VALLEY COUNTY, MONTANA

2016 Hazard Mitigation Plan

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Section 1: Introduction

Every day, unforeseen circumstances threaten Valley County. Possibilities ranging from loss of life, property, or jobs can be experienced from natural, technological, and human-made hazards.

Hazard mitigation in Valley County has become an increased priority due to an emphasis placed on preventing disasters and reducing damage prior to an actual event occurring. The stimulus of this is the Disaster Mitigation Act of 2000.The Disaster Mitigation Act of 2000 requires that units of local government (cities, townships, and counties) have an approved mitigation plan in order to receive mitigation grant funding from disasters occurring after November 1, 2004.The purposes behind the Disaster Mitigation Act were fourfold:

1. Revise sections of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.
2. Govern costs of federal disaster assistance.
3. Organize a national program for pre-disaster mitigation.
4. Streamline dispensation of disaster relief.

Hazard mitigation planning is a collaborative process that jurisdictions take to develop a plan, which outlines how they will protect themselves from hazards. FEMA requires that this planning process occurs in all counties in states across the nation. Failure to comply with these requirements will result in that county or local government unit not being eligible for certain aspects of federal mitigation funding.

Mitigation actions implemented today will reduce the disaster recovery dollars needed for tomorrow. Hazard mitigation breaks the recurring damage/loss cycle. Mitigation is accomplished in several ways: construction, prevention, planning, and education. It is through these mitigation methods that a balance between the constructed and natural environments is achieved.

HAZARD MITIGATION

"Hazard mitigation refers to any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazardous conditions. Making the best long-term decisions requires analytical steps that are best summarized as planning" (FEMA, 2002).

The overall goals of the hazard mitigation plan for Valley County are to get people, property, jobs, and natural resources out of harm's way. The plan is organized in five related, but distinct areas that the planners believe will provide Valley County and participating jurisdictions the most flexibility to achieve the goals. The following sections are included:

1. **County Profile** – This chapter contains information on Valley County's history, demographics, physical features, infrastructure, and emergency response
2. **Hazards Profile** – This chapter identifies and profiles the various hazards addressed in the plan
3. **Risk Assessment** – This chapter provides a risk assessment for each local governmental unit covered in the plan
4. **Goals, Objectives, and Mitigation Strategies** – This chapter identifies the specific mitigation steps the participating jurisdictions have committed to achieving the goals of the plan
5. **Plan Administration** – This chapter outlines how the plan will be administered, including implementation tables for chapter four.

The plan provides guidelines for dealing with present and future hazards. More

specific steps are outlined in the county emergency response plans, watershed plans, county water plans, and zoning ordinances. The written plan does not replace existing operational mitigation plans currently in use, but supplements them, helping to reinforce and/or improve present and future mitigation. The finished plan depicts a unified and continuous effort and commitment by many dedicated people in Valley County, all participating jurisdictions, as well as Montana Homeland Security Emergency Management, and FEMA.

It is estimated that for every dollar spent on mitigation activities, four dollars are saved in disaster caused damages.
Congressional Budget Office (2007)

1.1 Plan Goals and Authority

The goals of the Valley County Multi-Jurisdictional Hazard Mitigation Plan are to:

- Increase community understanding of emergency management and build support for hazard mitigation
- Develop, promote, integrate and track mitigation strategies
- Continue to improve and enhance the county's emergency management program
- Increase the economic stability, core values, and quality of services of the county
- Increase mitigation resources to eliminate or minimize harm done to people, property, jobs, and natural resources in Valley County by natural and manmade hazards

The Valley County Hazard Mitigation Plan has been developed in accordance with requirements set forth in the Disaster Mitigation Act of 2000.The Disaster Mitigation Act of 2000 establishes the framework for pre-disaster hazard mitigation planning and provides the legal basis for state, local, and tribal mitigation planning requirements. The newly introduced Section 322 highlights the importance of coordinating hazard mitigation efforts among state, tribal, and local jurisdictions. Under 44 CFR §201.6 local governments must have a FEMA approved hazard mitigation plan in order to apply for and/or receive mitigation funding through existing hazard mitigation assistance programs. Three of the most common mitigation funding programs is detailed below:

1.2 Hazard Mitigation Grant Program (HMGP)

The Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Authorized under Section 404 of the Stafford Act and administered by FEMA, HMGP was created to reduce the loss of life and property due to natural disasters.

The program enables mitigation measures to be implemented during the immediate recovery from a disaster. These mitigation measures include:

- Acquisition of real property from willing sellers and demolition or relocation of buildings to convert the property to open space use
- Retrofitting structures and facilities to minimize damages from high winds, flood, or other natural hazards
- Safe room construction.
- Elevation of flood prone structures
- Development and initial implementation of vegetative management or invasive species programs
- Minor flood reduction projects that do not duplicate the flood prevention activities of other Federal agencies

- Localized flood control projects, such as certain ring levees and floodwall systems, designed specifically to protect critical facilities
- Post-disaster evaluations of potential building codes modifications
- Hazard mitigation planning

1.3 Pre-Disaster Mitigation (PDM)

The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. These activities include:

- Voluntary acquisition of real property in flood plains and or property repeatedly damaged by flooding
- Elevation of existing public or private structures
- Construction of safe rooms for public or private structures that meet FEMA requirements
- Hydrologic and hydraulic studies/analyses
- Engineering and drainage studies for project design and feasibility
- Protective measures for utilities, water, sewer, roads and bridges, and storm water management to reduce/eliminate long-term flood risk

1.4 Flood Mitigation Assistance (FMA)

FMA implements cost-effective measures to reduce or eliminate the long-term risk of flood damage to National Flood Insurance Program (NFIP) structures. State-level agencies, tribes, and local governments are eligible sub-applicants through Homeland Security and Emergency Management (HSEM). Eligible projects include:

- Acquisition, structure demolition, or structure relocation with the property deed restricted for open space uses in perpetuity
- Elevation of structures
- Dry flood proofing of non-residential structures
- Minor structural flood control activities
- Repetitive flood claims
- Severe Repetitive Loss

1.5 Participation

Effective mitigation planning does not occur in a vacuum. It requires the entire community to be involved in the mitigation planning process. Thus, the planning process and its ability to identify, engage, and include the entire community is just as important as the plan itself. Throughout the mitigation planning process, Valley County invited all of the jurisdictions to attend mitigation planning meetings, participate in workshops, and provide input and feedback in the development of the mitigation plan. The following jurisdictions were represented in updating the Valley County All-Hazard Mitigation Plan Update:

- Glasgow, Fort Peck, Nashua, Opheim, and Valley County

In addition to the jurisdictions, efforts were made to invite the public and key stockholders to participate in the planning process. These efforts included providing inventions to planning meetings, placing participation announcements in the county

paper of record, listing announcements of meetings in the Valley County paper of record and in other public forums, placing invitations to participate on the county and city web pages, attending city council and other key stakeholder meetings.

Section 2: Mitigation Plan Update

Effective planning efforts result in high quality and useful plans; however, written plans are only one element in the process. The planning process is as important as the plan itself. A successful planning process forges partnerships and brings together a cross-section of government agencies, the public, and other stakeholders to reach consensus on how to achieve the desired outcome or resolve a community issue.

Applying an inclusive and transparent process adds validity to the plan. The result is a common set of community values and widespread support for directing financial, technical, and human resources to an agreed upon action. The planning process was an integral part of the Valley County's Hazard Mitigation Plan. This section describes Valley County's planning process and how the hazard mitigation plan evolved.

FEMA Requirements Addressed in this Section:

Requirement
§201.6(b) an open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

§201.6(b) (1) (1) an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

§201.6(b)(2) (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

§201.6(b)(3) (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

§201.6(c)(1) [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

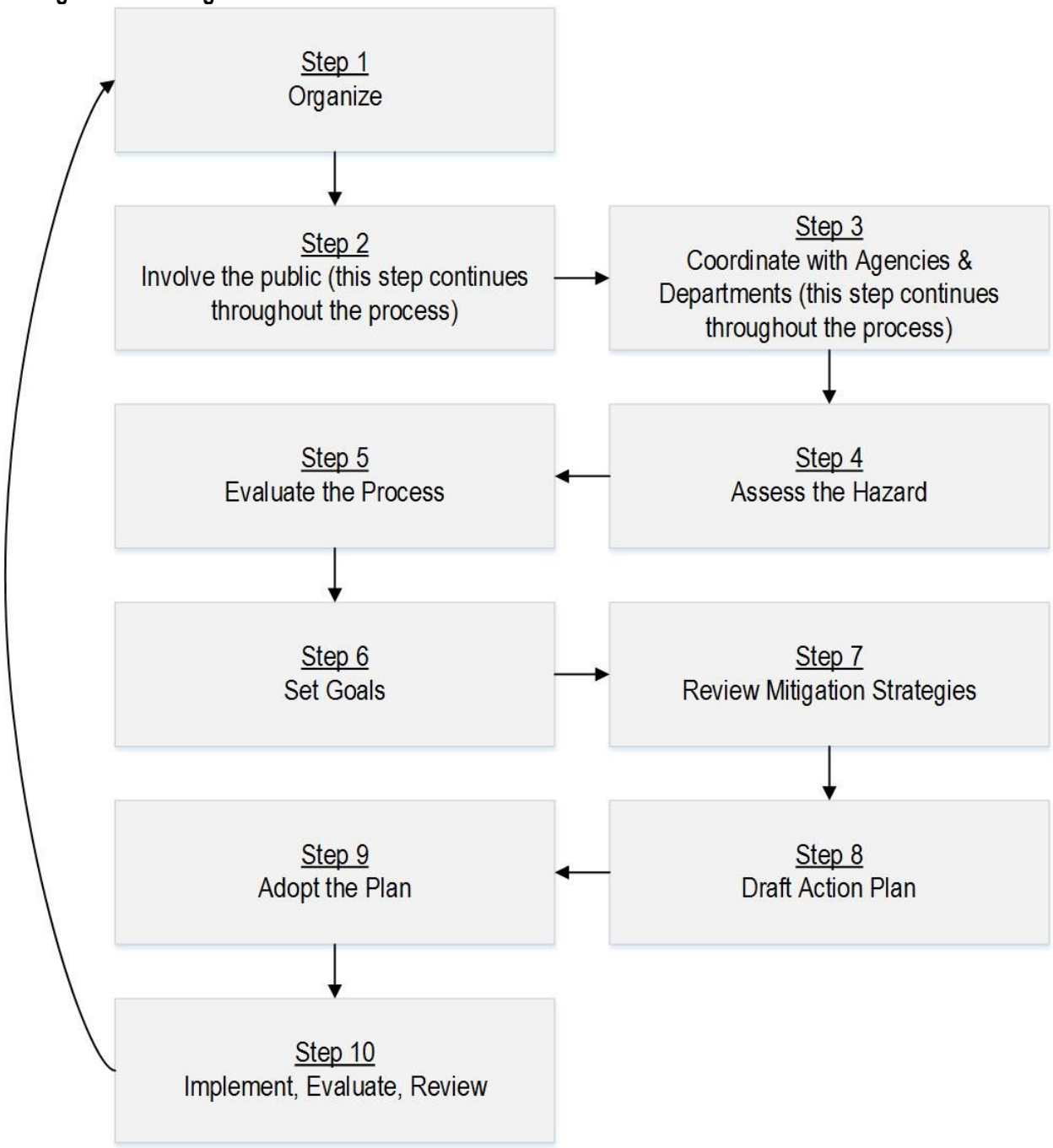
§201.6(c)(4)(i) [The plan maintenance process shall include a] section describing the method and schedule for monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

§201.6(c)(4)(iii)[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

2.1 Planning Process

To help guide the mitigation update, The Valley County Steering Committee, and by extension, the Hazard Mitigation Planning Team followed the 10-step process listed below. The planning process is based on the FEMA guidance for mitigation planning. The following graph is a visual representation of the planning process used throughout the plan update cycle.

Figure 1: Planning Process



In addition to the listed process, it is important to note that several key stakeholders reviewed the hazards and the hazards effects on people and property, identified ways to reduce and prevent damage, and recommended the most appropriate and feasible measure for implementation mitigation activities. The Hazard Mitigation Planning Team organized the mitigation plan, updated procedures, reviewed existing plans and programs, and coordinated with stakeholders and the public. The Hazard Mitigation Steering Committee coordinated with key agencies and other organizations to provide insight and discussion throughout the planning process.

2.1.1 Plan Administrators

Because mitigation planning is an all-inclusive process, the involvement of the Valley County Disaster Emergency Services Coordinator, Hazard Mitigation Steering Committee, Hazard Mitigation Planning Team, and participating jurisdictions was crucial. To accommodate this requirement, these key groups were assigned various duties and responsibilities. These responsibilities were created to ensure the mitigation plan was comprehensive, reflected the goals of Valley County, and fulfilled the requirements of the mitigation planning process. The groups worked closely with several key stakeholders who helped to shape the plan.

2.1.2 Disaster and Emergency Service Coordinator Role and Responsibilities

Rick Seiler, the Valley County Disaster Emergency Services Coordinator, was ultimately responsible for completing the hazard mitigation plan update, ensuring that all identified mitigation activities were incorporated into comprehensive strategies that protect the county and its participating jurisdictions. The Valley County Disaster and Emergency Services orchestrated the update process, led the Hazard Mitigation Steering Committee and Hazard Mitigation Planning Team, as well as consolidated and solidified stakeholders across the county. The following includes a summary of the duties and responsibilities of the Disaster and Emergency Service Coordinator:

- Oversee the planning process
- Ensure the Plan met the needs of the county, citizens, and complied with the code of federal regulations
- POC for the Hazard Mitigation Steering Committee members
- Lead the Hazard Mitigation Planning Team
- Take attendance and documenting all meetings
- Point of contact for the plan and planning process
- Work within and between the participating jurisdictions and other key stakeholders to ensure the plan represented the entire county
- Ensure that participating jurisdictions were included in the planning update.
- Invite the public to participate and distribute all updated milestones for review and comment.

2.1.3 The Mitigation Steering Committee

A vital component of the Valley County 5-year mitigation update effort was to identify the Hazard Mitigation Steering Committee. Identification of this core group was important in ensuring implementation and support of the mitigation planning process. Hazard Mitigation Steering Committee members were chosen for their knowledge of the county, cities, and community services. The Local Emergency Planning Committee (LEPC) with the assistance of the mayors and city clerks for each jurisdiction were tasked to serve on the Hazard Mitigation Steering Committee.

Table 1: Hazard Mitigation Steering Committee Members

Name	Organization	Title
Richard Seiler	Valley County	DES Coordinator
John Jones	Fort Peck	Mayor
Shari Little	Fort Peck	Town Clerk
Becky Erickson	Glasgow	Mayor
Stacy Amundson	Glasgow	City Clerk
Doug Bailey	Opheim	Mayor
Dorthy Crandell	Opheim	Town Clerk
Allen Bunk	Nashua	Mayor
Bobbi Skyberg	Nashua	Town Clerk
Dave Reinhardt	Valley County	Chairman, Commissioner
Lynne Nyquist	Valley County	Clerk and Recorder
Bob Connors	Valley County	Supt of Schools
Bob Kompel	Glasgow	City Engineer
Brandon Brunelle	Glasgow	City Fire
Brien Gault	Glasgow	Police Captain
Bruce Barstad	Glasgow	City Police Chief
Bruce Peterson	Valley County	Commissioner
Cam Shipp	Valley County Sanitarian	Employee
Charles Wilson	Community member	Community member
Chris Knodel	Long Run Fire	Employee
Clay Berger	STAT AIR	Employee
Colleen Pankratz	Valley County Transit	Employee
Connie Boreson	Valley County Health	Employee
Dan Carney	Fire	Employee
Darcel Wesen	MARCO/Boeing	Employee
Dave Nixdorf	FMDH	Employee
Dave Pippin	Community member	Community member

The Hazard Mitigation Steering Committee was responsible for ensuring the following:

- Oversee the plan and ensure its relevance to the changing situation of the county
- Monitor and evaluate the mitigation strategies
- Ensure documents reflect current hazard/risk analysis, development trends, code changes, and risk perceptions of the county
- Ensure the plan was up to date and maintained as outlined within the plan
- Provided guidance to the Hazard Mitigation Planning Team
- Approve the plan update and processes used to complete the plan

2.1.4 Hazard Mitigation Planning Team

The Hazard Mitigation Planning Team provided technical guidance, documented the planning process, and wrote the mitigation plan update. The Valley County Disaster and Emergency Services served as the coordinating entity of the Hazard Mitigation Planning Team.

The Hazard Mitigation Planning Team facilitated the overall plan development to ensure the Hazard Mitigation Plan and Valley County met the requirements of DMA 2000.Beyond administration, content organization, and text development, the following duties summarize the Hazard Mitigation Planning Team's responsibilities.

- Organize and guide all meetings
- Review all documents provided by the EM and participating jurisdictions
- Provide technical assistance
- Guide the plan development to adhere to DMA 2000 requirements
- Modeled disasters
- Conduct a capability assessment
- Conduct a risk assessment
- Create a hazard and community profile
- Attend and facilitate all the Hazard Mitigation Steering Committee meetings

Table 2: Hazard Mitigation Planning Team Table

Valley County Planning Team		
5-Year Update		
Member	Organization	Title
Richard Seiler	Valley County	DES Coordinator
Micheal Kemp	Integrated Solutions Consulting	Project Manager
Kimberly Pleva-Berka	Integrated Solutions Consulting	Planner

2.1.5 Participating Jurisdictions

Another important aspect of the planning administration process was the inclusion and involvement of the participating jurisdictions. The jurisdictions that participated in the planning efforts of the Valley County Multi-Jurisdictional Hazard Mitigation Plan are listed in Table 3.

Table 3: Participating Jurisdictions

Participating Jurisdictions
Glasgow, Fort Peck, Nashua, Opheim, and Valley County

The jurisdictions participated in the plan by providing information, attending meetings, giving substantive feedback regarding their jurisdiction, and providing insight into the overall mitigation plan update process. As such, the participating jurisdictions were key participants in the general planning process, hazard identification, risk assessments, and the mitigation strategy update process.

The participating jurisdictions were responsible for the following:

- Ensure their participation in mitigating process
- Provide relevant information pertinent to their jurisdictions
- Ensure that within their own jurisdictions, the mitigation plan would be integrated into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate
- Work with the Valley County Disaster and Emergency Services and mitigation planning committee as part of the iterative planning process
- Providing information concerning past mitigation actions and creating new mitigation actions
- Providing comment and review of the plan's community profile, hazard profile, risk assessment, capability assessment, mitigation goals, and maintenance and management section

Each jurisdiction participating in the plan update acted as an official conduit between their respective cities and their citizens. The insight offered by, and provided to the Hazard Mitigation Planning Team by the jurisdictions was invaluable in ensuring the plan represented the entire county.

2.1.6 Meetings and Participation

To kick off the planning process, a series of conference calls to organize the planning process were conducted between Valley County personnel and the mitigation planner. During these calls, goals of the planning update were created, priorities were set, responsibilities delegated, key stakeholders and public participants were identified.

While the kickoff meeting discussed several issues, some of the key outcomes included the following important planning details:

- To ensure timely communications, correspondence would be in electronic format as much as possible (webpages, conference calls, electronic document management systems, and email)
- It was understood that the county would be responsible for ensuring participation and providing requested documents and resources needed to complete the planning process
- The DES Coordinator would take and keep all records, notes, and attendance of all meetings
- The Hazard Mitigation Planning Team would complete a community profile, hazard profile, risk assessment, capability assessment, and update mitigation actions as per their contract with Valley County.
- To ensure the involvement of the county stakeholders, the planning process would be an iterative process with local support reviewing and approve all sections of the plan.

At the request of the Valley County Disaster and Emergency Services Coordinator, meetings were to serve as both planning and steering meetings. It was requested that the planner start each meeting with a tutorial concerning general mitigation and concepts. It was a concern that those attending the meetings may have limited experience and knowledge of hazard mitigation. The agenda for the rest of the meetings included an overview of the actual planning process, updates of the planning process, and comment and approval of various sections of the plan.

To ensure open communication and input, all of the noted meetings were open to the public. Furthermore, invitations for the outlined meetings included announcements via the county and city websites, postings in the newspaper of record, mass emails, and direct invites. The following outlines the planning meetings.

Table 4: Five Phases Communication/Meetings Table

Meeting Number	1	2	3	4	5
Date	February 10, 2015	March/April 2015	May 19, 2015	Nov16-30 2015	July 2016
Location	Glasgow MT	Glasgow MT	Glasgow MT	Glasgow MT	Glasgow MT
Meeting Focus	Kickoff Meeting	Community Profile	Risk Assessment	Mitigation Actions	Plan Approval

Meeting One (February 13, 2015): The focus of the meeting was to set the stage of the planning process, set expectations, and to ensure the plan would accurately represent the makeup of the county and participating jurisdictions. An invitation to this meeting was provided to all of the participating jurisdictions and city and county organizations. The Valley County Disaster and Emergency Services, using existing contacts, sent the invitations via county/city contact lists.

The meeting was well attended and input from those in attendance proved invaluable. The Hazard Mitigation Planning Team provided an introduction of the planning process, a general understanding of mitigation, and introduced the concept of the community profile.

The Hazard Mitigation Planning Team also provided an overview of the planning process and suggested and a timeline for completion. The Hazard Mitigation Planning Team discussed the mitigation crosswalk and noted that the required elements of the plan. Finally, the Hazard Mitigation Planning Team discussed the iterative process, placing an emphasis on the importance of feedback, input, and communication.

Outcomes: The major outcome of the meeting was the understanding that the Hazard Mitigation Planning Team would provide drafts of the community profile for review. It was noted the Hazard Mitigation Planning Team and stakeholders would create the community profile (and subsequent sections of the plan) using an iterative process.The planner introduced the concept of the community profile and noted the next few months would be spent with the stakeholders providing/sharing data, comments/feedback and providing general context to accurately portray the local perspective of the community. Finally, it was established that the Valley County Disaster and Emergency Services would be responsible for ensuring notification and participation of those within the county and participating jurisdictions.

Other outcomes of the meeting concerned the issue of notification and participation. It was understood that several methods would be used to inform the public of the mitigation process with the primary source of public information being the county's webpage and communication from the DES Coordinator. The Hazard Mitigation Planning Team also suggested that each jurisdiction place an announcement on their respective webpage informing the public that the mitigation update process had begun, how and where to participate, points of contact, and meeting dates. The Hazard Mitigation Planning Team further advised each jurisdiction to request that the mitigation planning process be added as an item in their respective city council meetings as an official agenda item. Council agenda items are typically reported and listed in the Valley County's paper of record. Finally, it was suggested for those jurisdictions that have a regular newsletter include information about the mitigation planning process. To ensure everyone's efforts were coordinated and recorded, it was requested that all the actions used to encourage participation be reported to the DES Coordinator.

Meeting Two (March-April 2015): The second meeting was actual a series of meetings held traditionally, electronically, and via phone conferences with each of the participating jurisdiction's representatives. The purpose of the second meeting was to present the draft findings of the community profile, enhance the profile with local input, and approve the community profile. The planning team also used this opportunity to present the findings of the capability assessment along with having each of the jurisdictions approve the final capability assessment.

Outcomes: Outcomes of the meeting included improvements of the community profile and completing the capability assessment.

This meeting was primarily completed with the planner meeting with the DES Coordinator and in turn the DES Coordinator meeting with the Valley County Commissioners, Jurisdictional Mayors, and other key stakeholders. While this process is described here as a single meeting, in reality, it was a series of meetings that transpired over several weeks.

Meeting Three (May 19, 2015): This meeting included a progress update on the mitigation planning process, a discussion on what hazards should be included in the plan, an overview/tutorial of the risk assessment, and an overview of the capability assessment. It was additionally noted that the planning team would also create the plan maintenance section.

Outcomes: Outcomes of the meeting included a decision on what hazards were to be included in the planning process and approval of the risk assessment process. Finally, it was decided that once there were reviewable drafts of the risk assessment the stakeholders would review them provide feedback. Upon inclusion of the feedback, each of the jurisdictions would approve the risk assessment, community profile, and capability assessments. The feedback and approval process would be conducted/completed with a series of communications using traditional meetings electronic means and phone conferences.

Meeting Four (November 2015-June 2016): The primary purpose of this series of meetings was to complete the mitigation project section of the plan. The meeting was a series of meetings/communications to help ensureas many of the participants and key stakeholders were included. Key stakeholders from all of the jurisdictions meet via a traditional meeting and had several follow-up communications.

Outcomes: All of the participating jurisdictions participated and provided input. The DES Coordinator additionally used the Valley County paper of record and webpage to invite the public to participate in this process and comment on the plan in general. The result of this planning effort results in the creation of a list of mitigation actions, a cost-benefitanalysis, and the final approval the mitigation project section.

Meeting Five (August 2016): The purpose of this meeting was to approve the final iteration of the plan. Each jurisdiction was given a chance to review the plan and provide comment. Another invitation for public review and comment was made via the Valley County paper of record and website. The plan approval process lasted for approximately two months (June 2016 – August 2016).

Outcomes: With the jurisdictions approving the final iteration of the plan, the DES Coordinator deeming the plan approved. The plan was sent for in for state review.

2.1.7 Additional Meetings and Participation

Several meetings/communications were utilized to complete the five phases of the planning process. The Valley County Disaster and Emergency Services Coordinator were the primary facilitator and leader of these meetings and communications. These additional meetings provided the Hazard Mitigation Planning Team with additional information and insights that were vital to the plan update and ensured every phase of the planning process was approved by each participating jurisdiction. Participants included officials from all of the county's jurisdictions, key stakeholders from various organizations, subject matter experts, regional and state officials, and the public.

What follows is a comprehensive list of all the meeting that occurred over the entire planning process. The dates, as well as a general synopsis of what occurred at the meetings, who participated, and general notes are provided in the following table. Meetings occurred in both traditional formats and conference calls.

Table 5: Date and Purpose of Meetings

Meetings with Key Stakeholders, the Community, and Other Interested Parties			
Date	**Purpose**	**Forum**	**Participants**
2/10/15	Valley County Hazard Plan Update Kick-Off Meeting, Community profile	Plenary	Mitigation Planning Committee, Mitigation Steering Committee, Participating Jurisdictions and the Public
2/10/15	Valley County Hazard Plan Meeting, Community profile	Plenary	National Oceanic and Atmospheric Association
2/16/15	Discuss PDM-Reviewed Hazard perception survey and send it out to committee and public	Plenary	LEPC Steering Committee
2/22/15	Discuss PDM- rough draft of the community profile for review, review hazard profile	Plenary	LEPC Steering Committee
3/11/15	Discuss PDM- reviewed Hazard perception survey	Plenary	Department Head meeting
3/17/15	Discuss PDM- Draft copy of Community profile was reviewed and send out to committee	Plenary	LEPC Steering Committee
4/8/15	Discuss PDM and Hazard perception survey	Plenary	Valley County employee meeting and LEPC Steering Committee
4/21/15	Discuss PDM- worked on Hazard perception survey and discussed community profile	Plenary	LEPC Steering Committee

Meetings with Key Stakeholders, the Community, and Other Interested Parties			
Date	**Purpose**	**Forum**	**Participants**
5/19/15	Valley County Hazard Mitigation Plan Community/Hazard profile and risk assessment	Plenary	Mitigation Planning Committee, Mitigation steering committee, participating jurisdictions and the public
6/16/15	Discuss PDM- reviewed Community profile and send to committee in Dropbox	Plenary	LEPC Steering Committee
7/21/15	Discuss PDM- updated information on community profile	Plenary	LEPC Steering Committee
8/11/15	Discuss PDM, Community profile, mitigation process timelines, hazards	Plenary	LEPC Steering Committee , participating jurisdictions and public
8/11/15	Discuss PDM- updated committee on Community profile and mitigation actions	Plenary	Glasgow Levee committee and LEPC Steering Committee
9/9/15	Valley County Hazard Mitigation Plan Mitigation Projects	Plenary	Valley County Department head committee and LEPC Steering Committee
9/15/15	Discuss PDM- review mitigation actions for the City of Glasgow	Plenary	City of Glasgow PDM Committee
10/20/15	Discuss PDM- working on Mitigation actions and talk about soft match	Plenary	LEPC Steering Committee
11/10/15	Discuss PDM- updated on community profile and mitigation actions	Plenary	Department head meeting and LEPC steering committee
11/17/15	Discuss PDM-Mitigation actions Review and updates to PDM	Plenary	LEPC Steering Committee
11/19/15	Discuss PDM- review Mitigation Actions process and hazard risk	Plenary	City of Glasgow and Town of Nashua PDM Committees
12/2/15	Discuss PDM-mitigation actions for levee and SWIF Plan, RFP for Levee	Plenary	Glasgow Levee Committee and LEPC steering Committee
12/17/15	Discuss PDM-review Mitigation actions and Hazard Risk	Plenary	Town of Fort Peck and Valley County Commissioner
12/21/15	Discuss PDM- review Mitigation actions and hazard risk	Plenary	Town of Opheim and LEPC Steering Committee
1/19/16	Discuss PDM- Talk about Mitigation Goals for Glasgow, Nashua, Fort Peck , and Valley County	Plenary	LEPC Steering Committee
2/8/16	Discuss PDM- mitigation actions and hazard risk	Plenary	Nashua Town Council and LEPC steering Committee
2/9/16	Discuss PDM –mitigation actions process and hazard risk	Plenary	Fort Peck town Council and LEPC steering Committee
2/16/16	Discuss PDM- update on meeting with Fort Peck and Nashua on Mitigation Actions	Plenary	LEPC Steering Committee
3/16/16	Discuss PDM- review risk assessment	Plenary	LEPC Steering Committee
4/20/16	Article in Glasgow Courier on PDM and Posted on County Websites	Plenary	LEPC Steering Committee and Public
August	Valley County Hazard Mitigation Plan approval and acceptance for plan adoption	Plenary	Valley County Commissioner, Mayor of Glasgow, Nashua, Fort Peck, Opheim and the Public

Meetings with Key Stakeholders, the Community, and Other Interested Parties			
Date	**Purpose**	**Forum**	**Participants**
NOTE: Valley County DES Coordinator was responsible for creating this table and/or any notes and signup sheets resulting from the noted meetings. In additional all LEPC meetings and several general planning meetings were open to the public.			

In addition to traditional methods of public involvement, online surveys were also offered. These surveys proved to be a valuable instrument to gather data, garner local support, and ensure community participation. 39 participants provided approximately 100 data point's hazards, risk, mitigation goals strategies and expectation to mitigate. The public survey consisted of residents representing all of the cities and Valley County.

2.1.8 Partners and Stakeholders

Involving partners and stakeholders in the mitigation planning process will assist in obtaining a thorough and comprehensive understanding of the county's diverse programs, facilities, operations, community vulnerabilities, hazard risks, existing and planned developments and projects, and opportunities to implement mitigation strategies. To facilitate involvement in the mitigation update, the Hazard Mitigation Steering Committee and the project team met with and/or used resources provided by a variety of local, regional, state, and federal authorities. Where appropriate, contacts were also made with regional, state, and federal agencies and other external organizations, to determine how their programs could support the mitigation efforts. The following is a list of those organizations that were used as resources and/or are actively supporting Valley County's mitigation efforts:

Table 6: Organizations Used as Resources

Organizations Used as Resources	
• U.S. Geological Survey • U.S. Army Corps of Engineers • U.S. Department of the Interior • National Weather Service • Federal Emergency Management Agency • Valley County Disaster and Emergency Services • Bureau Land Management • Valley Electrical Cooperative Inc.	• Valley County Public Schools • Valley County Commissioners • Valley County City/County Planner • Valley County Superintendent of Schools • Mayors and City Councils of Glasgow • Fort Peck • Nashua • Opheim

2.1.9 Review and Incorporation of Existing Plans and Studies

To ensure the plan was completed using best practices and included accurate information, the Hazard Mitigation Planning Team members reviewed various public domain documents including plans, studies, and guides to begin developing the hazard mitigation plan update. Included were mitigation plans from surrounding jurisdictions, FEMA guidance documents, emergency-services documents, contingency plans, community plans, federal, local, state regulations/ordinances, and other similar public domain documents.

The following table is a list of the public domain plans and other documents the Hazard Mitigation Planning Team used to guide the hazard mitigation plan update. Sources are also listed and cited within the document.

Table 7: Existing Plans and Studies Utilized in the Update

Existing Plans and Studies Utilized in the Update		
Plans/Studies/Guides	**Author**	**Plans/Studies/Guides and their use in creating this plan**
American Fact Finder Community Facts	US Census Bureau	This resource was used to inform the development Chapter 3, the Community Profile section of this document.

Existing Plans and Studies Utilized in the Update		
Plans/Studies/Guides	**Author**	**Plans/Studies/Guides and their use in creating this plan**
2012 Agricultural Census for Valley County	US Department of Agriculture	This resource was used to inform the development Chapter 3, the Community Profile section of this document.
National Climate Assessment for Montana	US Global Change Research Program	This document was used to inform Chapter 4, the Risk Assessment section of this document.
Vehicle Crash History from 2005-2014	Montana Department of Transportation	This document was used to inform Chapter 4, the Risk Assessment section of this document.
Montana Communicable Disease Case Counts Report	Montana Department of Health	This document was used to inform the infectious disease section in Chapter 4, the Risk Assessment section of this document.
National Inventory of Dams	National Inventory of Dams Database	This document was used to inform the dam failure section in Chapter 4, the Risk Assessment section of this document.
Potential Cost Savings from the Pre-Disaster Mitigation Program	Congressional Budget Office (2007)	This document was used to inform the planning process as identified in Chapters 1,2 and 5
How-to-Guide (Series 386–1, 2, 3, 4, & 5)	FEMA	These documents were used to inform the planning process as identified in Chapters 1,2 and 5
NFIP Community Rating System	FEMA	This document was used to inform the flooding section in Chapter 4, the Risk Assessment section of this document.
National Flood Insurance Program	FEMA	This document was used to inform the flooding section in Chapter 4, the Risk Assessment section of this document.
Hazus-MH: Flood Event Report for Valley County	Valley County	This document was used to inform the flooding section in Chapter 4, the Risk Assessment section of this document.
Storm Events Database	National Oceanic Atmospheric Administration	This document was used to inform Chapter 4, the Risk Assessment section of this document.
The Right-to-Know Network	Center for Effective Government	This document was used to inform the hazardous material section in Chapter 4, the Risk Assessment section of this document.
2013 Update to the State of Montana Multi-Hazard Mitigation Plan	State of Montana	This document was used to inform the community profile Chapter 3 and risk assessment Chapter 4 sections.
2012 Montana Emergency Response Framework	State of Montana	This document was used to inform the civil disobedience section in Chapter 4, the Risk Assessment section of this document.
2008 Valley County Pre-Disaster Mitigation Plan	Valley County	This document was used to inform the community profile Chapter 3, risk assessment Chapter 4 and mitigation project Chapter 6 sections.
Texas Tech University	Wind Science & Engineering Research Center	This document was used to inform the risk assessment Chapter 4 and mitigation projects in Chapter 6
Valley County Soil Survey	USDA	This document was used to inform the community profile Chapter 3 and mitigation projects in chapter 6
Valley County Emergency	Valley County Disaster and	This document was used to inform the Risk

Existing Plans and Studies Utilized in the Update		
Plans/Studies/Guides	**Author**	**Plans/Studies/Guides and their use in creating this plan**
Operations Plan	Emergency Services	assessment Chapter 4 and mitigation Project section Chapter 6
Valley County Land Use/Zoning Ordinance	Valley County Commissioners Office	This document was used to inform the mitigation Project section Chapter 6
+Burlington Northern and Santa Fe Railroad, Emergency Action Plan	Burlington Northern Santa Fe Railroad	This document was used to inform the community profile Chapter 3 and risk assessment Chapter 4.

