BONNER COUNTY WILDFIRE PROTECTION PLAN

Prepared for:

Bonner County Commissioners 1500 Hwy 2
Sandpoint, Idaho 83864

Wildfire Protection Plan
Bonner County, Idaho

Prepared By:

BonFire Steering Committee

June, 2016

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PLAN ADOPTION

Adoption by the Bonner County Commissioners

_____ _____
Cary Kelly, Bonner County Commissioner Date

_____ _____
Glen Bailey, Bonner County Commissioner Date

_____ _____
Todd Sudick, Bonner County Commissioner Date

Approval by Idaho Department of Lands

_____ _____
Tyre Holfeltz, Community Fire Program Mgr. Date

Approval by Emergency Management

_____ _____
Bob Howard, Emergency Management Director Date

EXECUTIVE SUMMARY

Bonner County Wildfire Protection Plan Objective
The objective of the Bonner County Wildfire Protection Plan (CWPP) is to identify and prioritize hazards and needs associated with wildfire within Bonner County. This objective will be accomplished by public and official participation in identifying and documenting areas at risk from wildfire. Actions identified to decrease wildfire hazards and risk within Bonner County are focused on public safety, emergency services, county infrastructure, natural resources, and property protection. Additionally, this plan should provide Bonner County residents, public and private organizations with assistance and recommendations to reduce risk and hazards brought about by wildfires within Bonner County. Action items are focused on wildfire mitigation and as appropriate, all hazard mitigation.

Wildfire Plan Development and Organization
The CWPP will tier to the Idaho State Implementation Strategy for the National Fire Plan. Development and review of the plan was accomplished by the Bonner County BonFire Steering Committee.

Participation in the Bonner County Steering Committee included representatives from:

- Bonner County Commissioners
- Bonner County GIS
- Bonner County Emergency Management
- Bonner County Local Emergency Planning Committee
- Bonner County Fire Chiefs Association
- Idaho Department of Lands
- County Residents and Land owners
- Bureau of Land Management, Coeur d'Alene Office
- U.S. Forest Service, Priest Lake & Sandpoint Districts

Public participation was integrated by utilizing questionnaires that address wildfire concerns and suggestions, participation by homeowners, landowners, and one public meeting, information and data from community hazard identification, and mitigation reports conducted within Bonner County by Clark Fork Volunteer Fire Dept, Coolin-Cavenaugh Bay Fire District, Hope/East Hope Volunteer City Fire Department, North of the Narrows Fire District, Northside Fire District, Selkirk Fire Department, Sam Owen Fire District, Schweitzer Fire District, Spirit Lake Fire District, Timberlake Fire District, West Bonner Fire District, West Pend Oreille Fire District, West Priest Lake Fire District, Westside Fire District, Idaho Department of Lands & the U.S. Forest Service.

Bonner County Wildfire Protection Plan Priorities

The priorities of the plan were developed by the Bonner County BonFire Steering Committee and are standard priorities for most risk assessments, hazard reduction activities and wildfire incidents.

1. **Protection of Life**: Identify and provide mitigation recommendations for areas of high wildfire risks that are in or adjacent to homes and communities, and improve critical county infrastructure facilities.

2. **Protection of Property**: Identify and provide mitigation recommendations for properties of moderate and high wildfire risk. Increase public awareness through education, training, and information sharing that addresses wildfire risks and mitigation measures.

3. **Protection of Resources**: Identify resources that are at risk from wildfire and implement natural resource planning to protect these resources.

4. **Improve Wildfire Emergency Services**: Improve county infrastructure and wildfire emergency service planning, training, communications, and equipment.

5. **Increase Public Awareness of Wildfire Prevention**: Increase public awareness of Firewise practices and wildfire prevention through education, training, and information sharing.

6. **Improve Partnerships for Implementation**: Utilize partnerships currently established and develop additional participation with State, Federal, and private organizations.

Bonner County Wildfire Protection Plan Recommendations

The recommendations developed for Bonner County's Wildfire Protection Plan are presented by Bonner County BonFire Program and are located on private, State and Federal land within the county. The recommendations have received input and review by all members of the BonFire Steering Committee.

Action Item Organization
The tabulated action items presented in Tables 4.1-4.2 include a short explanation to meet the stated objectives. The tables also describe the timeframe, hazard type, and coordinating organization for each item.

The action items primarily address wildfire hazards; however, numerous action items will also mitigate other emergency situations.

Organizational Collaboration for the CWPP includes private land owners, communities, county, state, and federal agencies that have regulatory, programmatic; stewardship or oversight responsibilities and that can provide expertise, assistance, coordination, and organization for action item implementation.

Bonner County Wildfire Protection Plan Adoption
As the administrators of the CWPP, the Bonner County Board of County Commissioners has the responsibility to adopt the plan. Final signature authority is provided by the Bonner County Commissioners.

Plan Maintenance
The plan maintenance section includes recommendations for annual plan review, and monitoring. An annual re-evaluation of priorities for action items and progress is also recommended. A total plan revision should be completed every five years. This plan maintenance will be directed by the Bonner County Emergency Management, and coordinated with the Bonner County Fire Chief's Association, Bonner County Emergency Management Planning and Preparedness Coordinator, and members of the BonFire Steering Committee.

Economic Analysis
An economic analysis of potential loss as a result of wildfires in Bonner County is provided in Appendix C. Though total potential loss from catastrophic wildfires is variable by year, the cost/effectiveness of fuel treatments, county infrastructure improvements, and emergency wildfire services improvements will provide benefits to the primary objectives: protection of life, and protection of property.

1.0 INTRODUCTION

Bonner County was established February 21, 1907 with its county seat at Sandpoint. It was named for Edwin L. Bonner, who in 1864 established a ferry on the Kootenai River where the town of Bonners Ferry is located. The ferry became an important site in emigrant travel between Walla Walla to the placer and quartz mines in British Columbia. The county is a significant recreational and tourism resource for the State of Idaho. During the past 40 years, residents and visitors to Bonner County have experienced numerous wildfires, floods, landslides, earthquakes, severe winter storms, and hurricane force windstorms, greatly impacting life and property within the county.

1.1 Plan Methodology

The CWPP was initiated by the Bonner County Commissioners, Bonner County, Idaho in 2002 and updated in 2010 and 2016.

The Commissioners required that the plan:

- Coordinate with the Idaho State Strategic Plan for the implementation of the National Fire Plan, and
- Utilize the format developed for all hazard mitigation plans provided by the Federal Emergency Management Agency (FEMA).

The Bonner County BonFire Program is based on information, research, and data from numerous County, State, Federal and private sources and was developed by the Bonner County BonFire Steering Committee. This group consisted of Bonner County residents, Fire Fighters, County Fire Chiefs, Bonner County Emergency Management Director, Foresters and Fire Managers of the Idaho Department of Lands, Land Managers and Fire/Fuels Managers of the U.S. Forest Service and the Bureau of Land Management. (Appendix C, Bonner County BonFire Steering Committee).

1.2 Plan History

Originally, the BonFire Steering Committee conducted regular meetings from 2005 on. Wildfire hazard questionnaires were distributed and completed by residents of the county. Affected public administrator interviews were conducted. Evaluation of wildfire hazards were completed on WUI areas in Bonner County relating to their fuels type, condition, density, combined with slope, aspect and soil stability

Annual plan review and updated as required; hazard ratings, wildland-urban interface (WUI) areas, and action items including hazardous fuels projects, prevention & education, and facilities & equipment needs were updated.

In 2015, the process to update the plan was initiated. Some of the plan update meetings and public outreach activities were held in conjunction with the County's All Hazard Mitigation Plan update process. A series of meetings were held, and an all hazards mitigation public meeting was held. Furthermore, maps were updated, the WUI definition was reevaluated and updated, and action items were identified and reassessed.

2.0 BONNER COUNTY PROFILE

2.1 Geography

Bonner County encompasses 1.12 million acres, or about 1,738 square miles. About 39.6% of the county's land is privately owned. The remainder is owned by the state (15.2%), federal (44.4%) or local governments (0.8%). In the past five decades, the number of people per square mile has nearly tripled. In 1970, there were 9 people per square mile. The number jumped to 14.0 in 1980, eased up to 15.3 in 1990 rose to 21.2 in 2000. By the 2010 census, there were 23.6 people per square mile in Bonner County. This number represents all lands, including government-owned lands, where few if any people reside. If only the private lands are factored into the formula, the people per square mile would be 58.1. Idaho's number of people per square mile in 2010 was 19, factoring in all private and government lands.

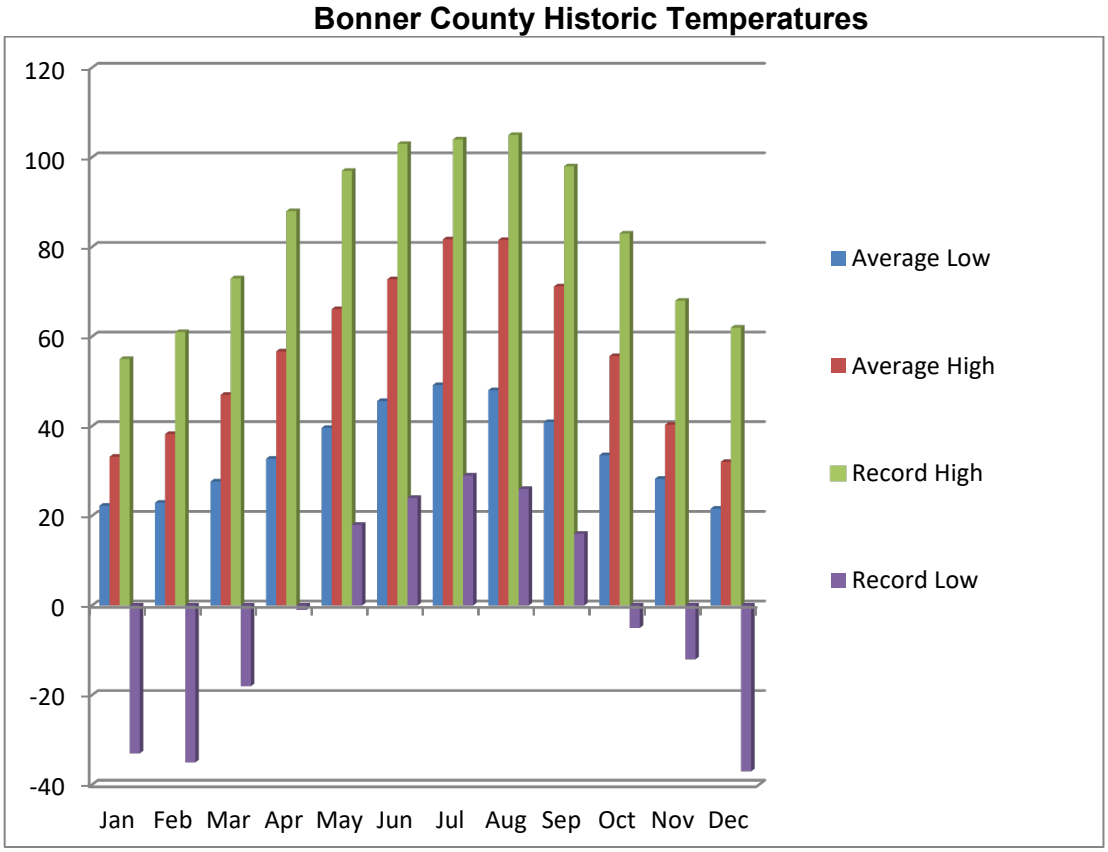
2.2 Current Population and Population Trends

