

PRAIRIE COUNTY

COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN



Yellowstone River East of Terry

***Prepared by: Cossitt Consulting
and
Rand Herzberg***

December 2005

**PRAIRIE COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN
AND
PRE-DISASTER MITIGATION PLAN**

DECEMBER 2005

TABLE OF CONTENTS

Plan Adoption.....	v
Executive Summary.....	vii
Acronyms Used in This Plan	ix
1. Introduction.....	1-1
Authority	1-1
Scope and Plan Organization	1-1
Preparation of the Plan.....	1-2
Project Area Description	1-4
General.....	1-4
Physical Characteristics	1-4
Land Use and Development Trends	1-5
Transportation	1-7
Economy.....	1-7
Climate and Weather	1-8
Sources:	1-11
2. Planning Process	2-1
Overall Approach and Philosophy	2-1
Process	2-1
Understanding Purpose and Need for the Plan—Getting Started.....	2-2
Public Involvement and Outreach	2-3
Document Development and Review	2-6
Plan Approval.....	2-6
Meeting Agendas.....	2-7
Meeting Summaries.....	2-12
Meeting Sign-in Sheets	2-24
Meeting Flyers, Notices, and News Articles	2-31
Correspondence	2-39
3. Hazard Evaluation and Risk Assessment.....	3-1
Methodology	3-1

Identified Hazards.....	3-3
Drought.....	3-6
Historic Occurrences	3-6
Vulnerability and Potential Loss Estimate.....	3-7
Winter Storms.....	3-10
Historic Occurrences	3-10
Vulnerability and Potential Loss Estimate	3-12
Severe Thunderstorms	3-13
Historic Occurrences	3-14
Vulnerability and Potential Loss Estimate	3-16
Flooding.....	3-17
Historic Occurrences	3-17
Vulnerability and Potential Loss Estimate	3-19
Hazardous Materials/Transportation Related Accidents.....	3-21
Historic Occurrences	3-23
Vulnerability and Potential Loss Estimate	3-23
Insect Infestation/Disease	3-24
Historic Occurrences	3-25
Vulnerability and Potential Loss Estimate	3-25
Volcanic Eruptions.....	3-26
Historic Occurrences	3-26
Vulnerability and Potential Loss Estimate	3-26
Assets and Vulnerable Populations that Could Be Affected	3-27
Critical Facilities	3-28
Vulnerable Populations	3-32
Sources	3-34

4. Mitigation Strategy 4-1

Methodology.....	4-1
Goals and Mitigation Actions	4-1
Project Ranking and Prioritization.....	4-5
Project Implementation.....	4-8

5. Community Wildfire Protection 5-1

Adoption	5-1
Executive Summary.....	5-2
Methodology.....	5-3
Community Assessment.....	5-4
Area to Be Evaluated	5-4
Historic Occurrences	5-5
Individual Community Assessments.....	5-6
Assessment of Fuel Hazards	5-8
Assessment of Risk.....	5-12

Values to Be Protected	5-13
Potential Loss Estimate-Wildfire Scenario.....	5-16
Assessment of Fire Protection Preparedness And Capability	5-17
Mitigation Plan	5-20
Background	5-20
Goals and Objectives	5-21
Desired Condition/Strategic Plan	5-22
Roles and Responsibilities	5-23
Plan Review and Updating	5-24
Sources	5-25
Meeting Notes and Sign-up Sheets	5-26

6. Plan Maintenance and Coordination..... 6-1

Responsible Parties.....	6-1
Review Triggers.....	6-1
Criteria for Evaluating the Plan	6-1
Procedures	6-1
Incorporation into other Plans.....	6-2

Tables

1.1 Population and Housing Units in Prairie County	1-5
1.2 Average Temperatures 1949-2002	1-8
3.1 Prairie County Hazards.....	3-3
3.2 Drought-Related Disaster Declarations	3-7
3.3 Estimation of Annualized Drought Loss for Key Crops	3-9
3.4 Damage Summary of Thunderstorm-Wind Storm Events.....	3-17
3.5 Selected Flood Events in Prairie County	3-18
3.6 Hazard Categories for Dams in Prairie County.....	3-20
3.7 Summary of Potential Loss Impacts from Flooding In Prairie County.....	3-21
3.8 Critical Facilities in Prairie County	3-29
4.1 Mitigation Project Prioritization	4-6
5.1 Core Group Members	5-3
5.2 BLM Fires of 100 Acres or Greater in Past 30 Years	5-5
5.3 Farmstead Fire-Prairie County.....	5-17
5.4 Fire Staffing by Department	5-17
5.5 Fire Fighting Capability Ratings	5-18
5.6 Fire Assistance Funds to Prairie County.....	5-18
5.7 Prairie County Fire Apparatus.....	5-19
5.8 Strategic Plan	5-23

Figures/Maps

1.1 Map of Prairie County	1-3
1.2 Land Ownership in Prairie County	1-6
1.3 Prairie County Precipitation	1-10
3.1 Seismic Probability	3-5
3.2 Palmer Drought Severity Index.....	3-6
3.3 Wind Events of 50 mph or Greater 1950-2002	3-16
3.4 Map of Critical Facilities.....	3-31
5.1 Fire Districts, Resources and Past Large Fires	5-9
5.2 Vegetation Types.....	5-11

RESOLUTION NO. 06-8

A RESOLUTION TO APPROVE AND ADOPT THE PRAIRIE COUNTY COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

WHEREAS, Prairie County has prepared a Community Wildfire Protection and Pre-Disaster Mitigation Plan ("the Plan");

WHEREAS, the Plan covers rural areas of the county and all of the incorporated community of Terry; and

WHEREAS, the Plan meets all the requirements of the Interim Final Rule published in the Federal Register on February 26, 2003, at 44 CFR Part 201 as part of the Disaster Mitigation Act of 2000.

NOW, THEREFORE BE IT,

RESOLVED, the Prairie County Community Wildfire Protection and Pre-Disaster Mitigation Plan is approved and adopted.

FURTHER RESOLVED, the Prairie County Community Wildfire Protection and Pre-Disaster Mitigation Plan is to be followed and incorporated into planning for the County.

FINALLY RESOLVED, the County will work and cooperate with the Town of Terry to implement the Prairie County Community Wildfire Protection and Pre-Disaster Mitigation Plan.

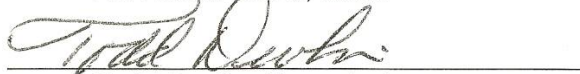
PASSED and APPROVED by the Prairie County Commission this 31 day of October, 2005.

FOR THE COUNTY OF PRAIRIE, MT

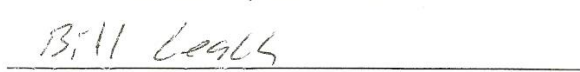
By:



Ann Marie Davis, Chair



Todd Devlin, Commissioner



Bill Leach, Commissioner

Attest:



Lisa Kimmet

RESOLUTION NO. 376

A RESOLUTION TO APPROVE AND ADOPT THE PRAIRIE COUNTY COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

WHEREAS, Prairie County has prepared a Community Wildfire Protection and Pre-Disaster Mitigation Plan ("the Plan");

WHEREAS, the Plan covers rural areas of the county and the Town of Terry; and

WHEREAS, the Plan meets all the requirements of the Interim Final Rule published in the Federal Register on February 26, 2003, at 44 CFR Part 201 as part of the Disaster Mitigation Act of 2000.

NOW, THEREFORE BE IT,

RESOLVED, the Plan is approved and adopted.

FURTHER RESOLVED, the is to be incorporated into planning for the Town of Terry.

FINALLY RESOLVED, the Town of Terry will cooperate with Prairie County to implement the Plan.

PASSED and APPROVED by the Terry Town Council this 8th day of November, 2005.

FOR THE TOWN OF TERRY, MONTANA

By: 
Marvin S. Varner, Mayor

Attest: 
Caryn Rein, Town Clerk

Executive Summary

Prairie County and the incorporated community of Terry intend to become disaster resistant by preparing and implementing this Community Wildfire Protection and Pre-Disaster Mitigation Plan (CWPP/PDM). The plan identifies hazards and mitigation measures to reduce or prevent the effects of those hazards, and raises the awareness about the importance of taking personal and collective (public and private) responsibility for reasonably foreseeable natural disasters.

The plan was developed with leadership from Prairie County Commissioners and mayors and council members of Terry. Throughout the process, from identifying hazards to developing mitigation measures, efforts were made to encourage public involvement and to draw all interested parties into the preparation of the plan whether formally at the series of public meetings, or informally through one-on-one conversations. A Steering Committee appointed by the county commissioners oversaw the preparation of the plan by a contractor. The mitigation goals, objectives, and actions or projects were developed utilizing a wide range of expertise and interests located within the county.

Each of the signing entities to the plan, Prairie County and the incorporated community of Terry, participated in the development of the plan through the Steering Committee or via other meetings and phone calls, specifically by providing data, helping to set priorities, and identifying mitigation projects.

The natural disasters of most concern to participants in the planning process were (in order of priority) drought, winter storms, wildfire, and severe thunderstorms. Also of concern were severe winter storms, flooding, and wind storms. Each of these priority hazards and other hazards (including hazardous materials and transportation accidents) is profiled in the plan with a discussion of historic occurrences and vulnerability.

Generally speaking, there are no specific patterns to the ways in which various disasters strike the county. Just about any area of the county has potential for effects from drought, winter storms, wildfire, severe thunderstorms, and wind storms.

The town of Terry was assessed for all risks. Terry was identified as having a unique risk related to winter storms because resources can get stretched when emergency shelter and food are needed for stranded travelers. Terry is also known to have serious storm drainage issues when precipitation is heavy.

Flooding and flash flooding can occur along the major river corridors, and also along intermittent drainages throughout the county. The county has not been part of the National Flood Insurance Program and consequently there are no

maps of significant 100-year floodplain areas, such as along the Yellowstone River.

Transportation-related accidents will primarily occur along road corridors, although plane crashes can occur just about anywhere. The county also has pipelines and power corridors, where accidents can occur. Eight goals with corresponding objectives and projects were developed for the identified hazards of concern:

- Minimize the impacts of drought.
- Reduce the effects of winter storms.
- Reduce the impacts of flooding.
- Improve capabilities to prepare for and respond to disasters.
- Reduce potential for spread of vector-borne and other serious diseases.
- Reduce power outages and effects of outages.
- Reduce the economic impacts of businesses closed as result of disasters.
- Reduce the impacts of wildfire.

This plan serves the jurisdictions of Terry and Prairie County.

ACRONYMS USED IN THIS PLAN

BLM	Bureau of Land Management
CWPP	Community Wildfire Protection Plan
DES	Disaster and Emergency Services
DNRC	Department of Natural Resources and Conservation
FEMA	Federal Emergency Management Agency
FSA	Farm Service Agency (US Department of Agriculture)
FWP	Montana Fish, Wildlife and Parks
MACO	Montana Association of Counties
MDOT	Montana Department of Transportation
MFWP	Montana Fish, Wildlife and Parks
NFIP	National Flood Insurance Program
NFP	National Fire Plan
NOAA	National Oceanic and Atmospheric Administration
PDM	Pre-Disaster Mitigation
USGS	U.S. Geological Survey
WUI	Wildland Urban Interface

CHAPTER 1: INTRODUCTION

Authority

Prairie County and the incorporated community of Terry intend to become disaster resistant by preparing and implementing this Community Wildfire Protection and Pre-Disaster Mitigation Plan (CWPP/PDM). State law (MCA 10-3-401) gives local governments the authority to plan for disasters and emergencies (Jelinski). The plan identifies hazards and mitigation measures to reduce or prevent the effects of those hazards, and raises the awareness about the importance of taking personal and collective (public and private) responsibility for reasonably foreseeable natural disasters. The plan has been prepared utilizing funds from the Bureau of Land Management supplemented by county match. The plan meets the requirements of the National Fire Plan and the Interim Final Rule published in the Federal Register on February 26, 2003, at 44 CFR Part 201 as part of the Disaster Mitigation Act of 2000.

Scope and Plan Organization

This plan is organized into six major chapters plus the crosswalk documentation showing how the plan meets federal requirements for pre-disaster planning.

- Chapter 1. Introduction

This chapter provides background material to put the plan and mitigation strategies into the context of Prairie County's unique assets, resources, and hazards.

- Chapter 2. Planning Process

This chapter describes how the plan was developed, including public involvement.

- Chapter 3. Hazard Evaluation and Risk Assessment

This chapter gives information about historical disaster occurrences in the county then lists potential hazards, hazard profiles, critical facilities, and vulnerabilities. Chapter 3 also provides information about asset values, for example, how much the county courthouse, the town hall, or the municipal water treatment plant would cost to replace if it was lost in a disaster.

- Chapter 4. Mitigation Strategy

This chapter takes the hazard information and develops goals, objectives and projects that can be accomplished to lessen the chances and/or severity of a

potential disaster. Recognizing the limitation of resources to accomplish all projects identified, Chapter 6 also provides the local priorities for the projects.

- Chapter 5. Wildfire Protection

This chapter addresses wildland fire issues for the county and comprises the Community Wildfire Protection Plan (CWPP) element of this plan. The current situation with respect to vegetation and fuels, past occurrences of fire, values at risk, and potential losses are described. This chapter also contains goals, objectives, and mitigation actions (projects) that can be done to reduce risk of wildland fire. The projects are prioritized.

- Chapter 6. Plan Maintenance

This chapter describes how the plan is to be maintained and kept current.

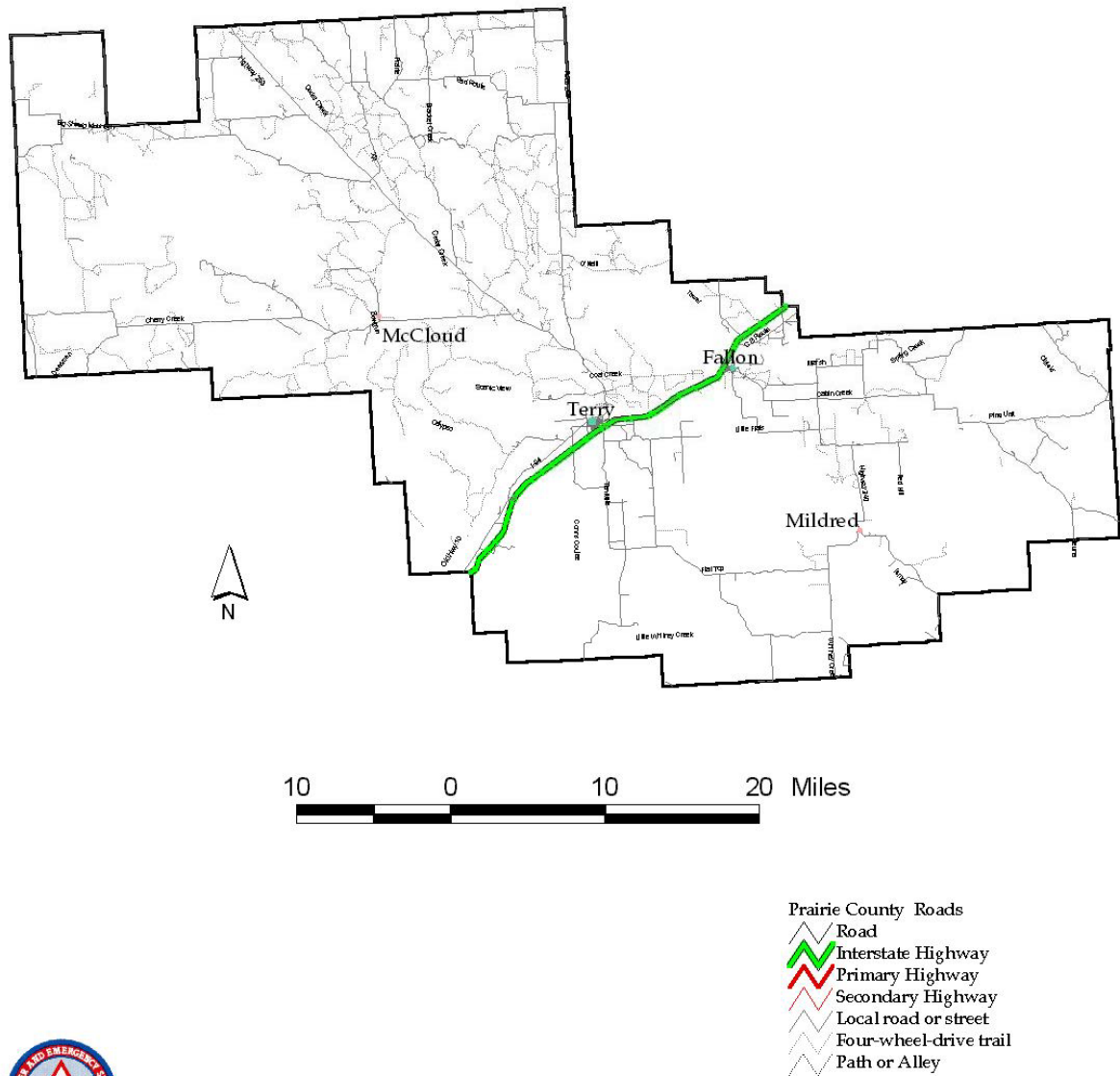
Preparation of the Plan

The plan was developed with leadership from Prairie County Commissioners and officials of the town of Terry. Throughout the process, from identifying hazards to developing mitigation measures, public involvement was encouraged at a variety of levels. (Details of public involvement are included in Chapter 2.) Each of the signing entities to the plan, Prairie County and the incorporated community of Terry, participated in the development of the plan through the Steering Committee or via other meetings and phone calls, specifically by providing data, helping to set priorities, and identifying mitigation projects.

The County hired Cossitt Consulting of Park City, Montana to assist in developing the plan, including writing the plan document. The pre-disaster mitigation section of the plan was prepared by Anne Cossitt, and the community wildfire assessment and mitigation was prepared by Rand Herzberg. County Disaster and Emergency Services Coordinator, John Pisk, served as the primary contact for the county and assisted in data collection, public involvement, and document review. Fire staff were key in developing the wildfire risk assessment and mitigation. A portion of the photographs utilized in the news releases and the plan, and maps contained in the plan were provided by District IV Disaster and Emergency Services Representative, Norman Parrent.

Figure 1.1 Map of Prairie County

Prairie County Montana



Prairie
MT DES GIS
ID:
5/26/01

Map Courtesy of DES

Project Area Description

General

The project area for this plan is **Prairie County, Montana**, established in 1915, from portions of Dawson and Custer Counties. (Soil Survey of Prairie County, 1996) **Prairie County** is in the east-central part of Montana, bordered to the north by McCone and Dawson Counties, to the east by Wibaux County, to the south by Custer and Fallon Counties, and to the west by Custer and Garfield Counties.

Prairie encompasses 1,727 square miles. (Soil Survey, 1996) **Terry** is the single incorporated community in the county and also the county seat. **Fallon** and **Mildred** are the other communities in the county.

Physical Characteristics

Topography in the county is primarily undulating to hilly uplands. It also has nearly level benches adjacent to the Yellowstone River. Rough breaks and areas of badland border the benches along major rivers and their tributaries.

Elevation ranges from about 2,140 feet along the Yellowstone River to about 3,600 feet in the northern part of the county where the Big Sheep Mountain Divide can rise 300-400 feet above the adjoining plains. The major river valleys are about 1 to 2 miles wide and nearly level. (Soil Survey, 1996)

Most of the water for domestic and livestock use comes from wells, ranging from 15 feet in depth in areas near creeks to more than 2,500 feet in upland areas. (Soil Survey, 1996) Water supply for livestock also comes from a variety of impoundments (dams) throughout the county. (Map of dams in Montana- Montana Natural Resource Information System-NRIS)

Most of the county is drained by the Yellowstone River and its tributaries. The Yellowstone River flows through the center of **Prairie County** in a northeasterly direction. The principal tributaries from the north include Crooked Creek, Cherry Creek, Cedar Creek, Brackett Creek, and Cottonwood Creek. South of the Yellowstone, the Powder River, Ash Creek, O'Fallon Creek, and Cabin Creek are largest tributaries. The northwestern part of **Prairie County** is drained by the Redwater River and its tributaries, which include Timber Creek, West and East Duck Creek, Ash Creek, Pasture Creek, and Tusler Creek. The Redwater River flows to the north and enters the Missouri River near Poplar. (Soil Survey, 1996)

Prairie County does not have metal mineral resources, but has potential for production of natural gas and oil, and has a large quantity of valuable coal

deposits. Industrial minerals include sand, gravel, and clinker deposits. (Soil Survey, 1996)

Vegetation in the county is primarily grassland and grain crops, with some areas of woody shrubby vegetation scattered in draws, with more in the southern portions of the county. There is irrigated cropland, as well as cottonwood trees and other riparian vegetation along the Yellowstone. (USGS National Landcover Dataset via the Montana Natural Resource Information System-NRIS)

Land Use and Development Trends

Generally, land use in Prairie County has been relatively stable and predominately agriculture-based. In 2000, population density was 0.7 persons per square mile (quickfacts.census.gov). Residential development is clustered in the communities of Terry, Fallon, and Mildred and otherwise consists of scattered homesteads across the county.

The population in Prairie County was 1,199 in the year 2000, down about 13% from the 1990 population. The town of Terry had 611 persons or 51% of the county population in 2000. (U.S. Census Bureau)

Table 1.1 Population and Housing Units in Prairie County and Terry in 2000

	Terry	Prairie County
Population in 2000	611	1,199
Change from 1990	-7%	-13.1%
Housing Units in 2000	387	718

Source: U.S. Census Bureau, Table DP-1.

The number of private non-farm business establishments with paid employees in 2001 was 34. (quickfacts.census.gov) Commercial businesses are primarily located in or around the town of Terry.

According to the 2004 *Montana Agricultural Statistics*, a total of 619,684 acres were in production on 162 farms in Prairie County in the year 2002. The total number of farms did not change between 1997 and 2002, but land in farm production increased (up from 596,205 acres in 1997). Agricultural production in the county includes wheat, barley, hay, sugar beets, dry beans, cattle, and sheep.

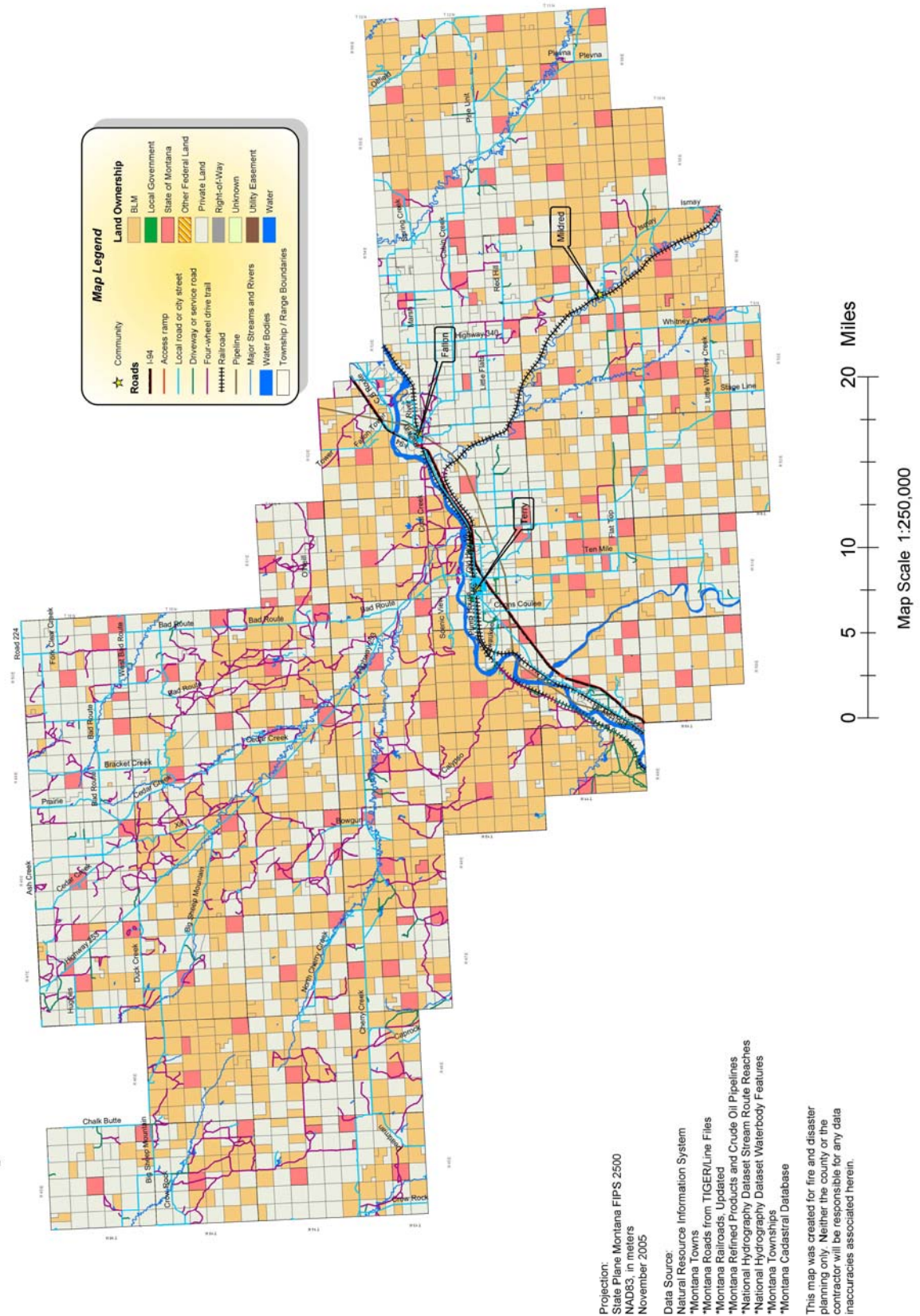
Land ownership in the county is mixed. Approximately 53 percent of the county is privately owned land, 41 percent is federal land, and 6 percent is state land. BLM manages the federal land, which includes large contiguous tracts. The largest of these tracts are located northeast of Terry (and include a wilderness study area), and east of Mildred.

Based on historic trends, the land use in the county will remain predominately agricultural.

Prairie County does not have an adopted growth policy or comprehensive plan at this time.



Figure 1.2 Land Ownership in Prairie County



Transportation

Public road systems in Prairie County consist of Interstate 94, which runs parallel to the Yellowstone River, state highway, and county roads. State highway 10 is a two-lane highway that runs (with some separations) between the Interstate and the Yellowstone. Highway 253 starts at Terry and runs north-northwest through Prairie County to Brockway and Highway 200 in McCone County. A portion of the highway is not paved, but is scheduled for surfacing in 2005. County and town (Terry) roads complete the rest of the road system, along with private ranch and farm roads.

There is a landing strip at Terry. No commercial air travel is available in Prairie County, however daily commercial air service is available in Miles City and Glendive.

Burlington Northern operates rail line that parallels the Yellowstone River through Prairie County (and all of eastern Montana) and a line that branches off between Terry and Fallon, paralleling O'Fallon Creek in a southeasterly direction to South Dakota.

Economy

The agricultural sector and government sector are main forces in the county's economy. Personal income from other non-work related sources (primarily dividends, interest, rent, and transfer receipts such as retirement, disability, and Medicare and Medicaid payments) is a growing component of total personal income in Prairie County. (Bureau of Economic Analysis)

In 2002, Prairie County had per capita income of \$22,030 (ranking it 29th out of 56 counties in Montana) and total personal income of \$26.127 million. Total personal income includes net earnings by place of residence; dividends, interest, and rent; and personal current transfer receipts (including retirement, disability, and Medicare and Medicaid payments). From 1992 to 2002 net earnings decreased on average 0.7 percent each year; dividends, interest, and rent increased on average 4.3 percent; and personal current transfer receipts increased on average 3.3 percent. Of the total personal income in the county, 58% came from dividends, interest, rent, and transfer payments. (Bureau of Economic Analysis "Bearfacts" webpage, and Table CA05, www.bea.gov/bea)

Personal income from earnings (income that does not come from dividends, interest, rent or transfer receipts) totaled \$11.239 million of which 23% was farm earnings, and 77% was non-farm. Of non-farm

earnings, private earnings comprised 48% and government work comprised 52%. (Bureau of Economic Analysis, Table CA05)

In 2002, total cash receipts (including government payments) for agricultural products in Prairie County were \$23 million.