Note: All Plans/Studies/Guides that were indirectly and or directly used to create and or guide this plan update are listed in this table. In addition, any Plans/Studies/Guides that was directly quoted and or where information was directly taken the Plans/Studies/Guides is also properly cited within the body of this document.

2.1.10 Participation and Data Request

The success of the plan update is heavily dependent on the cooperation and coordination of the Hazard Mitigation Steering Committee, participating jurisdictions, and the Hazard Mitigation Planning Team. As such, the Hazard Mitigation Planning Team created a timeline for the plan update. Along with the timeline, the Hazard Mitigation Planning Team also created plan phases and provided direction on what would be required to complete each phase. Plan instructions included noting who should participate, what documents should be provided to the Hazard Mitigation Planning Team for review, how to review documents, and the overall planning process. This information was shared with the Hazard Mitigation Steering Committee, participating jurisdictions, and the members of the Hazard Mitigation Planning Team. The information was regularly maintained and updated throughout the planning process

The planning process used to complete the Valley County plan update was an iterative process; iterative, meaning as sections of the plan was prepared, the Disaster and Emergency Service Coordinator, the Hazard Mitigation Steering Committee and participating jurisdictions reviewed the draft and provided comments and/or suggestions for improvement. The input and feedback provided was incorporated into the draft and finalized. The following table is a representation of the planning phases used in this iterative planning process of the Valley County Mitigation Plan update.

Table 8: Participation Table

	Information/Editing Requested by Planning Team						Information noted as being validated by jurisdictions			
This spreadsheet is a documentation of the involvement of participating Jurisdictions	February 2015 Community Profile	March 2015 Risk Assessment	November 2015 Mitigation Projects	June 2016 Plan Review	June 2016 Review and Final Acceptance)		March 2015 Community Profile	November 2015 Risk Assessment)	June 2016 Mitigation Projects	August 2016 Plan Revie & Approval
Glasgow	X	X	X	X	X		X	X	X	X
Fort Peck	X	X	X	X	X		X	X	X	X
Nashua	X	X	X	X	X		X	X	X	X
Opheim	X	X	X	X	X		X	X	X	X
Valley County	X	X	X	X	X		X	X	X	X

Note: The above table does not represent actual meetings, but rather the iterative planning process. Thus, the table shows timeframes of when the Hazard Mitigation Planning Team requested data and/or feedback, when data was verified by the jurisdictions and which jurisdictions participated in the process. Furthermore, a signed document certifying Chapter 2, this table, and that each jurisdiction was an active participant in the creation of this document and the mitigation planning update process is listed in Appendix C

2.1.11 Summary of the Planning Process & Significant Plan Updates

The following section provides a bulleted overview of the previously described planning process and the major changes that occurred to this plan during the update**.** The planning update as conducted in the following phases:

- Community profile creation
- Hazard profile
    - Hazard selection
- Risk assessment conducted
    - Impact (assumptions and magnitudes)
    - Risk
    - Disaster modeling
- Mitigation strategy creation
    - Update of existing strategies
    - Creation of new strategies
    - Prioritizing strategies
- Final plan approval
    - Plan overview created
    - Plan monitoring created
    - Plan maintenance created
    - The mitigation plan was reconciled with the most current language used in planning/information/codes etc. used by the participating jurisdictions

2.2 Changes Made During this Plan Update

The update of the mitigation plan used an iterative planning process for making several changes and enhancements to the previous version of the mitigation plan. The following section provides an overview of the significant updates reflected within this plan.

- The overview of community profile sections changed to reflect the recent census data (2010) and changes within the county
- Several variables were included in the community profile that did not previously exist
- Update of the mitigation goals
- A capability assessment was conducted
- The hazard risk assessment was completed and updated to account for the disasters and changes within the community that occurred in the past five years
- The overview of mitigation goals, objectives, and strategies was updated to reflect new goals, new objectives, and new strategies
- Processes were created to ensure governance and accountability of the plan
- A monitor and maintain section was created to ensure the plan remains updated
- Three hazard scenarios were modeled (flood, tornado, and hazard material release)
- Mitigation strategies/projects for each participating jurisdiction were developed, with each jurisdiction identifying at least one new action that did not exist in the previous plan.

The following sections constitute the actual mitigation update and are a columniation of all the participants' effort. The information in each section plays an integral role in the mitigation planning process and is interdependent upon the entirety of the planning process.

Please contact Valley County's Disaster and Emergency Service Coordinator for assistance in using this document and/or becoming involved in future mitigating planning processes.

Section 3: Community Profile

In many jurisdictions, including Valley County, a detailed and in-depth community profile is developed as a key element of the hazard mitigation plan; however, its utility goes far beyond this plan alone. The Community Profile Section is an overview of the political governance, economy, geography, climate, population, community assets, future development and trends, and the commercial and industrial make-up of Valley County. While the community profile provides the county with a solid foundation for developing a common operational picture for mitigation, it can also be referenced for other activities, such as THIRA, emergency training, exercises, and actual incidents.

To complete the community profile the Disaster and Emergency Service (DES) Coordinator or his representatives contacted numerous agencies, conducted research, and examined several technical reports and records. Valley County utilized a community effort for planning to design an effective mitigation plan. The input from a variety of stakeholders who will be part of any disaster recovery were involved in the planning process, these include elected officials, first responders, emergency management, health care providers, public works, road departments, businesses, and the public.

The following pages provide a broad range of information that serves to provide a context for the subsequent sections in this plan. This information is divided into five broad categories:

1. General Historical Overview
2. Physical Characteristics
3. Population and Demographics
4. Community Conditions
5. Critical Infrastructure

This information was used in a subsequent assessment section to determine the type and magnitude of the county's risks.

The county and community profile is an important aspect of the hazard mitigation process. This profile serves to recognize and familiarize the reader with the potential impacts of hazards, specifically: people, property, jobs, natural resources, and crops. This informational provides a general picture of the make-up of Valley County.

Several documents were essential in the writing of this plan. The community profile recaps these resources for providing the general environment of Valley County.

A correctly written hazard mitigation plan will help secure the life, wellness, and security of its residents, avert repetitive damages due to various hazards, and furnish a faster recovery process when a disaster does occur. In addition, there is an increased sense of cooperation and communication among the public along with an increased potential for funding mitigation, recovery, and reconstruction projects.

3.1 General Overview

Valley County founded in 1893, is a county located in the northeastern part of in the U.S. State of Montana and the county seat is Glasgow. The total area is 5,062 square miles and 2.7% of the county is water. The population in 2010 was 7,369 and the population density is 1.5 people per square mile. The largest and only city in the county is Glasgow.

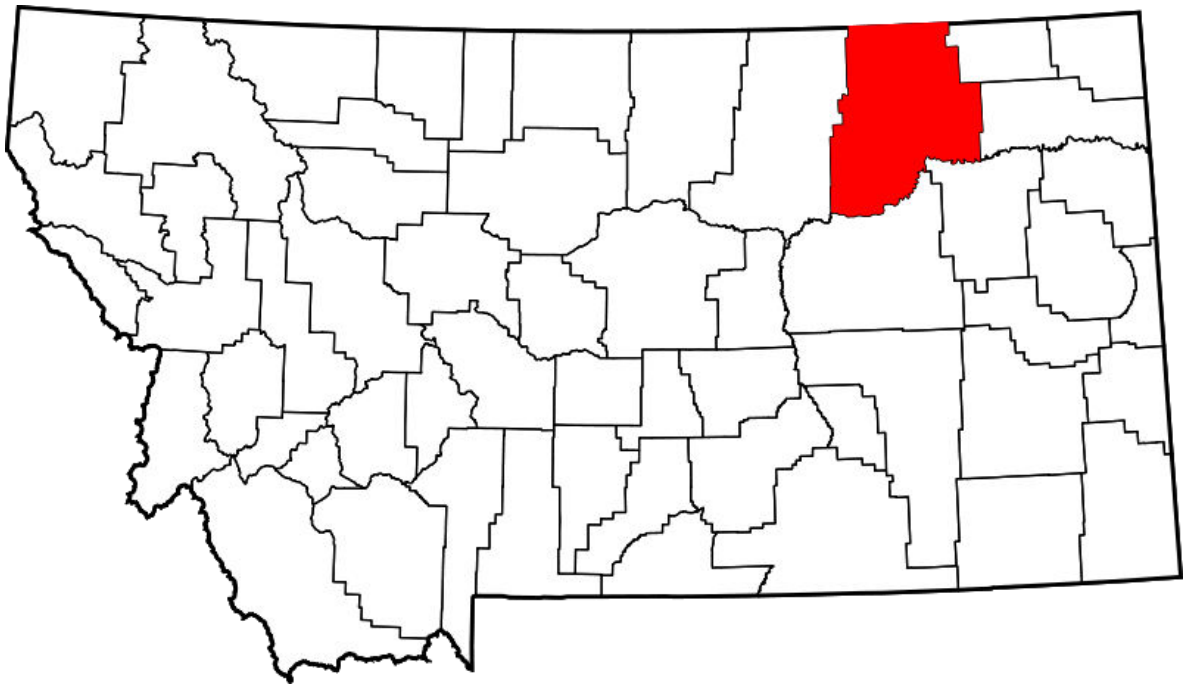
Daniels and Roosevelt Counties on the east, McCone and Garfield Counties on the south, Phillips County on the west, and Saskatchewan, Canada on the north bound Valley County. The Fort Peck Indian Reservation encompasses much of the eastern portion of the county. The City of Glasgow is the county seat and incorporated towns include Fort Peck, Nashua, and Opheim, unincorporated areas include Frazer, Luster, Richmond, Hinsdale, and St. Marie. Fort Peck Reservoir and the Fort Peck Dam form the southern county boundary. The Milk River and Porcupine Creek flow into the Missouri River downstream from the dam.

Table 9: Incorporated Cities and Towns in Valley County and Population

City/Town	Population
Glasgow (County seat)	3,250
Fort Peck	233
Nashua	290
Opheim	85
Frazer*	362
Hinsdale*	217
St. Marie*	264

*These are census-designated places

Figure 2: Map of Valley County



3.1.1 Historical Setting:

American Indians inhabited the region for centuries and these nomadic tribes were provided ample food from the extensive buffalo and pronghorn antelope herds. The Nakoda, Lakota, and Dakota peoples alternately inhabited and claimed the region from the 16th to the late 19th centuries. In 1804, the Lewis and Clark expedition came within 15 miles of the future site of the city of Glasgow and noted the extensive herds of buffalo and various game. In 1851 the US government formed the first treaty with the Native American tribes, in 1885 the tribes engaged in the last known buffalo hunt in the region, and in 1887 a treaty was signed where the tribes surrendered 17.5 million acres, and in 1888 the Fort Peck Indian Reservation was formed removing the tribes from the Glasgow area.

Named after the city in Scotland, James J. Hill who was responsible for creating many communities along the Hi-Line founded Glasgow, as a railroad town. Glasgow grew during the 1930s when President Franklin Roosevelt authorized the construction of the Fort Peck Dam, which became a major source of employment for the Glasgow area.

During World War II, the Glasgow Army Airfield housed the 96th Bombardment Squadron and 614th Bombardment Squadron, which flew the B-17 Flying Fortresses, at different times during the war. Starting in December 1944 a German POW camp was established at the facility, lasting until the end of the war. After the war ended the base was closed, and part of the facility eventually became the present day Glasgow Airport. Glasgow was the death place of Lieutenant Colonel Ronald Speirs, famed member of Easy Company, 101st Airborne.

In the 1960s, the population rose to about 6,400 due to the nearby presence of the Glasgow Air Force Base, which was home to the Strategic Air Command (SAC) air command and B-52 bombers, which were used during the Vietnam War and the Cold War. A significant amount of mid-century modern architecture, much of which survives to this day, was built in Glasgow during this period. After the deactivation and closure of the base in 1969, Glasgow's population began declining, reaching about half its pre-base closure maximum by 1990. The population loss rate stabilized in 90s and Glasgow currently functions as the major regional administrative, shopping, and service hub for Valley County and the areas beyond.

3.2 Physical Characteristics

The physical characteristics of Valley County are very important to the hazard mitigation process. It can dictate how great of an effect a particular disaster will have upon the land and its people. Physical characteristics such as climate, precipitation, and geology can enhance the effects of one disaster while acting as a barrier toward another. Rivers and lakes are just a few of the many examples of methods the land can show scars of past disasters. It is through greater understanding of the land and it is aspects that a higher comprehension of hazard risk and a superior grasp of mitigation are achieved.

3.2.1 Climate and Precipitation

Valley County, Montana is located within the region generally classified as dry continental semi-arid steppe with four well-defined seasons. The weather can be highly variable with large day-to-day temperature variations, particularly from the fall to the spring. Days with severe winter cold and summer heat are typical.

January and February are generally the coldest months of the year with average high temperatures of 19°F to 25°F and average low temperatures of -3°F to 7°F, with the coldest averages over the northeastern part of the county. In winter especially, temperatures often vary significantly from the averages. Extreme temperatures of -45°F have been recorded in the county, while typical extreme winter minimum temperatures are between -25°F and -35°F. The coldest day on record in Glasgow was in 1936 with a temperature of -45°F. The coldest day recorded in Fort Peck was in 1969 with a low of -29°F. Often the coldest temperatures occur in sheltered valley locations when winds are light, but extreme wind chill situations occur almost every winter when windy conditions coincide with very low temperatures. Rapid warm-ups during the winter and early spring can lead to significant snowmelt and flooding of small streams and rivers and/or ice jam flood problems.

July is generally the hottest month of the year with average high temperatures in the 81°F to 88°F range and average low temperatures 50°F to 57°F, with the warmest averages along the Milk and Missouri River valleys. The highest temperature recorded in Glasgow was in 1936 with a high of 90.5°F and the highest temperature in Fort Peck was in 2007 with a temperature of 92°F. In June, July, and August, freezing temperatures can occur, particularly in sheltered valley locations in the northern part of the county, but these instances are rare.

Annual average precipitation is 11 to 15 inches, with over 70% of the precipitation falling from May through September. June is typically the month with the most precipitation. Precipitation can vary significantly from year to year and location to location within the year. November through March is on average quite dry with average monthly precipitation of 0.50 inches or less. Average annual precipitation does not vary significantly across the county but does appear to show a trend towards slightly heavier precipitation over the northeastern portion of the county. The heaviest, most intense precipitation often occurs with localized downpours associated with thunderstorms in June through August. The top rainfall events occurring in Valley County were in 1933 with 3.26 inches on August 25 in Glasgow and 3.99 inches of rain in Fort Peck on June 18, 1969. Widespread heavy precipitation events of 1 to 2 inches can occur every few years and is most common from April through June and September through early November.

Average winter snowfall ranges from 26 to 38 inches, with the highest averages over the higher elevations of the northeastern part of the county. The heaviest snowstorms often occur from late March through May or mid-October to mid-November. These storms can produce more than 12 inches of snow and as temperatures are warmer, are often made more severe causing the snow to be heavier and more difficult to travel in and remove. The year with the most snowfall recorded in Glasgow was in 2011 with 83.4 inches. These storms are often accompanied by high winds resulting in blizzard conditions. In spring, these storms can coincide with the calving season resulting in livestock loss. Mid-winter snowstorms, in general, produce less than 6 inches of snow, but heavier amounts to 10 inches or more have occurred. Despite the generally lighter amounts and drier snow, high winds can result in blizzard conditions. Even without falling snow, in the colder conditions of mid-winter, high winds can pick up loose snow, resulting in local ground blizzards.

There is an average of around 30-35 thunderstorm days a year starting as early as March going into October. Severe thunderstorms are most common from June through July and early September. Typically, the greatest hazards associated with these thunderstorms are very high winds and large hail. Damage to structures and crops occur every summer from these storms. Tornadoes have been reported but average less than once a year in the county.

An important element of the climate in Valley County is the often-windy conditions. Average wind speeds range from 10 to 15 mph, depending on the exposure of the location. The average and peak sustained winds in the Milk and Missouri River valleys tend to be somewhat less than the winds in the higher, more exposed terrain in the southern and northern portions of the county. The highest wind gusts often occur with thunderstorms during the summer, with gusts over 60 mph occurring every year. The highest sustained, non-thunderstorm winds tend to occur in the spring and fall with sustained winds over 40 mph.

Wind data from Glasgow is typical of the Milk River region. Data from the Bluff Creek weather station is typical of the higher and more exposed terrain of the north. Wind data from the King Coulee weather station is typical of the higher and more exposed terrain of the south.

The following tables detail the annual precipitation and maximum and minimum temperature by month for Glasgow and Fort Peck. NOAA provided this information.

Table10: Average Precipitation by Month in Glasgow and Fort Peck

Month	Total Normal Monthly Precipitation Fort Peck	Total Normal Monthly Precipitation Glasgow
January	0.26	0.37
February	0.21	0.26
March	0.36	0.42
April	0.89	0.85
May	2.17	1.92
June	2.35	2.33
July	2.16	1.78
August	1.15	1.24
September	0.91	0.94
October	0.83	0.75
November	0.32	0.4
December	0.34	0.4

Table 11: Average Maximum and Minimum Temperature by Month in Glasgow

Month	Mean Max Temperature Normal	Mean Min Temperature Normal	Mean Avg Temperature Normal
January	23.4	4.2	13.8
February	29.1	9.4	19.2
March	42.4	20.9	31.7
April	57.8	32.1	44.9
May	67.8	42.3	55.1
June	76.7	51.3	64
July	85.1	57.1	71.1
August	84.4	56	70.2
September	71.8	44.6	58.2
October	57	32.4	44.7
November	39.7	19	29.3
December	26	6.6	16.3

Table 12: Average Maximum and Minimum Temperature by Month in Fort Peck

Month	Mean Max Temperature Normal	Mean Min Temperature Normal	Mean Avg Temperature Normal
January	28.9	7	18
February	34.3	11.9	23.1
March	46.5	22.5	34.5
April	61	33.3	47.1
May	71.5	43.6	57.6
June	80.5	52.3	66.4
July	88.8	57.6	73.2
August	88.4	56.3	72.4
September	75.9	46	61
October	61.6	35.9	48.7
November	44.4	23	33.7
December	31.7	10.4	21

The Climate of the County characterized as Continental. During the winter months, cold, dry polar air dominates the region. Hot, dry air masses from the desert southwest, along with warm, moist maritime tropical air masses that originate over the Gulf o of Mexico, are common during the summer months. The spring and fall months serve as transition periods between the summer and winter, with alternating intrusion so fair from various sources.

3.2.2 Geology

About 1.5 billion years ago, large amounts of sediments began to accumulate in most of the western third of the state, as well as adjacent parts of Idaho and British Columbia. This sedimentary accumulation continued for another 600 million years. These sediments are called the Belt formations because they were first studied in the Belt Mountains in central Montana. This formation contains an abundance of plant fossils but no animal fossils.

Central and eastern Montana contains numerous faults and crustal folds, arches and troughs that buckled into the rocks underneath the plains. This region rose several feet above sea level at the same time. About 55 million years ago, the shallow sea had retreated into North Dakota and Saskatchewan.

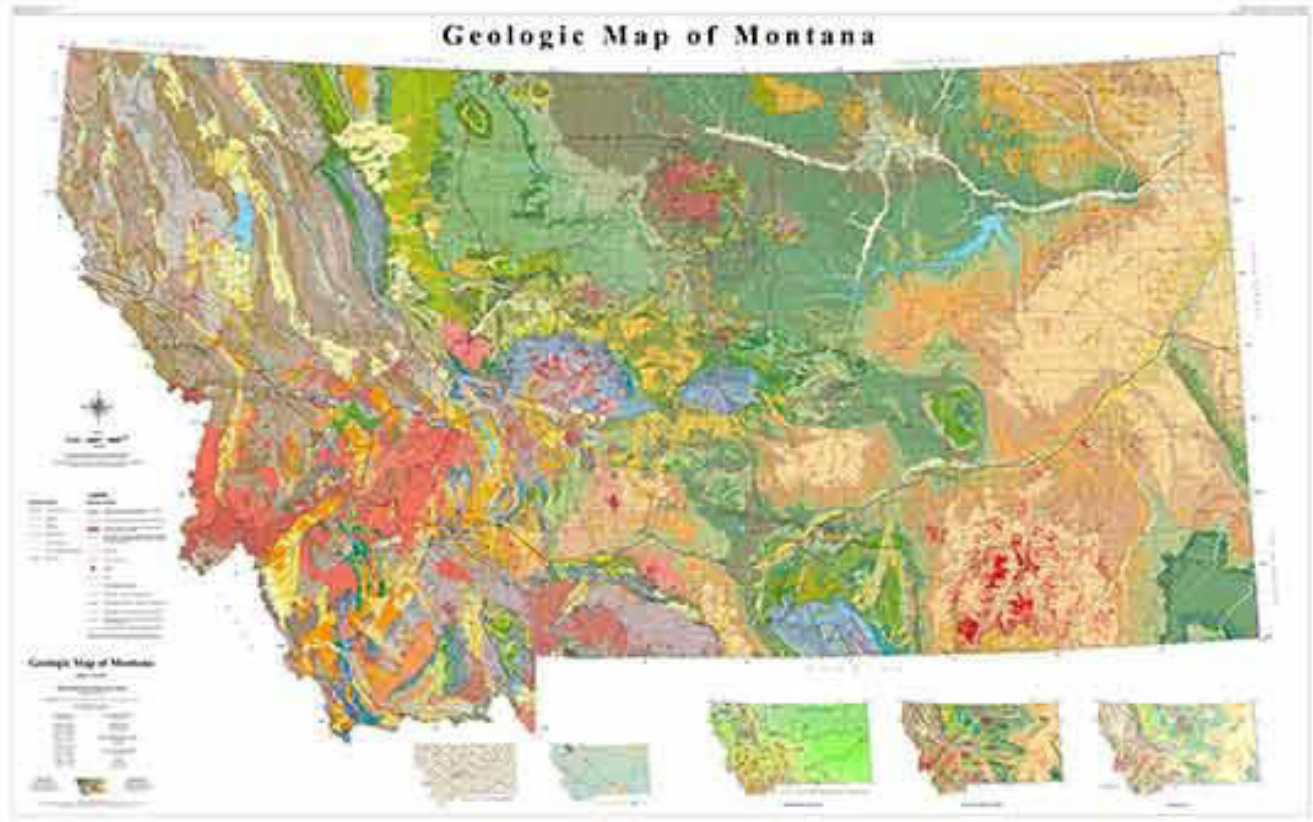
Approximately 40 million years ago, Montana's climate became very dry and stayed dry throughout the Oligocene and early Miocene Periods. This climatic change is evidenced in the sedimentary rocks, which show very thin layers of sediments, due to the lack of water to carry the stream loads. The lack of ground cover in very dry climates causes soil to erode very rapidly but the streams are too weak to carry away the sediments. Thus, large quantities of sediment accumulated in the broad valleys and plains of eastern Montana. The deposits include an assortment of gravel, sand, mud, volcanic ash, limestone, and coal, which is called the White River Oligocene beds in eastern Montana. The Renova Formation is easily recognized by its tan and gray sands and silts, which are soft and crumble easily.

About 20 million years ago, Montana changed again and became a lush tropical environment. Many places in Montana contain a layer of red laterites, which contain aluminum or iron ores. These laterites can only form in tropical climates. These laterites are found on top of the Renova Formation and are sandwiched between black basaltic lava flows. Similar flows are found on the Columbia Plateau, which contains fossil leaves from hardwood trees similar to those found today in Florida and

the Caribbean. This tropical period lasted for about 10 million years.

When the dry period of Renova Period ended and heavy tropical rains began to fall, streams Montana began to flow again. Some were large rivers, which flowed through hilly landscapes in eastern Montana, and green mountains cloaked in tropical and subtropical hardwoods in western Montana. While parts of those valleys survive in the modern landscape in western, the Miocene valleys filled with younger gravel deposits in eastern Montana.

Figure 3: Geologic Map of Montana



3.2.3 Geography

Montana is a state located in the northwestern United States. Covering an area of 147,046 square miles, it is the fourth-largest state. It is bordered on the north by the Canadian provinces of British Columbia, Alberta, and Saskatchewan; on the south by Wyoming and Idaho, on the east by North Dakota and South Dakota and on the west by Idaho. The geographic center of the state is in Fergus County.

The landscape of Montana comprises two geographic areas:

- **The Great Plains**: Covering the eastern three-fifths of Montana, the Great Plains are part of the Interior Plain of North America that stretches from Canada south to Mexico. The area is characterized by high, gently rolling land interrupted by hills and wide river valleys. The Bear Paws, Big Snowy, Judith, and Little Rocky Mountains lie in this region.

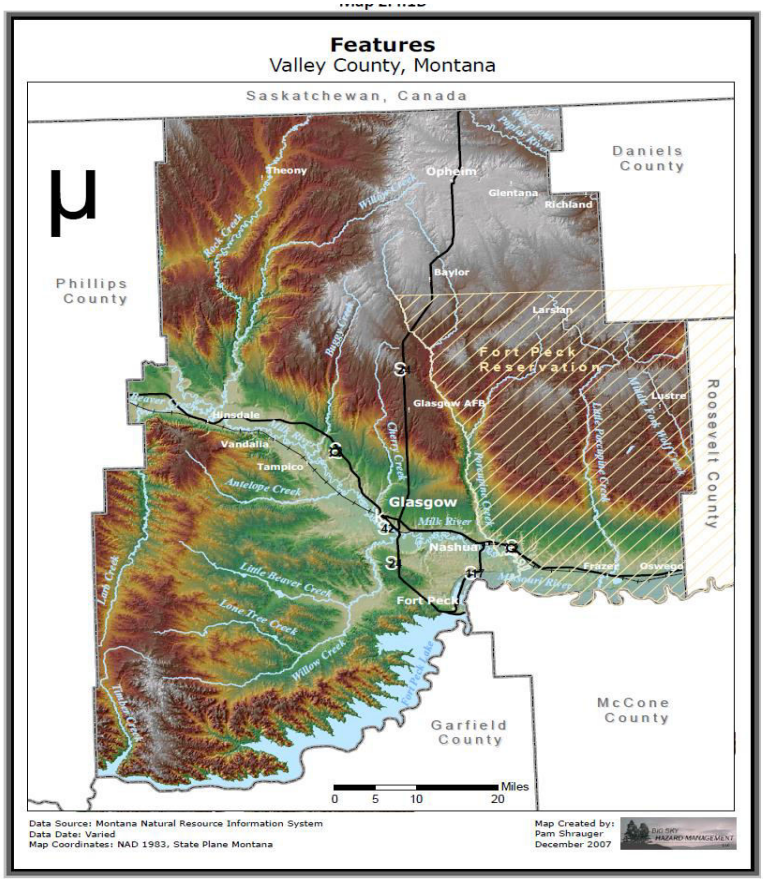
- **The Rocky Mountain Region:** The area occupies the western two-fifths of Montana and consists of flat valleys and mountains. Fir, spruce, pine, and other evergreen trees cover the mountains. The Montana Rocky

Mountains are well known for their clear, cold lakes. The region comprises more than fifty mountain ranges. Absaroka, Beartooth, Beaverhead, Mission, Swan, and Tobacco Root ranges are some of the major mountain peaks. The area is also occupied by the Continental Divide, the place that separates the waters running in the state into two distinct eastern and western regions.

Life in Montana's eastern plains differs greatly from that of mountainous west. The eastern half of the state are comprised of the Great Plains and are drained by the Missouri River, and its tributaries, the Milk, the Marias, the Sun, and especially the Yellowstone.

Much of the fourth largest U.S. state is still sparsely populated country dominated by spectacular nature. High granite peaks, forests, lakes, and such wonders as those of Glacier National Park attract many visitors to Montana. Other places of interest include Little Bighorn Battlefield National Monument, Big Hole National Battlefield, and Grant-Kohrs Ranch National Historic Site (see National Parks and Monuments, table) and the National Bison Range, near Ravalli, where herds of buffalo may be seen. Strips of Yellowstone National Park, including the north and west entrances, are also in Montana, as are the Native American reservations of the Blackfoot, the Fort Belknap, the Fort Peck, and the Crow. Rushing mountain streams and numerous lakes bring fishing enthusiasts to the state, and the abundant wildlife—elk, deer, bear, moose, and waterfowl—attracts hunters. Mountain and ski resorts draw other vacationers. Helena is the capital, Billings and Great Falls the largest cities; other important cities include Missoula and Butte.

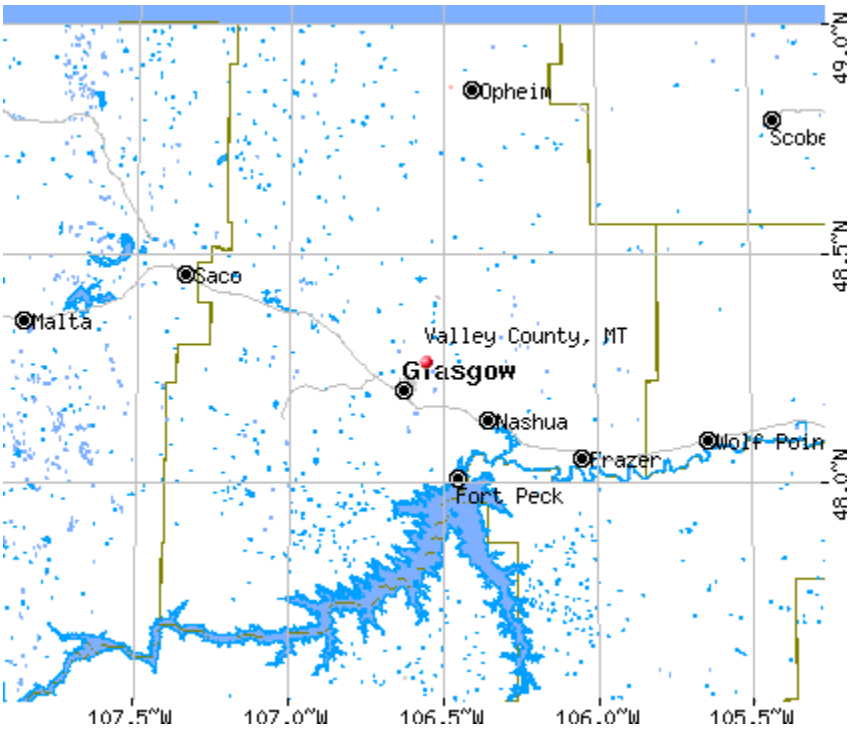
Figure 4: Valley County Landforms



3.2 4 Hydrology

Hydrology is the study of the movement, distribution, and quality of water throughout Earth. The hydrology of Montana is a system of groundwater (aquifers), lakes, watersheds, wetlands, and a network of rivers and streams. Aquifers are areas of rock below the ground surface that can produce sufficient amounts of water to supply the communities within the region. There are three different types of aquifers; 1) unconfined, which is where the water table is able to move freely without interference due to the lack of aquitard, 2) a non-permeable formation, semi-confined, which is where the water table is partially confined due to semi-permeable formations. And, 3) confined, which is where the water table is completely confined by non-permeable formations above and below the body of water. The amount of groundwater available is dependent on the amount of precipitation the region receives each year.

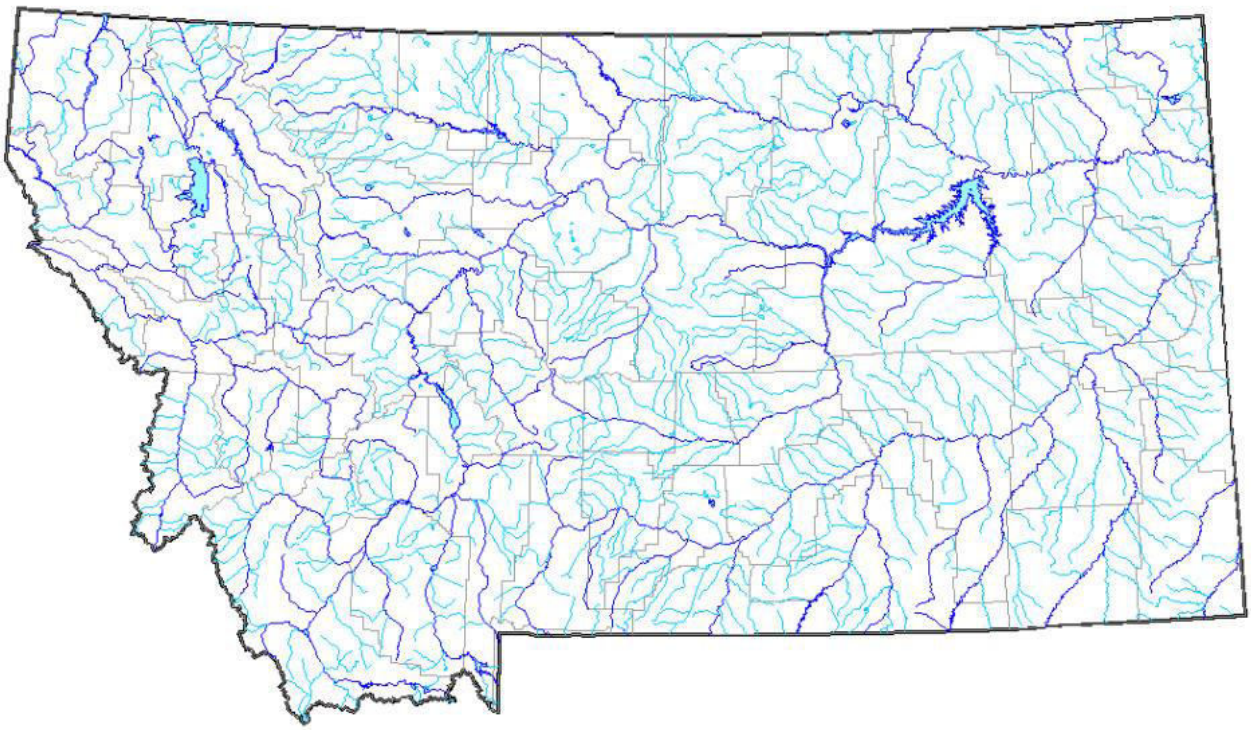
Figure 5: Valley County Water Sources



3.2.5 Surface Water

Montana's water resources are diverse. More than 170,000 miles of streams and rivers meander through Montana. The state ranks third in total stream miles in the contiguous U.S. Montana contains the headwaters for three continental watersheds: the St. Mary's River, the Columbia River, and the Missouri River. Wetlands and riparian areas (streamside green zones) cover 1-4% of Montana. These places support half of Montana's plant species and 38% of amphibians, reptiles, birds, and mammals of special concern. Water withdrawn for irrigation accounts for more than 97.6% of water withdrawn in Montana each year and waters 2.82 million acres. 43.8% of Montana's domestic water supply is from groundwater and 56% is from surface water. Another way to look at Montana's water supply is to say that 38% of public supply and 93% of self-supplied domestic water is from groundwater. ("Public supply" is a water company, which may supply domestic, industrial and commercial uses. "Self-supplied domestic" is water for in-home use only but not for a public system).

Figure 6: Major Montana Rivers and Streams



3.2.6 Groundwater

Groundwater is an important resource in Montana, and will become more important in the future, as the state's population and industries continue to grow. Groundwater provides 94 percent of Montana's rural domesticwater supply and 39 percent of the publicwater supply. Every day approximately 90 million gallons of groundwater are used for irrigation, 16 million gallons to supply water for livestock, and 20 million gallons per day are used to support industry (Solley and others, 1990).

Groundwater contamination across the United States including Montana comes underground storage tanks, septic tanks, landfills, and/or agricultural activities. The most frequently reported groundwater contamination sources and types in the United States include leaking underground storage tanks. About 400,000 of an estimated 5 to 6 million underground storage tanks in the United States are thought to be leaking. About 30% of all tanks store petroleum or hazardous materials. Septic tanks. Approximately 23 million domestic septic systems are in operation in the United States. About half a million new systems are installed each year. Municipal landfills. Of the quarter million solid waste disposal facilities in the United States, about 6,000 are municipal solid waste facilities. Approximately 25% of these municipal facilities have groundwater monitoring capabilities. Agricultural activities. Seventy-seven percent of the 1.1 billion pounds of pesticides produced annually in the United States is applied to land in agricultural production, which often overlies aquifers. Abandoned hazardous waste sites. Approximately 33,000 sites have been identified as abandoned hazardous waste sites, of which 42% involve groundwater contamination.

