

Office Of Disaster and Emergency Services

Stillwater County Community Wildfire Protection Plan



Executive Summary of Community Assessment

The CWPP (Community Wildfire Protection Plan) was developed simultaneously with the preparation of the county's Pre-disaster Mitigation Plan. The Steering Committee appointed by the county commission oversaw the preparation of both the fire and PDM aspects of the plan, but the members of the Stillwater County Fire Council evaluated the CWPP specifics.

Stillwater County is located in south central Montana. The county encompasses 2,066 square miles of land ranging from 3,400 to 12,800 feet above sea level.

Private individuals, corporations, the state of Montana, and the federal government own the lands within the county. The Bureau of Land Management, the Custer National Forest, and the U.S. Fish and Wildlife Service manage the Stillwater County federal lands. The county has only one incorporated community, Columbus.

Two communities in the county were identified as Communities at Risk in the Federal Register (Volume 66, #160, August 17, 2001.) These communities were Columbus and Rapelje.

Fuel types vary from grasses, to sagebrush, to scattered timber, to dense timber depending on aspect and elevation. There is tremendous variety in fuel types and fuel loading across the county. The most extreme situation with respect to fuel conditions and values at risk occurs _____ in the

numerous rural subdivisions where there are numerous high-value individual homes and subdivisions located in the wildland urban interface area in close proximity to the National Forest boundary.

Ignitions in the county are the result of both natural processes and human activity. Ignition sources include lightning, recreational activity, rural residences, vehicles, railroads, power lines, equipment, and escaped prescribed fire. The county has little history of arson activity. Climate and precipitation, terrain, winds, fuels, and access issues contribute to the wildland fire hazard in Stillwater County.

Introduction

This Community Wildfire Protection Plan was prepared as a part of Stillwater County's pre-disaster mitigation plan to make the county more disaster-resistant. The CWPP sections of the overall plan address the intent of the National Fire Plan to have communities, in this case, the county, assess its current situation and based upon the assessment, develop and prioritize implementation actions to address risks and vulnerabilities. The plan simultaneously meets requirements for pre-disaster project funding and post-disaster assistance from the Federal Emergency Management Agency to assess risks and vulnerabilities, and identify locally supported actions that can be taken to reduce the potential for loss and damage in the event of a natural disaster.

This plan is also consistent with national fire policy articulated in the National Fire Plan. The National Fire Plan (NFP) was developed in August 2000 "with the intent of actively responding to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future." (www.fireplan.gov/) The NFP addresses five key areas: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. Federal agencies are directed in the plan to assist communities that have been or may be threatened by wildland fire. This assistance for Stillwater County has been provided in the form of funding and assistance for education, planning, training, and equipping rural and volunteer firefighters.

The CWPP is the result of the participation of a wide variety of interests in the wildland fire issue at the local, county, state, and federal levels. The CWPP/PDM Steering Committee guided the development of the entire document, while the Stillwater Fire Council guided the development of Chapter V containing the fire elements of the plan. Participants in the fire planning process included:

Columbus City and Rural Fire Department, Rich Cowger

Reed Point RFC, Jim Trees

Absarokee RFD, Randy Gray

Park City RFD, Randy Thom

Molt RFD, Greg Smith

Rapelje RFD, Larry Gee

Nye RFD, Travis Hansen

Stillwater County Fire Warden, George Bokma

Meetings were held to provide input on the plan. Each meeting was noticed for the public, conducted according to an agenda, and documented through meeting notes and participant sign-in sheets. Copies of meeting outreach and documentation are found at the end of this chapter.

Area To Be Evaluated

The area evaluated in this assessment is Stillwater County, Montana. The county has one incorporated community and seven unincorporated communities. Columbus is the only incorporated community and Absarokee, Fishtail, Molt, Nye, Park City, Reed Point, and Rapelje are the unincorporated communities. For more detailed information about the characteristics of Stillwater County please refer to Chapter I of this plan.

Fires of 2006

During the 2006 fire season and since this document was compiled, Stillwater County suffered two major fire disasters; the Saunders Fire and the Derby Fire. The Saunders fire burned 3175 acres in central Stillwater County, burning six homes in Yellowstone River Ranch Estates subdivision. One hundred and six homes were evacuated in two major subdivisions.

The Derby fire burned nearly 200,000 acres of US Forest Service and private land and caused the evacuation of 840 residences in southern Stillwater County. Twenty-six homes were destroyed along Stillwater River Road and Spring Creek.



Derby Fire 2006

Absarokee

The Absarokee fire district is 370 square miles of hilly terrain at the south end of Stillwater County. Land use is rangeland; primarily grassland with areas of ponderosa pine and riparian areas of brush and cottonwood trees. In August and September, conditions usually get dry and conducive to fire ignition. Historically, fires start primarily by lightning strikes. Other causes include ditch burning, slash pile burning, and farm equipment fires.

The district is home to about 1400 people and contains 2500 structures. Many historic sites are in or near town that would be irreplaceable if destroyed by fire. Critical infrastructure includes schools, a platinum mine, a firehouse, a clinic, a grocery store, Water district facilities, an electrical substation, gas pipeline and associated compressor station, and a hydro electric power plant.

Homestead lodge is a retirement home with 24 people that may need special assistance to evacuate in the event of a fire.

The area includes the Circle T subdivision that includes about 30 dwellings and several small subdivisions with 3 to 12 dwellings each.

Outside of town, other community values at risk include Crow Chief Meadows, a federally designated wildlife area for bighorn sheep near the Nye mine, and many recreational opportunities for fishing, rafting, horseback adventures and wilderness area access.

