfire Protection Plan (CWPP).

Table 5.2. Action Items for People and Structures

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.2.b: Wildfire risk assessments of homes.	**Protect people and structures** by increasing awareness of specific risk factors of individual home sites in the at-risk landscapes. Non-Planning Priority: High	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, and local community organizations	2014: On-going effort. Continue working to secure funding for and to maintain and update a prioritized list of project areas. This will include the continued effort to complete the inspections, data development, and homeowner interviews necessary to develop the project area list 2008-2014 Progress: Washington DNR, Conservation District, and fire districts have completed hundreds of home site assessments. DNR is the clearing house and they use them to create a GIS layer with hazard levels of home sites.
5.2.c: 2014 Modification: Home site survivable zone treatments (modified from "defensible space").	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: High (2014 increased priority rating)	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	2014: Revised: Continue seeking funding opportunities and continue project planning based on information gathered in 5.2.b above. Once information is gathered, continue to conduct home site defensible space treatments to reduce high-risk fuels, landscaping, construction materials, etc. immediately surrounding home sites. 2008-2014 Progress: DNR has conducted hundreds of treatments over the course of the last several years (GIS layer of treatment locations available from DNR).

Table 5.2. Action Items for People and Structures

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.2.d: 2014 Modification: Community survivable zone treatments (changed from "defensible").	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding high-risk communities in the WUI of Spokane County. Non-Planning Priority: High	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	2014: Revised: Continue to seek and secure funding, while also continuing project planning efforts. During life cycle of the 2014 plan, continue to treat high-risk wildland fuels from home site defensible space treatments to an area extending 400 feet to 750 feet beyond home defensible spaces, where steep slopes and high accumulations of risky fuels exist near homes and infrastructure. Should link together home treatment areas. Treatments target high-risk concentrations of fuels and not 100% of the area identified. 2008-2014 Progress: DNR and the Spokane Conservation District have completed hundreds of projects throughout the County. DNR also maintains a GIS layer identifying those projects for use in determining future project locations.
5.2.e: Maintenance of home site survivable zone treatments. ("Survivable" zone treatments changed from "defensible.")	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: (2014 Ranking reduced from High) Low	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	2014: On-going effort. As projects and efforts continue, reassess home and community defensible space project sites for needed maintenance. Each site should be assessed 5 years following initial treatment. Home site defensibility treatments must be maintained periodically to sustain benefits of the initial treatments. 2014 Progress: While this was done based on the GIS layer maintained by Washington DNR, DNR will add this to their scope of work to ensure continued progress.

Table 5.2. Action Items for People and Structures

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.2.f: Develop educational handbook regarding construction in high-risk wildfire areas to be handed out with building permits.	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: Medium	**Lead:** Washington State University Extension **Support:** Spokane County Fire Districts #1-13, Spokane County Conservation District, Spokane County Building Department, and Washington DNR.	2014: On-going effort. Continue seeking source for and obtain funding to complete the project. Develop/assimilate information and materials to be included in a handbook. Review and update data, and assemble the handbook and printed copies to have on hand at County and city building offices and fire departments. 2008-2014: The planning team utilized Firewise Construction and Materials Checklist to provide information at various County and city offices. The planning team also used the Read-Set-Go! Brochures to provide information. While this project was completed during the 2008-2014 timeframe, as materials change and new information becomes available, existing information may need to be modified and updated as appropriate.
5.2.g: Encourage forestland owners to develop Forest Stewardship Plans for their property.	**Protect people, structures and forest environment by encouraging active forest management on forestlands.**	Lead: DNR, WSU Extension and Spokane County Extension	2014: Offer Coach Plan. Secure additional funding to assist landowners in developing Stewardship Plans.
5.2.h: Develop Stewardship plans for local parks conservation lands	**Protect people, structures and forest environment by encouraging active forest management on forestlands.**	Lead: Spokane County Extenstion, DNR and WSU	2014: Look at funding to write Stewardship plans.

5.5 Infrastructure

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supply that service a region or a surrounding area. All of these components are important to northeastern Washington and to Spokane County specifically. These networks are by definition a part of the WUI in the protection of people, structures, infrastructure, and unique ecosystems. Without supporting infrastructure a community's structures may be protected, but the economy and way of life lost. As such, a variety of components will be considered here in terms of management philosophy, potential policy recommendations, and mitigation recommendations.