Climate dramatically influences Montana's water supply. The Northern section of Eastern Montana to include Valley County is classified as semi-arid receives little precipitation. However, the areas experience extremes that make Montana both water-rich and water-poor, with localized floods and droughts. Because of its influence, water managers who need to know the current conditions of the snowpack, streamflow, and reservoir levels in order to provide for Montana's water needs monitor the weather closely.

In an average year, about 44 million acre-feet of water flow out of Montana and 65 percent of this amount originates within state borders. Most of the remainder flows into Montana from Wyoming and Canada.

Groundwater flows beneath the earth's surface and interacts with surface streams and lakes. Groundwater does not stay in one place but flows from areas of higher water table elevation towards areas of lower water table elevation. Streams, rivers, and lakes are usually low points in a watershed, and shallow groundwater within a watershed flows toward and discharges to these water bodies.

Groundwater and surface water interact in complex and dynamic ways. The important concept is that surface water and groundwater are not separate, but rather consist of the same water circulating through the hydrologic system. Consequently, any impact to groundwater, such as the discharge from septic systems, will ultimately affect surface water. Managers of septic systems and other sources of groundwater contamination need to recognize that—in many of the geologic settings, such as basin-fill river valleys and lakeshores undergoing intense development pressure—groundwater contamination can have an impact on our surface waters, and vice versa.

3.2.7 Aquifers

An aquifer is a natural underground area where large quantities of ground water fill the spaces between rocks and sediment. In an aquifer, ground water can move sideways, up, or down in response to gravity, differences in elevation, differences in pressure, and differences in the physical properties of the aquifer. Depending on the aquifer, the water can move from very fast (as much as hundreds of feet per day in fractured rock aquifers) to very slow (as little as a few feet per year in very fine-grained sedimentary aquifers).

Types of Aquifers

An aquifer is defined according to the types of rocks and sediment in which it resides and the geologic conditions that formed or surrounds it. Just a few of the ways an aquifer can be described include the following:

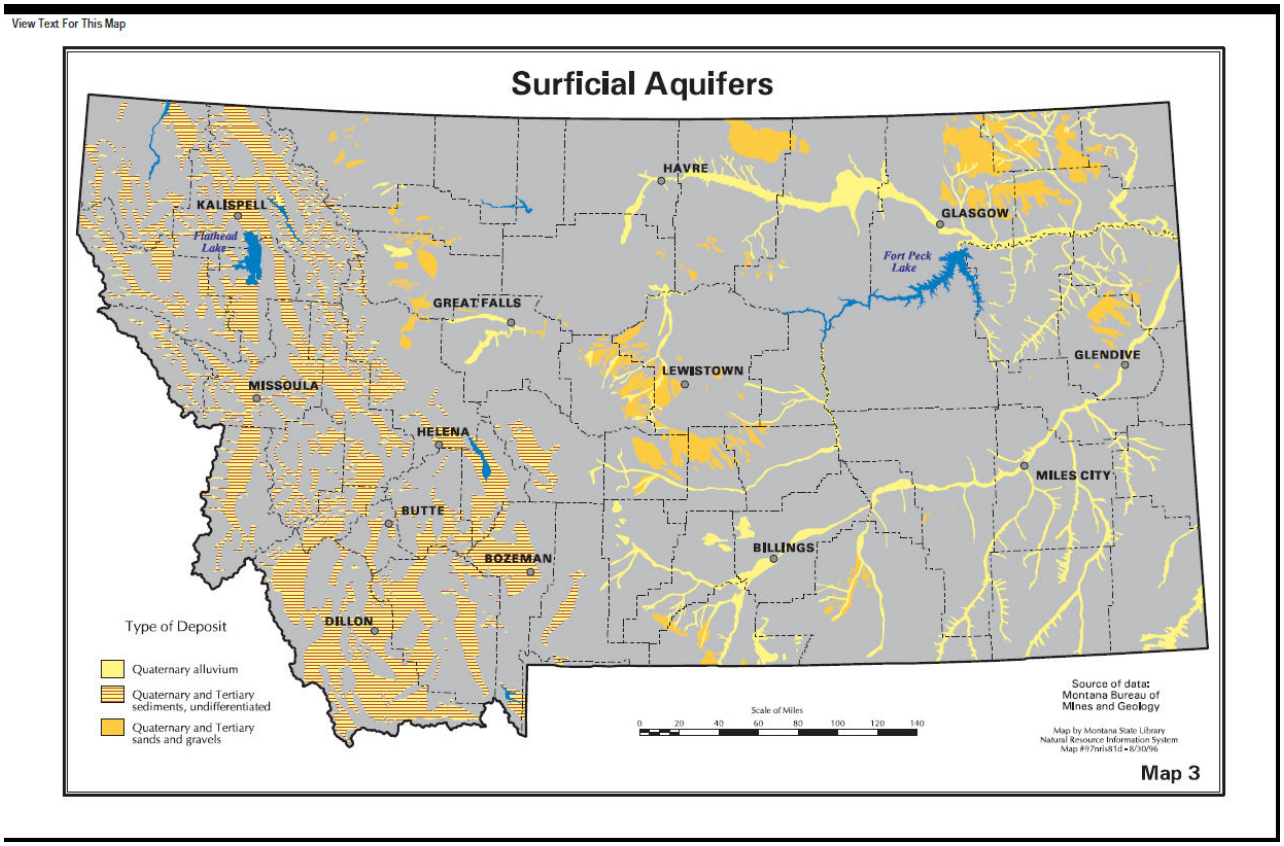
- **Confined**—an aquifer is overlain by one or more layers of impermeable rock or soil that restrict water to within the aquifer. The water is confined under pressure. Drilling a well into a confined aquifer releases that pressure and causes the water to rise in the well. These wells are sometimes called artesian wells.
- **Unconfined**—an aquifer that is not overlain by a layer of impermeable rock or soil. Water in a well will naturally stay at the level of the water table. As water is removed from the well, the water table at that place is lowered, causing the surrounding ground water to flow toward the well.
- **Fractured**—an aquifer where the water fills spaces produced by broken or shattered rock that would otherwise be impervious, such as basalt or granite.
- **Sedimentary**—an aquifer located in sedimentary materials, such as loose gravels and sands.
- **Perched**—a small aquifer that is separated from the main aquifer below it by an impermeable layer of rock or soil and an unsaturated zone (an area where air fills most of the spaces in the soil and rock).

These categories are not mutually exclusive. For example, an aquifer may be described as a confined, fractured basalt aquifer.

Water that seeps or percolates through the soil and is stored below ground is called groundwater. An aquifer is a subsurface storage area for groundwater from which water can be pumped. Aquifers usually are saturated zones of sand, gravel, fractured bedrock, or other material that have space between particles to hold water. They are recharged by precipitation and streamflow. In turn, they recharge streams during the summer and other periods of low streamflow. Aquifer distribution and groundwater availability vary across the state's hydrogeological regions. Most groundwater in Montana is obtained along major streams from aquifers composed of alluvial (stream-deposited) sediments of gravel, sand, silt, and clay.

In eastern Montana, alluvial aquifers consist of fine-grained, consolidated sandstone and siltstone. In these aquifers, water movement is slower. This is due, in part, to lower amounts of precipitation. However, water moves faster in deeper aquifers made of cracked rock, gravel, or coal. Examples of these deep aquifers include the Fort Union Formation and the Eagle Sandstone coal-bearing aquifers.

Figure 7: Surficial Aquifers in Montana



3.2.8 Lakes

Montana's landscape is dotted with more than 10,000 lakes and reservoirs, and thousands of smaller wetlands, stock ponds, and other water bodies. Glaciers created many of these features, such as Eastern Montana's prairie potholes. These seasonal wetlands are actually small depressions scoured in the plains by glacial action.

Much of Montana's surface water is stored in reservoirs-artificial water bodies whose levels are controlled by dams. The federal government for hydroelectric power generation, flood control, storage for irrigation, and recreation, constructed larger "multipurpose" reservoirs. Sixty-seven reservoirs each have a capacity of 5,000 acre-feet or more. These are owned and managed today by the federal government, the State of Montana, or private utilities.

There are four natural lakes in Valley County, Montana. The lakes are Lake Elbert, Lake Grable, Dry Lake, and Todd Lakes. There are also over 250 reservoirs in Valley County, Montana.

3.2.9 Rivers

More than 170,000 miles of streams and rivers meander through Montana of which 53,000miles are perennial streams that flow all year round and 117,000 miles are intermittent. Of the 48 lower states, Montana ranks third in total stream miles. Streamflow varies seasonally. The highest occur during April, May, and June as snowmelts and spring rains fall. Much of this water is stored in reservoirs for use later in the year.

Montana's many miles of streams supply three major river basins the Columbia River basin, the Missouri River basin, and the Yellowstone River basin. The Columbia River basin, which has two major tributaries in Montana: The Clark Fork of the Columbia and the Kootenai River together drain about 25,152square miles, annually releases about 26 million acre-feet. These two mountainous river basins cover only about 17 percent of the state but generate almost 60 percent of the water. The Missouri River basin, the largest river basin in Montana, drains more than 82,000square miles, or 56 percent of Montana's land base, but discharges only about 17percent (8 million acre feet) of the state's average annual discharge. The Yellowstone River basin drains almost 36,000 square miles and sends roughly9.5 million acre-feet into the Missouri, 21 percent of state's water.

The Missouri River borders Valley County's southern edge and is one of three rivers in the county. The Missouri River is the longest river in North America. Rising in the Rocky Mountains of western Montana, the Missouri flows east and south for 2,341 miles (3,767 km) before entering the Mississippi River north of St. Louis, Missouri. The river takes drainage from a sparsely populated, semi-arid watershed of more than half a million square miles (1,300,000 km^2), which includes parts of ten U.S. states and two Canadian provinces. When combined with the lower Mississippi River, it forms the world's fourth longest river system.

For over 12,000 years, people have depended on the Missouri and its tributaries as a source of sustenance and transportation. More than ten major groups of Native Americans populated the watershed, most leading a nomadic lifestyle and dependent on enormous buffalo herds that once roamed through the Great Plains. The first Europeans encountered the river in the late seventeenth century, and the region passed through Spanish and French hands before finally becoming part of the United States through the Louisiana Purchase. The Missouri was long believed to be part of the Northwest Passage – a water route from the Atlantic to the Pacific – but when Lewis and Clark became the first to travel the river's entire length, they confirmed the mythical pathway to be no more than a legend.

The Missouri was one of the main routes for the westward expansion of the United States during the 19th century. The growth of the fur trade in the early 1800s laid much of the groundwork as trappers explored the region and blazed trails. Pioneers headed west in masse beginning in the 1830s, first by covered wagon, then by the growing number of steamboats entering service on the river. Former Native American lands in the watershed were taken over by settlers, leading to some of the most longstanding and violent wars against indigenous peoples in American history.

During the 20th century, the Missouri River basin was extensively developed for irrigation, flood control and the generation of hydroelectric power. Fifteen dams impound the main stem of the river, with hundreds more on tributaries. Meanders have been cut and the river channelized to improve navigation, reducing its length by almost 200 miles (320 km) from pre-development times. Although the lower Missouri is now a populous and highly productive agricultural and industrial region, heavy development has taken its toll on wildlife and fish populations as well as water quality.

Another river running through the county is the Milk River. The Milk River is a tributary of the Missouri River, 729 mi (1,173 km) long, in the United States state of Montana and the Canadian province of Alberta. Rising in the Rocky Mountains, the river drains a sparsely populated, semi-arid watershed of 23,800 sq mi (62,000 km^2), ending just east of Montana. It is formed in Glacier County in northwestern Montana, 21 miles (34 km) north of Browning, Montana, by the confluence of its South and Middle forks. The 30-mile (48 km) long South Fork and 20-mile (32 km) long Middle Fork both rise in the Rocky Mountains just east of Glacier National Park, in the Blackfeet Indian Reservation. Much of the water in the North Fork is

diverted from the St. Mary River through a canal and inverted siphon.

The main stream flows east-northeast into southern Alberta, where it is joined by the North Fork of the Milk River, then east along the north side of the Sweetgrass Hills. It flows past the town of Milk River and Writing-on-Stone Provincial Park, then turns southeast into Montana, passing through the Fresno Dam, then east past Havre and along the north side of the Fort Belknap Indian Reservation. Near Malta, it turns north, then southeast, flowing past Glasgow and joining the Missouri in Valley County, Montana, 5 miles (8.0 km) downstream from Fort Peck Dam.

The Milk is the northernmost major tributary of the Missouri and thus represents the rough northern extent of the Mississippi watershed. The small area drained by the Milk River in southern Alberta and southwestern Saskatchewan is one of three areas in Canada that drain into the Gulf of Mexico, the others are the Big Muddy Creek and Poplar River watersheds which extend into Canada in Saskatchewan.

The Milk River was given its name by Captain Meriwether Lewis, of the Lewis and Clark Expedition, who described the river in his journal: "the water of this river possesses a peculiar whiteness, being about the color of a cup of tea with the admixture of a tablespoonful of milk from the color of its water we called it Milk river." This appearance results from clays and silts suspended in its waters. These fine-grained sediments result from the erosion of soft clay-rich rocks along the Milk River basin in southern Alberta, such as the Foremost, Oldman, and Dinosaur formations.

At the time of Lewis's exploration, the Milk River drainage was legally part of the United States as a component of the Louisiana Purchase. However, in 1818 U.S. negotiators swapped a portion of the Milk River watershed that lay north of 49° north latitude, receiving in exchange a parcel of Red River of the North drainage that had previously been part of America. In 1908, the waters of the Milk River were the subject of a United States Supreme Court case clarifying the water rights of American Indian reservations. The case is known as Winters v. the United States.

The Milk River has several tributaries in Valley County. Going upstream (east to west), the tributaries include Porcupine Creek, Willow Creek, Cherry Creek, Brazil Creek, Antelope Creek, Rock Creek, and Beaver Creek. Porcupine Creek starts in Northern Valley County south of Opheim, flows east of St. Marie, and empties into the Milk River about a mile east of Nashua. Willow Creek. Willow Creek drains a large portion of Southwest Valley County and empties into the Milk River just west of the Highway 24 Bridge near Glasgow. Cherry Creek drains Central Valley County between Glasgow and St. Marie. It flows south through the west end of Glasgow and into the Milk River just southwest of Glasgow. Both Brazil and Antelope Creeks flows out of the Larb Hills of Western Valley County and into the Milk River between Tampico and Glasgow. Rock Creek forms in Grassland National Park in Saskatchewan just north of the U.S. border. It drains most of Northwest Valley County and flows into the Milk River east of Hinsdale. Beaver Creek forms in the Little Rocky Mountains of Southwest Phillips County and flows northeast into Valley County near Saco. It empties into the Milk River west of Hinsdale. Beaver Creek's tributary in Valley County is Larb Creek. The creek splits the Larb Hills and the Valley/Phillips county line as it flows north from far southwest Valley County into Beaver Creek near Beaverton.

The West Fork of the Poplar River is the third river flowing across Valley County. It is formed near Wood Mountain, Saskatchewan just north of the Montana border. It flows southeast into Valley County about a mile east of the Port of Opheim border crossing. The river then flows southeast across the far northeast part of Valley County and exits the county about five miles northeast of Glentana. The river clips a corner of Valley County near Richland, Montana before exiting the county for the final time.

The Milk River and all of its tributaries are prone to flooding. Main causes of flooding are runoff from either heavy rain and/or snowmelt and ice jams. Floods are most common between March and June although they have occurred at other times of the year. The streams where flooding has the most impact on roads and buildings include the Milk River, Cherry Creek, Antelope Creek, Beaver Creek, Larb Creek, and Willow Creek. In some cases, flooding across roads cuts off access to

homes, livestock in the field. Willow Creek can also cause flooding in Valley County. When it floods, it can cross Willow Creek Road, better known as the Pines Road, shut off South Valley County.

3.2.10 Watersheds

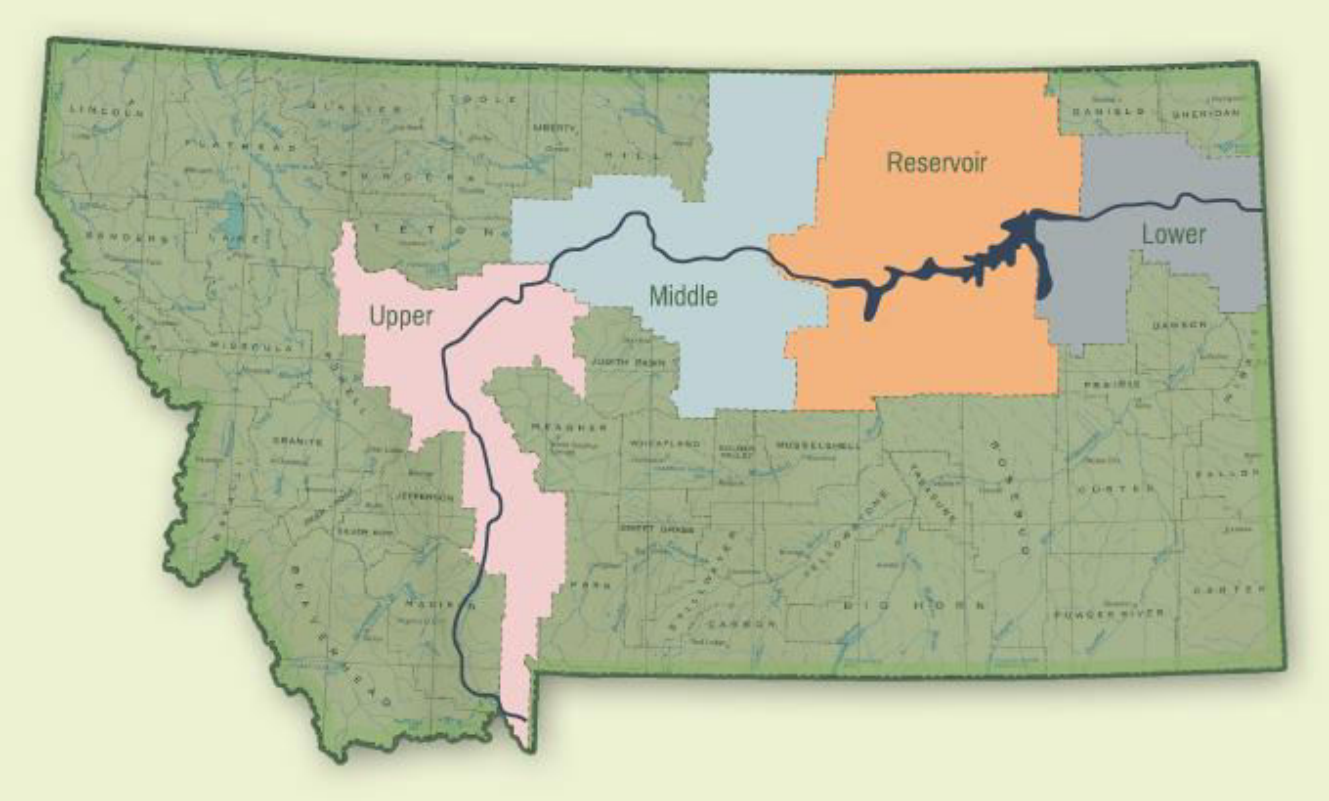
A watershed is the area of land where all of the water that is under it or drains off it goes into the same place. John Wesley Powell, the scientist geographer, put it best when he said that a watershed is:
"that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community. " Watersheds come in all shapes and sizes. They cross county, state, and national boundaries. In the continental US, there are 2,110 watersheds; including Hawaii Alaska, and Puerto Rico, there are 2,267 watersheds.

Source: US Environmental Protection Agency

The Missouri River Corridor extends for 725 miles across Montana passing through the 14 counties and 15 conservation districts that form the Missouri River Conservation Districts Council. Each of the 15 conservation districts in the Missouri River Corridor has one supervisor as a voting member of the Council. Conservation Districts, through public elections, represent local residents' views and concerns regarding natural resources – giving this council a true grassroots perspective of Missouri River issues. The river corridor is divided into reaches that contain unique geographic, social and economic features that create conservation priorities for the region. The conservation district that serves Valley County is the Valley County Conservation District. Valley County is in the Reservoir Reach of the Missouri River. The Reservoir Reach includes Phillips, Valley, Garfield, and Petroleum counties and is home to some of the largest features along the river – the Fort Peck Dam, which is the largest hydraulically filled dam in the U.S. The Fort Peck reservoir, which provides 25% of the storage for the largest reservoir system in the U.S.; and the Charles M. Russell National Wildlife Refuge, the second largest National Wildlife Refuge in the continental United States.

Source: Montana Watershed Coordination Council

Figure 8: Watersheds in Valley County



3.2.11 Wetlands

Wetlands are part of the foundation of our nation's water resources and are vital to the health of waterways and communities that are downstream. Wetlands feed downstream waters, trap floodwaters, recharge groundwater supplies, remove pollution, and provide fish and wildlife habitat. Wetlands are also economic drivers because of their key role in fishing, hunting, agriculture, and recreation.

Wetlands include swamps, marshes, and bogs. Wetlands vary widely because of differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors. Wetlands are often found alongside waterways and in flood plains. However, some wetlands have no apparent connection to surface water like rivers, lakes or the ocean, but have critical groundwater connections.

Wetlands are areas defined by a high water table, wet soils, and water-loving vegetation. They include riparian areas bordering streams, seasonal prairie potholes on the plains of eastern Montana, and isolated cattail-filled marshes.

Wetlands fulfill a number of roles. As pollution modifiers, they filter out pollutants from runoff, thereby reducing contamination of rivers and streams. Wetland plants absorb phosphates and nitrogen, two nutrients that accrue from land-use practices. They can act like sponges, storing excess precipitation to reduce flooding and recharge ground water. Wetlands also support ecological diversity. They provide important habitat for birds of all kinds-waterfowl, shorebirds, songbirds, raptorsand for insects, amphibians, and mammals such as white-tailed deer. They also provide people with places to relax, watch wildlife, and take photographs. Until recently, though, most people did not appreciate the value of wetlands. By some estimates, wetlands have declined by about 27 percent in Montana over the last two centuries.

Source: US Environmental Protection Agency

3.2.12 Soil

The soils in Valley County formed in glacial till and under prairie vegetation. The average annual precipitation is about 12 inches. The average annual air temperature is about 43 degrees F. The frost-free period is about 115 days. These soils are named for the town of Scobey, in northeast Montana. The series was established in 1928.

The U.S. Department of Agriculture recognizes 12 major soil classifications, each with many different sub-categories. Of these, five are found in the state of Montana and four are pertinent to Eastern Montana and Valley County.

Alfisols are fertile soils with good water retention properties. These soils are primarily established under forest floors and have layers of clay built up below the surface. These soils have supported agriculture all over the world for thousands of years. Alfisols are scattered all over the state of Montana.

Entisols are soils of a modern-day creation. All soils, which do not fit within any of the 11 other orders, are generally classified as entisols. Montana has five different suborders. Entisols are generally on steep rocky slopes and in river valleys and are by far the most widespread soil order in the world. Entisols are found all over Montana but concentrated in the eastern half of the state.

Mollisols are often found in grasslands. They are dark brown, almost black in color. This is one of the most fertile types of soil in the entire world. They are rich in calcium and have excellent water retention properties. Mollisols are found mostly in northern and central Montana.

Inceptisols are young soils that are found in steep mountainous regions. They do not have well-defined layers, unlike most other types of soil. They are mostly used for non-agricultural purposes such as recreational areas, forest development, and watersheds. Inceptisols are the second most common type of soil. Inceptisols are found mostly in western and eastern parts of the state, but not in the northern or central southern parts.

3.2.13 Topography

Elevations in Valley County range from about 2,000 to 3,300 feet above sea level. The City of Glasgow is located on the valley floor at about 2,100 feet above sea level. Hills rise sharply from the northern edge of Glasgow to flat tableland about 200 feet higher than the valley. A gradual incline commences 3 to 4 miles south and southwest of Glasgow and reaches to the rolling hills that separate the Milk River drainage from the Fort Peck Reservoir on the Missouri.

3.2.14 Land Use

Valley County is primarily rural with most of the land devoted to agriculture, undeveloped areas, and government ownership. Small communities and individual homes and farms are interspersed. Croplands primarily produce small grains and hay or are idle in the Conservation Reserve Program. Native rangeland and planted pastures provide forage for livestock. Livestock obtains water from dugout impoundments, wells, and surface water. Very little growth is occurring in the county; however, some small population increases are possible over the next ten years. Figure 11 shows the land cover in the county and Figure 12 shows the federal, tribal, state, and local government ownership.

Figure 9: Valley County Vegetation

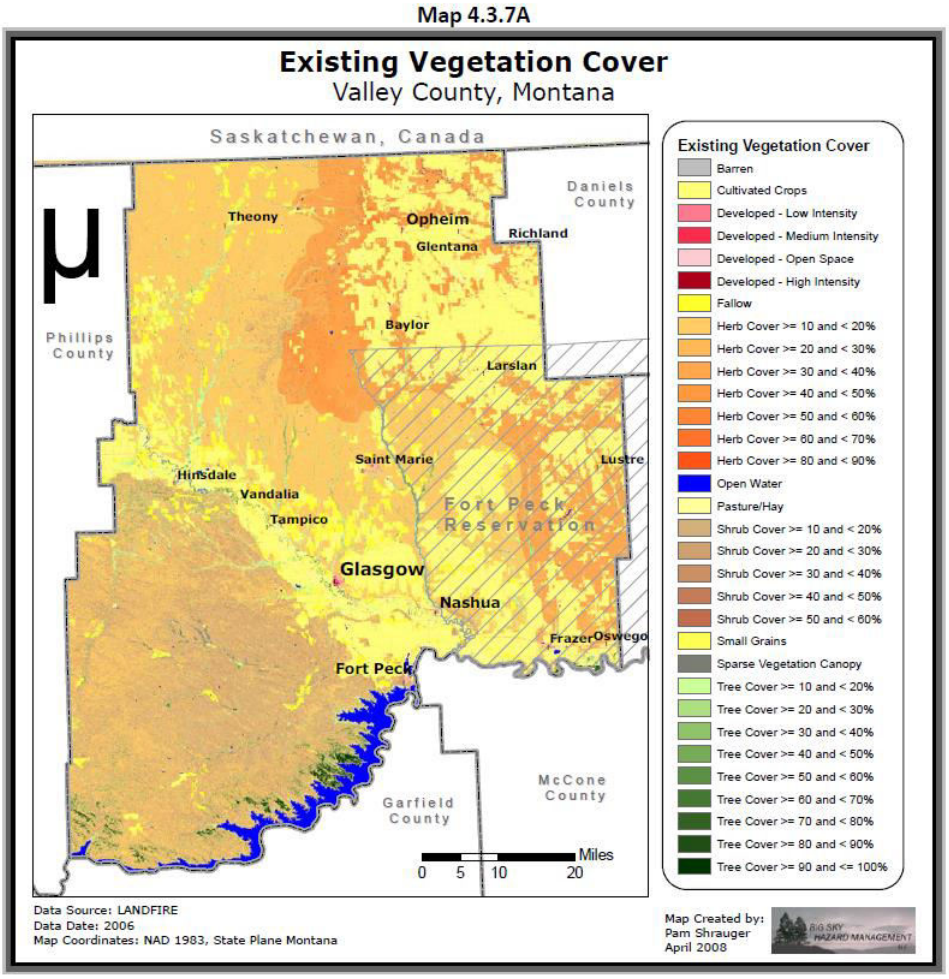
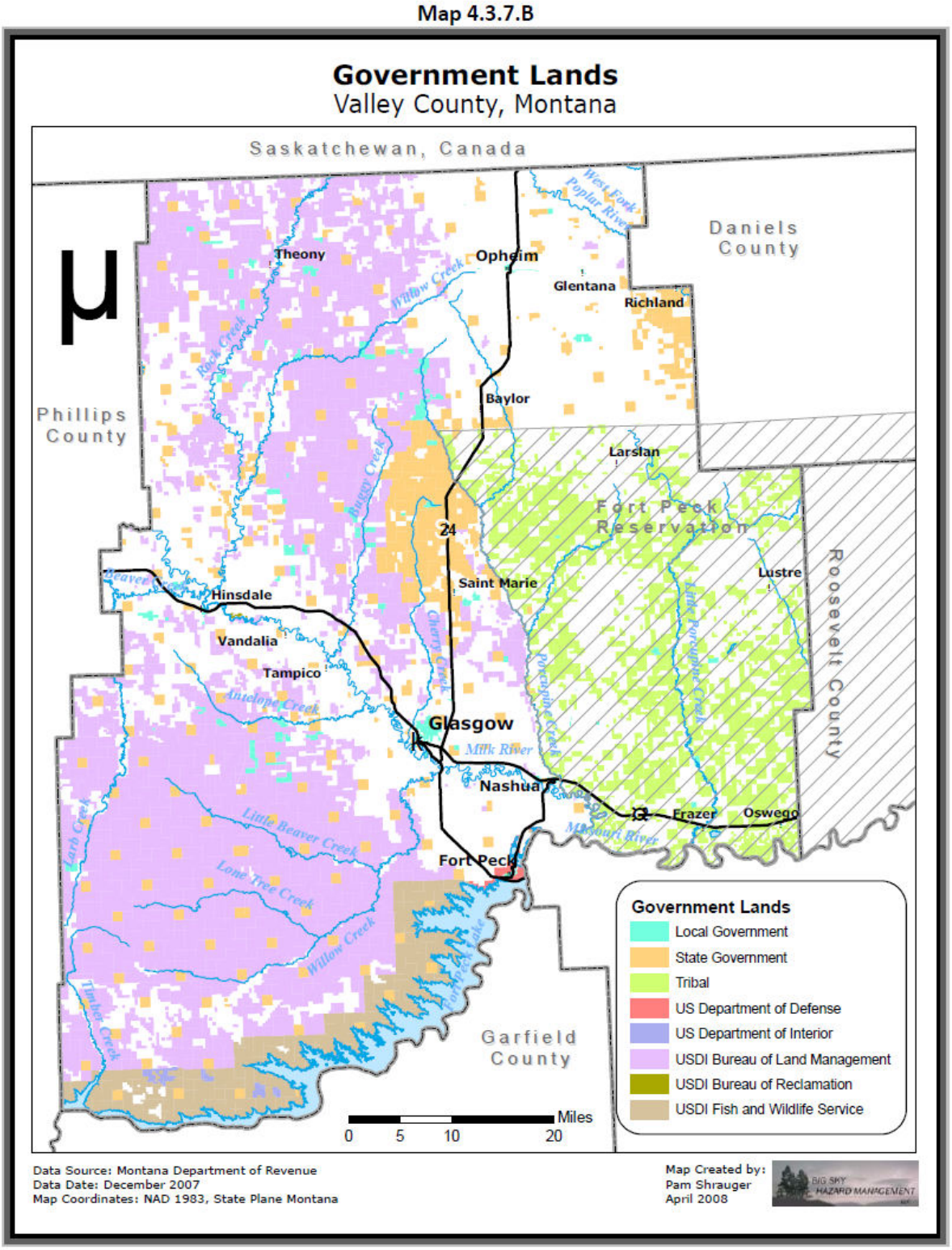


Figure 10: Valley County Government Lands



3.3 Population and Demographics

3.3.1 Historic Population

Valley County's population data since 1900 is presented in Table 13. Notice that the county had the biggest population increase from 1900 to 1910. The population peaked in 1960 and has been declining since. The most significant population decrease was from 1960 to 1970, which coincides with the closure of the Glasgow Airforce Base in 1969.

Table 13: Population of Valley Countysince1900 (U.S. Census)

Census Year	Population	Percent Change
1900	4,355	-
1910	13,630	213.0%
1920	11,542	-15.1%
1930	11,181	-3.1%
1940	15,181	35.8%
1950	11,353	-25.2%
1960	17,080	50.4%
1970	11,471	-32.8%
1980	10,250	-10.6%
1990	8,239	-19.6%
2000	7,675	-6.8%
2010	7,369	-4.0%
Est. 2013	7,630	3.5%

Source: US Census

3.3.2 Population Trends

In Valley County, as of the 2010 Census, there were 3,150 households out of which 29.70% had children under the age of 18 living with them, 55.50% were married couples living together, 8.20% had a female householder with no husband present, and 32.40% were non-families. 29.30% of all households were made up of individuals and 12.00% had someone living alone who was 65 years of age or older. The average household size was 2.38 and the average family size was 2.93.

In the county, the population was demographically diverse with 25.10% under the age of 18, 6.00% from 18 to 24, 24.30% from 25 to 44, 25.60% from 45 to 64, and 19.00% who were 65 years of age or older. The median age was 42 years. For every 100 females there were 98.20 males. For every 100 females age 18 and over, there were 95.10 males.

3.3.3 Comparable Growth

One of the best ways to compare the county's rate of population growth is to examine the growth rates of neighboring counties. Table 14 accomplishes this by including demographic information for the following counties: Phillips County, Garfield County, McCone County, Roosevelt County and Daniels County.

Table 14: Comparable Growth in Neighboring Counties

County	2000 Census	2010 Census	% change
Phillips County	4,601	4,253	-7.6%
Garfield County	1,279	1,206	-5.7%
McCone County	1,977	1,734	-12.3%
Roosevelt County	10,620	10,425	-1.8%
Daniels County	2,017	1,715	-13.2%
Valley County	**7,675**	**7,630**	**-4.0%**

According to the above information, all of the counties in the area are experiencing some population decrease. The county with the most population decrease in the past decade was McCone County and the county with the least population loss was Roosevelt County.

3.3.4 Population by Age Groups

Table15showsthebreakdownofValleyCounty'spopulationbyagecategories.Valley County's total population is 7,369, with the largest age group makeup being those 55-59 years old. This indicates the major age group in Valley County is aging and will soon be retiring and may begin experiencing more health problems with age.

Table 15: Valley County'sPopulationbyAgeGroupsin2010 (U.S. Census)

Subject	Number	Percent
Total population	7,369	100.0
Under 5 years	415	5.6
5 to 9 years	478	6.5
10 to 14 years	473	6.4
15 to 19 years	494	6.7
20 to 24 years	246	3.3
25 to 29 years	344	4.7
30 to 34 years	341	4.6
35 to 39 years	368	5.0
40 to 44 years	376	5.1
45 to 49 years	571	7.7
50 to 54 years	605	8.2
55 to 59 years	619	8.4
60 to 64 years	514	7.0
65 to 69 years	408	5.5
70 to 74 years	363	4.9
75 to 79 years	294	4.0
80 to 84 years	207	2.8
85 years and over	253	3.4
Median age (years)	46.4	(X)

Source: U.S. Census 2010

3.3.5 Households

The Great Northern Development Corporation Regional Needs Assessment from 2013 indicated that there is a shortage of safe, sanitary, and affordable housing within the region, which adversely affects the availability of a workforce. In 2010, Valley County had 4,874 housing units and there is a projected 12 percent population increase expected which means there would need to be 8,253 housing units to accommodate. The lack of housing is a concern for the county.

Table16 shows exactly how many households are in Valley County. Currently, the number of family households makes up 62.3 percent of the counties households, with 20.2 percent of those having children under the age of 18. There are also a significant percentage of householders living alone, with over one-third of the county's population living alone.

