

# Perkins County Community Wildfire Protection Plan



## **Acknowledgements**

Any community planning process requires a great deal of work and commitment from a wide variety of people. This plan was initiated by the Tatanka Resource Conservation and Development Council based in Bison with financial assistance provided by the Bureau of Land Management.

The majority of the work on this plan was done in collaboration with the dedicated volunteer fire fighters. This plan was created for the benefit of the volunteer fire fighters and the citizens of Perkins County.

**Prepared For:**

**Perkins County  
Tatanka Resource Conservation & Development Council Inc.**

604 Coleman Avenue  
Bison, SD 57620  
Voice: 605-244-5222 Ext 4  
Fax: 605-244-5223

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**Prepared By:**

**Black Hills Land Analysis**

**Rob Mattox**

12007 Coyote Ridge Road

Deadwood, SD 57732

605-578-1556

[rob@mattox.biz](mailto:rob@mattox.biz)

[www.mattox.biz](http://www.mattox.biz)



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## Introduction

A Community Wildfire Protection Plan, (CWPP), is a community-based planning process that identifies areas that may be at risk from wildfire and develops objectives that reduce the hazards associated with uncontrolled wildfire. Firefighter and public safety is the primary concern along with protecting property and critical infrastructure. New incentives generated by the enactment of the Healthy Forest Restoration Act, (HFRA), in 2003 and the National Fire Plan provide a mechanism for identified and prioritized hazardous fuels projects to be given consideration by the USDA Forest Service and the USDI Bureau of Land Management. For a community to take full advantage of this new opportunity it must develop a Community Wildfire Protection Plan. Collaboration with federal agencies and other interested parties is important to develop a sound comprehensive mitigation plan. Another important aspect of a Community Wildfire Protection Plan addresses ideas that can reduce the ignitability of structures and other values in the Wildland Urban Interface. Creating public awareness of FireWise practices and procedures will help to accomplish the important goal of wildfire mitigation.

Wildfires in the upper Midwest, including the Northern Plains of South Dakota, are burning more acres with greater intensity than any other time in recent history. The increased fire activity is a result of more extreme fire behavior due to continued drought and weather that is contributing to extreme fire behavior. Weather during burn periods greatly influences fire behavior, e.g. low fuel moisture, erratic wind, and high temperature. Cooperation between



*Values in Perkins County not only consist of homes but livestock and agricultural products also.*

agencies to improve documentation of fire history should be a continuing effort to record historic fire paths.

Protecting lives, property, resources and critical infrastructure is the primary concern for mitigating the threat from wildfire. Areas of higher fuel loads cause more concern during wildfire events for firefighter and public safety.



*Fine, flashy fuels can allow prairie fires to become large conflagrations very quickly.*

Consideration should be given to provide safe egress for the public during a fire event; also emergency responders need safe ingress/egress during fire suppression activities.

A collaborative effort between local government, fire personnel and state/federal agencies will help identify objectives for the protection of community values within Perkins County. Stakeholders working together to develop continuity between different projects will make treatments more effective. All interested stakeholders should share the burden of wildfire prevention in Perkins County. Protecting life, property and natural resources all add to the economic sustainability of the County.

The National Incident Management System, (NIMS), was developed so responders from different disciplines can work together better to respond to natural disasters and emergencies. NIMS benefits include a unified approach to incident management, standard command and management structures and emphasis on preparedness, mutual aid and resource management. Future funding opportunities may be dependant on personnel completing NIMS training and implementing these procedures.

The Wildland Urban Interface, (WUI), is a set of conditions that exist when structures and other



human development meet or intermingle with Wildland or vegetative fuels. As structure density increases in an area, consideration must be given not only to the natural vegetation but also to urban fuels. For example, homes are urban fuels and would contribute to fire intensity if ignited. FireWise



*This home demonstrates a good example of a fuel break between a structure and the surface fuels.* practices and procedures can greatly reduce structural ignitability by interrupting fire spread and reducing receptive fuel beds in and around structures. Public education about wildfire prevention can help reduce loss of life, property and resources.

Wildfire does not recognize governmental or jurisdictional boundaries and the occurrence of fire crossing these lines is common. Cooperation between all agencies is important to reduce the risk from wildfire. Sharing information and cooperative development of plans will enhance the effectiveness of wildfire mitigation. Firefighter and public safety is the number one priority. Reducing the risk to values from uncontrolled wildfire is an important concern in Perkins County.

## The Healthy Forest Restoration Act

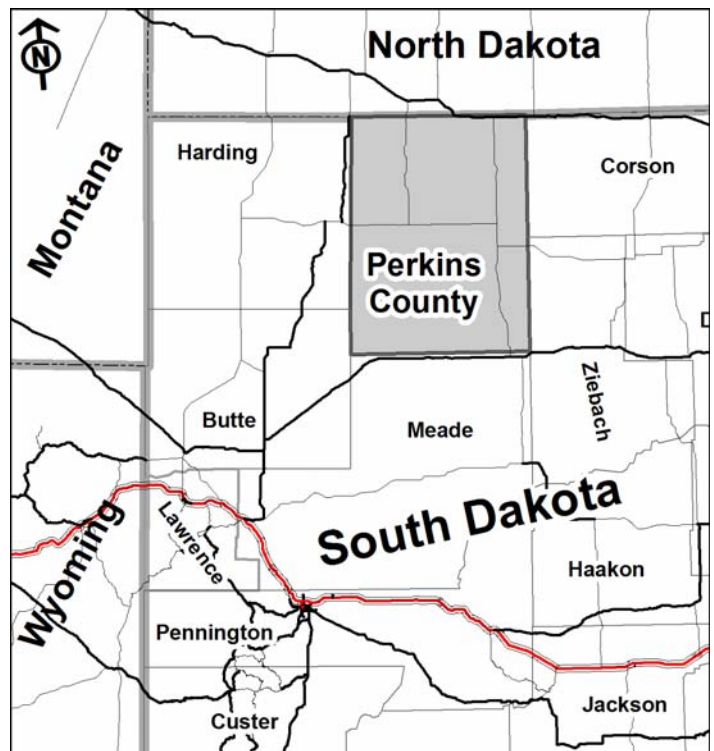
The Community Wildfire Protection Plan concept is outlined in the Healthy Forest Restoration Act of 2003. This act provides the basis to encourage and allow comprehensive community-based planning and prioritization of fuel reduction projects. This legislation includes statutory incentives for the USDA Forest Service and the USDI Bureau of Land Management to give consideration to these priorities and planning suggestions set out in individual Community Wildfire Protection Plans.

The Healthy Forest Restoration Act builds on the National Fire Plan and the Ten Year Comprehensive Strategy for reducing Wildland fire risks to communities and the environment. It also establishes an expectation that federal land management agencies will work with communities and local governments to reduce fire and forest health risks within and around WUI areas and Communities At Risk, (CAR). The HFRA specifically encourages efforts to restore healthy forest conditions by authorizing expedited environmental assessments, administrative appeals and judicial review for hazardous fuels projects on federal land and gives preference in the use of these authorities to agencies who partner with communities in a collaborative fashion.

Community Wildfire Protection Plans provide communities with a mechanism to influence where and how federal agencies implement fuel reduction projects on federal lands and how additional federal funds may be distributed for projects on non-federal lands. Counties that have adopted Community Wildfire Protection Plans have more opportunity to channel funding toward identified projects, equipment and other needed priorities.