Table 5.3. Action Items for Infrastructure Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.3.a: Support efforts to provide funding for upgrading the emergency service communication infrastructure to provide for better emergency response and notification Countywide.	**Protect people, structures, and increase firefighter safety** by improving communication capabilities for emergency response personnel. Planning Priority: High	**Lead:** Emergency Communications Committee **Support:** Spokane County Commissioners Office, Spokane County Fire Districts 1-13, and incorporated cities of Spokane, Spokane Valley, Deer Park, Cheney, Medical Lake, Airway Heights, Liberty Lake, Latah, Waverly, Rockford, Fairfield, Spangle, and Millwood.	2014: On-going effort. Year 1 (2008): Work together to implement public campaign to garner support for a levy that would provide funding for the Combine Communications Center improvement and upgrade project. 2014 Status: Several major upgrades have occurred during the 2007-2013 timeframe; however, this still remains a viable project for some of the fire districts in the region.
5.3.b: Improve access by evaluating and/or addressing load limits on privately-owned bridges.	**Protection of people, structures, infrastructure, and economy** by improving access for residents and firefighting personnel in the event of a wildfire. Reduce the risk of a road failure that leads to the isolation of people or the limitation of emergency vehicle and personnel access during an emergency. Non-Planning Priority: (2014 Priority lowered) Low	**Lead:** Spokane County Building and Planning Departments **Support:** Spokane County Commissioners Office, Spokane County Fire Districts #1-13, and private landowners.	2014: On-going effort. Year 1: Continue effort to update existing assessment of private bridges in Spokane County as to location. Seek grant-funding opportunities to help implement this project (grants). Years 2-3: Conduct engineering assessment of limiting weight restrictions for all bridges that are not currently rated. Year 4: Post weight restriction signs on all limiting crossings, copy information to rural fire districts and wildland fire protection agencies in affected areas. 2014 Progress: While the planning team attempted to gather this information during the 2008-2014 cycle, information was not easily accessible, nor readily available. However, as of 2013, there is a county bridge recently reduced in weight capacity, which has a direct impact to fire response capabilities (and evacuation) as the bridge serves as a primary access route, and emergency vehicles must now travel around the area. In conjunction with the HMP effort, this project has also been added as a potential project to that document as utilization of these bridges impacts response and evacuation for all hazards. Therefore, the planning team elected to maintain this project on the books, knowing that little may be accomplished, but feels that the information is still valuable should such occasion occur to capture the information.

Table 5.3. Action Items for Infrastructure Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.3.c: Improve access by conducting roadside fuels treatments.	**Protection of people, structures, infrastructure, and economy** by improving access for residents and firefighting personnel in the event of a wildfire. Allows for a road based defensible area that can be linked to a terrain based defensible areas. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and Washington Department of Natural Resources (DNR) **Support:** County Public Works, State of Washington (Lands and Transportation), Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and private landowners.	2014: On-going effort. Continue update of existing assessment of roads in Spokane County as to location. Continue to seek and secure funding for implementation of this project (grants). Years 2-4: Identify highest priority areas and begin project implementation. 2008-2014 Progress: Through the County's Geographic Information System (GIS) Department, a roads layer throughout the County has been significantly updated. Also, through the HMP update process, some of this information has been incorporated within the CIKR data. While not all roads have been assessed, this effort will be a long-term project to update important roadway infrastructure.
5.3.d: 2014 Modification: Work with local utility and railway companies to ensure power line and rail corridors are kept free of trees, brush, and other debris. (2014 modification to include railways.)	**Protection of people, structures, infrastructure, and economy** by decreasing the risk of ignitions from power lines. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and DNR **Support:** Utility companies	2014: On-going effort. On an annual basis, meet with identified partners and discuss options and potential improvements to current policies for the power line right-of-ways. Continue to develop recommendations to reduce the potential fire risk in power line corridors and discuss options with utility companies. The first phase of this project has been completed, but this is a long-term project that will be continued perpetually. 2008-2014 Progress: Avista Utilities, a major electrical provider within the planning region, has worked with DNR to produce a GIS layer identifying power line rights-of-way that need additional and frequent vegetation management. This will be an on-going joint effort between the utility companies and the County and State agencies.