In March of 2002, there were 28 business establishments in Prairie County with a total annual payroll of \$2.7 million. The industry sectors with the highest annual payroll were finance and insurance (4 establishments with \$800,000 in annual payroll) and retail trade (6 establishments with \$546,000 in annual payroll). (2002 County Business Patterns, <http://censtats.census.gov>)

Based on the 2000 census data, there were 577 persons employed in the county. Private wage and salary workers comprised 52%, government workers 23%, and self-employed workers 24%. Unpaid family workers made up the balance (1%). (U.S. Bureau of the Census, Table DP-3)

Climate and Weather

Prairie County is located east of the Continental Divide and subject to continental weather patterns. In general summers are hotter, winters are colder, precipitation is less evenly distributed, skies are sunnier, and winds are stronger than on the west side of the divide. (Western Regional Climate Center, Climate of Montana)

Average maximum and minimum temperatures recorded at four locations in Prairie County indicate that average monthly minimum temperatures can range from as low as 0 degrees (January) to average maximum temperatures of 89 degrees (Mildred-July). Table 1.2 shows the monthly averages for Terry.

Table 1.2 Average Temperatures 1949-2002

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	<i>Ann</i>
Ave max	26	34	43	58	70	79	88	87	75	61	44	32	58
Ave min	0	8	17	30	42	51	56	53	42	30	17	6	29

Notes: Temperatures are from the Terry weather station location. Temperatures have been rounded to nearest 1 degree Fahrenheit.

Source: Western Regional Climate Center Period of Record Monthly Climate Summary (wrcc.dri.edu)

Prairie County has average annual precipitation ranging from 11.5 to 14 inches per year (Western Regional Climate Center). See Figure 1.3. Most of the county averaged between 12-14 inches per year between 1961 and 1990. There were localized areas receiving less than 12 inches annually

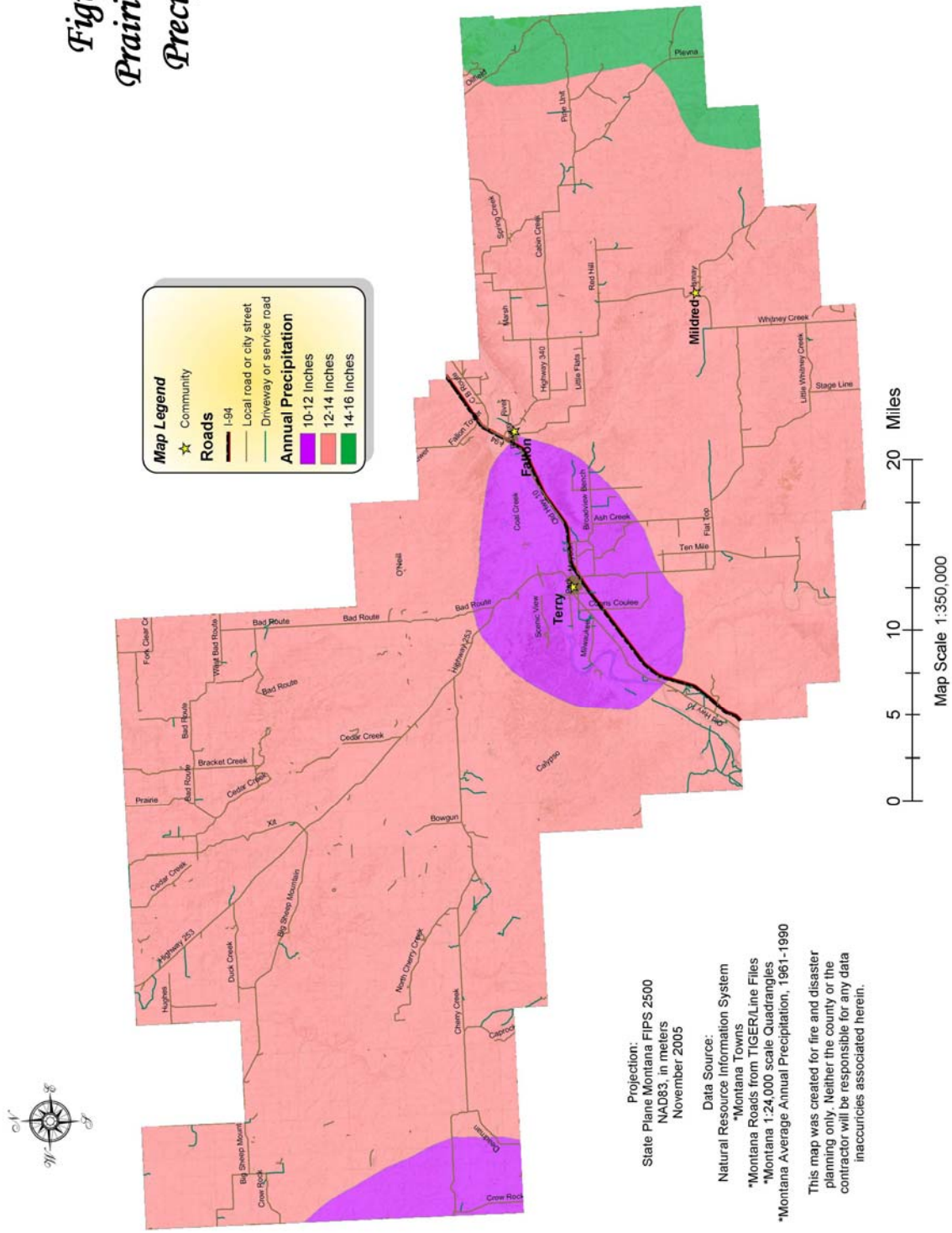
around Terry and in the far northwestern corner. (Montana Natural Resource Information System, Map of Average Annual Precipitation 1961-1990)

Most precipitation falls when it is warmer, with heaviest precipitation in late spring and early summer. Winter snowfall normally is moderate, and winds generally blow the snow into drifts. (Soil Survey)

Average annual snowfall is 15 inches (as measured in Terry). The largest amount of snow received in one year was 65 inches in Mildred in 1982. (Western Regional Climate Center)

Extreme weather in the county can include storms with hail, lightning, and strong winds and winter storms with ice, snow, cold temperatures, and strong winds. Weather events are covered in more detail in Chapter 3.

Figure 1.3
Prairie County
Precipitation



Sources:

- Jelinski, J. Montana Local Government Information Center. Personal communication with Anne Cossitt. March 2, 2005.
- Montana Agricultural Statistics Service. October 2004. *Montana Agricultural Statistics*.
- Montana Codes Annotated. (MCA) As available on-line Feb-March 2005. http://data.opi.state.mt.us/bills/mca_toc/index.htm
- Montana Department of Commerce. *Labor Market Information for Prairie County*, 2004.
- _____. *Labor Market Information for Prairie County*. 2004.
- Montana Natural Resource and Information System. Various maps available on line. January-July 2005. <http://nr.is.state.mt.us/>
- U.S. Census Bureau. Various tables and data available on-line. <http://www.census.gov/>
- U.S. Department of Agriculture. Soil Conservation Service. *Soil Survey of Prairie County, Montana*. 1996.
- U.S. Department of Commerce. Bureau of Economic Analysis. "Bearfacts" webpage, and Table CA05, www.bea.gov/bea)
- USGS National Landcover Dataset via the Montana Natural Resource Information System-NRIS
- Western Regional Climate Center, Climate of Montana. <http://wrcc.dri.edu/>

CHAPTER 2: PLANNING PROCESS

This chapter describes:

- **The overall approach to developing the plan**
- **The plan process, including:**
 - **Who was involved in the planning process and how they were involved**
 - **Efforts to involve the general public**
 - **Efforts to involve various interests including government, business, education, and others**

Supporting documents at the end of this chapter include:

- **Meeting agendas**
- **Meeting summaries**
- **Meeting sign-in sheets**
- **Flyers and News Releases**
- **Correspondence**

Overall Approach and Philosophy

The development of this plan was based on the premise that plans with the greatest likelihood of being implemented are those with local momentum, where individuals in the groups in the community(ies) are actively involved and have a stake in accomplishing goals and specific projects.

From the start it was important that any and all interested individuals be offered the opportunity to participate. Special efforts were made to invite persons representing a wide variety of interests that could be affected by disasters or that play a role in disaster response. It was recognized that a number of individuals were critical resources to the process by virtue of their knowledge and expertise. The process sought to engage both these knowledgeable individuals and the general public.

Many individuals committed considerable amounts of personal time to the development of this plan. Without their involvement, this document would not have been possible.

Process

The process used to develop this plan was geared toward developing a PDM plan as well as a Community Wildfire Protection Plan. Because wildfire is one of the significant hazards in Prairie County, these two

planning efforts dovetailed smoothly into the process that developed this document. The following describes the general process used for the PDM Plan. More detail on the process for the Community Wildfire Protection Plan is provided in Chapter 5.

There were several key participants in the process:

- **County Commissioners**—initiated the effort, participated in steering committee, and approved the plan on October 31, 2005
- **Incorporated community of Terry**—city council and mayor participated in planning effort and mayor approved the plan on November 8, 2005
- **Steering Committee**—functioned as the planning committee (see detailed description below under “Public Involvement and Outreach”)
- **General Public**—encouraged to participate, attend steering committee meetings, stay informed (See more under “Public Involvement and Outreach”)
- **County DES Coordinator**—lead staff person in the county for coordinating with the contractor and liaison for local expertise
- **Consulting Team**—provided the staffing to research and write the report, facilitating discussion at meetings leading to hazard evaluation and risk assessment, mitigation measures (goals, objectives, projects)
- **Technical Experts and Others.** A number of individuals were contacted for information and were extremely responsive and helpful. These included the following:
 - **Steering Committee Members**
 - **Local Government officials and staff**
 - **Business and nonprofit institutions**
 - **Norman Parrent, Montana DES District IV Representative**
 - **Tanja Fransen, National Weather Service-Glasgow Office**

There were four basic elements of plan development:

1. **Getting Started - Understanding the Purpose and Need for the Plan**
2. **Public Involvement and Outreach**
3. **Document Development and Review**
4. **Plan Approval**

The process for each of these elements is described in more detail below.

Understanding the Purpose and Need for the Plan-Getting Started

The Prairie County Commissioners initiated the efforts to develop a PDM plan and already had a good understanding of the need for such a plan. Work had begun a year or two earlier when the County DES Coordinator had attended training workshops. In December 2004, Prairie County Commissioners, in coordination with four other adjacent counties, hired contracted technical assistance from Cossitt Consulting to complete the PDM Plan and prepare a Community Wildfire Protection Plan. Anne Cossitt was the lead contract staff for Prairie County on the PDM portion and Rand Herzberg was the lead contract staff for the Community Wildfire Protection Plan portion.

Cossitt Consulting team members Anne Cossitt and Barb Beck met county staff in early January 2005 to review purpose and approach to the plan, identify how best to involve various interests and the general public, and to finalize the schedule and products. The agenda and meeting notes for that meeting are included in this chapter. Cossitt also met with the County Commissioners on February 8.

Soon after the January meeting the County Commissioners sent letters to dozens of individuals inviting them to participate on the Steering Committee. Information about the basic need for the plan was included in that letter and was reviewed at each Steering Committee Meeting.

The Mayor of Terry received an invitation letter from the County Commissioners and a follow-up letter from Anne Cossitt. In February, Ms. Cossitt also met with the town officials. Town officials participated in steering committee meetings.

Prairie County already has experience in disaster and emergency response. At the onset of the work by Cossitt Consulting there was already an active Local Emergency Planning Committee (LEPC) with diverse participation.

Public Involvement and Outreach

Efforts to include and inform the public included Steering Committee participation and public outreach via meeting announcements and general information.

Steering Committee

The Steering Committee functioned as a planning committee and guided the work of the consultant. The role of the Steering Committee was to represent a wide range of interests, serve as a technical resource, guide the planning process, and finally, review the draft document for accuracy and completeness.

The County Commissioners sent invitations to the following individuals to participate on the Steering Committee. The intent was to start with persons already participating on the LEPC and to encourage participation from business interests, utilities, health care, education, transportation infrastructure, news media, law enforcement, and local, state, and federal government. Lists of who attended each meeting are included at the end of this chapter.

The following were sent letters inviting them to participate on the Steering Committee:

Sandra Brown	Conservation District
Delite Dukart	Fallon Village Council
Farmers' Union	
Quinn Haughian	County Planning Board
Dale Hellman	Chamber of Commerce
Joe Dow	Montana Highway Patrol
Doug Hjorth	Fallon Fire District
Dale Hubber	County Attorney
Joan Hubber	Public Health Nurse
Interstate Cenex	
Dale Kimmet	School Superintendent
Bill Klunder	County Sheriff
Tim Krebsbach	FSA
Chuck Lee	Fallon County 911 Coop
MDU	
Delynn Meidinger	
Glen Meidinger	City Public Works
Mid Rivers	
Chip Mintz	Physician's Assistant
Brian Morast	Cabin Creek Fire District
Eldon Netzer	Terry Town Council
NRCS	
Ron Pisk	Stockman Bank
Barry Rakes	Fallon Fire District
Lon Reukauf	County Planning Board
Reed Reyman	Hospital Administrator
Randy Robertson	Montana Department of Transportation
Sharla Sackman	County Extension
Randy Sanders	Department of Natural Resources and
Conservation	
Dave Schwartz	Buffalo Rapids Irrigation Project
Tessa Shumway	American Red Cross Disaster Services
Dennis Snow	County Sanitarian
Darleen Strobel	Terry Tribune

**Rick Strohmeyer
Dwight Tague
Tongue River Electric
Mark Trask
Donald Ulrich
Mark Underberg
Marvin Varner**

**DNRC
Fire Chief

County Public Works
Cabin Creek Fire District
MDT Petroleum
Terry Mayor**

The Steering Committee met three times. At the first meeting, participants identified and prioritized hazards. At the second meeting, the committee worked on drafting goals. At the third meeting, participants identified and prioritized projects.

Meetings were facilitated by the planning consultant according to an agenda developed prior to each meeting. Each meeting began with introductions and an explanation of the purpose of the plan and planning process. Anyone who attended a meeting, whether they had been formally invited or had learned of the meeting through news articles or other means, was welcome to participate and comment. Following each meeting, a meeting summary was prepared, copies of which are provided later in this chapter.

Some of the Steering Committee Members at the Third Meeting



Public Outreach and Information

Public outreach began immediately following the consultant meeting with the county commissioners in January 2005. A news release summarizing that meeting and announcing the commencement of the plan process was sent to the *Terry Tribune*.

Notices of each steering committee meeting were sent to the newspaper as one or more articles. Articles explained the purpose of the meetings, planning schedule, topic for upcoming meetings, and provided contact information. Following the meetings, news releases were sent to the paper on the meeting results, and identifying next meeting date/time/location, and other next steps. Printed articles are included at the end of this chapter. Also included are flyers that were posted in various locations around the county.

Notice of the availability of the draft plan for public review was also posted in the paper along with comment deadlines.

Document Development and Review

The Cossitt Consulting team prepared the plan document, starting with elements identified at the various meetings. A detailed description of the methodology for the hazard evaluation and risk assessment for the PDM is included in Chapter 3. That chapter also discusses the review and incorporation of existing plans, studies, reports, and technical information. Participants were asked to identify information sources, including existing plans, maps, and other resources at the kick-off meeting with commissioners, and at the first steering committee meeting. Methodology for specific sections of the Community Wildfire Protection Plan is included in Chapter 5.

Drafts of plan chapters were submitted to the County DES Coordinator for review as they were completed. Following the third Steering Committee meeting, a draft of the entire document was assembled and provided to the county for public review. The draft document was made available in the Terry town office and the Prairie County library. The comment period was open from September 21, 2005 to October 20, 2005.

There were no comments from the public on the draft.

Plan Approval

Following incorporation of the comments received, the plan was finalized. Draft resolutions were prepared for Terry and Prairie County for adoption

and approval of the plan. These signed resolutions can be found on the first pages of this plan.

Meeting Agendas

**Prairie County CWPP/PDM Plan
Kick-Off Meeting Agenda
January 4, 2005
(2 hours)**

Introductions

What is a PDM Plan, why do one, and what is the planning process?
Quick overview by planning consultant

Review of contract deliverables
Discuss any county or contractor concerns

Coordination
Meeting logistics
Meeting scheduling considerations
Working with the Steering Committee
Communications during the project

Getting to work!
Recollections of past natural disasters
What hazards are of most concern to you?
Information sources (local or county plans, maps, knowledgeable individuals, county records, etc.)
Media contacts
Develop list of potential Steering Committee members
Set first public meeting date, time, and location

Exchange contact information

Other items

Prairie County CWPP/PDM Steering Committee
February 8, 2005 6:30 p.m.
Meeting Agenda

Introductions

Community Wildfire and Pre-Disaster Mitigation Planning

- **What is a CWPP/PDM Plan and why do one?**
- **What is the role of the Steering Committee?**
- **What are the overall timeframes and schedule for the project?**

Recollections

- **Steering Committee recollections of past natural disasters in the county (what, when, and where)**
- **Other resources to obtain this/related information?**

Potential natural disasters

- **Group brainstorm of natural hazards**
- ***Prioritize list of potential disasters***
- **Hazard Rating Sheet**

Critical facilities and vulnerable populations

- **What are the critical facilities and infrastructure?**
- **What are the vulnerable populations?**

Wrap-up

- **Next steps**
- **Next meeting date/location/time**
- **Questions and comments**
- **Adjourn**

PRAIRIE COUNTY
CWPP/Pre-Disaster Mitigation Plan
Steering Committee/Public Meeting Agenda
April 26, 2005

- Welcome and introductions
 - Recap:
 - Why do a CWPP/PDM Plan?**
 - What is in the plan?**
 - Discussion and products of first meeting
 - Risk evaluation and hazard assessment**
 - Develop goal statements
 - Develop preliminary list of projects
 - Wrap-up
- Comments/questions on meeting***
- Review schedule**
 - Next steps, next meeting**

PRAIRIE COUNTY CWPP/PDM PLAN
Steering Committee/Public Meeting Agenda
May 24, 2005

Welcome/introductions

Quick Review

Purpose of PDM Plan

Where we are in the planning process

Tonight's tasks

Goals and Objectives

Goals statements, objectives

Review preliminary list of projects identified at last meeting

Review preliminary list of fire projects

Project identification

List additional project ideas under the objectives

Project Prioritization

Prioritize all projects in high, medium, and low bands

Wrap-up

Schedule for finalizing the plan

Where to find copies

How to comment

Thank you for your participation!

Meeting Summaries

**CWPP-PDM Kick-Off Meeting in Prairie County
January 4, 2005**

Attending:

**John Pisk, Prairie County DES Coordinator
Norman Parrent, Montana DES Regional Representative
Barb Beck, Beck Consulting
Anne Cossitt, Cossitt Consulting**

Introductions

County Commissioners were unable to attend the meeting. Current county commissioners are Todd Devlin (familiar with PDM from Richland County road and bridge replacements), Bill Leach (newly elected county commissioner), Ann Marie Davis (Chair). (Note: Ann Marie is called Marie by locals.)

Cossitt and Beck introduced themselves as contractors for this project. Cossitt will be the primary contact for the consulting team for work on Prairie County.

Anne Cossitt will call the county commissioners to discuss with them individually the Community Wildfire Protection Plans and PDM Plans. She will suggest that she meet with commissioners just before the steering committee meeting the week of February 7 (date to be determined later—see notes below).

What is a CWPP-PDM Plan and Why Do One?

Anne Cossitt reviewed what a CWPP-PDM plan is and why preparing this plan will benefit the county. Cossitt explained that the plan would address the current situation, past disasters, and develop goals and projects. Once the plan is completed the county will be eligible to compete for funds to complete projects.

Date-Time-Location of First Steering Committee Meeting

John Pisk indicated that evening meetings work better than day meetings. Any evening, Monday, Tuesday, or Wednesday Feb 7-9 would work for Prairie County. Anne will get back to him on a final date after meeting with the other counties.

Steering Committee—Invitations to Participate

The participants brainstormed names of persons and agencies to invite on the Steering Committee. John Pisk will call to invite the mayor and brief him on the purpose of the CWPP and the PDM and role of incorporated towns

Barb will get a copy of the resolution passed by Custer County to use as a prototype when it comes time to pass the resolution to accept the PDM plan (counties and incorporated communities to pass resolution)

Communications and Roles

- **Anne Cossitt:**
 - will be the primary consultant staff contact for Prairie County on PDM Planning issues.
 - Will copy Dena and Norm on final schedules for public meetings
 - Will send news releases to John Pisk, who will send them to the media (newspapers and radio as applicable)
 - Cossitt will draft an invitation letter (for signature by the commissioners) to send to the steering committee list
- **John Pisk:**
 - Will clip all newspaper articles and notices and send to Cossitt
 - Will be the primary contact for Prairie County for Cossitt
 - Will pull together all the contact information (addresses, phone numbers, etc.) for the invitation list for the steering committee
 - Will get the invitation letters signed by the commissioners and mailed out
 - Will arrange for the meeting space, confirm availability, and arrange for refreshments

Fire Information

Four entities responsible for fire suppression:

- Terry – town
- Fallon – Fire District—contact: Barry Rakes, 486-5515
- Cabin Creek – Fire District, contacts: Donald Ulrich 486-5678, Brian Moarst (listed in phone book)
- Rest of Prairie County—county

For copies of fire district maps, contact Bonnie Burback (635-5560)

Hazards and Recollections of Past Disasters

John Pisk talked about some of the past disasters and/or problem areas in the county:

- **Summer storms—can be very serious. In 1990, summer storm winds were so strong, grain silos blew down.**
- **Winter storms—shutting down I-90 can be a real problem. If the highway department shuts it down so that people need to stay in Terry, it can put a real strain on existing resources. It would be easy to double the size of Terry in an emergency shut-down. One of the potential problems would be that need would exceed the existing inventory in the local grocery store.**
- **Drought—serious issue**
- **Extreme weather conditions**
- **Hazardous materials spills/accidents**
- **Commissioners are concerned about the effect on the local economy if disasters affect local businesses. For example, if a business were to burn down, statistics indicate that it is unlikely to be able to re-establish unless it can do so within a short turn-around time. Businesses that are out of operation for a month or more don't usually succeed when they re-open. Prairie County can't afford to lose any more businesses.**

Meeting Summary
Prairie County PDM-CWPP Steering Committee
Prairie County Court House
February 8, 2005

Welcome

John Pisk, County DES Coordinator, welcomed the group and introduced Anne Cossitt, who gave an overview of the meeting agenda. Participants introduced themselves.

What is a CWPP-PDM Plan?

Cossitt presented the benefits of preparing a county Community Wildfire Protection Plan (CWPP) - Pre-Disaster Mitigation (PDM) Plan and generally what goes into the plan. The resulting plan will among other things identify projects which can be done to make the county and town more disaster-resistant. She explained that PDM process focuses on all types of natural disasters in the county and that more depth would be added through the CWPP process. Fire department staff will be working as a core team with Rand Herzberg, Cossitt Consulting team member lead for the CWPP, on details of wildfire issues.

Participants in the Planning Process

Cossitt discussed role and membership of the Steering Committee. The steering committee provides information and ideas, sets priorities and will be asked to review the draft plan. The steering committee is made up of emergency service providers, businesses, education (schools), medical providers, agricultural services, insurance providers, and others to get a broad scope of sectors that could be affected by disasters. County commissioners and mayors and town councils are also involved as they will adopt the final product. The entire process is open to the public. Cossitt Consulting team members Anne Cossitt and Rand Herzberg will research and write the plan with Anne taking primary responsibility for the PDM portion and Rand taking the CWPP tasks.

Time Frames and Schedule

The plan will be completed and adopted by the county, and the incorporated community of Terry by December 31, 2005. Future meetings will be dedicated to goal setting and project identification. Potential projects will be prioritized by the Steering Committee and the public.

Recollections of Past Disasters

Cossitt asked participants to provide information on previous disasters. This information will be checked against other records as part of the historical disaster write-up of the plan.

Type	Where	Notes	When
Drought	County-wide		Ongoing
Train Wreck	Terry		1957-1958
Train Wreck	West of Terry		1980s
Train Wreck	10 miles west of Terry		1960-61
Train Wreck	12 miles west of Terry	40-50 people killed	1938
Ice Jams	All along the Yellowstone		1969-70
Hail Storm	Just west of Carter		2000-2001
Rain Storm	Fallon	6" of rain in 24 hours	1995
Snow Storm	County-wide	People stranded in county	2nd Tuesday 2004, also in 1977-78
Ice storm		Interstate closed for 3-4 days	1997-1998
Twisters	Throughout County		???
High winds	Scenic View Drive		1995
Fire	South of Town	From lightning strike	July 4, 2000
Bradshaw Fire	In Fallon County—just south of Prairie County		1997
Fog	Along interstate	Creates major car pile-ups	Happens 6 times or so per year
Meth Lab Sites	Throughout county		Ongoing
Anhydrous Bulk Plant Terry	Terry	Potential item—not necessarily historical problem	
Court House Fire	Terry		1995
Oil and natural gas pipelines in county	Throughout county	Not clear if there have been historical problems, but could be a potential issue	

Hazards of Concern

Participants brainstormed a list of potential hazards that included the following:

- Fire
- Flood/Ice Jams
- Winter Storms
- Summer Storms/Hail Storms
- Wind Storms
- Drought

The group then discussed which constituted the priorities. Drought was the Number one priority, winter storms 2nd, Fire 3rd, and summer storms 4th. It was noted that high wind events are linked to the severity of fire, and winter and summer storms.

Attendees completed worksheets ranking the history, probability, and potential consequences of various hazards. The results were tallied as follows:

Tally for all Participants- Hazard Worksheet

Type	History	Probability	Consequences
Drought	Low Mod High 2 17	Low Mod High 5 15	Low Mod High 2 7 11
Flood	Low Mod High 5 8 6	Low Mod High 7 8 3	Low Mod High 9 6 4
Tornado	Low Mod High 13 5 1	Low Mod High 15 3 1	Low Mod High 12 4 4
Wildfire	Low Mod High 2 8 9	Low Mod High 2 10 8	Low Mod High 7 8 5
Wind Storm/Hail	Low Mod High 1 6 12	Low Mod High 10 10	Low Mod High 6 8 6
Winter storm	Low Mod High 6 13	Low Mod High 1 7 10	Low Mod High 5 12 3
Train Derailment	Low Mod High 1	Low Mod High 1	Low Mod High 1
Interstate Disaster	Low Mod High 1	Low Mod High 1	Low Mod High 1

Note: N = 20, but not all participants filled out each box.

How to rate history

Low = 0-1 major incidents in the last 100 years

Moderate = 2-3 major incidents in the last 100 years

High = 4 or more major incidents in the last 100 years

How to rate probability

Low = 0-1 major incidents in a 5-year period

Moderate = 2-9 incidents in a 5-year period

High = 10 or more incidents in a 5-year period

How to rate consequences (an average event, not the worst case)

Low = no serious injury or loss of human life, damage is less than \$500,000.

Moderate = Loss of human life and/or damage between \$500,000 and \$3 million.

High = Multiple lives lost and/or damage greater than \$3 million.

Critical Facilities

Participants were asked to identify “critical facilities,” facilities that could affect the response to disasters or that would create major effects if they were incapacitated from a disaster.