The county seat is located in the city of Sandpoint, Idaho. Other populated areas include the cities of Priest River, Oldtown, Dover, Hope, Clark Fork, Ponderay, and Sagle with development occurring county-wide. The original Plan lists the population of Bonner County since 1960. The table is to be updated by listing the population for 2014 (the most recent year available) at 41,585. This new data is from the US Census Bureau Population Estimates. This is an incline from the estimated population for 2011 of 40,877. Bonner County experiences a significant seasonal increase in population brought about by summer vacationers and winter skiers. This segment of the county's population has been estimated to be between 30% and 50% above the base population.

2.3 Fire Weather & Climate

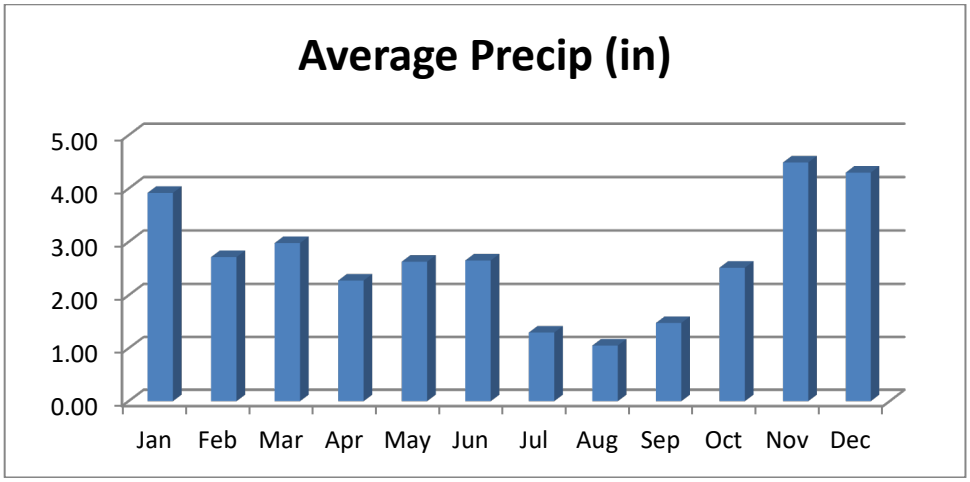
Fire has plagued forests in the Bonner County area for centuries. Prior to 1905, fall snows were the only means of extinguishing fires. With the advent of the US Forest Service in 1905, meager efforts were made to control wildfires on public lands. These efforts, lacking manpower, were overwhelmed by the fires of 1910. During the 1910 fires, more than three million acres of forest land were burned over in areas of northeast Washington, north Idaho, and western Montana. In the middle of this inferno, four national forests that existed in the present boundaries of Bonner County lost a great deal of timber. As a result, the Pend Oreille National Forest spent over $45,000 in 1910 to control the fires of that year, compared to the $2,400 spent in 1909.

Temperatures:



Highest ave. daily maximum temperature occurs in July and August, and is 81.7/81.6º F.
Lowest average daily minimum temperature occurs in December, and registers at 21º F.

Precipitation:
The driest months are typically July and August, and the wettest month is November.



2.4 Vegetation

Though forest lands cover nearly 85% of the County's land base, the 1978 Comprehensive Plan did not designate timber production areas or prime forest land in the plan. The plan noted a trend toward "subdividing larger wood lots into five, ten, and twenty acre parcels which effectively takes this part of the resource out of production. Timber is Bonner County's (sic) primary renewable resource. Timber conservation management should be encouraged on both public and private lands" (Bonner County, 1978).

Historically fire played an important role in the development of the vegetation in the county. Exclusion of fire and reduced mechanical treatment of the mixed conifer forests of the county has resulted in increased wildland fuels accumulation with overabundant seedling and sapling sized trees on areas of private and public lands. This accumulation, combined with development in or adjacent to the forests of the county, has increased risk of economic loss by wildfire to residents of these areas.

2.5 Bonner County Topography

The mountainous terrain of Bonner County contributes to the wildfire hazard. Major drainages include extreme slopes and this terrain enhances increased rates of spread by wildfires though radiant heat, which preheats fuels uphill from a fire. The rugged topography in the county makes access to wildfire ignitions difficult and time consuming for ground wildfire suppression forces. Human caused fires in Bonner County typically occur at lower elevations near residences, transportation corridors and camping areas. During periods of high or extreme fire danger these ignitions can rapidly spread uphill and may result in entrapment on dead end roads crossing through steep terrain.

2.6 Geology

Bonner County is within the Northern Panhandle of Idaho. About 9.5 percent, or 183 square miles, of Bonner County's total area is surface water–the most of any Idaho county (County Profiles of Idaho, 1999). Bonner County's Lake Pend Oreille is Idaho's largest natural lake, covering 90,000 acres and reaching depths of about 1,200 feet. Watersheds in the Cabinet and Bitterroot Mountains are primarily within the Belt Series bedrock type, and streams draining the Selkirk Mountains are largely within the Kaniksu batholiths (granitic bedrock type). The Belt Series consist of metamorphic sedimentary deposits. These rocks were formed during the Precambrian period when shallow seas inundated northern Idaho. The metamorphosed rocks in the basin include argillite, siltite, quartzite, and dolomite.

2.7 Soils

Only about 65,565 acres, or about 6% of the soils studied in Bonner County meet the requirements for prime farmland (Natural Resources component of the Bonner County Comprehensive Plan). This acreage is scattered throughout Bonner County, but most of it is in the southwestern and north-central portions of the County. About one-third of this prime farmland is used for crops and pasture. The balance is woodland. The main crops grown on this land are spring wheat, oats, barley, and grass-legume hay. A total of 12 soil types are listed as farmland of statewide importance. There are 70,285 acres of land in Bonner County which has a soil type considered to be of agricultural importance, though not necessarily listed as "prime" by the soil survey (Wood).

2.8 Wildlife

The varied vegetation and topography of Bonner County offer diverse habitat for a wide variety of wildlife. The plentiful waters provided by the County's rivers, lakes, and streams are wintering and breeding grounds for hundreds of bald eagles and ospreys and thousands of waterfowl. Forested foothills and mountains and the broad grass valleys provide habitat for moose, bear, elk, and deer and countless species of song birds, fur-bearing mammals, predators, and non-game animals. Wildlife is an important resource to Bonner County in terms of aesthetic values, economics, and recreation.

2.9 Recreation

Bonner County has recognized the numerous public and private recreational opportunities that are a major County asset to be protected and encouraged. Many parks, the large tracts of public lands, and campgrounds adjoin private lands. Vistas, parkways, scenic drives and trails encompass portions of the travel-ways in the County. Golf resorts and water-related recreation activities, including marinas/boat access, beaches/public access, fishing, make Bonner County a summer destination for much of the Inland Northwest; while fall and winter time activities including hunting, downhill skiing, snowshoeing and snowmobiling

Wildfires may result in an increase in big game habitat and long term improvement in hunting opportunities, but will likely reduce access and visual clarity during the event, which may impact the full spectrum of recreation activities in the area. As the population in counties adjacent to Bonner County has increased, the recreational use of Bonner County's Federal and State lands has also increased. Summer and winter recreational activities available in Bonner County are also enjoyed by outdoor enthusiasts on a national, as well as an international basis.

Bonner County seeks to develop a waterways and park access program to preserve and develop access to public recreational lands and waterways. Land based activities include, but are not limited to: camping, hiking, mountain biking, birding, hunting, snowmobiling, snowshoeing, snowboarding, downhill and cross country skiing. Schweitzer Ski Area located in Bonner County hosts numerous skiers during winter months.

2.10 Bodies of Water: Rivers, Creeks, Watersheds

Lake Pend Oreille is the largest lake in Idaho. It is approximately 43 miles long and up to 6 miles wide, with 114 miles of shoreline. There are many public and private beaches surrounding the lake ranging from sandy to rocky. Priest Lake is one of the three largest lakes in the Idaho Panhandle, and a very popular recreation area. Priest Lake is actually two lakes, Upper and Lower Priest Lake, connected by a 2.5-mile thoroughfare. The lake is 25 miles long with 80 miles of shoreline. This 80-mile shoreline offers numerous sandy beaches, mostly undeveloped. Besides providing recreational opportunities and watershed provisions, the river and its tributaries provide a water source for engines and helicopters during wildfire suppression operations. River flow rates generally peak in June with low flow rates in August and September. Watershed protection, stabilization, and water quality are high priorities for the county's private, state, and federal land managers or owners.

2.11 Transportation

Five state highways and four major arterials carry thousands of vehicles daily through the boundaries of Bonner County.

U.S. Highway 95, Idaho's major north-south transportation corridor connecting the region to Canada and southern Idaho, traverses Bonner County from north to south. The highway cuts through the center of the City of Sandpoint and connects with State Highways 200 and 2 just north of Sandpoint in Ponderay. State Highway 2 and Highway 200 East are east-west thoroughfares, connecting Bonner County to Washington State on the west and Montana on the east. A north-south route from Priest River to Priest Lake is provided by State Highway 57 and to Kootenai County by Highway 41 at Oldtown. Traffic counts for the year 2000, on Highway 95, taken 10 miles north of Sandpoint, reveal an average of 6,865 vehicles per day (annual average) use this route. State Highway 2's annual daily average for the year 2000, measured 2.6 miles east of the Idaho/Washington border near Oldtown was 7,201 vehicles. The state's traffic count for State Highway 200, measured 6.4 miles east of U.S. Highway 95 at Kootenai was 3,633 vehicles daily based on an annual average (Idaho State Transportation Department). Totals for State Highways 41 and 57 were not reported. The state highways in Bonner County are the primary routes in and out of the area which could greatly be impacted by wildfire.