5.6 Resource and Capability Enhancements

There are a number of resource and capability enhancements identified by the rural and wildland firefighting districts in Spokane County. All of the needs identified by the districts are in line with increasing the ability to respond to emergencies and are fully supported by the CWPP committee. The implementation of each project will rely on either the isolated efforts of the fire districts or a concerted effort by the County to achieve equitable enhancements across all of the districts.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.a: 2014: Completed. Enhance radio availability in each district, link in to existing dispatch, improve range within the region, and conversion to consistent standard of radio types.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Interoperable Communications Committee, Spokane County Fire Districts #1-13, and city fire departments **Support:** Spokane County Commissioner's Office and Washington Department of Natural Resources (DNR)	2008-2014 Progress: Project completed; however, as upgrades occur, this will again become a future project. Year 1 (2008): Summarize existing two-way radio capabilities and limitations. Identify costs to upgrade existing equipment and locate funding opportunities. Year 2 (2009): Acquire and install upgrades as needed.
5.4.b: Retention of volunteer firefighters.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** Wildland fire agencies working with a broad base of County citizenry.	2014: On-going effort. Target an increased recruitment (+10%) and retention (+20% longevity) of volunteers. Continue to develop and refine incentive program for implementation. 2008-2014 Progress: Several districts have increased volunteer firefighters during the course of the planning cycling. This has become increasingly important due to the economic downturn, and the fact that restrictions and reductions in force have resulted. Volunteers are playing a significant role in fire safety and firefighting efforts.
5.4.c: 2014 Modification: Establish a centralized GIS process to support Community Wildfire Protection Plan (CWPP) mapping, including: hydrants, underground storage tanks, low capacity bridges, and drafting or dipping pond sites Countywide.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County GIS Department **Support:** Spokane County Commissioner's Office, DNR, Spokane County Fire Districts #1-13, and city fire departments.	2014: Revised: Identify populated areas lacking sufficient water supplies and develop project plans to develop a permanent water source or drafting/ dipping sites. This will become increasingly important as new development occurs throughout the County. Continue to implement project plans and map development of known water sources and drafting/dipping sites to be provided to fire response agencies and County offices. 2008-2014 Progress: During the planning cycle, DNR has captured some of these data and information, some of which was utilized during development of the 2014 update to this CWPP.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.d: Increase training and capabilities of firefighters.	**Protection of people and structures** by direct fire-fighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** Spokane County Emergency Manager, DNR, U.S. Fish and Wildlife Service (USFWS), and Bureau of Land Management (BLM) for wildland training opportunities and with the State Fire Marshal's Office for structural firefighting training.	2014: On-going effort. Continue to develop a multi-County training schedule that extends 2 or 3 years in advance (continuously). Identify funding and resources needed to carry out training opportunities and sources of each to acquire. Continue implementing training opportunities for volunteers. 2008-2014 Progress: As resources were reduced due to budget constraints, this effort of a multi-county training schedule was very important as it provided greater opportunities for the region as a whole. Several new volunteer firefighters were hired and trained during this planning cycle. This has been very important due to the reduced budgets, staffing and available resources. Ready Reserve Grants and classes were utilized to meet some of these training needs.
5.4.e: Improve safety equipment and personal protective equipment for all fire districts in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** BLM, DNR, USFWS, and local community organizations	2014: On-going effort. Complete an inventory of all supplies held by the fire districts (boots, turnouts, Nomex, gloves, modern lighting, straps, and hardware), and complete a needs assessment matching expected replacement schedule. Develop Countywide re-supply process for needed equipment. 2008-2014 Progress: This is an on-going effort that is completed annually. Information for larger items, such as those shared within Memoranda of Understanding (MOU), is maintained in an Excel spreadsheet that was utilized during development of this plan (and attached as an annex).