During the 2006 fire season, Absarokee fire district was involved in perhaps the biggest disaster that Stillwater Count has ever had. The Derby Fire burned almost 200,000 acres in Stillwater and Sweet Grass Counties. In the Absarokee fire district, 840 residences were evacuated and 26 structures destroyed. Fortunately, no one lost their life. The fire demonstrated how vulnerable people and residences in the county are to a fast moving wildfire.

Columbus

The Columbus town and rural fire district consists of 374 square miles of varied terrain. The town of Columbus sits in the Yellowstone River valley, just downstream of the confluence with the Stillwater River. The town and valley are populated with large deciduous trees and brush. There are 862 residential structures in town and 96 businesses.

The district contains grasslands, rocky hills and buttes, and riparian woodlands

along drainages. Grass can be dense and is a particular fire hazard where the dense grass interfaces with dense ponderosa pine or cottonwood trees. Drought conditions have created high fire dangers throughout the district.

Of primary concern are several large subdivisions that have been developed with little regard for reducing the risk of fire to dwellings. About 1807 residences exist outside of the city limits, many in dense stands of ponderosa pine. Roads are not planned for easy access for fire protection vehicles and there is no water available to firefighters at many of these locations.

Topography in these subdivisions is hilly and weather conditions are frequently windy, creating conditions for rapid spread of wildland fires. Further, years of drought has weakened and killed a majority of trees, creating a high risk of a spreading crown fire.

Several fires in our area have been caused by people with improper control of both the fires and wind breaks. Many people believe that windy conditions have increased in frequency in the district over the last several years. Other causes for ignition include lightning and railroad friction sparks.

Critical infrastructure includes a post office, county buildings, city hall, the firehouse, a hospital, a clinic, three schools, a grocery store and pharmacy, a major jewelry production facility, a mine smelter, community center, three gas stations, a propane facility, two electric substations, two crude oil pipelines and pump stations, and a structural beam manufacturer. There are two elder care facilities where evacuation due to fire would be more difficult.

The 2006 fire season was particularly severe, with two major fire disasters county wide. Within the Columbus district, the Saunders fire was declared a FEMA disaster when 106 residences were evacuated in the Yellowstone River Ranch and Countryman Creek subdivisions and 6 structures were destroyed. Through fortunate weather conditions and hard work by fire fighters, a much bigger disaster was avoided.

A major fire could put at risk major watersheds and water treatment facilities. Recreational areas include many fishing access areas, campgrounds and a major city park along the Yellowstone River.

The fire district has 30 volunteer fire fighters. They have two fire trucks designed for fires in structures with water capacities of 500 and 1000 gallons. There are four wildland fire units; 2 type six and 2 type three, and three water tenders; one holding 1200 gallons and two 2000 gallons. Also, the district has one wildland interface fire engine with an 800-gallon water capacity that produces foam with compressed air.

The fire chief for this district reports that they have good grassland and wildland fire control capabilities. The ISO ratings are 5 in town and 8 in the district within 5 miles.



Benedict Gulch Fire 2006

Park City

Park City is an unincorporated town on the eastern edge of Stillwater County. The Park City fire district is 116 square miles of diverse landscape of hilly buttes, prairie rangeland and riparian river and creek bottoms. To the north and west of Park City, areas of ponderosa pine and junipers create wildland fire fuels in the same areas that are attracting new subdivision development.

Recent fires include the Cottonwood Creek fire, shared with the Columbus fire district, and the Yegan and Benedict Gulch fires, north and east of Park City. The area is prone to lightning strikes and the fire chief reports a recent storm that started 12 small fires in 30 minutes. Local railroad traffic and carelessly controlled weed burning are also important causes of fire starts. Recent drought has made the area much more susceptible to wildland fire hazards.

Over 1000 people live in the town and live in about 300 structures. Subdivisions are numerous in the area and include Pinecrest with 76 homes, multiple subdivisions along the Yellowstone river that include over 100 homes, 20 homes in Valley Creek, and many smaller subdivisions scattered throughout the area such as Marty Moore and Benedict Gulch.

Critical Infrastructure includes the Post Office, a school, a firehouse, a community center, a locker room, and a water treatment facility. mt.gov/DES/Wildfire_Plan.asp

plant, three repair shops, one restaurant, two gas stations and a motel. Recreational resources at risk include Buffalo Mirage fishing access and a city park. Cultural values at risk include a pioneer cemetery, a Native American settlement area, the Bozeman trail, Square Butte, and Young Point. The area is habitat for deer, elk, moose, bear, mountain lion, wild turkey, eagles, and many other fauna and flora.

The Park City Fire Department has 24 volunteer firefighters. The department has three fire trucks designed for structure fires, one with a 1000 gallon capacity and one with 500 gallon capacity; two water tenders of 2200 and 3500 gallon capacities; one 6X6 1000 gallon wildland fire truck; three type 3 trucks, two holding 200 gallons each and one holding 350 gallons of water.

Reed Point

Reed Point is a small, unincorporated town on the west edge of Stillwater County. The fire district includes areas that have historically had numerous fires. South of town, there are dense stands of old growth ponderosa pines and juniper, described as "tinder dry" by the fire chief. One quarter of that area has burned during the last five years. The terrain is rough with few roads for fire suppression access. Recent beetle kill of trees, drought and frequent winds create dangerous fire conditions there.

To the north, the treed areas dissipate and turn into rolling grassland. This area has also been prone to fires, but with less serious consequences.