- **Electrical grid**
- **Hospital**
- **Schools**
- **Grocery Store**
- **Day care facilities**
- **Communication facilities**
- **Fuel Suppliers**
- **Transportation Infrastructure**
- **City/county government buildings**
- **Emergency Services**
- **Sewer systems (there are no public water systems in the county)**
- **Bank**
- **Museums**
- **Hardware Store**

Vulnerable Populations

The group then identified populations that would be vulnerable in the event of a natural disaster.

- **Elderly-nursing home/sr. center**
- **Children/school**
- **Handicapped/disabled**
- **Livestock**
- **Travelers on Interstate**

Wrap-Up

Cossitt thanked everyone for their participation and ideas. The next meeting was scheduled for April 26^h, 6: 30 p.m., in the county court room.

Notices will be put in the newspapers. Cossitt will also try to send out advance notices to steering committee members via email.

Meeting Summary
Prairie County PDM-CWPP Steering Committee
Prairie County Court House
April 26, 2005

Welcome

John Pisk, County DES Coordinator, welcomed the group and introduced Anne Cossitt, who gave an overview of the meeting agenda, reviewed the purpose and content of a Pre-Disaster Mitigation Plan and Community Wildfire Protection Plan.

Key Issues

Cossitt reviewed the issues that the group had reviewed and prioritized at the last meeting, noting that wildfire was being addressed with a separate planning group.

Cossitt also provided a quick overview of some of the research on the issues to date.

Participants brought up additional information regarding drought, indicating anecdotal evidence of springs and wells drying up; noting that if water releases from Yellowtail Dam were restricted, it could affect irrigation in Prairie County; and also adding that the irrigation companies are working to improve distribution efficiency—three years ago they replaced open laterals with pipeline.

The county sheriff indicated that there were 11 meth labs identified in eastern Montana last year, six of those were in Custer County.

A culvert on the road to Fallon washed out and had to be replaced last year.

In 1997, the reported flood was caused by a stock dam breaking.

Participants also brought up the issues of aircraft crashes and West Nile Virus.

Goal Statements/Project Ideas

Persons present at the meeting developed the project ideas.

Examine the need to expand the 1 mile mosquito control area for West Nile Virus. Consider need for a mosquito control area around Fallon.

Develop and EOC/Disaster Shelter at the new fire facility—have own water supply and back-up power.

Enhance/develop a warning response system.

Develop and practice evacuation plans. (Note that the Red Cross has evacuation facilities in Miles City and Glendive if Terry had to be evacuated.)

Conduct table-top and field test exercises for various disaster scenarios.

Inventory various equipment needed for emergencies—e.g., back-up generators, etc.

Public education—explain purpose of sirens, identify the various siren tones for various disasters, test run the siren system.

Upgrade the siren system.

Provide NOAA Weather Radios for all critical facilities and public buildings.

Implement local warning plan for an updated siren system.

Enter into the National Flood Insurance Program.

(Note that the Conservation District is working to get the FEMA maps started)

Assess emergency telecommunications capabilities—cell phones, and 2-way radio coverage.

Consider the continuity of important records and assess need to address problems associated with interruption of access to records.

Minimize the impacts of drought.

Work to ensure more county-level involvement (e.g., county commissioners) with the Governor's Drought Advisory Committee.

Encourage Buffalo Rapids Irrigation Project to continue to increase efficiency of water distribution (and water conservation).

Reduce the effects of weather-related accidents and interstate road closures.

Work with the Montana Department of Transportation and law enforcement to close the interstate at locations that divert storm-bound travelers to

Glendive or Miles City, rather than Terry. (Since Terry is not equipped to accommodate large numbers of stranded travelers.)

Work to enforce road closures and notices sooner so that there are fewer weather related accidents and travelers stranded on the roadways.

Improve communications among Montana Dept. of Transportation, County DES, County law enforcement and others to better address weather-related travel incidents.

Reduce power outages and effects of outages.

Work with electric cooperatives to install mechanisms to reduce line damage caused by undulating lines during wind/ice storms.

Identify and inventory back-up power sources for key facilities.

Identify mechanisms, such as notification and public education, to reduce health-related effects of power outages for especially vulnerable populations—the elderly, persons on oxygen or other medical equipment requiring a power source, and others.

Improve the ability to respond to disasters of all types by sharing issues with other counties in Montana.

County Commissioners should bring up disaster mitigation/preparedness issues at MACO meetings to identify what other counties and opportunities for inter-governmental agreements, etc.

NEXT MEETING

The next meeting was scheduled for May 24 at 6:30 p.m.

PRAIRIE COUNTY CWPP/PDM PLAN
Steering Committee/Public Meeting
May 24, 2005

Welcome

Anne Cossitt welcomed participants and explained that this was the third and final planning meeting for the CWPP/PDM plan for the County.

Quick Review

Contractor Cossitt reviewed the purpose of PDM and CWPP Plan and schedule for completion. She explained that the tasks for the meeting were to review the goals, objectives and projects, and prioritize the projects.

Goals and Objectives

A preliminary draft of the hazard mitigation chapter including the goals, objectives, and projects was handed out. The group read through the goals, objectives, and projects for the potential disasters. Projects were changed, added or deleted.

Project Prioritization

Meeting participants went through each project as a whole group and prioritized them into high, medium, or low based upon subjective judgment against the following criteria.

- **Number of lives at risk**
- **Value of property at risk**
- **Infrastructure at risk**
- **Risk of business interruption/loss**
- **Cost/benefit of the project**

Wrap-up

Anne explained that a draft of the entire document would be available for a 30-day public review period once the maps and fire goals have been finalized. The review period will likely begin later in the summer. Once the review period has ended, the plan will be finalized and submitted for approval by the town, city, and county. Following that it will go through state and federal review. Participants were thanked for their involvement in the planning process.

Sign-in Sheets

Attendance Sheet						
Activity		PDM/CWPP Kick off Mtg - Prairie Co.				
Location		Terry		Date(s) 1/6/05		
Duration		2 hrs.				
				Agency Use Only		
Name & Title		Affiliation	E-Mail Address & Phone#	H	M	T
Name: Norman R. Tarrent		mtwES.	04DES@Midwestern Co.			
Title: District IV Rep						
Name: Mando Beck		Beck Cons.				
Title:						
Name: John Pisk			JPisk@co.prairie.il.us			
Title: DES Coordinator			406 635 5738			
Name: Anne Corcitt		Corcitt Cons.				
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						

[illegible]

Attendance Sheet					
Activity <u>PDM - CWPP Staring Committee</u>					
Location <u>Terry</u>		Date(s) <u>02-08-05</u>			
Duration <u>1.5 hrs</u>					
Name & Title	Affiliation	E-Mail Address & Phone#	Agency Use Only		
Name: <u>Bill Legus</u>			H	M	T
Title: <u>Comm</u>					
Name: <u>William Klendon</u>	<u>P.R. SO</u>	<u>Shor ft @ c3 prairie.mt.us</u>			
Title: <u>Shor ft / Fire Warden</u>					
Name: <u>Reed Reymen</u>					
Title: <u>Administrator Pette</u>		<u>rreymen@gmc.org</u>			
Name: <u>Dale Kimmel</u>		<u>dalek@terry.k12-mt.us</u>			
Title: <u>Supt. of Schools</u>					
Name: <u>Barry Baker</u>					
Title: <u>Fallon Fire Chief</u>					
Name: <u>Brian Morast</u>		<u>bmorast@midrivers.com</u>			
Title: <u>Cabin Creek Fire Chief</u>					
Name: <u>Joan Hubber</u>		<u>jchubber@midrivers.com</u>			
Title: <u>Public Health Nurse</u>	<u>Prairie Co</u>				
Name: <u>Dale M. Hubber</u>					
Title: <u>County Attorney / Town Attorney</u>					
Name: <u>Marvin Vaanen</u>	<u>Town of Terry</u>	<u>marvin.vaanen@hotmail.com</u>			
Title: <u>Mayor of Terry</u>					
Name: <u>Rick Strohmeyer</u>	<u>Box 445</u>	<u>rstrohmeyer@mt.gov</u>			
Title: <u>MT DNRC</u>	<u>Terry MT</u>				
Name: <u>Delite Dufkart</u>					
Title: <u>Fallon Village Council</u>	<u>Fallon</u>				
Name: <u>Josh Pisk</u>	<u>Prairie County</u>				
Title: <u>DES Coordinator</u>					
Name: <u>Darlene L. Stropel</u>		<u>truburne@midrivers.com</u>			
Title: <u>Terry Tribune - Editor Tribune</u>					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					

Attendance Sheet						
Activity <u>POM -</u>						
Location <u>Terry -</u>		Date(s) <u>- 2-8-05</u>				
Duration <u>1.5 hrs</u>						
Name & Title		Affiliation	E-Mail Address & Phone#	Agency Use Only		
				H	M	T
Name: <u>Dana Sprandel-Lang</u>		BLM	<u>dsprandel@mt.blm.gov</u>			
Title: <u>Fire Mitigation/Education Specialist</u>			<u>406-233-2907</u>			
Name: <u>Donald Ulrich</u>		RANCH	<u>406 486 5678</u>			
Title: <u>Cabin Creek fire</u>						
Name: <u>Dwight Tague</u>		TVFD	<u>406-635 5707</u>	tague@midrivers.com		
Title: <u>Fire Chief</u>			<u>951 6165 Cell</u>			
Name: <u>Tim Krebsbach</u>		Ag.	<u>tim.krebsbach@mt.usda.gov</u>			
Title: <u>County Executive Director (FSA)</u>			<u>635-5791</u>			
Name: <u>Shirley Sackman</u>		MSU	<u>sackman@montana.edu</u>			
Title: <u>Trainer to Extension Office</u>			<u>635-2121</u>			
Name: <u>Chip Mink, PRC</u>		Prairie County Health Ctr	<u>635-5463</u>			
Title: <u>County Health Officer</u>			<u>cgym@midrivers.com</u>			
Name: <u>Quinn Haughian</u>		Land Planning Board	<u>637-2192</u>			
Title: <u>Chairman</u>						
Name: <u>Todd D. Todd Devlin</u>		Prairie Co	<u>406-5485</u>			
Title: <u>Commis</u>			<u>devlin@midrivers.com</u>			
Name: <u>Ron Marie Whales</u>			<u>- 486-5400 -</u>			
Title: <u>Commissioner</u>						
Name: <u>Norman Parrent</u>		DMA OES				
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						
Name:						
Title:						

Attendance Sheet

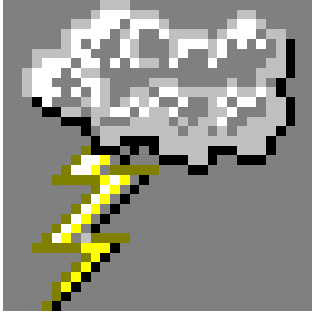
Activity PDM Meeting - Prairie Co

Location Terry Date(s) April 26, 2005

Duration 6:30 - 8:30

			Agency Use Only		
Name & Title	Affiliation	E-Mail Address & Phone#	H	M	T
Name: <u>Norman R. Parrent</u>	<u>Delta</u>	<u>PAPER@midrivers.com</u>			
Title: <u>Detriot Rep.</u>	<u>DES</u>	<u>906-254-2809</u>			
Name: <u>John Pisk</u>	<u>Prairie County</u>	<u>JPISK@CO.PRAIRIE.MI.US</u>			
Title: <u>DES Coordinator</u>	<u>DES</u>	<u>406-635-5739</u>			
Name: <u>Dele Kunkert</u>	<u>Fallon Village</u>	<u>PO Box 293 Fallon</u>			
Title: <u>Treasurer</u>	<u>Council</u>	<u>406-486-5505</u>			
Name: <u>Bill Klunder</u>	<u>Prairie</u>	<u>Bar Sheriff@co.prairie.mt.us</u>			
Title: <u>Sheriff</u>	<u>County</u>	<u>Box 126 Terry</u>			
Name: <u>William L. Stordel</u>		<u>POB 127, Terry</u>			
Title: <u>Editor - Tribune</u>					
Name: <u>Dave Schwarz</u>	<u>Buffalo Rapids</u>	<u>djs@midrivers.com</u>			
Title: <u>Com - BRP</u>		<u>PO Box 907 Terry</u>			
Name: <u>Marvin Varner</u>	<u>Town of Terry</u>	<u>marvin Varner@hotmail.com</u>			
Title: <u>Mayor</u>		<u>Com - 635-5540</u>			
Name: <u>Samuel C. Mintz</u>	<u>Prairie Community</u>	<u>Samuel.C.Mintz@us.army.mil</u>			
Title: <u>PA-C</u>	<u>Health Center</u>	<u>635-5863</u>			
Name: <u>Virginia Mintz</u>	<u>Prairie County</u>				
Title: <u>LPR-X-ray - EMT - LE</u>	<u>Ambulance</u>				
Name: <u>Mark Thrask</u>		<u>PO Box 568</u>			
Title: <u>Rel Sup</u>	<u>Co.</u>	<u>635-5436</u>			
Name: <u>Dale M. Hubber</u>		<u>PO Box 215</u>			
Title: <u>Pain Co. Atty</u>	<u>Co.</u>	<u>635-2160</u>			
Name: <u>Rick Strohmeyer</u>	<u>MT</u>	<u>rstrohmeyer@mt.gov</u>			
Title: <u>DNRC - ELO - Area Manager</u>	<u>DNRC</u>	<u>406-635-4056</u>			
Name: <u>SCOTT CARLTON</u>	<u>CERT</u>	<u>carlton@midrivers.com</u>			
Title: <u>PRAIRIE Co. CERT T.L.</u>		<u>406-635-4987</u>			
Name: <u>Tessa Shumway</u>	<u>Disaster</u>	<u>TKS315@yahoo.com</u>			
Title: <u>American Red Cross</u>	<u>Services</u>	<u>406-635-4084</u>			
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					
Name:					
Title:					

Meeting Flyers, Notices
and
News Articles



PRAIRIE COUNTY PRE-DISASTER PLANNING MEETING

Tuesday, April 26

6:30 p.m.

County Court House

Open to the public.

Anyone with an interest is encouraged to attend and participate.

For more information, contact:

County Disaster Emergency Coordinator, John Pisk, 635-5738

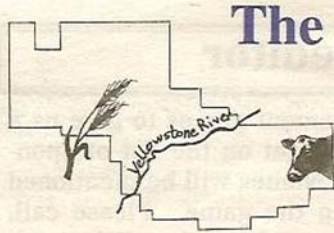
Contractor, Anne Cossitt, 633-2213



rwtech.com



rwtech.com



The

Terry

98th Y

Wednesday, January 26, 2005

> Plan required for disaster funding . . .

Fire & disaster plan to be set

Prairie County is preparing a Community Wildfire Protection and Pre-disaster Mitigation Plan, assisted by a Park City consulting firm.

The Local Emergency Planning Committee/Steering Committee meets Feb. 8, 6:30 p.m., at the courtroom. Two more meetings will be held in the next six months to develop the plan. Anyone interested in participating is encouraged to attend.

A project kick-off meeting was held in Terry in early January and Prairie County Disaster and Emergency Services Coordinator John Pisk says, "We've definitely seen natural disasters in our country and this effort will help us plan to reduce risk and become eligible for funds to mitigate risks."

Having a plan written is a requirement for eligibility for emergency relief funds from the Federal Emergency Management Agency, if a natural disaster should strike Prairie County. This project is funded through a program of the Bureau of Land Management. All Montana counties and most across the country are preparing plans, as required.

Each natural disaster has the potential to take lives, destroy property and interrupt transportation and commerce. In

1990, it is recalled, a severe summer storm with strong winds toppled area grain bins. Winter storms can knock out power and make the Interstate impassable, Pisk explains. Prairie County is vulnerable to a variety of natural disasters - summer or winter storms, floods, fires, droughts.

In developing the plan, past disasters must be documented and analyzed. Present and former Prairie County residents are invited to share disaster experiences to assist in forming the plan. Assistance will also be given by elected officials, law enforcement, emergency medical services, fire protection groups, disaster emergency services, county public health, public works, the Chamber, schools and other agencies.

"I'm really interested in hearing from long-time residents who have memories, even vague memories, of floods, wild fires, winter storms or other natural disasters," stated Anne Cossitt of Cossitt Consulting, Park City, who will prepare the fire/disaster plan under guidance of the LEPC.

Anyone with information to share on past disasters or who has questions on the project can contact Cossitt at 406-633-2213.

Terry Tribune, Feb 2, 2005

Bits `n pieces

The first meeting of the local emergency Planning committee/steering committee for the Prairie County Wildfire and Pre-Disaster Plan is Tuesday, 6:30 p.m. in the Courtroom. Three two-hour meetings will be scheduled to develop the plan in the next six months, says DES coordinator John Pisk. Assisting the county are Anne Cossitt, Park City and Rand Herzberg, Red Lodge

Disaster plan committee to meet

The second of three public meetings to prepare a Pre-Disaster Mitigation Plan for Prairie County is April 26, 6:30 p.m., at the courthouse. While the Steering Committee and Local Emergency Planning Committee are guiding work of the contractor, meetings are open to the public. Anyone interested is encouraged to attend and participate.

"We are working on these plans to prevent or reduce losses from natural disasters. We can't stop natural occurrences like winter storms and other weather events, but we can identify actions to lessen their impact on local residents," says County Disaster and Emergency Services coordinator John Pisk.

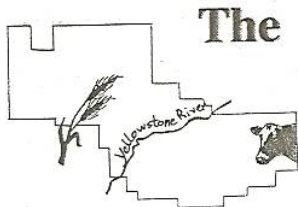
At the first meeting, the Steering Committee listed potential natural disasters and hazards, identified critical facil-

ities and listed vulnerable populations. Hazards identified of most concern in the county were: drought, fire, flood/ice jams, summer/ winter storms, hail/wind storms.

At the April 26 meeting, the Committee will work on goals and projects to make the county more disaster resistant. Projects can include awareness education or actions to reduce potential disaster damage.

At the final meeting later this spring, specific actions or projects will be further developed and prioritized. The contractor will write a draft of the plan that will be made available at the library, town hall and courthouse for review and/or comment. Once the plan is completed, the County and Town will be asked to adopt it. Following review of the plan by state and federal officials to ensure legal requirements are met, the county and towns will be eligible to compete for grant funds for projects in the plan that exceed local resources.

Info: Contact Pisk (635-5738) or contractor Anne Cossitt (633-2213).



The

Terry

98th Year,

113005 *****
PRAIRIE CO SHERIFF'S
PO BOX 126
TERRY MT 59349-0126

Wednesday, May 4, 2005

Predisaster planning advances

Story and Photos by
Darlene L. Strobel, Editor

The second of three meetings to plan and develop a Wild Fire Protection Plan and Pre-Disaster Mitigation Plan for Prairie County was Tuesday evening.

Projects and actions to prevent disasters in the area were listed by the dozen volunteers at the meeting. Goals to safeguard the county included examining the need to expand the Terry Mosquito control area to possibly include Fallon to help control West Nile Virus.

Other goals listed during the evening were:

- To develop emergency operations, creating a center to be used as a disaster shelter;

- To enhance and develop evacuation plans with a warning/response system by conducting tabletop and actual field tests, creating an inventory of equipment and educating the public with a test run, after advance notice;

- To join the National Flood Plain Insurance Program to aid residents;

- To continue to increase the efficiency of Buffalo Rapids

Irrigation Project;

- To minimize impacts of drought through increased involvement of the county (county commissioners) with the Governor's Drought Advisory Committee;

- To minimize stranded motorists here by closing roads when needed with better communication to those who make such decisions;

- To reduce power outages and have a back up power source to meet emergency and medical needs;

- To develop Intergovernmental agreements between area counties to use in case of emergency; and,

- To be aware of and have plans to deal with methamphetamine labs discovered in the area, noting that they are prevalent in eastern Montana.

Actions listed above concern pre-disaster planning with facilitator Anne Cossitt of Cossitt Consulting, Park City. A wild-fire protection plan is being worked up by another planner in coordination with the Bureau of Land Management. Funding for development of the plans is through a five-county grant

from the BLM, administered through McCone County.

Meeting one results

Listed at the February meeting as top disaster concerns were drought, snow/winter storms, wildfire and high winds/severe thunderstorms. Secondary disasters might be a train wreck, flooding or river ice jam, fog or hazardous materials.

After researching effects of drought in Prairie County, Cossitt said that the area experiences severe drought 15 percent of all years. Drought is felt more in this county than some because it was listed as one of the top three Montana counties with a dependence on agriculture for income. Of total personal income in 1999, 24 percent was farm related, figures show. Most at the meeting felt that figure was estimated lower than it is in reality.

"When figures show a \$10 million farm loss, the amount probably doubles when total impact of a drought is considered," Cossitt thought.

From 1960 to 2000 Prairie
See PREDISASTER.....page 12

PREDISASTER.....continued from page 1

County experienced numerous winter storms which national charts show in great losses. Total property damage was \$934,671, plus crop damage at \$261,862. Property damage from a November 2000 storm was estimated at \$550,000 while crop damage from a February 1978 storm was \$238,095, statistics show.

During that 40-year period 10 wind events were reported and eight flood events, reporting damages from \$950,000 to

\$50,000. The most deadly event was the 1938 train wreck caused by a flash flood west of Terry when 47 died and 56 people were injured.

Members of the steering committee completed a hazard worksheet at the February meeting. When tabulated, drought was ranked highest in history of occurrence, probability and consequences. Winter storms and wind/hail storms were second, followed by wild-fires.

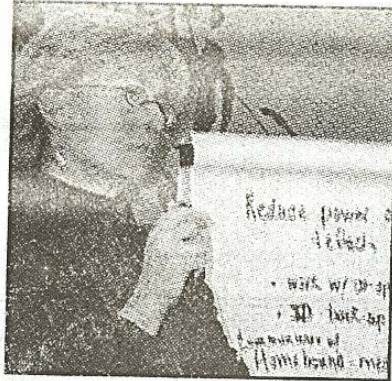
Fire/disaster plan can be reviewed

The Prairie County Pre-Disaster Mitigation and Community Wildfire Protection Plan will be ready for review tomorrow.

The plan, intended to identify what can be done in advance to lessen the impacts of disasters, covers a variety of events including winter storms, wildfire, power outages and hazardous materials incidents. It identifies specific projects to help make Prairie County more disaster-resistant.

Prairie County Disaster and Emergency Services Coordinator John Pisk says, "Completing the plan will allow the county and communities to compete for grants to do projects identified in the plan and will allow the county to be eligible for post-disaster relief."

The county started working on the plan in January. A citizen Steering



**Disaster Planning
Planner Anne Cossitt
works with a local steering
committee.**

Committee, led by planner Anne Cossitt, established to guide plan development, included local emergency services, fire department members, businesses, town and county government, schools and law enforcement.

"We appreciate everyone who helped put this together, including all who attended any of the meetings between January and June," added Pisk.

Copies of the draft plan are available at Prairie County Courthouse, Terry Town Hall, Prairie County Library and the County DES Office.

Comments will be accepted until Oct. 20, 5 p.m., in any form to John Pisk, 635-5738 or County Sheriff's Office, POB 126, Terry, MT 59349.

Once comments have been reviewed and incorporated, plans will go to the county commissioners and town council for adoption.

Correspondence



Ann Marie Davis, Chairperson Todd Devlin, Member Bill Leach, Member
BOARD OF COUNTY COMMISSIONERS
P.O. Box 125, Terry, MT 59349-0125
Phone 406-635-5575 Fax 406-635-5576
clerkrecorder@co.prairie.mt.us

Date: January 20, 2005

Dear : Citizen

You are invited to serve on the Steering Committee to guide the preparation of Prairie County's Community Wildfire Protection and Pre-Disaster Mitigation (CWPP/PDM) Plan.

So, what is this plan and what purpose does it serve? The primary purpose of the CWPP/PDM Plan is to increase the county's resistance to natural disasters. Among other things, the PDM will look at historic disasters, identify those types of disasters the county is at most risk from, and propose projects to address those hazards. The portions of the plan that address wildfire will describe the current situation and values at risk, and also propose goals and projects to address the areas of concern.

And, there are important benefits for the county in preparing the plan. Once the plan is done, we will be eligible to compete for federal grant funds to complete projects, and the county will be eligible for assistance from the Federal Emergency Management Agency (FEMA) in the event we do experience a disaster such as a devastating flood, wildfire, or winter storm, for example.

The commitment we are asking of you is simple. Between now and the end of June, we'd like to have you attend one or more of the three two-hour evening Steering Committee/Public meetings. At these meetings, the Steering Committee and interested participants will provide guidance to the contractor we've hired to write the plan. The first of these meetings is scheduled for February 8, 2005, at 6:30 p.m. in the court room of the Prairie County Courthouse. We hope to see you at as many of the three meetings as you can make, preferably all three.

Your participation will ensure that we end up with the highest quality plan possible. If you have any questions about the plan or your role as a Steering Committee member, please call our County Disaster Emergency Coordinator, John Pisk, at 635-5738.

Sincerely,

Marie Davis

Todd Devlin

Bill Leach

January 24, 2005

**Mayor, Town of Terry
Box 459
Terry, MT 59349**

RE: Community Disaster Planning

Dear Mayor Varner:

I'm writing to let you know about a planning effort being initiated by the county. This effort will help the county and the town of Terry become more disaster resistant, make the county and the communities eligible for project funds, and ensure the county is eligible for disaster relief funds if a natural disaster does occur.

When completed, the plan must be approved by the state and the Federal Emergency Management Agency (FEMA.) The plan will need to be adopted by the county commissioners and the incorporated community of Terry.

I have been contracted to prepare the plan for the county and wanted to let you know about the effort right from the start. I've enclosed a business card in case you have any questions about the project.

You will be receiving an invitation in the mail from the commissioners soon inviting you to participate as a Steering Committee member for the project. We plan to hold three Steering Committee/public meetings. The first meeting is scheduled for Tuesday, February 8, at 6:30 p.m. in the court room of the county court house. I hope you or someone from the Terry town council is able to attend. I'll look forward to meeting you at some point in the process, Marvin. Please feel free to call if you have any questions at all.

Sincerely,

Anne Cossitt

cc: John Pisk, County DES Coordinator

CHAPTER 3: HAZARD EVALUATION AND RISK ASSESSMENT

This chapter identifies:

- Hazards to which Prairie County is susceptible
- What effects the hazards can have on the county's physical, social, and economic assets
- Which areas are most vulnerable to damage from these hazards
- Estimated costs of damage

Chapter 3 includes a short description of methodology; followed by a list of the identified hazards discussed in this chapter and rationale for why each hazard was included; detailed profiles of each hazard type including historic occurrences and vulnerability and potential loss estimates; and assets and vulnerable populations that could be affected by various hazards.

Methodology

Hazards were evaluated as follows:

1. **Identify hazards that may occur.** Hazards that may occur were identified through:
 - a. Meetings and discussions with community leaders (county commissioners, town officials, and county DES Coordinator)
 - b. The Steering Committee meetings (steering committee and members of the public identified past disasters and potential future disasters)
 - c. Review of hazard lists in the FEMA "How-to Guide: Understanding your Risks" and initial research on websites recommended in the Guide
 - d. Review of the State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment
 - e. Researching other plans and reports, and newspapers. Prairie County does not have a growth policy or comprehensive plan. Other plans and reports that were used in developing this report include state and federal plans, such as the Montana Drought Plan. Source information is cited in the plan and referenced at the end of chapters 1, 3, and 5.
 - f. Discussion with technical experts (included in the Sources section at the end of the chapter) and a visit to the NOAA National Weather Service Glasgow to review weather-related natural hazards and obtain storm information.

2. **Prioritize the hazards and focus on the most prevalent.** Hazards were prioritized at the 1st Steering Committee meeting. (See also discussion below on “Identified Hazards” for more detail on methodology for identifying and prioritizing hazards.)
3. **Profile hazard events.** Using a variety of information sources (listed at the end of this chapter), this step basically answers the question, “How bad can it get?” This included:
 - a. Identifying maps of the geographic extent of hazards that can occur in predictable areas. (Note that that hazards with “predictable” occurrence areas are primarily those identified in Federal Insurance Rate maps. Prairie County does not currently participate in the national flood insurance program and therefore there are no such maps for the county.)
 - b. Obtaining data on historical occurrences—frequency, severity, and related damage.