County Roads

The Bonner County Road and Bridge Department is responsible for maintenance of 709 miles of roads in the county. Bonner County's main thoroughfares include Dufort Road, Colburn-Culver Road, Bayview Road and North Boyer Avenue. Bonner County's daily traffic counts for Dufort Road, taken from a May 1998, study, tallied 925 west-bound vehicles and 933 east-bound vehicles. A one-way traffic study in September of 1996, for North Boyer Avenue recorded that 957 vehicles per day (averaged over a week) used the main north/south transportation route that links the City of Sandpoint to Schweitzer, Sandpoint's airport, the County fairgrounds and U.S. Highway 95 to the east. The traffic counts are a daily average based on a week-long traffic study. Recent studies of Colburn Culver and Bayview roads were not available (Marshall).

Forest Service Roads

The USDA Forest Service, Idaho Panhandle National Forest, maintains numerous two-lane gravel roads throughout the county for recreation and logging access. Some of these have been closed and many are currently gated with access allowed seasonally or during a wildfire. The Idaho Panhandle National Forest has recommendations and requirements for these roads, and a travel plan with requirements for the trail system and off road or trail travel. All U.S. Forest Service roads are also vulnerable to closure by wildfire.

2.12 Aviation Facilities

The Sandpoint Airport, located on approximately 60 acres in northwest Sandpoint, was established in the 1940s. The airport is operated by Bonner County. The elevation at the Sandpoint Airport is 2127. The asphalt runway is 5,500 feet long and 75-feet wide and is listed in good shape. Much of the air traffic using the Sandpoint Airport arrives from other destinations, rather than originating in Sandpoint. The airport registers about 18,000 operations (take-offs and landings) annually. About 40 percent of the air traffic is business-related. Another 40 percent use the Sandpoint facility for tourism-related activities, while the remaining 20 percent is attributed to recreational flying or training. The Sandpoint Industrial Park adjoins the airport site and draws traffic to the facility. Overnight delivery and parcel service companies use the airport on a daily basis. The Sandpoint Airport also sees traffic from medical flights and U.S. Forest Service firefighting planes and is beginning to see greater traffic from owners of recreational or second homes in Bonner County.

Priest River Municipal Airport, located east of State Highway 57 and north of the City of Priest River, is operated by Bonner County. Established in about 1921, it is the oldest airport in the area. The airport and associated facilities encompass about 44 acres. The Priest River Airport receives its heaviest use during the summer months, when tourists and second-home owners arrive in the area. Priest River's facility is the closest paved airport to Priest Lake, a popular tourist destination. Traffic is also generated by the financial industry, mills, construction work, U.S. Forest Service projects, medical flights and general recreational aviation. The Priest River Airport has seen its greatest growth in the past five years

The Priest Lake Airport is located about 3 miles south of Nordman, on the west side of Priest Lake, west of State Highway 57. The airstrip is public and operated by the U.S. Forest Service. The landing strip receives about 23 flights per week.

The Cavanaugh Bay Airport is located about 3 miles north of the Coolin townsite on the east side of Priest Lake. The airport is open to the public, but unattended. The grass runway is 3,100-feet long by 120-feet wide. There is no winter maintenance of the airstrip. A wind indicator is provided. There are no services. The airport's proximity to Priest Lake and the area's marinas and resorts attracts seasonal air traffic. The facility registers about 86 flights per week on the average.

2.13 Rail Transportation

The Washington Division of the Burlington Northern/Santa Fe line (BNSF) extends through Bonner County from Athol to Elmira, and north to the county line. There are two junctions in Bonner County; one in Sandpoint and one in Dover. The BNSF line enters Bonner County on the southern border at Section 32, Township 54 North, Range 3 West. It exits the county at the northern border at Section 3, Township 59 North, Range 1 West. In addition, BNSF operates the Montana Rail Link Railroad which handles freight between Kootenai, Idaho, and Butte, Montana. This line enters Bonner County on the western border of the county near Oldtown. The line travels east exiting the county into Montana at Section 27, Township 55 North, Range 3 East.

Union Pacific Railroad enters the county from the north at Canada and exits the southern part of the county in Kootenai County.

The Pend Oreille Valley Railroad enters the county from the West, Oldtown, ID and ends in

Amtrak's Empire Builder passenger train serves Sandpoint on a daily basis. Two trains travel daily between Chicago and Seattle/Portland, passing through Bonner County.

2.14 Emergency Services

Law enforcement and 911/dispatch services throughout the county are provided by the Bonner County Sheriff's Office (including the incorporated cities and communities of Clark Fork, Hope, East Hope, Kootenai, Oldtown, Blanchard, Priest River, Priest Lake, Nordman, Coolin, Cocolalla, Careywood, Dover, and Sagle).

There are 12 Fire Departments, 3 Idaho Department of Lands forest protected districts, and 2 United States Forest Service districts in Bonner County with varying degrees of capability. Most of the rural fire districts are primarily structure protection oriented and will fight wildfires when homes are threatened. The majority of the fire fighters in the fire districts are volunteers. Following is a list of equipment, personnel, and facilities for each of the fire districts/departments in Bonner County. The size of each district is also included. The fire districts/departments in Bonner County were asked to identify equipment and facility needs to help mitigate the risks associated with wildland fire.

Bonner County EMS is a third-service rural/wilderness EMS agency responsible for providing transport services to the residents and visitors of Bonner County with 9-1-1, critical care and inter-facility transports. Their call volume is approximately 4,000 per year. Direct operations are housed from stations in Sandpoint, Sagle and Priest River. They operate 24×7 from these stations 2 ILS ambulances, 3 ALS ambulance, and 1 Paramedic intercept vehicles. Bonner County EMS works with several partners in support of transport services they provide in Bonner County including Schweitzer Fire, Kootenai County EMS, Clark Fork Ambulance, Newport Ambulance and Priest Lake EMT's Inc. additionally, many of the local fire departments provide EMS services, technical rescue and vehicle extrication.

Priest Lake Search and Rescue (PLSAR) is a volunteer-supported non-profit that provides back country search and rescue resources when requested through the Bonner County Sheriff's Office.

2.15 County Vulnerability

Bonner County infrastructure, homes, transportation corridors, watersheds, air quality, and other natural resources are an important part of the welfare, quality of life, visitation and beauty of the county. The county has 25,269 housing units in the years 2007-2011, five state highway and four major arterial transportation corridors, watersheds that are vulnerable to wildfire and support recreation, irrigation, and endangered species. Timber resources located on private, state and public lands are also vulnerable to loss due to high intensity wildfires. Several fire districts, the U.S. Forest Service and Idaho Department of Lands

provide fire protection for all of Bonner County. County emergency services communications and computer support are critical to life and safety in Bonner County. Improvement, updating and planning in these areas are necessary for future fulfillment of emergency service response to residents, visitors, cooperators, and those traveling though the county. Communication and computer support infrastructure upgrading requirements are identified in the hazard prioritization and mitigation strategy sections.

3.0 HAZARD IDENTIFICATION, RISK

The most significant fire in Bonner County since the Original Plan was the Cape Horn and Three Sisters fires in 2015. Six structures burned in the Cape Horn fire (Kootenai County), multiple threatened. Nationally we see more fires and larger fires each year as the fuel load increases in areas that have not burned. This gives emphasis to the fact that fires are getting larger and more complex.

3.1 Fire District Resources and Needs

Clark Fork Volunteer Fire Department

The Clark Fork Fire Department has one fire station in Clark Fork. The district provides services to 77 square miles extending from the Montana border to the eastern shore of Lake Pend Oreille, plus class 8 protection to the City of Clark Fork. Automatic aid is provided to the Sam Fire Protection District. Mutual aid is available to the Heron, Montana Fire District, IDL and the USFS. There are no plans to expand the fire district.

Fire Apparatus Includes:

One Type 1 Engine
One 2,000 gallon Tender/Pumper
One Type 4 Engine

Personnel:

The Department has fourteen volunteer fire fighters.

Needs:

Replacement Type 1 Engine
One Type 6 Engine
One Interface Type 2/3 Engine
One Mobile Repeater
One Air Compressor and Cascade System
Structural PPE for Volunteers
Wildland PPE for Volunteers
Updated portable radios for Volunteers
Updated SCBA's for Volunteers

Coolin-Cavanaugh Bay Fire District

The district covers 6,187 acres and has one fire station located in Coolin. Plans for the future include the construction of a new fire station in Cavanaugh Bay.

Fire apparatus includes:

Two Type 2 Engines (1 @ 1200 gallons, 1 @ 750)
Two type 6 engines (one CAFS 350 gallons, one water supply brush truck with 400 gallons)
One Water Tender (2600 gallons).
One fire boat (385 GPM pump and fire hose)
One 10,000 gallon cistern hooked to a well.
One 10,000 gallon cistern not hooked to a well.

Personnel:
40 volunteers. A paid Fire Chief, two Captains, one Lt., a
Training Officer and three Fire Commissioners.

Needs:
Mobile water
Addition to existing fire station to house needed mobile water
Thermal Imaging Camera
Station in Cavanaugh Bay area
Volunteer PPE
SCBA systems

Hope/East Hope Volunteer City Fire Department

The fire district has one fire station located in East Hope and provides structure protection, rescue/extrication within both city limits. The fire department also provides the same services west to milepost 41 on Highway 200. Structure protection is provided through a fire contract basis. The fire department has an automatic aid agreement with Sam Owen Fire District and Clark Fork Fire. The department is currently expanding its communications with the addition of a narrow band BHF repeater based at the fire station. The department has plans to add a Type 1 structure engine to the fleet.

Fire Apparatus includes:
One Type 4 Engine
One Type 3 Tender
One Brush Truck
One Rescue/Extrication vehicle

Personnel:
The department has eight volunteer fire fighters.

Needs:

- Type 1 Structure Engine
- Small boat tor water rescue and access to Warren Island Additional
- Wildland Engine
- Volunteers

North of the Narrows Fire District

The district covers 2,270 acres and has one fire station. Fire hydrants at Huckleberry Bay Development. Plans for the future include the expansion of the existing fire station or the addition of a second station at the South end of the District.