Reportedly, over 90% of the fires in the district have been caused by lightning; others by railroad and highway traffic.

The town is home to about 100 people with 100 to 120 structures. Many residents are elderly and would have difficulty evacuating. Critical infrastructure includes two schools, 2 restaurants, a gas station, a firehouse, and a post office. Historical sites include an old hotel and a train depot, now used as a community center. Economic infrastructure includes a power substation and associated power lines, a natural gas pipeline main and a 10-inch oil pipeline.

The Stephens Hill subdivision is North of town with about 10 dwellings and other residences are scattered around the rural areas. Other community values at risk

of fire are CRP program lands that provide important wildlife habitat, fishing access points, two old school houses, an historic stagecoach stop, and a future park site set for development.

Nye

The Nye fire department covers the southwest edge of Stillwater County. The terrain is hilly to mountainous with treeless to heavily forested areas. The forested areas are primarily various configurations of ponderosa pine, lodge pole pine, and aspen. Vegetative fuel conditions are dangerous due to the effects of a long drought, dead and weak tree blowdown, and tree diseases such as "blister rust". Slope steepness and aspect combine with routine windy conditions and lack of access roads to make firefighting in the Nye area particularly difficult and dangerous. Sources of ignition are mostly lightning strikes, but fires have historically also originated by controlled burns, camping, and human activity near highways.

Businesses and infrastructure at risk due to a wildland fire include the Stillwater Mine, Nye school, the Nye Firehouse, Carter's Camp complex, Montana Hanna's complex, Nye Trading Post, a trailer court, and a gas station. Other important

landscapes at risk include power lines and transformers, watersheds used by multiple communities downstream, designated bighorn sheep habitat, many fishing access points, and a buffalo jump
...mt.gov/DES/Wildfire_Plan.asp

archeological site. The Nye fire district has 22 volunteer firefighters. The district has an ISO rating of 9. Equipment available includes a 1000 gallon capacity structural fire truck, one type 4 wildland fire unit with 1000 gallons of capacity, one type 6 wildland fire unit with 250 gallon capacity, and a 1000 gallon type 3 water tender.

Rapelje

Rapelje is a small ranching and farming community on the extreme north side of Stillwater County. The small, unincorporated town has a fire department that encompasses 200,179 acres. Except for a small area north of the town called the rims, the fire district consists of flat or rolling grassland. This grass is a dangerous fire fuel, and becomes especially dry in July and August. The rims contain rugged, heavily forested slopes with little access for fire fighting. Westerly winds are virtually constant. The area is still suffering the consequences of a serious, long-term drought.

Fire ignition has not infrequently been a result of static charge build up and release by high voltage power lines that run throughout the district. Lightning has also been an ignition source.

Critical infrastructures include about 25 residences, many of which house elderly people. Also, there is a Post Office, a school, a car repair shop, a gas pump, and a business facility that warehouses musical instruments. Of particular historic value are the wooden grain elevators along the north edge of town where a defunct rail line exists. Petroleum pipelines and water supply pump facilities are present and could be damaged by a fire.

The area is a hunting resource and includes the Half-breed and Hailstone National Wildlife Refuges. The Big Lake state hunting area is on the east edge of the district.

Only 10 to 12 volunteer firefighters cover the district, and many of these work out of town during the week. Fire fighting equipment is limited to two pick up trucks, each with 300 gallons of water storage and a water pump apparatus. Nevertheless, the district believes that they have excellent grassfire suppression capabilities and rate their wildland fire capabilities as 6 on a scale of 1-10. ISO rating is 10.

Molt

The Molt Fire Department covers 160,000 acres; 90,000 of which are in the northeastern edge of Stillwater County. The area consists of mostly hilly grassland and farmland, with few trees. This region of Stillwater County has been hit the hardest by the current drought conditions. It is also an area of routine high winds. Lightning causes most fires, but railroad and other human caused fires have occurred.

At risk of fire are the sparse farmhouses around the area. The people who live there are generally older and therefore, at higher risk during an evacuation. Also, the town of Molt has 16 buildings that are a mixture of homes and businesses. Essential infrastructure includes the Post Office, a café, a grain elevator, a tire shop, a church and a school. Also, there are gas lines, power lines, and a major gas compressor station. Critical wildlife habitat includes two wildlife refuges and a state recreation area.

Table 5.9. Fire Apparatus in Stillwater County

<i>Department</i>	<i>Description</i>	<i>Capacities/Features</i>
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Columbus	Structure engine	1000 gallons, 1250 gpm
	Structure engine	1250 gallons
	Structure engine	1500 gallons
	Two wildland engines	Type 6
	Two wildland engines	Type 3
	Wildland interface unit	800 gallons (produces foam & compressed air)
	Two water tenders	2000 gallons
	4X4 Command Unit	Four passengers
Park City	Three structure engines	1. 500 gallons (1) 1000 gallons
	Wildland engine 6X6	1000 gallons
	Three type 3 wildland engines	(2) 200 gallons and (1) 350 gallons
	Two water tenders	2200 and 3500 gallons
Nye	Structure engine	1000 gallons
	Type 6 wildland engine	250 gallons
	Type 4 wildland engine	1000 gallons
	Type 3 water tender	1000 gallons

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Molt	Structure engine	600 gallons
	Structure engine	600 gallons
	Four wildland engines	300 gallons each
	Two 6X6 wildland engines	1000 gallons each
	Two water tenders	2500 and 2800 gallons
Absarokee	Structure engine	1500 gallons
	Two type 6 wildland engines	250 and 300 gallons
	Water tender	2000 gallons
	Wildland truck	500 gallons
	Mini pumper structure engine	500 gallons
Reed Point	Structure engine	1000 gallons
	Two type 6 wildland engines	300 gallons
	Water tender	2500 gallons
Rapelje	Two pick up trucks (each has a water pump apparatus)	300 gallons each
	Structure mini pumper	300 gallons

Assessment of Fuel Hazard

Vegetative Fuels

Stillwater County reaches from 3,400 feet to nearly 12,800 feet in elevation. The variation produces significant diversity in vegetative cover, precipitation, topography, and land use.