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.f: Support the maintenance and/or enhancement of state and federal firefighting programs and resources in Spokane County.	**Protection of people and structures** by direct wildland firefighting capability enhancements. Planning Priority: High	**Lead:** DNR, BLM, USFWS **Support:** County Commissioners, Washington State Patrol, Spokane County Fire Districts #1-13, and city fire departments.	2014: On-going effort to provide community and County support for the State and federal fire and firefighting programs within the County. Assist State and federal fire programs in raising awareness of wildland fire issues in local communities. 2008-2014 Progress: Several community events were held throughout the planning cycle, including fairs, community meetings, Firewise presentations, etc.
5.4.g. 2014 Modification: Obtain funding for station upgrades and maintenance on all Spokane County fire districts, including an exhaust removal system for Spokane County Fire District #5.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High (2014 priority increased)	**Lead:** All City and County Fire Districts.	2014 Revised: During the 2014-2019 lifecycle of the plan, the planning team will continue to seek opportunities (including grants) to purchase necessary equipment and pay for required facility upgrades. Old Strategy: Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. 2008-2014 Progress: Needs assessment verified necessity. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment. 2008-2014 Progress: Unable to obtain funding to purchase materials needed specifically for FD #5; however, as funds have become more restrictive due to budget constraints, it has become apparent that several of the fire districts facilities are in need of upgrades.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.h. 2014 Modification: Provide additional funding for staff at all Spokane County Fire Departments and Districts. (Modified from Cheney Fire Department to include all districts.)	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** All Spokane County Fire Districts and Department	2014: On-going effort. Year 1: Verify stated need, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2: Acquire and deliver needed materials and equipment. 2008-2014 Progress: Limited funds have restricted enhancement of fire personnel. While some new hires have been made, staff resources are too low, and increasingly, many districts are required to rely more heavily on volunteers.
5.4.i: Facility, land, and basic equipment for a joint station for Spokane County Fire Districts #5 and #10.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High (2014 increase in priority)	**Lead:** Spokane County Fire Districts #5 and #10	2014: On-going effort to develop plan for joint Fire Districts #5 and #10 station. 2008-2014 Progress: No significant progress made. Therefore, priority for the 2014 plan has been increased.
5.4.j: Support the acquisition of new and updated rolling stock and other equipment for each fire district or department in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments	2014: On-going effort to obtain needed stock and equipment as identified. Year 1: Verify need, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2: Acquire and deliver needed materials and equipment. 2008-2014 Progress: Due to limited budgets, limited equipment was obtained.
5.4.k: Removed. Combined with 5.4.C Improve mapping of high fire-risk areas to include additional features such as low load capacity bridges, etc.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 **Support**: Spokane County GIS Department	2014: Removed - This effort has been combined with Strategy 5.4.C above.
5.4.l: 2014 Update: Project Completed. Obtain funding for mobile repeater for Spokane County Fire District #10 to improve communication capabilities in the Deep Creek area.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire District #10	2008-2014 Progress: Strategy Completed. Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.m: 2014 Modification: Seek out facility, land, generators, educational materials and basic equipment as needed for all Spokane County Fire Departments and District	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High (2014 priority increase)	**Lead:** Spokane County Fire District #3	2014: On-going effort, but expanded to include all districts and departments as needs arise. Year 1: Identify need, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2: Acquire and deliver needed materials and equipment.
5.4.n: 2014: Removed. Combined with 5.4.m above. Improve funding for educational materials including station internet capabilities and website administration for Spokane County Fire District #5.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #5.	2014: Removed. Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.o: 2014: Removed. Combined with 5.4.m above. Obtain funding for automatic generators.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city departments	2014 Removed. Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.p: 2014: Removed. Combined with 5.4.m above. Facility, land, and basic equipment for additional stations in the Elk-Chattaroy and Eloika Lake areas within Spokane County Fire District #4.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #4	2014. Removed. Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.q: 2014 Modification: Install additional water supply resources in all Spokane County Fire Departments and Districts. (2014 modification expands to all districts rather than just District #13.)	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High (2014 priority increased)	**Lead:** Spokane County Fire Districts #13	2014: On-going effort. Year 1: Develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2: Acquire and deliver needed materials and equipment. 2008-2014 Progress: No progress made.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan and 2014 Progress Report
5.4.r: Increase funding specifically for fixed-wing aerial fire suppression support to be located in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** DNR **Support**: Spokane County Fire Districts #1-13 and local residents	2014: On-going effort. Year 1 Develop needs assessment and budget, and locate funding and equipment sources. Year 1 or 2: Acquire and deliver needed materials and equipment. 2008-2014 Progress: Limited progress made during planning cycle due to budget restrictions.

5.7 Proposed Project Areas

The following project areas were identified by the CWPP planning committee as having multiple factors contributing to the potential wildfire risk to residents, homes, infrastructure, and the ecosystem. Treatments within the project areas will be site specific, but will likely include homeowner education, creation of a wildfire defensible space around structures, fuels reduction, and access corridor improvements. Specific site conditions may call for other types of fuels reduction and fire mitigation techniques as well.

The Washington DNR, USFWS, BLM, Spokane County Conservation District, and/or individual fire protection districts may take the lead on implementation of many of these projects; however, project boundaries were purposely drawn without regard to land ownership in order to capture the full breadth of the potential wildland fire risk. Coordination and participation by numerous landowners will be required for the successful implementation of the identified projects.

The estimated project cost was calculated by assuming an average treatment cost of $700 per structure ($400 per parcel for non-or sparsely forested areas and $1,000 per parcel in forested areas) for defensible space projects, $250 per acre for fuels reduction projects, and $700 per acres for roadside fuels treatments. Cost estimates assume that no revenue was generated by the removal of timber or other product and that only 100 percent of the property owners participate in the project. Defensible space projects may include, but are not limited to commercial or pre-commercial thinning, pruning, brush removal, chipping, prescribed burning, installation of greenbelts or shaded fuel breaks, and general forest health improvements.

The top projects in each SPA were given a priority ranking of #1-3 based on the recommendations of committee members.