Fire apparatus includes:
One, Type 2 engine 4x4
One, Type 6 engine 4x4
One, Type 7 engine 4x4
One, Fire Boat (350 gpm, 400 ft. 2½" hose, 200 ft. 1½" hose, 400 ft. 1½" wildland and 400 ft. 1" wildland)

Two, 1500 gal. Collapsible tanks.

Personnel:

The district has 3 part time paid staff, 10 year round volunteers and 30 seasonal volunteers.

Needs:

- Hose, 2 ½", 1 ½", 1", nozzles and fittings
- Dry hydrants at Bear Creek and Sandpiper Shores, PPE.
- Addition to current fire station with an additional bay.
- Additional Engine, Type 1, 4x4 and Tender.
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-
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Northside Fire District

The district covers 71,313 acres and has four fire stations. The stations are located in Ponderay, 479653 Hwy 95, Samuels Rd and Rapid Lightning Rd. Currently we are going to the voters in May for a permanent levy override. In addition we are being approached to take in several properties in the Upper Pack River Rd area.

Fire apparatus includes:

Five Type 2 Engines
Three Type 6 Engines
One 1700 gallon Water Tender
One 1800 gallon Water Tender
One 1000 gallon Water Tender

Personnel:

Two paid, one part-time and sixteen volunteer fire fighters..

Needs:

1000 Ft. ¾ wildland hose
1 – Type 2 Engine
1 – Type 2 Tender
1-Type 6 Engine

Selkirk Fire Department (Serving Sagle and Sandpoint)

The City has one fire station located at 1123 Lake Street in Sandpoint. The district has five fire stations (one staffed, four volunteer). The stations are located in Sagle (Main Station), Cocollala, Careywood, Seneacquoteen and Bottle Bay. There are no plans for future expansion although relocation of several stations may be necessary if the Highway 95 widening project occurs. The district covers 104,400 acres.

Fire Station # 1 (Sandpoint) Fire Apparatus includes:
Two Type 1 Engines

One 78’ Ladder Truck
One 27’ Boston Whaler Fire Boat with a 750 gpm midship pump
One Light Rescue Vehicle
One Hazardous Materials Response Trailer

Personnel:
Ten paid (including Chief) and ten volunteer fire fighters.

Fire Station # 2 (Sagle) Fire apparatus includes:
One Type 3 Engine
Two Type 6 Engines
Two Type 1 Water Tender

Personnel:
Nine full time, 6 volunteers

Sagle Volunteers Stations Fire Apparatus includes:
Three Type 2 Engines
Two Type 1 Water Tenders
One Type 1 Water Tender

Needs:

- 1 Type 3 and Type 6 Engine
- 2 Type 1 or 2 water tenders
- Wildland PPE
- Structure PPE for volunteers
- Structure and Wildland hose, nozzles and fittings
- Communications equipment specifically portable radios, P-25 capable

Sam Owen Fire District

The Sam Owen Fire District provides fire protection to the residents located between Mile Marker 41 and Mile Marker 53 along Highway 200. This District has two stations. Station 1 is located at the intersection of Highway 200 and Peninsula Road. Station 2 is located ½ mile up Trestle Creek Road. The District has an automatic aid agreement with Clark Fork Valley Fire & Rescue. This District cover approximately 7000 acres.

Fire Apparatus includes:
One Type 1 Engine (4X4)
Two Type 2 Engines (1-4x4)
Three Type 3 Water Tenders
One Type 6 Engine (4x4)
One Fire/Rescue Engine (4x4) 400 gal/250gpm
One Command Vehicle

Personnel: Eighteen volunteer fire fighters.

Needs:

- More Volunteers
- Dry Hydrant locations on the Sam Owen Peninsula New,
- more reliable Type 6 Brush Engine
- Fire Boat for shore line and island protection Culvert &
- Bridge across Carter Creek

Schweitzer Fire District

The district taxing district covers 640 acres and has one fire station located outside of its own district at 7094 Schweitzer Mountain Road. Since the district has no adjoining boundaries with other fire agencies, they regularly (and are somewhat expected to) cover an additional 12 square miles that includes most of the main road and much of the surrounding ski resort terrain. Additional subdivisions are in the works or have recently been annexed into the district. Due to the current fire station location, lack of suitable water and a need for volunteer housing to provide a "minimally" adequate response, an additional fire substation or a relocated main station will be necessary to provide adequate fire protection for the subdivisions.

Fire apparatus includes:
Two Type 1 Engines
One 100 ft Platform Aerial w/ 1500 gpm pump
One Type 6 Engine
Two Ambulances
One Command/Medical QRU
One Large Tow Truck

Personnel:
Two paid and eight to twelve volunteer fire fighters.

Needs:

- Expansion of community water system to Fire Station
- Continued wildland fire breaks to protect sole access, egress and community as a whole
- Housing for volunteer personnel
- Substation or relocated main station 1200
- ft of LDH

Spirit Lake Fire District

Although located in Kootenai County, Spirit Lake provides fire protection for a large area in southwest Bonner County. The total area covered by the Spirit Lake Fire District is 24,204 acres. The district has three fire stations, one at Spirit Lake, at Blanchard, and one at Spirit Lake Cut-off. There are no plans to expand facilities or the district at this time.

Fire apparatus includes:
Three Type 1 Engines One
Type 2 Engine
Two Type 5 Engines Two
Type 6 Engines
Four Type 2 Water Tenders

Personnel:
Seven paid and twenty volunteer fire fighters.

Timberlake Fire District

Although located in Kootenai County, Timberlake Lake Fire District provides fire protection for a small area in southeast Bonner County. The total area covered by the District is 83 square miles with approximately 1566 acres in Bonner County. The District has six fire stations, one at Athol (career staffed with 2), one at Bayview, one at Clagstone, one near Farragut State park, one at Silverwood and one at Little Blacktail development in Bonner County. There are no plans to expand facilities or the district at this time.

Fire apparatus includes: Four
Type 1 Engines
One Type 2 Engine
One Type 5 4X4 Engines
Two Type 6 4X4 Engines
Three Type 2 Water Tenders
One Fire Boat / QRU
One rehab unit
Two Kootenai County EMS ambulances
Two command units

Personnel:
Seven paid and approximately twenty volunteer team members.

West Pend Oreille Fire District

This district covers 64,000 acres and includes the cities of Priest River and Oldtown. There is one fire station located on Hwy 57 near the airport in Priest River and a second station downtown in Priest River. Plans are currently being prepared for a new station on Old Priest River Road and county permits are being prepared.

Fire apparatus includes:

- Four Type 2 Engines
- One Type 5 Engine
- Five Type 6 Engines
- One Type 7 Engine
- Three Type 2 Water Tenders
- Two Type 3 Water Tenders

Additional updates:

- Station 3 on Old Priest River Road is now complete, with the exception of training room and staff quarters. Currently houses 4-6 apparatus
- West Pend Oreille took over the area covered by West Bonner Fire District
    - West Bonner Fire District no longer exists
- West Pend Oreille is also taking over the City of Oldtown. Ordinance has been passed by city council, now waiting on paperwork to be processed
- Plans to build Station 4 at East River Road and Stations Way (north of Eastside Cutoff)
- In the process of building another Type 2 Water Tender

West Priest Lake Fire District

The district has three fire stations. One station is located at Nordman, second at Lamb Creek, and third is located at Kalispell Bay. The district covers 10 square miles. T here are no plans to expand the district at this time.

Fire apparatus includes:
Four Type 1 Engines
One Type 3 Tender
One 3000 Gal. Tender
One 4000 Gal Tender
One type 4 Fire Boat

Personnel: The District has twenty-five volunteer fire fighters

Needs:

- New Fire Station in the Granite Creek area
- Two new trucks Triple Combination, Class 1 Engines Two Type
- 2 water tenders (3000 gallon, 250 gpm pump) New Fire Boat
- (750 gpm pump)
- Wildland PPE
- Structural PPE
- SCBA's
- Hose; 5", 2 ½", 1 ¾", nozzles and fittings Portable
- injection fans
- Fire tools, (axes, pike poles, etc)
- Radios, mobile and handheld, P-25 compatible Ladders
- Thermal Imaging Camera Gas
- detector
- Two AED's
- CAFS system, slide in
- Air Compressor and cascade system for filling air bottles for SCBA's
-
-

Westside Fire District

The district covers 27.2 square miles and is covered from three fire stations. The main station in Dover houses the administrative office. Station 2 in on Moore Loop in Laclede and station 3 is located at Wrenco Loop and Helen Thompson Road.

Fire apparatus includes:

Three type 1 engines
Two type 6 engines
One type 4 engine
One 102' aerial platform/2,000 gpm pump
One 2000 gal. tender
One 1200 gal. tender
One Rehab Vehicle
Two Support Vehicles

Equipment ordered includes a type 1 engine/water tender with 2500 gallon tank with a 750 GPM midship pump.

Personnel:
Two paid and 15 volunteer fire fighters.

Needs:
Replacement type 1 engine Type 6
Engine
Replacement Water Tender
Fire Boat
3 floating pumps
Wildland hose, nozzles and fittings Handheld
radios
New PPE
1000 ft of LDH supply hose
Chain saw

Idaho Department of Lands Resources

In general, Idaho Department of Lands is responsible for fire suppression on private and public lands within their response area. In Bonner County, the Department of Lands has three Protection Districts, one for the Priest Lake area, Kootenai Valley area and Pend Oreille Valley area.

Priest Lake Forest Protective District

The Priest Lake District includes the east side of Priest Lake north to the Bonner Co./Boundary Co. line. The District has one fire station located at Coolin, Idaho near Priest Lake.

Fire apparatus includes:
One Type 4 Engine
One Type 5 Engine
One Type 6 Engine
One Type 7 Engine

Personnel:
Three permanent and eleven seasonal paid employees. There are no plans to expand facilities at this time.

Pend Oreille Forest Protective District

The Pend Oreille District includes all of Bonner County except for the area covered by the Priest Lake District and the areas covered by the U.S. Forest Service. The District has one fire station located in Sandpoint and covers approximately 570,000 acres of wildland.

Fire apparatus includes:
One Type 5 Engine
One Type 6 Engine
One Type 7 Engines
There are no plans to expand facilities at this time

Kootenai Valley Forest Protective District

The Kootenai Valley District includes the northern portion of Bonner County. The District has one fire station located in Bonners Ferry.