Table 16: Households, and Average Household Size of Valley County (U.S. Census)

Households by Type	Number	Percent
Total households	3,248	3,248
Family households (families)	2,023	62.3%
With own children under 18 years	655	20.2%
Married-couple family	1,657	51.0%
With own children under 18 years	433	13.3%
Male householder, no wife present, family	94	2.9%
With own children under 18 years	27	0.8%
Female householder, no husband present, family	272	8.4%
With own children under 18 years	195	6.0%
Nonfamily households	1,225	37.7%
Householder living alone	1,177	36.2%
65 years and over	515	15.9%
Total households	3,248	3,248
Family households (families)	2,023	62.3%
With own children under 18 years	655	20.2%
Married-couple family	1,657	51.0%
With own children under 18 years	433	13.3%

Source: U.S. Census 2010

3.3.6 Population Projections

The US Census released population projections by county in 2010. You can see the projections in the table below. Note that about 500 hundred people project the population projection for the county by 2060 to only increase. This is not a significant increase in population; however, the population is projected to hit over 8,000 citizens in 2030.

Table 17: Population Projections for Valley County

County	Population 2010	Projected 2020	Projected 2030	Projected 2040	Projected 2050	Projected 2060
Valley County	7,376	8,074	8,178	7,938	7,667	7,813

Source: U.S. Census 2010

3.3.7 Special Populations

Special Population is a term used to express a disadvantaged group for example populations with disabilities, minors, and the elderly. Special populations often require accommodations for physical, mental or emotional differences. Emergency service providers must carefully consider special populations. The following tables illustrate four subgroups of special populations in Valley County, elderly, children, female and individuals with a disability.

The first table outlines the number of households with children. The factors that make this table noteworthy, is the majority of households with children are married couples. However, single mothers make up a significant subset of the households with children.

Table 18: Children

Subject	2010 Census Data (US Census Bureau)	Percent of Total Households
Family households with children	655	20.2%
Married couples with children	433	13.3%
Single mothers with children	195	6.0
Single fathers with children	27	0.8%

Source: U.S. Census 2010

The elderly table is a recap of earlier stated county population data of just the 65 years old and older population. Currently, the number of 65 and older makes up 20.6% of the total county population, but this number will increase exponentially as the baby boomers age. The elderly population makes up one-fifth of the total population currently in the county.

Table 19: Elderly

Age Group	Number	Percentage
65 to 69 years	408	5.5%
70 to 74 years	363	4.9%
75 to 79 years	294	4.0%
80 to 84 years	207	2.8%
85 years and over	253	3.4%
Total	1525	20.6%

Source: U.S. Census 2010

The female population table represents the number of females in the county. An interesting point shown in this table is that the female population is slightly more than half of the total population in the county.

Table 20: Females

Female population	Number	Percent
Total Female Population	3,705	50.3%
Under 5 years	215	2.9%
5 to 9 years	234	3.2%
10 to 14 years	231	3.1%
15 to 19 years	245	3.3%
20 to 24 years	121	1.6%
25 to 29 years	174	2.4%
30 to 34 years	154	2.1%
35 to 39 years	191	2.6%
40 to 44 years	192	2.6%
45 to 49 years	297	4.0%
50 to 54 years	289	3.9%
55 to 59 years	295	4.0%
60 to 64 years	254	3.4%
65 to 69 years	201	2.7%
70 to 74 years	189	2.6%
75 to 79 years	153	2.1%
80 to 84 years	114	1.5%
85 years and over	156	2.1%

Source: U.S. Census 2010

Table 21 outlines the population in Valley County with a disability. The table is an overview of the total of those with a disability condition. According to the 2010, US Census 1,067 persons (14.5%) in Valley County have a disability.

Table 21: Population with a Disability

Total Civilian Non-Institutionalized Population	7,368	100%
With a disability	1,067	14.5%
Under 18 years	1,673	-
With a disability	105	6.3%
18 to 64 years	4,180	-
With a disability	426	10.2%
65 years and over	1,515	-
With a disability	536	35.4%

Source: U.S. Census 2010

According to the US Census Bureau, 1.0% of Valley County's population is considered institutionalized.

Table 22: Institutionalized Population

Subject	2010 Census Data (US Census Bureau)	Percentage
Institutionalized	76	1.0%
Male	25	0.3%
Female	51	0.7%

The American Community Survey shows 13.5% of Valley County is living in poverty.

Table 23: Valley County Poverty

Subject	2009-2013 Percentage Montana	2009-2013 Percentage Valley County
Population in Poverty	15.2%	13.5%

Source: American Community Survey

3.4 Cultural Conditions

The Fort Peck Indian Reservation is near Fort Peck, Montana. It is the homeland of the Assiniboine and Sioux tribes of Native Americans. It is the ninth-largest Indian reservation in the United States and comprises parts of four counties. In descending order of land area, they are Roosevelt, Valley, Daniels, and Sheridan counties. The total land area is 3,289.389 sq mi (8,519.480 km²) and a population of 10,321 was counted during the 2000 census. The largest community on the reservation is the city of Wolf Point.

The tribal government has control over most activities inside of the reservation borders. The tribe has its own court system, jail, treatment center, and even a tribal newspaper. In addition to the tribal government, there are also city and county governments, as well as a newly formed Sisseton-Wahpeton Sioux Council. The tribal headquarters are located in Poplar, widely viewed as the capital of the reservation. The Bureau of Indian Affairs has the Fort Peck Agency located in Poplar.

The reservation is home to the Assiniboine and Sioux Tribes (Assiniboine: *įhą́ktuwąna*). Though separate, both tribes have similar sounding languages and are of the Siouan language family. The Fort Peck Tribes have an estimated 11,000 enrolled members, half of which reside on the reservation. There are also many "associate members" meaning they have Indian blood but not enough to be enrolled with the tribe. To be enrolled, or recognized as an official tribal member, a person must be at least 1/4 Fort Peck Indian blood. This is done through blood quantum measurements kept by the tribe.

Fort Peck Reservation is home to two separate Indian nations, each composed of numerous bands and divisions. The Sioux divisions of Sisseton/Wahpetons, the Yanktonais, and the Teton Hunkpapa are all represented. The Assiniboine bands of Canoe Paddler and Red Bottom are represented. The Reservation is located in the extreme northeast corner of Montana, on the north side of the Missouri River.

The Reservation is 110 miles (180 km) long and 40 miles (64 km) wide, encompassing 209,331 acres (847.13 km²). Of this, approximately 378,000 acres (1,530 km²) are tribally owned and 548,000 acres (2,220 km²) are individually allotted Indian lands. The total of Indian-owned lands is about 926,000 acres (3,750 km²). There are an estimated 10,000 enrolled tribal members, of whom approximately 6,000 reside on or near the Reservation. The population density is greatest along the southern border of the Reservation near the Missouri River and the major transportation routes, U.S. Highway 2 and Amtrak routing on the tracks of the Burlington Northern Railroad.

The Fort Peck Tribes adopted their first written constitution in 1927. The tribes voted to reject a new constitution under the Indian Reorganization Act in 1934. The original constitution was amended in 1952, and completely rewritten and adopted in 1960. The present constitution remains one of the few modern tribal constitutions that still include provisions for general councils, the traditional tribal type of government. The official governing body of the Fort Peck Tribes is the Tribal Executive Board, composed of twelve voting members, plus a chair, vice-chairman, secretary-accountant, and sergeant-at-arms. All members of the governing body, except the secretary-accountant, are elected at large every two years.

3.4.1 Race and Ethnicity

The vast majority of Valley County is white (87.0%) and the second largest category is American Indian and Alaska Native (9.8%).

Table 24: Population of Valley County by Race and Ethnicity

Race	Number	Percent
Total population	7,369	100.0
One Race	7,214	97.9
White	6,409	87.0
Black or African American	17	0.2
American Indian and Alaska Native	724	9.8
Asian	37	0.5
Native Hawaiian and Other Pacific Islander	3	0.0
Some Other Race	24	0.3
Two or More Races	155	2.1
White; American Indian and Alaska Native	109	1.5
Hispanic or Latino (of any race)	91	1.2

Source: U.S. Census 2010

The following table illustrates that there is a distinct majority regarding the language spoken in the homes of residents of Valley County. With 98.2% of residents speaking only English at home and 0.5% of residents speaking Spanish.

Table 25: Language Spoken at Home in Valley County

Language Spoken at Home	Number	Percent
Population 5 years and over	7,069	7,069
English only	6,939	98.2%
Language other than English	130	1.8%
Speak English less than "very well"	49	0.7%
Spanish	37	0.5%
Speak English less than "very well"	13	0.2%
Other Indo-European languages	56	0.8%
Speak English less than "very well"	24	0.3%
Asian and Pacific Islander languages	15	0.2%
Speak English less than "very well"	9	0.1%
Other languages	22	0.3%
Speak English less than "very well"	3	0.0%

Source: U.S. Census 2010

3.4.2 Level of Education

The next table indicates the level of education of the residents of Valley County. This indicates that of the population in Valley County 25 and over, the majority of the county has graduated from high school and attended some college.

Table 26: Level of Education for Valley County

Educational Attainment	Number	Percent
Population 25 years and over	5,304	5,304
Less than 9th grade	153	2.9%
9th to 12th grade, no diploma	323	6.1%
High school graduate (includes equivalency)	1,956	36.9%
Some college, no degree	1,425	26.9%
Associate's degree	541	10.2%
Bachelor's degree	700	13.2%
Graduate or professional degree	206	3.9%
Percent high school graduate or higher	(X)	91.0%
Percent bachelor's degree or higher	(X)	17.1%

Source: U.S. Census 2010

3.4.3 Socioeconomic Conditions: Income

The income per household in Valley County as of 2013 can tell a lot about the county as a whole. There is 3,248 households in the county. The income range with the highest number of households is the $50,000-$74,999 range, with the second largest income range being $35,000-$49,999. These statistics indicate that almost half the households in the county have income ranges within the lower to mid middle class.

Table 27: Income and Benefits per Household in 2013 Valley County

Income and Benefits	Number	Percent
Total households	3,248	3,248
Less than $10,000	212	6.5%
$10,000 to $14,999	219	6.7%
$15,000 to $24,999	425	13.1%
$25,000 to $34,999	376	11.6%
$35,000 to $49,999	488	15.0%
$50,000 to $74,999	614	18.9%
$75,000 to $99,999	429	13.2%
$100,000 to $149,999	345	10.6%
$150,000 to $199,999	88	2.7%
$200,000 or more	52	1.6%
Median household income (dollars)	47,181	(X)
Mean household income (dollars)	57,725	(X)

3.4.4 Employment Status

The following table indicates that the unemployment rate in Valley County almost half of the national average. The national average unemployment rate is 6.9% and the actual unemployment in Valley County in 2010 was 3.8%.

Table 28: Employment Status in Valley County

Employment Status	Number	Percent
Population 16 years and over	5,981	5,981
In labor force	3,764	62.9%
Civilian labor force	3,764	62.9%
Employed	3,622	60.6%
Unemployed	142	2.4%
Armed Forces	0	0.0%
Not in labor force	2,217	37.1%
Civilian labor force	3,764	3,764
Percent Unemployed	(X)	3.8%

Source: U.S. Census Bureau

3.4.5 Occupation

The following table shows that the majority of occupations by people in Valley County are in either management, business, science and arts occupations, or service occupations. These two occupation type categories make up more than half of the occupations in the county.

Table 29: Occupations in Valley County (estimates from 2008-2012)

Occupation	Number	Percent
Civilian employed population 16 years and over	3,622	3,622
Management, business, science, and arts occupations	1,283	35.4%
Service occupations	794	21.9%
Sales and office occupations	697	19.2%
Natural resources, construction, and maintenance occupations	448	12.4%
Production, transportation, and material moving occupations	400	11.0%

Source: US Census

3.4.7 Faith Based Community

In Valley County, the faith-based community is strong with almost half of the entire county population participating in their religion of choice. The majority of the county is predominantly Lutheran and Catholicism ranking second.

The faith-based communities have had a long history of providing a communication and reaction conduit for those expressing an interest in the disseminating information.

Table 30: Religious Bodies

Church Name	Religious Affiliation	Location
Former Nazarene Church	Christian	Glasgow
Seventh Day Adventist Church	Protestant	Glasgow
Assembly of God Church	Pentecostal	Glasgow
St. Matthew's Episcopal Church	Episcopal	Glasgow
Glasgow Evangelical Church	Evangelical	Glasgow
First Lutheran Church	Lutheran	Glasgow, Richland
Calvary Baptist church	Baptist	Glasgow
Faith Lutheran Church	Lutheran	Glasgow
Saint Raphaels Catholic Church	Catholic	Glasgow
Bethel Lutheran Church of Grain	Lutheran	Nashua
Our Redeemers Lutheran Church	Lutheran	Nashua

Church Name	Religious Affiliation	Location
Queen of Angels Catholic Church	Catholic	Nashua
First Baptist Church of Opheim	Baptist	Opheim
United Methodist Church	Methodist	Richland

3.4.8 Economic Conditions

The major economy of Valley is agriculture, including small grains, cattle, pulse crops, and hay. The now abandoned air force base north of Glasgow, known as St. Marie, was a strong influence in the local economy before its closure.

As of May 2012, the major industries present in Glasgow are retail (23% of employment), public administration (16%), construction (14%), and health care and social assistance (7%). Despite its agricultural past, farmers and farm services only took up 4% of employment. The unemployment rate was 4.4% in 2012.

Table 31 shows the most common industries in the county and displays percentages each industry.

Table 31: Most Common Industries in Valley County

Industry	Number	Percent
Civilian employed population 16 years and over	3,622	3,622
Agriculture, forestry, fishing and hunting, and mining	528	14.6%
Construction	188	5.2%
Manufacturing	62	1.7%
Wholesale trade	113	3.1%
Retail trade	351	9.7%
Transportation and warehousing, and utilities	326	9.0%
Information	114	3.1%
Finance and insurance, and real estate and rental and leasing	129	3.6%
Professional, scientific, and management, and administrative and waste management services	143	3.9%
Educational services, and health care and social assistance	968	26.7%
Arts, entertainment, and recreation, and accommodation and food services	292	8.1%
Other services, except public administration	141	3.9%
Public administration	267	7.4%

3.4.9 Agriculture

Table 32 outlines the profile for Valley County about farms. Among all the Montana counties, Valley County ranks 4th in the total value of agricultural products sold. The table outlines the percent change seen from 2007 to 2012. As you can see, the acreage of land used for farms and number of farms has decreased in the time period indicated. This is critical information given the size and scope agriculture plays in the local economy.

Table 32: Valley County Farm Profile

Farm Information	2012	2007	Percent Change
Number of Farms	654	770	-15
Land in Farms	1,634,642	2,061,260	-21
Average Size of Farm	2,499	2,677	-7

Source: U.S. Census of Agriculture

3.4.10 Future Development

Current economic trends for the region are as follows:

1. Aspects of agriculture have plummeted in recent years. Counties in the region with the greatest population loss are agriculturally dependent. Population loss is an important issue in many counties.

2. Some recent growth in the service and retail portions of the workforce are related to recreational tourism to Valley County and the surrounding area.

3. Agricultural lands and natural areas are a majority of the landscape in the region.

3.5 Critical Infrastructure

The term built environment refers to the human-made surroundings that provide the setting for human activity, ranging in scale from personal shelter and buildings to neighborhoods and cities that can often include their supporting critical infrastructure (bridges, water treatment, highways, and so on) and key resource (schools, museums, and so on) assets. The built environment is a material, a spatial and cultural product of human labor that combines physical elements and energy in forms necessary for living, working, and playing. In urban planning, the phrase connotes the idea that a large percentage of the human environment is fabricated, and these artificial surroundings are so extensive and cohesive that they function as organisms in the consumption of resources, disposal of wastes, and facilitation of productive enterprise within its bounds.

Thecounty'sinfrastructureandfacilitiesareimportantforitsnormalfunctioningandthehealth,safety,andgeneralwelfareofitsresidents. ThissectionidentifiesValleyCounty'simportantcriticalinfrastructureandfacilities,includingsubsectionsontransportation,schools,medicalfacilities,wastefacilities,andhistoricsites.

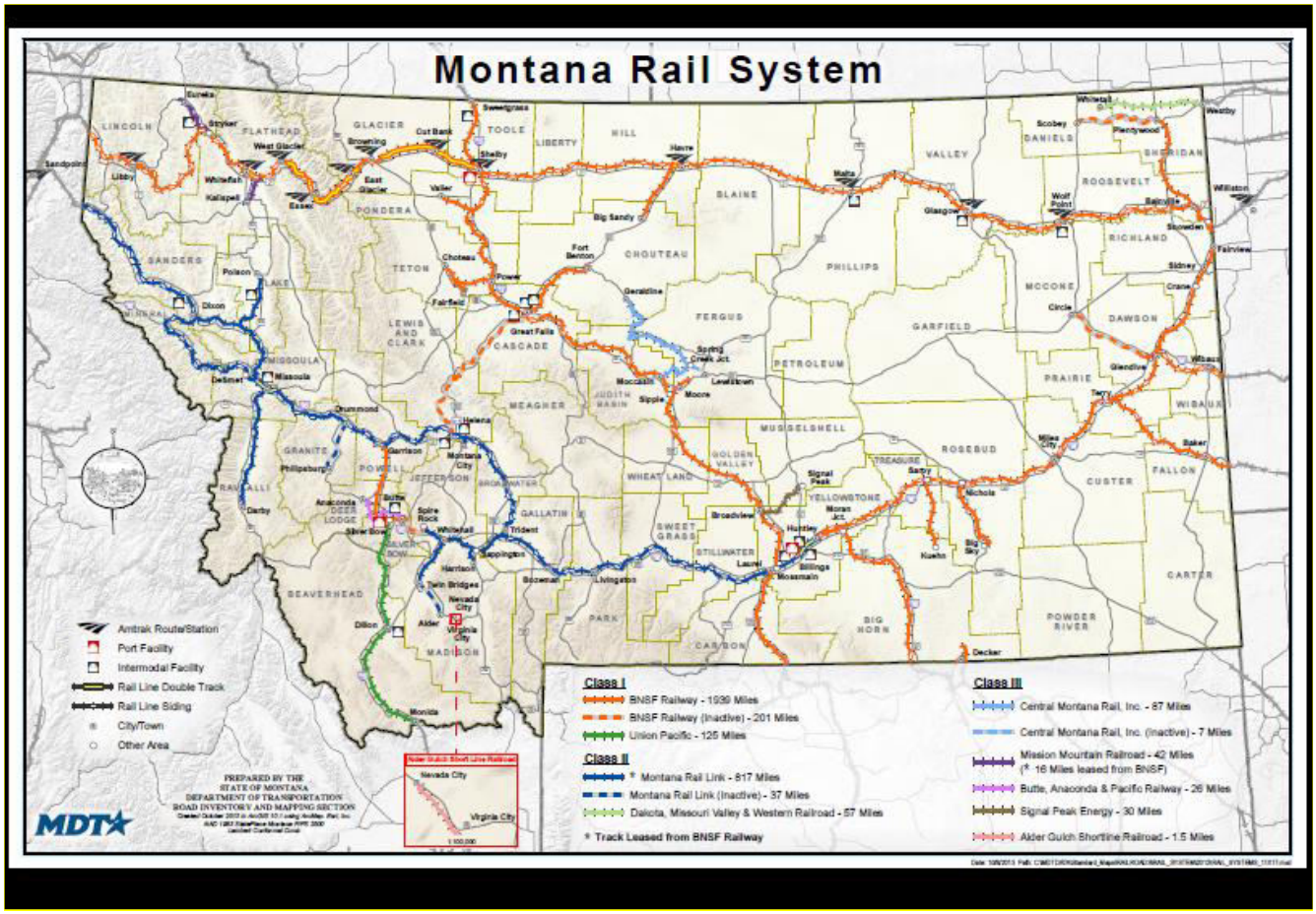
3.5.1 Railroads

Burlington Northern Santa Fe (BNSF) railroad operates a mainline through the county, generally along US Highway 2. BNSF transports goods and raw materials along this line. Amtrak provides passenger rail service as part of the Empire Builder Route and operates a passenger rail station in Glasgow. The railroad runs through Nashua, Whately, and Glasgow in Valley County.

The BNSF Railway is the second-largest freight railroad network in North America, second to the Union Pacific Railroad (UP) and is one of seven North American Class I railroads. It has three transcontinental routes that provide high-speed links between the western and the eastern United States. BNSF trains traveled over 169 million miles in 2010, more than any other North American railroad. The BNSF and UP have a duopoly on all transcontinental freight rail lines in the U.S and share trackage rights over thousands of miles of track.

According to corporate press releases, the BNSF Railway is among the top transporters of intermodal freight in North America. It also hauls bulk cargo. For instance, the railroad hauls enough coal to generate roughly ten percent of the electricity produced in the United States.

Figure 11: Montana Rail System



Theefficiencyofarailroadisaffectedbythephysicalconditionoftheraillines.TheFederalRailroadAdministration(FRA)trackclassificationisbaseduponthephysicalcharacteristicsof theroadbed,trackgeometry,andtrackstructure.Therearefourdifferenttrackclassificationswithmaximumfreightandpassengerspeeds(Table33).Characteristicsrelatedtotheroadbedincludedrainageandvegetation.Trackgeometryincludesgauge,alignment,elevation,andsurface.Trackstructureinvolvesballast,ties,rail,spikes,joints,andswitches.Thesecharacteristicsdeterminetheallowableoperatingspeedsforeachrailline.

Table33: FRA Railroad Track Classification

Class	Freight Speed	Passenger Speed
One	10	15
Two	25	30
Three	40	60
Four	60	80

Theweightrestrictionofaparticularlinehasagreateffectonthemovementofgraintravelingthroughthe County.Themostefficientmeansforrailshipmentofgrainisby100-tonhoppercars.Suchcarshaveagrossweightof263,000pounds.Withoutaccesstoarailwithstrengthtohandlethesehoppercars,ashippermustchoosebetweensmallrailcarsortrucktransportation.TheBNSFraillinesaredesignatedtohandleover263,000pounds.Asare

sult,theBNSFraillinescanbearover10,000,000grosstonsoffreightannually.

3.5.2 Pipelines

The energy transportation network of the United States consists of over 2.5 million miles of pipelines. That is enough to circle the earth about 100 times. Approximately 3,000 companies, large and small, operate these pipelines. Based on data generated from annual reports to Pipeline and Hazardous Materials Safety Administration (PHMSA) from pipeline operators, the network includes approximately:

- 175,000 miles of onshore and offshore hazardous liquid pipeline;
- 321,000 miles of onshore and offshore gas transmission and gathering pipelines;
- 2,066,000 miles of gas distribution mains and service pipelines;
- 114 active Liquefied Natural Gas (LNG) plants connected to the gas transmission and distribution systems; and
- Propane distribution system pipelines.

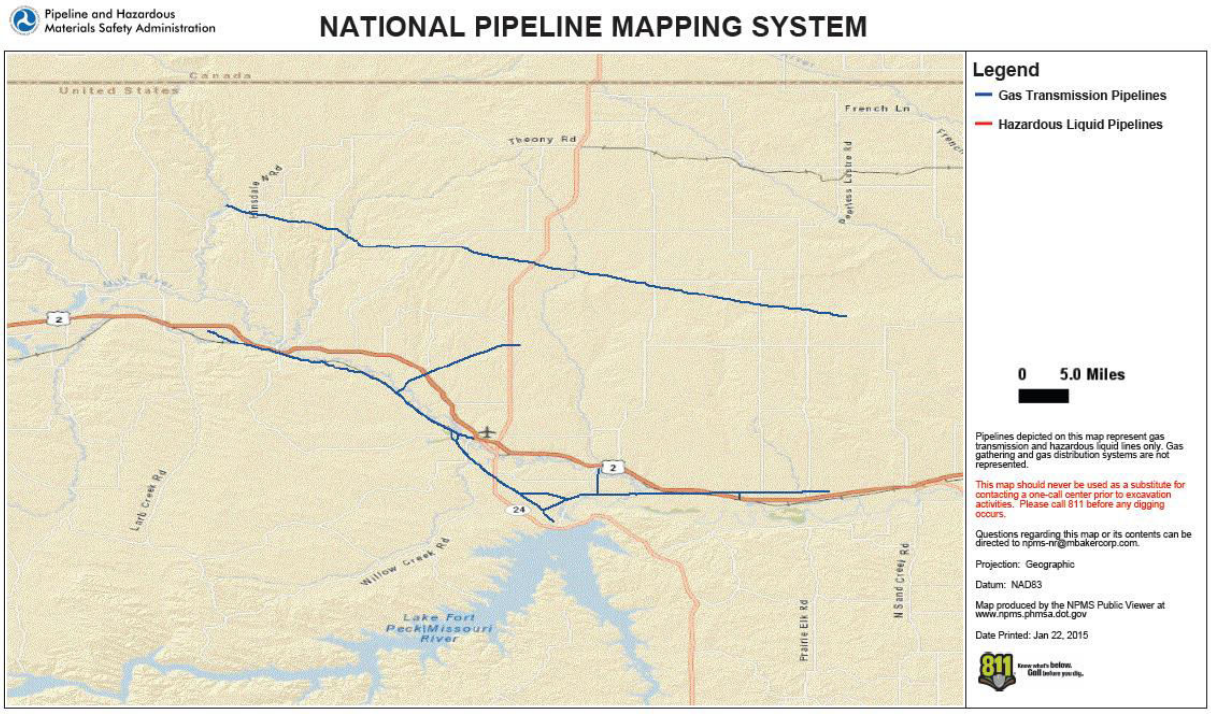
Although pipelines exist in all fifty states, most of people are unaware that this vast network even exists. This lack of knowledge is in part due to the strong safety record of pipelines and that most of them are located underground. Installing pipelines underground protect them from damage and helps protect the communities as well.

Most hazardous liquid and gas transmission pipelines are located underground in rights-of-way (ROW). A ROW consists of consecutive property easements acquired by, or granted to, the pipeline company. The ROW provides sufficient space to perform pipeline maintenance and inspections, as well as a clear zone where encroachments can be monitored and prevented.

The following figure shows the pipelines that run through Valley County. These pipelines are Gas Transmission Pipelines and run by the following cities, towns or communities in the county:

- Baylor
- Glasgow
- Fort Peck
- Frazer
- Hinsdale
- Saint Marie

Figure 12: Pipelines in Valley County



Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.
This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.
Questions regarding this map or its contents can be directed to npms-nr@mbakercorp.com.
Projection: Geographic Datum: NAD83
Map produced by the NPMS Public Viewer at www.npms.phmsa.dot.gov

Pipeline operators are required to post brightly colored markers along their ROW to indicate the presence of – but not necessarily the exact location of – their underground pipelines. Markers come in a variety of shapes and sizes. They contain information about the nearby pipeline as well as emergency contact information for the company that operates it.

Gas distribution systems consist of distribution main lines and service lines. Distribution main lines are generally installed in underground utility easements alongside streets and highways. Distribution service lines run from the distribution main line into homes or businesses. Aboveground markers do not generally indicate distribution main and service lines.

Pipelines play a vital role in our daily lives. Cooking and cleaning, the daily commute, air travel, and the heating of homes and businesses are all made possible by the readily available fuels delivered through pipelines.

These routine activities really add up, in terms of energy use. Natural gas provides for fully 24% of the country's total energy consumption, and petroleum provides for another 39%.Given that such huge volumes of hazardous liquids and gas must be transported the only feasible way to do so is through pipelines. Pipelines do not crowd our highways and waterways as trucks and barges would, nor do they contribute to traffic congestion or highway accidents. (U.S. Department of Transportation)

3.5.3 Transit

Mass transit is considered an essential public service. Mass transit provides for increased capacity on heavily traveled roads, provides transportation access to persons with disabilities or those otherwise unable to drive supports dense land use development, decreases dependence on car use, and helps to prevent the creation of additional air pollution from diminished individual car use. Valley County Transit has provided transportation to the residents in Valley County since 1975. Valley County Transit will pick residents up at their door, take them to their destination and return them home. Valley County Transit offers hydraulic wheelchair life and personal assistance to the residents in the county.

3.5.4 Transportation

The primary purpose of any transportation system is to move goods and people both safely and efficiently. An efficient and balanced transportation system includes highways, railroads, mass transit, and aeronautics. While the most influential mode of transportation is the automobile, the other types of transportation play an important role in the overall network.

3.5.5 Highways

Glasgow is located on U.S. Highway 2, which is a major east-west traffic corridor of the northern Great Plains region. Montana Highway 24 passes close to Glasgow and is a major north-south route connecting southern Montana to Canada. No Interstates run near the region.

3.5.6 Roads

County road supervisors are responsible for 2,000 miles of gravel and dirt roads in Valley County. Most of these roads can only be serviced twice per season.

The transportation infrastructure within Valley County includes the road, rail, and air networks. The primary road transportation routes in Valley County are US Highway 2, Montana Highway 24, Montana Highway 42, and Montana Highway 117. Valley County maintains about 1,888 miles of gravel roads, 58 miles of paved roads, and 50 bridges. The value of the county road infrastructure is estimated at over $215 million.

3.5.7 Airports

Glasgow has a commercial airport, Wokal Field (GGW) that has regional service to larger airports. The closest primary commercial service airports are in Billings, Great Falls, or Minot, North Dakota over 250 miles away. Other airports serving small private, charter, and/or government aircraft are located in Fort Peck (37S), Hinsdale (6U5), and Opheim (S00).

3.5.8 Water Control Structures

According to the National Inventory of Dams database, Valley County has 191 dams, eight of which are significant or high hazard. Table 34 shows the high and significant hazard dams in Valley County. (US Army Corps of Engineers, 2008)

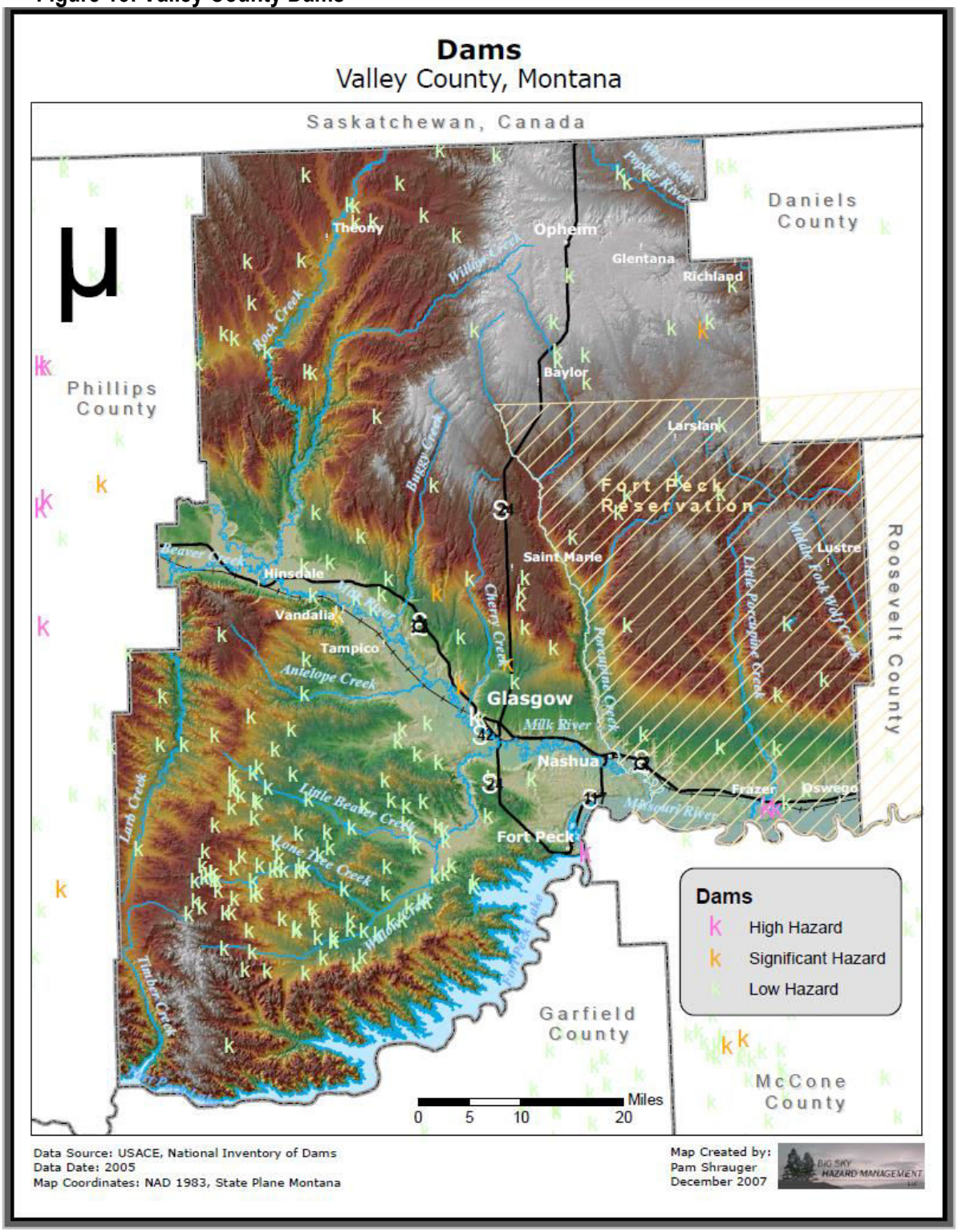
Table 34: Valley County Dams

Dam Name	River	Hazard	Owner
Fort Peck Dam	Missouri River	High	US Army Corps of Engineers
Frazer Lake Dam East	Tributary of the Missouri River	High	Bureau of Indian Affairs
Little Porcupine Dam	Tributary of Little Porcupine Creek	High	Bureau of Indian Affairs
Allie Dam	Tributary of the East Fork of Cherry Creek	Significant	Bernie Bloomer
Cornwell Dam	Wire Grass Coulee	Significant	Cornwell Range
Halverson Dam	Buffalo Coulee	Significant	Terry Montfort
Sweet Carolyn Dam	Tributary of the Milk River	Significant	Carolyn Muggli
Tarum #2 Dam	Hell Creek	Significant	Tarum Farms Inc.

The Fort Peck Dam in Valley, McCone, and Garfield Counties is one of six multipurpose main stem projects on the upper Missouri River. Construction began in 1933 and the dam was completed in 1940. Fort Peck Dam is the largest hydraulically filled dam in the United States. The dam measures 21,026 feet in length with a maximum height of 250.5 feet. In addition to power generation, the water is managed for flood damage reduction, downstream navigation, fish and wildlife, recreation, irrigation, public water supply, and improved water quality. The total storage capacity of the reservoir is approximately 18.7 million acre-feet.

According to the Bureau of Indian Affairs (BIA) Dam Safety Program, the Little Porcupine and Frazer Lake Dams are both inactive dams built for irrigation. They are in close proximity to one another but are separate structures.
Dams upstream of Valley County could also affect the area, including Fresno Dam, Nelson Dikes, and Frenchman Dam. A break on the Fresno Dam, located in Hill County, or a break on the Nelson Dikes, located in Phillips County, could affect areas of Valley County along the Milk River. The Frenchman Dam, located in Phillips County, is considered a low hazard dam, but a break may compound existing flooding.

Figure 13: Valley County Dams



3.5.9 Water/Wastewater Treatment

Sewer and Water

Municipal water and sewer systems exist within each of the incorporated communities and throughout unincorporated communities in the county. The water systems typically consist of groundwater wells or pumps from a body of water. The sewer systems generally have treatment plants and/or lagoons. Both water and sewer use underground pipes to service customers. The City of Glasgow pumps water from the Missouri River and has a backup well system. County residents outside of the water and sewer districts rely on individual well and septic systems.

Solid Waste Disposal

Valley County has a landfill located in Glasgow. It has hours of operation Monday through Saturday. The residents of Valley County can dispose of solid waste materials here. Residents can also find solid waste disposal for a variety of other materials by finding locations on the Montana state government website.

3.5.10 Waste Management

The county operates waste management services for the residents in the county. Waste management picks up household waste. In addition, the Montana Department of Agriculture has a waste pesticide and metal pesticide container disposal program that residents can participate in.