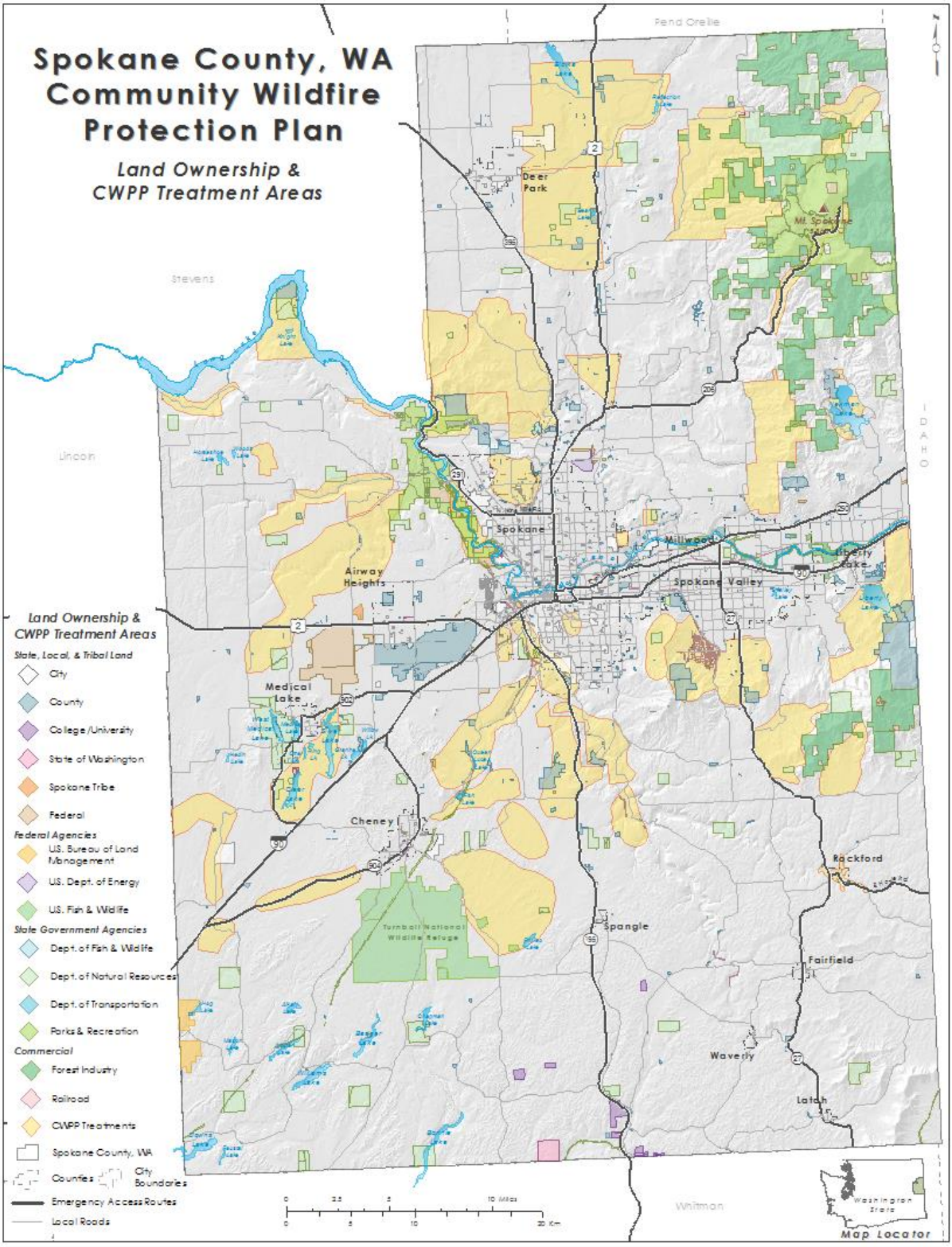
Table 5.5. Proposed Project Areas

Strategic Planning Area	Project Name	Project Type	Estimated Project Cost	2008 Priority Ranking	2014 Project Update/Current Status % Complete or New (N)	2014 Priority Ranking
1	Bernhill	Defensible Space	$90,300	2	10%	
1	Denison-Chattaroy Road	Fuel Reduction, Defensible Space, Access, Roads	$3,537,115	1	30%	
1	Hazard Road	Fuels Reduction	$291,800	3	50%	
1	Little Deep Creek	Fuels Reduction	$616,804		0%	
1	South Fork Deadman CK	Bridge Issues, Poor Phone Service	$250,000		10%	
1	Austin Road		$900,000		N	2
1	Bailey Lake		$1,200,000		N	1
1	Deer Creek		$600,000		N	3
2	Blanchard Road	Fuels Reduction	$794,590	3	5%	
2	Newman Lake East Shore	Access, Defensible Space	$170,450	1	0%	2
2	Newman Lake Peninsula	Access, Water Supply, Defensible Space			N	3
2	Newman Lake West Shore	Access, Defensible Space	$266,420	2	5%	1
2	FD #13	Water Supply Tank			N	
3	Coulee Creek	Bridge Issues, Fuels Reduction	$1,451,967		5%	
3	Deep Creek-Rambo Road	Fuels Reduction	$3,620,263	1	5%	1
3	Long Lake Road	Access, Fuels Reduction, Defensible Space	$524,858		5%	
3	Richie Road	Fuel Reduction, Defensible Space	$248,848	2	0%	3
3	Thorpe-Westwood	Access	$38,962	3	5%	2
4	Beacon Hill	Fuels Reduction	$55,848		25%	3
4	Liberty Lake	Fuels Reduction, Defensible Space	$2,693,361	1	5%	1
4	Qualchan	Fuels Reduction, Defensible Space	$1,918,229	3	10%	2
4	Riverside State Park	Fuels Reduction	$678,544	2	25%	
4	Rockwood	Defensible Space	$1,019,200		0%	
5	Campbell	Defensible Space, Access	$126,000	1	5%	1
5	Rockford	Fuels Reduction, Defensible Space	$361,847	2	0%	2
6	Aspen Meadows	Fuels Reduction, Defensible Space	$832,703	1	75%	
6	Clear Lake- Silver Lake	Fuels Reduction, Defensible Space	$1,894,135	3	0%	1
6	Fish Lake	Fuels Reduction, Defensible Space	$830,025		5%	
6	Hangman-Spangle	Fuels Reduction, Defensible Space	$573,982		0%	
6	Hwy 904	Fuels Reduction, Defensible Space	$822,931		5%	
6	Marshall	Fuels Reduction, Defensible Space	$2,043,925	2	10%	