Fire apparatus includes:

One Type 5 Engine
One Type 6 Engine
One Type 7 Engines
There are no plans to expand facilities at this time.

United States Forest Service resources

The Forest Service is responsible for suppression of fires on federal lands, state lands, and private lands within their protection area

Priest Lake Ranger District

The Priest Lake Ranger District covers the west side of Priest Lake from Cuban Hill north to the Bonner County line and is responsible for wildland fires within this area.

Fire apparatus includes:
One Type 4 Engine
One Type 6 Engines

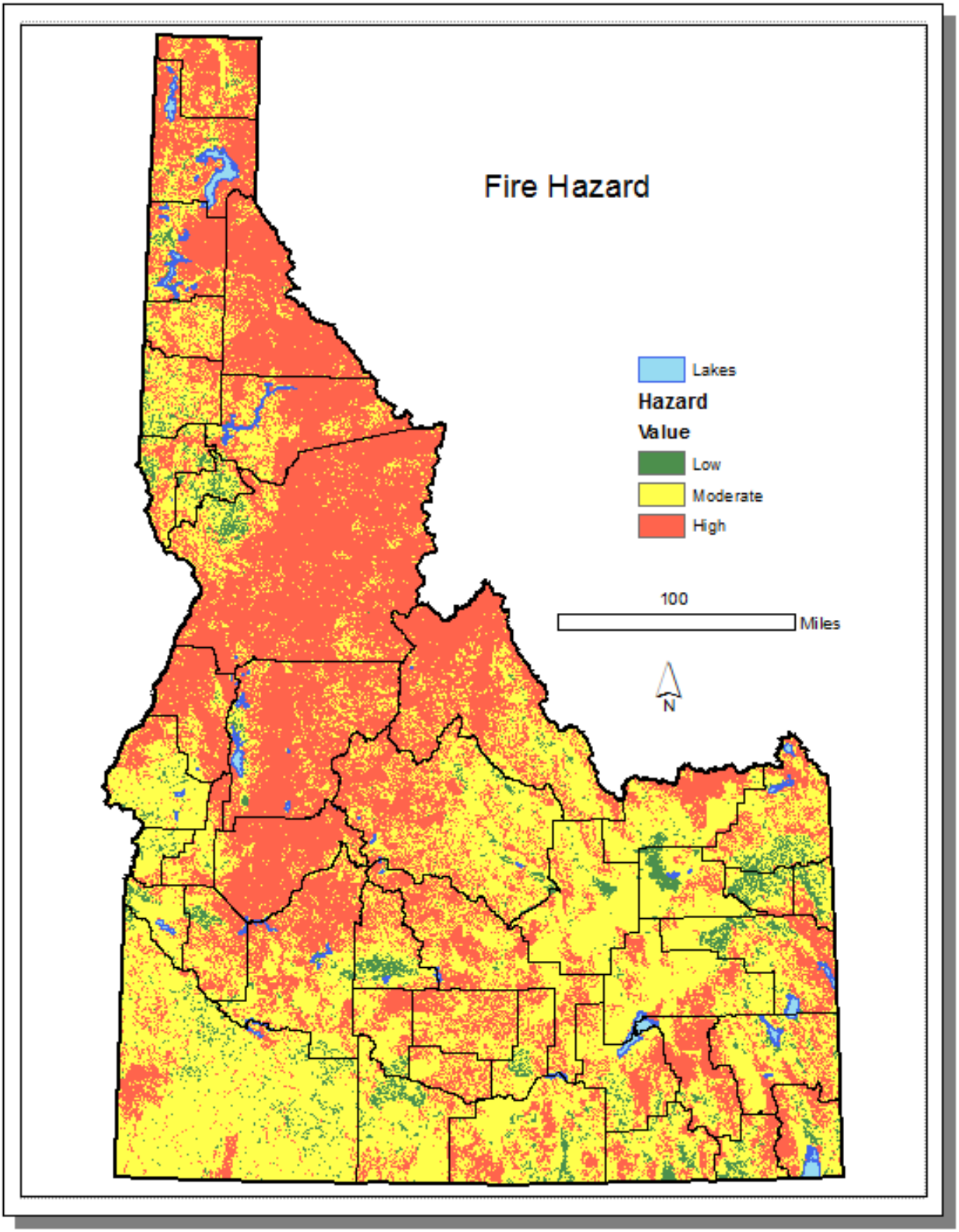
Sandpoint Ranger District

This district covers the east side of Bonner County and Lake Pend Oreille to the Montana border, south to Farragut State park and north to Elmira Peak.

Fire apparatus includes:
Two Type 6 Engines
There are no plans for expansion.

3.2 Communities at Risk in Bonner County

The BonFire Steering Committee has designated the majority of the communities in Bonner County are at high risk of wildfire, with the exception of the city Sandpoint, being at moderate risk considering their watershed. Consequently the majority of Bonner County is designated as a priority area. The terrain and fuel conditions that exist across the county dictate that all areas are at high risk to wildfire.



3.3

Bonner County Wildland Urban Interface Definition

Is an area where developed lands interact with undeveloped lands and includes the

infrastructure and natural resources communities rely on for existence.
Location: It is found in remote scattered development areas to highly developed urban areas and everywhere in between.

Rationale for designating the Wildland Urban Interface

The forested landscape of north Idaho has adapted with wildland fire disturbances for centuries. Large fires events in north Idaho have historically been wind-driven events, occurring when uncontained fires were fueled by strong winds (such as the north Idaho and western Montana fires of 1910, MacPherson Fire of 1931, and Sundance Fire of 1967). These wind-driven fires often spread several miles within mere hours – the Sundance Fire traveled 16 miles in 9 hours (Anderson 1968). Firebrands were found 10-12 miles in advance of the Sundance Fire (Anderson 1968), and indicate the potential for spot-fires to develop well ahead of the main fire. It is during times of extreme fire behavior such as these when the communities in Bonner County, and fire fighters' safety is at the greatest risk from wildfire.
Fuel treatments to protect the values at risk within the county also aid in: reducing potential fire intensities, property and environmental damage, and increasing the effectiveness of suppression activities. Through the reduction of ground fuels, thinning of trees, and removal of ladder fuels, flame lengths will be lower in the event of a fire, which will reduce fire intensities and (where desirable) allow for more efficient and effective fire suppression. As canopy base height is raised through fuel treatments, and surface flame lengths are reduced, the potential of fire moving into the canopy is lessened and the effectiveness of suppression efforts increased. The values at risk within the county include much more than homes and other structures, encompassing recreation opportunities, water supplies, radio and telecommunications, public facilities, urban trees, shrubs, fences, utility poles and wires, street lights, private property, just to name a few. Indirect impacts of wildland fires include undesirable consequences such as erosion, sedimentation, loss of wildlife habitat, negative aesthetic effects, damage to timber resources, etc.
Fuels treatments around the communities within the county are performed with the goal of reducing flammability, fire intensity, firebrand production, potential for crown fire, and increasing the ability to suppress wildland fire. The amount of fuel reduction treatments and the location of those treatments on the landscape directly influence the growth of large wildland fires (Graham, McCaffrey, and Jain 2004). In addition, Graham, McCaffrey, and Jain (2004) state that reducing the potential for crown fire and fire growth will decrease the chance of developing a large wildland fire that affects human values in the wildland urban interface.
The effectiveness of fuel treatments in reducing potential fire intensities is well researched and supported. The amount of treatment necessary across the landscape for protecting values at risk from a wildland fire event is subject to site specific variability; such as the position on slope, windspeed, access, flammability, duration of the fire event, time of day, etc. Peterson et al. (2005) states that management of fuel across large landscapes is required to effectively reduce the area and severity of fires, as well as effects on local communities.

Research by Cohen (2000) has provided information on how structures catch on fire, and how once on fire the structures can contribute to the growth and spread of the fire. Cohen (2000) has shown that structures with typical ignition characteristics (wood sided, wood framed, asphalt composition roof) are at risk of catching on fire from several different

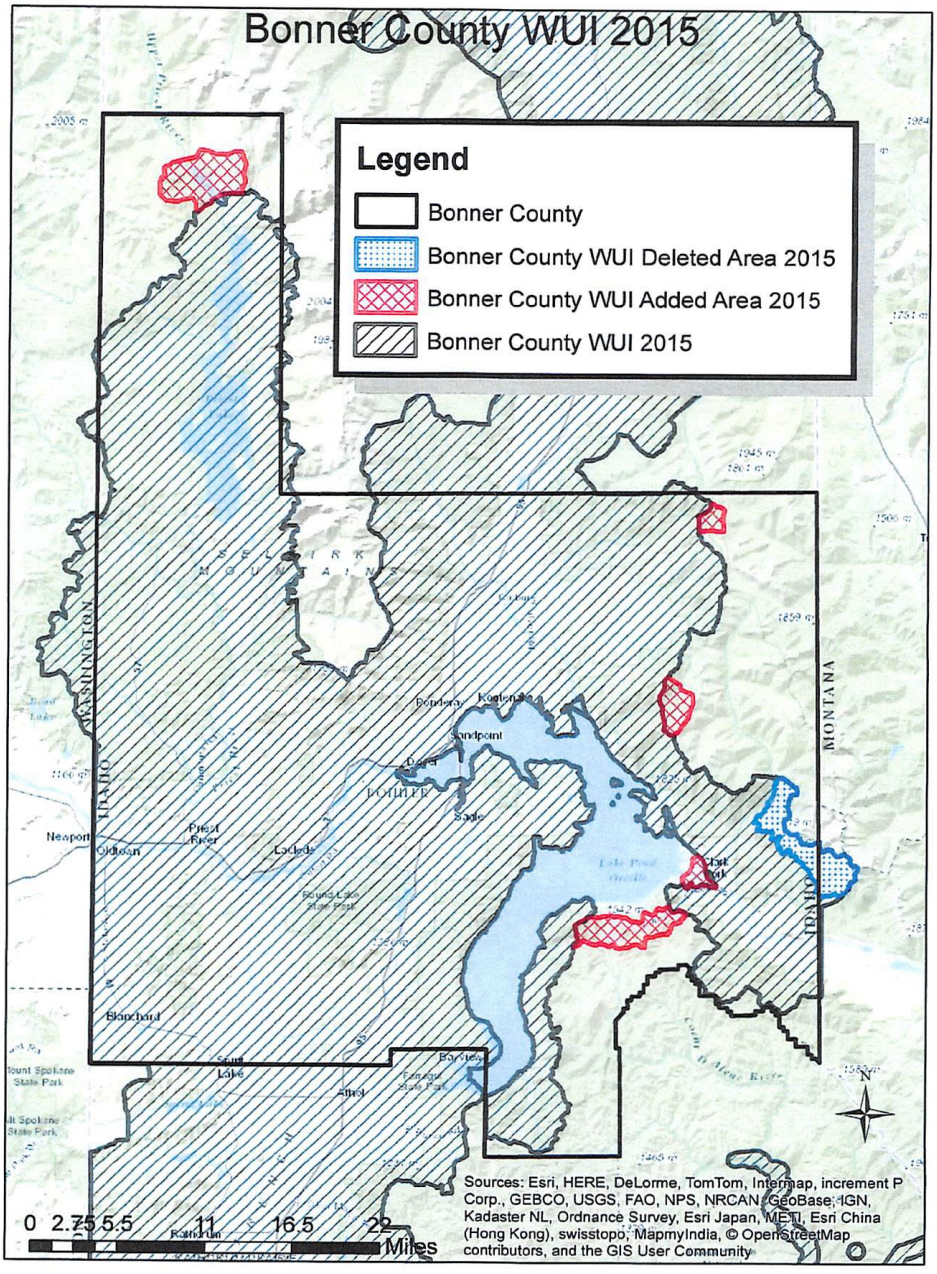
sources. Structures can become ignited by direct exposure from intense flames from a nearby source, which could be intensely burning vegetation or another structure. Structures may be at risk if the flame front is no more than about 100 feet away. Structures may be ignited from less intense sources against or very near the side of the structure. This can occur if firewood or other flammable material next to the structure is ignited by a ground fire or firebrands. Lastly, firebrands falling directly on roofs can ignite the structure if the roof is flammable (wooden shakes, for example) or if flammable debris is present, such as dry tree leaves or needles (Cohen 2000). In addition to individual structure ignition and combustion concerns, Finney and Cohen (2003) suggest that in order to effectively protect communities the amount of land that needs to be treated to reduce fire risk depends on the current structure of the vegetation, fuel loadings, topographic location, fire regime, and suppression concerns.