3.5.11 Water Pollution Control Revolving Fund

TheFederalCleanWaterActauthorizesaCleanWaterStateRevolvingFundprogramtoprovidefundstofinancewaterpollutioncontrolprojects.UndertheAct,theU.S.EnvironmentalProtectionAgency(EPA)awardsannualcapitalizationgrantstoeachstatetocapitalizeaStateRevolvingFund SRF), which the state can then use to provide loans for both point source (wastewater) and nonpoint source water pollution control projects. As part of its capitalization grant application, each state must annually prepare an Intended Use Plan (IUP) that describes the intended use of the available funds.

The Water Pollution Control State Revolving Loan Fund provides below-market-rate interest loans to help build new or repair existing wastewater treatment facilities. Eligible wastewater facilities include treatment plants, interceptor sewers, and collector sewers. Loans of up to 100% of project costs may be awarded for facility design and/or construction projects. Loans also may be awarded to address nonpoint source pollution control activities. Eligible nonpoint source activities include projects such as effluent trading, upgrading or replacing individual septic tanks, restoring wetlands, treating and controlling storm water, and dealing with agricultural runoff.

Source: Montana State Government

3.5.12 Fire Protection

Valley County Long Run Fire Department owns and operates ten fire stations in Valley County. These stations are by volunteer firefighters and located in or near the cities of Opheim, Richland, St. Marie, Lustre, Glasgow, Hinsdale, Nashua, Frazer, Fort Peck, and Pines.

Table 35: Fire Departments in Valley County

Fire Station Location	Fire Fighters
Pines	20
Lustre	4
Richland	12
Opheim	15
Long Run Glasgow	24
Nashua	15
Glasgow	20
Hinsdale	14

3.5.13 Public Safety

The Valley County Sheriff's Department is headquartered in Glasgow and has eight employees, all of whom are sworn, officers. The city of Glasgow also operates its own police department and has a staff of approximately ten.

Valley County Sheriff's Office has a Search and Rescue Unit comprised of volunteers and includes a liaison from the Sherriff's office. The search and rescue department was established in 1997.

3.5.14 Emergency Medical Services

Northeast Montana STAT Air Ambulance Cooperative's provides air transport and treatment to critically sick and injured persons in Valley County. The mission is to provide stabilization, critical care, and rapid transport of the seriously ill and injured patients. The purpose is to assist cooperative hospitals in providing the highest quality of air medical care in our region and to become closely integrated with the community hospitals and EMS agencies within our service area.-

3.5.15 Healthcare

There is one hospital located in Valley County. Frances Mahon Deaconess Hospital is located on 3rd Street in Glasgow. The hospital is a nonprofit healthcare facility that has provided services to the community since 1911. The 25-bed hospital is a critical access facility and provides a full range of healthcare services.

3.5.16 Public Health Services

Valley County Public Health Department, located in the courthouse annex in Glasgow. The department has a staff of six, including three registered nurses. The services provided include immunization, communicable diseases surveillance, family planning, and public health emergency planning. All services are overseen by the Health Officer and directed by the Valley County Board of Health.

3.5.17 Emergency Management

A full-time county employee who has other responsibilities outside of emergency management provides Valley County Disaster and Emergency Services Disaster and Emergency Services (DES) within Valley County on a part time basis.

State emergency management supports local emergency management with a full-time district representative located in Lewistown.

3.5.18 Public Utilities

Electricity

Electricity runs lights, computers, medical equipment, water pumps, heating system fans, refrigerators, freezers, televisions, and many other types of equipment. Electric providers in Valley County include Northern Electric Cooperative, based in Opheim, Valley Electric Cooperative, based in Glasgow, and Northwestern Energy, based in Sioux Falls, SD. Much of the electric service is transmitted through overhead lines. These lines are supported by poles and have key components such as transformers and substations.

Natural Gas

Montana-Dakota Utilities provide natural gas in the area through an underground pipeline infrastructure.

Propane/Fuel Oil

Buildings heated with propane and fuel oil typically have a nearby tank that is refilled regularly by a local vendor. The vendor uses a truck to transport the propane/oil to the users. Therefore, the vendors rely on accessibility to the communities and rural residents via the road network. Should any areas become isolated due to poor road conditions, the vendor may not be able to access the tanks to refill them.

Telephone
Local telephone services in the county are provided by Nemont based in Scobey. Similar to electric infrastructure, the telephone can be run through overhead or underground lines. Much of the telephone infrastructure in Valley County lies within the road right-of-ways.

3.5.19 Energy Sector

The Montana Department of Commerce's Census and Economic Information Center (CEIC) and Industry Development Program (IDP) have developed the Montana Energy Statistics webpage to provide the most current information available on the energy economy in Montana. Not only does the economic health of Montana depend on continued access to affordable and reliable sources of energy but also one of Montana's most promising economic opportunities lies in the continued responsible development of the state's vast energy resources.

Table 36: Montana Energy Statistics

GDP by Select Industries, Montana(figures are millions of year US$)	2006	2007	2008	2009	2010	2011	2012	2013
Total - All Montana Industries	32,875	35,850	36,582	35,706	37,520	40,250	42,140	44,040
Mining	1,808	2,082	2,327	1,880	2,164	2,586	2,700	2,706
Oil & Gas Extraction	523	563	695	407	417	465	494	NA
Mining - Except Oil & Gas (includes coal)	935	1,186	1,234	1,240	1,461	1,726	1,673	NA
Support Activities For Mining	350	333	398	234	286	395	533	NA
Utilities	821	871	926	980	1,017	1,098	966	1,004

The following table outlines the most common heating fuel for houses and condominiums in Valley County. During the cold winter months, the heating of homes and businesses is a necessity. The primary heating fuel used in Valley County and the incorporated jurisdictions is natural gas; the exception is the Town of Opheim, which relies on propane and electricity. Rural unincorporated areas generally also rely on propane and electricity. Overall, a variety of fuels is used as shown in Table 37. Most systems ultimately require electricity to run their thermostats and blowers.

Table 37: Heating Fuel for Households in Valley County

House Heating Fuel	Number	Percent
Occupied housing units	3,248	3,248
Utility gas	2,049	63.1%
Bottled, tank, or LP gas	597	18.4%
Electricity	476	14.7%
Fuel oil, kerosene, etc.	43	1.3%
Coal or coke	2	0.1%
Wood	71	2.2%
Solar energy	0	0.0%
Other fuel	10	0.3%
No fuel used	0	0.0%

3.5.20 Natural Resources

The Great Northern Development Corporation developed a Regional Needs Assessment for Sheridan, Daniels, Roosevelt, Valley, Garfield, and McCone Counties in 2013. This assessment included information about exploitable natural resources in the region. The area is rich in natural resources such as coal, oil and gas, the wind and solar power. The number of jobs has increased in non-farm industries with a definite increase in oil and gas exploration. Non-farm or service jobs have increased as the Fort Peck water pipeline treatment plant and an inlet for the regional water system enter the building phase.

The Great Northern Development Corporation (GNDC) region is rich in geothermal potential. Oil and gas fields provide a new potential geothermal resource. In the near term, extracting heat energy from oil and gas fluids may be the greatest potential for using geothermal resources in Montana. Valley, Sheridan, Daniels, and Roosevelt Counties contain Lignite Coal.

3.5.21 Schools

Glasgow Public School District educates the youth of Valley County by providing kindergarten through the12th-grade. The district has three schools: Irle Elementary School, East Side School, and Glasgow High School.

Irle Elementary School serves kindergarten through 3rdgrade. East Side School serves grades 4 through 6. Glasgow High School serves grades 7 through 12. Glasgow High School has a student population of 244. The remaining K-8 schools have 566 students, for 810 in the public school system.

Table 38: Valley County School Enrollment

School Enrollment	Number	Percent
Population 3 years and over enrolled in school	1,535	1,535
Nursery school, preschool	120	7.8%
Kindergarten	128	8.3%
Elementary school (grades 1-8)	740	48.2%
High school (grades 9-12)	399	26.0%
College or graduate school	148	9.6%

Section 4: Risk Assessment

A risk assessment is critical to mitigation and comprehensive emergency management in that it allows communities to measure and better understand the potential impact of hazards on their communities. Conducting a risk analysis is a multi-step process. The risk assessment process includes identifying hazards, profiling hazard events, determining how frequent hazards occur, and determining both the type and magnitude of hazards impact. A risk assessment provides the means for Disaster and Emergency Service Coordinator and community leaders to develop mitigation actions and to prioritize resource needed to address operational activities and to ultimately help a community become more resilient (Schwab, Eschelbach, and Brower, 2007).

FEMA Requirements Addressed in this Section:

§201.6(c)(2)(i): The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

§201.6(c)(2)(ii): The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008, must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

§201.6(c)(2)(ii)(A): The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

§201.6(c)(2)(ii)(B): An estimate of the potential dollar losses to vulnerable structures identified in … this section and a description of the methodology used to prepare the estimate.

§201.6(c)(2)(ii)(C): Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

§201.6(c)(2)(iii): For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

4.1 Hazard Profile

The first step in conducting risk analyses is to identify which hazards are the most probable to affect one's community. With regard to Valley County's mitigation plan update, an all-inclusive list of hazards was considered for inclusion in the plan update. The Planning Team reviewed several sources to include Valley County's previous hazard mitigation plan, hazards identified by FEMA, the Montana State Multi-Hazard Mitigation Plan, mitigation plans of other neighboring counties, and other technical documents. The Mitigation Planning Team also analyzed past declared disasters and spoke to local experts and residents. The results of the risk analysis were distributed to all of the participating jurisdictions and to elicit input from both officials and citizens, a public meeting was held.

The planning team's efforts resulted in a comprehensive list of hazards including blizzard, cybercrime, civil disobedience, dam failure, drought, earthquake, fire, floods, hazardous material incidents, infectious disease, ice storms, lightning, power outage, rainstorm, subsidence, terrorism, tornadoes, transportation incidents, windstorms, and wildfire. Once the initial hazard list was established, it was presented to the Valley County Mitigation Steering Committee for discussion and

consideration.

While 20 hazards were originally identified as options to be included in the mitigation plan, the Steering Committee noted that the hazards were too broad and were possible should be condensed. With input from the Planning Team on how to infuse efficiency into the planning process and feedback from the public, the number of hazards was reduced from 20 to 10. As suggested by the Planning Team and approved by the Steering Committee (May 19, 2015) the following changes were made:

- Summer and winter storms were expanded so that they both respectively took into account damage caused by rain wind, ice, snow, and cold.
- The tornado hazard was expanded to include issues of wind; thus, reducing the need for a separate windstorm hazard. It should be noted the Steering Committee original had decided that tornado should be included in with the summer storm hazard. State mitigation personnel recommended it is treated as a separate hazard so the Steering Committee decided to include as a separate hazard.
- Structure fire was removedfrom the list
- Issues of electric failure were eliminated as it was decided it was a consequence of hazard rather than hazard itself.
- Infectious disease was added as the term includes communicable diseases were, as communicable diseases does not include infectious diseases.
- Drought was not be included nor is it in the latest state Hazard Mitigation Plan. Hazard Mitigation Plans are not designed to mitigate drought issues.
- Flooding takes into account dam failure.
- Issues of, electric failure were eliminated as a separate hazard and treated because of other hazards rather than hazard by itself.
- The hazards of political unrest, aircraft incidents, cybercrime and terrorism and similar are not natural hazards and are addressed in other plans.
- While hazardous material is not a natural hazard, the planning team's preliminary investigation seems to suggest that the county and or its jurisdictions are at a significant risk of hazmat events and as such, it is included as a separate hazard for the plan update.
- Transportation hazard was eliminated, as it is included in the hazardous materials hazard.

The proposed hazard list was presented to the citizens of Valley County for feedback on August 17, 2015. The meeting occurred in Glasgow with approximately 20 in attendance. The result of the conversation confirmed the findings and guidance of the Steering Committee.

The following chart provides a summary of the final hazards identified in the hazard risk assessment:

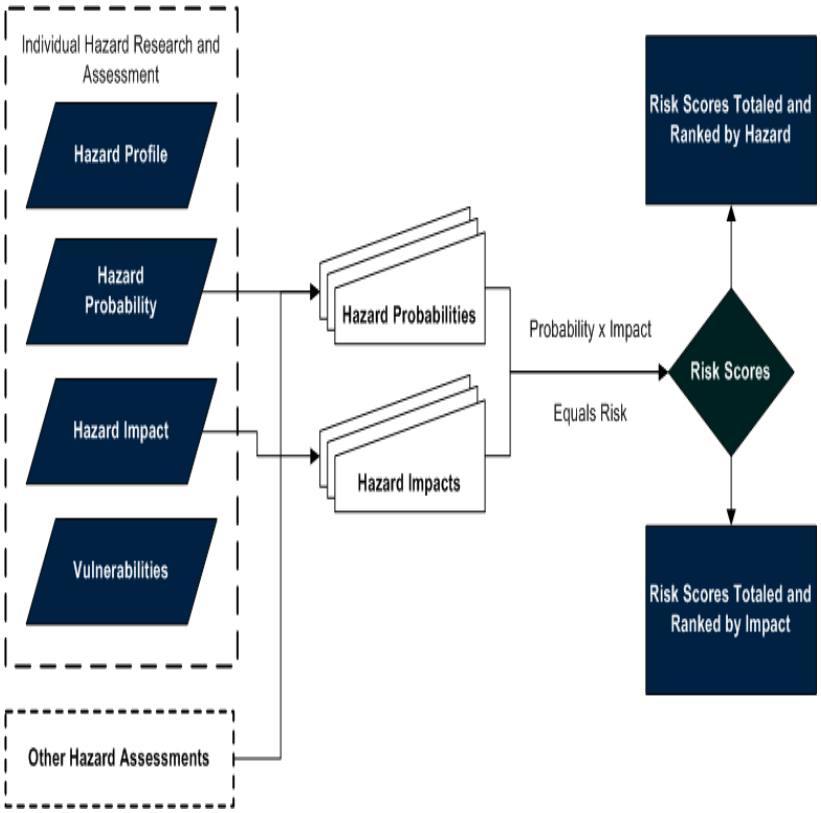
Table 39: Hazards Identified for the Hazard Risk Assessment

Natural Hazards	Technological Hazards	Political Hazards
Dam Failure	Transportation Accidents	Terrorism/Civil Unrest
Infectious Disease	Hazardous Material	
Flood		
Subsidence		
Structural Fire		
Summer Storms (Hail, Lightning, Thunder & Wind)		
Tornado		
Wildland and Rangeland Fires		
Severe Winter Storms (Blizzard, Extreme Cold & Ice Storms)		

4.1.1 Risk Assessment Process

At the most fundamental level, both US Department of Homeland Security (DHS) and FEMA recognize that risk is equal to frequency times consequence (R = FC) of a hazard. More specifically, the risk is based on the premise that in order to have a certain level of risk there must be a probability or likelihood of a hazardous event to occur. Likewise, if the event does occur, it must have an impact or consequence. The following section outlines the methodology used to determine Valley County's risk.

To assess hazards and determine risk, the planning team proposed that a methodology based on probability and impact be utilized. First, each hazard was researched, documented, and assessed for frequency and impact. Then, the hazard frequency and impacts were compiled for all of the individual hazard assessments. Once this data was compiled, the frequency and impact calculations were tabulated to obtain a matrix of risk scores. The risk methodology as highlighted above was presented to the steering committee during the December 10, 2014, steering/planning meeting.



4.1.2 Probability of Future Occurrences

The probability of future occurrences is commonly determined by using the frequency of past events to gauge the likelihood of future occurrences. In the case of Valley County, the hazard analyses and update was based on the county's historical data, the written record, and information provided by citizens, and input from participating jurisdictions. When possible, a 50-year period was used to determine the probability (not all hazards report 50 years of data). The data used for all the hazard probabilities can be found in Appendix B.

The method used in the Valley County's plan for standardizing the scale of probability values was based on the probability shown below. The metrics for these classifications have been modified to reflect the 50-year reoccurrence interval used for this risk assessment and properly reflect the scale for the probabilities that were analyzed.

Table 40: Frequency/Probability

Level ID	Description Index Value	Index Value
Unlikely	Rare with no documented history of occurrences or events. Annual probability of less than .1%	0.5
Possible	Rare occurrences of at least one documented or anecdotal historic event. Annual probability that is between 1% and .1%	1
Likely	Likely occurrences with at least two or more documented historic events. Annual probability that is between 10% and 1%	2
Highly Likely	Highly Likely Frequent events with a well-documented history of occurrence. The annual probability that is greater than 10%.	3

One issue to note is that hazard data is often reported regionally versus being isolated to a single community. When determining risk, regional reporting can present a challenge in that multiple communities are noted as being impacted versus individual cities or counties. For example, NOAA might report that a severe storm affecting the northern part of Valley County while not directly indicating the city of Opheim was affected. To ensure each jurisdiction (or in the example--- Opheim) is accounted for, a quadrant system was used.

The quadrant used in the Risk Analyses simply arranged Valley County and its cities into the regional reporting categories (Central Valley, South Central Valley, North Central Valley, Northwestern Valley, Southwestern Valley, Northeastern Valley, and Southeastern Valley). For tabulating hazards frequency, the following Regional Classification Table demonstrates which cities are associated with which jurisdictions.

Table 41: Regional Classification

Regional Classification	
Central	Glasgow, Unincorporated Valley County
Southcentral	Fort Peck, Nashua, Unincorporated Valley County
Northcentral	Opheim, Unincorporated Valley County
East Central	Unincorporated Valley County
West Central	Unincorporated Valley County
Northwestern	Unincorporated Valley County
Southwestern	Unincorporated Valley County
Northeastern	Unincorporated Valley County
Southeastern	Unincorporated Valley County

Note: The quadrant system was only used when the Hazard data used regional indications and did not directly indicate a community.

4.1.3 Hazard Impact

When conducting a risk analysis, creating a probability of a hazard occurrence is just one of several steps one must take to determine risk. To determine risk one must also take in account both impact assumption and affect magnitudes.

Impact assumptions describe how a hazard affects the county and or its cities. The specific set of impact assumptions listed below were selected for Valley County's hazard risk analyses. The listed impact assumptions were chosen as they 1) can be caused by several different hazard events; 2) are mostly independent of each other; 3) each to certain degrees can be mitigated; 4) are often cited in the disaster literature (Center Comprehensive Emergency Management Research. 2015) and are commonly used in disaster planning.

Table 42: Impact Assumptions

Impact Assumptions	
Casualties/Trauma	Non-Critical injuries that require medical attention.
Communication, Lack thereof	Disruption of communication including mobile and wired phone, radio, television, and satellite.
Continuity of Government	Disruption of county government normal operations.
Debris	Dry, wet, hazardous, organic or inorganic materials that need to be cleared and properly disposed of.
Emergency Services Disrupted/Limited	Fire, Rescue, and Medical services are either overwhelmed or unable to respond normally.
Evacuation Needs	Hazardous conditions require the evacuation from either a specific site or larger area within the county.
Fatalities	Death due to the hazard.
Hazardous Material Release	Hazard event causes a hazard material release as a secondary hazard.
Overwhelm of First Responders	First responders are overwhelmed or unable to respond.
Mass Care Needs	Hazard event requires emergency sheltering of citizens.
Physical Damage / Asset Destruction	Loss or damage to the built environment.
Power, Disruption/Outages	Inability to supply power to end users or lack of enough power.
Transportation, Disruption/Failure	County roads, sidewalks, and public transit are obstructed or unable to function normally.
Economic Loss	Hazard causes loss or disruption to economic assets.

4.1.4 Impact Magnitudes

Disaster is loosely determined by when a jurisdiction's capacity is exceeded or when the jurisdiction no longer has the capacity to cope with the hazard. To quantify impact assumptions, it is necessary to determine the magnitude that hazard might have on a jurisdiction. The metric for impact magnitude consisted of a number of descriptors that are normally associated with a jurisdiction's capability and capacity to respond to, mitigate, and or recover from hazard events. A full list of these magnitude ratings is presented in the Impact Magnitude Rating table below.

Table 43: Impact Magnitude Ratings Descriptors

Rating	Descriptors
0	Hazard has no foreseeable effect specific to the impact assumption (rare).
1	The impact is present but is extremely light having relatively no notable adverse effect on the jurisdiction.
2	The impact has an effect on the jurisdiction but does not always require next level

Rating	Descriptors
	government intervention.
3	Impact necessitates a county response or deployment of resources, impact disrupts normal/planned community functions.
4	Impact requires EOC operations or other coordinated response efforts.
5	The cost of impact exceeds a threshold of being unusually detrimental or disruptive to the jurisdiction.
6	The impact is taxing on county's resources and has a widespread effect on the greater community.
7	The impact has an extended response / short-term recovery duration exceeding 36 hours and some long-term recovery needs.
8	Impact exceeds county and municipal response capabilities/capacities.
9	Long-term recovery planning needed, State or Federal resources needed to aid response and recovery from the impact.
10	The impact is so great it disrupts basic county function for an extended period and causes secondary hazards.

The final steps in calculating consequence (affects score) is to provide a magnitude of each impact. Once each impact is assigned a magnitude rating, the sums of each impact are added together and divided by 14 (the number of impact assumptions). The impact scores range from a maximum of 10 to a minimum of zero.

The challenge with using this model is without inserting bias, to quantify hazard impact so that it uses similar scales and can be easily interpreted.

To account for bias, it was decided that once the data was calculated, it would be placed on a dedicated webpage for open review and comment by the steering committee, participating jurisdictions, and public. The Disaster Emergency Service Coordinator was responsible for informing the public, steering committee and participating jurisdictions that the information was available for review and comment. The hazard risk assessment was reviewed, with input occurring from each of the participating jurisdictions. In instances where the findings provided by the jurisdictions were inconsistent with the written record, the data as provided by the local subject matter expert was used.

Table 44: Impact Descriptors

Impact		
Level ID	**Description Index Value**	**Index Value**
No Impact	No action required.	0
Low (Less than 3.33)	Minimal action required.	1
Moderate (3.34-7.45)	Action required with present resources.	2
High (7.5-10)	County resources are overloaded and additional help is required.	3

4.2 Risk

This section is a summary of risks and the factors that contributed to the overall risk score for each hazard. Data was derived from Valley County's past mitigation plan, readily available data (internet searches and disaster databases), and records provided by Valley County and the participating jurisdictions. The individual hazard profiles were the basis that informed the hazard risk analysis process. The probability, impact, and risk hazard event data was analyzed for each of the listed hazards and for each of the participating jurisdictions in the county.

To satisfy the risk equation proved earlier (i.e. Risk = Frequency x Consequence), a final risk score for each jurisdiction was

generated. The risk was determined by multiplying the probability index number by the hazards consequence index number (i.e. Consequence = Impact Assumption x Impact Magnitude / 14). Risk scores range from 0-9 and are categorized as Little to No Risk (score of 0 to 3.23), Low Risk (score of 3.24 to 5.49), Moderate Risk (score of 5.5 to 7.74) and High Risk (score of 7.5 or higher). The table summarizes the risk-scoring key.

Risk Scoring Key	
0 – 3.23	Little To No Risk
3.24 - 5.49	Low Risk
5.5 - 7.74	Moderate Risk
7.75 - 9	High Risk

To assist the reader in understanding how risk was determined an example is provided.

EXAMPLE: Over the past 50 years, hazard X occurred 40 times. From this information, it can be determined that this hazard is highly likely to reoccur and is recorded with a probability index score is equal to three. Additionally, the hazard impact assessment suggests the hazard will have a moderate impact on the jurisdiction (70/14= 5) and as such the hazard's impact index score is equivalent to two. The hazard risk score is calculated based on the probability (3) multiplied by the impact (2), to give an overall risk score of 6 or Moderate Risk.

It should be noted that because some select hazards were grouped, there might be inflation with regard to probability and impact. For example, summer storms include instances of hail, thunderstorms, and severe winds. Thus, the number of events and impact will rise causing the risk to also rise.

Another consideration is this model uses both the written record and record as reported by Valley County citizens. Therefore, there may be ambiguity with regard to occurrence and impacts provided in written record. Additionally, while some hazard events technically occur outside of the legal boundaries of a jurisdiction, the effect of these hazards are still felt by those living in the jurisdiction. Thus, it is common for participants to note hazards such as wildfire and or invasive species as having an impact on their respective jurisdictions regardless of that hazard technically occurring outside the boundaries of their legal jurisdiction. Finally, one must also consider the influence of perception when assessing a hazard's magnitude. For example, one might say an event was worse or less severe than officially reported. Such as the perception that a severe storm generated an actual tornado; however, in reality, the event generated severe, straight-line winds.

It should be noted that considerations such as these occur in all data analyses. However, such inconveniences do not influence the overall purpose of mitigation or diminish the analyses. Matter of fact, It can be argued that including both qualitative and quantitative data makes the model more accurate as it accommodates for risk perceptions and expertise of those living in Valley County.

4.3 Statewide Multi-Hazard Mitigation Actions and Information

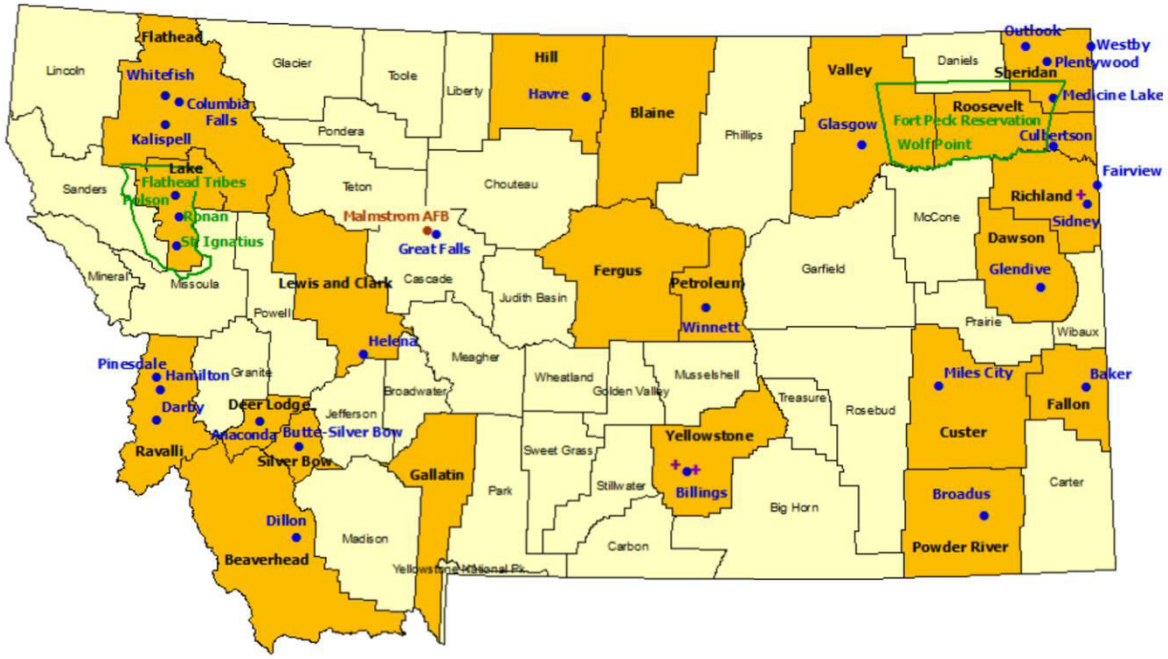
Being part of a Weather-Ready Nation is about building community resilience in the face of increasing vulnerability to extreme weather and water events. Americans live in the most severe weather-prone country on Earth.

There are 53 StormReady designations in Montana. Valley County is a StormReady County and Glasgow is one of 29 StormReady Communities in Montana. Fort Peck Reservation is also partially in Valley County and is one of two StormReady Indian Nations in Montana.

StormReady helps arm America's communities with the communication and safety skills needed to save lives and property--before, during and after the event. StormReady helps community leaders and Disaster and Emergency Service Coordinator strengthen local safety programs.

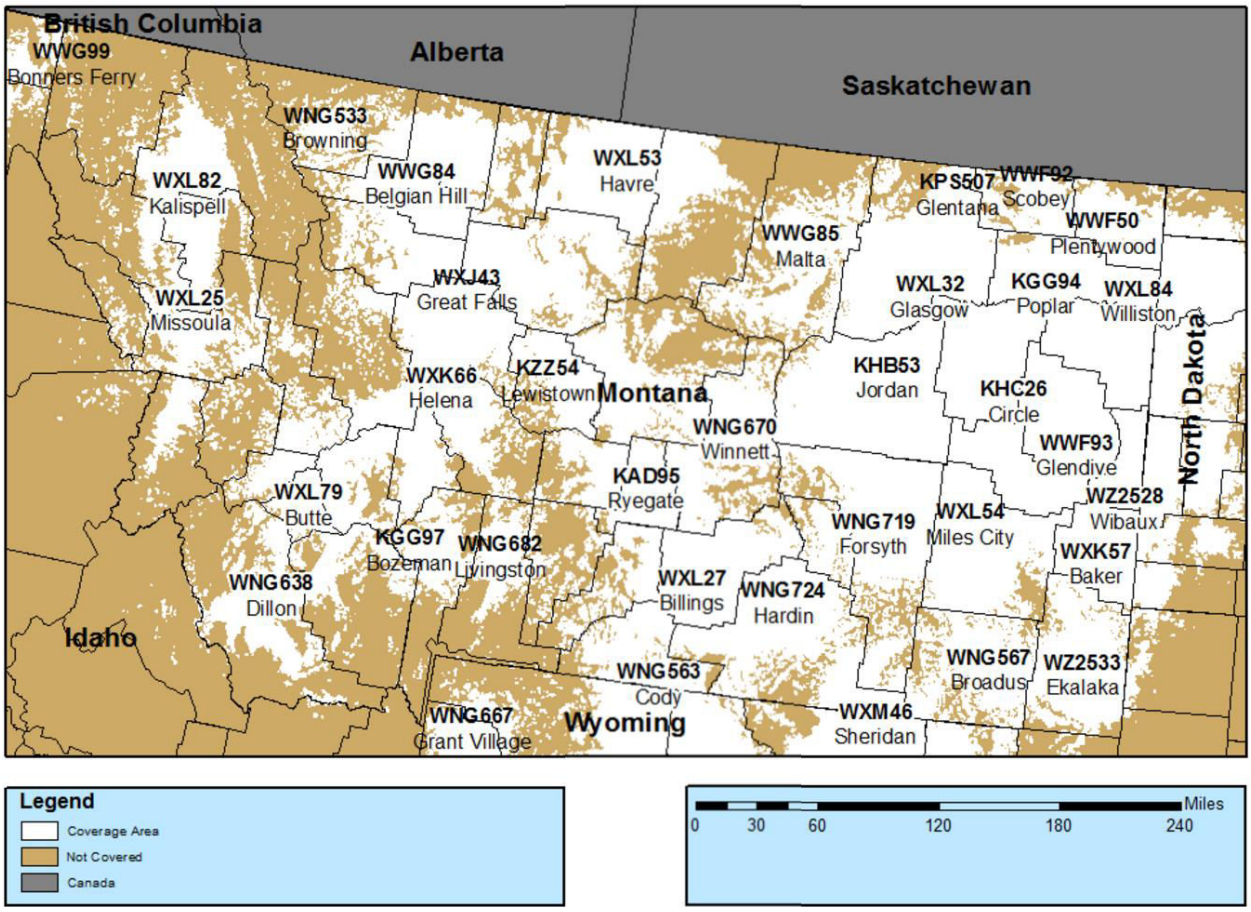
StormReady communities, counties, universities, military bases, Indian nations, commercial enterprises, and other groups are better prepared to save lives from the onslaught of severe weather through advanced planning, education, and awareness.

Figure 14: StormReady Designations in Montana



The coverage area of weather radios is an important piece of information for Valley County and its residents to be aware of. The following image shows the coverage area in Montana for the National Oceanic Atmospheric Administration (NOAA) National Weather Radio. The majority of Valley County is within the coverage area. There are however patches in the northwest corner of the county which are not in the coverage area. The areas of Valley County, which are and are not covered by the NOAA, can be important information for mitigation purposes. The reason for the lack of NOAA coverage in these areas relates to the lack of population to justify the cost.

Figure 15: National Weather Radio Coverage in Montana



4.4 Flood

Flooding was identified in the 2008 Valley County Pre-Disaster Mitigation Plan and was identified as one of the hazards to be included in the 2015 plan update. Flooding was identified as a significant hazard influencing Valley County. Analysis is included in this plan update to show a more in-depth look at what flooding is, the history of it within Valley County, and the potential it has to affect the county's residents.

Floods are the result of a multitude of naturally occurring and human-induced factors, but they all can be defined as the accumulation of too much water in too little time in a specific area. Types of floods that affect Montana include floods, flash floods, ice-jam floods, and aerial flooding.

River flooding occurs in river systems whose tributaries drain large geographic areas and include many independent river basins. Significant flooding can affect roads and homes on individual streams. Factors that directly affect the amount of flooding include frozen versus unfrozen precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth, and water-resistance of the surface due to urbanization. The duration of river floods may vary from a few hours to many days.

Floodplains

Floodplains are lands bordering rivers and streams that normally are dry but are covered with water during floods. Buildings and fill material in the floodplain can change the pattern of water flow and increase flooding and flood damage on adjacent property by blocking the flow of water and increasing the width, depth, or velocity of floodwaters. Buildings or other structures placed in floodplains can be damaged by floods.

Flash Floods

Flash floods are local floods of great volume and short duration. In contrast to river flooding, flash floods usually result from a torrential rain on a relatively small drainage area. Flash floods can occur within several seconds to several hours, with little warning. They can be deadly because they produce rapid rises in water levels and have devastating flow velocities. Factors contributing to flash flooding include rainfall intensity, rainfall duration, surface conditions, and topography and slope of the receiving basin.

Ice Jam

An ice jam is an accumulation of ice in a river that restricts water flow and may cause backups that flood low-lying areas upstream from the jam. Downstream areas can also be flooded if the jam releases suddenly, sending a flash flood downstream. Ice jam flooding is more likely to occur in break-up events as opposed to freeze-up events. Sudden seasonal changes are the greatest factor increasing the risk of ice jam flooding. Prolonged cold periods causing significant ice formation followed by unseasonably warm periods are likely formulas for ice jams, these most often occur in winter or spring. Damages resulting from ice jams can affect roads, bridges, buildings, and homes and can cost the affected community thousands to millions of dollars. In most instances, ice jams result in highly localized, yet serious damages, which makes it difficult to obtain the type of disaster assistance available for large-scale flooding events.

Dam Failure

According to the 2013 Update to the State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment, dam failures are usually associated with intense rainfall or prolonged flood conditions, but can occur during an earthquake. Dam failure may be caused by faulty design, construction, and operational inadequacies, intentional breaches, or a flood event larger than the design flood. The greatest threat from dam failure is to people and property in areas immediately below the dam since flood discharges decrease as the flood wave moves downstream.

According to FEMA, dams are classified into one of three categories, as outlined below:

- Low Hazard Potential - Dams where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.
- Significant Hazard Potential - Dams where failure or mis-operation results in no probable loss of human life but can cause economic loss, environment damage, disruption of lifeline facilities, or affect other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.
- High Hazard Potential - Dams where failure/mis-operation will probably cause loss of human life.

Montana has approximately 3,651 dams with a normal capacity of 50-acre feet (Department of Natural Resources and Conservation, DNRC, 2013). Of these dams, 189 are considered "high-hazard dams", indicating there is potential for loss of life downstream. Dam failure floods in Montana have primarily been associated with riverine and flash flooding. Nevertheless, the potential for a major flood occurring solely because of dam failure is a real possibility. Considering only the events shown in the table, there have been 34 deaths and extensive property damage from dam-failure flooding in Montana.

Aging infrastructure is to blame for a number of failed dams in Montana. There have been numerous small failures primarily related to deterioration of corrugated metal pipe outlet works, which causes a slow release of reservoir contents along the outside of the outlet pipe, with minimal downstream property damage but serious damage to the structure (DNRC, 2013).