## County Description

Perkins County was identified in 1908 and officially organized in 1909. It was named for Henry

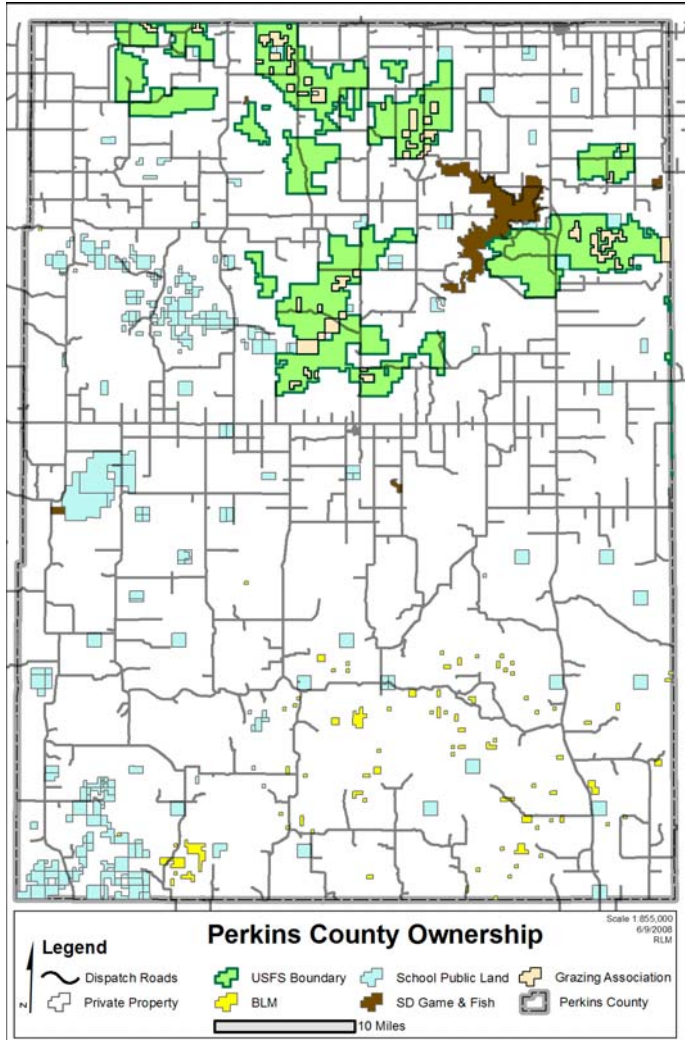


E. Perkins who was a lawyer and State Senator from Sturgis from 1903-1911. It is situated in northwestern South Dakota with Harding and Butte County on the west, North Dakota to the north, Corson and Ziebach counties on the east and Meade County on the south. The total area of the county is approximately 1,850,233 acres or 2,891 square miles with 2,872 square miles of land and 19 square

acres. Game, fish and parks property accounts for approximately 14,747 acres and the Grand River Grazing Association owns approximately 12,263 acres. Approximately 88% of the property in Perkins County is privately owned and the other 12% is managed by governmental entities.

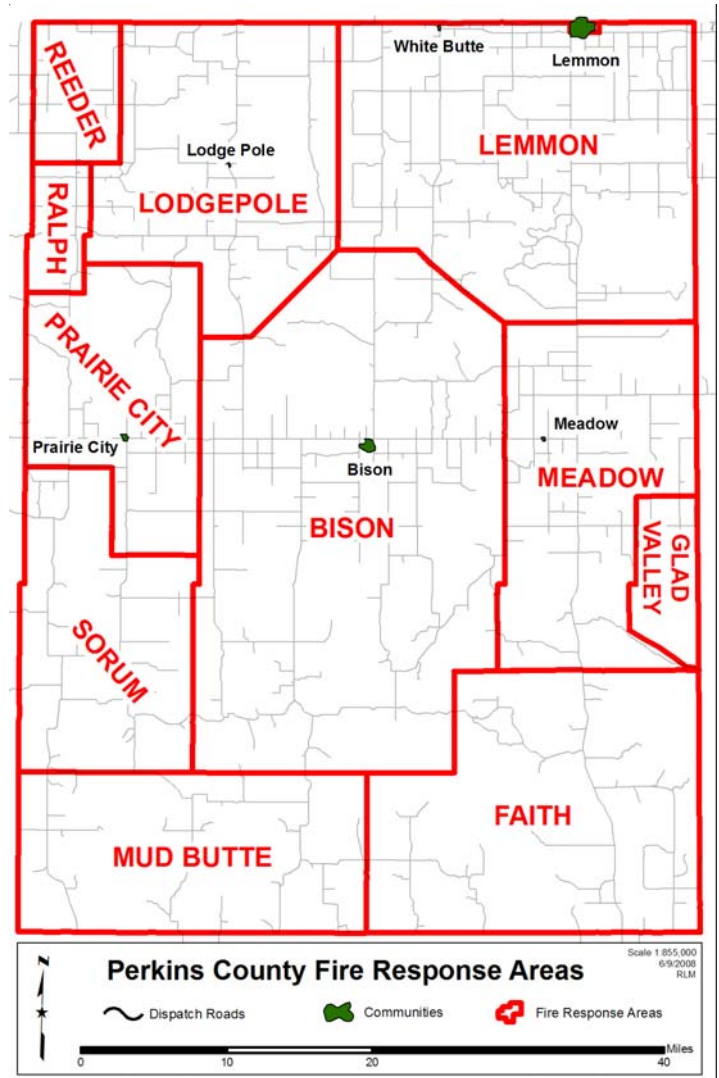
## Fire Protection

11 fire departments provide fire protection for Perkins County; all of these are volunteer fire departments. The level of emergency preparedness in Perkins County relies solely on volunteer fire fighters. Response capability may vary dramatically depending on the day and time of the incident. Most departments can respond and be effective until the incident severity exceeds the capability of the responding agency. As the severity of an incident increases the capability and effectiveness of suppression crews may be dramatically reduced. Considering the downward trend of volunteer fire department memberships, most departments would



miles of water. The population of Perkins County in 2004 was 3,137.

Land owners in Perkins County include; USDI Bureau of Land Management, Game Fish and Parks, Grand River Grazing Association, Private Landowners, State of South Dakota and USDA Forest Service. There are approximately 123,514 acres managed by the USDA Forest Service in Perkins County. Approximately 1,619,931 acres of private property are located in Perkins County. There is also state land consisting of school and public lands, game production areas accounting for approximately 71,799 acres. The USDI Bureau of Land Management manages approximately 7,980





be unable to staff all of their apparatus 24 hours a day, 7 days a week. Most volunteers cannot stay out on a fire for extended amounts of time because of employment and other obligations. All of the departments in Perkins County have increased their wildland response capability in recent years. The cost of refurbishing or replacing fire apparatus makes it difficult for many of the departments to upgrade older apparatus. Many of the older apparatus are still in use but the serviceability of this older equipment may be a concern.

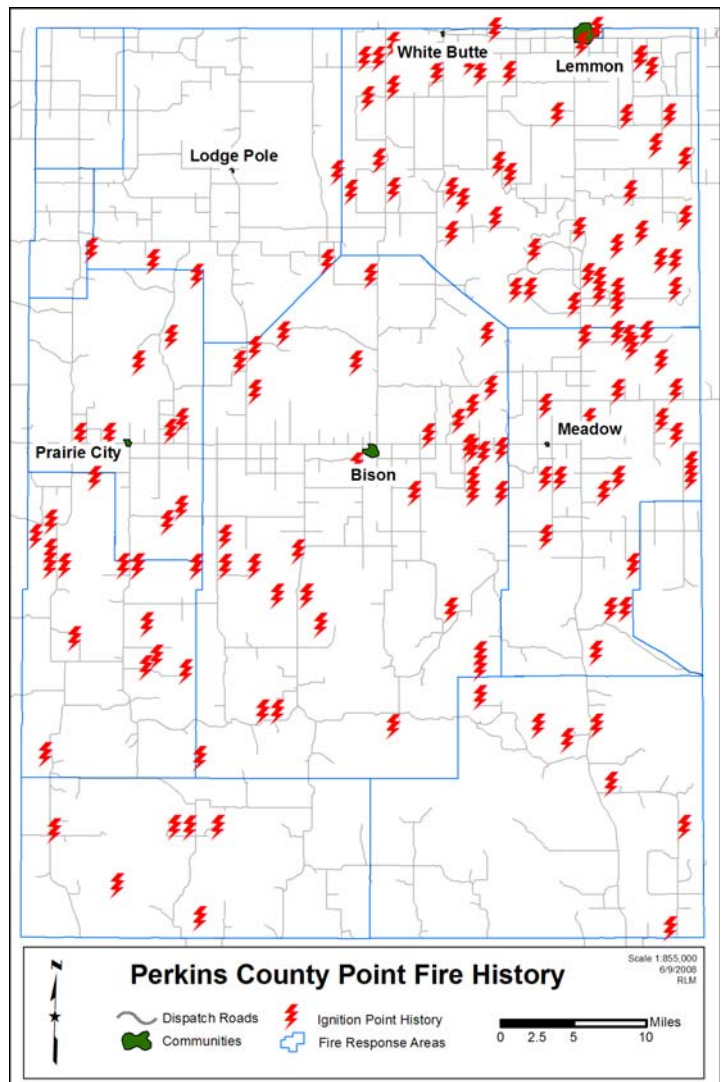
The South Dakota Wildland Fire Suppression Division has available, upon request of the incident, one Type 6 Engine and an agency representative that may be a Type 3 Incident Commander. Even though the Division of Wildland Fire Suppression has statutory authority for fire suppression activities, local fire authority will determine if State assistance is needed. Currently the USDA Forest Service has one Type 6 Engine available from the Grand River National Grasslands.