With the current forest structure, fire regimes changes, and suppression concerns in north Idaho; observed fire behavior indicates that a major component of risk exposure is created by a combination of rate-of-spread and long range spotting. In the absence of non-lethal fires (due to 80 + years of fire suppression), both ground and ladder fuels have increased due to tree growth, normal tree mortality, and insects and diseases, changing forest structures. Fire regimes are general classifications of the role fire would play across a landscape in the absence of modern human intervention, but includes aboriginal activities (Agee 1993, Brown 1995).

Successful establishment of spot fires in excess of one mile from the flaming front of an active fire occurred during the Sundance Fire (1967). In this condition, the spot-fires grew rapidly and generated burning embers that established additional spot-fires for miles down-wind.

Therefore fuel modifications within this area would improve the conditions around**:**

- individual homes
- provide for increased fire fighter safety
- protection of evacuation routes and critical infrastructure\
- protect values at risk
- Watersheds



SMH 04/03/2015

4.0 WILDFIRE MITIGATION STRATEGY AND IMPLEMENTATION

The wildfire mitigation action items below provide history on specific activities that organizations and residents in Bonner County have undertaken to reduce risk and prevent loss from wildfire events.

Table 4.1 Completed Action Items

A prime example of the shaded fuel break projects is the ongoing work along the access road to Schweitzer Mountain. This is a single access road that serves many millions of dollars in residential and commercial development associated with Schweitzer Mountain Ski Resort. Participants in the project included BonFire, Schweitzer Mountain Development, Schweitzer Fire Department, the City of Sandpoint, BLM, IDL, and US Forest Service. The project runs along both sides of the access road and treats fuels in a band 100 feet below the road and 50 feet above the road. In addition to the shaded fuel break work, we have either contracted with or finished almost all the individual defensible space work at the bottom of the hill between the potentially dangerous rail road and the Granite Ridge homes.

In addition to the Schweitzer work BONFIRE has concentrated on other areas in the county which are described as follows:

- Fuels reduction work was completed on the Baldy Ridge and Janish Road subdivision area. This was one of the original areas identified in the beginning mitigation plan.

- BonFire also accomplished a significant amount of work around homes in the Hwy 57-Nordman corridor.

- We made great progress in the Clark Fork / Hope area by treating both individual homes and communities.

- Other group projects were completed in Sagle, Vay, Sandpoint, West Oden Bay, and Spirit Lake. This ranged from a couple of homes up to as many as ten. Individual defensible space was provided in many other areas of the county as time and money allowed.

The following pictures show before and after conditions/results accomplished by BonFire in 2014.

This parcel was treated in conjunction with right of way clearing by Avista. It is an example for co-operation with other entities within the county to create viable fuel breaks.

Table 4.2 – Fuels Treatment Action Items

The wildfire mitigation action items below provide specific activities that organizations and residents in Bonner County will undertake to reduce risk and prevent loss from wildfire events.

Action Item	Lead Organization	Description
South Grouse Project complete 2018	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.

Gold Crown Project complete 2018	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.
Prospect	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.
West Gold Restoration	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Treat National Forest System Lands with prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest Health
Golden Pond	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health
Tumbledown Project complete 2018	USDA Forest Service	Improve forest health and watershed integrity. Reduce hazardous fuels and improve forest health by changing Condition Class within Wildland Urban Interface. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health

Scattered Old House	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.
Buckskin Saddle	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.
Treasured Landscapes	USDA Forest Service	"Trend plant communities' toward desired conditions for composition, structure, pattern and process. The ecological integrity of the communities is high and they exhibit resistance and resiliency to natural and man-caused disturbances and stressors." (IPNF Forest Plan, p.11). "The future of Whitebark pine throughout its range is of serious concern because of the species' acute vulnerability to infection by the non-native fungus Cronartium ribicola (which caused white pine blister rust), its high susceptibility to infestation by mountain pine beetle, its risk of being destroyed in large and intense wildfires, and the likelihood of its being replaced in subalpine mixed conifer forests by more shade-tolerant tree species, and trend that is exacerbated by fire exclusion. Proactive conservation and restoration are critical to prevent the permanent loss of Whitebark pine habitat throughout much of its range" (USDA Whitebark Pine Restoration Strategy, 2008).
Chloride Gold	USDA Forest Service	Decrease the risk of wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical fuels treatment. Treat National Forest System Lands with mechanical harvest/thinning and prescribe fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health.
Highway 57 & Highway 41 Corridor and Priest	USFS West Priest Lake Fire	The communities of Priest Lake to Nordman.
Hoodoo Valley	Spirit lake Fire/West Pend Oreille Fire	This is an area of dense small diameter timber with lots of light flashy fuels. Many homes and developments are occurring in this area of limited water supply, minimal access and a dry windy area of the county. Multiple fuel breaks will be required to address the fire safety in this area.

HWY 200 – Montana Corridor	Multiple Fire Districts	This area takes in Sunnyside, Oden Bay, Clark Fork, Trestle Creek, Trout Creek, Hope, East Hope and the Sam Owen Peninsula. This area is characterized by steep slopes with South and West aspects. The highway and railroad also add to the infrastructure that is present in the area. Major power lines and communication lines cross here as well. Several projects have been completed here but more is needed to address critical areas of hillside development. This is an area where Firewise Communities, USA will play an important role.
Highway 95 North Corridor:	Northside Fire	This area includes the Pack River area, Elmira, Grouse Creek, Rapid Lightning, Gold Creek, and Samuels. The highway and railroad also add to the infrastructure that is present in the area. Major power lines and communication lines cross here as well, along with a major natural gas transmission line and Compressor Station.
North and East Wrenco	Westside Fire	There are large tracts of private land with public access trail systems used for hiking and biking. Much of these areas are over grown and littered with dead material
West Pine adjacent to or inside Dover City	Westside Fire	There are large tracts of private land with public access trail systems used for hiking and biking. Much of these areas are over grown and littered with dead material
Otts Basin Areas	Selkirk Fire	Large tracts of private land with many homes in very close proximity to densely forested areas only one road serves as an exit route from this south facing slope
Eaglecrest Drive	Selkirk Fire	Very populated area with west facing slope, steep grades with narrow road and switch back turns, forest up to road single road access, limited water supply
Gold Mountain Road	Selkirk Fire	Populated area with south facing slope, paved road is single across limited spacing between homes. Lone water supply is Eastern 1 mile away. Densely forested. No fire break mid-slope

Rocky Road and Upper Rocky Road	Selkirk Fire	Very populated area with southwest facing slopes single road access, steep grades, tight turns, very limited water supply and dense growth
Swan Shores Drive / Gypsy Bay Rd	Selkirk Fire	Very populated area with west facing exposure. Dense areas of forest without fire breaks some water access limited defensible space
Ledges Drive	Selkirk Fire	Single road access for west facing populated area of vacation homes. Very limited defensible space.
Cocolalla Creek drainage (west Dufort area)	Selkirk Fire	West facing drainage area with residential development in many tracts. Dense stands of pine with no fire breaks. Very dry area of Sagle. Limited defensible space.
Lake Pend Oreille River basin area (east of Spokane Lake Pend Oreille River basin area	Selkirk Fire	Very populated area of closely built homes, very little separation. Limited road access with dense forest up-slope of most homes. Sparse access to water. Limited defensible
Long Mountain	BLM	These lands are in dry vegetation types in the Purcell Trench. Characterized by mixed conifer forests in the Wildland Urban Interface.
Gold Hill	BLM/USFS	This area is characterized by steep slopes with south and west aspects. There is very limited water supply and plenty of fuels
Gamlin Lake	BLM	Visitor use and recreation area in the Wildland Urban Interface

5.0 MITIGATION PROGRAMS AND RESOURCES

Existing mitigation activities include current mitigation programs and activities that are being implemented by County, State and Federal agencies within Bonner County. Prioritization of Hazards and Mitigation Goals is in accordance with the stated objectives, specifically protection of Life, Property and Values at risk.

5.1 Local Programs

Bonner County residents are served by the Clark Fork Volunteer Fire Dept, Coolin-Cavenaugh Bay Fire District, Hope/East Hope Volunteer City Fire Department, North of the Narrows Fire District, Northside Fire District, Selkirk Fire Department, Sam Owen Fire District, Schweitzer Fire District, Spirit Lake Fire District, Timberlake Fire District, West Bonner Fire District, West Pend Oreille Fire District, West Priest Lake Fire District, Westside Fire District, Idaho Department of Lands, BLM & the U.S. Forest Service. These entities meet to ensure coordination of resources, promote partnerships and information sharing as necessary throughout the year.