The Yellowstone River runs through the middle of the county in a horizontal path. In the northern half of Stillwater County it is flat country consisting of dry farmland with limited roads but easy accessibility to fight fires. In the southern half of the county it is more mountainous and green, these rough terrain breaks are difficult to access. Vegetation consists of grasses with scattered pine and brushy draws

The Yellowstone and Stillwater River Valley bottoms dominate the central area of the county. Floodplain areas contain woody brush and cottonwoods. The major communities in the county are situated in these two valleys and largely insulated from catastrophic fire by surrounding agricultural lands. The grass fuels tend to be relatively sparse and short due to grazing so that fire spread would be limited unless significant winds were present.

Rising above the valleys are buttes and foothills that can contain fairly dense stands of ponderosa pine. It is these areas that attract residential development and the most serious cases of urban wildland interface. Often, subdivisions have only one access road, no useable fire suppression water available, and little defensible space between structures and dense trees. Lightning activity can be high in the area. Drought is more prevalent here than in the Beartooth Mountain area, manifesting in the presence of stressed and dead trees. There is also a large amount of vehicle traffic and dispersed recreational activity during fire season. A stand-replacing fire in these areas could have extremely disastrous consequences, which could likely include loss of human lives and large-scale property and economic loss.

The northern third of the county is dryer and comprised of ranches and farms. Few trees exist outside of riparian waterways. Fire danger is usually a result of parched, dense grasses that can sustain a fire over hundreds of acres in windy conditions. Structures are diffused throughout the area with the exception of the unincorporated towns of Rapelje and Molt.

Structural Fuels

Housing data from the Montana Department of Commerce found in the CAMAS (Computer Assisted Mass Appraisal System) data base is helpful for understanding the general housing situation in the county.

As of February 2005, there were a total of 3,692 housing units in Stillwater County. Of this total, 10 were categorized as condominiums, 659 as mobile homes, and 3,023 as single-family dwellings. The largest number of housing units found in any condition category, 1,755 were classified as in "Average" condition. Much of the housing stock in the county is aged. Fully 1,362 of 3,692 units, or almost half of the housing units were built in 1959 or earlier. The majority of housing units have frame wall construction, 3,311. Ten types of exterior wall finish are documented with the largest number, 1,736 having wood siding or sheathing. Roof material is shown in the following table.

Risks of accidental human-caused ignition are highest along roads and highways, power lines, railroad tracks, and around developed recreation sites. Risks of human-caused ignition are moderate in areas of dispersed recreation and rural residences. Risks of ignition to wildlands are lowest within the

developed community areas, on agricultural lands, and in the river valley bottoms. Risk of ignition from lightning is highest at the topographical high points, including the Beartooth Plateau and mountain front, and on Shane Ridge.

Behavior and Development Trends

Behavior and development issues related to fire protection vary across the county. Growth and development are occurring in treed areas along river valleys and among hills and buttes in the central and southern parts of the county. The challenges presented by development differ depending on the fuel types, terrain, access, and response times.

Generally, the development of most concern in the county from the standpoint of fire protection is occurring along the wildland urban interface area. Previously subdivided lots continue to be built upon and new subdivisions continue to be proposed at a steady rate, creating up to as many as several hundred new lots per year. Although the number of new developments fluctuates somewhat from year to year, nothing indicates this trend will change in the near term and it may even become more pronounced as the baby boom demographic continues to look for retirement property in areas with access to recreational opportunities, wildlife, and scenery. Even without additional subdivision, a large number of lots are already available to be built upon.

New rural residences are typically wood frame construction or in the interface areas, log construction. Many of the subdivisions' covenants require rustic construction materials that fit in visually with the natural landscape. Fortunately, most new homes in interface areas are being constructed with metal or composition shingle, rather wooden shake roofs.

There is a trend not to build out subdivisions in the way they were approved. There are no checks to ensure the development occurs as per the requirements of the county in their approval. There is no enforceable code for such things as maintenance of roads and fire protection systems. In some cases, the problems associated with lack of proper construction and maintenance of roads and fire protection systems may not become evident until the call comes in and responders are forced to do their best in a less than desirable situation. Losses could exceed those that would have occurred had the systems and roads been constructed to standard and properly maintained. In the worst case, firefighters' and residents' lives could be put at additional risk.

Highway I-90 and the railroad line increases the potential of a hazardous material spill and/or ignition of a wildland fire along transportation corridors.

The trend in climatic conditions in recent years has major implications for wildland fire severity. Stillwater County has been experiencing a severe, long-lasting drought. The USDA has declared the county a drought disaster for the past several years. Many areas of the county, particularly the northern portions, receive only small amounts of precipitation even in average years. Lower levels of precipitation affect fuel moisture as well. Arboreal mortality due to the stress of continued drought is occurring in a number of timbered areas of the county.