Table 5.5. Proposed Project Areas

Strategic Planning Area	Project Name	Project Type	Estimated Project Cost	2008 Priority Ranking	2014 Project Update/Current Status % Complete or New (N)	2014 Priority Ranking
6	Paradise	Fuels Reduction, Defensible Space	$1,646,775		10%	
6	Tucker Prairie	Fuels Reduction, Defensible Space	$1,217,188		5%	2
6	Turnbull Area	Fuels Reduction, Defensible Space	$2,959,794		10%	
6	Tyler	Fuels Reduction, Defensible Space	$386,142		5%	3
6	Fishtrap Lake	Fuels Reduction, Defensible Space			N	1
7	Cedar Road	Fuels Reduction	$56,732		0%	
7	Charles Road	Fuels Reduction	$77,207	1	75%	
7	Five Mile	Access	$86,394		5%	
7	Forker Road	Fuels Reduction	$2,022,921	3	5%	
7	River Bluff	Defensible Space	$23,800		20%	
7	Rutter Parkway	Fuels Reduction, Defensible Space, Access	$676,408		15%	3
7	South Bank	Fuels Reduction, Defensible Space	$1,214,448	2	5%	1
7	Hazard Road	Education with FD4, Fuels Reduction, Communication			N	
7	Thierman Road	Fuels Reduction	$73,695		5%	2
8	Dishman Hills	Defensible Space	$1,393,000	1	10%	1
8	Hangman- Baltimore Road	Fuels Reduction, Defensible Space	$1,227,850	3	5%	3
8	Mica	Defensible Space	$124,600		10%	2
8	West Dishman Hills	Defensible Space	$86,800	2	40%	

Figure 5.1. Map of Proposed Projects



5.8 Regional Land Management Recommendations

Reference has been given to the roles that forestry, grazing, and agriculture have in promoting wildfire mitigation services through active management. Much of Spokane County is currently transitioning from rural agricultural or forest and rangeland to subdivisions and isolated developments around the outskirts of the city and in other desirable areas.

Wildfires will continue to ignite and burn depending on the weather conditions and other factors enumerated earlier. However, active land management that modifies fuels, promotes healthy range and forestland conditions, and promotes the use of these natural resources (consumptive and non-consumptive) will insure that these lands have value to society and the local region. We encourage the BLM, State Parks, the Washington DNR, USFWS, industrial forestland owners, private forestland owners, and all agricultural landowners in the region to actively manage their WUI lands in a manner consistent with reducing fuels and risks.