Continuous improvement priorities for the fire districts are: training, communications, coordinated emergency services planning and response, personnel protective equipment, and apparatus.

5.2 County Codes

- Bonner County Comprehensive Plan: Established road standards, conditions of design and construction. This document contains directions for review and updating of road standards to assure adequacy for long term needs of the County.
- Bonner County Fire Protection Resolution for New Subdivisions: Includes requirements for fire district access, water supply and wildfire evaluation.
- Site plan review for building permits check-off.

5.3 State (IDL) Programs

- Provides education to property owners about fire hazards in wildland-urban interface areas.
- Manages the Hazardous Fuels (WFSM/HFR) and Volunteer Fire Assistance (VFA) programs to assist landowners, fire departments and counties with grant funds for reduction of hazardous fuels and suppression response needs.
- Manages Forest Stewardship program to assist landowners in forest and fire planning.
- Declares fire closures when wildfire danger ratings and conditions require.

5.4 Federal Programs

The role of the Federal land management agencies in Bonner County is focused on reducing fuel hazards on the lands they administer. They also provide prevention and education programs, provide technical and financial assistance; develop agreements and partnerships with other agencies and private landowners in an effort to provide for safer communities within the wildlands. Some of the programs provide grants to fire districts.

Fire Suppression Assistance Grants may be provided to a State with an approved wildfire hazard protection plan. These grants are provided to protect life and improve property. The grant may include funds for training, equipment, supplies, and personnel. Provides suppression training as requested.

The *2016 -2018 NRCS Special Project for Fire Prevention* is one of multiple Farm Bill programs that can be utilized through the NRCS.

The overall goal will be to reduce the incidence of large uncontrolled wildfire on NIPF forestlands, primarily through the application of Fuel Breaks (NRCS practice 383). This practice has been underutilized in traditional NRCS forested EQIP contracts. It will be used to protect upland forests at critical points within the operational unit, and will also be applied within the WUI forested areas where adverse fuel loads would accelerate fire risk across the landscape. Properly designed fuel breaks modify the forest fuel stratum, providing positive benefits to fire behavior, fire suppression, and fire impacts, thereby reducing the probability of extreme fire behavior.
This project, if successful, could lead to further refinement of fuel abatement activities. Prescribed understory burning, another practice which is rarely utilized within current NRCS EQIP forestry contracts, could be developed as a long term strategy to maintain the reductions in fuel loading as time passes. The fire community has also expressed the need for Ponds for the purpose of fire control and early suppression, and we will pursue this for future years.

5.5 Toolbox

Fuels Treatment Options and Estimated Costs

Wildland fire can be good for people and the land. There is a need for periodic fire to create disturbances which in turn create healthier more resilient and diverse ecosystems. Removing fire from the landscape will eventually create unhealthy ecosystems: trees are stressed by overcrowding, fire dependent species disappear, and flammable fuels build up and become hazardous. Land management agencies often utilize prescribed fire to benefit natural resources and protect communities and values at risk. However, in some places and under some conditions it may be too difficult to safely use prescribed fire with acceptable risk. This is where the mechanical treatment of hazardous fuels can be a valuable tool. Hazardous fuels treatments can benefit ecosystems and people by:

- Reducing the probability of catastrophic fires;
- Helping maintain and restore healthy and resilient ecosystems;
- Protecting human communities and values at risk.

Mechanical treatment of hazardous fuels means reducing the amount of vegetation which has built up to dangerous levels, or changing the arrangement of these fuels in the environment. Mechanical treatment can also provide opportunities for woody biomass utilization by providing a renewable source of energy and wood products for local communities.

Examples of mechanical treatment include the thinning of dense stands of trees, or other fuel treatments that make an area better able to withstand fire. Such treatments might be piling brush, pruning lower branches of trees, or creating fuel breaks to reduce fire intensity and severity. Tools that are used to carry out the mechanical treatment of hazardous fuels range from the use of hand tools such as chainsaws, to large machines like masticators and wood chippers.

Mechanical treatment can be used on its own or together with prescribed fire to change how wildfire behaves, so that when a fire does burn through a treated area, it is less destructive, less costly, and easier to control with less risk to public and emergency responders. Often, mechanical fuels treatments are followed by prescribed fire to create effective hazard reduction.

The costs associated with the different types of fuels treatment varies dramatically and is influenced by many factors including: fuel type, fuel density, fuel loading (tons per acre), location of the treatment, and availability of resources to perform the work. The following treatment types have been identified from past projects on private lands.

- Thinning and hand pile
- Limbing and hand pile
- Chipping
- Mastication
- Pile Burning

Grant Opportunities

Government agencies, non-government organizations, and cooperators have come together to offer various programs to assist property owners and communities in obtaining financial assistance for fuels reduction projects that reduce the likelihood of catastrophic wildfire, by creating a higher degree of defensibility in the Wildland-Urban Interface, and ultimately offering firefighters a higher probability of success.

Idaho Department of Lands offers two (2) grant opportunities in cooperation with the USFS for

projects specifically identified in County Wildfire Protection Plans. First, the Western State Fire Managers (WSFM) grant supports hazardous fuels reduction on private and state lands, education of landowners and general public, and planning efforts related to the completion of a CWPP or implementation of project work. Second, the Hazardous Fuel Reduction (HFR) grant supports the reduction of hazardous fuels on private and state lands that are adjacent to USFS lands that has a project in the planning process or currently implementing a vegetative project.

Contact Information:

Tyre Holfeltz
Office: 208-666-8653
Cell: 208-819-9340
Email: tholfeltz@idl.idaho.gov
Or visit Idaho Department of Lands webpage at: http://www.idl.idaho.gov/

Panhandle Forest Collaborative

https://sites.google.com/site/panhandleforestcollaborative/home

The Panhandle Collaborative formed in 2011 to provide opportunities for residents of North Idaho representing a variety of different interests – often conflicting – to actively participate in both the planning and on-the-ground phases of restoration and vegetation management projects. The goals of the Collaborative are to: reduce litigation; enhance travel and recreation opportunities; maintain infrastructure for timber, ranching and recreation; and conserve native ecosystems Since its inception, the Panhandle Collaborative has focused on several on-the-ground restoration and forest health improvement projects spread across the Forest. In each of these projects, the Collaborative seeks to balance community needs with forest and wildlife health.

Educational Tools and Programs

Scientific research has shown the effectiveness and benefits of implementing wildfire mitigation concepts across individual property boundaries and throughout communities. To save lives and property from wildfire, we the people need to learn to adapt to living with wildfire and encourage our neighbors to work together and take action now to prevent losses in the future. We all have a role to play in protecting ourselves and each other from the risk of wildfire.

The following organizations help to serve as resources for agencies, tribes, organizations, fire departments, communities and residents across the United States who are working toward a common goal: reduce the loss of lives, properties, and resources to wildland fire by building and maintaining communities in a way that is compatible with our natural surroundings.

Firewise Communities Program: Encouraging Solutions

http://www.firewise.org/

The National Fire Protection Association's Firewise Communities Program focuses on what residents can do around their homes to reduce potential loss of life and property to wildfire, and plays an important role in the Fire Adapted Communities approach to wildfire preparedness.

The Firewise program educates homeowners about wildfire risk and advocates principles designed to reduce that risk, including: the creation of defensible space around the home, the utilization and maintenance of fire resistant landscaping, the use of fire resistant building materials, the creation of evacuation plans, and encourages neighbors to work together to help prepare for and reduce the risk of home destruction due to wildfires.

Situational awareness and action – Ready, Set, Go!

http://www.wildlandfirersg.org/

The national Ready, Set, GO! (RSG) Program, managed by the International Association of Fire Chiefs (IAFC), works to develop and improve dialogue about wildland fire awareness and action between local fire departments and the residents they serve.

The program works in complementary and collaborative fashion with the Firewise Communities Program and other existing wildland fire public education efforts. It calls on residents to be Ready with preparedness understanding, to be Set with situational awareness when fire threatens, and to Go, by acting early when a fire starts.

The big picture: Fire Adapted Communities

http://www.fireadapted.org/

Whether it's working around your home and implementing steps provided in the Firewise Communities Program, creating and implementing a Community Wildfire Protection Plan, encouraging your local fire department's participation in the Ready, Set, Go! Program, supporting land management practices in the forest, or other important mitigation activities, the Fire Adapted Communities approach helps connect people to resources to help them reduce their wildfire risk. Fire Adapted Communities is supported by a coalition of national wildfire safety organizations, and information and resources to help communities get started.

USDA Forest Service - State and Private Forestry

http://www.fs.fed.us/spf/

The State and Private Forestry (S&PF) organization of the USDA Forest Service reaches across the boundaries of National Forests to States, Tribes, communities and non-industrial private landowners. S&PF is the federal leader in providing technical and financial assistance to landowners and resource managers to help sustain the Nation's forests and protect communities and the environment from wildland fires.

National Interagency Fire Coordination Center (NICC)

Prevention and Education

http://www.nifc.gov/

Mission of NICC is to serve as a focal point for coordinating the national mobilization of resources for wildland fire and other incidents throughout the United States. NICC has four major elements: equipment and supply dispatching; overhead and crew dispatching; aircraft dispatching; and intelligence and predictive services.

Bonner County: Office of Emergency Management

http://bonnercounty.us/emergency-management/

The primary mission of the Emergency Management Department is planning, training, exercising, coordination, and grant management. Our focus is to work with all agencies and surrounding jurisdictions to plan, exercise, train, and prepare for any possible hazard situation in order to maintain the life safety of all responders and citizens, as well as the stabilization of the incident and protection of property and the environment.

Wildland Urban Interface Wildfire Mitigation

Desk Reference Guide (PMS 051)

http://www.nwcg.gov/publications/wildland-urban-interface-wildfire-mitigation-desk-reference-guide

The *Wildland Urban Interface Wildfire Mitigation Desk Reference Guide* is designed to provide basic background information on relevant programs and terminology for those, whether community members or agency personnel, who are seeking to enhance their community's wildfire mitigation efforts.