Vulnerability and potential loss estimates were assessed as follows:

1. **Identify the future potential for the hazard to result in damages.** This was done primarily by looking at past occurrences and by considering factors that could potentially increase risk. Land uses (described in Chapter 1) are not anticipated to change dramatically in the foreseeable future, so the analysis focused on existing land uses.
2. **Inventory assets and identify what might be affected by the different hazard events.** This includes structures, operations important to the county’s economy as well as vulnerable populations that could be particularly hard-hit by a disaster. Critical facilities and vulnerable populations were identified at the 1st steering committee meeting, when participants were asked to identify important features of their community that could potentially be affected by a disaster. In addition, the contractor consulted with the DES Coordinator and others to identify any other important assets. Inventories of critical facilities included location and replacement value, identified using tax assessments, and via conversations and information provided by representatives of the various facilities. Because most of the hazards in Prairie County can essentially occur anywhere, the inventory of assets is included as a separate section in this chapter.
3. **Estimate losses.** Generally, losses for each hazard were estimated using information from past events, since most hazards in Prairie County can vary in location and extent. In cases where there is little or no damage information in terms of dollar cost for the county, information may include costs from other locations.

Identified Hazards

Table 3.1 includes potential hazards for Prairie County, how and why they were identified, how they were ranked at the public meeting, and where they are discussed in this chapter. The town of Terry was assessed for all risks, and where the risk is unique or different from that of the county in general, it is identified in the detailed descriptions of each hazard that are included in this chapter.

Table 3.1 Prairie County Hazards

Type	How Identified	Why Identified	Location in Chapter 3	Rank at Public Meeting
Drought	Commissioners Steering Committee/Public Meeting Newspaper accounts The State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment Disaster Declarations National Weather Service	Drought affects agriculture, one of the basic economic drivers of the county	Drought	1
Flood	Commissioners Steering Committee/Public Meeting Newspaper accounts Disaster Declarations National Weather Service	Serious damage has occurred in the past from floods	Flooding	None
Summer Storms	Steering Committee/Public Meeting National Weather Service	Crop and property damage have occurred in the past	Severe Thunderstorms	4
High Winds	Steering Committee/Public Meeting National Weather Service	History of high winds and wind damage in the county	Severe Thunderstorms	4
Hailstorm	Steering Committee/Public Meeting National Weather Service	Crop and property damage have occurred in the past	Severe Thunderstorms	See Summer Storms
Hazardous Materials	Steering Committee/Public Meeting	History of past occurrences. Consequences could be severe.	Hazardous Materials	None
Severe Winter	Commissioners Steering	Historic occurrences, some	Winter Storms	2

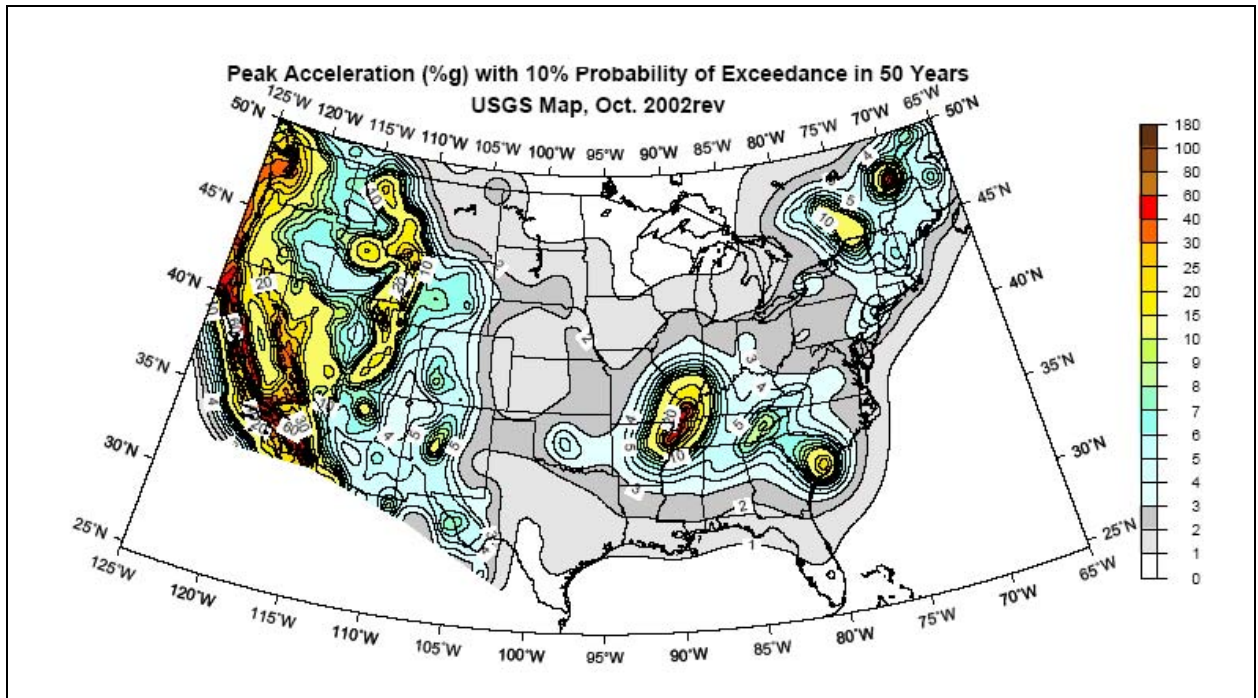
Storm, Ice storms	Committee/Public Meeting Disaster Declarations Newspaper accounts National Weather Service	severe and costly. Issue with stranded travelers and accidents.		
Project Number	Project description	Rank	Potential Resources	Project Number
Tornado	Steering Committee/Public Meeting National Weather Service	History of tornadoes; potential for serious damage	Severe Thunderstorms	See Summer Storms
Wildfire	Commissioners Steering Committee/Public Meeting Disaster Declarations	Drought, fine fuels, high winds, and historic fires	In Chapter 5	3
Dam Failure	National Inventory of Dams	There are 58 dams in the county. Dam failure can be a potential hazard.	Flooding	None
West Nile Virus	Steering Committee/Public Meeting	There have been cases of West Nile Virus in the County	Insect Infestations	None
Transportation Accidents	Steering Committee/Public Meeting	Weather conditions have led to traffic accidents and train wrecks	Train wrecks- see Flooding and Hazardous Materials Traffic Accidents- See Winter Storms and Hazardous Materials Aircraft Accidents- See Hazardous Materials	None
Oil and natural gas pipelines in county	Steering Committee/Public Meeting	There are pipelines across the county	Hazardous Materials	None
Fog	Steering Committee/Public Meeting	Past weather events	Winter Storms	None
Volcanic Events	The State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment	Prairie County could have some effects from volcanic events to the west (Pacific Northwest and Yellowstone Park area)	Volcanic Eruptions	None

FEMA identifies seven major hazards (floods, earthquakes, tsunamis, tornadoes, coastal storms, landslides, and wildfires) to be considered in the development of a Pre-Disaster Mitigation Plan. Of these seven major hazards, three were identified as potential hazards in Prairie County-- floods, tornadoes, and wildfires. The wildfire hazard and mitigation are addressed in Chapter 5 of this document.

The other four hazards were eliminated from more detailed review in this plan for the following reasons:

- **Tsunamis are not applicable to Prairie County.**
- **Coastal storms are not applicable to Prairie County.**
- **Landslides. The U.S. Geological Survey (USGS) national landslide map shows Prairie County with a low rating for landslide incidence. There are some badland areas of the county, which are highly subject to erosion, but participants at the public meetings did not see landslides as a significant hazard in their county, primarily because there is virtually no development in these areas nor is any anticipated.**
- **Earthquakes. Although Montana is one of the most seismically active states in the United States, the seismically active area is in the western portion of the state. According to the USGS national seismic map, Prairie County has less than 3% g peak acceleration (shown as the lightest grey shade in Figure 3.1) on a scale that extends from 0 to 180. The FEMA guidebook “Understanding Your Risks: Identifying Hazards and Estimating Losses” recommends more in-depth analysis in communities if it is an area of 3% g peak acceleration or more. As shown in Figure 3.1, Prairie County is in an area with some of the lowest probability for seismic activity in the nation.**

Figure 3.1 Seismic Probability



Source: USGS

Drought

“Drought is an extended period of below normal precipitation which causes damage to crops and other ground cover; diminishes natural stream flow; depletes soil and subsoil moisture; and because of these effects causes social, environmental, and economic impacts to Montana.” (Montana Drought Response Plan, 1995)

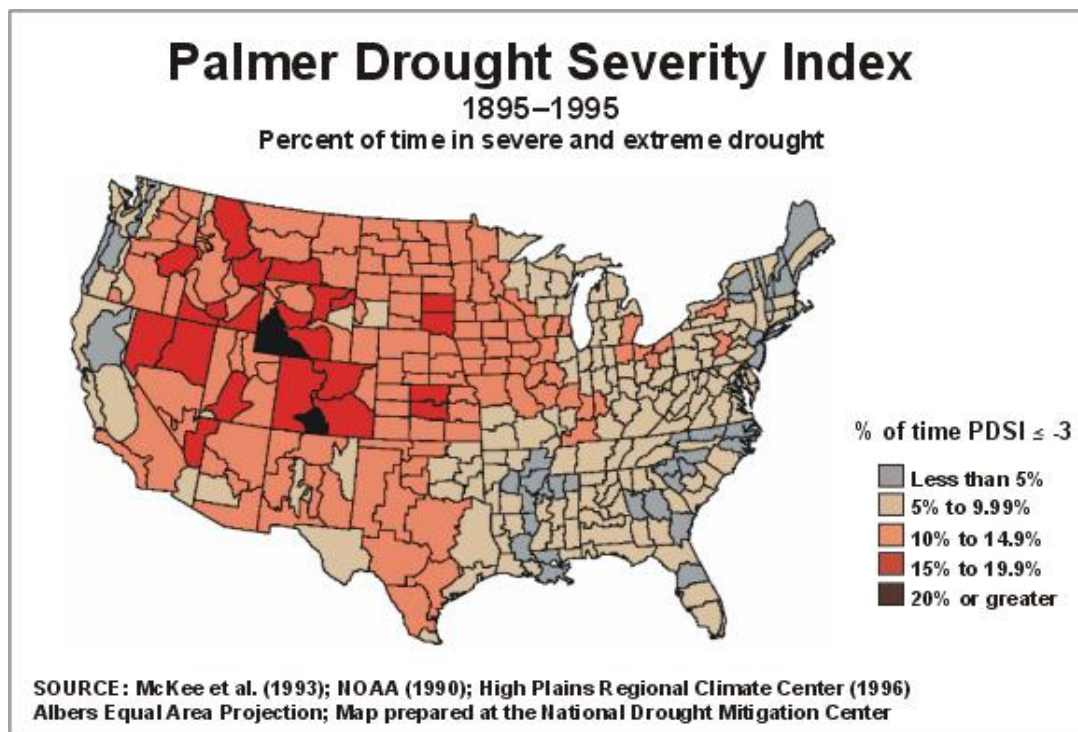
Drought can occur throughout the county.

Historic Occurrences

Legendary drought occurred in eastern Montana in the 1930s. Impacts were severe across not just Montana, but the entire Great Plains and led to changes in farm practices that have lessened the impacts of subsequent droughts, such as the one in the 1950s.

As shown in Figure 3.2, the area that includes Prairie County has been in severe or extreme drought 10 to 15% of the time between the years 1895 and 1995. Figure 3.2 is based on the Palmer Drought Severity Index (PDSI), which quantifies drought in terms of moisture demand and moisture supply.

Figure 3.2 Palmer Drought Severity Index



Annual average precipitation in Prairie County is between 10-14 inches. Between 1949 and 2004, the lowest annual average was 5.37 inches in 1960. (Note that there are years with even lower annual amounts but those years are missing data.) (<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?mtsidn>)

Drought also brings other related hazards—grasshoppers, plant disease, wind erosion, and wildfires. Table 3.2 lists declarations related to drought (excluding wildfires, which are covered in Chapter 5 of this report).

Table 3.2 Drought-related Disaster Declarations

Type	Period	Number	Notes
Presidential Declarations		0	Drought is excluded from presidential declarations*
USDA Secretarial Declarations	1998- 2004	7	Prairie was listed as a “contiguous” county or as part of other disaster listings
FEMA Declarations	1974-2003	0	
State Declarations	1975-2004	1	For a Grasshopper infestation in 1985--\$23,410 in state and local disaster fund expenditures in Prairie County

Source: USDA, FEMA

* Abers, Jesse, Montana Drought Advisory Committee.

In Prairie County drought reduced non-irrigated crops by 40% and 50% in 2001 and 2002. (Prairie County PDM Plan Draft)

Vulnerability and Potential Loss Estimates

Based on past history, there is continued probability that drought will occur in the future in Prairie County. Participants ranked drought as having a high probability of occurrence. Prairie County is vulnerable to losses from drought because:

- 1) Drought affects commercial viability of agricultural production, which is one of the primary drivers of the county’s economy
- 2) Drought in areas outside of the county can affect the supply of irrigation water (e.g., along the Yellowstone and Missouri Rivers)
- 3) Long-term drought could potentially affect groundwater supplies which provide potable water for county residents, including in the town of Terry
- 4) Agriculture is the primary economic driver for Prairie County.

The Montana Multi-Hazard Mitigation Plan listed the ten counties in Montana with the highest percentage of farm income to personal income as measured in 1999. Prairie County, with a farm income to total personal income ratio of 24% in 1999 was ranked third on the list. (Total personal income includes earnings and “non-earned income, which includes dividends, interest, rent, and transfer payments. “Non-earned” income is a growing portion of total personal income and in 2002 comprised 58% of all personal income.)

Drought produces a complex web of impacts that spans many sectors of the economy. Direct effects of drought include reduced crop, livestock, and rangeland productivity, increased fire hazard, reduced water levels, and damage to wildlife and fish habitat. Reduced incomes for farmers and ranchers result in indirect economic effects, such as reduced business and income for local retailers, increased credit risk for financial institutions, capital shortfalls, loss of tax revenues and reduction in government services, unemployment, and out-migration.

The Montana Governor's Drought Report of May, 2004 referenced the economic and societal effects of drought:

The state's biggest drought story remains the deepening socio-economic drought. The drought threatens to change the very fabric of Montana's rural communities and landscape. It is the final straw that can bankrupt 4th- and 5th-generation farmers and ranchers, placing the birthright of descendants of pioneer families on the auction block. And like the changing vistas, many of the well-established county agri-businesses are disappearing forever, along with other main street institutions.

There is no standardized method for tracking economic losses related to drought in Montana. Historical data for direct economic effects of drought include the following:

- **Continued lack of moisture in 1985 resulted in a state-wide wheat crop that was the smallest in 45 years. For a typical 2500 acre farm/ranch, the operation lost more than \$100,000 in equity over the course of that year. (www.state.mt.us/dma/DES/Drought.htm)**
- **Disaster Fund expenditures of \$23,410 for a grasshopper infestation in Prairie County in 1985. (State Declarations 1975-2004)**
- **In 2001, the Montana Department of Livestock estimated a decrease in Montana cattle herds of approximately 450,000 head of cattle, or 18%, due to drought. The loss estimate consisted primarily of cattle moved out of state for change of pasture (and includes those that were sold). (Drought Relief Activities of the Montana Department of Livestock and Montana Agricultural Statistics Service)**

Drought does not directly affect structures and infrastructure in the same dramatic and immediately costly ways that other hazards, such as flooding, can and to which there are existing disaster aid responses, such as through FEMA. The primary effect of drought is on the land and the

following analyses of potential effects on crops and livestock production is intended to provide an estimate of some initial costs associated with drought. Indirect cost effects, such as reduced business with local merchants, etc.), would be in addition to direct losses to agricultural producers. The combined direct and indirect costs of drought are estimated to be double that of the direct costs alone (Aber, personal communication).

Since 2002, the Farm Service Agency paid out \$1.42 million in various drought-related disaster programs in Prairie County. (Krebsbach)

Table 3.3 presents estimates for key crops in Prairie County comparing typical yields with drought year yields. The table also provides an economic loss estimate for these crops, which are only a part of the overall loss because the table does not include all crops in Prairie County.

Table 3.3 Estimation of Annualized Drought Loss for Key Crops

Crop	Normal Precip Year Yield Per Acre	Drought Year Yield (per acre)	Average Price Per Unit	2003 Acres Planted	Economic Loss
Winter Wheat (bushels)	25.7	22.1	3.82	12,000	165,024
Spring Wheat (bushels)	30	22.3	2.88	20,800	461,261
Oats (bushels)	54.3	42.5	5.68	1,800	120,643
Barley (bushels)	40	27	2.88	5,500	205,920
Dryland Hay (tons)	1.2	0.8	77.5	16,500	511,500
Sugar Beets (tons)	20.8	17.9	40.9	1,470	174,357
Total estimated \$ loss for these crops					\$1,638,705

Notes/Methodology:

Normal Precip Years: 1996-1998, 1996: 15 inches, 1997: 13 inches, 1998: 15 inches as measured in Terry; and yields for each of those years, averaged

Drought Years: 1983: 7 inches, 1984: 6 inches, 1985: 7 inches as measured in Terry; and yields for each of those years, averaged

Average Price: Average price per unit over the past 3 years for which data are available

2003 Acres Planted: From Montana Agricultural Statistics 2004

Economic Loss: (Normal Year Yield minus Drought Year Yield) multiplied by Average Price Per Unit and by number of Acres Planted

Sources:

USDA websites: <http://www.nass.usda.gov/mt/> and

http://www.nass.usda.gov:81/ipedbcnty/c_MTCrops.htm

Western Regional Climate Center website: <http://www.wrcc.dri.edu/index.html>

Montana Agricultural Statistics 2004

Identifying the direct economic loss from drought for livestock producers involves many factors, most of which are difficult to track with existing

systems. Over the past 10 years (1995-2004), cattle numbers remained relatively steady at between 30,000 to 35,000. (www.nass.usda.gov and Montana Agricultural Statistics 2004)

Livestock numbers, however, are not necessarily a good indicator of economic impacts. For example, cattle numbers can remain relatively stable over a period, but ranchers can be experiencing any number of economic impacts that include:

- Reduced productivity of rangeland
- Forced reduction of foundation stock
- Closure/limitation of public lands for grazing
- Cost of supplemental feed and/or cost of moving to other locations with pasture
- High cost/unavailability of water for livestock
- Cost of new or supplemental water resource development (wells, etc.)
- Increased feed transportation costs
- Disruption of reproduction cycles (delayed breeding, more miscarriages, etc.)
- Decreased stock rates
- Range fires

In summary, drought has the potential to cost Prairie County residents millions of dollars annually. The estimates above indicate annual losses of over \$1.5 million for some crop types alone. Considering losses to other crops and livestock, the direct costs could be many more millions of dollars annually.

Winter Storms

Extreme winter weather events occur throughout Prairie County and include blizzards, extreme cold temperatures, heavy snow, ice storms, freezes, and dangerous foggy conditions. Winter weather events have occurred in Prairie County from October through May.

A blizzard is defined as a storm with winds over 35 mph with snow and blowing snow reducing visibility to near zero.

Average annual snowfall is 15 inches (as measured in Terry). The largest amount of snow received in one year was 65 inches in Mildred in 1982. (Western Regional Climate Center)

Historic Occurrences

The earliest documented winter storm in eastern Montana was wide-spread and legendary. This storm cost the lives of large numbers of open range

cattle. During the winter and spring of 1887 there were 40 days of blinding blizzard and snowstorm.

The Secretary of Agriculture declared two disasters in Prairie County for severe winter weather between 1998 and 2004—one for a severe winter storm (November 2000) and for a freeze in October 2000. Data from the NOAA offices in Glasgow indicate 32 separate winter weather events that affected Prairie County between June 1996 and mid-March 2005.

The following provides a narrative account of some of the major past winter storm events.

December 1964

Severe winter weather and blizzards created conditions throughout eastern Montana. Authorities estimated \$3.4 million dollars worth of losses (primarily livestock) in eight counties.

Winter of 1977-78

Winter storms began in late November 1977 and severe winter weather did not let up until late February of 1978. During this time one blizzard lasted eight days. Absolute temperatures (not including wind chill factors) dipped to 40 below 0. Snow drifts ranged from 12 to 15 feet deep.

January 1997

Very strong winds and wind chill to 80 below zero at times. Hit McCone, Richland, Dawson, Prairie and Wibaux counties. One man died after he decided to walk for help after his vehicle was stuck in a snow drift. He was found 500 feet from his car (not in Prairie County). I-94 was closed for 72 hours from Miles City to Wibaux stranding several hundred motorists in Terry. (Prairie County PDM Plan Draft)

February 1997

Unusual widespread dense fog developed throughout eastern Montana. Visibility was near zero over portions of the area and overnight travel was discouraged.

February 1998

Throughout McCone, Richland, Dawson, Prairie, and Wibaux Counties—up to 1.5 ft of snow in combination with sustained winds of 30-40 mph and visibility to zero. Snow drifts ranged between 5-12 feet.

October 1998

Mass casualty accident resulting in a single fatality on the Powder River Bridge as a direct result of a winter storm.

November 2000

Major winter storm hit eastern Montana leaving over 1500 residents without power as nearly 2000 power poles snapped in half. Storm started as rain and produced several hours of sleet before changing to snow, strong winds and blizzard conditions.

December 2000

A blizzard on the 15th and 16th, and then an ice storm on the 27th that closed nearly all paved roads in several counties, including Interstate 94 from Terry east to the North Dakota border. Numerous rollovers were reported, but no serious injuries.

February 2002

Freezing rain storm causes multiple motor vehicle accidents.

March 2002

Eight inches of snow reported at Terry.

December 2003

At the onset of blizzard conditions that lasted for two days, there was a period of freezing rain that produced up to a quarter of an inch of ice across portions of Prairie, Wibaux, Dawson, Richland, Roosevelt, and McCone Counties.

January 2004

Throughout eastern Montana, extreme cold/wind chill on Jan 4-5—windchill in Prairie County was recorded at 44 below 0. Then eastern Montana was hit by two winter storms later in the month and both resulted in roads closed for emergency travel only across several counties.

Sources: newspaper accounts and NOAA offices in Glasgow

Winter storm events have resulted in the Highway Department's closure of Interstate 94. Numerous times in the past, travelers have been stranded in Terry, unable to make it on to larger metropolitan areas. Travelers have been housed at the school. Even without large numbers of stranded travelers, road closures can result in food shortages and other logistical difficulties for county residents. The single grocery store in the county has run low on supplies in the past when deliveries are delayed by several days because of road closures. The county has provided housing and food for as many as 600 travelers in the past, putting additional strains on supplies

and logistics. (Information provided by participants at Steering Committee Meetings)

Vulnerability and Potential Loss Estimate

Given the location of Prairie County in eastern Montana and weather patterns for the northcentral United States, winter storms, ice storms, and related colder weather events will continue to be a potential hazard for Prairie County and was ranked by participants as having a moderate to high potential of occurrence.

Winter storm events in Prairie County can have a number of potential effects and related costs:

- Loss of human life and other human risks—hypothermia, stranded motorists
- Damage to electric transmission facilities and power outages
- Livestock loss and stress (and increased cost of hay/feed)
- Crop losses and stress
- Road closures
- Snow removal and sanding
- Business interruption expenses
- Overtime loads on emergency and law enforcement personnel
- Vehicle accidents
- Other property damage (e.g., structural to buildings, water, sewer lines)
- Resources in the town of Terry can become stretched when the town provides emergency shelter for stranded travelers.

In addition, the county faces challenges of winter storm related safety factors for isolated rural residents. Providing emergency services to persons located far from emergency operations in Terry can be hazardous for emergency personnel as well.

Based on information from the SHELDUS Data Base, 10 winter weather events between 1960 and 2000 resulted in a total of \$934,671 in property damage and \$261,862 in crop damage (amounts not adjusted for inflation).

The SHELDUS Data Base only includes events that had damages in excess of \$50,000. SHELDUS calculates dollar losses on reported amounts and primarily relies on government assistance payment amounts and amounts that may be reported through other means (e.g., newspaper accounts). Consequently the cost estimates do not include costs that may be paid by private individuals or private insurance companies unless those were publicly reported.

In summary, winter storms and related events can be costly in terms of human health and safety as well as economic costs. Economic costs could be as high as a million dollars or more depending on the severity and duration of the event.

Severe Thunderstorms (including Hail, Wind, and Tornadoes)

Prairie County is subject to severe thunderstorms, hail, wind, and tornadoes throughout the entire area of the county.

A severe thunderstorm is a thunderstorm that produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. (Montana Multi-Hazard Mitigation Plan)

A tornado is a violently rotating column of air in contact with the ground and extending from the base of a thunderstorm. Tornadoes are categorized by the Fujita scale. The Fujita scale ranges from F0 (with estimated speeds less than 73 mph) to F5 (with estimated wind speeds greater than 261 mph). (Montana Multi-Hazard Mitigation Plan) The wind speeds are an estimate only. The Fujita scale is a damage scale. The worse the damage, the higher the F scale rating. In eastern Montana, with plenty of wide open spaces, if a really wide, fast spinning tornado hits an area with no buildings, it still has a rating of F0. (Fransen)

Grain bin tossed by strong winds



Photo courtesy of Tanja Fransen

High wind events (exceeding 50 knots) can and do occur at any time of the year. When combined with snow, they create blizzard conditions and are discussed in the section above on “Winter Storms.” Straight line winds are more likely to occur in eastern Montana than tornadoes, and the resulting damage can be worse than a tornado. (Fransen)

Historic Occurrences

The National Climate Data Center indicates a total of 37 thunderstorm-wind events, 69 hail events, and 10 high wind events in Prairie County between 1990 and 2004.

Prairie County was included in 3 disaster declarations by the USDA Secretary for hail events 1998 and 2004.

Records primarily from the mid-1990s to Spring 2005 from the NOAA weather office in Glasgow indicate that Prairie County had 11 hail events with golf-ball sized hail (larger than 1.75 inches) and one event with baseball-sized hail (larger than 3.75 inches). The NOAA hail event database goes back to 1950, but the majority of the information is since the mid 90's when the NWS got the new radars and added a lot more staffing to many of its offices. (Fransen)

The Tornado Project data base lists 2 tornadoes in Prairie County between 1880 and 2000. One was a Fujita Scale F2 tornado (1962) and one was an F1 tornado (1955). Montana has had three F3 tornadoes—one in Choteau County in central Montana, one in Wibaux County, about 70 miles east of Prairie County, and one in Roosevelt County, about 100 miles to the north of Prairie County. (Fransen)

Data from the NOAA offices provides narrative accounts of some of these events between 1996 and 2005, as follows:

July 1998

A severe thunderstorm produced golf ball sized hail and gusty winds. A roof was blown off of a steel building. Several small trees also blown down. Wheat crops in the area suffered devastating damage.

\$12,000 in Property Damage

\$30,000 in Crop Damage

October 31 1999

High winds sustained at 50 to 60 mph and gusts to nearly 80 miles mph caused damage.

July 2001

Thunderstorm produced 80 to 100 mph wind gusts. Several homes had damage to roofing. Many trees had large branches broken and a few were completely uprooted.

July 2001

Hail caused damage of 30 to 60% of wheat crop over several hundred acres.