Perkins County falls within two separate dispatch jurisdictions. The volunteer fire departments and the South Dakota Wildland Fire Suppression Division are dispatched through Great Plains Interagency Dispatch Center located at 4250 Fire Station Road Suite 2 in Rapid City, South Dakota 57703, 1-800-275-4955. The USDA Forest Service Grand River National Grasslands is dispatched out of the North Dakota Interagency Dispatch Center located at 3425 Miriam Avenue in Bismark, North Dakota, 58501, (701)-333-0260.

## Fire History

According to **point fire data** acquired from the South Dakota Wildland Fire Suppression Division and the USDA Forest Service, there have been 152 ignitions recorded and suppressed by fire suppression crews in the past 9 years in Perkins County. These fires range from .1 to 7,829 acres. Fuel loads, weather and fuel moisture content determine the spread rate of wildland fire. Fire history is important and efforts to develop and maintain accurate information are essential. The fire history data acquired and analyzed for this plan was the best available data at the time.

Years with higher fire activity may have had dryer conditions prior to and during the fire season



and fire weather during the burn period that may have caused increased fire behavior. Fire history in the Northern plains of South Dakota indicates that extreme fire behavior is not uncommon when favorable environmental conditions are present, e.g. low humidity, high temperatures, low fuel moisture content and high winds.

The following list of **large fires** was compiled from USDA Forest Service data, along with state and local sources. These fires range from 106 acres to 7,829 acres and occurred between 2003 and 2007.

Name	Year	Acres	Cause
Hermann Fire	2003	106 acres	Equipment
Six Creek	2006	158 acres	Lightning
Henderson Fire	2006	162 acres	Equipment
First Creek Fire	2006	171 acres	Lightning
Shambo Fire	2006	226 acres	Lightning
White Bison	2006	437 acres	Lightning
Wolf Fire	2006	539 acres	Lightning
Harris Fire	2007	2257 acres	Equipment
Hay Creek Fire	2007	2442 acres	Lightning
Kelly Fire	2006	5148 acres	Lightning
Black Horse Creek Fire	2006	7829 acres	Lightning



## Values

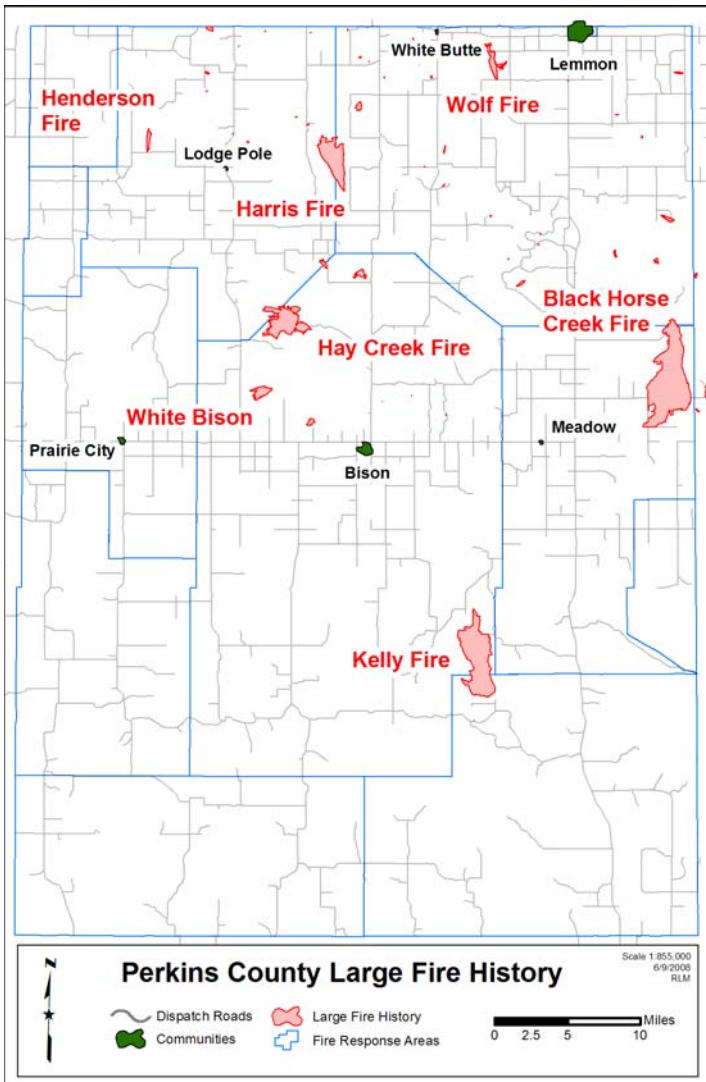
Values at risk in Perkins County include structures, improvements, and critical infrastructure owned by county, federal, municipal, private and state entities. Agricultural, commercial, communication facilities, electrical substations, historical property, rangeland, recreational, residential, shelterbelts and wildlife habitat are all values present in Perkins County. The economic value and development of private land in Perkins County is very diverse but very important for sustained economic growth. Everyone living in Perkins County should be eligible to receive the benefits associated with this Community Wildfire Protection Plan.

Located in Perkins county are 6 municipalities, the city of Lemmon and the towns of Bison, Lodgepole, Meadow, Prairie City and White Butte. The surrounding property and structures, houses, farms and ranches must be protected to maintain the value of the area. Structures in Perkins County should be assessed to determine their preparedness for wildfire using accepted Firewise guidelines. Access, signage, vegetation, fuel type, topography, water source, fire department response time, survivable space, roofing material, building construction and placement of utilities and other fuel sources should be considered during the assessment process.

Reducing hazardous fuels and improving survivable space will help reduce fire intensity near values at risk. Creating fuel breaks or fireguards will also provide fire suppression crews a safer



*Proactive mitigation strategies can help protect values from wildfire.*



## Community Assessment

Values in Perkins County need to be protected from the existing hazards and associated risks of wildfire. A structure layer containing 1,250 records was digitized into the GIS by comparing the Perkins County Plat Map, from the Director of Equalization in February of 2008, and an aerial photograph of the County. Many structures in Perkins County may be at risk from wildfire due to hazardous fuels from grass and cropland with cured vegetation that is available to burn if an ignition occurs. Non-FireWise conditions around structures also put them at higher risk from wildfire. Considering the amount of equipment activity and other actions that occur in the County, objectives and plans need to be identified and implemented across the landscape to reduce the risk of an ignition.



*Example of the conservation reserve program, (CRP.)*

environment to perform fire suppression activities, which will allow them to be more effective.

The Conservation Reserve Program, (CRP), is a program that provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their land in an environmentally beneficial and cost-effective manner. This program reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, shelterbelts or riparian buffers.

Perkins County is home to recreation areas and State Parks of historic and community value that need to be protected from wildfire. Situated on the



*Shadehill reservoir located near Lemmon, SD.*

shores of Shadehill Reservoir, Shadehill Park offers visitors the opportunity to enjoy land and water-based activities. The reservoir is one of western South Dakota's few large lakes. The dam, built in 1951 by the Bureau of Reclamation, stores more than 5,000 surface acres of water creating fun for everyone. Many historic figures have crossed through the Shadehill area, including Hugh Glass and Custer's 1874 Expedition. In 1823, Glass was attacked by a grizzly bear in this area, which is documented in the novel *Lord Grizzly*. There are 5 recreation/park sites associated with Perkins County that provide camping and recreation activities for visitors. There are also private campgrounds and recreation areas that are of concern during a fire due to evacuation and logistical concerns.