The fire departments in the county are challenged to maintain an adequate volunteer staff. Serving as a volunteer on a department requires a time commitment not only to respond to calls, but also to maintain currency in training. The departments have had differing experiences in utilizing individuals under the age of 21; some have been satisfactory and some unsatisfactory. The departments in the county have different policies on lower age limits as a result of their experiences. Many people in the county work more than one job, or work at jobs such as agriculture that have high demands on their time during certain seasons. Time spent with the fire department may be time away from family. In some areas of the county, the economics have produced a demographic with a relatively small number of young families, a pool from which volunteers could logically come. In other areas of the county, the population is more aged and unable to serve.

Unique Wildfire Severity Factors

Increased probability of ignitions in the county occurs as a result of both natural and human-caused situations. Natural ignitions have and continue to occur due to topographical features such as ridges, high elevation plateaus, and high points.

Many areas of the county are at risk from unintended human-caused ignitions. The public lands experience grazing management and recreation activity year-round, much of the activity being associated with the use of motorized vehicles. The railroad is responsible for numerous grass fires during the spring, summer,

and fall. Many landowners burn off stubble and grasses in their fields and ditches in the spring. These landowner actions often result in escaped fires to which the departments must respond.

Travelers on the highway start fires as a result of vehicle accidents and the discard of burning tobacco products. The public lands in the south receive heavy recreational use during the driest times of the year. Some of these uses include hiking, camping, wildlife viewing, hunting and fishing, fire wood collection, and recreational vehicle operation. Vehicles can start fires along county and forest roads, and each year numbers of campfires are left unattended, some serving as ignition sources.

Extreme fire behavior can occur in the county due to:

1. prolonged drought conditions causing low fuel moisture, stressed vegetation, and mortality in some timbered areas,
2. high winds, and resulting blow down,
3. heavy, mature, fire-dependent fuels,
4. rough breaks in the center and southern parts of the county, and steep terrain and canyons.



Values to be Protected

Assessment of Economic Values

Agriculture in Stillwater County consists of both farming and ranching. Ranching assets at risk from wildfire include livestock (cattle, sheep, and horses), forage, and range improvements. According to the Department of Revenue, all horses, mules, bison, sheep, swine, goats, poultry, bees, domestic ungulates, and llamas in the county had a total market value of \$56,073,541 ending in

Farm assets that could be at risk include crops, storage facilities such as grain and bean elevators, equipment and machinery. Because much of the cropland in the county is irrigated, risk of loss from wildland fire to farms is limited.

Assessment of Ecological Values

As a result of the ranges in elevation, aspect, temperature, precipitation, vegetation, and terrain in the county, Stillwater County provides diverse wildlife habitat. The county is home to a variety of big game species such as white-tailed and mule deer, elk, moose, big horn sheep, antelope, and mountain goats. Other featured species include black bears and mountain lions. In addition, numerous small mammals, fur-bearers, game birds, and migratory and non-migratory songbirds reside in the county. Grizzly bears and grey wolves, both listed under the Endangered Species Act can be found in the southwestern areas of the county in the mountains.

Short-duration impacts to air quality include smoke from wildland fire in the summer and fall, smoke from ditch burning in the spring, dust from travel on unpaved roads, and dust from agricultural practices primarily in the spring. Yellowstone National Park located to the south and west of the county has been designated a Class One air shed.

Assessment of Social Values

The majority of lands located in Stillwater County are undeveloped. Although most of the population resides in towns, many residences are found either along the valley bottoms or among the hills, buttes and mountains. As with many other areas in Montana and the west, people have chosen to settle in areas immediately adjacent to wildlands for reasons of solitude, aesthetics, and nearness to nature and wildlife.

Potential Loss Estimate

A catastrophic wildland fire scenario has been developed in order to estimate potential losses. Much of the land involved is under Forest Service ownership and management, however many of the assets (values at risk) are in private ownership. The loss estimate was developed with input from the Forest Service.

In this scenario, during the late summer a campfire in the drainage bottom starts a stand-replacing wind-driven fire in the lodge pole. The fire burns approximately 15,000 acres on both the National Forest and adjacent private lands. The drainage contains private residences and developed campgrounds. In this fire, ten lives are lost. One family of six camped up the drainage is unable to get to safety, and is overrun by the fire. And, four individuals remain at their recreation residences in an effort to save the structures and are also overrun by the fire.

In addition to the direct costs, indirect costs could be expected as a result of a loss of recreation users in the drainage (and resulting loss of commerce for area businesses), and loss of commercial opportunity for firewood and post and pole products.

A difficult-to-estimate additional indirect cost could result from the lack of communications infrastructure. During the interim period it would take to re-establish communications on the peak, there could be injury, damage, or loss of life due to the inability to communicate during an emergency or search and rescue incident. Communications are not possible in many areas of the county at present, and the loss of this equipment would render even more areas unreachable. This fire would also affect fisheries, wildlife and fish and wildlife habitat. Fire would have both detrimental

and beneficial effects on habitat.

Assessment of Fire Protection Preparedness and Capability

Each Department Chief and Fire Management Officer was asked to assess their departments with respect to ability to respond to grass and timber fires. Most of the departments in the county are able to respond competently and safely to both types of wildland fires meaning they have had training and experience in suppressing these wildland fires.

Maintaining adequate numbers of volunteers was an issue for several, but not all of the departments. Some departments are short-staffed during workday hours when volunteers are working at out-of-area jobs and unavailable.