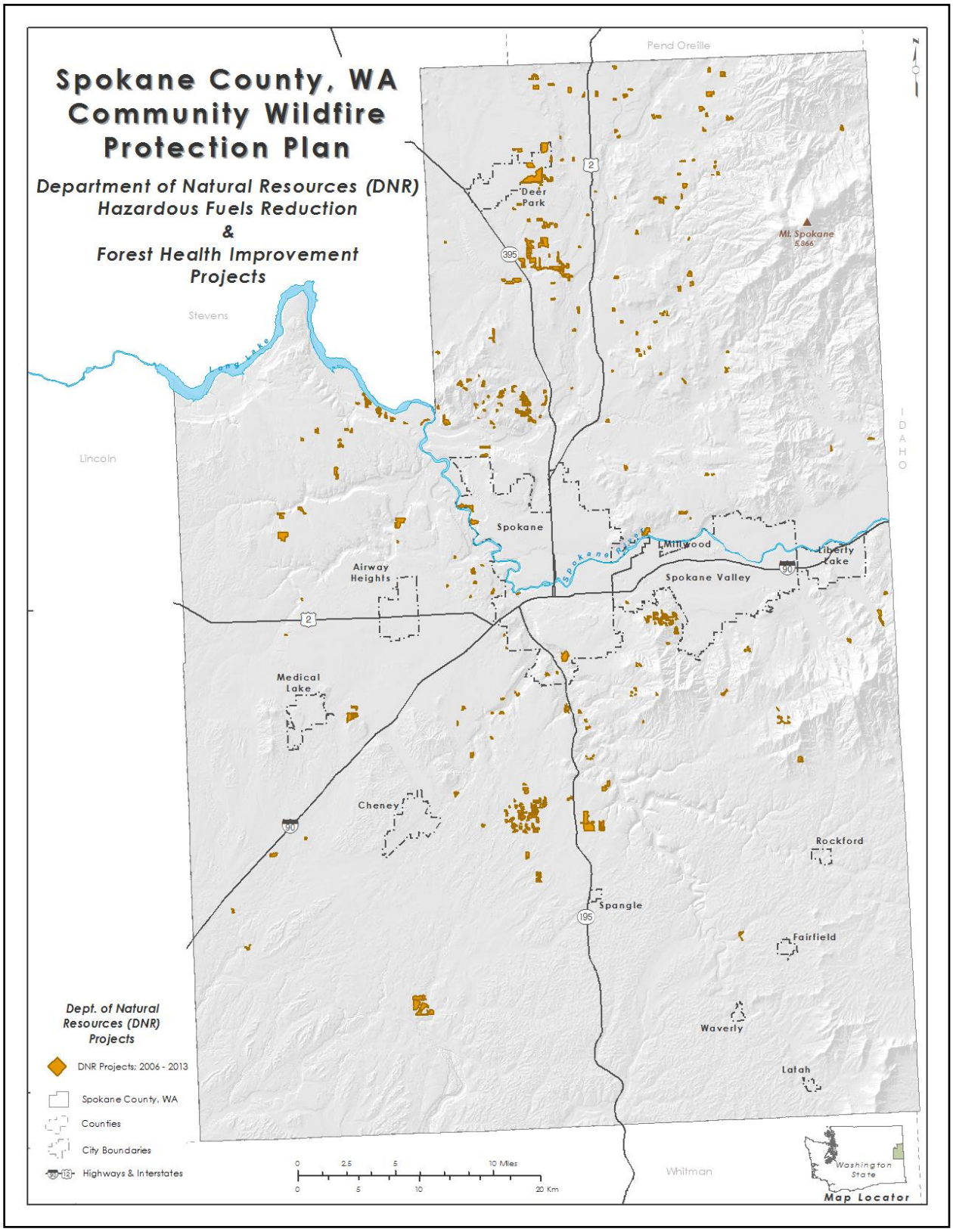
The following sections help identify were some of the land management agencies in Spokane County have completed, current, planned, or proposed fuel reduction projects. Knowing where agency projects are located can help this committee as well as other agencies prioritize their own fuels projects. Simultaneous fuels reduction projects occurring on adjacent properties are not only encouraged, but this can also help cut down on costs.

5.8.1 Washington Department of Natural Resources

The projects depicted on the following map were administered by the Washington DNR and funded in part by state and federal grants and landowner contributions. The management goal of these projects is primarily hazardous fuels reduction and forest health improvement. Treatments include tree thinning, pruning, chipping, mastication, biomass removal and piling and burning. Mapped projects date from July 2006 to present.

An overall modification to the 2014 update of the CWPP initiatives will include incorporating forest health messages into all Firewise messages distributed Countywide. This effort will be led by WSU, with DNR providing information that can be incorporated in all outreach activities related to Firewise in attempt to increase forest health throughout the County.