*Example of values needing protected within Perkins County.*

Properties listed in the National Register of Historic Places include buildings, bridges, districts, railroads and sites that are significant in American and Native American archaeology, architecture, culture, engineering and history. The National Park Service administers the National Register, which is a branch of the United States Department of the Interior. These sites present a range of beautiful historic places throughout the County. Visitors can access places well worth visiting in Perkins County. Individual historic destinations can be easily found that cover a tremendous range for points of interest. The historical places in Perkins County are not only important for historical value but local residents and tourists value them. Mitigation efforts to help preserve these sights are important and should be considered during wildfire mitigation strategies in



these areas. There are 10 registered historical sites in Perkins County. Of these, 3 sites are located in Lodgepole and 3 in Lemmon. Zeona contains 2 registered sites. Bison and Chance both contain 1 historic site each. See page 17 for a complete list of registered places from Perkins County.

Shelterbelts are defined as linear plantings of single or multiple rows of trees or shrubs or sets of linear plantings. Their purpose is to reduce soil erosion from wind, to manage snow deposition, to provide shelter for structures, for livestock and recreational areas, to improve air quality by reducing and intercepting particulate matter and to enhance aesthetics. Maintenance of shelterbelts is very important. Replacement of dead trees or shrubs should be continued until the barrier is functional. Thinning or pruning the barrier is needed to better maintain its function. Trees and shrubs should be inspected periodically to protect from adverse impacts including, insects, diseases or competing vegetation. The trees or shrubs should also be protected from fire and damage from livestock. Shelterbelts that are continuously regenerated and properly maintained can create a buffer that may reduce fire intensity and provide suppression opportunities during a fire event.

The Perkins County Rural Water System Inc. manages a rural water system that provides potable water for communities and agricultural use. The water system includes one pump house, which has been identified as an important value that would need to be monitored and protected during a wildfire event. 24 flushing hydrants spread across the northern portion of Perkins County are available for fire service personnel to use for wildfire suppression activities.

## Hazards

The majority of vegetation in Perkins County is primarily Great Plains Grasses with some hardwoods in various draws and drainages. There are also areas of Rocky Mountain Juniper and Ponderosa pine stands that could pose a threat in Perkins County.

Hazardous fuels can be associated with cured grasses and evergreen vegetation. Tall grasses that are cured and available to burn can generate high intensity fires that can spread very quickly. These grass fires can be very dangerous because of the volatility of the fuels involved. Several firefighter fatalities in South Dakota have occurred on the prairie with grass as the fuel model. *Perkins County Community Wildfire Protection Plan*



*Properly maintained shelter belts can reduce the risk from wildfire.*

Shelterbelts need to be maintained properly to help preserve them from wildfire. Maintenance may include disking between rows of trees to reduce the amount of fine, flashy fuels. It may also include weed control, thinning and pruning. Removing dead material and restoring it with fire resistive plant species may help a shelterbelt survive a wildfire event by reducing fire intensity. Shelterbelts that are continuously regenerated and properly maintained can create a buffer that may reduce fire intensity and provide suppression opportunities during a fire event. Each spring prior to fire season wind blown debris such as Russian thistle or tumbleweeds, should be removed to reduce the built-up fuel from endangering shelterbelts.

Fire history in Perkins County shows fires can grow to large sizes with extreme fire behavior thus being very detrimental to vegetation health. Proactive planning and mitigation efforts can lower



*Lack of maintenance can threaten a shelter belt and nearby values.*

fire intensities, thereby reducing the loss of life, property, and resources.

Railroads are also a concern with regard to wildfire. One railroad runs across the northern edge of Perkins County dipping south into the County in 3 places, between Lemmon and White Butte. Not only can railroads spark a wildfire but they also can carry hazardous materials. Precautions need to be taken to prevent future emergencies in these areas.

## Risks

The risk of wildfire occurring in Perkins County is evident based on the fire history of the county. Ignitions have occurred from lightning, equipment, transportation, and other human caused events. Proactive community planning, using Firewise choices to preserve life and property, utilizing fireguards, updating fire suppression apparatus and utilizing public education we can possibly decrease the potential risk from wildfire. It is not a matter of “if it burns, but when it burns”. Reducing risk means reducing the likelihood and frequency of an ignition from occurring. Heightened awareness of current fire conditions, such as Red Flag Warnings, may help people make different choices concerning activities that could cause a wildfire ignition. By monitoring



*Lightning is a common cause of wildfire in Perkins County.*

weather conditions, days of higher fire danger or predicted extreme fire behavior, people could help reduce the risk of an ignition by not engaging in high risk activities that could ignite a fire.

Structure density should be considered when assessing the risk from wildfire. A structure burning

inside of another structure’s survivable space adds to the overall intensity and spread of a wildfire. Reducing fire intensity can reduce the risk to life, property and resources.

The topography of Perkins County will influence fire behavior and must be evaluated when considering the threat from wildfire. The shape of the country can influence the intensity and spread of wildland fire. Slopes with south or west aspects will become drier and the fuels will cure earlier in the season. Topography alters the normal heat transfer process and modifies the general weather patterns, producing localized weather conditions that influence fire behavior. Fires starting at the base of slopes become larger and more intense because of availability of up-slope fuels. As slope increases, rate of spread and flame lengths also increase. The fuels on south and west slopes are also preheated from the sun and may produce more erratic fire behavior. Down slope areas adjacent to structures need to increase the amount of survivable space to provide additional protection to these values from wildfire. We cannot control when or where fire will occur, but with proactive planning and preparedness we may be able to lessen the impact it has on life, property and resources.

Current weather patterns that are creating drought conditions in Perkins County may be contributing to the risk from wildfire. The overall climate of this area is continental, which is characterized generally by low precipitation, hot summers, cold winters and extreme variations in both precipitation and temperatures. Research of western South Dakota indicates that historically there have been long durations of drought and wet periods dating back as far as the 1600’s. Long periods of drought directly affect vegetation and contribute to more severe fire behavior.

Fires that occur during extreme fire weather conditions could become large conflagrations that are hard to manage. These fires often are the result of a wind driven event. The spread rate and direction vary according to predominant wind direction, topography, fuel conditions and relative humidity.

## ACTION PLAN

Collaborative efforts between local government, local fire officials, State and Federal entities responsible for land management will





*Uninterrupted fuels can allow a fire to spread to a structure.*

develop mitigation strategies for Perkins County to reduce the threat from uncontrolled wildfire. Public meetings will be held to help develop protection and hazard mitigation needs for Perkins County. These meetings will be open to all interested parties who are dedicated to reducing the threat from wildfire.

Reducing the ignitability of homes and other structures will be one of the primary goals of this plan. Survivable space around structures is very important when mitigating the risk from wildfire. Building materials, topography, types of vegetation and fuel loads are key considerations when determining how much survivable space is required. Effective survivable space varies from 30 to 200 feet around a structure and provides firefighters working room to safely perform suppression activities. Barriers such as rock walls, gravel, fireguards and other fuel breaks can also reduce the spread of fire.



*Fuel breaks, survivable space, Firewise construction and deciduous vegetation make this house defendable from wildfire.*

Interrupting natural fuel from the combustible material of a structure must be implemented to prevent wildfire from spreading to the structure. Fire resistive building construction and materials can reduce the risk of initial ignition. Fire resistive vegetation is an efficient way to reduce fire intensities. Hardwoods and deciduous types of vegetation are good ways to provide safety, while providing pleasing aesthetic value.

Improving emergency preparedness and first response should be a priority. Updated equipment and properly trained personnel will provide more efficient emergency response. The identified list of apparatus supports the need of updating current fire apparatus in Perkins County. With the decrease of volunteers in recent years, measures must be taken to manage incidents more effectively in the County. Wildfire incidents need to be managed aggressively, but safely to reduce the chance of the incident overwhelming the responding resources.

Access is an important consideration for emergency response whether it is fire, ambulance or law enforcement vehicles. All of these agencies may be responding into an incident area. Another consideration would be the public trying to evacuate during a wildfire incident and emergency service personnel responding into the area; properly planned access would provide a more safe and efficient environment. Primary access roads should be built to County specifications. Design loads for bridges on driveways longer than 200-feet should be rated to support the maximum weight of the responding apparatus. Safety zones should be identified to provide safe areas when people can congregate during an incident, which will provide immediate protection.