\$45,000 in Crop Damage

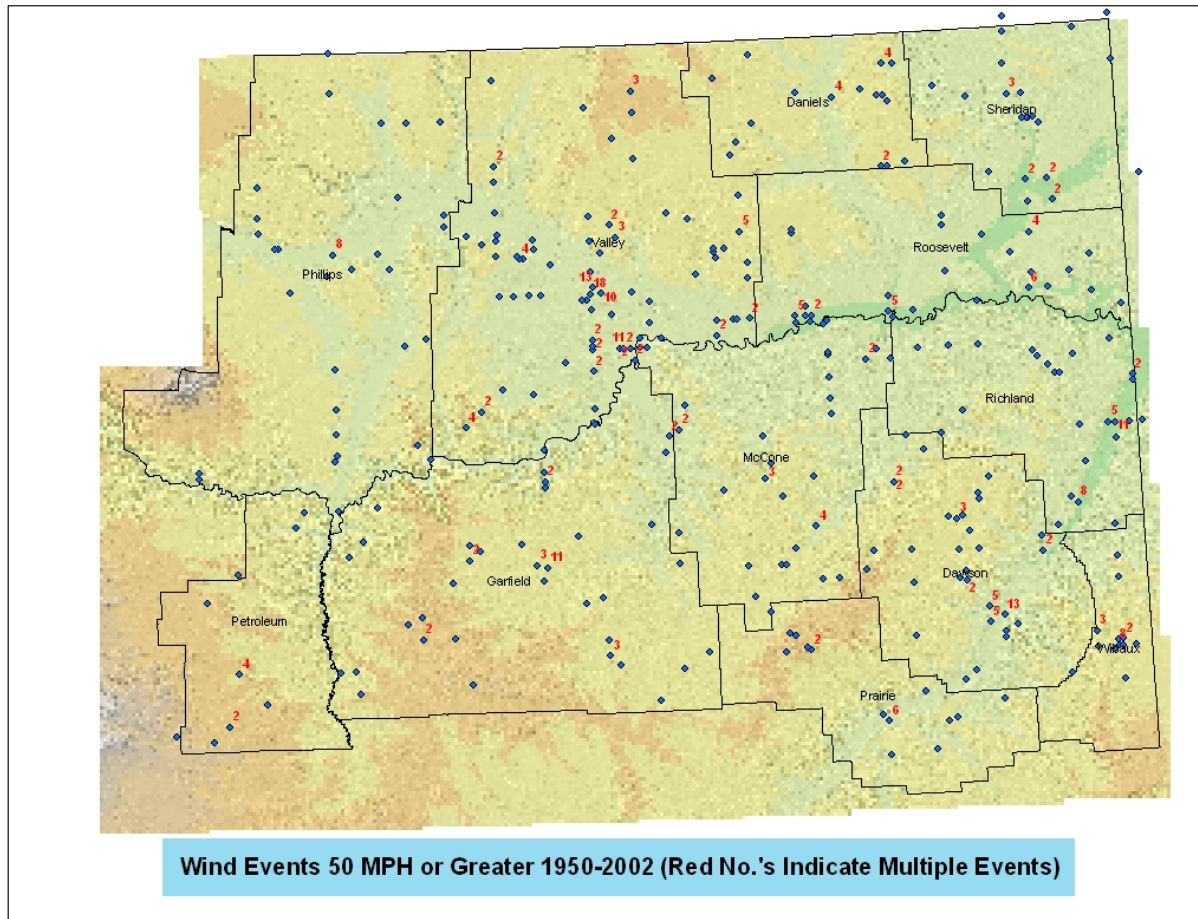
August 2002

80 mph wind reported 35 miles northwest of Terry.

June 2005

Severe weather and flash flooding event. The event hit Dawson, Priarie, and McCone Counties. Several storms moved through the area. The first storms dropped heavy rain and large hail, up to one inch in diameter. As the evening progressed, heavy rain continued and high winds developed. The highest measured gust was 95 mph on the Dawson and Prairie County line. Many structures and homes had damage from the wind in the Terry area. Property damage estimates for Prairie County were \$60,000.

Figure 3.3 Wind Events of 50 mph or Greater 1950-2002



Courtesy of NOAA Weather Station in Glasgow

Vulnerability and Potential Loss Estimate

Thunderstorms, windstorms and related weather events will continue to be a hazard for the county for existing and future development wherever it may be located in the county. Windstorms and hail were ranked by participants as having a moderate to high potential of occurrence and tornadoes with a low probability of occurrence.

Severe thunderstorms, high winds, tornadoes, and hail have the potential for:

- loss of life and injury
- property damage (complete destruction possible in the case of tornadoes, other damage to roofs, siding, windows, vehicles, equipment, from strong winds, tornadoes, and hail)
- power outages and related effects
- crop damage (particularly from hail)
- livestock fatalities and injuries

- damage to utility infrastructure (power lines, etc.)

SHELDUS data indicates property and crop damage from severe thunderstorms, hail, lightning and wind events for the period 1960 through 2000 as follows:

Table 3.4 Damage Summary of Thunderstorm/Wind Events from SHELDUS data

Type	# of Events	Property Damage	Crop Damage
Severe Thunderstorm (includes events with hail and wind)	10	\$297,000	\$472,000
Strong Winds	10	459,000	611,000
Lightning	1		23,809
Total		\$1,765,402	\$2,984,786

Source: SHELDUS data base

Tornadoes and damaging straight line winds have the potential to destroy or significantly damage a building. Tornadoes have occurred in Prairie County and have the potential to take out any of the structures listed as critical facilities at the end of this chapter.

Because of the potential to completely destroy major facilities, tornadoes have some of the highest potential cost implications to the economy of any single hazard event. Losses could be in dollar amounts of hundreds of millions.

Flooding

“A flood is a natural event for rivers and streams. Excess water from snowmelt, rainfall, or storm surge accumulates and overflows onto the banks and adjacent floodplains.” (FEMA, *Understanding Your Risks*).

Flooding can occur throughout the county. The Yellowstone River flows from west to east across the county. The Powder River flows from south to north where it flows into the Yellowstone about eight miles west of Terry. Numerous other creeks and drainages cross the county.

Historic Occurrences

Flooding in Prairie County has occurred from storm events, snow melt, ice jams, and flash floods. Prairie County was part of a state and federal FEMA disaster declaration for flooding in 1997. There has been no other state or federal declarations for flooding in Prairie County in the past 20 years.

Flooding Along Ash Creek



Photo Courtesy of Norman Parrent, State DES

Table 3.5 Selected Flood Events in Prairie County

Date/Type	Location	Type	Human Loss	Estimated Damage	Loss/Damage and Notes
June 1938	Custer Creek west of Terry	Flash Flood	47 dead 56 injured		A cloudburst in the Sheep Mountains 15-20 miles away caused a flash flood that took out a 180 foot long steel bridge
April 1943	Fallon	Ice Jam			An ice jam at the Fallon highway bridge forced up three spans of the bridge and shoved them downstream
Aug 1968	10 miles west of Terry along Camp Creek	Heavy Rain			12 hour rain softened a railroad bridge foundation, resulting in derailment of 50 cars, and a second bridge lost when diesel fuel was ignited
Mar 1969	20 miles west of Terry	Ice Jam			Yellowstone River rose 20-25 feet; ice took out telephone lines, and about 4000 feet of track were under water for a few hours
Mar 1972	Fallon	Ice Jam			Ice was 1-1.5 miles wide, water damaged an irrigation project pumping plant
Mar 1986	Cherry	Snow			Fast snow melt resulted in

	Creek and areas north of Terry	Melt			flooding along Cherry Creek
Date/Type	Location	Type	Human Loss	Estimated Damage	Loss/Damage and Notes
June 1997		Flash Flood		\$90,000	Severe runoff from a significant rain cost the county approximately \$90,000 in road repairs.
July 1997	Terry and Fallon	Flash Flood		\$50,000	Six inches of rain in less than 4 hours. Town of Terry was inundated. A section of I-90 had water running across it. Several county roads reported washed out.
July 2000	Terry	Heavy Rain, Flash Flood			Water running down the streets 3-4 inches deep
July 2001	East Portion of County	Heavy Rain, Flash Flood		\$10,000	Heavy rainfall of 2-4 inches caused water to run 2 feet deep across Highway 10 east of Terry. Some damage to road.
May 2005	Terry	Heavy Rain, Flash Flood			Water in downtown streets several inches deep, water flowed into the mortuary

Sources:

“Storm Data and Unusual Weather Phenomena” June 1996-March 2005, NOAA
Newspaper accounts
Prairie County PDM Plan Draft
Participants at May 2005 Steering Committee Meeting

Ice jams have taken out bridges in the past and produce flooding that leaves large blocks of ice and debris across agricultural crop land, resulting in reduced yields and damage to irrigation facilities.

Flash floods are events “occurring with little or no warning where water levels rise at an extremely fast rate.” (FEMA, *Understanding Your Risks*)
Flash floods have occurred throughout Prairie County as a result of heavy rain or snow melt.

Vulnerability and Potential Loss Estimates

Based on past history, there is continued probability that flooding will occur in the future in Prairie County. It was ranked by participants as having a moderate potential for occurrence.

There is less potential for some of the major bridge collapses along the Yellowstone River such as the storm-related bridge failure that resulted in a train crash and 47 deaths in 1938, and another storm-related event that resulted in derailment of 50 cars in 1968. Train and highway bridges across the Yellowstone River have been redesigned and rebuilt since that time and have withstood other flood events.

The town of Terry is situated on a rise as are the sewage treatment ponds for the town, making them both less vulnerable to flooding along the Yellowstone River. Events in the past decade indicate that Terry is more vulnerable to flash flooding from heavy rain than from inundation and overflow from rivers or nearby creeks. Inadequate storm drainage in the town of Terry exacerbates problems with flooded streets. Flooded streets have resulted in water coming into downtown structures (especially at the corner where the hardware store and mortuary are located), disrupting and interrupting normal business.

County-wide flood potential is primarily from ice jams and flash flood, but there could be some potential flooding from dam failure. The National Inventory of Dams lists 58 dams in Prairie County. One is classified as a high hazard, one is classified as significant, and the remaining dams are classified as low hazard. (National Inventory of Dams website)

Table 3.6 Hazard Categories for Dams in Prairie County

Hazard Category	Number of Dams in Prairie County
High	1
Significant	1
Low	56
Undetermined	0
Total	58

Source: National Inventory of Dams

Definitions:

High: Where failure or misoperation will probably cause loss of human life.

Significant: where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

Low: Where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

The single high hazard dam in Prairie County is located on the West Fork of Duck Creek. The Bureau of Land Management is listed as the owner/operator. As a high hazard dam is required to be inspected at least once every five years and to have an Emergency Operations Plan. There is no indication that this dam is likely to fail, but is listed as a high hazard dam because if it failed, there could be fatalities. The dam is upstream of the community of Brockway in McCone County. The dam was not

identified as an issue of concern by anyone in Prairie County at the steering committee meeting or any other meeting held in the county for the pre-disaster planning purposes.

One dam on Hay Creek in Prairie County is identified as a significant hazard. More costly damages associated with significant hazards can include roads and bridges. (Siroky)

In addition to the dams in Prairie County, there are dams upstream in the Yellowstone River watershed that could result in major flooding if the dams were to break. Of primary concern is the Yellowtail Dam on the Big Horn River which would inundate a swath more than a mile wide, including portions of the town of Terry, and all of the community of Fallon. It would take 30 hours and 48 minutes for the leading edge of the water to reach Terry, and 38 hours and 24 minutes for the crest to hit (Fransen). Yellowtail Dam is inspected regularly and is not considered high probability for failure.

Table 3.7 Summary of potential loss impacts from flooding in Prairie County

Type	Description	Notes
Agricultural	Total loss, reduced production	SHELDUS data indicates costs of \$877,000 for a single incident in Prairie County
	Damage to irrigation facilities	No specific information on cost but historic impacts on pumping facilities (1972)
	Damage to equipment and buildings and potential harm to livestock	
Residential	Potential loss or damage to homes	\$36,500 (median value of Prairie County housing unit in 2000)
Businesses	Damage to buildings, interruptions to business	
Railroad	Potential for interrupted service or track damage	Newspaper accounts indicate interrupted service
Interstate	Potential for inundation, weather-related accidents	
Roads, culverts and bridges	Washouts and road damage, roads closed and potential for difficulty with emergency service response	Costs of replacing county roads in flooded areas could be as high as \$90,000 per mile plus the additional cost of culverts and drainage facilities

Sources:
SHELDUS data
Newspaper accounts
U.S. Census Bureau

Table 3.7 summarizes some of the potential losses that might occur from flooding in Prairie County. Data from the Spatial Hazard Events and Losses Database for the United States (SHELDUS) identified 9 flood events between 1960 and 2000

with total property damage of \$129,000 in property damage and \$950,000 in crop damage.

Hazardous Materials/Transportation-Related Accidents

Hazardous materials are chemical substances, which if released or misused, can pose a threat to the environment or health. Hazardous materials come in the form of explosives, flammable and combustible substances, poison, and radioactive materials. These substances can be released because of transportation accidents, pipeline releases or accidents, mechanical or human error at various facilities. (Montana Multi-Hazard Mitigation Plan) A hazardous material incident could occur anywhere in Prairie County.

As many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals.” Nationwide, most discharges are from fixed facilities (52%) and discharges from mobile facilities (railroads, trucking, etc.) are about 18%. (Montana Multi-Hazard Mitigation Plan)

Based on information received at the planning meetings, issues of concern for Prairie County include hazardous spills of all types, transportation-related spills, pipeline leaks and ruptures, and meth labs.

Transportation

Transportation facilities in Prairie County include roads and highways, railroad, and pipelines.

The highest annual average daily traffic (AADT) counts in Prairie County, as collected by the Montana Department of Transportation, are on Interstate I-94. Average annual daily traffic counts for 2004 were 3,161 vehicles per day of which large trucks accounted for 27.5%. Second highest traffic counts in the county are one mile north of Terry on Highway 253, where average daily traffic counts are around 1,000 per day. (Cook)

The Burlington Northern Santa Fe (BNSF) Railroad runs parallel to the Yellowstone River. The BNSF carries coal, grain, and merchandise across the county. Approximately 24-26 trains go through Prairie County on a daily basis. (Duryea)

There are two major pipelines that cross the county—a natural gas pipeline (12 inch, 700 psi) that runs east to west through the county, and an oil pipeline (1100 barrels per hour through an 8 inch line) that parallels I-94. (Draft PDM Plan for Prairie County, 2003)

Meth Labs

Methamphetamine, sometimes called “crank” or “speed,” is a highly addictive stimulant that can be produced from small labs in apartments, hotel rooms, cars---just about anywhere. The number of meth labs in Montana has seen a substantial increase over the past few years. In 2002, tax dollars were used to assist in hazardous waste removal from 122 lab sites across the state. For every pound of meth produced, the process generates 5-8 pounds of highly toxic waste. (Montana Department of Justice)

Once discovered by law enforcement, the bulk of the wastes are removed. Small but potentially harmful amounts may remain on surfaces and in absorbent materials (carpets, furniture), sinks, drains and ventilation systems. (KCI-the anti-meth site)

Fixed Sources

Fixed sources include non-mobile machinery, refineries, manufacturing plants, and numerous other fixed facilities. The town of Terry has one fertilizer plant and three petroleum sites with the town limits. There is also a petroleum distributor and an anhydrous ammonia plant within several hundred feet of the city limits.

Historic Occurrences

The National Response Center is the national point of contact for reporting oil and chemical spills in the United States. Data for Prairie County from the National Response Center for the period 1990 to 2004 indicated a total of 6 reported incidents, of which 2 were fixed, and 4 were mobile. There were no reported leaks or spills from pipelines.

The Montana DEQ also keeps a data base of reported incidents. The data are organized somewhat differently than that of the National Response Center website. DEQ spill data for Prairie County for the period from January 1997 through April 15, 2005 indicated a total of 12 spill reports. Information was not readily available by type of incident (fixed, mobile, etc.), but did include type of spill. Of the 12 spills, 4 were “other” (3 that had hydrocarbon components, and one of which was animal body parts), 3 were diesel, 3 were “other oil”, one was crude oil, and one was fertilizer. (Coleman)

Railroad accident statistics are maintained by the Federal Railroad Administration. Between 1975 and 2004, there were four accidents. There were no injuries, but cars or locomotives were derailed in three of the four

incidents. There was no information on any hazardous materials associated with these accidents. (Federal Railroad Administration)

The Montana Department of Environmental Quality (DEQ) would be informed of any environmental hazard with a potential impact to the outdoor environment. They have received no contaminant reports for meth labs in the state that positively identify contaminants in the outdoors. Based on potential for effects, five septic systems in Montana have been tested thus far, but with no positive identification of any contaminants. (Coleman)

There have been several aircraft accidents in Prairie County. These include 4 non-fatal accidents, and four fatal accidents (with 6 deaths) between 1964 and 1994. (Prairie County PDM Plan Draft 2003)

Vulnerability and Potential Loss Estimate

Prairie County has potential for hazardous materials related accidents from both fixed and mobile sources. The county also has potential for train and auto accidents, and potential for a major interstate accident was cited as a concern by at least one participant in the planning process.

Hazardous materials incidents can result in:

- injury or loss of life
- damage to structures (e.g., explosions)
- business interruption (e.g., during evacuations)

Between 1982 and 1991, there was an annual average of 6,774 hazardous materials transportation incidents nationwide that resulted in 10 deaths and 436 injuries. The most common type of transportation hazardous material incident is from highway crashes, followed by railroad incidents. (Montana Multi-Hazard Mitigation Plan)

The Billings Gazette cited statistics from the Association of American Railroads that 99.99% of hazardous materials that travel by rail make it safely. (February 28, 2005) Still the small percent can result in serious consequences. For example, an April 1996 rail crash in Alberton, Montana, resulted in the second largest chlorine spill in the history of the nation. One death and the evacuation of 1,000 people resulted. In February 1998, 48 rail cars rolled backward and downgrade into Helena. The crash caused an explosion that forced the evacuation of 2,000 people and cost \$6 million. (Montana Multi-Hazard Mitigation Plan)

In Prairie County, the four train-related incidents between 1975 and 2004 resulted in costs for equipment and track damage ranging from approximately \$19,000 to \$371,000 for a single incident. (Federal Railroad

Administration) Any costs of hazardous materials clean-up, if any was needed, would have been additional.

Potential losses can vary from relatively small spills and leaks to major events. Clean-up and damages are typically borne by the responsible party, but in some cases, effects can be widespread and far-reaching with public cost implications.

A single incident can have serious effects. Economic costs could be in millions of dollars as illustrated above.

Insect Infestations/Disease

Insect infestations that can affect Prairie County can include mosquitoes, grasshoppers, and other insects that affect humans, livestock, and crops. The Steering Committee identified West Nile Virus as an issue in Prairie County.

The following was extracted from the Montana Department of Health and Human Services website in May of 2005:

West Nile virus is carried primarily by birds but can be transmitted by mosquitoes to humans, horses, and some other animals. The first documented case in the United States occurred in New York in 1999, and the disease has since spread westward into nearly every state. Only Alaska, Hawaii, and Washington have so far been virus-free, according to the U.S. Centers for Disease Control and Prevention (CDC).

Montana's first confirmed case of West Nile virus involved a horse in Shepherd in late August 2002. That season, a total of two people and 134 horses were diagnosed with the disease. There were no human fatalities, but 38 horses either died or were euthanized, according to the Montana Department of Livestock.

In many states, the number of human West Nile cases has gradually declined over time as people and animals develop immunity from infection. Whether Montana has seen the worst of West Nile virus is difficult to predict, state health officials say. They will continue to monitor cases closely during the next few seasons and will continue to advise people on what precautions they can take to avoid the disease.

Insect infestations and outbreaks of West Nile Virus could occur anywhere in the county.

Historic Occurrences

In Prairie County, there was one equine case of West Nile Virus in 2002, 10 positive human cases in 2003, and no reported human or equine cases reported in 2004. (Montana Department of Health and Human Services)

Vulnerability and Potential Loss Estimate

Prairie County remains vulnerable to West Nile Virus. Potential losses can include:

- **human sickness and death**
- **sickness and death in horses**

Volcanic Eruptions

The state of Montana is within a region with potential for volcanic activity. The two volcanic centers affecting Montana in recent geologic time are: 1) the Cascade Range of Washington, Oregon and California; and 2) the Yellowstone Caldera in Wyoming and eastern Idaho.

Volcanic eruptions are generally not a major concern in Montana due to the relatively low probability (compared with other hazards) of events in any given year. Volcanic eruptions in the Cascade Mountains are more likely to impact Montana than Yellowstone eruptions, based on the historic trends of past eruptions. (Montana Multi-Hazard Mitigation Plan)

The primary effect of the Cascade volcanic eruptions on Montana would be ashfall. According to the Montana Multi-Hazard Mitigation Plan, ashfall can create significant damage including:

- Short-circuiting and causing failure of electronic components, especially high-voltage circuits and transformers
- Interrupting or preventing radio and telephone and radio communication
- Damage to air filters and affecting internal combustion engines
- Making roads, highways, and airport runways slippery and treacherous
- Reducing visibility to near 0
- Causing crop damage depending on the thickness of ash, type and maturity of plants, and timing of subsequent rainfall.
- Posing health risks, especially to children, the elderly, and people with cardiac or respiratory conditions

Historic Occurrences

After the eruption of Mount St. Helens in May 1980, a coating of up to 5.0 mm (0.2 inches) of ash fell on Western Montana. Ash deposits were thickest in the western portions of the state, tapering to near zero on the eastern part of the state. (Montana Multi-Hazard Mitigation Plan)

Vulnerability and Potential Loss Estimate

The Montana Multi-Hazard Mitigation Plan assesses vulnerability as follows:

Due to the numerous variables involved, it is difficult to assess the vulnerability of the State of Montana to a volcanic eruption. The primary hazard to which the State may be vulnerable at some future time, is ashfall from a Cascade volcano. The effect would depend on the

interaction of such variables as source location, frequency, magnitude and duration of eruptions, the nature of the ejected material and the weather conditions. Therefore, the entire state may be considered vulnerable to ashfall to some degree in the event of a volcanic eruption.

Although the probability is minimal, there is the potential for a catastrophic eruption in the vicinity of Yellowstone National Park that would have very serious consequences for Montana and neighboring states. Again, assessing the vulnerability of the State to such an event is impossible due to the numerous variables and uncertainties that must be considered.

Costs of a major ashfall event could be in the millions. It is estimated that the ashfall cost Missoula County nearly \$6 million in cleanup and lost work time. The statewide cost has been estimated at between \$15 and \$20 million. (Montana Multi-Hazard Mitigation Plan)

Assets and Vulnerable Populations that Could Be Affected

This section provides more information on physical, social, and economic assets in Prairie County that might be affected by a hazard. The identified hazard area for each hazard is essentially the entire county—any hazard might strike just about anywhere in the county. Some hazards, such as snowstorms, can extend throughout the county, whereas others, such as tornadoes, are more localized. There are no maps that identify specific hazard areas of concern to county residents (e.g., there are no FEMA Flood Insurance Rate Maps).

Any hazard might affect any of the approximate 1,200 individuals living in Prairie County. Any hazard might also affect any of the 718 housing units in Prairie County, (of which approximately 387 are in Terry), the estimated 28 private non-farm business establishments, or 162 farms/ranches in Prairie County. Participants in the planning process did not identify any plans for new major future buildings, infrastructure, or critical facilities.

In addition, a disaster could affect critical facilities, facilities essential to health and welfare and especially important following hazard events. Critical facilities include medical facilities, transportation systems, utility systems (such as potable water and wastewater distribution systems), and high potential loss facilities.

Social assets include vulnerable populations, people who may be at special risk for a hazard. Identifying these populations assists in providing emergency assistance if and when it may be needed during a disaster.

Critical Facilities

Table 3.8 identifies critical facilities in Prairie County and their estimated replacement value in the event of a complete loss. Table 3.8 is intended to provide an initial yardstick measurement of loss because actual damages could range from relatively minor damage to complete destruction, and interruption of service or business. Costs of providing services in temporary locations and loss of business revenue would be additional to the replacement costs.

Table 3.8 Critical Facilities in Prairie County

Description	Insured/Replacement Value	Notes
Health/Senior/Child Facilities		
Prairie Community Hospital	\$3.9 million	Includes nursing home
Prairie County Clinic	\$220,000	
Child Care Facilities		
Big Fun for Little Ones	\$25,000	
Senior Citizen Center	\$96,000	
D&D Home Plus	\$117,600	Adult foster care for two occupants
Schools		
Bolin Elementary	\$850,000	
Grandey Middle School	\$1.5 million	
High School/Gym	\$3.3 million	
Shop/Garage	\$218,000	
Prairie County Operations		
Court House	\$516,000	Includes law enforcement, emergency operations center
Description	Insured/Replacement Value	Notes
Fire Hall	\$120,000	Recently purchased—is in process of being renovated
County Shop/Garage	\$169,000	
Town of Terry Operations		
Town Hall	\$99,000	
Sewage Lagoons and Collection System	\$3.8 million	
Town Shop	\$60,000	
Transportation Infrastructure		
Terry Streets	\$60,000 per city block	
County Roads	\$90,000/mile	For graveled roads
County Bridges	\$180,000/each	Average cost of a county bridge
Highway	\$500,000-1million/mile	
Highway Bridges	\$5-10 million/mile	
Interstate	\$1 million/mile	
I-94 Overpasses/Bridges	\$2-4 million/each	
Power and Communications		
Transmission line	\$25,000-\$28,000 per mile	For a three phase power line
Telecommunications Property	\$1.9 million	
Rural electric and telephone	\$3.2 million	

Description	Insured/Replacement Value	Notes
Basic Supplies		
Fuel Suppliers		
Farmers Union Oil	\$500,000	Bulk plant and station and pumps
MTD Petroleum	\$250,000	
Interstate Cenex	\$250,000	Estimate only; no information was received from the Interstate Cenex
Hardware Store	\$650,000	Estimate only; no information was received from the hardware store
Grocery Store	\$650,000	
Bank	\$259,440	
Historic and Cultural		
Museum	\$390,000	

Sources: Various facilities, local governments, assessed property values, etc.