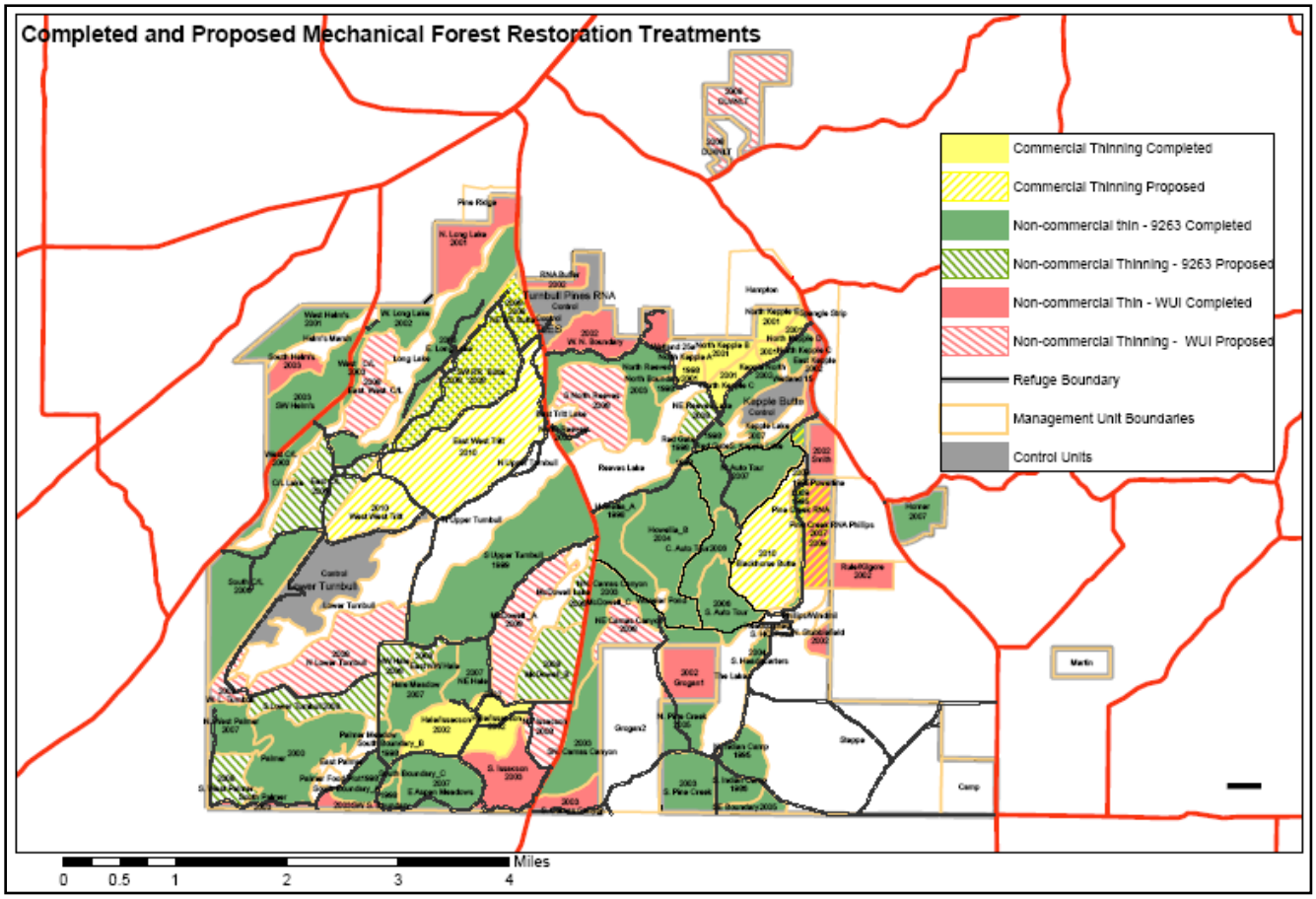
Figure 5.2. Washington DNR Fuels Reduction Projects – Spokane County



5.8.2 U.S. Fish and Wildlife Service

The projects depicted on the following map were recently completed or are in the planning stages on the Turnbull National Wildlife Refuge managed by the USFWS.

Figure 5.3. Turnbull National Wildlife Refuge Project Map



Chapter 6

6 Resolution of Adoption by the Spokane County Commissioners

The Spokane County Board of Commissioners hereby adopt the 2014 Community Wildfire Protection Plan by Resolution.

To be inserted on completion

6.1 Signature Pages

This Spokane County CWPP has been developed in cooperation and collaboration with the representatives of several organizations and agencies. The names of each agency and the signature of the respective representatives are listed in this section .

6.1.1 Signatures of Participating Spokane County Fire District and Departments

This CWPP and all of its components identified herein were developed in close cooperation with the participating entities listed.

By: Chief Bruce Holloway — Date
Spokane County Fire District #3

By: Chief Randy Johnson — Date
Spokane County Fire District #4

By: Chief Bonnie Cobb — Date
Spokane County Fire District #5

By: Chief Tony Neilsen — Date
Spokane County Fire District #8

By: Chief Jack Cates — Date
Spokane County Fire District #9

By: Chief Nick Scharff — Date
Spokane County Fire District #10

By: Chief Keith Yeman — Date
Spokane County Fire District #13

By: Chief Bobby Williams — Date
Spokane City Fire Department

By: Chief Bryan Musser
Medical Lake Fire Department

Date

By: Chief, Bill Tensfeld
Latah Fire Department

Date

By Chief Bryan Collins
Spokane Valley Fire Department

Date

By: Chief, Mike Winters
Cheney Fire Department

Date

By: Chief, Bill Tensfeld
Waverly Fire Department

Date

By: Chief, John Schoen
Airway Heights Fire Department

Date

6.1.2 Signatures of Participating Entities

This CWPP and all of its components identified herein were developed in close cooperation with the participating entities listed.

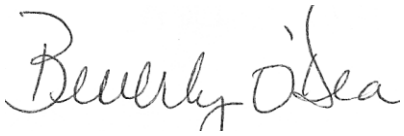
By: Date:
Washington State Department of Natural Resources, State Forester

By: Garth Davis Date:
Spokane County Conservation District

By: Date:
Washington State University Extension

By: Date:
U.S. Fish and Wildlife Service, Turnbull NWR

By: Gerry Bozarth Date:
Spokane City/County Emergency Management



January 10, 2014

By: Beverly O'Dea Date:
Bridgeview Consulting, LLC

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