The intent of the following suggested treatments is to reduce the risk to values in Perkins County. Fireguards, or fuel breaks, will be used to interrupt or provide opportunities to stop the spread of wildfire. These treatments should take place at the start of fire season and be maintained throughout the year. Cost sharing opportunities should be explored to offset the cost of treatments for landowners. These treatments are intended to provide fuel breaks for fire suppression activities, which may protect values at risk in Perkins County. Fireguards should also be used in and around road ditches, municipalities, structures, cemeteries, or

other values at risk. Areas of endangered species, critical wildlife habitat or areas with mandated special requirements would require special considerations. Prescribed burning and shelterbelt maintenance activities are very important for reducing the build



*Prescribed fire will reduce fuel loads in a controlled manner.*

up of hazardous fuels. Fire and fuel management through the above-described methods will help protect biological and aesthetic values but reducing the risk from fire will take precedence to protect all values. County equipment, including road graders, could be strategically placed throughout the County to provide better response times during increased fire danger periods, such as red flag warning periods. Various treatments across the landscape should be developed to dovetail together to reduce risk from uncontrolled wildfire on a large scale.

Remote automated weather stations, (RAWS), provide climate information in an area, which help monitor current weather conditions that effect fuel moisture content and burn index factors.



*Weather data will help provide information pertaining to fuel moisture content.*

The need for a RAWS weather station, on the Grand River National Grassland, to provide critical data for the area has been identified as being a priority. Interagency collaboration of a RAWS Station in Perkins County would benefit multi-agencies.

Perkins County has identified the need to develop a duplex repeater to support emergency responder radio traffic. This repeater is needed to provide countywide radio coverage for fire and medical personnel. A hard-wired line to the Mobridge dispatch center would provide redundancy into the system and would also allow 911-calls to be dispatched or paged directly to emergency responders. This would upgrade the existing fire bar system currently in place in Perkins County.

## **PUBLIC EDUCATION**

Public education information will be disseminated to residents in Perkins County to share concepts that will reduce the chance of initial ignition of structures during an uncontrolled wildfire. This will include information about developing survivable space, reducing hazardous fuels, creating a Firewise landscape and generating fuel breaks to interrupt the spread of wildfire.

Managing shelterbelts to reduce vegetation mortality will improve the health and effectiveness of a shelterbelt. Disking between rows to reduce flashy fuels, such as cured grasses, may help a shelterbelt survive a wildfire event. Reducing fire intensities in and around shelterbelts can also reduce intensity near adjacent values at risk. Mitigation efforts could include graveled driveways or creating other fuel brakes. Rock, gravel or cultivated flowerbeds are also efficient fuel breaks. A fuel break adjacent to a structure will interrupt the fuel continuity and reduce the chance of fire spreading to and igniting the structure.

Structures that are built on steeper slopes require more survivable space on the down-slope side. Usually, it is the small things that people overlook that cause initial ignition of the structure. Not only is there danger of a fire approaching from outside an area but there is also danger of a fire starting near a value and spreading outward.

People need to be educated in the importance of Firewise building procedures and practices. A fire resistive roof covering is needed to



protect a structure from initial ignition from firebrands. Fire resistive building materials need to be used to keep a wildfire from igniting a structure from direct flame impingement or from radiant or convective heat transfer. Fire resistive vegetation should be used in the home ignition zone of a structure and evergreens should be avoided to help keep fire intensities lower near the values. Windows and skylights should be double paned or tempered glass. No vinyl or plastic windows, door assemblies or siding should be used. All structure openings need 1/8-inch metal screen to keep out embers and wind-blown fuels. A burning ember can travel up to one mile from a wildfire. Eaves should be enclosed and not vented. All external walls and decks should have a one-hour fire rating. Debris needs to be kept off roofs and out of gutters. These areas should be re-checked throughout fire season. Heavy timber or log construction is acceptable; these materials have high mass and can absorb moderate to high amounts of heat before they reach ignition temperatures.

Firewood, combustible materials and other fuel sources should not be stored in unenclosed spaces beneath structures, on decks, under eaves, canopies or overhangs. These materials should be a minimum of 30 feet from the structure. These items should also be within the survivable space of the structure so they can be protected and do not present a hazard during a fire event.

All structures should be marked with the appropriate address signage. If the structure is not visible from the primary road the structures address should be posted at the intersection of the primary road and driveway access and also on the structure. Signage should be clearly visible from all directions of travel and of contrasting colors. In the case of a cluster of structures in an area, individual structure numbers should be very apparent to emergency responders.

Firewise landscapes provide firefighters better opportunities to engage in firefighting activities in an environment where their life safety is not compromised and the probability of success is greatly increased. Encouraging people to live Firewise lives is crucial to protecting life and property. This cannot be achieved easily but will require the shared responsibility of everyone that has a stake in its success.

Residents should be encouraged to develop a site-specific fire protection plan that addresses



*Firewise landscaping helped this structure to survive wildfire.*

specific details to be more prepared from wildfire. These may include: topography, possible climatic conditions, fire history, water sources, evacuation egress, fire resistive building construction, fire protection systems, equipment, survivable space and vegetation management. Improving emergency preparedness and first response in Perkins County should be a continual process. Updated equipment and properly trained personnel will provide more efficient emergency response. Wildfire incidents need to be managed aggressively but safely to reduce the chance of the incident overwhelming the responding resources. Protecting life, property and resources is of the utmost importance.

## Action Items

- **Identify treatment areas**
  - **Values at risk from uncontrolled wildfire**
- **Emergency preparedness and first response** need to be improved
  - **Update equipment**
  - **Increase Fire fighter training, including ICS**
- **Treatment procedures**
  - **Use of fireguards** (disc or blade)
  - **Maintain road ditches** (mow and rake)
  - **Shelterbelt maintenance**
  - **Create fuel breaks around cemeteries**
  - **Use of County equipment** during increased fire danger
- **Remote automated weather stations (RAWS)** are needed on the Grand River National Grassland
  - **Collect weather data**
  - **Provide burn index information of local conditions**
- **Duplex repeater** is needed to provide county-wide radio coverage for the fire service



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## Perkins County List of Historical Places

Row	Resource Name	Address	City	Listed	Multiple
1	<b>Beckon, Donald, Ranch</b>	6 mi. SE of Zeona	Zeona	4/10/1987	Harding and Perkins Counties MRA
2	<b>Bethany United Methodist Church</b>	9.5 mi. W of Lodgepole	Lodgepole	4/10/1987	Harding and Perkins Counties MRA
3	<b>Carr No. 60 School</b>	12 mi. SE of Lodgepole	Lodgepole	4/10/1987	Harding and Perkins Counties MRA
4	<b>Carr, Anna, Homestead</b>	Off SD 20	Bison	1/20/1978	
5	<b>Duck Creek Lutheran Church and Cemetery</b>	7 mi. SW of Lodgepole along Duck Creek	Lodgepole	4/10/1987	Harding and Perkins Counties MRA
6	<b>Foster Ranch House</b>	4 mi. E of SD 79	Chance	4/10/1987	Harding and Perkins Counties MRA
7	<b>Harriman, L. F., House</b>	111 2nd Ave., W	Lemmon	12/12/1976	
8	<b>Immanuel Lutheran Church</b>	15 mi. N of Mud Butte and US 212 on gravel	Zeona	4/10/1987	Harding and Perkins Counties MRA
9	<b>Lemmon Petrified Park</b>	Off U.S. 12	Lemmon	11/21/1977	

## Perkins County Radio Communication List

Name	Usage	Comment	System	Tx	Rx	Tone
Fire 1	Operations	Command or operations	SD Digital			
Fire 2	Operations	Command or operations	SD Digital			
Fire 3	Operations	Command or operations	SD Digital			
Fire 4	Operations	Command or operations	SD Digital			
911	Operations - Emergency Traffic	Command - Coperations - Emergency traffic	SD Digital			
Bisn-Int	Interagency Fire, Law, EMS	Command - Operations - Interagency	SD Digital			
NWS_W	Weather communications	Rapid City weather service	SD Digital			
PC North Repeater	Operations - Inter department	Command or operations	High band duplex	153.875	158.775	118.800
PC South Repeater	Operations - Fire Department	Command or operations	High band duplex	153.785	158.745	136.500
Reverse				158.775	153.875	118.800
Bison	Tactical	Local Department	Simplex			
Lemmon	Tactical	Local Department	Simplex			
Lodgepole	Tactical	Local Department	Simplex			
Meadow	Tactical	Local Department	Simplex			
Prairie City	Tactical	Local Department	Simplex			
Sorum	Tactical	Local Department	Simplex			