Notes:

- Replacement values include contents wherever that information was available
- For values less than a million dollars, numbers rounded to thousands

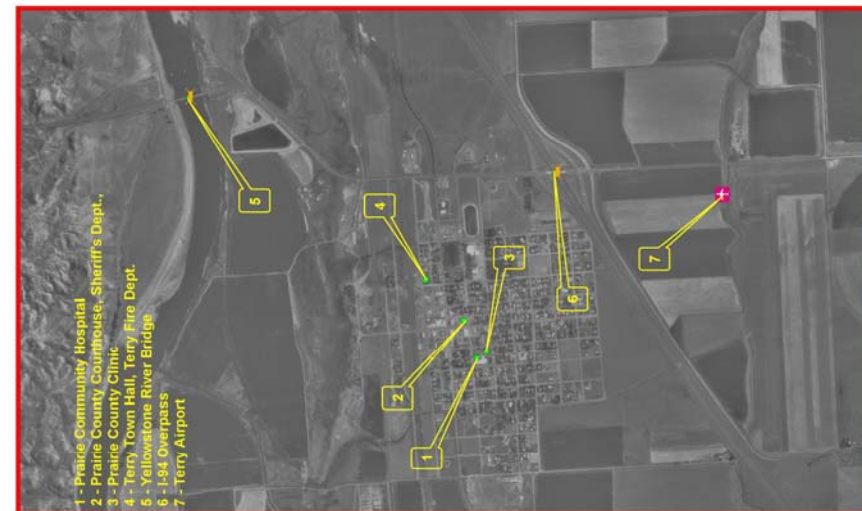
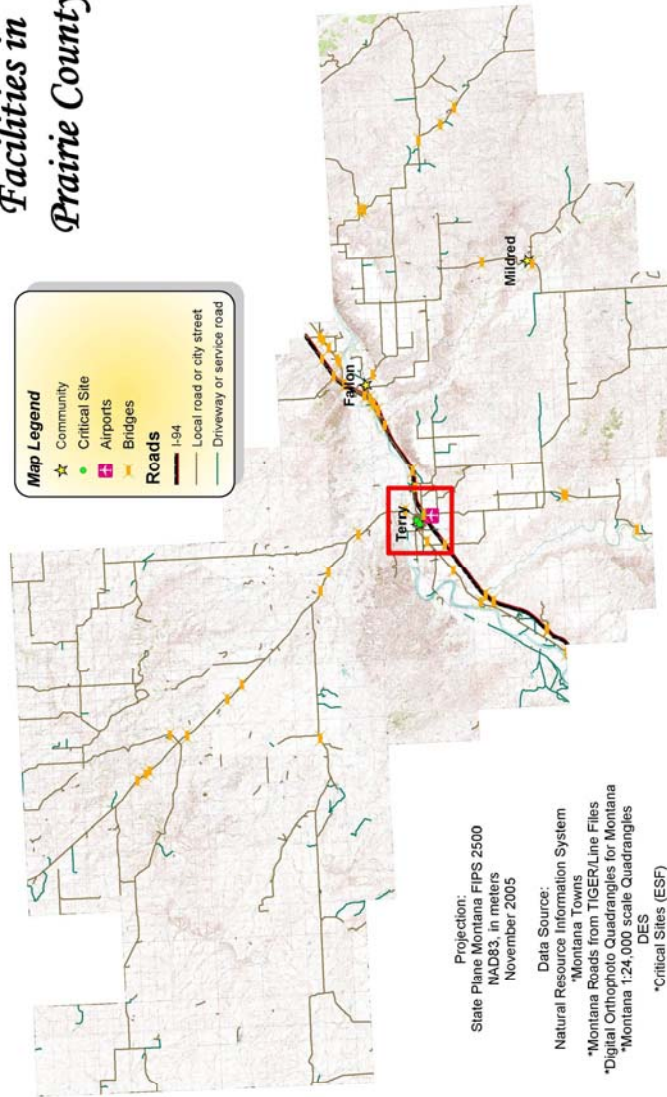


Figure 3.4
*Select Critical
 Facilities in
 Prairie County*



Projection:
 State Plane Montana FIPS 2500
 NAD83, in meters
 November 2005

Data Source:
 Natural Resource Information System
 *Montana Towns
 *Montana Roads from TIGER/Line Files
 *Digital Orthophoto Quadrangles for Montana
 *Montana 1:24,000 scale Quadrangles

DES
 *Critical Sites (ESF)
 *Airports
 *Bridges

This map was created for fire and disaster planning only. Neither the county or the contractor will be responsible for any data inaccuracies associated herein.

Business-Related Loss Potential

None of the major employment facilities are located within an area with history of flooding or in a designated mapped 100-year floodplain. The hazards with most potential to cause significant damage are tornadoes, high wind events, or hazardous material-related explosions.

Prairie County Commissioners and others are concerned about the effect on the local economy if disasters affect local businesses. For example, if a business were to burn down or otherwise be destroyed by a natural disaster, past history indicates it is unlikely to be able to re-establish unless it can do so within a short turn-around time. Businesses that are out of operation for a month or more don't usually succeed when they re-open. Prairie County can't afford to lose any more businesses. (Prairie County Commissioners)

Power and Communication Loss Potential

Hazards most likely to cause serious damage to power and communications facilities are those that will affect overhead transmission. The key hazards are high winds and ice. Flooding can affect a pole or poles in a few places, but high winds and ice can take out hundreds of poles at a time.

Vulnerable Populations

The following were identified by the steering committee as populations that may require special care or assistance during or after a disaster:

- Elderly—nursing home, senior center
- Children/Schools
- Handicapped/disabled
- Livestock
- Travelers on the Interstate

People at Risk Medically

Currently, there is no roster in the county of non-institutionalized (e.g., hospitalized or in a nursing home or assisted living facility) persons with medical issues. The 2000 census reported that there were 120 non-institutionalized persons in Prairie County with a disability.

Terry Public School Building



Photo by Anne Cossitt

Schools

According to the 2000 census, there were 96 school children (3 years of age in pre-school through high school) in Prairie County. The schools are all located in Terry.

Day Care Facilities

There is one day care facility: Big Fun For Little Ones Day Care in Terry.

Senior Care Facilities

The only elder nursing home in Prairie County is the Prairie Community Nursing Home, which is located at the Medical Assistance Facility in Terry.

Travelers on the Interstate

Average daily traffic on I-94 is 3,161 vehicles per day. (Montana Department of Transportation)

Livestock

In 2004, livestock inventories in Prairie County included 35,000 cattle and calves, and 3,800 sheep and lambs. (Montana Agricultural Statistics 2004)

Sources:

- Aber, Jesse. Montana Department of Natural Resources and Conservation. Staff for the Montana Drought Advisory Committee. Personal communication, April 2005.
- Beck Consulting. December 2004. *Custer County Pre-Disaster Mitigation Plan*.
- Billings Gazette. February 28, 2005.
- Coleman, Ed. Complaint Management Section Chief, Enforcement Division. Montana Department of Environmental Quality. Statistics on spills January 1, 1997-April 15, 2005.
- Cook, Calvin. Montana Department of Transportation. Personal communication and traffic statistics. April 2005.
- Duryea, Kelly. General Director of Transportation for the Montana Division. Burlington Northern Santa Fe Railroad. Personal communication with Anne Cossitt, May 2005.
- Federal Railroad Administration website.
<http://safetydata.fra.dot.gov/OfficeofSafety/>. April 2005.
- FEMA 386-2. August 2001. *State and Local Mitigation Planning How-To Guide—Understanding Your Risks: Identifying Hazards and Estimating Losses*.
- Heddin, Bonnie. FEMA, Natural Hazards Program Specialist. Phone and email communication with Anne Cossitt. April 2005.
- KCI, the anti-meth site. http://www.kci.org/meth_info/meth_cleanup.htm
[April 2005.](#)
- Kirkpatrick, Dawnya. D&D Home Plus. Personal communication with Anne Cossitt. July 2005.
- Krebsbach, Tim. Farm Service Agency, Prairie County. Personal Communication with Anne Cossitt. April 2005.
- Lindvig, Vicky. Big Fun for Little Ones Daycare. Personal communication with Anne Cossitt. July 2005.
- Merrill, Steve. Montana Dakota Utilities. Glendive. Personal communication with Anne Cossitt. April 2005.
- Montana Agricultural Statistics Service. October 2004. *Montana Agricultural Statistics*.
- Montana Department of Justice website.
<http://www.doj.state.mt.us/safety/methinmontana.asp> April 2005.
- Montana Department of Livestock. 2001. *Drought Relief Activities of the Montana Department of Livestock*.
<http://nris.state.mt.us/drought/committee/reports/DACLivestock2001summ.html>
- Montana Drought Advisory Committee. 2004. *The Governor's Report—Drought in Montana, May 2004*.
<http://nris.state.mt.us/drought/committee/gov04rpt.pdf>

Montana Department of Health and Human Services.
<http://www.dphhs.state.mt.us/newsevents/westnilevirus/index.shtml>.
 May 2005

Montana Department of Military Affairs, Disaster and Emergency Services.
 October 2004.

Montana Department of Revenue. Biennial Report - Property Tax
 information.
<http://www.discoveringmontana.com/revenue/formsandresources/biennialreports/biennialreports.asp>

Montana Department of Transportation. "Montana's Automatic Traffic
 Recorders-2004."
http://www.mdt.state.mt.us/tranplan/docs/atrbook_2004.pdf. May
 2005.

National Inventory of Dams.
<http://crunch.tec.army.mil/nid/webpages/nid.cfm>. April-May 2005.

National Response Center website. <http://www.nrc.uscg.mil/nrchp.html>.
 May 2005.

Pehl, Glen. Farmers' Union Oil. Personal communication with Anne
 Cossitt. July 2005.

Pisk, John. Prairie County DES Coordinator. Personal communication
 with Anne Cossitt Jan-May 2005.

Pisk, Ron. Stockman Bank. Personal communication with Anne Cossitt.
 July 2005.

Prairie County. Pre-Disaster Mitigation Plan Draft. 2003.

Prairie County Commissioners. Kick-Off Meeting. January, 2005.

Reyman, Reed. Prairie Community Hospital and Prairie County Clinic.
 Personal communication with Anne Cossitt. July 2005.

Sackman, Sharla. County Extension Agent. Personal communication with
 Anne Cossitt. April 2005.

Self, Sharon. Terry Supervalu. Personal communication with Anne
 Cossitt. July 2005.

SHELDUS. Spatial Hazard Events and Losses Database for the United
 States. <http://www.cas.sc.edu>

Siroky, Laurence. Chief of Water Operations, MT DNRC. Personal
 Communication with Anne Cossitt, April 2005.

Tornado Project. www.tornadoproject.com April 2005.

Trask, Mark. County Roads. Personal communication with Anne Cossitt.
 July 2005.

Underberg, Mark. MTD Petroleum. Personal communication with Anne
 Cossitt. July 2005.

U.S. Census Bureau. <http://factfinder.census.gov/home/> April-May 2005.

USDA website. www.nass.usda.gov

US Geological Survey websites.
http://landslides.usgs.gov/html_files/landslides/nationalmap/legend.html

CHAPTER 4: MITIGATION STRATEGY

This chapter identifies the “blueprint” for reducing losses associated with the hazards described in Chapter 3. The mitigation strategy for wildfire is addressed in Chapter 5.

This chapter includes:

- a short description of the methodology used to develop the mitigation strategy, which is also discussed to some extent in Chapter 2;
- the Goals and Mitigation Actions
- Project Ranking and Prioritization and
- Implementation and administration of the plan

Methodology

The initial goal statements and a preliminary list of projects were formulated at the steering committee meeting/public meeting held in Terry on April 26, 2005.

After an overview of the hazard risk assessment, the facilitator asked meeting participants to consider goals to address the hazards. Participants discussed a variety of mitigation actions, and some were eliminated because they had no support and others were added. Participants discussed feasibility, technical difficulties, and other considerations as they worked through the goals, objectives, and projects.

Goals and projects were drafted as presented in this chapter during the meeting held in Terry on May 24, 2005. Projects were prioritized during the May 24 meeting.

Goals and Mitigation Actions

The following goals were developed in response to the hazards of most concern to residents of the county.

Participants felt that the best way to reduce the effects of a number of hazards was to provide preparedness information to residents. Summer storms, hail, wind events, ice storms, tornadoes, and other disasters not specifically referred to in the following goals and objectives all basically

fell into this category. Projects for these types of hazards fall under Goal Four, “Expand capabilities to prepare for and respond to natural disasters.”

The following projects would be for both new and existing buildings and infrastructure where applicable. For example, assessing road capacity to handle flood events would apply to existing public roads as well as any new public roads that may be developed in the future.

The incorporated jurisdiction of Terry has essentially the same risk as elsewhere in the county for most hazards and it is understood that the following goals and actions will generally apply to the town of Terry as well as county-wide. Through the planning process, participants identified particular concerns for Terry that included problems with accommodating travelers stranded by winter storms, and storm drainage issues.

Participants also identified the need to develop an Emergency Operations Center (EOC) and disaster shelter in Terry. Those concerns are addressed below with actions and projects specific to the town of Terry.

Goal One: Minimize the impacts of drought.

Objective 1: Coordinate with others on preparing for impacts of drought.

- 1.1.1 Have county actively participate in the Governor’s Drought Advisory Committee (e.g., county commissioner involvement).**
- 1.1.2 Coordinate with major water suppliers, water managers, and users in the county (e.g., conservation districts, irrigation districts, communities (e.g., Terry) and others) to share information and plans for drought.**

Objective 2: Improve water conservation.

- 1.2.1 Encourage and support the Farm Services Agency, Buffalo Rapids Irrigation Project, and others to continue to increase efficiency of water distribution (and water conservation).**
- 1.2.2 Provide education on water conservation measures for residents of the county and the town of Terry.**

Goal Two: Reduce the effects of winter storms.

Objective 1: Reduce the effects of weather-related accidents and interstate road closures.

- 2.1.1 Work with the Montana Department of Transportation and law enforcement to develop policies for closing the interstate at locations that divert storm-bound travelers to Glendive or Miles City, rather than Terry. (Since Terry is not equipped to accommodate large numbers of stranded travelers.)**

- 2.1.2 Work to enforce road closures and notices sooner so that there are fewer weather related accidents and travelers stranded on the roadways.**

Goal Three: Reduce the impacts of flooding.

Objective 1: Enter into the National Flood Insurance Program.

- 3.1.1 Initiate steps to enter into the National Flood Insurance Program, including the development of Flood Insurance Rate maps.**
3.1.2 Coordinate with the Conservation District and others already working on Yellowstone River issues.

Objective 2: Ensure that storm drainage does not inundate streets in Terry.

- 3.2.1 Develop projects to improve storm drainage in the town of Terry.**

Clouds forming above Prairie County



Photo courtesy of Tanja Fransen

Goal Four: Improve capabilities to prepare for and respond to disasters.

Objective 1: Expand public preparedness for disasters.

- 4.1.1 Work with critical facilities and public building occupants to ensure each has working NOAA weather radios.**
- 4.1.2 Provide and distribute public education on various disasters, how to prepare and respond. (include explanation of purpose of warning systems, including weather radios and sirens and identify the various siren tones for various disasters.**

Objective 2: Improve ability of emergency responders and county officials to respond to disasters.

- 4.2.1 Develop EOC/Disaster Shelter at the new fire facility in Terry with its own water supply and back-up power.**
- 4.2.2 Improve the ability to respond to disasters of all types by sharing issues with other counties in Montana.**
- 4.2.3 Encourage County Commissioners to add disaster mitigation/preparedness issues to the agendas at Montana Association of Counties (MACO) meetings to identify what other counties are doing and opportunities for inter-governmental agreements, etc.**
- 4.2.4 Conduct training exercises.**
- 4.2.5 Develop and practice evacuation plans. (Note that the Red Cross has evacuation facilities in Miles City and Glendive if Terry had to be evacuated.)**
- 4.2.6 Conduct table-top and field test exercises for various disaster scenarios.**
- 4.2.7 Consider the continuity of important records and assess need to address problems associated with interruption of access to records.**
- 4.2.8 Inventory various equipment needed for emergencies—e.g., back-up generators, etc.**
- 4.2.9 Assess emergency telecommunications capabilities—cell phones, and 2-way radio coverage.**
- 4.2.10 Enhance/develop warning response systems.**
- 4.2.11 Upgrade the siren system. Test on a regular basis. Implement local warning plan for an updated siren system.**

Goal Five: Reduce potential for spread of vector-borne and other serious diseases.

- 5.1 Examine the need to expand the 1 mile mosquito control area for West Nile Virus. Consider need for a mosquito control area around Fallon.**

Electrical Transmission Facility near Fallon



Photo by Anne Cossitt

Goal Six: Reduce power outages and effects of outages.

- 6.1 Work with electric cooperatives to install mechanisms to reduce line damage caused by undulating lines during wind/ice storms.**
- 6.2 Identify and inventory back-up power sources (stationary and mobile) for key facilities.**
- 6.3 Identify mechanisms, such as notification and public education, to reduce health-related effects of power outages for especially vulnerable populations—the elderly, persons on oxygen or other medical equipment requiring a power source, and others.**

Goal Seven: Reduce the economic impacts of businesses closed as result of disasters.

- 7.1 Consider options for ensuring continued business operations for those businesses that are critical and vital to county residents, such as food supply, fuel supply, and banking.**
- 7.2 Consider options for using public facilities to temporarily house critical and vital business operations.**

Project Ranking and Prioritization

Ranking projects helps to set the local priorities for accomplishing the plan. Resources to accomplish objectives can be limited in any planning process. Prioritizing helps to identify which projects to start on, given that there are typically far more projects than can be addressed at any one time.

The mitigation projects were prioritized by the participants at the final planning meeting held on May 24, 2005 in Terry. Projects were ranked by

high, medium, or low, by consensus of the meeting participants based upon subjective assessment against the following criteria:

- Number of lives at risk
- Value of property at risk
- Infrastructure at risk
- Risk of business interruption/loss
- Cost/benefit of the project.

Table 4.1 displays the mitigation actions and the priorities assigned to each, as well as potential resources for implementing the action.

Table 4. 1. Mitigation Project Prioritization

Project Number	Project description	Rank	Potential Resources
GOAL ONE	Minimize the impacts of drought.		
1.1.1	County participate in Governor's Drought Advisory Committee	H	County Commissioners
1.1.2	Coordinate with major water suppliers, managers, and users to share information and plans for drought	M	County, town, Buffalo Rapids Irrigation Project, Conservation District, Yellowstone River Conservation District Council, Extension, FSA, DES
1.2.1	Encourage and support efforts to increase efficiency of water distribution and water conservation (emphasis on agricultural use)	M	County, Buffalo Rapids Irrigation Project, Conservation District, Yellowstone River Conservation District Council, Extension, FSA, DES, USDA, MT Department of Agriculture
1.2.2	Provide education on water conservation measures to residents of the county and town of Terry	H	County, Town, County DES, Extension, Buffalo Rapids Irrigation Project, Conservation District, FSA, DNRC
GOAL TWO	Reduce the effects of winter storms.		
2.1.1	Develop policies for closing the Interstate at locations that divert storm-bound travelers to Glendive or Miles City	H	County, DES, Montana Department of Transportation, County Sheriff, Highway Patrol
2.1.2	Enforce road closures sooner so there are few weather-related accidents and stranded travelers	H	County, DES, Montana Department of Transportation, County Sheriff, Highway Patrol
GOAL THREE	Reduce the effects of flooding.		
3.1.1	Initiate steps to enter in the National Flood Insurance Program.	H	County, DES, FEMA

Project Number	Project description	Rank	Potential Resources
3.1.2	Coordinate with others already working on Yellowstone River Issues.	M	County, DES, FEMA, Buffalo Rapids Irrigation Project, Conservation District, Yellowstone River Conservation District Council, Extension, Corps of Engineers, Bureau of Reclamation, DES, DNRC
3.2.1	Develop projects to improve storm drainage in the town of Terry.	H	Town, DES, FEMA
GOAL FOUR	Improve capabilities to prepare for and respond to disasters.		
4.1.1	Work with critical facilities and public building occupants to ensure each has working NOAA weather radios.	M	County, towns, County Public Health, DES, FEMA, NOAA
4.1.2	Provide public education on various disasters, how to prepare and respond.	H	County, towns, County Public Health, DES, FEMA
4.2.1	Develop and EOC/Disaster Shelter at the new fire facility in Terry with its own water supply and back-up power.	H	County, towns, County Public Health, DES, FEMA, American Red Cross
4.2.2	Improve ability to respond to disasters of all types by sharing issues with other counties in Montana.	M	County, DES, FEMA
4.2.3	Encourage County Commissioners to add disaster mitigation/preparedness to MACO meetings.	M	County Commissioners
4.2.4	Conduct training exercises.	M	County, DES, FEMA, American Red Cross
4.2.5	Develop and practice evacuation plans.	M	County, DES, FEMA, American Red Cross
4.2.6	Conduct table-top and field test exercises for various disaster scenarios.	M	County, DES, FEMA, American Red Cross
4.2.7	Consider continuity of important records and assess need to address problems associated with interruption of access to records.	M	County, Town, DES, FEMA, local businesses (e.g., banks)

4.2.8	Inventory various equipment needed for emergencies.	M	County, DES, FEMA
4.2.9	Assess emergency telecommunications capabilities.	M	County, DES, FEMA
<i>Project Number</i>	<i>Project description</i>	<i>Rank</i>	<i>Potential Resources</i>
4.2.10	Enhance/develop warning response systems.	H	County, DES, FEMA
4.2.11	Upgrade the siren system, test, and implement local warning plan.	H	County, DES, FEMA
GOAL FIVE	Reduce the potential for spread of vector-borne and other serious diseases.		
5.1	Examine need to expand the existing mosquito control area and consider need for a similar area around Fallon.	H	Town, County, Fallon area residents, County Public Health, DES, FEMA
GOAL SIX	Reduce power outages and effects of outages.		
6.1	Work with electric cooperatives to install mechanisms to reduce line damage caused by undulating lines during wind/ice storms.	M	Town, County, DES, FEMA, energy companies
6.2.	Identify and inventory back-up power sources for key facilities.	M	Town, County, DES, FEMA
6.3	Identify mechanisms to reduce health-related effects of power outages for especially vulnerable populations.	M	Town, County, DES, FEMA, County Public Health, energy companies
GOAL SEVEN	Reduce the economic impacts of businesses closed as result of disasters.		
7.1	Consider options for ensuring continued business operations for critical businesses.	M	Town, County, DES, FEMA, Chamber of Commerce, Montana Department of Commerce
7.2	Consider options for using public facilities to temporarily house critical and vital business operations.	M	Town, County, DES, FEMA

Project Implementation

The projects listed above are the means by which Prairie County and the town of Terry intend to realize the goals to become more disaster resistant. Accomplishing the projects will be dependent on funding, staff, and technical resources from a variety of sources including the town, the county, the state and federal government, not-for-profits, and the business community.

Some of the projects can be undertaken by the county within existing resources. Such projects include efforts on the part of the County Commissioners to participate in the Governor's Drought Advisory Committee and to include disaster preparedness on MACO agendas. Another project, accomplishable within existing resources, would be to provide education about how to use and where to obtain weather radios, and providing public education on preparing for various types of disasters. These projects could be accomplished by the County DES Coordinator by using educational materials already available from FEMA, NOAA, or other government and agency websites (e.g., Federal Alliance for Safe Homes, Institute for Business and Home Safety, etc.). Some of the websites have ready-to-send news releases on various types of disasters.

Some of the projects will require additional funding or other resources over and above what exists for the town of Terry or Prairie County. The project to address storm drainage infrastructure in Terry is one example of a project that will require additional outside funding. Any of the project involving coordination, such as the coordination of information and plans to address drought, will require someone to lead the coordination effort. Sustaining such coordination leadership can be difficult when residents or county/town staff may already be volunteering for a number of other efforts.

Many of the projects will require a public-private partnership to accomplish or will be enhanced by such a partnership. The project to coordinate information-sharing on drought will clearly involve a varied group of water suppliers, water users, and water managers. Working to reduce power outages will also involve private sector (energy providers and energy users) as well as government resources. The county and town could work with insurance companies and power providers to provide information on preparing for various weather events (hail, lightning, winter storms) and power outages. Examples include notices and information that could be included with billing statements.

Some projects may require expertise not available in the county. Identifying and implementing options to reduce the economic impacts of businesses closed as result of disasters could likely be such a project. The county will need to clarify who will help move a project forward locally, but projects such as these will benefit from involvement from other outside resources, such as may be available from the Montana Department of Commerce and other sources.

Projects will be accomplished as resources, either at the local, state or federal levels, become available. Implementation of the plan will be the responsibility of the LEPC and the Prairie County Disaster and Emergency

Services Coordinator acting on the behalf of Terry and Prairie County. Plan implementation also depends on the willingness of private individuals and corporations, and not-for-profit organizations such as the American Red Cross to participate in specific mitigation actions and projects.

In selecting projects to compete for funding, whether it is existing internal funding or funding from state and federal sources, emphasis should be placed on the relative benefits compared to the cost of the project. Criteria such as number of people educated or protected and the dollar value of assets mitigated from potential hazards should be considered and weighed. Where possible a basic cost benefit and/or value analyses should be completed during the planning of the project.

Prairie County and the incorporated community of Terry understand that while completion of the plan will make them eligible to compete for additional funds, it is in the best interests of the local jurisdictions and residents to proceed with those projects that can be done within existing resources while exploring avenues to obtain assistance for those projects beyond local capabilities.

CHAPTER 5: COMMUNITY WILDFIRE PROTECTION



Prairie County, Montana

Community Wildfire Protection Plan
Approval Signatures

Prairie County Rural Fire Dept. Chief and County Fire Warden

Date: 10/31/05

Bill Klunder
Bill Klunder

Cabin Creek Fire District 572

Date: 10/31/05

Brian Morast
Brian Morast

Fallon Fire District

Date: 10-31-05

Barry Rakes
Barry Rakes

Prairie County Disaster and Emergency Services Coordinator

Date: 10-31-2005

John Pisk
John Pisk

Dept. of Natural Resources and Conservation, Eastern Area Land Office,
Area Manager

Date: 12-6-05

Rick Strohmeier
Rick Strohmeier

CHAPTER 5: COMMUNITY WILDFIRE PROTECTION

Executive Summary

This Community Wildfire Protection Plan (CWPP) was prepared as a part of Prairie County's Pre-Disaster Mitigation (PDM) plan for the purpose of making the county more disaster resistant and better prepared to deal with wildfire when it strikes. The plan was written so that fire departments and other local government departments can use it as a stand-alone document, even though it is a chapter in the overall pre-disaster mitigation plan. The CWPP is written to meet the intent of the National Fire Plan objective to have communities or as in this case Prairie County, assess the current situation and then develop and prioritize mitigation actions to address the values at risk. The plan takes the proactive approach of assessing risks and vulnerabilities, then identifying locally supported actions that can be implemented to prevent or eliminate the potential for loss and damage from a natural disaster. This plan meets the requirements for pre-disaster project funding and post-disaster assistance from the Federal Emergency Management Agency.

This CWPP is consistent with the national fire policy expressed in the National Fire Plan (NFP). The NFP was developed in August of 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 has five key areas: 1) firefighting, 2) rehabilitation, 3) hazardous fuels reduction, 4) community assistance and 5) accountability. Federal agencies like the Bureau of Land Management are directed to assist communities that have been or are at risk from wildfire. The assistance for Prairie County has come from the Rural Fire Assistance program in the form of funding for planning, training, equipment and education.

The county has four Fire Departments, Prairie County Rural F.D., Terry Volunteer F.D., Cabin Creek Fire District and Fallon Fire District. The BLM and DNRC also have suppression capabilities in equipment and personnel. Collaboration between the local fire departments, DES Coordinator, local governments, Bureau of Land Management (BLM), Farm Services Agency (FSA) and Montana Department of Natural Resources and Conservation (DNRC) throughout this effort was key in producing this plan.

Fuel types in Prairie County vary from large stands of grasses, crops such as a hay fields, wheat, barley, and oats. There is sagebrush to scattered juniper to heavier concentrations of juniper/ponderosa pine in the western part of the county. Cottonwood bottomlands adjacent to the Yellowstone and Powder Rivers and Cabin Creek also present some unique wildfire challenges. Fuel loading is light to moderate for most of the county.

Wildfire ignitions in Prairie County are both natural and human-caused. The dry climate coupled with the recent years of drought, wind, flashy fuels, remoteness and ruggedness of the county contribute to the wildfire hazard. Poor access roads and long driving times often slow response times for the fire departments.

This fire protection plan has two distinct parts, 1) risk assessment and 2) mitigation of those risks. The risk assessment identifies fuel hazards, values, and assets. It also presents a synopsis of the fire protection preparedness of the county. The mitigation section identifies goals, objectives, and projects to reduce or mitigate the wildfire risk.

Methodology

This Risk Assessment was developed by using the following steps:

Hazards were evaluated as follows:

1. Identify hazards that may occur.

- a. The contractor facilitated meetings and discussions with community leaders (county commissioners, town officials, firefighters and county DES Coordinator)
- b. The first CWPP meeting was convened between the contractor, firefighters and county DES Coordinator. During this meeting the attendees provided examples of past wildfires and their concerns for future incidents. Hazards and special problems were identified.
- c. A Core Group was named during the first meeting.