4.4.1 Flood Risk

The overall probability for that flooding will occur each year in Valley County is highly likely and its relative impact is high, and thus the overall risk for Valley County is high. The risk of flooding for each of the cities is different and was determined based upon the specific data collected and outlined in the history section of this hazard profile. In assessing flood data for the 2015 update, data from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. Most notable are the cities of Glasgow, Nashua and the unincorporated areas of Valley County because they are at a high risk and have an extensive history of problematic flooding. The table provided below provides the name of each of the cities in the county, the probability that flooding will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 45: Flood Hazard Risk Assessment

Flood			
City	**Probability**	**Impact**	**Risk**
Glasgow	**Possible**	**Very High**	**Very High**
Fort Peck	**Unlikely**	**Low**	**Little to No**
Nashua	**Highly Likely**	**Moderate**	**Moderate**
Opheim	**Possible**	**Low**	**Little to No**
Valley County*	**Highly Likely**	**High**	**High**
Total	**Highly Likely**	**High**	**High**

The probability is based upon data available from 1996-2014

*Valley County information takes into account-unincorporated areas of the County.

The 2015 update utilized the Risk = Frequency x Consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents little change from the previous plan, as the overall risk was high for the 2015 update. Similarly, the last plan update was completed in 2008 and indicated that flooding had the potential to have a high impact on Valley County.

4.4.2 Flood History in Valley County

The National Centers for Environmental Information's Storm Events Database provided data on flood and flash flood events in Valley County. The data available was from June 1996 until July 2015. During this period, there have been 82 events reported in Valley County. Of these 82 events, 51 occurred in the past five years in Valley County. The most recent flood events occurred in August and September of 2014. There were a flood and flash flood events reported at nine locations throughout Valley County. The flooding events, which occurred in Valley County in August 2014, caused over $1 million in property damage. The following narratives outline the significant flood events.

- On August 24, 2014, in Glasgow, a very wet and slow-moving low-pressure system stalled over Montana and directed near-continuous rainfall over central and northeastern portions of the state for several days. Rainfall totals ranged from five to 10 inches in the affected area. Valley County damages reported by DES to FEMA were in excess of $1.12 million dollars including the cost of repairs and labor. There were 36 locations across Valley County that was damaged (road, bridge, and culverts). On October 9, 2014, a presidential disaster declaration was granted for this event. Heavy rainfall in the basin with amounts ranging from four to 10 inches over a four-day period caused significant flooding in all the streams in the basin, and eventually the rivers. Willow Creek, Antelope Creek, Cherry Creek, Larb Creek, Brazil Creek all flooded during this period, blocking off many gravel roads around the county. Willow Creek Road from Fort Peck to the Pines had a very large area completely wiped out with a large culvert gone. No crop damage, injuries or deaths were reported as part of this event.

- On August 24, 2014, in Glasgow, there was a flash flood event. Widespread heavy rainfall from preceding days along with embedded thunderstorms led to flash flooding in the Cherry Creek Basin. The initial report of flash flooding came from an NWS employee who reported that Cherry Creek on the northwest side of Glasgow has risen out of its banks and is flooding with several inches of water over Skylark Road at Martin Coulee. The Creek was actually flooding in the area about 4 miles north of Glasgow westward and then southward to the Milk River. Many homeowners evacuated and had to move livestock and trailers out of the flooded waters. This is the second highest the river has been in at least 4 decades (2011 was higher). There were over a dozen homes with water in the basements and crawl spaces, and the water was so high, many people were unable to leave their homes because the driveways were flooded over with swift moving water. There was a total of $150,000 in property damage because of this flash flood event. There were no reports of deaths, injuries or crop damage.

- Starting late on August 22, 2014, widespread rainfall started statewide. The rain was almost continuous across portions of the state through August 25. Record rainfall totals for a 24-hour period, 46 hours and 72 hour and monthly period were common. Many locations had their wettest August on record, and some locations had the wettest ever as well. Most areas in the impacted region had at least 400% of normal, and the Saco, MT area had over 1000% of normal rainfall for the month. The Milk River at Glasgow had the worst flooding for this river. Several tributaries come into the Milk River in this region, and a dam break on Willow Creek contributed to additional flows of water coming into the main stem river and bringing the crest higher than anticipated originally. The Milk River at Glasgow rose quickly, went above flood stage near 11 pm on August 24, and receded around 6 am on September 4. The river peaked at 31.75 feet on August 26, which is the 14th highest crest on record. Impacts included:
    - Whately Road having water across it east of Glasgow
    - Livestock and Feedlots near the Milk River were isolated
    - 6th Ave South and Rahlf Lane flooding
    - Water covered Sullivan Park and softball/baseball fields
    - Some driveways underwater near the river

The December 2015 System Wide Infrastructure Framework (SWIF) plan for the City of Glasgow Cherry Creek Left Bank and Milk River Left Bank Levee System stated that according to the National Oceanic and Atmospheric Administration records,

the Milk River at Glasgow has experienced 26 crests over 30 feet which are 5 feet above flood stage. There are 20 events where the flood stage was over 31 feet, which are considered major flooding. Since 1938, the five most significant floods include 2011, 1952, 1986, 1939 and 1978 (there are listed by the highest crest in descending order). Overtopping of the Glasgow-Cherry Creek Lower Bank and Milk River Lower Bank levee surrounding Glasgow and the Tampico Highway at the Burlington Northern Santa Fe railroad on 2nd Avenue South would not occur until a crest of 35 feet is reached.

Table 46: Flood and Flash Flood Events for Valley County

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
DUCK CREEK	VALLEY CO.	MT	05/27/2010	21:00	MST-7	Flash Flood		0	0	1.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/28/2010	19:44	MST-7	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	03/23/2011	11:38	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/04/2011	03:21	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	04/05/2011	12:02	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	04/06/2011	08:54	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/07/2011	00:04	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	04/08/2011	12:02	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/13/2011	21:28	MST-7	Flood		0	0	0.00K	0.00K
VANDALIA	VALLEY CO.	MT	04/21/2011	21:21	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	05/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/01/2011	00:01	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/10/2011	11:04	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/10/2011	23:08	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/11/2011	08:26	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/18/2011	05:21	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/20/2011	09:19	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/22/2011	06:00	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	05/23/2011	16:45	MST-7	Flood		0	0	0.00K	0.00K
VANDALIA	VALLEY CO.	MT	05/25/2011	13:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/30/2011	19:48	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
OSWEGO	VALLEY CO.	MT	06/05/2011	13:16	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/07/2011	08:20	MST-7	Flash Flood		0	0	0.00K	0.00K
BLUFF CREEK RAWS	VALLEY CO.	MT	06/07/2011	15:22	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	VALLEY CO.	MT	06/07/2011	15:45	MST-7	Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/11/2011	15:11	MST-7	Flash Flood		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
SAINT MARIE	VALLEY CO.	MT	06/11/2011	16:57	MST-7	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/11/2011	19:35	MST-7	Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/17/2011	12:25	MST-7	Flash Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	06/17/2011	22:37	MST-7	Flood		0	0	0.00K	0.00K
KING COULEE RAWS	VALLEY CO.	MT	06/20/2011	20:21	MST-7	Flood		0	0	0.00K	0.00K
PARK GROVE	VALLEY CO.	MT	07/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/22/2011	14:03	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/22/2011	14:26	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/25/2013	18:25	MST-7	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/04/2013	19:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/04/2013	19:40	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	06/06/2013	03:40	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	08/24/2014	05:00	MST-7	Flood		0	0	1.120M	0.00K
GLASGOW INTL AIRPORT (KGGW)	VALLEY CO.	MT	08/24/2014	06:25	MST-7	Flash Flood		0	0	150.00K	0.00K
HINSDALE	VALLEY CO.	MT	08/24/2014	15:01	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	08/24/2014	21:50	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	08/26/2014	06:16	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	08/26/2014	06:40	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	09/01/2014	00:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	09/01/2014	00:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	09/03/2014	06:12	MST-7	Flood		0	0	0.00K	0.00K
Totals:								0	0	1.271M	0.00K

Martin Coulee Road Flooding

Residents on Martin Coulee road still have concerns over the increased frequency of flooding in the Martin Coulee drainage area. Recent history shows that the Billman Approach area has washed away three times, as well as portions of Martin Coulee road on the Campbell side. The new culvert on Billman's approach was damaged during the most recent event. One side of the culvert collapsed and now restricts the volume it was originally designed to handle. Roughly, 48 loads of gravel have washed into the downstream side of this approach impeding the flow as well. This flooding can cause a damming issue and if suddenly released would influence Cherry Creek.

Essentially, there is now a mix of a man-made/nature made geographical change downstream of this approach. This has negated previous efforts to mitigate the risk of flooding up and downstream of this location.

4.4.3 Major Declared Disasters for Flooding

According to data was provided by the Valley County Disaster Emergency Services Coordinator there have been three FEMA disasters declared in the last five years. One was in 2011, which affected 35 sites in Valley County, and the damage cost was $1,158,044. Another FEMA disaster was in 2013, which affected 15 sites in Valley County with a total damage cost of

$270,437. The most recent FEMA disaster was in 2014, which affected 65 sites in Valley County and the damage cost was $2,887,448.

4.4.4 Mitigation Actions in the Past Five Years

Of the FEMA disasters previously detailed, there was a total of $4,315,930 in damage cost. Because of the flooding damages and disaster declarations, Valley County has had three bridges replaced. The bridges that were replaced were the Cutacross Bridge, which cost $421,000, the Skylark Bridge, which cost $400,000, and the Canal Bridge, which cost $752,820. There was also one bridge extension completed on the Whately Bridge, which cost $447,652. Two culverts were also built. The culverts were the Billingsley Road Culvert and the Liberty Road Culvert. The rest of the FEMA disaster funding spent on smaller culverts, gravel, fill material, signing, water pumping, equipment use, and labor for the county.

Concerning the flooding on Martin Coulee Road, Valley County has recommended retrieval of the 48 loads of gravel lying in the waterway, which acted on more than one occasions like a dam. Water pools and rises on both sides of the Billman approach as well as submerging upstream fences, corrals and livestock shelters. A mitigation strategy to approach and prevent further problems is to proactively replace this approach with a low water vented crossing. It was also recommended that existing drainage pathways are kept open.

Figure 16: Martin Coulee

Mitigation actions for flooding from 2008 Valley County Pre-Disaster Mitigation Plan stated the overall goal for mitigating flooding was to reduce the impacts of flooding by the following three objectives: improving drainage and structural flood barriers, improving the local understanding of the flood hazards, and protecting structures and infrastructure from flood damage.

National Flood Insurance Program (NFIP):

While several of the mitigation strategies include elements of the NFIP, the county and jurisdictions' participation in the program is considered an action in and of itself. Thus, the following narrative describes the county's participating jurisdictions' involvement and future commitment to the program. The following communities in Valley County participate in

the National Flood Insurance Program according to the FEMA Community Status Book Report for Montana.

Table 47: NFIP Participating Communities in Valley County

Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Reg-Emer Date	Tribal?
City of Glasgow	9/19/1975	-	NSFHA (No Special Flood Hazard Area)	11/12/1985	No
Town of Nashua	4/5/1974	4/15/1986	6/4/2007	4/15/1986	No
Valley County	2/21/1978	1/1/1987	1/1/1987	1/1/1987	No

The NFIP is a federal program created by Congress to mitigate future flood losses nationwide through sound, community-enforced building, and zoning ordinances and to provide access to affordable, federally backed flood insurance protection for property owners. NFIP is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government, which stipulates if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction. In Special Flood Hazard Areas (SFHAs), the federal government will make flood insurance available within the community as a financial protection against flood losses.

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The Federal Emergency Management Agency (FEMA) manages the NFIP and oversees the floodplain management and mapping components of the program. Nearly 20,000 communities across the United States and its territories participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange for enforcing these ordinances, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities.

Many communities in Montana are protected from flood hazards by levees and dikes. With the production of new Digital Flood Insurance Rate Maps (DFIRMs) through FEMA's Map Modernization Program, communities must demonstrate they can meet federal regulations by having their levees certified by a registered professional engineer or federal agency with responsibility for levee design. Without a new certification, the DFIRMs would show that no levee exists. The lack of levee factored in the flooding calculations increases the estimated height, amounts of flooding for an area, and results in the costs of insurance available to homeowners to higher. Some Valley County property complains this has also caused a decrease in property values. The U.S. Army Corps of Engineers, which built many of the levees, has quit completing levee certifications and many flood districts have been unable to hire outside engineers to certify levees because of funding shortfalls.

Glasgow-Cherry Creek Left Bank and Milk River and Cherry Creek Levee Systems

The city of Glasgow is the non-federal levee sponsor of the Glasgow-Cherry Creek Left Bank and Milk River and Cherry Creek Levee Systems. A System Wide Infrastructure Framework (SWIF) Plan was created which covers the list of deficiencies in the levees for the Glasgow-Milk River and Cherry Creek Levee Systems. This project is expected to be completed by October 2025.

In 2011, the Glasgow-Milk River and Cherry Creek levee systems were rated "Unacceptable" and became inactive and no longer eligible for rehabilitation assistance in the United States Army Corps of Engineers (USACE) Public Law 84-99 Rehabilitation and Inspection Program. Upon submitting a letter requesting temporary eligibility, the city of Glasgow established a Levee Committee consisting of citizen community members, city personnel, and elected city officials to assist the City in developing a comprehensive SWIF plan.

The following table shows the schedules and milestones that will be used to monitor progress and to determine continued eligibility for P.L. 84-99 rehabilitation assistance while the SWIF is being implemented. This information was provided in the December 2015 SWIF for Glasgow-Cherry Creek Left Bank and Milk River and Cherry Creek Levee Systems.

Table 48: Schedules and Milestones

Major Milestone	Start	End
Address video of Storm Drains Identify issues and minor 408 permits needed	January 2015	February 2016
Resolve any issues identified in drain video inspection	-	September 2016
Remove Unwanted Vegetation	Begin work June 2014	Complete Work June 2016
Encroachments A, B, and C (Discussions with owners)	Assess methods of mitigation June 2014	Coordinate with Risk Analysis September 2016
Encroachments D, E ,F, I, J, L, M, O, P, S, T, V, W, and X	June 2014	October 2015
Encroachments G, H, K, N, Q, R, U (rectify)	January 2016	January 2017
Resolve All Significant Encroachments A, B, and C Based upon outcome of Risk Analysis Report	March 2015	October 2025
Repair Erosion/Bank Deficiencies	June 2015	January 2016
Repair All Depressions and Ruts	August 2014	October 2015
Repair All Burrow Issues	August 2014	November 2015
Major 408 Submittals for any necessary work	January 2015	December 2016
Complete Risk Analysis Report	September 2015	September 2016
Secure needed funding	--	October 2018
Relocation of Existing Levee 48+40 (South) to 34+75 (South) (if identified in Risk Analysis Study)	October 2016	October 2021
Major 408 submittal (if relocation occurs)	October 2017	October 2019
Relocation of existing levee drafts design	October 2016	July 2017
Relocation of existing levee final design	November 2019	February 2020

Major Milestone	Start	End
Relocation of existing levee bid process and construction award	April 2020	May 202
Relocation of existing levee	September 2020	September 2021

Due to the likelihood of future flooding and the impact of past floods, flooding remains a critical focus of this iteration of the mitigation plan update. Beyond carrying the most pertinent actions from the previous plan, several cities and the county included several long term and short-term projects.

4.4.5 Vulnerability

There is high degree of vulnerability from flooding currently existing in Valley County. Structures and populations, which lie within the floodplain, are at an increased risk of damage or loss of property because of flooding. The following outline vulnerabilities within Valley County.

The December 2015 System Wide Infrastructure Framework (SWIF) plan for the City of Glasgow Cherry Creek Left Bank and Milk River Left Bank Levee System stated encroachment issues have been an ongoing problem for many years in Valley County. The Glasgow-Cherry Creek Left Bank and Milk River Left Bank are comprised of 2.32 miles of levee, zero feet of the floodwall, two enclosures, and three pumping locations, which were initially constructed in 1928. The leveed area reduces flood risk to approximately 561 buildings and economic activities valued at $183 million, including a fertilizer plant, beverage distributing warehouses, a hospital, the Valley County Courthouse, Valley County Detention Center, the Glasgow City Hall, the water treatment plant and maintenance facilities, the US Post Office, Social Security and VA services facilities, an assisted living and senior living apartment complex, Nemont Communications, grain elevators, a feed plant, and a commercial recycling plant. Some 870 persons are at direct risk impacts during daytime and approximately 930 are at direct risk during the evenings and at night. The total community however would be impacted if the services and retail provided by Glasgow were to be flooded.

Hazus-MH Flood Event Report Scenario for Valley County

Hazus is a regional multi-hazard loss estimation model that was developed by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. Primarily local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery would use these loss estimates.

A Hazus-MH flood event report was created on March 7, 2016, for Valley County. This version of Hazus utilized 2010 Census Data. The contents of this event report are detailed below.

Description of Valley County

The geographical size of the region is 5,062 square miles and contains 2,255 census blocks. The region contains over 3,000 households and has a total population of 7,369 people. There are an estimated 4,565 buildings in the region with a total building replacement value (excluding contents) of 1,024 million dollars (2010 dollars). Approximately 90.30% of the buildings (and 78.09% of the building value) are associated with residential housing.

General Building Stock

Hazus estimates that there are 4,565 buildings in the region, which have an aggregate total replacement value of 1,024 million (2010 dollars). Table 49 and Table 50 present the relative distribution of the value with respect to the general occupancies by study region and scenario respectively.

Table 49: Building Exposure by Occupancy Type for the Study Region

Occupancy	Exposure ($1000)	Percent of Total
Residential	799,417	78.1%
Commercial	126,979	12.4%
Industrial	13,877	1.4%
Agricultural	19,068	1.9%
Religion	15,228	1.5%
Government	13,535	1.3%
Education	35,613	3.5%
Total	1,023,717	100.00%

Table 50: Building Exposure by Occupancy Type for the Scenario

Occupancy	Exposure ($1000)	Percent of Total
Residential	156,019	81.3%
Commercial	15,372	8.0%
Industrial	2,413	1.3%
Agricultural	6,090	3.2%
Religion	1,831	1.0%
Government	1,515	0.8%
Education	8,707	4.5%
Total	191,947	100.00%

Essential Facility Inventory

For essential facilities, there is one hospital in the region with a total bed capacity of 25 beds. There are 18 schools, three fire stations, one police station and no emergency operation centers.

General Building Stock Damage

Hazus estimates that about nine buildings will be at least moderately damaged. This is over 75% of the total number of buildings in the scenario. An estimated one buildings will be destroyed. Of the buildings that are estimated to be damaged, they are all residential.

Essential Facility Damage

Before the flood analyzed in this scenario, the region had 25 hospital beds available for use. On the day of the scenario flood event, the model estimates that 25 hospital beds are available in the region. Of the expected damage to essential facilities, none of the essential facilities was estimated to have any damage or loss of use.

Shelter Requirements

Hazus additionally estimates the number of households that are expected to be displaced from their homes and require temporary public shelter due to the flood and the associated potential evacuation. The model estimates 66 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 25 people (out of a total population of 7,369) are estimated to seek temporary lodging in public shelters

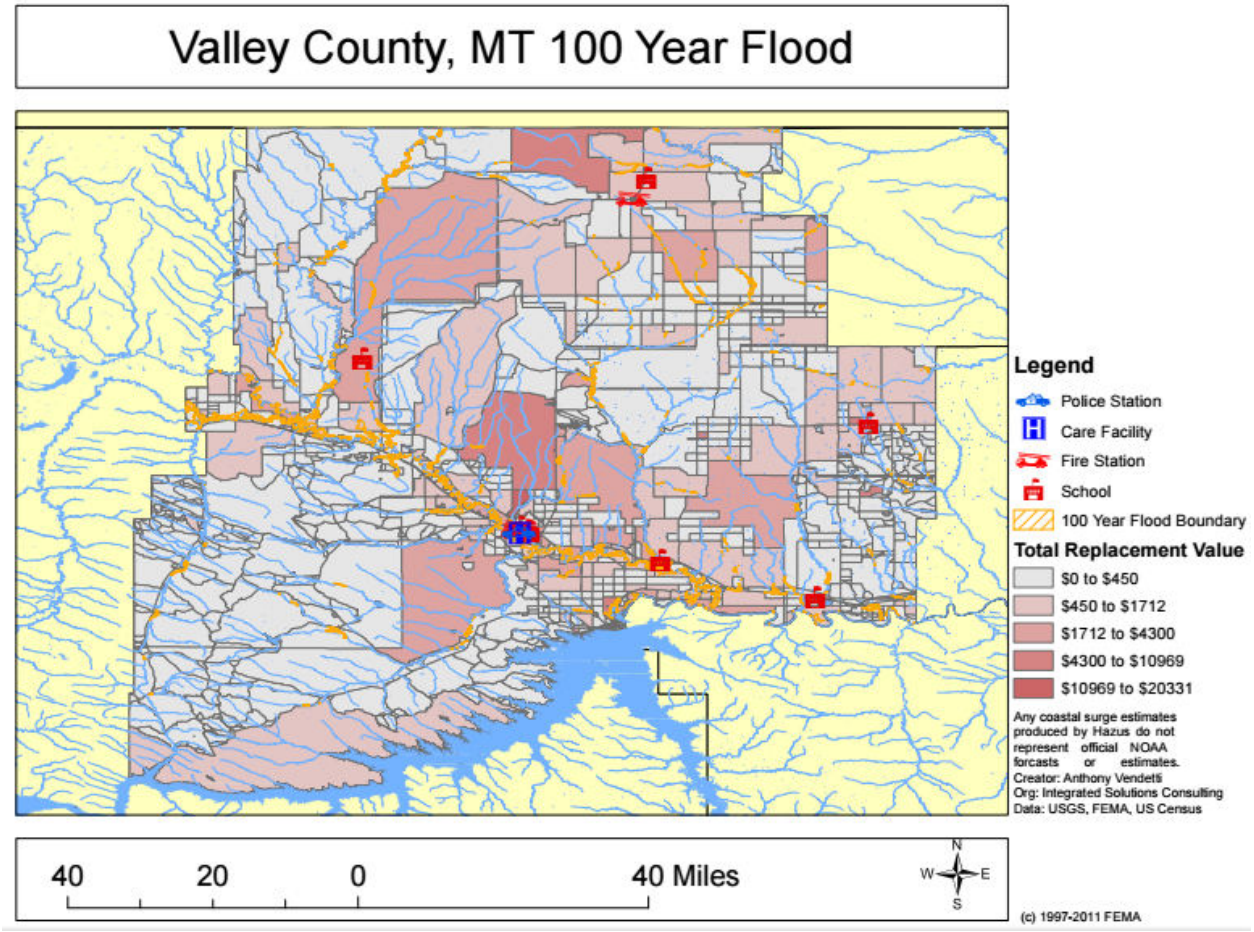
Economic Loss

The total estimated economic loss for the flood scenario is $ 8.59 million.

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with the inability to operate a business because of the damage sustained during the flood. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the flood.

The total building-related losses were 8.56 million dollars. Zero percentage of the estimated losses was related to the business interruption of the region. The residential occupancies made up 53.51% of the total loss.

Figure 17: Valley County 100 Year Flood Map



4.4.6 Flood and Climate Change

According to the 2014 National Climate Assessment, changing extremes in precipitation are projected across all seasons, including higher likelihoods of both increasing heavy rain and snow events and more intense droughts. Winter and spring precipitation and very heavy precipitation events are both projected to increase in the northern portions of the area, leading to increased runoff and flooding that will reduce water quality and erode soils. Increased snowfall, rapid spring warming, and intense rainfall can combine to produce devastating floods. Long-range climate models show the frequency and severity of these heavy rainfall events will increase.

4.4.7 Relationship to Other Hazards

Flooding is related to various other hazards such as severe storms because severe and/or slow moving thunderstorms and spring snowmelt can contribute to flooding and under the right conditions can cause flash flooding. Flooding can also be related to dam failure because flood events have the potential to compromise the structural integrity of dams, which could lead to more severe flood events. Flooding can also be related to infectious disease because wastewater spills are a possible consequence of flooding. In addition, hazardous material releases can be related because people can leave materials near rivers, which can affect the water supply.

4.5 Dam Failure

Dam failure was not identified in the 2008 Valley County Pre-Disaster Mitigation Plan. It was included as a hazard in the 2015 update. Analysis of dam failure is included in this plan update to take an in-depth look at what dam failure is the history of dam failure within Valley County, and the potential they have to affect residents. A definition of dam failure is provided prior to taking a closer look at the effect dam failure has on Valley County in order to provide the reader with knowledge of the hazard.

Dam failures is typically the sudden release of all or most of the water being impounded by the dam, this release most often violent, sudden, and uncontrolled. Dam failure may be caused by faulty design, construction, and operational inadequacies, intentional breaches, or a flood event larger than the design flood. Dam failures are usually associated with intense rainfall or prolonged flood conditions, but can occur during an earthquake. The greatest threat from dam failure is to people and property in areas immediately below the dam since flood discharges decrease as the flood wave moves downstream.

According to FEMA, dams are classified into one of three categories, as outlined below:

Low Hazard Potential - Dams 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.

Significant Hazard Potential - Dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environment damage, disruption of lifeline facilities, or affect other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

High Hazard Potential - Dams where failure/mis-operation will probably cause loss of human life. Montana has approximately 3,651 dams with a capacity of 50-acre feet (Department of Natural Resources and Conservation, DNRC, 2013). Of these dams, 189 are considered "high-hazard dams", indicating there is potential for loss of life downstream.

Table 51 summarizes the hazard categories of dams by ownership.

Table 51: Hazard Categories of Montana Dams by Ownership

Hazard Categories	Federal Dams	State Dams	Local Government Dams	Public Utility Dams	Private Dams	Total
High	44	35	39	19	52	189
Significant	25	10	5	4	158	202
Low	560	127	44	13	2,516	3,260
Total	629	172	88	36	2,726	3,651

4.5.1 Dam Failure Risk

The overall probability that dam failure will occur each year in Valley County is highly likely, its relative impact is high, and thus the overall risk for Valley County is high. The risk for dam failure is different for each of the cities based on dams and the dam hazard rating of dams near those cities. In assessing dam failure data for the 2015 update, data from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. Cities of Glasgow, Fort Peck, and Nashua proximity to higher hazard dams are notable. The table provided below provides the name of each of the cities in the county, the probability that dam failure will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 52: Dam Failure Risk

Dam Failure			
City	Probability	Impact	Risk
Glasgow	Likely	High	High
Fort Peck	Likely	Moderate	Moderate
Nashua	Likely	Moderate	Moderate
Opheim	Unlikely	Low	Little to No
Valley County*	Likely	High	High
Total	Likely	High	High

4.5.2 Dam Failure History in Valley County

According to the National Inventory of Dams database, Valley County has 191 dams, all but eight of which are considered low hazard. Table 53 shows the high and significant hazard dams in Valley County.

Table 53: High and Significant Hazard Dams in Valley County

Dam Name	River	Hazard	Owner
Fort Peck Dam	Missouri River	High	US Army Corps of Engineers
Frazer Lake Dam East	Tributary of the Missouri River	High	Bureau of Indian Affairs
Little Porcupine Dam	Tributary of Little Porcupine Creek	High	Bureau of Indian Affairs
Allie Dam	Tributary of the East Fork of Cherry Creek	Significant	Bernie Bloomer
Cornwell Dam	Wire Grass Coulee	Significant	Cornwell Ranch
Halverson Dam	Buffalo Coulee	Significant	Terry Montfort
Sweet Carolyn Dam	Tributary of the Milk River	Significant	Carolyn Muggli
Tarum #2 Dam	Hell Creek	Significant	Tarum Farms Inc.

Source: US Army Corps of Engineers, 2008a

The Fort Peck Dam is the highest of six major dams along the River and adjacent to the community of Fort Peck. At 21,026 feet (6,409 m) in length and over 250 feet (76 m) in height, it is the largest hydraulically filled dam in the United States. The Fort Peck Dam creates Fort Peck Lake, the fifth largest fabricated lake in the U.S., more than 130 miles (210 km) long, 200 feet (61 m) deep, and it has a 1,520-mile (2,450 km) shoreline, which is longer than the state of California's coastline. The dam and lake lie within the Charles M. Russell National Wildlife Refuge. The dam and the 134-mile-long (216 km) lake exist for the purposes of hydroelectric power generation, flood control, and water quality management.

The dam presently has a capacity of to generate up to 185.25 megawatts between its five generating units, which are divided into the western and eastern grids. Three of the five units, were completed in 1951 and are located in Powerhouse Number One. These generators have a capacity of 105 MW. The two remaining generating units, were completed in 1961, and are located in Powerhouse Number 2 and have a nameplate capacity of 80 MW.

Fort Peck Dam was a major project of the Public Works Administration, during the New Deal. Construction of Fort Peck Dam started in 1933, and at its peak in July 1936 employed 10,546 workers. Named for a 19th-century trading post, Fort Peck Dam was completed in 1940. In July 1943, Fort Peck Dam began generating electricity. The town of Fort Peck, Montana, "the government town," was built for Army Corps of Engineers personnel and men in "positions of responsibility" and their families during the dam's construction. Many of the facilities that supported the dam's workers are still utilized today, including the recreation center and theater. In addition to Fort Peck, other towns developed and grew to house the numerous workers. Including among these towns were Wheeler and McCone City along with a dozen others. Many of the homes were

that were constructed to house these workers were later moved to farms and towns around Montana.

4.5.3 Presidential Declared Disasters for Dam Failure

There have not been any reported presidential declared disasters related to dam failure for Valley County.

4.5.4 Mitigation Actions in the Past Five Years

According to the US Army Corps of Engineers website, more than 100 Missouri River Mainstemrepair projects have been identified. Projects include repairing spillway gates, outlet works, scour areas, work recreational facilities, roads and other flood control structures that were damaged during the 2011 Missouri River flood. The estimated cost of making these repairs totals $234 million.

Six contracts were awarded in 2012 to repair damages at Fort Peck Dam. They included repairing the gates, the spillway slab, the plunge pool, the recreation area roads and drains, the spillway access road and associated drains, the rehabilitation of eight emergency gate controls, the repair of relief wells, and the horizontal outfall pipes. All repairs were scheduled to be completed by December 2015.

Bank Stabilization along the Missouri River

In 2012, 10 contracts were awarded to repair damages along the Missouri River. They include repair of bank stabilization, navigation structures, and other infrastructure. Contractors continue working on the river. The bank stabilization repairs to the navigation reach between Sioux City and Rulo are scheduled for completion in summer 2015. All other repairs are complete.

Dam Safety Program

The U.S. Army Corps of Engineers (USACE) operates and maintains approximately 700 dams nationwide and in Puerto Rico that provide significant, multiple benefits to the nation—its people, businesses, critical infrastructure and the environment. These benefits include flood risk management, navigation, water supply, hydropower, environmental stewardship, fish and wildlife conservation and recreation.

USACE's dams are part of the nation's landscape, integral to many communities, and critical to watershed management. The dam safety professionals carry out a dam safety program to ensure these projects deliver their intended benefits while reducing risks to people, property, and the environment through continuous assessment, communication, and management. By comparison, more than 87,000 dams in the National Inventory of Dams (NID) are federal, state, locally and privately operated, and maintained.

The December 2015 System Wide Infrastructure Framework (SWIF) plan for the City of Glasgow Cherry Creek Left Bank and Milk River Left Bank Levee System stated encroachment issues have been an ongoing problem for many years in Valley County. The Glasgow-Cherry Creek Left Bank and Milk River Left Bank Levee System is comprised of 2.32 miles of levee, two closures, 3 pumping locations and was initially constructed in 1928. The leveed area reduces flood risk to approximately 561 building structures and an estimated economic asset value of $183,711,986.10, including a fertilizer plan, beer distributing warehouses, a hospital, the Valley County Courthouse and Valley County Detention Center, the City of Glasgow offices and water treatment plan and maintenance facilities, the US Post Office, Social Security and VA services facilities, assisted living and senior living apartment complex, Nemont Communications, grain elevators, a feed plan, and a commercial recycling plan. The direct population at risk affects 870 during the daytime and 930 during the night but affects a total community population of 3,319.

As Valley County and participating jurisdictions remain at risk to dam failure, dam failure remains a focus of this iteration of the plan. This iteration of the plan will focus on coordination infusion of emergency actions plan, development, and education.

4.5.5 Vulnerability in Valley County

The 2013 Update to the State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment stated that numerous factors contribute to determining dam vulnerability including design standards; construction, operation and maintenance; intense rainfall or prolonged flood conditions; and/or earthquakes. The vulnerability of property and population downstream of dams is related to construction in inundation areas. The Dam Safety Act required that owners of all high and significant hazard dams prepare Emergency Action Plans (EAP). The objectives of the EAP is to pre-plan the coordination of necessary actions by the dam owner; identify conditions that could lead to dam failure in order to initiate emergency measures that could prevent or minimize the loss of life or property; and, provide timely notification of a warning of a dam emergency and evacuation in the event of potential failure of the dam.

4.5.6 Dam Failure and Climate Change

According to International Rivers, the future will bring extremes of drought and flood outside the historical record that will continue to worsen as the climate warms. Large dam developers do not currently consider climate change in their plans. If they did, dams would need much greater capacities to safely pass high floods and projections of power generation for hydropower projects would have to allow for the probability of new extremes of drought. These factors would increase the costs and reduce the benefits from dams, thus making the alternatives even more attractive. Large hydropower projects are potentially highly vulnerable to changes in precipitation and streamflow.

A 2011 World Bank report states: "Heavy reliance on hydropower creates significant vulnerability to climate change and is a feature that many low- and middle-income countries have in common." The report summarizes the impacts on the hydropower sector as "reduced firm energy, increased variability, and increased uncertainty." In order to increase the flexibility of the system and its resilience to more variable climatic conditions, the report recommends an adaptation response that "may require a policy decision to diversify away from hydropower."

4.5.7 Relationship to Other Hazards

Dam or levee failures can have a greater environmental impact than that associated with a flood event. Large amounts of sediment from erosion would alter the landscape changing the ecosystem. Hazardous materials are carried away from flooded properties and distributed throughout the floodplain. Industrial and agricultural chemicals, agricultural wastes, other solid wastes, raw sewage, and common household chemicals comprise the majority of hazardous materials spread by floodwaters. These run offs and floods could polluting the environment and contaminating the flooded areas, including a community's water supply. The soil loss from erosion and scouring would be significantly greater due to a large amount of fast moving water affecting a small-localized area.

4.6 Severe Winter Weather

Winter weather was identified in the prior plan and as one of the hazards to be included in this update. The analysis in this plan update includes a more in-depth look at what severe winter weather is the history of Valley County, and the potential impact to county residents.

Winter storms may be categorized as ice storms, heavy snowfall, or blizzards. These storms vary in size and intensity and may affect a small part of the state or several states at once. Blizzards are common in Montana. A blizzard is a storm that has sustained winds or frequent gusts of 35 miles per hour or higher with snow and blowing snow reducing visibility to near zero. Blowing and rapid snowfall can overwhelm the plowing resources, making roadways impassable, and severely reduce visibility. Particularly heavy snows, early or late season snows, and ice events can damage infrastructure such as power lines, and block roads or damage structures with downed trees.

Severe winter weather presents one of the greatest threats to the life of any hazard in Montana. Statistics on winter deaths are difficult to obtain, but nationwide there are on average 100 lives annually, directly and indirectly, lost to winter weather, more than lightning, hurricanes, or tornadoes. Winter storms are considered deceptive killers because most deaths are indirectly related to the storm. People die in traffic accidents on snow or ice covered roads, from hypothermia due to prolonged exposure to cold, and from heart attacks due to overexertion. About 70 percent of the winter deaths in the U.S. occur in automobiles and nearly 25 percent are from people caught out in the storm (NOAA, 2001).