Insurance premiums are based on a rating system established by the Insurance Services Office (ISO.) The ISO considers the water system and fire protection capability of a community when issuing a rating. The rating system contains ten protection classifications. Class One is the best rating a community can receive; Class Ten is the lowest, meaning the ISO recognizes little if any ability to provide fire protection. The ratings in Stillwater County range from 5 to 10 in other locations. Rural areas are less well protected than communities.

Notes: Ratings for ability to respond to grass and timber fires were based upon a scale of 1-5 with 1 being very able to respond, and 5 being unable.

Stillwater County has been successful in obtaining grant funds in past years and continues to pursue them, as they are available. Rural Fire Assistance (RFA) grants in the following amounts were obtained by the county. In addition to the RFA assistance that originates with the Department of Interior, the county has received Volunteer Fire Assistance or VFA funding.

Apparatus Stationed in the County

In addition to the local departments, which include DNRC apparatus, there are apparatus maintained by the Bureau of Land Management stationed in Billings, and apparatus maintained by the Custer National Forest station in Red Lodge.

Mitigation Goals, Objectives and Projects

The Steering Committee developed the following goals, objectives, and projects with review and input from the Stillwater County Fire Council.

Goal 1) Protect firefighters from loss of life and injury due to wildland fire.

Objective 1. Ensure firefighters are adequately equipped and supported.

1.1.a. Assure that firefighters have adequate training opportunities.

1.1.b. Work with commercial providers to improve cellular communications in the Stillwater Valley.

1.1.c. Pursue grants for PPE and communications equipment upgrades.

1.1.d. Compensate firefighters.

Objective 2. Monitor and address specific risk factors.

1.2.a. Monitor fuel load, drought stress and vegetation mortality.

1.2.b. Monitor amount of contracted acreage in CRP.

1.2.c. Invite the BNSF to conduct annual briefings and training sessions on response to hazmat carried by the railroad.

Objective 3. Learn from each incident how to better protect fire fighters.

1.3.a. Conduct after action analyses for all major incidents or at least one annually by the Fire Council.

1.3.b. Increase visibility of protection services.

Goal 2) Protect the public from loss of life and injury due to wildland fire.

Objective 1. Raise awareness about fire danger.

2.1.a. Raise awareness of fire danger through an advertising campaign including a series of articles, mailings, and billboards.

2.1.b. Better communication with the local media about Red Flag warnings.

2.1.c. Develop maps of the wildland urban interface areas with safety zones and escape routes.

2.1.d. Look for quicker ways to publicize fire danger information.

Objective 2. Ensure residents are prepared to evacuate.

2.2.a. Develop or purchase evacuation pamphlets and distribute to rural residents.

2.2.b. Preplan reverse 9-1-1 areas and enter data into system.

Goal 3) Maximize resource opportunities for protection of communities and property from wildland fire.

Objective 1. Pursue resources to ensure reasonable response capability to protect existing assets.

3.1.a. Continue to pursue grant opportunities for equipment and training.

3.1.b. Upgrade MTAC.

3.2.a. Build and equip an adequate Emergency Operations Center.

3.2.b. Train EOC personnel in Disaster response.

3.2.c. Build and supply fully equipped dispatch facility.

Goal 4) Maximize protection of property from wildland fire in rural areas

Objective 1. Emphasize personal responsibility for protection of property.

4.1.a. Host a Fire Wise workshop for rural subdivisions.

4.1.b. Target rural property owners and second homeowners by including a fire prevention message with property tax notices.

4.1.c. Educate the public about the benefits of metal roofing.

Objective 2. Provide technical expertise and staff resources to reduce fire danger in wildland urban interface areas.

4.2.a. Pursue WUI fuel reduction projects in high-risk areas around the county. 4.2.b. Jointly develop a fuels reduction project for the major subdivision area. (BLM, FS, RFD, private landowners)

4.2.c. Develop an evacuation plan for each interface subdivision/area.

Objective 3. Eliminate major known hazards.

4.3.a. Bury electrical lines where possible.

Objective 4. Enhance effectiveness of response.

4.4.a. Create a map of the county showing water sources for fire fighting.

4.4.b. Determine locations for additional water supplies and pursue funding to develop new water sources available for fire protection.

4.4.c. Identify those areas of the county with constructed assets at risk and no physical access. Meet with property owners or subdivision associations to pursue remedies.

Goal 5) Ensure an effective, coordinated response to wildland fire incidents that covers the entire county.

Objective 1. Assist residents in areas currently not covered who are willing to meet legal requirements to obtain fire protection coverage.

5.1.a. Explore residents' willingness in uncovered areas to obtain formal coverage.

Objective 2. Utilize available technology to assist in response.

5.2.a. Continue to improve the E-911 system.

Objective 3. Ensure cooperative agreements in place meet current needs.

5.3.a. Review existing MOU's.

5.3.b. Develop new or update existing MOU's as needed.

Objective 4. Maintain adequate numbers of qualified volunteers.

5.4.a. Develop and/or purchase volunteer firefighter recruitment materials.

5.4.b. Work with the Stillwater County News to feature one volunteer firefighter in the newspaper each month.

Objective 5. Document response activities to support grant requests.

5.5.a. Report all responses to the state as requested.

5.5.b. Work on improving "call-out" data base.

Goal 6) Ensure new developments are designed for adequate fire protection.

Objective 1. Provide high quality technical review and input on all proposed development in the county.

6.1.a. Have county planning office provide a training session for fire chiefs on providing input to subdivision review process.

Objective 2. Guarantee subdivisions are constructed as approved.