*For volunteer fire department frequencies please contact the local fire department.*

## Perkins County Fire Department Apparatus

### Bison Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 1 Engine	1981	1000	Bison FD	
Type 2 Engine	2003	500	Bison FD	
Type 3 Engine	1975	250	Bison FD	
Type 3 Engine	1972	250	Bison FD	
Type 6 Engine	2006	250	Bison FD	
Type 6 Engine	1978	250	Bison FD	

### Faith Fire Department Apparatus

Type	Year	GPM	Location	Comments
Support Apparatus	1972		Faith FD	
Type 4 Tender	1975		Faith FD	
Type 6 Engine	1975		Faith FD	
Type 6 Engine	1973		Faith FD	
Type 6 Engine	1985		Faith FD	
Type 4 Tender	1967		Faith FD	
Support Apparatus	1991		Faith FD	Incident Command
Type 6 Engine	2003		Faith FD	
Type Engine	1975		Faith FD	
Type 6 Engine	1985		Faith FD	
Type 2 Engine	1987		Faith FD	Mini pumper

### Glad Valley Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 6 Engine	1963		Glad Valley FD	Floata Pump
Type 6 Engine	1974		Glad Valley FD	Floata Pump
Type 6 Engine	1983		Glad Valley FD	Floata Pump
Type 4 Tender	1952		Glad Valley FD	Floata Pump
Type 6 Engine	1981		Glad Valley FD	Floata Pump
Type Engine	1968		Perkins County during the summer months.	Floata Pump
Type 6 Engine	1998		Glad Valley FD	Floata Pump
Type 4 Tender	1965		Glad Valley FD	Floata Pump

### Lemmon Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 1 Engine	1992	1000	Lemmon FD	
Type 1 Engine	2003	1250	Lemmon FD	
Type 3 Tender	2001	250	Lemmon FD	
Type 6 Engine	1987	30	Lemmon FD	
Type 5 Engine	2006	250	Lemmon FD	
Type 6 Engine	2003	30	Lemmon FD	Command Vehicle
Type 6 Engine	1997	30	Lemmon FD	
Type 5 Engine	2002	250	Lemmon FD	
Type 3 Tender	2005	250	Lemmon FD	
Rescue Trailer				SAR Equipment

### Lodgepole Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 5 Engine			Lodgepole FD	
Type 5 Engine			Lodgepole FD	
Type 6 Engine			Lodgepole FD	
Type 1 Tender			Lodgepole FD	
Type 6 Engine			Jim LeFebre's farm	

### Meadow Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 3 Tender	1973	300	Meadow FD	
Type 6 Engine	1985	250	Arnie Schoop	300 Gallon tank
Type 6 Engine	1986	250	Tracy Wolff	300 Gallon tank
Type 6 Engine	1999	250	Dave Sorm/Lenesgrav	300 Gallon tank
Type 6 Engine	1984	250	Rusty Foster	250 Gallon Tank
Type 6 Engine	2001	350	Eric Arneson	400 Gallon Tank

### Mud Butte Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type Engine	1979		Mud Butte FD	
Type Engine	1965		Mud Butte FD	
Type Engine	1984		Mud Butte FD	
Type Engine	1963		Mud Butte FD	
Type Engine	1984		Mud Butte FD	
Type Engine	2003		Mud Butte FD	

### Prairie City Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 9 Engine		10	Prarie City FD	
Type 9 Engine		5---6	Prarie City FD	
Type 9 Engine		5	Prarie City FD	
Type 4 Tender		155	Prarie City FD	
Type 9 Engine		5	12837 Divide Rd	
Type 9 Engine		5	12696 Hwy 75	
Type 9 Engine		5	16597 Peggy Creek Rd	

### Ralph Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 7 Engine	1977	14	Gene Jenson Ranch	
Type 7 Engine	1991	20	Bill Holt Ranch	
Type 6 Engine	2003	100	Ralph FD	CDBG Funding 2003
Type 7 Engine	1989	20	Steve Verhulst Ranch	
Type 9 Engine	1973	8	Ralph FD	Not road worthy
Type 5 Engine	1955	200	Ralph FD	Ladder and hydrant capable



### Reeder Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 3 Engine	2003	500	Reeder FD	Ford F550 (mini Pump)
Type 6 Tender	2003	250	Reeder FD	GMC 3500
Type 6 Engine	1979	250	Reeder FD	GMC 3500
Type 2 Engine	1983	750	Reeder FD	C-60
Type 3 Tender	1980	300	Reeder FD	C-86 (2,700 gallons)
GMC Van	1985	n/a	Reeder FD	1 Ton (First Responder)

### Sorum Fire Department Apparatus

Type	Year	GPM	Location	Comments
Type 6 Tender	2003	60	Willie Tenold Ranch	Dodge D350
Type 6 Tender	2003	60	Reva Fire Hall	Dodge D350
Type 5 Engine	1979	60	Reva Fire Hall	Ford 2 Ton
Type 7 Engine	1984	10	Mark Vroman Ranch	Dodge 4x4
Type 7 Engine	1970	10	Derek Brink/Dwight Reedy	Chevy 3/4 ton 4x4
Type 6 Tender	1998	60	Zeona	Dodge 3/4 ton
Type 5 Engine	2003	150	Charles Verhulst Ranch	Ford F550 4x4
Type 6 Tender	1976	60	Sorum	Ford F600 2 ton
Type 7 Engine	1987	10	Greg Wammen Ranch	Chevy 4x4
Type 7 Engine	2003	10	Marty Ranch	Chevy 4x4 3/4 ton
Type 7 Engine	1994	10	Ross Kopren Ranch	Chevy 4x4
Type 7 Engine	1985	10	Bill Johnson Ranch	Dodge 4x4
Type 6 Tender	2004	60	Doug Jerde Ranch	Dodge D350
Type 6 Tender	1972	60	Raydelle Sperle	Kaiser 6x6
Type 7 Engine	1982	10	Gordon Helms	Ford 4x4
Rescue Vehicle	1996	n/a	Reva Fire Hall	GMC Jimmy
Type 2 Engine	1999	750	Mark Mulletts	Kenworth T800