The National Weather Service (NWS) issues watches and warnings about severe winter weather up to 24 to 72 hours in advance of a severe winter storm. This can give time for residents and governments to prepare for the storm by stockpiling resources, prepping snow-moving equipment, and making plans. The NWS Warning Terminology Table breaks down the different types of advisories, watches, and warnings and when they are used.

Table 54: NWS Warning Terminology Table

National Weather Service Warning Terminology	
Winter Weather Advisory	Alert for ice, cold weather, or snow that can range from 2 - 6 inches.
Winter Storm Watch	Alert for severe winter weather with a high possibility in the next few days resulting in high accumulations of snow or ice.
Winter Storm Warning	Severe weather (ice, snow, cold) are about to begin or have already started.
Blizzard Warning	Snow condition resulting in high winds, snowdrifts, lack of visibility, and threatening conditions when traveling and to those exposed to the weather.
Ice Storm Warning	High accumulations of ice that will cause dangerous travel and problems to power infrastructure.
Heavy Snow Warning	Snow accumulation of 6 or more inches.

Cold temperatures into the negative numbers are also common throughout the winter months in Montana. The coldest places in Montana are in Valley, Sheridan and Roosevelt Counties where average daily low temperatures have ranged from -5.8°F to -2.0°F. The coldest temperature ever recorded in Valley County was -45°F at Glasgow on February 15, 1936. Extended cold periods, especially when coupled with strong winds, can create dangerous situations for those outdoors or those without heat, such as in the case of a utility disruption.

4.6.1 Severe Winter Weather Risk

The overall probability that severe winter weather will occur each year in Valley County is highly likely, its relative impact is moderate, and thus the overall risk for Valley County is moderate. The risk for severe winter weather for each of the cities is the same because data was not available by individual city. In assessing severe winter storm data for the 2015 update, data

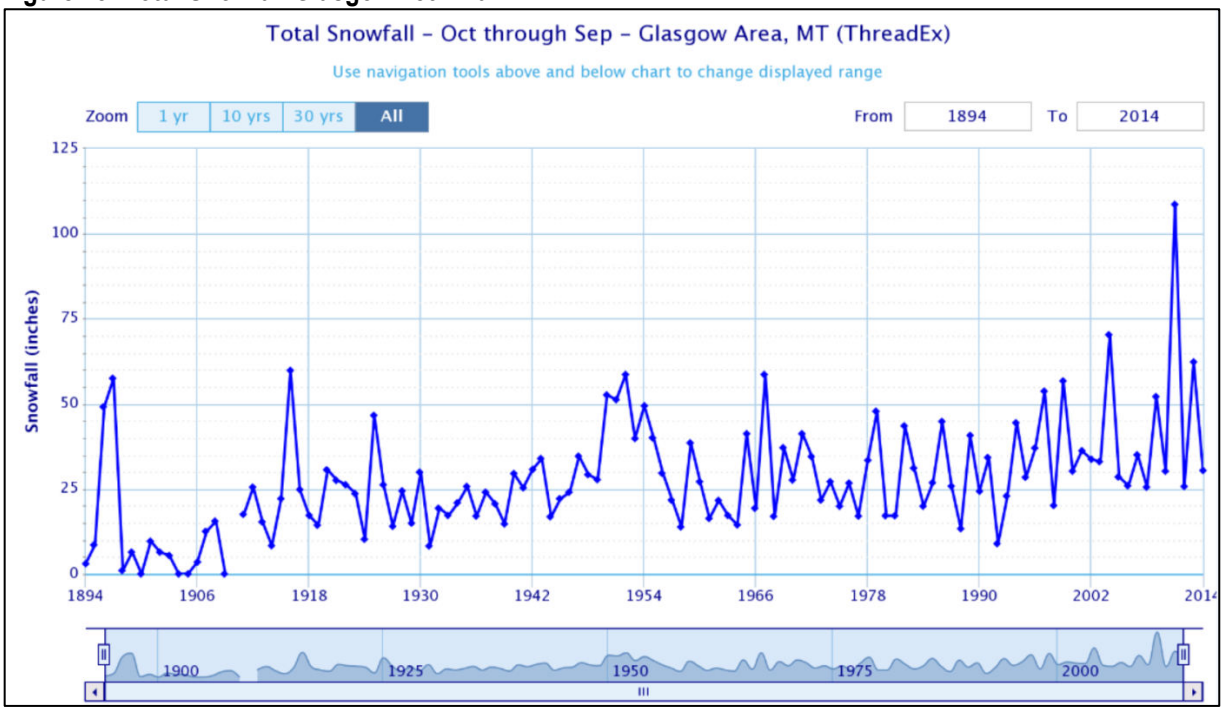
from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. Each of the cities in Valley County is at moderate risk of winter storms. The table provided below provides the name of each of the cities in the county, the probability that winter storms will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 55: Severe Winter Weather Risk by City in Valley County

Winter Storms			
City	**Probability**	**Impact**	**Risk**
Glasgow	Highly Likely	Moderate	Moderate
Fort Peck	Highly Likely	Moderate	Moderate
Nashua	Highly Likely	Moderate	Moderate
Opheim	Highly Likely	Moderate	Moderate
Valley County*	Highly Likely	Moderate	Moderate
Total	Highly Likely	Moderate	Moderate

4.6.2 Severe Winter Weather History in Valley County

Figure 18: Total Snowfall Glasgow 1894-2014



Winter storms occur each winter season in Valley County. The types of winter storm events that are reported for Valley County include blizzard, extreme cold/wind-chill, ice storms, winter storms, and heavy snowfall as provided by the National Oceanic Atmospheric Administration (NOAA). Some of the most notable winter storms in Valley County occurred in 2011. In 2011 alone, seven winter storms, ten days with extreme cold/ wind chill and three blizzards occurred in Valley County. This is an example of how harsh the winters in Valley County can be.

NOAA provided the history of winter storm events in Valley County. From 2009 to 2014, there have been numerous recorded events of winter storms in Valley County. A comprehensive list of the last 50 years of data can be found in Appendix B.

Of the winter storms, there has not been any severe winter weather in the last 50 years in Valley County, which has been a declared disaster by FEMA.

4.6.3 Mitigation Actions in the Past Five Years

One mitigation action was to promote warning systems, which was accomplished by purchasing NOAA Weather Radios and enhancing weather radio coverage in Opheim. Upgrading the emergency advisory equipment at the radio station in Glasgow and achieving countywide Storm Ready designation from the National Weather Service has also been completed in the last five years.

An additional mitigation action listed in the previous mitigation plan was to improve the functionality of critical and special needs facilities and infrastructure during disasters by purchasing and installing generators, protecting electric infrastructure, and creating and enforcing ordinances that prevent the railroad from blocking emergency access routes. The county also wanted to improve the public's ability to protect themselves during hazardous events by providing public education.

Due to the certainty of future severe winter storms, preparing for and mitigating winter storms remains a critical focus of this iteration of the mitigation plan update. Beyond carrying the most pertinent actions like education, forecasting, and warnings outlined in the previous plan iterations, this iteration of the plan looks to increase capacity for sheltering.

4.6.4 Vulnerability for Valley County

The following information was provided by the 2013 Update to the State of Montana Multi-Hazard Mitigation Plan: Major problems with winter weather in Montana typically only occur during record snowfalls and extended periods of below zero temperatures. Initial consequences include threats to vulnerable populations from utility interruption, freezing pipes, and snow removal costs. Economic losses include commercial aviation delays/cancellations, medical flights unable to transport patients, and loss of revenue to hotels and restaurants when large events are canceled. Residual effects from severe winter weather include agricultural considerations and potential flooding concerns.

Most Montana residents are prepared for winter weather each year. Every community receives snow on an annual basis, so residents expect measurable snow several times each winter. Winter storms are generally slow in developing, often taking one to three days to mature. This does not in any way diminish their importance, nor their potential for causing loss of life and destruction. What it does mean is that the National Weather Service is often able to provide advance notice of winter storms, in some cases, lead times of one to two days. Winter weather typically affects the state from October to April each year but late storms can extend into June, causing extreme impacts to the agricultural industry.

The entire state is considered vulnerable to severe winter weather. Arctic cold fronts typically enter the state from the northeast and may cross the Continental Divide, affecting the entire state. Arctic fronts meeting wet maritime fronts often combine to cause heavy snowfall, which can occur in all parts of the state. The lowest temperatures are typically experienced in the northeast, whereas the heaviest snowfall most often occurs in the mountain regions.

Counties with the highest exposure to severe winter weather include Petroleum, Wibaux, Treasure, Prairie, and Carter; while the top cities/towns include Pinesdale (Ravalli Co.), Browning (Glacier Co.), Wibaux (Wibaux Co.), Poplar (Roosevelt Co.) and Terry (Prairie Co.). Figure 19 presents percent exposure for the top counties and cities/towns.

Figure 19: Exposure of Severe Winter Weather in Montana

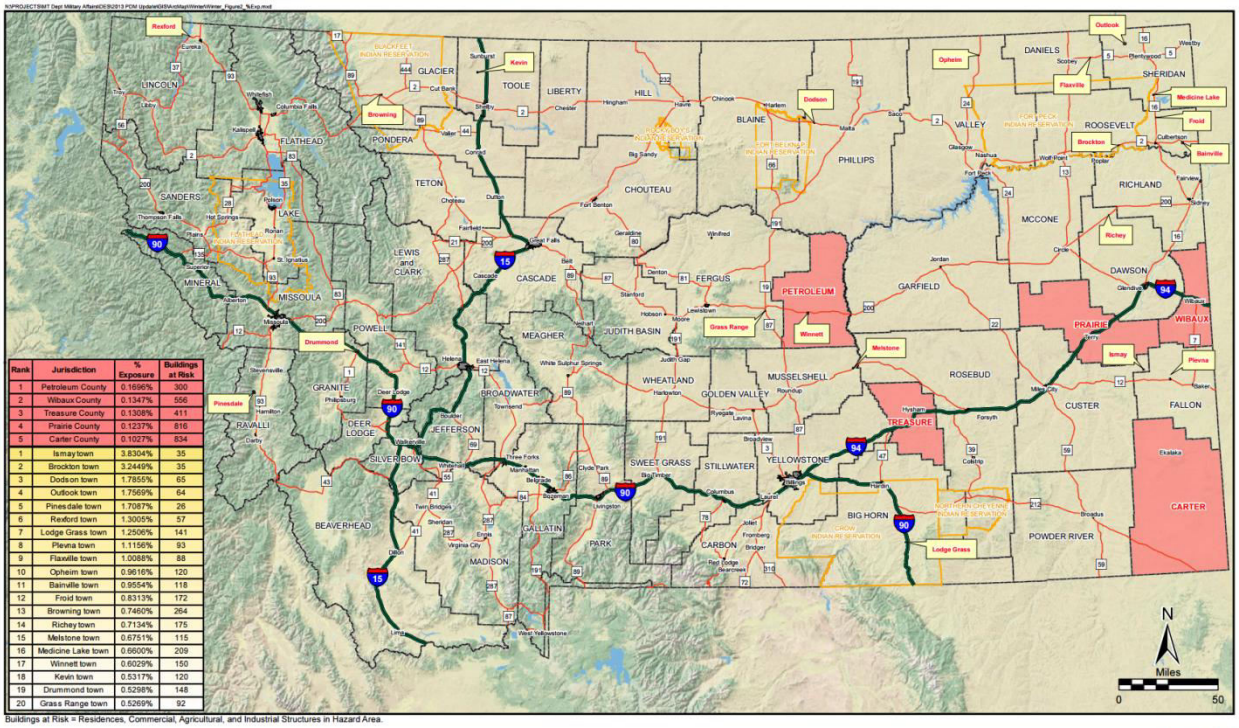


Figure 4.4.5-1
Severe Winter Weather - Percent Exposure for Top Counties and Towns
State of Montana Multi-Hazard Mitigation Plan – 2013 Update
March 2013

4.6.5 Severe Winter Weather and Climate Change

According to the National Climatic Assessment, summers are long and hot in the south; winters are long and often severe in the north. In the Northern Plains, warmer winters may lead to reduced heating demand while hotter summers will increase demand for air conditioning, with the summer increase in demand outweighing the winter decrease.

Changes to crop growth cycles due to warming winters and alterations in the timing and magnitude of rainfall events have already been observed in Montana and as these trends continue, they will require new agriculture and livestock management practices.

4.6.6 Relationship to Other Hazards

Winter storms have relationships to other hazards such as flooding and structural fires. Snowmelt from heavy snows can cause localized flooding which can cause dangerous conditions for residents and motorists. It can also destroy property and infrastructure such as roads. In addition, heavy winter snowstorms can cause power outages that may cause residents to use alternative heating methods, which can increase the risk of structural fires.

4.7 Severe Summer Weather

Severe summer weather was identified in the prior plan but was titled “Severe Thunderstorm and Strong Wind.” Severe summer weather typically occurs from April to September in Valley County. Inclued in this plan updates a more in-depth look at what severe summer weather is the history of Valley County, and the potential impact to county residents.

Severe summer weather includes thunderstorms, hail, high winds, and lightning.

A severe thunderstorm is a thunderstorm, which produces tornadoes, hail 1 inch or more in diameter, or winds of 50 knots (58 mph) or more. All thunderstorms contain lightning. Thunderstorms may occur singly, in clusters, or in lines. Thus, it is possible for several thunderstorms to affect one location in the course of a few hours. Some of the most severe floodings from thunderstorms occur when a single thunderstorm affects one location for an extended time. Straight-line winds are responsible for most thunderstorm property damage.

Table 56: National Weather Service Warning Terminology

National Weather Service Warning Terminology	
Severe Thunderstorm Watch	A Severe Thunderstorm Watch means that strong thunderstorms capable of producing winds of 58 mph or higher and/or hail 1 inch in diameter or larger are possible. Severe Thunderstorm Watches are generally issued for 6-hour periods.
Severe Thunderstorm Warning	A Severe Thunderstorm Warning means that thunderstorms capable of large hail are occurring or could form at any time. Severe Thunderstorm Warnings are generally in effect for an hour or less.
Flash Flood Watch	A Flash Flood Watch means heavy rain leading to flash flooding is possible. Flash Flood Watches may be issued up to 12 hours before flash flooding is expected to begin and may last as long as 48 hours.
Flash Flood Warning	A Flash Flood Warning means that flooding is occurring or will develop quickly.

High winds can occur with strong pressure gradients or gusty frontal passages. These winds can affect the entire State with wind speeds in excess of 100 miles per hour and ca occurs year round.

Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm and the earth’s surface. When the buildup becomes strong enough, lightning appears as a "bolt". This flash of light usually occurs within the clouds or between the clouds and the ground. Lightning's electrical charge and intense heat can electrocute on contact, split trees, ignite fires, and cause electrical failures.

4.7.1 Summer Storms Risk

The overall probability that severe summer weather will occur each year in Valley County is highly likely, its relative impact is moderate, and thus the overall risk for Valley County is moderate. The risk for severe summer weather for each of the cities is different based upon data for each city. In assessing severe summer weather data for the 2015 update, data from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. Most notable is the city of Glasgow, which is at a high risk. The table provided below provides the name of each of the cities in the county, the probability that winter storms will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 57: Summer Storms Risk by City in Valley County

Summer Storms			
City/Town	Probability	Impact	Risk
Glasgow	Highly Likely	High	High
Fort Peck	Highly Likely	Moderate	Moderate
Nashua	Highly Likely	Moderate	Moderate
Opheim	Highly Likely	Moderate	Moderate
Valley County*	Highly Likely	Moderate	Moderate
Total	Highly Likely	Moderate	Moderate

*Valley County information takes into account-unincorporated areas of the County.

Data from the State Hazard Mitigation Plan for Montana from 2013 was available which included the dollar loss for counties broken up by district throughout the state. This data indicated Valley County had a total of 4injuries, 0 fatalities, $20,586,921 in property losses and $39,413,337 in crop losses from severe summer weather from 1960-2012. However, information provided by Valley County officials indicated the damage from the storm was near $30 million.

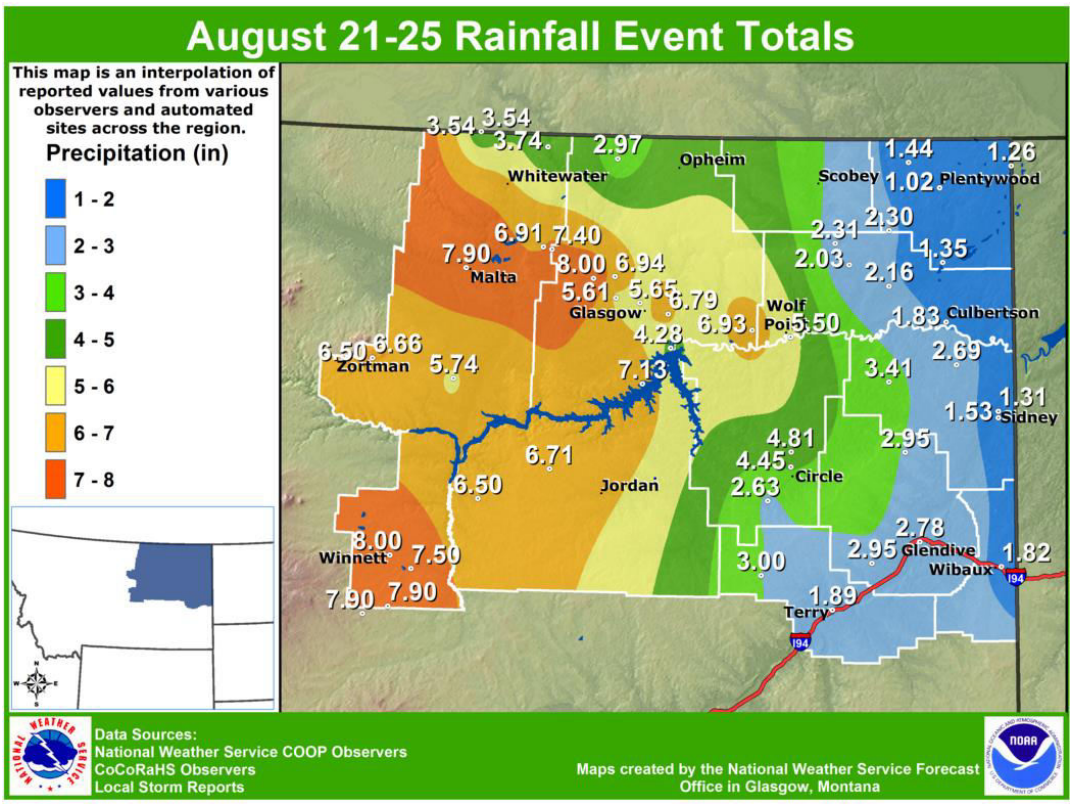
The 2015 update utilized the frequency x consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents a change from the previous plan. The 2015 update indicated severe summer weather has a moderate impact and moderate risk potential for Valley County. The 2008 Valley County Pre-Disaster Mitigation Plan indicated that severe summer weather had the potential to have a high impact.

4.7.2 Severe Summer Weather History in Valley County

Thunderstorms can occur anywhere in the world and at any time of the day; however, in Valley County they are most likely to occur between the months of May and August. All thunderstorms produce lightning and thunder. Some have the potential to produce damaging straight-line winds, large hail, heavy rain, flooding, and tornadoes. A thunderstorm is classified as "severe" when it contains either singly, or a combination of, hail 1" or greater, winds gusting in excess of 50 knots (58 mph), and/or tornado. National Oceanic Atmospheric Administration (NOAA) provided the history of thunderstorm events in Valley County. From 2009 to 2014, there have been 156-recorded events of severe summer weather in Valley County, including excessive heat, heavy rain, high wind, lightning and thunderstorm wind. During this time, there was a total of $86,000 in property damage and $1.5 million in crop damages for Valley County. However, Valley County officials indicated the damage was near $30 million. There have not been any reported deaths or injuries from severe summer weather during this time. A comprehensive list of the last 50 years of data can be found in Appendix B.

In 2014, Valley County experienced a severe summer storm event. The August 21-25 event was extremely unusual in its scope (heavy rain and significant flooding) for the time of year. This is only the second time in recorded history of significant flooding after the spring/early summer time frame. October 1986 was the only other time a flood of this magnitude has occurred after June.

Figure 20: Rainfall Event Totals for Northeast Montana from August 21-25, 2014



Hailstorms are also common during the summer months because hail are ice crystals that form within a low-pressure front due to warm air rising rapidly into the upper atmosphere and the subsequent cooling of the air mass. National Oceanic Atmospheric Administration (NOAA) provided the history of hail events in Valley County. From 2009 to 2014, there have been 118-recorded events of hail events in Valley County. Of these 118 hail events, Glasgow is the city which has had the most occurrences from 2009-2014. A comprehensive list of the last 50 years of data can be found in Appendix B. This list of events indicates the location, date, the size of hail, deaths/injuries and damage incurred from these hail events.

Of the summer storms, there have been five severe summer weather events in the last 50 years in Valley County that have been declared a major disaster by FEMA. All of these disasters were major declared disasters, which is when the event is clearly more than state or local governments can handle alone. The beginning and end date of the incident are included for these declared disasters, as well as information on the type of assistance program, which was provided.

Table 58: Major Declared Disasters for Summer Storms for Valley County

IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Declaration Date	Incident Type	Title	Incident Begin Date	Incident End Date	Disaster Close Out Date	Place Code
No	No	Yes	Yes	10/9/2014	Severe Storm(s)	FLOODING	8/21/2014	8/25/2014		99105
Yes	No	Yes	Yes	6/17/2011	Severe Storm(s)	SEVERE STORMS AND FLOODING	4/4/2011	7/22/2011		99105
No	No	Yes	No	7/25/1997	Severe Storm(s)	SEVERE STORMS,ICE JAMS, SNOW MELT, FLOODING	3/1/1997	8/6/1997	3/13/2006	99105
No	Yes	Yes	Yes	10/14/1986	Flood	SEVERE STORMS & FLOODING	9/25/1986	10/28/1986	10/30/1992	99105
No	No	Yes	Yes	3/15/1986	Flood	HEAVY RAINS, LANDSLIDES &	2/24/1986	3/7/1986	10/30/1992	99105

IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Declaration Date	Incident Type	Title	Incident Begin Date	Incident End Date	Disaster Close Out Date	Place Code
						FLOODING				

4.7.3 Mitigation Actions in the Past Five Years

Several mitigation actions have been completed in past five years.

One mitigation action was to promote the use of multi-hazard mitigation measures and this was to be accomplished by purchasing NOAA Weather Radios and enhancing weather radio coverage in Opheim. The siren systems in Glasgow, Fort Peck, Richland, Opheim, Nashua, and Hinsdale were updated, the emergency advisory equipment at the radio station in Glasgow. The county received Storm Ready designation from the National Weather Service.

The functionality of critical and special needs facilities and infrastructure during disasters was accomplished by purchasing and installing generators, protecting electric infrastructure, and by creating and enforcing ordinances that prevent the railroad from blocking emergency access routes. Lastly, the county improved the public's ability to protect themselves during hazardous events by providing public education and creating tornado safe rooms.

A critical focus of this iteration of the mitigation plan update includes severe summer storms. Beyond carrying the most pertinent actions from the previous plan, several cities, and the county included several long terms and short-term projects to include building in power redundancies and or enhancing sheltering opportunities.

4.7.4 Vulnerability in Valley County

All residents within Valley County are potentially vulnerable to summer storms, especially those who live in manufactured homes, and who are in areas without shelter. Summer storms happen each year in Valley County and have the potential to produce high winds, tornadoes, hail, and lightning.

The 2013 Update to the State of Montana Multi-Hazard Mitigation Plan included the vulnerability of state property and buildings that are considered highly vulnerable to severe summer weather. Valley County was included in the counties that have a high frequency of the combined events. The state buildings located in Valley County had a total of $3,911,669 in building value, $2,244,606 in contents value for a $6,156,218 in total value deemed highly vulnerable to severe summer weather.

4.7.5 Summer Storms and Climate Change

The 2013National Climate Assessment (NCA) indicated that future climate change projections include more precipitation in the Northern Great Plains and less in the Southern Great Plains. In 2011, this pattern was strongly manifested with exceptional drought and recording-setting temperatures in Texas and Oklahoma and flooding in the Northern Great Plains.

According to the Federal Advisory Committee Draft NCA, other trends in severe storms, including the numbers of hurricanes, the intensity and frequency of tornadoes, hail, and damaging thunderstorm winds are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate scientists are actively researching the connections between climate change and severe storms (National Climate Assessment Development Advisory Committee, 2013).

4.7.6 Relationship to Other Hazards

Summer storms have a relationship to other hazards including fires, flooding, and tornadoes.

Structural fires have the potential to be related to summer storms because lighting strikes may ignite a structure. Flood,

tornado, and high winds may also cause structural fires in their aftermath. Downed power lines, natural gas leaks or other sources of ignition initiated by natural hazards may spark a fire in structures. Routes to structures may be restricted due to flooding or debris from storms.

Flooding also can be related, because heavy rain from summer storms can cause flooding from frequent storms or storms causing high levels of rainfall during a short period.

Tornadoes develop out of thunderstorms, where there is already a steady, upward flow of warm, low-pressure air to get things started. Hail can also occur as part of thunderstorms and can cause damage depending on the size and duration of the hail.

4.8 Wildfire

Wildfires were identified and included in the prior and current hazard mitigation plan for Valley County. An analysis is included in this plan update to include a more in-depth look at what wildfires are, the history of wildfires, and the potential they have to affect county residents.

A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. Wildfires often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may fill the area for miles around. Wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. Wildfires can be categorized into four types. The first type is wildfires, which are fueled primarily by natural vegetation in grasslands, brushlands, and forests. The second types are extreme fire behavior, which occurs during extreme weather (e.g., high temperatures, low humidity, and high winds) with such intensity that fire suppression is virtually impossible. These events typically burn until the conditions change or the fuel is exhausted. The third types are interface or intermix fires, which occur in areas where both vegetation and structures provide fuel. The fourth and final type are prescribed fires and prescribed natural fires which are intentionally set or natural fires that are allowed to burn for beneficial purposes.

4.8.1 Wildfire Risk in Valley County

The overall probability that wildfires will occur each year in Valley County is highly likely, its relative impact is moderate, and thus the overall risk for Valley County is moderate. The risk for wildfire for each of the cities is different based on the data available by individual city. In assessing wildfire data for the 2015 update, data from 2009 to 2014 was used to determine the risk. The table below provides the name of each of the cities in the county, the probability that wildfires will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determined probability and impact ratings. Most notable are Glasgow, Fort Peck, and Nashua, as well as the unincorporated areas of Valley County.

Table 59: Wildfire Hazard Risk Assessment

Wildfires			
City/Town	Probability	Impact	Risk
Glasgow	Highly Likely	Moderate	Moderate
Fort Peck	Highly Likely	Moderate	Moderate
Nashua	Highly Likely	Moderate	Moderate
Opheim	Likely	Low	Little to No
Valley County	Highly Likely	Moderate	Moderate
Total	Highly Likely	Moderate	Moderate

The 2015 update utilized the Risk =Frequency x Consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents a change from the previous plan. This update indicated the overall risk for Valley County is moderate. Whereas the last plan update completed in 2008 indicated that wildfire posed a high risk for Valley County.

4.8.2 Wildfire History in Valley County

Valley County has a long history of small and large wildfires, which have caused no to minimal to severe damages. The extent of damages often depends on the fire spread rate, the effectiveness of suppression and mitigation measures, and the property and infrastructure in the fire's path. The history of wildfires can be difficult to compile because of the various firefighting entities involved and a variety of recordkeeping measures utilized over the years. The Valley County Emergency Operations Plan, Wildfire Annex, estimates close to 200 fire starts occur annually in the county.

The table below outlines the historical wildfires, which have taken place in Valley County from the National Centers for Environmental Information. Since 2003, there have been six major wildfire incidents reported for Valley County. The most recent wildfire was reported in 2010, which produced $75,000 in property damage.

Table 60: Wildfire Data from National Centers for Environmental Information for 1/1/1964 to 1/1/2015

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	175.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/15/2003	08:00	MST	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/15/2006	17:00	MST	Wildfire		0	0	100.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/04/2008	20:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/10/2008	20:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/28/2008	10:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/08/2010	17:30	MST-7	Wildfire		0	0	75.00K	0.00K
Totals:								0	0	175.00K	0.00K

4.8.3 Presidential Declared Disasters for Wildfires

There have been numerous statewide-declared disasters related to wildfires in Montana, however, none that has been specific to Valley County in the last five years.

4.8.4 Mitigation Actions in the Past Five Years

Wildfire remains a high priority in this iteration of the mitigation plan. Education, surveillance, and prevention projects identified in the previous plan will remain. A focus in this iteration of the plan is to improve capacities such as the speed of response and the area served.

4.8.5 Vulnerability

Topography and weather are factors that contribute significantly to wildfire behavior:

Topography is related to slope of land. As slope increases, the rate of wildfire spread increases. South facing slopes are also subject to greater solar radiation, making them drier and thereby intensifying wildfire behavior. Ridge tops may mark the end of wildfire spread, since fire spreads more slowly or may even be unable to spread downhill.

Weather is also one of the most important variable factors affecting wildfire behavior. Important weather variables are temperature, humidity, the wind, and lightning. Weather events ranging in scale from localized thunderstorms to large fronts can have major effects on wildfire occurrence and behavior. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Structures in jurisdictions that mix with forests, peat bogs, and prairies are vulnerable to damages to wildfires.

According to the 2013 State of Montana Multi-Hazard Mitigation Plan, increased population growth over the past two decades

in Montana has resulted in an expanded Wildland Urban Interface (WUI). Fires in these WUI areas have become much larger and burned with greater intensity. A Communities At-Risk Analysis was completed across the state, identifying fire risk factors immediately around Montana communities (Dannenberg, 2004). Data was collected on vegetation, slope, aspect, weather factors, development density, and building materials within a 5-mile radius of 622 towns and cities in Montana. The results of the BLM communities risk assessment showed that 213 of the 622 communities in Montana (34%) were rated with an extreme or high fire danger rating.

As residential areas expand into relatively untouched forestland, forest fires increasingly threaten people living in the WUI. An estimated 360,000 people live in homes in the WUI in the Northern Rockies that are directly vulnerable to wildfire. The value of their homes is estimated at $21 billion. Fires in WUI areas pose an extreme risk to human life and property, increase the cost of fire suppression activities, endanger the lives of firefighters, and have significant social, economic, and natural resources impacts. Montana Department of Natural Resources and Conservation (DNRC) fire report data shows that through the direct protection program, 50 percent more fires occurred in WUI than non-WUI areas between 1996 and 2006. Within the WUI areas, 64 percent of the fires were human-caused, with the majority of the causes being campfires and debris burning. Outside the WUI, only 27 percent of the fires were human-caused.

The following figure depicts the Wildland Urban Interface (WUI) in Montana as compiled from completed Community Wildfire Protection Plans as consolidated by Montana DNRC.

Figure 21: WUI for Montana

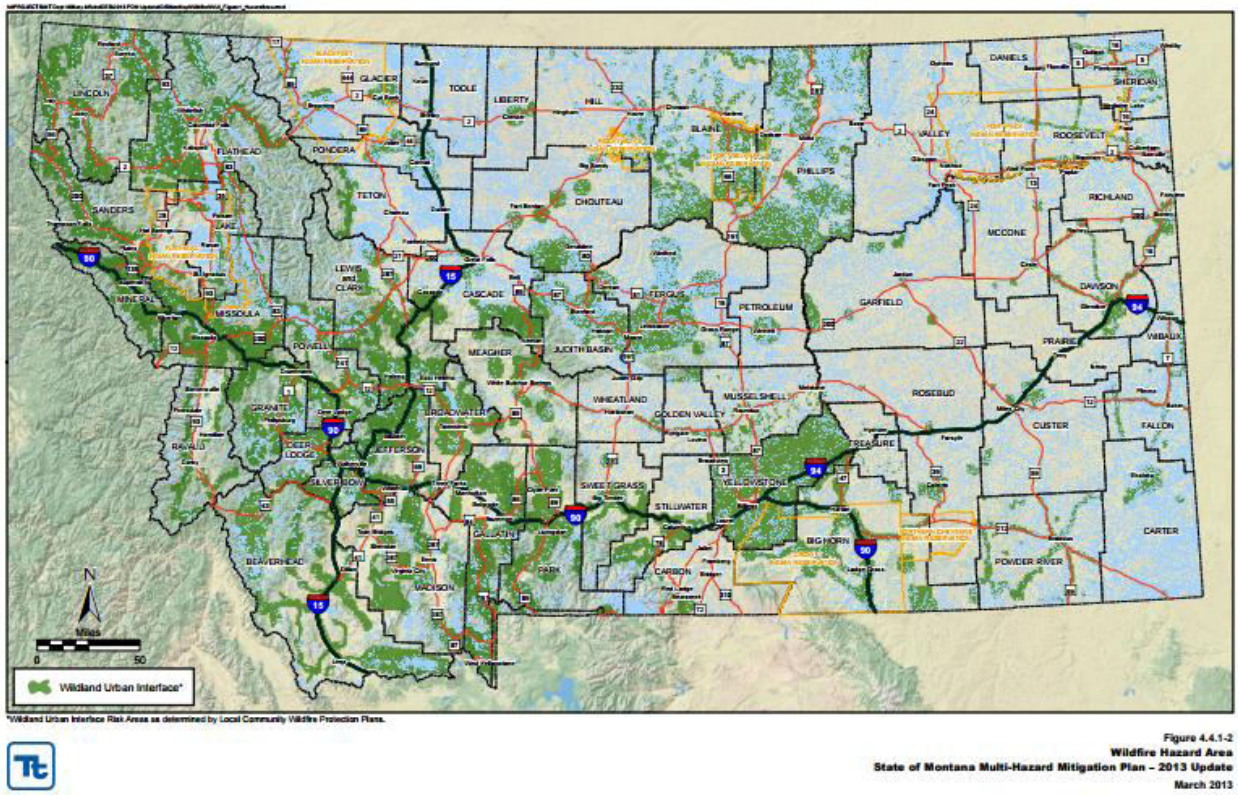


Figure 4.4.1-2
Wildfire Hazard Area
State of Montana Multi-Hazard Mitigation Plan – 2013 Update
March 2013

The wildland-urban interface is a very popular place to live in Montana. Development in the hazard areas has increased in recent years and has amplified the vulnerabilities in the unincorporated parts of the State. Regulating growth in these areas is a delicate balance between protecting private property rights and promoting public safety. Some counties have growth policies recognizing the wildfire threat and emphasizing defensible space, inspection of new development, water supplies, fuels mapping, and Firewise programs.

The2008 Valley County Pre-Disaster Mitigation Plan indicated problems with wildfire occur when combined with the human environment. People, structures, property, rangelands, and croplands near wildfires can be threatened unless adequately protected through evacuation, mitigation, or suppression. The Wildland-Urban Interface (WUI) is defined as the zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel. In northeast Montana, the WUI is typically where the edge of local communities adjoins agricultural and non-irrigated fields. Specifically, those Valley County communities designated as "Communities at Risk" in the Federal Register include:

- Baylor
- Fort Peck
- Glasgow
- Glentana
- Hinsdale
- Nashua
- Opheim
- Richland
- Tampico
- Theony
- Vandalia

Source: US Bureau of Land Management, 2004

4.8.6 Fire and Climate Change

Climate Change Montana, a website created by The Wilderness Society, states the impacts of climate change are occurring across the state of Montana. With all the environmental shifts taking place in Montana, wildland fires are expected to become both more frequent and more severe. Fires are becoming an even bigger part of the landscape as the impacts of climate change take root.

Major factors in the increased frequency and severity of fires include significantly earlier snowmelt and hotter summer temperatures and associated reduced soil moisture. The longer fire season and the expanded vulnerable areas of high-elevation forests are combing to produce the increase in frequency and severity of wildfires.