Table 5.1 Prairie County Core Group

Name	Title
Bill Klunder	Sheriff and Fire Chief
Barry Rakes	Secy.-Treasurer of Fire Dept. (Fallon)
Brian Morast	Cabin Creek Fire Dept.
Donald Ulrich	Cabin Creek Fire Dept.
John Pisk	DES Coordinator and Chair of Core Group

- d. This group was established to give the contractor a team of firefighters to provide local information about hazards and review the information the contractor was to prepare. They also provided some of the values at risk. After the first meeting a list of wildfire hazards were prepared by the contractor and sent to the Core Group for review and validation to be done at a second meeting.
- e. The contractor met with members of the Core Group for a second meeting and the priorities for protection were discussed and additional items and locations were added. Base maps were

- prepared after this meeting and included the critical infrastructure, fire department locations, past wildfire locations, and fire district boundaries and areas of responsibility.
- f. Contractor subsequent phone conversations with members of the Core Group and County DES Coordinator helped to characterize the county's wildfire issues and refine information in the risk assessment.
 - g. Research by the contractor of other plans, websites, reports and newspapers.
 - h. The State of Montana's DES District 4 Representative, the BLM

and DNRC all attended various PDM and CWPP meetings providing support, expertise and advice.

2. Prioritize the hazards.

- a. Hazards were given a preliminary priority at the first meeting.
- b. During the second meeting there were additions made to the list and priorities were finalized.

3. Profile hazard events.

- a. Through discussions with the Core Group and help from the DES Coordinator the most significant concerns for the county have been outlined.
- b. Obtaining data on historical fires and their locations and

predictions for

future problem areas.

The Mitigation Plan was developed by gathering ideas and information from the CWPP Core Group, the PDM Steering Committee, the DES Coordinator and the contractor. Goals, objectives and projects were finalized and prioritized by those present at the PDM Steering Committee meeting on May 24, 2005.

The draft CWPP-PDM document was made available in the offices of Prairie County and the town of Terry, and the Prairie County Library. The comment period was open for 30 days, beginning in September, 2005.

Following incorporation of the comments received, the plan was finalized.

Community Assessment

Area to be Evaluated

The entire county was evaluated for the Risk Assessment. Relatively low elevation agricultural lands characterize the county with some badlands. The Yellowstone River runs the width of the county from southwest to northeast. Elevations range from 2,224 to 3,600 feet (John Pisk, DES Coordinator). The Bureau of Land Management has a large presence in the county with 447,462 acres of federal land. The BLM provides fire suppression for the lands they manage. There are 38,162 acres in the Conservation Reserve Program (Farm Services Agency).

Terry is the largest community and the county seat. Other communities include Fallon and Mildred. All of the communities were ranked as moderate risk in the Communities at Risk in the Federal Register (Volume 66, #160, August 17, 2001). The Wildland Urban Interface (WUI) boundaries established by the fire departments follow the standard one half mile buffer.

For more detailed information about the characteristics of Prairie County please refer to Chapter 1 (PDM) of this plan.

Historic Occurrences

In 1995 the county Fire Departments responded to 27 fires. Since then they have averaged about 10 fires per year, with most of those being fires started by the main railroad line. Almost all of the fires are less than two-hour events. The average size is about 10 acres (John Pisk, DES Coordinator). Information provided by the local firefighters indicates that lightning fires occur scattered throughout most of the county with the storm patterns moving generally from west to east. Extrapolating the information from the BLM and the local firemen the probability for a large fire is about 7 to 9 times per decade.

Table 5.2 BLM Fires of 100 Acres or Greater in Past 30 Years

YEAR	FIRE NAME	CONTROLLED SIZE
1994	SWEDE CRK	325.0
1995	CAMP CREEK	545.0
1995	MILDRED	400.0
1996	PLENTY CRK	295.0
1980	HAUGHIAN	700.0
1980	LUND	400.0
1980	KNUTE FIRE	200.0
1980	CEDAR	150.0
1981	MILES	658.0
1982	HINES	500.0
1984	POWDER	700.0
2001	CEMENTHOLE*	700.0

*this fire may be an error, none of the firefighters can remember a fire with this name

Source: BLM (Randy Schardt, GIS Specialist with the BLM State Office in Billings)

Disaster Declarations

In 2000 a FEMA Wildfire Disaster Declaration issued for multiple counties across Montana and included Prairie County.

In 2000 a Presidential Declaration for fires July 13 through September 25, 2000 for Prairie (primary) and McCone (contiguous).

Individual Community Assessments

Terry

Current Situation

This community is located in the central portion of the county on Interstate 94 and State Highway 253. It is also situated on the Yellowstone River. The Terry Volunteer Fire Department protects the assets of Terry within the city limits. Outside the city limits the Prairie County Rural F.D. has the responsibility for protection of the balance of the county, which includes scattered homes, farms, railroad improvements, ranches and oil and gas field facilities. The exception for this is the two Fire Districts in the county, Cabin Creek and Fallon (more discussion below). Grasslands, farm crops and CRP acres present a moderate to high risk in late summer or early fall surround Terry. Within the city limits the risk of wildfire is low. Conservation Reserve Program acres on many of the farms are a risk to wildfire ignitions both from farm machinery and lightning. The Fire Departments are very concerned about these areas because they can be very volatile under dry, windy conditions.

Future Development

No major planned development is pending.

Town of Terry Fire Hall



Photo by Rand Herzberg

Fallon

Current Situation

Fallon is an unincorporated community with a population of about 132 people (Dept. of Revenue) and is also on Interstate 94 and the Yellowstone River. The Fallon Fire District protects the Fallon area. The surrounding area is almost entirely irrigated croplands and the fire probability is low to moderate depending on the time of year and the dryness of the season. Inside the community of Fallon there is a high risk to fire because of many abandoned homes and lots, which have flashy fuel build-up.

Future Development

There is no planned major development.

Mildred

Current Situation

Mildred is an unincorporated community with a population of 2 with about 25 people in the Mildred area (estimate provided by DES Coordinator) It is located southeast of Fallon on State Highway 340 and on O'Fallon Creek. It is mostly surrounded by dryland croplands and the fire risk is low to moderate. The greatest threat to the community would be when the crops are cured out and susceptible to human caused or lightning ignitions. Inside the bounds of the community the risk for fire is high due to the high number of unattended properties. A number of lots have large accumulations of dead grasses surrounding the buildings.

Future Development

No major development is planned.

Cabin Creek

Current Situation

The Cabin Creek area is more of a geographic area than a community. There are 24 scattered homes, farmsteads and associated outbuildings and dryland farming and pasture characterize the countryside. There are some CRP acres as well as some pine-forested lands to the east of Cabin Creek. The Cabin Creek Fire District protects this area.

Future Development

No major development is planned.

(Source for all information on individual community assessments, except where noted elsewhere above was John Pisk, Prairie County DES Coordinator)

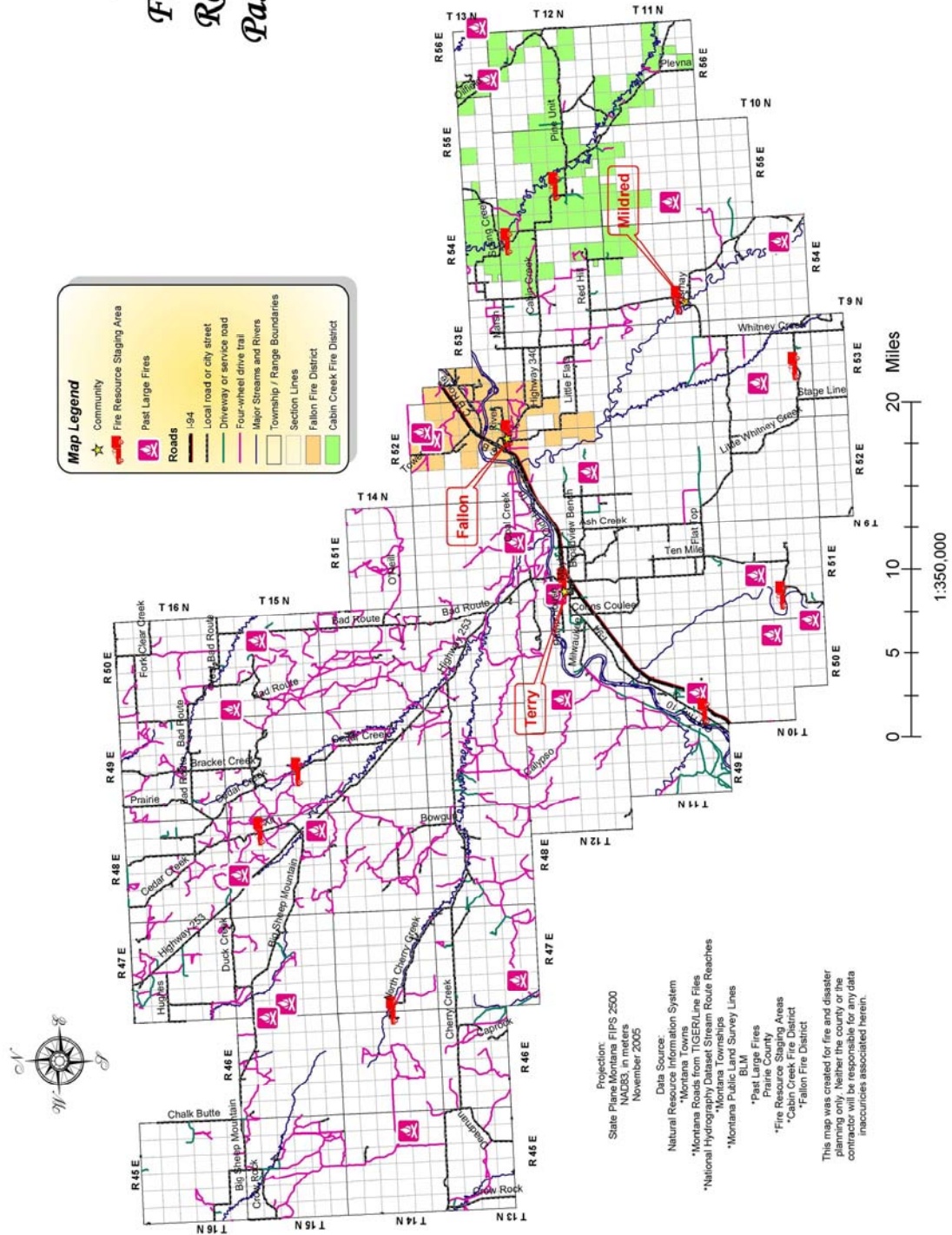
Assessment of Fuel Hazard

Vegetative Fuels

Prairie County has basically three types of topography, flat lowland areas primarily used for agriculture, Yellowstone, Powder River and Cabin Creek bottomlands and the badlands. Agriculture in Prairie County consists mainly of farming and ranching. In the agricultural areas other than the croplands, vegetation consists of light to moderate areas of grasslands. Farm/ranch assets that could be at risk include crops and the farm compound including grain and hay storage, livestock, housing, barns, sheds and machinery.

The river-bottom lands are grass, brush and cottonwood trees. The agricultural lands of the county have low potential for fire until crops cure out and become dry from mid summer into the fall. In a dry year, the fire danger increases greatly. There can be thousands of acres of dry crops, which are very susceptible to both, lightning, human caused or machinery caused ignitions. The river bottoms are a problem because of the heavy brush and large amounts of cottonwood trees, which are notorious for holding fire for long periods.

Figure 5.1
Fire Districts,
Resources and
Past Large Fires



Badlands area northwest of Terry

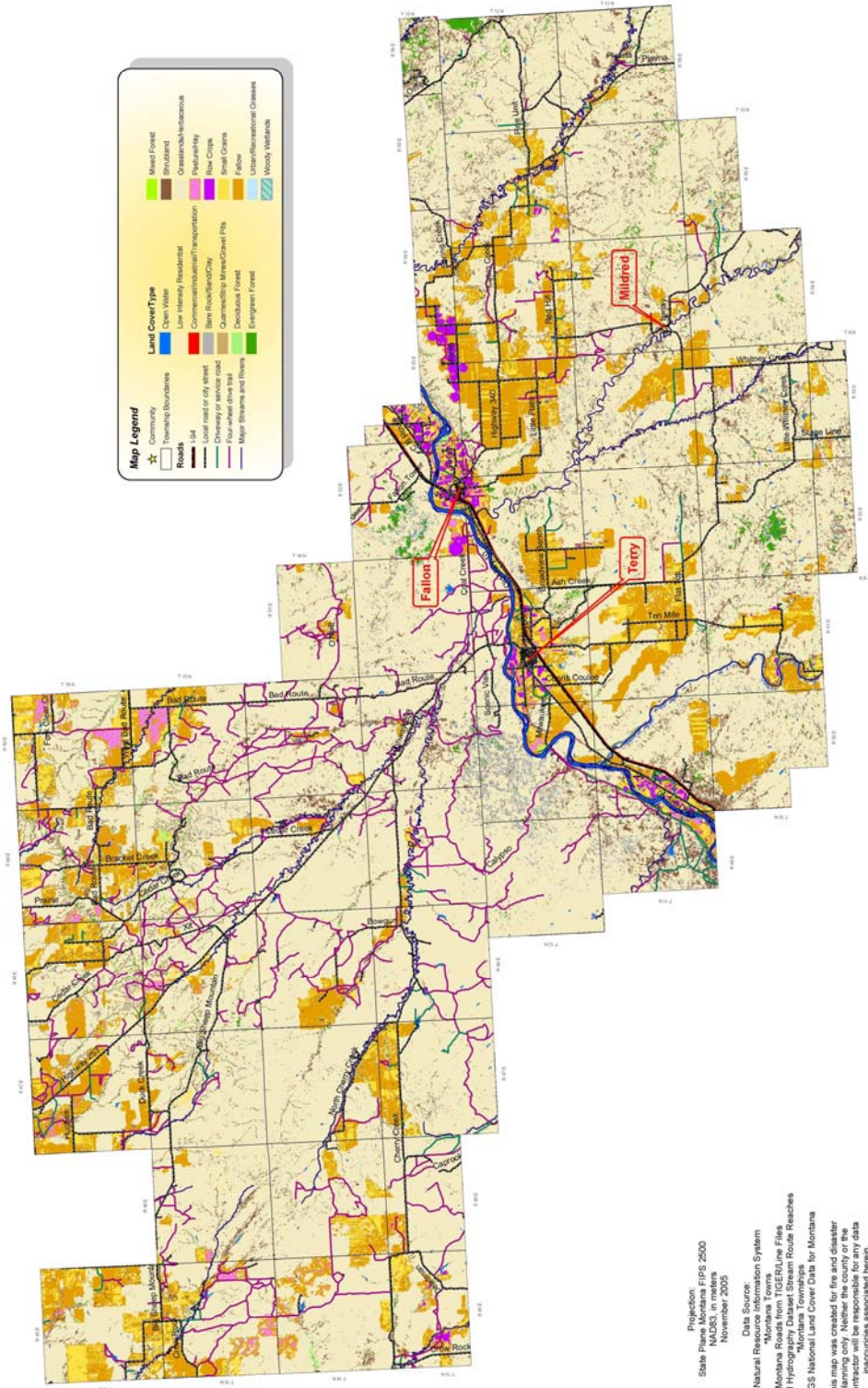


Photo courtesy of Prairie County

The badlands areas of the county present a different situation. Prairie County has some very remote and difficult areas to access in the far eastern and the central to northwestern parts of the county. The timber in these areas has matured to the point that under the right conditions this area may support a large fire (Dwight Tague, Terry Fire Department). Detection of fire starts is also a problem in the badlands. Low population densities and the remoteness can allow a fire to burn for some time before it is detected. In very dry years natural grasses and juniper/ponderosa pine can support rapidly spreading fire. It is noted however that this timber has no traditional market value due to its small size and poor quality. Prairie County like most of eastern Montana experiences strong winds much of the year. Thunderstorms are also a source of ignition and strong winds.



Figure 5.2 Vegetation Types



Map Legend

Community	Land Cover Type
★ Township Boundaries	Open Water
— Road	Low Intensity Residential
— Local road or city street	Commercial/Industrial/Transportation
— Highway or service road	Barren Rock/Scrub/Grass
— Four-wheel drive trail	Small Crops
— Major Streams and Rivers	Grasslands/Armed/Grass/Pis
	Deciduous Forest
	Evergreen Forest
	Coniferous Forest
	Wetlands
	Wetlands



Map Scale 1:250,000

Projection: State Plane Montana FIPS 2500
NAD83 in meters
November 2005

Data Source:
Natural Resource Information System
Montana Roads from TIGER/Line Files
National Hydrography Dataset Stream Route Reaches
Montana Townships
USGS National Land Cover Data for Montana

This map was created for fire and disaster planning only. Neither the county or the commission nor the associated data or resources are associated herein.

Structural Fuels

With the exception of rural residences, structural fuel hazards are located within or in close proximity to the various communities or areas like Cabin Creek with scattered rural homes. From personal observation, most homes are typical stick frame construction with wooden or manufactured siding. They usually have composite asphalt roofing materials.

Assessment of Risk

Ignition Profile

In 2001, all of the communities in Prairie County were identified as a medium risk to wildfire in the Federal Register. The listed communities at risk were Terry, Fallon and Mildred.

The Core Group members for the CWPP identified these ignition sources for wildland fire during the second meeting held in Terry on March 29, 2005.

- 1. Lightning**
- 2. Rural residents**
- 3. Power lines**
- 4. Highways/roads**
- 5. Recreation activities**
- 6. Escaped residential control burns**
- 7. Haying/combining activities**
- 8. Oil field activities**
- 9. Methamphetamine labs**

From the maps of recent fires provided by the Prairie County DES Coordinator and the BLM fire maps it shows that there is no obvious pattern of ignitions. Haying and combining ignitions in the latter part of the summer were mostly caused by equipment malfunctions.

Risk of human-caused ignition is highest along roads and highways, railroads, power lines and around 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 areas and on agricultural properties, except in late summer in dry years.

Harvesting of crops with machinery started fires and train started fires are the two most common sources of ignition. Firefighters have expressed concerns about the growing possibility of methamphetamine labs having the potential for fire ignitions in remote areas. Like much of eastern Montana, oil activity has picked up and this will increase the fire departments' number of emergency responses.

Behavior and Development Trends

There is little or no activity by the county for encouraging development of new structures that increase the defensibility for wildfire. An example of a defensible new structure would include a home built with a metal roof and fire resistant siding surrounded by a large green lawn. This leaves new development without any local guidance to consider wildfire in the choices for location, building materials, defensible space, and access for emergency vehicles. Many people would be willing to consider these things when building, but typically they are not aware of the items they should be thinking about. The challenges presented by development differ depending on the fuel types, terrain, access, and response times.

Much of eastern Montana is experiencing a boom in oil field activity. This oil field activity is and will continue to increase the Fire Departments' response numbers. More traffic incidents have been occurring and with those come wildfire ignitions and hazardous material spills.

Unique Wildfire Severity Factors

Drought over the past 7 or 8 years in the county has left the cedar (juniper) trees in the badlands in a stressed condition. Live fuel moistures in these trees have been very low and are conducive to greater spread rates for fire.

Wheat, oats, barley, peas, lentils, yellow mustard, safflower and alfalfa hay production are the main crops for the county (Tim Krebsbach, Farm Services Agency). Oil and gas is produced and stored in the Wildland fire in the areas of oil production has the potential to interrupt production for short periods of time. Human activity in the oil fields also increases the chances for ignition of wildfire.

Critical community infrastructure was identified by the PDM steering committee. The values for the critical infrastructure are provided in Chapter 3 (PDM) of this plan. Most of the county's critical facilities are at low risk for wildfire.

Values to be Protected

1. Health and Safety of the public and firefighters
2. Real property, public and private infrastructure
3. Cropland/Grazing lands
4. Recreation/Economic Impacts

1. Health and Safety

Prairie County has a volunteer firefighting force that has its main operation in the fire hall located in Terry. Other fire equipment is located in Fallon and in Cabin Creek. Sparse population and poor communication systems between firefighters, EMS personnel and other support functions can add more safety challenges to fighting wildfire.

Prairie County is concerned about the health and safety of their volunteer fire department personnel.

Adding to that concern the county has been in a drought situation for nearly a decade. The potential for greater number of fires at one time and large fires exist under these strained drought conditions. The Prairie County Fire Departments have a good safety record in suppression of wildfires and desires to maintain that record. Circumstances related to these conditions demand that attention be paid to the safety of the firefighting staff and the public. Training of personnel to meet requirements in ample numbers and to maintain their qualifications to meet the county's suppression needs is important for safety. Prairie County indicates that they have problems in recruiting enough firefighters to do the job.

2. Real Property, Public and Private Infrastructure

In many parts of Prairie County, wildfires are not only a threat to the landscape, but also to communities, homes, ranches, businesses or infrastructure facilities. All of the communities in the county have a medium rating for wildfire in the Communities At Risk list established for Montana. Two of the biggest concerns in terms of fuel concentrations are found in either Conservation Reserve Program acres or in the badlands area in the eastern and northwest part of the county. These two categories of lands should be looked at closely in terms of putting people and property at risk.

3. Cropland and Grazing Lands

Prairie County depends heavily upon agriculture for much of its income. Croplands, especially in late summer can be at risk to wildfire. Losses of crops can be very devastating to ranchers and farmers. These losses also affect other businesses and the county tax base.

Grazing of private, state and federal land is also an important component to some ranching operations. Losses of forage to wildfire have the same impact as noted above.

Grazing lands north of Terry



Photo by Rand Herzberg

4. Recreation and Economic Impacts

Prairie County has a large amount of intact native wildlife habitat. The two primary habitat types are grasslands and riparian areas. According to John Ensign, Montana Department of Fish, Wildlife and Parks (FWP), Region 7 Wildlife Manager there has been very little formal wildlife population inventories in the county, however they do have inventories on mule deer and antelope.

Big game species include mule deer, white-tailed deer and antelope. Small mammals such as fox, badgers, hares, raccoon and coyotes are common.

Numerous raptors are found in the county including golden and bald eagles, kestrels, red-tailed hawks, Swainson's hawk and ferruginous hawks, prairie falcons and owls. Sharp-tailed and sage grouse, turkey, Hungarian partridge and pheasant are found in the uplands. Migrating ducks and geese pass through the county and shorebirds frequent the Yellowstone River. Small numbers of year-around songbirds and numbers of migratory birds pass through and/or spend some portion of the year here. There are occasional migrating whooping cranes that pass through the county.

The fishery in Prairie County is composed almost exclusively of warm water species in the ponds and in the Yellowstone River, including catfish,

two species of sturgeon, walleye, sauger and paddlefish. Painted turtles, various snakes including rattlesnakes, other reptiles and amphibians are present.

According to Bea Sturtz of the FWP, Block Management Division, there are 32 landowner participants in the program. Block management lands are private lands that are made available for public hunting through this program.

Wildfire has the ability to impact recreation in Prairie County. The hunting season, both big game and upland bird have a positive economic impact. Wildfire season usually occurs during late summer and fall when these activities are occurring and can easily deter deer and bird hunters from coming to the area if there are fire closures or active wildfires going on. Fishing season on the Yellowstone River may also be impacted by an active wildfire season.

Assessment of Economic Values

The county has two primary industries, agriculture and government. Detailed economic information is provided in Chapter 1 of the PDM.

Assessment of Ecological Values

As a result of the ranges in elevation, aspect, temperature, precipitation, vegetation, and terrain in the county, Prairie County provides a moderate amount of wildlife habitat. The county supports species such as white-tailed and mule deer, upland game birds, mostly pheasant as well as warm water fish species in the rivers and ponds. In addition, numerous small mammals, fur-bearers, and migratory and non-migratory songbirds reside in the county.

Air quality is generally excellent due to natural dispersal and lack of major industry in and to the west of the county. 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.

Potential Loss Estimate-Wildfire Scenario

A wildland fire scenario has been developed in order to estimate potential losses. John Pisk, DES Coordinator and Randy Sanders, DNRC, provided assistance on developing this scenario.

A lightning storm moves into the central part of Prairie County in late August. The storm is dry and several fires are started, one in CRP lands near a homestead. The fire quickly moves into the homestead and

destroys a house, hay barn, two large stacks of hay bales; machine shed and several farm implements. Due to the rapid rate of spread and the long driving time for the Fire Department, they were only able to keep the fire from entering another homestead about a mile away. The fire burns 325 acres before it is controlled. Damages totaled \$288,115.

Table 5.3 Farmstead Fire-Prairie County

Asset	Number	Cost per each	Total cost
Residence	1	\$78,000	\$78,000
Hay barn	1	\$28,000	\$28,000
tons of hay	160	\$80	\$12,800
Machine shed	1	\$18,000	\$18,000
Tractor	1	\$54,000	\$54,000
Hay baler, large square bales	1	\$93,500	\$93,500
Swather	1	\$8,500	\$8,500
Suppression costs	1	\$4,315	\$4,315
Total			\$288,115

The following suppression costs were determined by conversations with John Pisk, County DES Coordinator and Randy Sanders, DNRC, (and also past volunteer fireman for the Savage F.D.)

2 Type 6 engines, fully staffed at \$1330/14 hour shift	\$2660
Structure engine, fully staffed at \$1600/14 hour shift	\$1600
Food and water	\$55
Total	\$4315

These figures are what DNRC pays approximately for contracting these types of fully staffed engines

Assessment of Fire Protection Preparedness and Capability

There are four Fire Departments in the county, Prairie County Rural Fire Department, Terry Volunteer Fire Department (provides mutual aid to the county and to Fallon), Cabin Creek Fire District 572 and Fallon Fire District.

Table 5.4 Fire Staffing by Department

Department	Number of Volunteers
Terry Volunteer Fire Department	15
Prairie Rural Fire Department	25
Fallon Fire District	10-15
Cabin Creek Fire District	10

Table 5.5 Fire Fighting Capability Ratings

DEPARTMENT	ISO Rating for Structure Fires	Rating for grass fire capability	Rating for wildfire capability
Terry	8	1	1
Fallon	10	2	2
Cabin Creek		2	8
Prairie County		1	3

ISO=Insurance Services Organization

Source of ratings came from the Fire Chiefs of the above departments. Those were based on 1 being very able and 10 being unable.

Over the past 30 years Prairie County received the following funds through the Rural Community Fire Protection Grant (RCFP), the Volunteer Fire Assistance Grant (VFA) and the Rural Fire Assistance Grant (RFA). Source: Mike Weiderhold, DNRC, Missoula, June 2, 2005. The funds received through these programs have improved the capability of the Fire Departments, especially in the last four years.