## Perkins County Contact List

Agency	Name	Phone	E-mail
Great Plains Interagency Dispatch Center		1-800-275-4955	
North Dakota Interagency Dispatch Center		(701) 333-0260	
Tatanka RC&D		605-244-5222 Ext 4	
Perkins County Emergency Management/Sheriff	Kelly Serr	605-244-5243	<a href="mailto:perkinscoso@sdplains.com">perkinscoso@sdplains.com</a>
Perkins County Equalization	Rownea Gerbracht	605-244-5623	
Bison VFD	Douglas Lewton	605-244-7143	<a href="mailto:elkslayer@sdplains.com">elkslayer@sdplains.com</a>
Faith VFD	Justin Haines	605-967-2797	<a href="mailto:jhaines@faithsd.com">jhaines@faithsd.com</a>
Faith VFD	Mike Merriman	605-490-2882	<a href="mailto:tophand@faithsd.com">tophand@faithsd.com</a>
Faith VFD	Scott Gray	605-967-2497	<a href="mailto:sm_bray@hotmail.com">sm_bray@hotmail.com</a>
Glad Valley VFD	Gene Bierman	605-466-2219	<a href="mailto:millironbq@yahoo.com">millironbq@yahoo.com</a>
Lemmon VFD	Harlan Hess	605-374-3675	<a href="mailto:hkhess@sdplains.com">hkhess@sdplains.com</a>
Lodgepole VFD	Jerry Vliem	605-564-4615	
Meadow VFD	Tracy Wolff	605-788-2966	<a href="mailto:wolff@sdplains.com">wolff@sdplains.com</a>
Mud Butte VFD	Harold Miller	605-748-2269	
Prairie City VFD	Donald Palmer	605-866-4829	
Ralph VFD	Eugene Jensen	605-855-2396	
Sorum VFD	Charles Verhulst	605-375-3640	
Reeder VFD	Mike Mellmer	701-853-2552	
Mobridge Dispatch	Brook Johnson	605-845-5000	
Mobridge Dispatch	Donavin	605-845-5000	
NW Area Joint Board	Garrett Schweitzer	605-244-5222	<a href="mailto:g_schweitzer313@yahoo.com">g_schweitzer313@yahoo.com</a>
GIS Coordinator Dakota Prairie Grasslands	Phil Sjursen	701-250-4443	<a href="mailto:psjursen@fs.fed.us">psjursen@fs.fed.us</a>
US Forest Service - Grand River District	Paul Drayton	605-374-3592	<a href="mailto:pdrayton@fs.fed.us">pdrayton@fs.fed.us</a>
US Forest Service - Grand River District	Joby Timm	605-374-3592	<a href="mailto:jtimm@fs.fed.us">jtimmm@fs.fed.us</a>
US Forest Service - Grand River District	Chancey Odell	605-374-3592	<a href="mailto:chanceyodell@fs.fed.us">chanceyodell@fs.fed.us</a>
SD Office of Emergency Management	Brent Kolstad	605-393-8051	<a href="mailto:Brent.Kolstad@state.sd.us">Brent.Kolstad@state.sd.us</a>
SD Wildland Fire Suppression Division (Lead Office)	Tim Eggers	605-584-2300	<a href="mailto:tim.egggers@state.sd.us">tim.egggers@state.sd.us</a>
SD Resource Conservation and Forestry Division	Brian Garbisch	605-584-2300	<a href="mailto:Brian.Garbisch@state.sd.us">Brian.Garbisch@state.sd.us</a>
Bureau of Land Management	Travis Lipp	605-720-0747	<a href="mailto:tlipp@blm.gov">tlipp@blm.gov</a>
USDA Natural Resources Conservation Service	Ryan Beer	605-244-5222	<a href="mailto:ryan.beer@sd.usda.gov">ryan.beer@sd.usda.gov</a>

# Fire Resistive Plant Species for the Great Plains

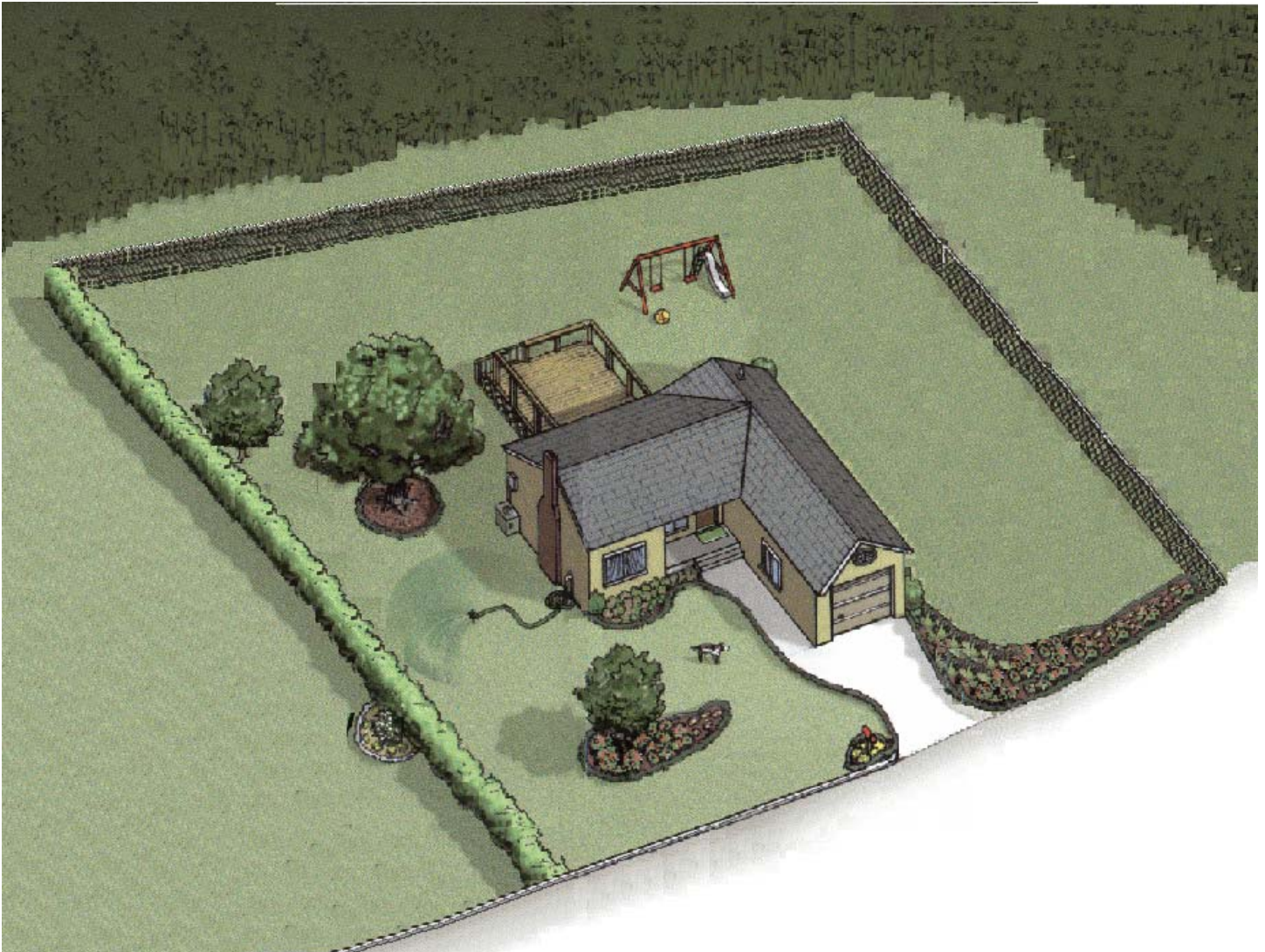
All Plant material will burn but the following is a list of plants that are more fire resistive.

<b>Trees:</b>	<b>Common Name:</b>	<b>Perennials:</b>	<b>Common Name:</b>
Betula	Birch	Achillea spp.	Yarrow
Acer spp.	Maple amur and silver	Allium schoenoprasum	Chives
Alnus spp.	Alder	Bergenia spp.	Bergenia
Catalpa speciosa	Northern Catalpa	Brodiaea spp.	Lily
Cornus florida	Flowing Dogwood	Coreopsis spp.	Coreopsis
Fraxinus spp.	Ash green	Erysimum linifolium	Wall flower
Gleditsia tricanthos	Honeylocust	Eschscholzia spp.	California poppy
Malus spp.	Apple siberian crab	Fragaria sp.	Wild Strawberries
Populus spp.	Aspen, Cottonwood, Poplar	Geranium spp.	Geranium
Prunus spp.	Cherry common chokecherry	Hemerocallis hybrids	Daylillies
Quercus spp.	Oak (bur)	Heuchera spp.	Coral bells
Robinia pseudoacacia	Black locust	Iris spp.	Iris
Salix spp.	Willow golden and white	Kniphofia uvaria	Red hot poker
Ulmus pumila	Siberian elm	Lupinus spp.	Lupine
Pyrus ussuriensis	Harbin pear	Oenothera spp.	Evening primrose
		Penstemon spp.	Beard tongue
		Solidago spp.	Goldenrod
		Strachys bysantina	Lamb's ear
<b>Shrubs:</b>	<b>Common Name:</b>	<b>Groundcovers:</b>	<b>Common Name:</b>
Amelanchier spp.	Serviceberry	<b>Succulents:</b>	
Atriplex canescens	Four Wing Saltbush	Delospema nubigenum	Hardest ice plant
Buddilia davidi	Butterfly Bush	Echeveria spp.	Hens & Chicks
Caryopteris x clandonensis	Blue-Mist Spiria	Sudem spp.	Stone crops
Cornus serica	Red Osier Dogwood		
Cotoneaster spp.	Cotoneaster	<b>Non-succulents:</b>	
Ligustrum spp.	Privet	Schillea tomentosa	Wolly yarrow
Mahonia spp.	Creeping Grape Holly	Ajuga reptans	Carpet bugle
Pachistima canbyi Dqarf	Mountain Lover	Arctostaphylois uva-ursi	Kinnikinnick
Philadelphus spp.	Mock Orange; Syringa	Armeria meritima	Sea pink; thrift
Rhamnus fragula	Buckthorn	Cerastium tomentosa	Snow in summer
Rhododendron spp.	Azalaes, Rhododendrons	Cotoneaster dammeri	Bearberry cotoneaster
Ribes spp.	Currant	Euonymus fortunei	Winter creeper
Sheperdia argentea	Silver buffaloberry	Potentilla tabernaemontanii	Spring cinquefoil
Symphoricarpos albus	Snowberry	Senecio cineraria	Dusty miller
Viburnum trilobum	Cranberry bush	Thymus praecox articus	Mother of thyme
Yucca spp.	Yucca	Verbenia bipinnatifida	Verbenia
Syringa vulgaris	Common lilac		

The highlighted species have a higher chance of survival; the other species may grow as a landscape species with proper care and recommendation.