Ready - Prepare, Plan, Stay Informed

http://www.ready.gov/

Launched in February 2003, *Ready* is a national public service advertising (PSA) campaign designed to educate and empower Americans to prepare for and respond to emergencies including natural and man-made disasters. The goal of the campaign is to get the public involved and ultimately to increase the level of basic preparedness across the nation.

Idaho Bureau of Homeland Security (BHS)

The Bureau of Homeland Security Grant Management Branch conducts grant management activities and coordinates resources before, during, and after a disaster. As the State Administrative Agency for Emergency Management and Homeland Security grants the section applies for grant funding and passes much of the funding to local jurisdictions throughout Idaho. The BHS Logistics Section is responsible for coordinating the purchase of Homeland Security Grant equipment, the Homeland Defense Equipment Reuse (HDER) program and disaster logistics needs.

http://www.bhs.idaho.gov/

6.0 TREATMENT OF STRUCTURAL IGNITABILITY

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

Recommendations for Reducing Structural Ignitability - Home Ignition Zone
Reducing structural ignitability and preventing the loss of property in the event of a wildland fire is a high priority in Bonner County. Efforts to reduce structural ignitability can be separated into building materials and vegetation management (defensible space around structures and large scale fuels reduction projects). In order to identify and understand methods for increasing a structure's ability to survive a wildfire it is important to first understand how structures burn during a wildland fire. Homes ignite and burn by meeting the parameters for ignition and combustion (Cohen 2008).

Structures may be ignited by firebrands, which are embers that are lofted through the air from a moving flame front or by radiant or convection heating. Firebrands can ignite structures by landing on flammable materials either on or surrounding a structure. Firebrands are particularly detrimental to structures with flammable building materials including wood shake roofs. Accumulations of flammable materials in roof valleys, in gutters, or directly adjacent to the structure can significantly increase a structure's vulnerability.

The two main factors affecting a structures ability to survive a wildfire are the exterior building materials and the amount of defensible space surrounding the structure within 100 feet to 200 feet of the structure, known as the Home Ignition Zone (Cohen 2008). The home ignition zone typically is located on private property, which requires property owners to recognize the hazards, take ownership and responsibility of the hazards, and mitigate the hazardous fuels to a level that will increase the survivability of the structure.

Building Materials

- Replace older shake roofs with those of a higher fire resistive rating including asphalt composition, tile or metal roof assembly
- Replace wood siding with a more fire resistive cement product including cement, stucco, cement plank siding, stone or masonry.
- Screen attic, roof, foundation and eave vents openings with 1/8" metal screens.
- Enclose areas under decks completely.
- Windows should be double-paned or tempered glass.

For more information, visit http://www.firewise.org

Defensible Space

Educational campaigns are encouraged to be in place to raise awareness and encourage homeowners to implement defensible or survivable space. Defensible space should be encouraged around all structures in Bonner County on all ownerships.

Defensible space is the area around a structure where the vegetative fuels have been modified to reduce intensity and behavior of a wildfire towards the structure, and away from the structure if the structure is on fire. The primary purpose of defensible space is to improve the structure's ability to survive a wildfire in the absence of firefighter intervention. Firefighters may use defensible space to work to protect a structure during a wildland fire event. Defensible space is an effort to reduce structural ignitability but is not a guarantee a structure will survive during a wildfire.

Minimum defensible space recommended is 100 feet from a structure on a flat property. A greater distance may be required on steep slopes. Defensible space should increase with increasing topography as fire moves easily uphill preheating vegetative fuels. Defensible space consists of three zones: Zone 1 is closest to the structure and is the most heavily modified zone, usually 0 to 30 feet from the structure. Zone 1 recommendations include but are not limited to:

- Remove all flammable vegetation within 3 to 5 feet of the structure.
- Remove any tree branches hanging over structures that will drop needles or other debris onto roofs, gutters, or decks.
- Do not plant vegetation underneath eaves or roof lines.
- Move firewood piles further than 30 feet from the structure during wildfire season.
- Plant fire resistant vegetation and maintain during fire season

Zone 2 is where the vegetation is modified to reduce the intensity of an oncoming fire, or create speed bumps through the vegetation approaching the structure. Recommendations in this zone include but are not limited to:

- Remove all ladder fuels
- Provide a minimum crown spacing between trees of 10 feet between crowns on a flat property, greater distance on a slope
- Prune trees to a height approximately 8 to 10 feet above the ground
- Provide a minimum shrub spacing of 2 ½ times the height of the shrub between shrubs
- Prune shrubs to remove contact with ground fuels
- Keep grasses mowed
- Remove all dead material

Zone 3 is a transition zone toward a more traditional vegetation management style to meet landowner objectives while working with principles of stewardship. Recommendations include but are not limited to:

- Thinning to remove suppressed and overstocked trees while promoting and maintaining healthy vigorous trees
- Limit vegetation combinations that contain ladder fuels to isolated clumps.
- Reduce shrub densities to promote healthy growth and reduce density and continuity through the zone.
- Snags (dead standing trees) should only remain if they do not pose a safety hazard.

Firewood should be stacked along the contour or above the structure, but not below. Firewood should be stacked a minimum of 30 feet from the structure and should be separated from other flammable vegetation. Flammable vegetation and other materials should not be stored under decks. It is also important to reduce hazardous fuels and create defensible space along driveways to improve firefighter access to homes and to maintain escape routes.

7.0 WILDFIRE PROTECTION PLAN MAINTENANCE

Proposed plan maintenance will be annual, with a total review every five years, and will coincide with the update of the Bonner County All Hazard Mitigation Plan. Annual review of the plan and protection recommendations will be necessary as various projects or tasks are accomplished and areas at-risk decline. Review will also be needed as county infrastructure requirements change or are met (Bonner County Fire District, Bonner County Sheriff's Office, Bonner County Emergency Management). Review should at least include land management agencies and private citizens who participated in the development of this plan. The inclusion of Federal and State Land managers will assist in the initiation of planning procedures for identified mitigation projects and to update or modify mitigation actions or recommendations.

A total plan review of every 5 years is recommended as Bonner County requirements change, population increases, fuels reduction projects are completed, emergency services communication and computer support needs are met or increase, and as wildfire hazard & WUI areas change.

8.0 CONTINUED PUBLIC INVOLVEMENT

The continued involvement of the public for the CWPP is needed to accomplish many of the recommendations. Establishment of Emergency Action Plans for developments and communities will require continued involvement. Clark Fork Volunteer Fire Dept, Coolin-Cavenaugh Bay Fire District, Hope/East Hope Volunteer City Fire Department, North of the Narrows Fire District, Northside Fire District, Selkirk Fire Department, Sam Owen Fire District, Schweitzer Fire District, Spirit Lake Fire District, Timberlake Fire District, West Bonner Fire District, West Pend Oreille Fire District, West Priest Lake Fire District, Westside Fire District, Idaho Department of Lands & the U.S. Forest Service needs to provide input to the plan and feedback to the County Commissioners, and municipalities. Continued involvement by the Fire Districts, Sheriff, Commissioners, LEPC, cooperators, land managers, and citizens will occur as mitigation actions are addressed and the plan is reviewed.

Annual review and mitigation prioritization by the Fire Districts, Bonner County Sheriff's Office, Emergency Management, and federal agencies will provide information to and create opportunities for involvement with numerous residents of Bonner County.

Appendix A: Public Participation/Planning Process Documentation

Public participation was a key component of the strategic planning process for the CWPP. The CWPP integrates a cross-section of citizen and agency input that was gathered throughout the planning process. Coordination and structure was through Bonner County Fire Jurisdictions. The BonFire Steering committee was comprised of knowledgeable individuals representing the major land managers and regulators in the county including: BLM, Forest Service, Bonner County Commissioners, Bonner County Planning & Zoning, Idaho Department of Lands, and private citizens. The 2016 update included public workshops, the use of a questionnaire, and other outreach efforts as described above. The 2016 update coincided with the All Hazard Mitigation Update for the County. The CWPP will now be updated and maintained within the All Hazard Mitigation Plan.

Appendix B: List of Acronyms

LIST OF ACRONYMS

AMSL	Above Mean Sea Level
BDS	Bureau of Disaster Services
BLM	Bureau of Land Management
CRP	Conservation Reserve Program
DHS	Department of Homeland Security
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
IDL	Idaho Department of Lands
LEPC	Local Emergency Planning Committee
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
NWCG	National Wildfire Coordinating Group
RFD	Rural Fire District
District USFS	United States Forest Service
VFD	Volunteer Fire District
WUI	Wildland/Urban Interface

Appendix C: Financial/Technical Resources

FINANCIAL RESOURCES:

Financial resources that can provide support for various Wildfire mitigation action items included various State and Federal grants administered through Idaho Department of Lands, the Bureau of Land Management, the Natural Resource Conservation Service, and the Federal Emergency Management Agency.

Hazardous fuels reduction grants for Bonner County can be combined from developments in the county and applied for through Idaho Department of Lands. Grant administration costs should be included in grant requests.

All Bonner County Fire jurisdictions are eligible for grant programs administered by the BLM, FEMA, IDL. Grant applications based upon countywide priorities should assist Bonner County Fire District for grant opportunities.

FEMA assistance to local fire districts:
www.usfa.fema.gov/grants

Other opportunities:

National fire plan contracting opportunities:
https://www.forestsandrangelands.gov/resources/overview/

Link to State & Private Forestry site providing information on grants available for biomass utilization & potential uses for small diameter woody materials:
http://www.fpl.fs.fed.us/research/research_emphasis_areas/introduction.php?rea_id=5

TECHNICAL RESOURCES / WEBSITES:

Numerous technical resources are available for wildfire mitigation. Internet home pages of Idaho Department of Lands, the U.S. Forest Service, the Bureau of Land Management, NFPA, and FEMA can be accessed for additional information.

Idaho Department of Lands, internet address for information about state of Idaho lands is:
http://www.idl.idaho.gov/

Bonner County Government Web site
http://bonnercounty.us/comprehensive-plan-2/

Website accessing firewise information on construction, landscaping, educational programs, photographs and more:
http://www.idahofirewise.org/

Bureau of Land Management
Website: www.blm.gov

Information on Healthy Forests Initiative, National Fire Plan:
http://www.forestsandrangelands.gov/

U.S. Forest Service Fire Sciences Laboratory
Website: www.firelab.org

National Academy of Public Administration, Wildfire Suppression: Utilizing Local Firefighting Forces.
Website: www.napawash.org

Access to seamless wildland fuels & fire hazard GIS data:
http://www.landfire.gov/