6.2.a. Develop regulatory mechanism to ensure that subdivisions are built as approved and fire protection systems are initially and periodically certified

Objective 3. Educate locals who advise new residents and developers.

6.3.a. Develop and provide a workshop that would qualify for continuing education credits for architects, engineers, and realtors on defensible space and fire wise principles.

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Priority Ranking of Mitigation Projects

The following projects have been ranked as High, Medium, or Low. The projects were reviewed, adjusted, and concurred with by the Fire Council members. Projects will be pursued dependent upon staff and dollar resources available.

Mitigation Goals, Objectives and Projects

The Steering Committee developed the following goals, objectives, and projects with review and input from the Stillwater County Fire Council.

Goal 1) Protect firefighters from loss of life and injury due to wildland fire.

Objective 1. Ensure firefighters are adequately equipped and supported.

- 1.1.a. Assure that firefighters have adequate training opportunities.
- 1.1.b. Work with commercial providers to improve cellular communications in the Stillwater Valley.
- 1.1.c. Pursue grants for PPE and communications equipment upgrades.
- 1.1.d. Compensate firefighters.

Objective 2. Monitor and address specific risk factors.

- 1.2.a. Monitor fuel load, drought stress and vegetation mortality.
- 1.2.b. Monitor amount of contracted acreage in CRP.
- 1.2.c. Invite the BNSF to conduct annual briefings and training sessions on response to hazmat carried by the railroad.

Objective 3. Learn from each incident how to better protect fire fighters.

- 1.3.a. Conduct after action analyses for all major incidents or at least one annually by the Fire Council.
- 1.3.b. Increase visibility of protection services.

Goal 2) Protect the public from loss of life and injury due to wildland fire.

Objective 1. Raise awareness about fire danger.

- 2.1.a. Raise awareness of fire danger through an advertising campaign including a series of articles, mailings, and billboards.
- 2.1.b. Better communication with the local media about Red Flag warnings.
- 2.1.c. Develop maps of the wildland urban interface areas with safety zones and escape routes.
- 2.1.d. Look for quicker ways to publicize fire danger information.

Objective 2. Ensure residents are prepared to evacuate.

- 2.2.a. Develop or purchase evacuation pamphlets and distribute to rural residents.
- 2.2.b. Preplan reverse 9-1-1 areas and enter data into system.

Goal 3) Maximize resource opportunities for protection of communities and property from wildland fire.

Objective 1. Pursue resources to ensure reasonable response capability to protect existing assets.

- 3.1.a. Continue to pursue grant opportunities for equipment and training.
- 3.1.b. Upgrade MTAC.
- 3.2.a. Build and equip an adequate Emergency Operations Center.
- 3.2.b. Train EOC personnel in Disaster response.
- 3.2.c. Build and supply fully equipped dispatch facility.

Goal 4) Maximize protection of property from wildland fire in rural areas

Objective 1. Emphasize personal responsibility for protection of property.

- 4.1.a. Host a Fire Wise workshop for rural subdivisions.
- 4.1.b. Target rural property owners and second homeowners by including a fire prevention message with property tax notices.
- 4.1.c. Educate the public about the benefits of metal roofing.

Objective 2. Provide technical expertise and staff resources to reduce fire danger in wildland urban interface areas.

- 4.2.a. Pursue WUI fuel reduction projects in high-risk areas around the county.
- 4.2.b. Jointly develop a fuels reduction project for the major subdivision area. (BLM, FS, RFD, private landowners)
- 4.2.c. Develop an evacuation plan for each interface subdivision/area.

Objective 3. Eliminate major known hazards.

- 4.3.a. Bury electrical lines where possible.

Objective 4. Enhance effectiveness of response.

- 4.4.a. Create a map of the county showing water sources for fire fighting.
- 4.4.b. Determine locations for additional water supplies and pursue funding to develop new water sources available for fire protection.
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Meet with property owners or subdivision associations to pursue remedies.

Goal 5) Ensure an effective, coordinated response to wildland fire incidents that covers the entire county.

Objective 1. Assist residents in areas currently not covered who are willing to meet legal requirements to obtain fire protection coverage.

- 5.1.a. Explore residents' willingness in uncovered areas to obtain formal coverage.

Objective 2. Utilize available technology to assist in response.

- 5.2.a. Continue to improve the E-911 system.

Objective 3. Ensure cooperative agreements in place meet current needs.

- 5.3.a. Review existing MOU's.
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Table 5.10. Mitigation Project Ranking

<i>Project</i>	<i>Description</i>	<i>Ranking</i>	<i>Potential Resources</i>
1.1.a	Training for firefighters	High	DNRC
1.1.b.	Improve cellular communications		Cell phone companies, Stillwater County LEPC, Fire

1.1.c.	Pursue grants for PPE and communications equipment	High	Fire Council, BLM, DNRC, Forest Service
1.1.d.	Compensate firefighters	High	Fire district levy
1.2.a.	Monitor fuel load and drought stress in vegetation	High	BLM, Forest Service Extension Service
1.2.b.	Monitor contracted CRP acreage	Medium	Fire Council, NRCS
1.2.c.	MRL hazmat briefing	Low	MRL, Fire Council
1.3.a.	Analyze incidents	Medium	Fire Council
2.1.a	Raise awareness of fire danger	High	Fire Council, BLM, DNRC, Forest Service
2.1.b.	Communicate with media about Red Flag warnings	High	Fire Council, DNRC, Forest Service, BLM, Stillwater County News, Cable MT, Radio station, NOAA radio
2.1.c.	Maps of WUI's and escape routes	High	GIS, Subdivisions
2.1.d.	Quicker ways to publicize fire danger	High	DES, Fire Council
2.2.a.	Evacuation Pamphlets	Low	Fire Council, BLM, DNRC, Forest Service
2.2.b.	Preplan 9-1-1- areas	High	Fire Council, NRCS
3.1.a.	Pursue grant opportunities	High	Fire districts, fire Warden, DES
3.1.b.	Upgrade MTAC		
3.2.a.	Build new EOC	High	DES, Stillwater County
3.2.b.	Train EOC Personnel	High	State DES