Table 5.6 Fire Assistance Funding

	RCFP	VFA/RFA	VFA/RFA	VFA/RFA	VFA/RFA	Total
Year	75-2000	2001	2002	2003	2004	
Prairie	\$15,698	\$20,400	\$40,000	\$12,000	\$16,075	\$104,173

Table 5.7 Prairie County Fire Apparatus

Department	Description	Capacities/Features/Comments
Prairie Co. Rural	Type 6 engine, 2003	500 gal. Tank Foam, could do initial attack on structure
Prairie Co. Rural	Water tanker	2000 gal. with hose reel
Prairie Co. Rural	Type 6 engine	200 gal. slip on, placed on Ranch
Prairie Co. Rural	Type 6 engine	200 gal. slip on, placed on Ranch
Prairie Co. Rural	Type 6 engine, 199x	250 gal. foam, DNRC
Prairie Co. Rural	Type 6 engine, 199x	250 gal. foam, DNRC
Prairie Co. Rural	Type 6 engine, 196x	1000 gal. placed in Mildred
Prairie Co. Rural	Type 6 engine, 19xx	200 gal. DNRC
Prairie Co. Rural	Type 6 engine, 197x	500 gal. DNRC
Prairie Co. Rural	Type 6 engine, 196x	200 gal. DNRC Jeep
Prairie Co. Rural	Slide in pumper	
Prairie Co. Rural	Slide in pumper	
Prairie Co. Rural	Trailer	1000 gal.
Prairie Co. Rural	Radios, Bendix King	40 watt handheld, 6 each
Prairie Co. Rural	Radios, Motorola	100 watt, 4 each
Prairie Co. Rural	Radios, Bendix King	100 watt, 2 each
Prairie Co. Rural	Pagers, Monitor 3	10 each
Prairie Co. Rural	SCBA's	Scott, 2 each
Prairie Co. Rural	GPS unit	Garmin, 4 each
Prairie Co. Rural	Wind meter wx check	3 each
Cabin Creek 572	Fire truck, GMC 1959	1000 gal. w/ 2 1.5 inch hoses
Cabin Creek 572	Pickup, 1969	Chevy 1 ton w/ 300 gal and pump
Cabin Creek 572	Slip in unit	200 gal.
Cabin Creek 572	Truck	State
Cabin Creek 572	Radio, handheld	Motorola, 16 ch, 136-174 MHz
Cabin Creek 572	Pagers, 3 each	Motorola Monitor III, Freq. 151.0000
Fallon Fire Dist.	1986 Chevy, 2 ton	Tender
Fallon Fire Dist.	Type 6 engine, 1976	Chevy Pickup
Terry VFD	Type 1 engine, 1968	First out structure engine, IHC Howe
Terry VFD	Type 1 engine, 1957	Second out structure engine, IHC
Terry VFD	Tender, 1965	Ford F800, 1500 gal.
Terry VFD	Tender, 1957	Peterbilt, 3000 gal. Primary Tender
Terry VFD	Rescue, 1981	GMC
Terry VFD	Type 1 structure	Ford LaFrance, OUT OF SERVICE
Terry VFD	Type 6 wildland engine	Ford F-350, ½ ownership with County
Terry VFD	SCBA's	Scott 4500, 18 each
Terry VFD	Extra bottles for SCBA's	Scott 4500, 18
Terry VFD	Turnouts (complete)	Morning Pride, 18 each
Terry VFD	Portable radios	Bendix King, 25 each
Terry VFD	Mobil radios	Bendix King, 7 each
Terry VFD	Compressor system	6000#, 1 each
Terry VFD	Cascade system	5 bottle, 6000#, 1 each
Terry VFD	Bottle fill station	2 bottle, 1 each
Terry VFD	Portable tanks	1500 gal, 2 each

In addition to the above listed apparatus, the BLM has the following resources available to assist Prairie County. From Miles City (to Terry) one Type 6 engine and two Type 4 engines with a response time of 30 to 45 minutes and two Single Engine Airtankers (SEAT's) with a response time of 30 minutes.

Mitigation Plan

Background

Existing situation

Prairie County has been in a drought for almost a decade. Historically this is a common cycle in weather patterns broken by periods of above average moisture. In the spring and early summer of 2005 rainfall has been far above the average. However, live fuel moistures in juniper trees are still below normal. (Brad Sauer, Fuels Specialist, BLM, Miles City, MT, June 2005). The drought may have been mitigated some, but it is still in effect. To come out of the current drought situation, it will likely take several years of above average precipitation.

Recent history indicates that most wildfires are relatively small, less than 10 acres and have not been a serious threat to the communities. However there have been several large fires and the potential under the right weather and fuel conditions wildfire could enter the urban interface or certainly impact rural residences. The county does have some notable issues with structures and facilities near CRP lands, river bottomlands and crops from mid-summer into the fall. There are also some safety issues with some of these areas, primarily from a fire equipment access standpoint.

There are some opportunities to improve not only defensible space for residents, but also to reduce their structures' ignitability through an education effort.

Most of the critical infrastructure in the county is in defensible space for wildfire and the fire departments are making an effort to keep them in that condition.

The wildland fire service in the county has a number of positive attributes. The Fire Departments and Fire Districts have mutual aid agreements in affect, so that they can readily help each other out when the need arises.

There are four departments spread fairly well geographically. The fire departments have been proactive in positioning their satellite equipment.

They have trained firefighters near them for staffing. The equipment for the fire departments appears to be relevant to their needs, however some of it is outdated. Volunteer firefighters numbers are difficult to keep at needed levels and as with almost any volunteer fire department, many of the firefighters are not available part of the time. Training for volunteer firefighters is usually a challenge for most departments. It is difficult to find the time to work in training, when most have jobs and other responsibilities. The level of fire protection in Prairie County is good and the four fire departments work well together, sharing information and assisting each other with fires in their areas of responsibility.

The key issues facing the county are to improve or establish some reliable water sources for firefighting in areas where they are lacking, expanding the fire fighting capabilities of the four departments and maintaining a well-trained staff of volunteer firefighters.

Organizational structure

During the first CWPP meeting a number of firefighters from throughout the county were present. In order to have a smaller working group the Core Group was established at the first meeting. The Core Group consisted of firefighters from three of the four fire departments and the county DES Coordinator.

There was also assistance from the Montana DNRC, BLM, District IV DES Representative, and Farm Services Agency. The contractor took feedback provided from the Core Group to develop this mitigation plan. Once the plan was written the Core Group and the others mentioned above had the opportunity to review the plan to add, subtract or modify it. Public involvement was solicited at the third PDM meeting and those items were included in this plan. The draft CWPP went out for 30 days of public review in September, 2005 and those comments were considered in the finalization of the CWPP.

Goals and Objectives

Prairie County firefighters and DES Coordinator developed the following goal, objectives, and projects with additional suggestions from the Pre-Disaster Mitigation Steering Committee and the contractor.

Goal: Reduce the impacts of wildfire.

Objective 1: Reduce the area of Wildland Urban Interface and critical resources burned.

- 1.1 Develop a county burn permit policy.
- 1.2 Encourage firebreaks around CRP fields and other high fuel areas, such as timber, to protect farmsteads. RE-establish existing firebreaks on state and federal lands.
- 1.3 Provide information (via FSA and others) to CRP landowners on projects to reduce risk of fire to improvements and buildings.
- 1.4 Develop a demonstration project.
- 1.5 Request that the BLM/DNRC plan and implement strategic fuels reduction projects, especially near Wildland Urban Interface boundaries and continue the ongoing project in the Cedar Creek area.
- 1.6 Establish needed water sources in key areas.

Objective 2: Educate the public about wildfire in the county.

- 2.1 Place fire danger indicator signs at entrances to county along major highways.
- 2.2 In high danger fire years in the hunting season, develop a poster aimed at sportsmen to put in motels, restaurants, bars, sporting good stores, etc.
- 2.3 Public education campaigns (possibly sponsored by local major businesses).
- 2.4 Utilize the “Living with Fire, A Guide for the Homeowner”, a Northern Rockies Fire Prevention Team publication to assist property owners at risk. Fire Department personnel to identify and work with these property owners.

Objective 3: Expand firefighting capabilities.

- 3.1 Increase number of persons trained and qualified as Type 3 and Type 4 Incident Commanders in the county.
- 3.2 Continue training opportunities for fire fighters.
- 3.3 Establish Standard Operating Procedures that facilitate the efficient dispatch of trucks and equipment to fires.
(Issue discussed by participants is that trucks may be dispatched from throughout the county for a fire that might be handled more efficiently from one or several specific targeted locations.)
- 3.4 Expand information about the need to recruit additional firefighters.
(Issue is that there is difficulty recruiting new firefighters to keep up adequate staffing levels.)
- 3.5 Look into providing training on meth lab ignited fires.

Desired Condition/Strategic Plan

The desired condition for Prairie County is to maintain a safety conscious, well trained firefighting force with adequate personal protective equipment and up-to-date fire apparatus commensurate with the county’s needs. The strategic plan to reach this desired condition follows in the table below.

Accomplishment of this strategic plan will follow the same kind of collaboration that went into the development of the CWPP.

Table 5.8 Strategic Plan

<i>Project Number</i>	<i>Project description</i>	<i>Rank</i>	<i>Potential Resources</i>
1.1	Develop a county burn permit policy	Not Ranked	Fire Departments, DES, County Commissioners
1.2	Encourage firebreaks around CRP and other high fuel areas to protect farmsteads. Re-establish existing firebreaks on state and federal lands.	M	Fire Departments, landowners, FSA, BLM and DNRC
1.3	Provide information on projects to reduce fire risk to buildings and improvements	M	Fire Departments, landowners, FSA
1.4	Develop a demonstration project	M	Fire Departments, landowners, FSA
1.5	Request BLM/DNRC to implement fuels reduction projects near WUI boundaries and Cedar Creek area	M	Fire Departments, BLM and DNRC
1.6	Establish needed water sources in key locations	H	Fire Departments, landowners
2.1	Place fire danger indicator signs at entrances to county*	L	Fire Departments, Montana Department of Transportation, BLM
2.2	In high fire danger years, develop a poster aimed at sportsmen*	L	Fire Departments, local businesses
2.3	Public education campaigns*	L	Fire Departments, landowners
2.4	Utilize "Living with Fire" publication*	L	Fire Departments, BLM, DNRC, local businesses
3.1	Increase numbers of Type 3 and 4 Incident Commanders	H	Fire Departments, BLM, DNRC
3.2	Continue training opportunities for firefighters	H	Fire Departments, BLM, DNRC
3.3	Establish Standard Operating Procedures that facilitates efficient dispatch of fire equipment	H	Fire Departments, BLM, DNRC, DES
3.4	Expand information about the need to recruit new firefighters	H	Newspaper, Fire Departments, BLM, DNRC
3.5	Look into providing training on meth lab ignited fires.	H	Fire Departments and Law Enforcement

* Received low priority because participants felt that most county residents are extremely familiar with the fire dangers in their county. A public education campaign would remain a lower priority until more new residents move into the county.

Roles and Responsibilities

The responsibility for the implementation and maintenance of this plan lies with the leadership of the county commissioners. Assistance and expertise to implement this plan will come primarily from the fire departments' leadership and the DES Coordinator. There will be many opportunities for a variety of other sources such as the Farm Services

Agency, businesses, local governments and volunteers to help make parts of this plan come to fruition. The BLM is a key member in the development of the CWPP by providing funding, expertise, data, mapping, reviews and other support.

Plan Review and Updating

This plan should be reviewed for currency every five years, unless there are major changes in the county that would require an earlier update. Items that may initiate a need for a change in the plan would be things like a major wildfire, accidents involving serious injury or loss of life related to wildfire or a change in county leadership. The county commissioners have the responsibility to make that determination. The commissioners may wish to ask the Local Emergency Planning Committee to review plan and see that it is updated when necessary.

Sources:

- Beck Consulting. December 2004. *Custer County Pre-Disaster Mitigation Plan*.
- Beck Consulting. May 2005. *Carbon County Community Wildfire Protection Plan*.
- Ensign, John, Montana Department of Fish, Wildlife and Parks, Region 7 Wildlife Manager, personal communications with Rand Herzberg, July 2005.
- FEMA 386-2. August 2001. *State and Local Mitigation Planning How-To-Guide—Understanding Your Risks: Identifying Hazards and Estimating Losses*.
- Firewise, <http://www.firewise.org>, Feb. 2005
- Grue, Clint, Prairie County Fireman, March 2005
- Judith Basin County, Montana, *Wildland-Urban Interface Wildfire Mitigation Plan*, September, 2004
- Josephine County Integrated Fire Plan*, November 2004
- Klunder, Bill, Prairie County Sheriff and Prairie County Rural Fire Chief, March 2005.
- Krebsbach, Tim, Farm Services Agency, Prairie County. Personal communications with Rand Herzberg. March 2004.
- Morast, Brian, Cabin Creek Fire District, March 2005
- National Interagency Fire Center, <http://www.nifc.gov>, Feb. 2005
- Northern Rockies Coordinating Group, <http://www.fs.fed.us/r1/nrcg>, Feb. 2005
- Northern Rockies Coordinating Group, “Living with Fire, A Guide for the Homeowner”, <http://www.fs.fed.us/r1/nrcg>, Feb. 2005
- Parrent, Norman, District 4 DES Representative, Miles City, MT, Nov. 2004 and June 2005
- Pisk, John, Prairie County DES Coordinator, Personnel communications, Jan.-July 2005.
- Rakes, Barry, Fallon Fire District, March 2005
- Sauer, Brad, Fuels Specialist, Bureau of Land Management, Miles City Office. Personal communications with Rand Herzberg, January-July 2005.
- Sanders, Randy, Department of Natural Resources and Conservation, Miles City, MT, Jan.-July 2005.
- SHELDUS, Spatial Hazard Events and Losses Databases for the United States. <http://www.cas.sc.edu>, Feb. 2005
- Sprandel-Lang, Dena, Fire Mitigation Specialist, Bureau of Land Management, Eastern Montana Fire Zone, Miles City, MT. Personal communication with Rand Herzberg, January-July 2005.
- Tague, Dwight, Chief, Terry Volunteer Fire Department, Personal communications with Rand Herzberg, Feb.-June 2005.
- Ulrich, Donald, Cabin Creek Fire District, March 2005
- U.S. Census Bureau. <http://www.factfinder.census.gov/home/> March 2005.

Weiderhold, Mike, Department of Natural Resources, Missoula, MT, June 2005.
Western Regional Climate Center. <http://www.dri.edu> March 2005.

CWPP MEETING NOTES
AND
SIGN-IN SHEETS

Community Wildfire Protection Plan Meeting for Prairie County, Feb 11, 2005

Notes prepared by Rand Herzberg

Objectives for this meeting

- *Give you an introduction to the project**
- *Explain the purpose of the project and the scheduling to get it accomplished**
- *Enlist your help...you have the knowledge of the local situation and know best what your county needs**
- *Need your help to identify the wildfire hazards and prioritize those**
- *Have you identify the critical facilities and the vulnerable populations in communities and the county (SKIP THESE FOR LATER)**
- *Give me a sense of the values at risk (examples: high value forage, critical wildlife habitats, etc)**
- *Have you understand that this is a plan for the county's use and the more involvement I get from you and the county, the more useful it will be and the better your chances are for funding of additional on-the-ground projects.**

- *Establish a Core Group of key individuals to work with me on this project**

Funding

***Funds from the BLM have paid for the contract to develop these plans for your county. The contract products are both a Predisaster Mitigation Plan and a Community Wildfire Protection Plan. Cossitt consulting out of Park City, MT has the contract....we have 5 counties, McCone, Richland, Dawson, Wibaux and Prairie. McCone County has agreed to be the primary contact for all of these counties for the administration of the contract. However, the contents of the plans will come from each of the counties. The PDM plan will take into account all hazards and the CWPP focuses on wildfire as part of that plan. My job is to help these counties develop a CWPP that suits the county's needs.**

A little background on Community Wildfire Protection Plans

- *2003 Healthy Forest Restoration Act (primarily affects BLM and Forest Service)**
 - *provides incentives for communities to get involved in fire protection**

they need ***several reasons, who knows better than the local folks what**

***once a plan is developed, makes counties and communities more competitive for project \$'s**

***allows lots of flexibility---some minor requirements, but depth is really up to you**

***Minimum requirements of CWPP are:**

***1 Collaboration....developed by local and state government reps in consultation with federal agencies (in this case the BLM)**

***2 Prioritized Fuel Reduction... identifies and prioritizes areas for hazardous fuel reduction treatments & recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure---usually done by the local fire depts..**

***3 Treatment of Structural Ignitability.... recommends measures that homeowners and communities can take to reduce the ignitability of structures throughout the area of the plan.**

Who must mutually agree to the final contents of the plan?

***Local governments (county and communities)**

***The local fire departments**

***State entity responsible for forest management, DNRC**

The above group will need to consult with local representatives of the BLM...my contact for the BLM for this project is through Dena Lang from Miles City, who I have found to be very helpful and interested in seeing the county get a grassroots-based plan.

What kinds of things can be addressed in the plans?

***wildfire response, hazard mitigation (projects to reduce hazards), community preparedness, structure protection...whatever you think best suits your communities**

Other benefits

***the process can help communities clarify and refine its priorities for protection of life, property, and critical infrastructure (water plant as example) in the Wildland**

Urban Interface (more on that in just a minute) It also allows you to determine the boundaries of what your WUI's are.

Your role

***In a series of meetings (probably just 2), phone calls, etc. you can help me describe the setting of your county, identify existing hazards in terms of wildfire, what capabilities the county has for suppression, what projects you would like to do, what the priorities of those projects are and determine what the substance and detail of your plans will be. You will also have the say so on what the WUI boundaries for your communities will be. There are some guidelines for this, but they do allow quite a lot of flexibility. You can also help me by identify other key people who should be involved in this process.**

Wildland Urban Interface

I want to talk just briefly about this. This is something your group will need to give some thought to in the next few months. The WUI is describes as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This is where a high percentage of the risk to life and property occurs...where it hits the fan so to speak. It is where the most complex and dangerous situations for firefighters exist.

One of the most important benefits of having a CWPP completed is that it allows you to establish your WUI interface. Without a CWPP the boundaries are limited to within ½ mile of a communities boundary or within 1 and ½ miles when mitigating circumstances exist (example....a long steep slope leading into a community with heavy vegetation) This is a canned definition that may not fit your communities, but with a CWPP you dictate where that boundary is to be drawn. Once the plan is accepted, the WUI boundary is given a higher priority for funding than non-WUI lands. Half of the Healthy Forest Restoration Act funds must be spent in the WUI. I should also mention that fuel treatments can occur along evacuation routes regardless of the distance from the community.

Questions?

What are the hazards related to wildfire in this county and in your communities?

CRP lands (38,161 acres in the county) 90% of those are within 1 mile of structures (ranches, farms,etc)

Juniper/Ponderosa pine stands beginning to be a problem, especially north of Terry, NW of Fallon, west of Powder River drainage and Little Whitney Creek areas.

Hay storage areas (frequently farm and ranch operations catch these storage areas on fire and the county must respond)

Pasture land, during certain years pasture land before grazing is susceptible to ignition by lightning and human caused fires.

Can you give me your first cut on how you would prioritize them?

They are prioritized in the order they are listed above.

(What are the critical facilities in the county and how would you prioritize them?)

Two major power grids go through Prairie County, 1 is constructed of steel and the other is wooden. There are two cellular phone towers, a repeater site that houses the County's radio system, an electric substation southwest of Terry at the edge of town and oil and gas facilities in the east-northeast corner of the County.

Burlington Northern Santa Fe Railroad has a number of wooden trestles. The RR splits in the County, one fork goes down toward Fallon and the other follows the Yellowstone River.

What are the vulnerable populations in the county and what priorities would you put on them?

Elderly-nursing home/senior center

Children/school

Handicapped/disabled

Livestock

Travelers on Interstate

What other values besides infrastructure and people would you want to be part of the plan?

I have added these from the Predisaster Mitigation Plan meeting held on Tuesday, February 8th in Terry. If the Core Group wishes to remove them because they are not at risk from wildfire and I suspect that most of these are not, then please let me know which ones.

Hospital
 Schools
 Grocery store
 Day care facilities
 Communication facilities
 Fuel Suppliers
 Transportation Infrastructure
 City/County government buildings
 Emergency Services
 Sewer systems (there are no public water systems in the county)
 Bank
 Museums
 Hardware store

What mapping resources can you give me to serve as a Base Map for this project?

BLM, weed folks are working on a new map and all of the County's roads have been recorded with a Global Positioning System (GPS).

I would like to establish a Core Group of people this evening for the CWPP so that we can agree upon who should be involved and is willing to work on the plan.

Before we do this, I think you need to understand what my philosophy is and that I think the Core Group's job is to provide me with the needed information. It is my job to put this in writing in a format that is acceptable to you and to the BLM. Said in another way, you give me the data and what you want to see and I will put it down in writing to get us to something that is usable for you when we are finished. I also would like, depending on your wishes is to get almost all of the information I need from you before July 1st. I know that you and I are likely to be busy with the fire season and I would prefer to not have the extra burden of the fire season and the added busyness of the summer get in our way. I need some feedback from you if you are OK with what I just said--both on how I see this going and when I would like to have the bulk of your input to me. That means we will have a nearly complete CWPP before the fire season hits.

Who should be on the Core Group and their titles?

NAME	TITLE
Bill Klunder	Sheriff and Fire Chief
Barry Rakes	Secy.-Treas. of FD (Fallon)
Brian Morast	Cabin Creek Fire Dept.
Donald Ulrich	Cabin Creek Fire Dept.
John Pisk	DES Coordinator and Chair of Core

	Group
--	--------------

I would also like to ask that there be a chairman of the Core Group so that I have a single contact that I can work through to get feedback from the Committee. Who should that be?

John Pisk, DES Coordinator for Prairie County

My recommendation is for one of the members of the CORE GROUP take this list to your County Commissioners and asks them to bless it. I think you want them to be comfortable right up front with who is on the CORE GROUP.

What I will be asking you for at the next (2nd) meeting.

I will have a draft of the Risk Assessment ready for your review ahead of the meeting. It will involve:

1. Fuel Hazards,
2. Risk of Wildfire Occurrence,
3. Homes, Businesses and Essential Infrastructure at Risk,
4. Other Community Values at Risk and
5. Local Preparedness and Firefighting Capability.

You will give me feedback on what needs to be changed, what needs to be added for the purpose of having me finalize the Risk Assessment to be part of the plan. I see this as a face to face meeting in late March, depending on the Core Group's concurrence.

Set tentative date for 2nd meeting.

March 29th at 2 pm at the Court House

What I will be asking for in late May or June

There are 3 things that need to be completed:

1. Establish final prioritization of recommended fuel treatment projects and the preferred treatment methods.
2. Develop an Action Plan and Assessment Strategy, which defines roles and responsibilities, funding needs and timetables for highest priority projects.
3. Finalize the Community Wildfire Protection Plan....the Core Group will decide on the treatment locations, method of treatment, establish the WUI boundaries, structural

ignitability recommendations and any other information or actions you want in the final plan.

Other available resources for you to consider:

BLM office in Miles City....Dena Lang as a contact person.

Eastern Land Office of the DNRC...Randy Sanders as a contact person.

These sources have expertise in fuels management, lands issues, mapping, fuel types, etc. My contacts with these people have found them interested and willing to help wherever they can.

Location Terry & Court House Date(s) Feb. 11, 2005
Duration 1.5 hours

Duration 1.50 hours

Rev. 4/23/03

Second round of meetings for CWPP with Core Group for Prairie County

(Meeting notes prepared by Rand Herzberg)

Meeting was held at 2 p.m. on March 29, 2005 in the courtroom at the Prairie County courthouse.

Attendees sign in sheet is attached.

CRP lands

After introductions we discussed what the possibilities are with Conservation Reserve Program lands are. Tim Krebsbach from the local Farm Services Agency attended and gave us some insight to the changes in the CRP rules. The rules of CRP lands have changed since 2002 and those changes allow for some mowing to reduce the fire danger. Firebreaks are also now acceptable. There are two kinds of firebreaks, barren ground or mowing. In order to conduct firebreaks on CRP lands an amendment must be made to the conservation plan through the FSA office. Tim was willing to work with any producer who wants to implement some of the new rule changes concerning firebreaks.

If there is a going fire it is permissible to blade or disk on CRP ground to stop a fire. This does not require contact with the FSA in an emergency situation.

A portion of the risk assessment (values at risk and the assessment of fire protection preparedness and capability) was handed out for the Core Group to look at for changes or omissions. They were given a month to review and give their comments back to me.

Fire Frequency/Fuels hazards

We revisited what fuel types they typically fight fire in and they validated that the information gathered on the first meeting was sufficient. We talked about fire frequency and if there were any places in the county that seem to show a pattern of lightning starts. No readily identifiable pattern exists.

For future feedback I asked for several items:

From the portion of the Risk Assessment I handed out I asked them to validate the preparedness and firefighter capability.

We had a discussion about what should be on the base map and the items asked for where: 1. critical infrastructure/water sources/etc, 2. Wildland

Urban Interface boundaries, and 3. a wish list of attributes they would like to see on a base map.

Draft Goals for the CWPP

We reviewed the draft goals and the core group agreed to the ones as presented.

Ignition Sources

We went over the draft list of these and the group added 1. haying/agriculture starts, 2. remove industrial and add oil field activity 3. meth labs

Project Proposals

We had a discussion about hazardous fuels reduction and educational component is desired (both for firefighters and the public). We talked about that this effort was not for acquisition of equipment or gear. I did encourage them to include projects on state and BLM lands. Signing is also a possibility for a proposal, such a fire danger rating signs in key locations. I told them that we were interested in a wide range of projects and if they had any questions about whether or not a project would be considered to call Dena Lang 233-2907 or me at 446-2121.

I asked for a list of preliminary projects by April 30th.

We talked about what was next in the project. I told them that my job was to collect their information to create a final draft of the risk assessment, which they will have a chance to review. After I get their comments back I will finalize the risk assessment and then begin on the mitigation plan.

Rand Herzberg

Attendance Sheet		
Activity	CWPP Core Group Meeting	
Location	Terry	Date(s) March 29, 2005
Duration	1.25 hrs.	

Rev. 4/23/03

CHAPTER 6:

PLAN MAINTENANCE AND COORDINATION

Responsible Parties

The Prairie County Commissioners will be responsible for ensuring that the CWPP/PDM Plan is kept current and also for evaluating its effectiveness. With the adoption of this plan, the commissioners designate the Prairie County Disaster and Emergency Services Coordinator and the Chair of the Local Emergency Planning Committee (LEPC) as the co-leads in accomplishing this ongoing responsibility on their behalf.

Review Triggers

Any of the following three situations could trigger review of the plan's effectiveness or currency and update of the CWPP/PDM Plan.

1. The occurrence of a major natural disaster either in the county or nearby.
2. The passage of time.
3. A change in state or federal regulations with which the county must comply.

Criteria for Evaluating the Plan

When review of the CWPP/PDM plan is triggered by one of the three situations listed above, the plan will also be evaluated for effectiveness and comprehensiveness. The criteria against which the plan will be evaluated will include, but not be limited to:

- Whether any potential natural hazards have developed that were not addressed in the plan,
- Whether any disasters have occurred which were not addressed in the plan,
- Whether any unanticipated development has occurred that could be vulnerable to natural disasters, and
- Whether any additional project ideas have been developed.

Procedures

Should a major natural disaster occur in Prairie County the LEPC shall meet following the disaster to review the after action report. Upon review of this report, any changes needed to the CWPP/PDM Plan will be recommended to the County Commission and made by the County Disaster and Emergency Services Coordinator following their concurrence.

In the absence of a major natural disaster, each January starting in 2007, the LEPC will meet to review the PDM Plan and recommend any needed changes. The primary emphasis of such review will be on the goals, objectives, and specific actions/projects portion of the plan. The LEPC will:

- review the work of the past year, identifying key factors that may have affected accomplishing priority projects, and identifying completed projects
- identify any needed changes or additions to the mitigation strategy (new or changed goals, objectives, actions/projects)
- clarify priorities for projects for the upcoming year and the work tasks needed to accomplish those projects

The LEPC meeting will be noticed in the local newspapers and the public and individuals who served on the Steering Committee for development of the original plan will be encouraged to attend. In the interim, the County Disaster and Emergency Services Coordinator will maintain a file into which comments or input on changes to the plan can be kept. The comments in this file will be provided at the LEPC/public meeting to review the plan.

Finally, should state or federal regulations with which the County must comply be significantly changed, the County Disaster and Emergency Services Coordinator will notice and hold an LEPC meeting. At this meeting he/she will inform the LEPC of the new requirements and together with the LEPC, determine whether changes to the CWPP/PDM Plan are warranted.

Every five years, beginning in 2010, the CWPP/PDM Plan will be updated and submitted to Montana Disaster Emergency Services and subsequently to the Federal Emergency Management Agency (FEMA) for approval.

Incorporation into other Plans

There is no growth policy or comprehensive plan for Prairie County or Terry at the current time. Staff of the incorporated community of Terry and of Prairie County have been made aware of the CWPP/Pre-Disaster Mitigation Plan by the County Disaster and Emergency Services Coordinator and through the planning process. The projects in the CWPP/PDM Plan can be incorporated as appropriate into existing plans, annual budgets, and any Growth Policy that may be developed or updated for the county or incorporated communities.

The County Disaster and Emergency Services Coordinator was extensively involved in the preparation of the CWPP/PDM Plan. As appropriate, the Coordinator will direct consideration of the CWPP/PDM plan into other plans that may be developed by Prairie County or Terry.

.