# Firewise Landscaping



The following guidelines can help to reduce the risk from wildfire.

- Make sure your house number is visible.
- Keep grass and lawns cut short and well irrigated
- Use fire resistive vegetation in close proximity to structures
- Separate natural fuels from combustible structure materials
- Provide survivable space for structures
- Keep dead organic material maintained
- Keep trees a minimum of 15 feet away from chimneys
- Combustible materials attached to the house may be a concern
- Topography will influence the amount of survivable space required
- Provide a hose and ladder for fire service personnel
- Keep firewood and other fuels at least 30 feet from structures

This plan has been reviewed and met the approval of by local agencies that enter into collaborative efforts to reduce the risk from wildfire for non-federal and federal land in Perkins County.

<b>Approved By:</b>	<b>Representative:</b>	<b>Date:</b>
Perkins County Commission:	<u>Norman Kyle</u>	<u>12-2-08</u>
Perkins County VFD Representative:	<u>Paula Hess</u>	<u>12/2/08</u>
South Dakota Department of Agriculture:		
1. Wildland Fire Suppression Division:	<u>Joe Fowe</u>	<u>12/18/08</u>
2. Resource Conservation Forestry Division:	<u>Rhonda L. Jensen</u>	<u>1/7/09</u>
<b>Reviewed By:</b>		
USDI Bureau of Land Management:	<u>Travis Lipp</u>	<u>1/15/09</u>
USDA Forest Service:	<u>Andy P. Cimin</u>	<u>12/2/08</u>

# Glossary

**CAR**— Community at Risk.

**Community**—A group of people living in the same locality and under the same government.

**Community At Risk**— A group of homes and other structures with basic infrastructure in an area that is at risk from uncontrolled wildfire.

**Community Wildfire Protection Plan**—A document that addresses the needs of the people involved in its development. Issues such as wildfire response, hazard mitigation, community preparedness, and structure protection may be covered topics.

**Crown Fire**—A wildfire that spreads across the tops, (crowns), of trees, more or less independent of any fire on the ground.

**HFRA**— Healthy Forest Restoration Act; 2003.

**Fire Regime Condition Class 3** —This term means the condition class description developed by the USDA Forest Service Rocky Mountain Research Station in the Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management (RMRS-GTR-87, [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr87.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr87.html)), dated April 2000 (including any subsequent revisions).

Fire regimes on the land have been significantly altered from historical ranges. A high risk exists of losing key ecosystem components from fire. Fire frequencies have departed from historical frequencies by multiple return intervals, resulting in dramatic changes to the size, frequency, intensity, or severity of fires or landscape patterns. Values of vegetation attributes have been significantly altered from their historical ranges.

**Fire Regime I**—This term means an area that historically has had low-severity fires every 0 to 35 years that is located primarily in low-elevation forests of pine, oak, and pinyon-juniper.

**Fire Regime II**—This term means an area that historically has had stand-replacement-severity fires every 0 to 35 years that is located primarily in low- to mid-elevation rangeland, grassland, or shrub land.

**Fire Regime III**—This term means an area that historically has had mixed-severity fires every 35 to 100 years that is located primarily in forests of mixed conifer, dry Douglas-fir, or wet ponderosa pine.



**Firewise Construction**—The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within the building or structure as well as the spread of fire to other buildings or structures or to adjacent natural areas.

**Firewise Landscaping**—Vegetation placed around a home or other structure in a manner so as to reduce the exposure of the building to an encroaching wildfire, or slow/inhibit the spread of fire from an adjacent wildland area to the building or from the building to the wildland area.

**Fuel**—Native vegetation that is available to burn in a wildfire.

**Home Ignition Zone**—See Survivable Space.

**Infrastructure**—The physical support systems of a subdivision, including roads, power lines and central water and sewage.

**Ladder Fuels**—Fuels that provide vertical continuity between strata, thereby allowing fire to move from surface fuels to the crowns of trees, (or to structures), with relative ease.

**Municipal Watershed**—A community water system “that serves at least 15 service connections used by year-round residents of the area served by the system; or regularly serves at least 25 year-round residents” (Safe Drinking Water Act, Section 1401, 42 U.S.C.A. 300f.(15)).

**Municipal Water Supply System**—This term means the: Reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, and other surface facilities and systems constructed or installed for the collection, impoundment, storage, transportation, or distribution of drinking water.

**NFP**—National Fire Plan; August 2000.

**Prescribed Burning/Prescribed Fires**—Carefully controlled fires set by land managers to reduce hazardous accumulations of wildland vegetation, (fuel), control forest insect and diseases, improve forage for livestock, improve wildlife habitat and maintain healthy ecosystems.

**Risk**—Activities or things that provide a source of heat sufficient to result in a fire ignition.

**Survivable Space**—The area between wildland fuels and structures, (typically a width of 30 feet or more), that allows firefighters to protect the structure from wildfire. In the absence of firefighters, this safety zone increases the likelihood that the structure will survive on its own.

**Shelterbelt**—A barrier of trees and shrubs that protects against the wind and reduces erosion.

**Value**—Natural resources, improvements, or other values that may be jeopardized or lost if a fire occurs.

**Wildfire**—A fire that burns out of control in forest or wildland areas damaging or destroying natural resources and sometimes threatening or destroying life and property.

**Wildland-Urban Interface**—A zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels.

**Wildland-Urban Interface Buffer Zones (½, 1½ and 3-mile)** —Geographic areas centered around values at risk that help develop mitigation strategies to reduce the risk from wildfire.

# Bibliography

\*American Heritage® Dictionary of the English Language; Fourth Edition.

\* Black Hills National Forest Land and Resource Management Plan 1997 and Phase II Amendment.

\*Development Strategies in the Wildland/Urban Interface; c.1996; Western Fire Chiefs Association.

\*Federal Emergency Management Administration; [www.fema.gov](http://www.fema.gov).

\*Fire Management Plan/Plan Amendment Environmental Assessment for Montana and the Dakotas; c.2001; BLM Exemption Area.

\*Firewise Communities; [www.firewise.org](http://www.firewise.org).

\*Fire Science Lab, USFS Rocky Mountain Research Station; [www.firelab.org](http://www.firelab.org).

\*FRCC Source: Development of course-scale spatial data for wildland fire and fuel management, United States Department of Agriculture.

\*Intermediate Wildland Fire Behavior; c.1994; National Wildfire Coordinating Group.

\*Lawrence County Community Wildfire Protection Plan. Black Hills Land Analysis. 1/10/2006.

\*National Register of Historical Places; <http://nationalregisterofhistoricplaces.com/SD/Pennington/state.html>.

\*South Dakota Priority Plan for Implementation of the USDA Forest Service, Forest Land Enhancement Program; c.2003; South Dakota Department of Agriculture Resource Conservation and Forestry Division.

\*United States Department of Agriculture Forest Service; [www.fs.fed.us](http://www.fs.fed.us).

\*Urban Wildlife Interface Code 2000;c.200; International Fire Code Institute.

\*Wildfire Hazard Assessment Guide for Florida Homeowners; c. 2002; Department of Agriculture and Consumer Services.