3.3.a.	Build and supply Dispatch Facility	High	Stillwater County
4.1.a	Host Fire wise workshop for WUI subdivisions	Medium	BLM, DNRC, FS, DES, Fire Council
4.1.b	Fire prevention message with tax notice	Medium	Stillwater County, fire Council
4.1.c.	Educate about metal roofing	Medium	Fire Council
4.2.a.	Fuel reduction in high risk areas	High	FS, FD, Subdivision Assn
4.2.b.	Fuels reduction, recreation	Medium	Forest Service, cabin owners, FWP
4.2.c	Prepare evacuation plans for interface areas	High	Fire Council, BLM, DNRC, Forest Service
4.3.a.	Bury electrical lines	Medium	Beartooth Electric, Forest Service, NW Energy
4.4.a.	Map fire protection water source	High	Fire Council, BLM, DNRC, Forest Service, Town Public Works
4.4.b.	Develop new water sources	High	Fire Council, BLM, DNRC, Forest Service
4.4.c.	Address physical access issues	Medium	Fire Council, BLM, DNRC, Forest Service
5.1.a.	Address areas without fire protection	Medium	Fire Council, BLM, DNRC, Forest Service
5.2.a.	Improve E-911 system	HIGH	Sheriff, DES, GIS
5.3.a.	Review existing MOUs	Medium	Fire Council, DNRC
5.3.b.	Develop/update MOUs	Medium	Fire Council, DNRC
5.4.a.	Firefighter recruiting materials	Medium	Stillwater County News, fire fighters

5.5.a.	Report fires to state	Medium	Fire Chiefs
5.5.b.	Document Call-outs	Medium	Stillwater County Dispatch
6.1.a.	Training on subdivision review	High	County Attorney, Fire Council
6.2.a.	Develop a regulatory mechanism for subdivision fire protection	High	County Planning Dept., Commissioners, Fire Council
6.3.a.	Workshop for design, construction, real estate profess.	Medium	Fire Council, DNRC, BLM, Forest Service
6.3.b.	Workshop for planning staff	Medium	Fire Council, BLM, DNRC, Forest Service

Implementation

Roles and Responsibilities

The goals in this Community Wildfire Protection Plan will be realized through implementation of the projects. The plan contains a variety of types of projects. Due to the variety, many individuals and agencies will play a role in project implementation.

Individual property owners will be responsible for educating themselves and taking appropriate action to create defensible space around their structures, both residential and commercial.

Subdivision associations will have the opportunity to work with their local fire departments, state, and federal agencies to select specific fuel treatment alternatives.

For-profit businesses may be involved in sharing expertise, as in the case of the Burlington Northern Santa Fe railroad on hazardous materials. Or, they may be involved in infrastructure evaluation and upgrades, such as the cellular phone companies in the Stillwater Valley. The Stillwater County News may be asked to run features about firefighters to assist in recruiting efforts. Beartooth Electric may look to partner with funding agencies to accomplish the project to bury overhead lines in the rims area north of Rapelje. Private business may also obtain contracts for work identified in this plan to reduce fuel or other hazards.

County responsibilities fall in the area of education on existing regulations and investigation of additional regulatory needs. The county may also assist in bringing together parties for cooperative projects.

The Department of Natural Resources and Conservation (DNRC) will continue to provide assistance to local fire departments in the form of grants, technical expertise, and resources when wildland fires exceed local capacity.

The Bureau of Land Management (BLM) and Forest Service will both provide technical assistance, project funds, suppression assistance, educational materials, and training. The BLM will schedule and carry out fuel reduction projects in cooperation with neighboring landowners including other agencies and private individuals.

The Natural Resources Conservation Service may be asked to assist in monitoring the acreage enrolled in the Conservation Reserve Program as a way to better understand the fuel hazard.

The Federal Emergency Management Agency (FEMA) may provide grant funds to accomplish projects and may be involved in post-disaster assistance in the event of a catastrophic fire.

Schedule

No firm schedule has been established for accomplishing the listed projects. Accomplishment of projects depends on the availability of resources and funding. Not all of the projects will require specific funding, for example, the Fire Warden will likely be able to set up a training course for the county fire chiefs on subdivision regulations with no additional resources.

Other projects, for example the fuel reduction surrounding subdivisions, or creating defensible space around recreation residences will require bringing many parties to the table and the alignment of priorities and funding from several sources. These projects will proceed as the circumstances allow.

As required by the National Fire Plan, federal agencies are to align their funding and staff resources with the priorities expressed in this community wildfire protection plan. As a result, accomplishment of many of the projects will depend on the funding and staffing of the BLM and Forest Service. Additionally, the amount of VFA/RFA funds available to the local fire departments will have an effect on the ability of those departments to participate in the planning and execution of projects on the ground.

By jointly identifying the projects and their priorities with city, county, state, and federal partners, it is hoped that project planning and execution will be well coordinated and occur first on the highest priority projects.