4.8.7 Relationship to Other Hazards

Wildfires and structural fires are associated with other hazards such as summer storms, drought, flood, and winter storms. As a natural hazard, a wildfire is often the direct result of a lightning strike that may destroy personal property and public land areas, especially on the state and national forest lands. Drought is an associated hazard because drought conditions cause high temperatures and dry conditions, which can increase the risk of fires.

Summer storms are related because lighting strikes may ignite a structural fire. Windstorms that damage structures can cause a fire direct or result in an increase the fuel load for a wildfire increasing the risk of a structural fire.

Flood, tornado, and high winds may also cause structural fires in their aftermath. Downed power lines, natural gas leaks or other sources of ignition initiated by natural hazards may spark a fire in structures. Routes to structures may be restricted due to flooding or debris from storms. Winter storms, such as blizzards or ice storms, may impair the movement of response vehicles and decrease response time to structural fires. The reduced response time could potentially increase the amount of damage.

4.9 Infectious Disease

Infectious disease was identified in the 2008 Valley County Pre-Disaster Mitigation Plan, labeled as "Communicable Disease" and was identified as one of the hazards to be included in this plan update. Analyses included in this plan update include a more in-depth look at what infectious disease is the history of it within Valley County, and the potential it has to affect residents. A definition of infectious disease is provided prior to taking a closer look at the effect infectious disease has on Valley County in order to provide the reader with knowledge of the hazard.

Infectious diseases, sometimes called communicable diseases, are illnesses caused by organisms such as bacteria, viruses, fungi and parasites. Sometimes the illness is not due to the organism itself, but rather a toxin that the organism produces after it has been introduced into a human host. The infectious disease may be transmitted (spread) either by one infected person to another, from an animal to a human, from an animal to an animal, or from an inanimate object to an individual.

Human Diseases

One of the most common communicable diseases is influenza. Influenza is a contagious, upper respiratory disease caused by many different strains of influenza viruses. In 1979 and again in late 2003, a flu epidemic hit the U.S. infecting hundreds of people. The swine flu (H1N1) pandemic of 2009 caused a number of fatalities in the country. The 2012-2013 flu outbreaks in Montana claimed 15 lives. The best way to prevent the flu is by getting a flu vaccine each year.

Air travel has significantly increased the speed with which diseases can spread. Most of the world's great cities are now within a few hours of each other. A virus that is in Hong Kong one day can be carried to any point in Southeast Asia within three or four hours, to Europe in 12 hours, and to North America in 18 hours. Nearly 1.5 billion passengers travel by air every year (WHO, 2009). A pandemic is a global disease outbreak.

Diseases that have been eliminated from the U.S. population, such as smallpox, could be used in bioterrorism. As identified by the Centers for Disease Control and Prevention (2011), the following list gives examples of biological agents or diseases that occur naturally or might be used by terrorists. These diseases/bioterrorism agents can infect populations rapidly, particularly through groups of people in close proximity such as schools, assisted living facilities, and workplaces.

Animal and Plant Diseases

Agriculture dominates Montana's economy contributing $3.046 billion per year with $1.78 billion coming from crops and $1.27 billion coming from livestock (USDA National Agriculture Statistics Service, 2013). Wheat is Montana's most important crop followed by hay, barley, and sugar beets. Montana's most important livestock commodities are cattle and calves, followed by hogs and pigs, and sheep and lambs. The security of the state's crop and livestock industry is of paramount importance to Montana's economy. Some of the animal diseases with the potential to threaten the state's agricultural industry include anthrax, brucellosis, chronic wasting disease, foot and mouth disease and mad cow (BSE) disease. Many plant pests are sporadic in their occurrence cycling with environmental conditions such as dry or wet cycles. However, major insect pests such as alfalfa weevil, wheat stem sawfly, wireworms, cutworm species, grasshoppers and cereal leaf beetle are likely to attain pest status in the state each year.

4.9.1 Infectious Disease Risk

While the probability of infectious diseases is highly likely in Valley County, its relative impact is low and thus the overall risk for infectious diseases in Valley County is little to none. Data from 2013 for the Valley County was used to determine this risk. Data was not available for city, town or community, so the risk was determined for the county as a whole. The table below provides the name of each of the cities in the county, the probability that infectious disease will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 61: Infectious Disease Risk by City in Valley County

Infectious Disease			
City	Probability	Impact	Risk
Glasgow	Highly Likely	Low	Little to No
Fort Peck	Highly Likely	Low	Little to No
Nashua	Highly Likely	Low	Little to No
Opheim	Highly Likely	Low	Little to No
Valley County*	Highly Likely	Low	Little to No
Total	Highly Likely	Low	Little to No

*Valley County information takes into account-unincorporated areas of the County.

The 2015 update utilized the Risk =Frequency x Consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents a significant change from the previous plan. This update indicated the overall risk for Valley County is little to none.

The last plan update completed in July 2008 indicated that infectious disease had the potential to have a moderate impact on Valley County.

4.9.2 Infectious Disease History in Valley County

The following data represents communicable diseases that have been reported as part of the Montana Communicable Disease Case Counts by Jurisdiction of Residence for 2013 provided by the Montana Department of Health.

The infectious disease occurrences, which were the highest in the Valley County in 2013, were Chlamydia and Varicella (Chickenpox). There were 37 communicable diseases included in 2013, but occurrences in Valley County were only reported in the following six diseases.

Table 62: Communicable Disease and Number of Occurrences

Communicable Disease Name	Count for Valley County
Chlamydia	14
Legionellosis	1
Streptococcus pneumonia	1
Varicella (Chickenpox)	5
Hepatitis C, Chronic*	3
West Nile	2

Source: Montana Communicable Disease Case County by Jurisdiction of Residence, 2013

4.9.3Presidential Declared Disasters for Infectious Disease

No presidential declared disasters for infectious disease in the past 5 years.

4.9.4 Mitigation Actions in the Past Five Years

Mitigation actions for infectious disease from the 2008 Valley County Pre-Disaster Mitigation Plan stated the mitigation action for infectious disease was to mitigate the spread of communicable diseases by developing disease education materials and improving disease surveillance measures. In this iteration of the plan, most of these projects will be continued.

One project that was completed was in 2016. The Community Assessment for Public Health Emergency Response (CASPER) was completed in 2016 for Valley County. CASPER is an epidemiologic technique designed to provide

household-level information and be efficiently and rapidly deployed with minimum resources. CASPERs can be conducted to assess the effect of a disaster on a population, to determine the health status and basic needs of an affected population, to evaluate response and recovery efforts, to gain a better understanding of the community for CHAs, and to practice the CASPER technique as part of a preparedness exercise. The interview teams conducted 121 interviews, yielding a completion rate of 86%. The 121 interviewed households were a sample of the 4,879 total households in Valley County. Data collected included demographic aspects of Valley County, important aspects of community health, communication, health questions, physical activity, healthy eating, health care and health care access, preventative services, oral health, injury, mental health, emergency preparedness, and problems in Valley County. Overall, the assessment determined that areas for potential public health interventions include continued efforts to decrease smoking, improved seat belt usage, increased influenza vaccine coverage, and to increase routine dental care. Improvements can be made to increase awareness of programs to help pay for health care expenses and to ensure and improve access to health care services.

4.9.5 Vulnerability

In Valley County, there are certain populations of people who are more susceptible to infectious disease. These susceptible populations include the elderly and children as they are at an increased risk of becoming infected with airborne diseases. In addition, the elderly and children share an increased risk as they often have weakened immune systems and/or spend more time in crowded settings, such as schools and nursing homes, which can allow for an easier spread of airborne diseases. There is also increased the risk of tick and mosquito-transmitted diseases, such as Lyme Disease, Anaplasmosis, and West Nile Virus, because of possible exposure in forested areas of the county. Individuals who spend time outside or in these forested areas are at an increased risk.

4.9.6 Infectious Disease and Climate Change

According to the World Health Organization, changes in infectious disease transmission patterns are likely major consequence of climate change. There are three categories of research into the linkages between climatic conditions and infectious disease transmission. The first examines evidence from the recent past of associations between climate, variability, and infectious disease occurrence. The second looks at early indicators of already-emerging infectious disease impacts of long-term climate change. The third uses the above evidence to create predictive models to estimate the future burden of the infectious disease under projected climate change scenarios.

Types of diseases, which are impacted by climate change, are vector-borne and water-borne diseases. Important determinants of vector-borne disease transmission include vector survival and reproduction, the vector is biting rate, and the pathogen's incubation rate within the vector organism. Vectors, pathogens, and hosts each survive and reproduce within a range of optimal climatic conditions: temperature and precipitation are the most important, while sea level elevation, the wind, and daylight duration are also important. Human exposure to waterborne infections occurs by contact with contaminated drinking water, recreational water, or food. This may result from human actions, such as improper disposal of sewage wastes, or be due to weather events. Rainfall can influence the transport and dissemination of infectious agents, while temperature affects their growth and survival.
Source: World Health Organization

4.9.7 Relationship to Other Hazards

Flood and drought conditions are associated with infectious disease because food and waterborne disease outbreaks can be sparked by flood and drought conditions. Food and water can become contaminated during flood and drought conditions, which can negatively affect the public's health. Norovirus, Salmonella, and E. coli are also associated with waterborne illness outbreaks, which are usually caused by drinking water contaminated by animal or human waste. Additionally, standing water from flooding can cause the mosquito population to increase, making West Nile Virus more likely.

4.10 Subsidence

Subsidence was not identified in the 2008 Valley County Pre-Disaster Mitigation Plan, but was identified as one of the hazards to be included in this plan update. The analysis included in this plan update includes an in-depth look at what subsidence is the history of it within Valley County, and the potential it has to affect residents.

Subsidence is the sinking or settling of the ground surface. It can occur by a number of methods. Ground subsidence can result from the settlement of native low-density soils, or the caving in of natural or fabricated underground voids. Subsidence may occur gradually over many years as sags or depressions form on the ground surface. More infrequently, subsidence can also occur abruptly as dangerous ground openings that could swallow any part of a structure that happens to lie at that location, or leave a dangerous steep-sided hole. The types of subsidence of greatest concern are settlement related to collapsing soils, sinkholes in karst areas, and the ground subsidence over abandoned mine workings.

A trigger mechanism is the change in the local environment affecting the soil mass causing subsidence and sinkholes, which causes the collapse. Water is the main factor affecting the local environment that causes subsidence. The main triggering mechanisms for subsidence are water level decline, changes in groundwater flow, increased loading, and deterioration (abandoned coalmines). Water level decline can happen naturally or be human induced. Factors in water decline are pumping water from wells, localized drainage from construction, dewatering, and drought. Changes in the groundwater flow include an increase in the velocity of groundwater movement, increase in the frequency of water table fluctuations, and increased or reduced recharge. Increased loading causes pressure in the soil leading to failure of underground cavities and spaces. Vibrations caused by an earthquake, vibrating machinery, and blasting can cause structural collapse followed by surface settlement.

4.10.1 Subsidence Risk

The overall probability for subsidence within Valley County is unlikely, its relative impact is low, and thus the overall risk for subsidence is little to none. The risk for subsidence is different for each city and was determined based upon the specific data collected and outlined in the history section of this hazard profile. In assessing subsidence for the 2015 update, data from 2009-2014 was used to determine the risk for each of the cities and the county as a whole. The table provided below provides the name of each of the cities in the county, the probability that subsidence will have an impact on that jurisdiction, the impact potential, along with the overall risk calculated by the probability and impact ratings.

Table 63: Subsidence Risk by City in Valley County

Subsidence			
City	Probability	Impact	Risk
Glasgow	Unlikely	Low	Little to No
Fort Peck	Unlikely	Low	Little to No
Nashua	Unlikely	Low	Little to Now
Opheim	Unlikely	Low	Little to No
Valley County*	Unlikely	Low	Little to No
Total	Unlikely	Low	Little to No

*Valley County information takes into account-unincorporated areas of the County.

4.10.2 Subsidence History in Valley County

According to the 2008 Valley County Pre-Disaster Mitigation Plan, subsidence has the potential to impact areas of Valley County if there are flooding or high groundwater levels. Excessively wet soil can also lead to land subsidence in the county. There was no specific history of specific areas of land subsidence in Valley County in the past five years. Subsidence has occurred previously in the county following flood events, which makes land subsidence a potential risk for Valley County.

4.10.3 Presidential Declared Disasters for Subsidence
There were no declared disasters related to subsidence in Valley County.

4.10.4 Mitigation Actions for the Past Five Years
General education and code enforcement are some of the mitigation projects involving subsidence that have been conducted within the last five years.

4.10.5 Vulnerability
Any residential land, which lies in Valley County, has the potential to be impacted by subsidence. All roadways, houses or businesses built have the potential to be vulnerable to subsidence. Houses or businesses located near a body of water or waterway, especially the rivers in Valley County, and anything located on the top of a considerable slope is also more vulnerable. Large volumes of rain and the spring thaw increase the vulnerability of areas in the county.

4.10.6 Subsidence and Climate Change
Changes in climate have the potential to affect subsidence in Valley County. Periods of excessive and prolonged rainfall can cause ground water levels to rise and swell prone soils, particularly cohesive soils with a high clay content (and to a lesser extent silt), are particularly susceptible to volumetric change. Conversely, excessive and prolonged dry periods cause shrinkage. In winter, the waterlogged ground can move further by frost heave.

4.10.7 Relationship to Other Hazards
Subsidence can be related to other hazards such as summer storms, because they can cause excessive or prolonged periods of rain, which can cause the ground to become susceptible to volumetric change. Drought also has the potential to be related to subsidence because periods of drought can cause shrinkage of soils, which can affect subsidence. Lastly, flooding can cause excessive water on the ground, which can cause volumetric changes.

4.11 Tornado

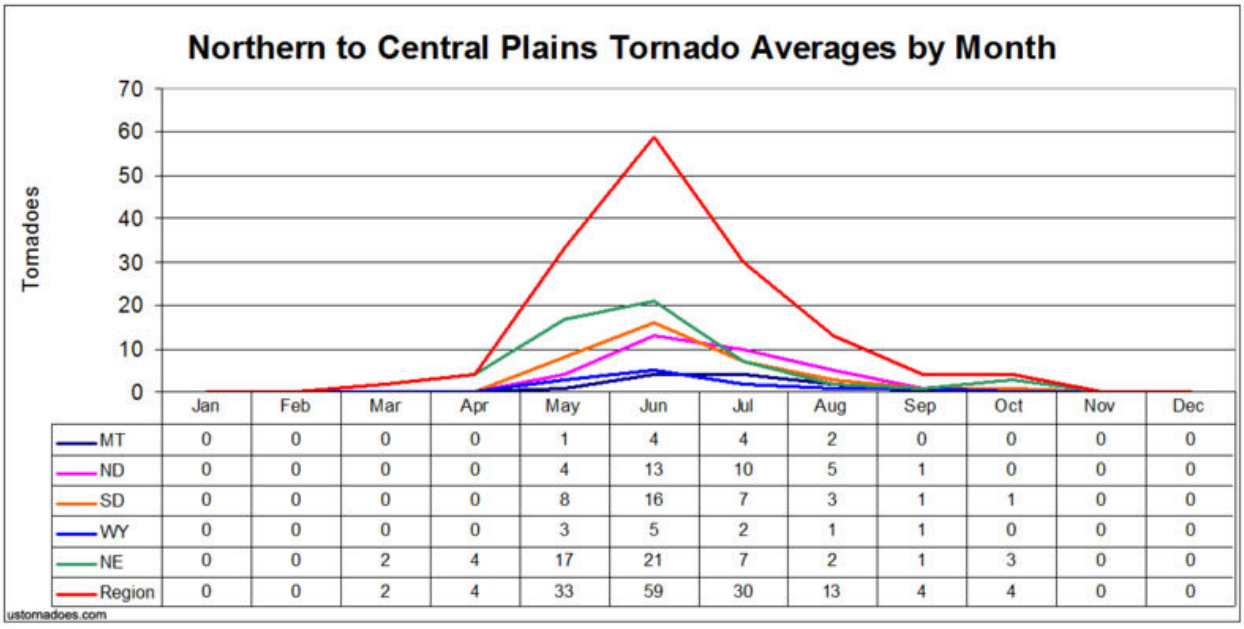
Tornado was not identified the 2008 Valley County Pre-Disaster Mitigation Plan. For the 2015 plan update, the tornado was identified as a hazard to determine the impact potential it has in Valley County. Included in the hazard profile for a tornado are additional analyses to provide a more in-depth look at what a tornado is the history of tornadoes in Valley County, and the potential they have to affect residents. A definition of tornadoes is provided prior to taking a closer look at the effect tornadoes have on Valley County in order to provide the reader with knowledge of the hazard.

Tornadoes are defined as violentlyrotating columns of air extending from thunderstorms to the ground, with wind speeds between 40-300 mph. Tornadoes can and do occur in all months of the year; however, the most tornadoes usually occur during severe thunderstorms in the warm months. They develop under three scenarios: (1) along a squall line; (2) in connection with thunderstorm squall lines during hot, humid weather; and (3) in the outer portion of a tropical cyclone. Funnel clouds are rotating columns of air not in contact with the ground; however, the column of air can reach the ground very quickly and become a tornado.

4.11.1 Annual Tornadoes

The following figure outlines the average tornadoes per month in the northern to central plains by state. For the state of Montana, the average number of tornadoes peaks in the months of June and July with an average of four tornadoes per month in each of these two summer months.

Figure 22: Average Annual Number of Tornadoes per State in Northern to Central Plains



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MT	0	0	0	0	1	4	4	2	0	0	0	0
ND	0	0	0	0	4	13	10	5	1	0	0	0
SD	0	0	0	0	8	16	7	3	1	1	0	0
WY	0	0	0	0	3	5	2	1	1	0	0	0
NE	0	0	2	4	17	21	7	2	1	3	0	0
Region	0	0	2	4	33	59	30	13	4	4	0	0

4.11.2 Tornado Risk

The overall probability that tornadoes will occur each year in Valley County is likely, its relative impact is moderate, and thus the overall risk for Valley County is low. The risk for tornadoes for each of the cities is different and was determined based upon the specific data collected and outlined in the history section of this hazard profile. In assessing tornado data for the 2015 update, data from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. Most notable are the cities of Glasgow, Opheim and the unincorporated areas of Valley County. The table below provides the name of each of the cities in the county, the probability that tornadoes will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 64: Tornado Risk by City in Valley County

Tornado Storms			
City	Probability	Impact	Risk
Glasgow	Likely	Moderate	Low
Fort Peck	Possible	Low	Little to No
Nashua	Possible	Low	Little to No
Opheim	Likely	Low	Little to No
Valley County*	Likely	Moderate	Low
Total	Likely	Moderate	Low

*Valley County information takes into account-unincorporated areas of the county.

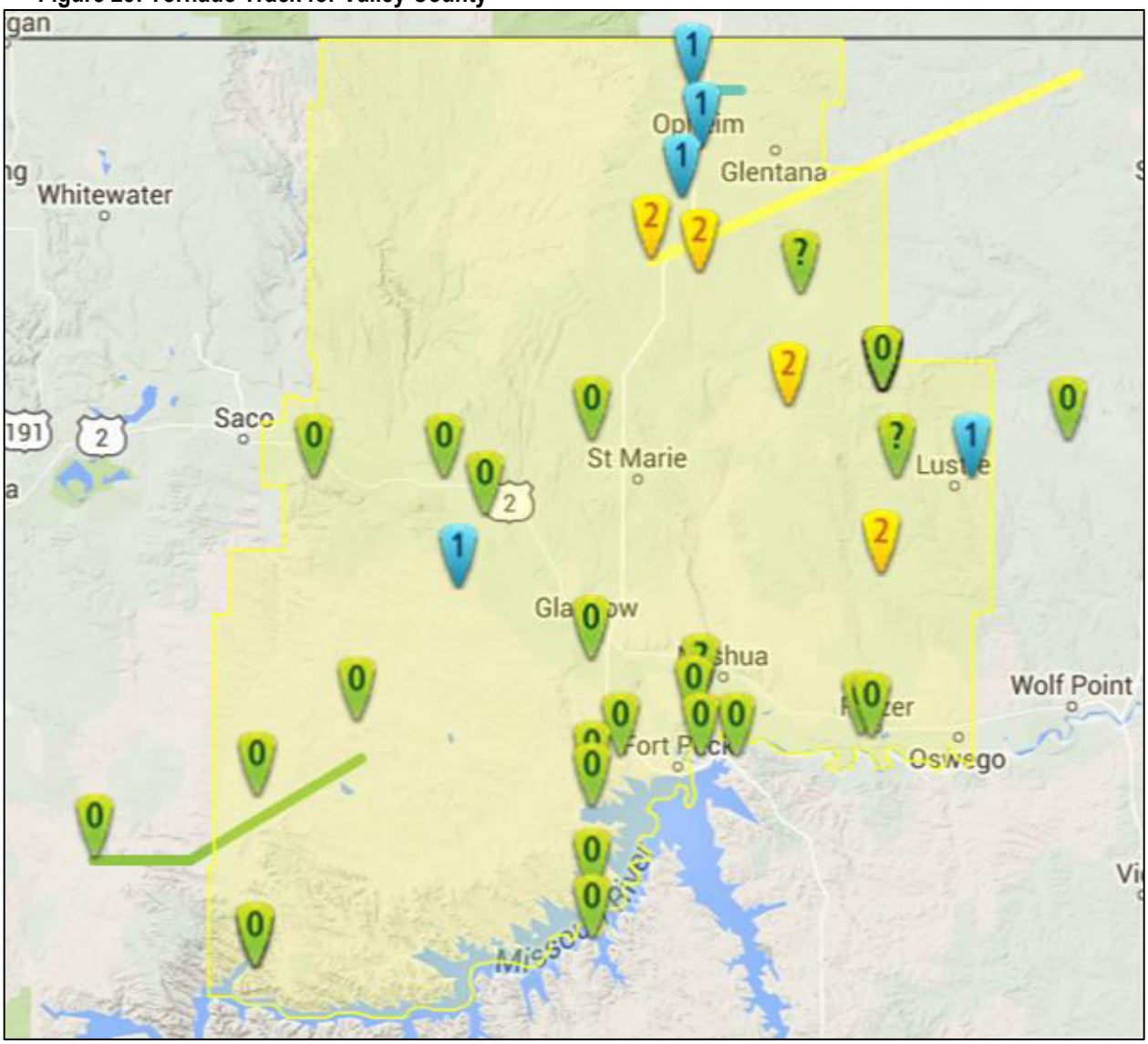
4.11.3 Tornado History in Valley County

Tornadoes in Montana peak in the months of June and July. The typical time of day for tornadoes in Montana ranges between 4:00 P.M. and 7:00 P.M. Most of these are tornadoes have wind speeds under 125 miles per hour. National Oceanic Atmospheric Administration (NOAA) provided the history of tornado events in Valley County. From 2009 to 2015, there have been four recorded events of a tornado in Valley County. A comprehensive list of the last 50 years of data can be found in Appendix B.

The most recent tornado in Valley County took place on June 29, 2011. This tornado affected the city of Glasgow. The tornado was an EF0 and was 0.01 miles long and 1 yard wide. There were no reported fatalities, injuries, property damage or crop damage. The narrative for this storm provided by the National Centers for Environmental Information indicated a tornado briefly touched down in open country. Very brief dust cloud at the surface was observed with no damage. Numerous National Weather Service (NWS) Glasgow employees observed the funnel cloud and very weak landspout. No wall cloud was present at the time of the event, but one did form after the funnel dissipated.

The following image shows the tornado track for the tornadoes, which, have occurred in the county from 1964 to 2014. There have been 38 reported tornadoes in Valley County during this timeframe, with no fatalities and no injuries. The numbers on the map correspond to the Fujita Scale number for each tornado that is a scale from 0-5, with zero being the least severe and five being the most severe.

Figure 23: Tornado Track for Valley County



Source: Tornado History Project for Valley County, MT

4.11.4 Mitigation Actions in the Past Five Years

Mitigation actions for severe summer weather from the 2008 Valley County Pre-Disaster Mitigation Plan stated they would build tornado safe rooms in the communities of Nashua and Opheim as well as construct the safe rooms with a multi-hazard vision.

There were also other mitigation actions, which are related to tornadoes. One mitigation action was to promote the use of multi-hazard mitigation measures and this was to be accomplished by purchasing NOAA weather Radios and enhancing weather radio coverage in Opheim. Updating the siren systems in Glasgow, Fort Peck, Richland, Opheim, Nashua, and Hinsdale was also included. As well as upgrading the emergency advisory equipment at the radio station in Glasgow and achieving countywide StormReady designation from the National Weather Service.

An additional mitigation action was to improve the functionality of critical and special needs facilities and infrastructure during disasters. This was to be accomplished by purchasing and installing generators, protecting electric infrastructure, creating, and enforcing ordinances that prevent the railroad from blocking emergency access routes. Additionally, the county wanted

to improve the public's ability to protect themselves during hazardous events by providing public education. Thus, as Valley County continues to be at risk for tornados and as many of the past projects were not fully completed, tornadoes continue to be a focus in this iteration of the Valley County Mitigation Plan.

4.11.5 Vulnerability in Valley County

Generally, June and July are the months with the highest probability of severe thunderstorms and tornados in Valley County. Some tornados have however, been recorded as early as May and as late as September. High wind events can occur during any time of year.

Schools, hospitals, fire departments, police departments and other critical facilities are also at increased vulnerability because if they would become damaged during a tornado. The county would be required to rely on other facilities within the county or surrounding counties depending upon the amount of damage. Manufactured home communities and other areas with limited sheltering options are also at an increased risk.

4.11.6 Tornado and Climate Change

According to the National Center for Atmospheric Research, the main climate change connection to tornadoes is via the basic instability of the low-level air that creates the convection and thunderstorms in the first place. Warmer and moister conditions are the keys for unstable air and the oceans are warmer because of climate change. Some studies however state those trends in severe storms, including the intensity and frequency of tornadoes, hail, and damaging thunderstorm winds, are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate scientists are actively researching the connections between climate change and severe storms (National Climate Assessment Development Advisory Committee, 2013).

4.12 Hazardous Material

Hazardous Material was identified in the 2008 Valley County Pre-Disaster Mitigation Plan and will be included in this update. Included in this plan update is a more in-depth look at what hazardous material are, the history of it within Valley County, and the potential it has to affect residents. A definition of hazardous material is provided prior to taking a closer look at the effect hazardous material has on Valley County in order to provide the reader with knowledge of the hazard.

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, poisons, and radioactive materials all of which can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property.

Varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the U.S. from major industrial plants to local dry cleaning establishments and gardening supply stores. As many as 500,000 products pose physical or health hazards and can be defined as "hazardous chemicals" (FEMA, 2013).

Hazardous materials incidents can occur anywhere. Communities located near chemical manufacturing plants are, particularly at risk. Hazardous materials are transported on our highways, railroads, waterways, and pipelines daily, so any area is considered vulnerable. In 2012, 13,844 transportation-related hazardous materials incidents nationwide resulted in 10 deaths and 160 injuries. The Montana Department of Transportation regulates transportation routes and speed limits used by carriers and monitor the types of hazardous materials crossing state lines.

The volume and type of hazardous materials that flow into, are stored, and flow through communities determine exposure to a potential release of hazardous materials. The Emergency Planning and Community Right-to-Know Act (EPCRA) were enacted in 1986 to inform communities and citizens of chemical hazards in their areas. EPCRA requires businesses to report the locations and quantities of chemicals stored on-site to state and local governments in order to help communities prepare to respond to chemical spills and similar emergencies. EPCRA also requires the US Environmental Protection Agency (EPA) and the states to annually collect data on releases and transfers of certain toxic chemicals from industrial facilities, and make the data available to the public in the Toxics Release Inventory (TRI). In 1990, Congress passed the Pollution Prevention Act, which required that additional data on waste management and source reduction activities be reported under TRI. The goal of TRI is to empower citizens, through information, to hold companies and local governments accountable in terms of how toxic chemicals are managed.

4.12.1 Hazardous Materials Risk

While the probability for hazardous material releases is highly likely within Valley County, its relative impact is moderate, and thus the overall risk for hazardous material releases in Valley County is moderate. The risk for hazardous material release was determined based on specific data collected and outlined in the history section of this hazard profile. In assessing hazardous material releases for the 2015 update, data from 2009-2014 was available by cities that have been affected. Most notable are the cities of Glasgow, Fort Peck, and Nashua, which have a moderate impact potential, and overall moderate risk potential based upon the recent history of hazardous material releases in these cities. The table below provides the name of each of the cities in the county, the probability that hazardous material will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 65: Hazardous Materials Risk by City for Valley County

Hazardous Materials Risk			
City/Town	Probability	Impact	Risk
Glasgow	Highly Likely	Moderate	Moderate
Fort Peck	Highly Likely	Moderate	Moderate
Nashua	Highly Likely	Moderate	Moderate
Opheim	Possible	Low	Little to No
Valley County*	Highly Likely	Moderate	Moderate
Total	Highly Likely	Moderate	Moderate

Note frequency data was only available from 1982-2014

*Valley County information takes into account-unincorporated areas of the County.

The 2015 update utilized the Risk = Frequency x Consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents no change from the previous plan. The 2015 update indicated there is a moderate overall risk for Valley County for hazardous material. Similarly, the last plan completed in 2008 indicated that hazardous materials had the potential to have a moderate impact on Valley County.

4.12.2 Hazardous Material History in Valley County

The data from Valley County for hazardous material incidence from the Right To Know Network for the years of 2009-2014 was gathered as part of this report. During those years, there was nine hazardous material incidents resulting in two fatalities, one hospitalization, and one injury. There was reported $1,000,000 in property damage and no reported need for evacuation. These nine incidents took place in Kintyre, Fort Peck, Glasgow, Hinsdale, Wolf Point, and Frazer.

Most recently, in 2014, there was a hazardous material incident in the city of Fort Peck. This incident did not result in any fatalities, hospitalizations or injuries and there was no reported property damage. The discharger for the incident was ASI Constructors.

Source: The Right to Know Network provides data from the Emergency Response Notification System (ERNS) database reported to the National Response Center.

4.12.3 Presidential Declared Disasters for Hazardous Material

There have not been any reported presidential declared disasters related to hazardous material for Valley County.

4.12.4 Mitigation Actions in the Past Five Years

Mitigation actions for hazardous material and contamination that have occurred in Valley County in the last five years includes public education to improving the public's ability to protect themselves during hazardous events

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted in November 1986 to enable state and local governments to adequately prepare and plan for chemical emergencies. Facilities that have spilled hazardous substances, or that store, use, or release certain chemicals are subject to various reporting requirements. Common EPCRA topics include emergency planning; hazardous chemical inventory reporting; chemical information; toxic chemical release reporting; risk management plans, and the toxics release inventory (TRI) database. The TRI database includes facilities that manufacture (including importing), process, or otherwise use a listed toxic chemical above threshold quantities. Facilities covered by EPCRA must submit an emergency and hazardous chemical inventory form to the Local Emergency Planning Committee (LEPC), the State Emergency Response Commission (SERC) and the local fire

department annually. This report also called a Tier I or Tier II, includes basic information including facility identification; employee contact information for emergencies and non-emergencies; and site specific information including facility description, chemical types and descriptions, releases or incidents, and chemical storage capacity, capabilities, and locations.

Based on the continued risk and due to an increase in the hazardous material being transported through the county, the hazardous material will continue to be a focus of this iteration of the plan. Mitigation projects will remain focused on education, reporting and recognizing dangerous transportation points.

4.12.5 Vulnerability

Within Valley County, there are areas, which are more susceptible to hazardous material spills. Transportation routes, such as roadways and railways within Valley County are more vulnerable. Trains and trucks can carry various hazardous material, which if there was a derailment or crash could pose a threat to those motorists or residents within the area. The areas within the county surrounding pipelines are also vulnerable. Land used for agricultural purposes also has the potential to be more vulnerable because of hazardous material that may be used to treat the land.

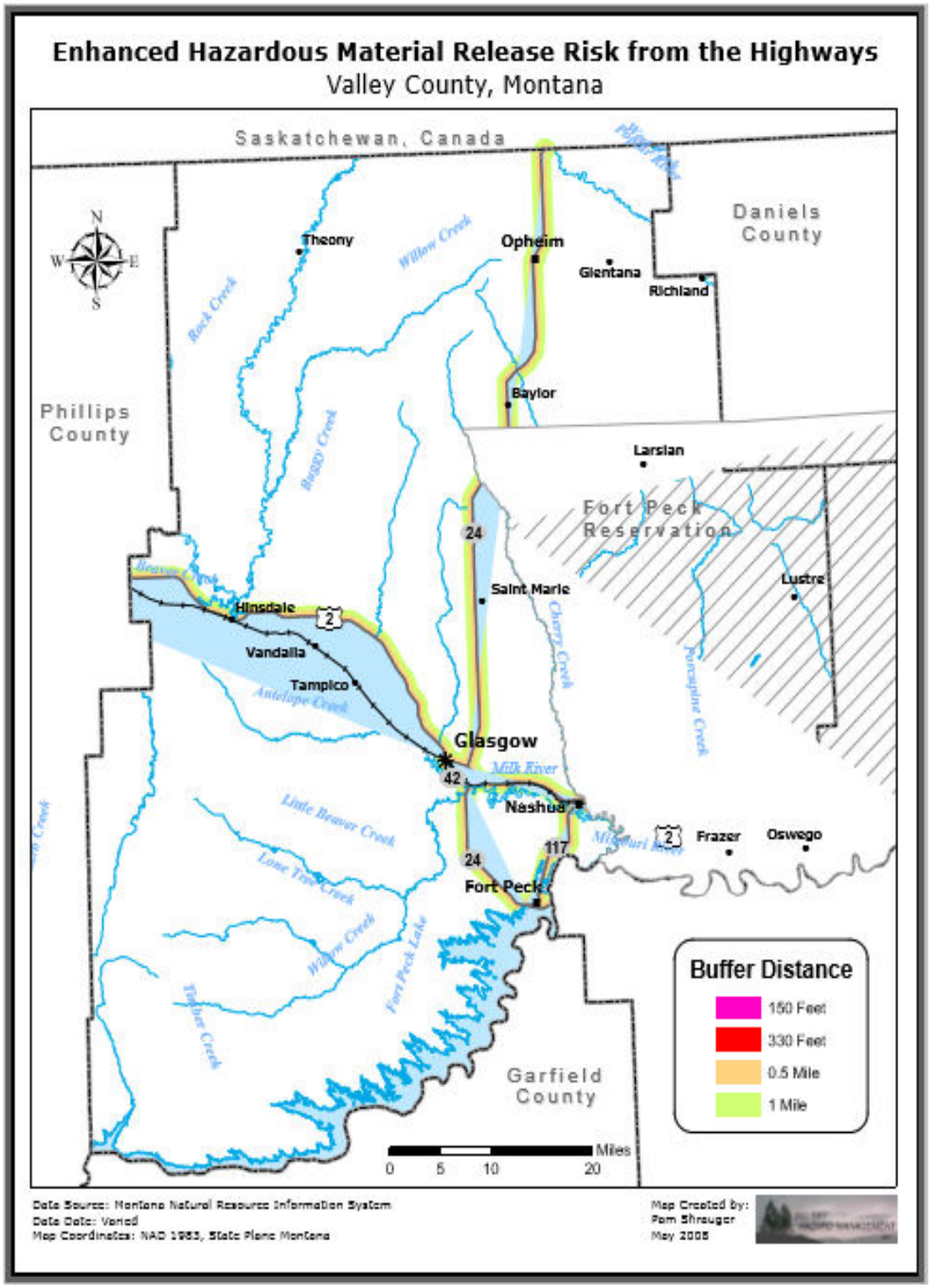
Table 66: Evacuation Radii for Hazardous Material Releases

Material	Potential Hazard	Initial Isolation	Evacuation
Diesel Fuel/Gasoline	Highly Flammable	150 feet	Up to ½ mile
Ammonium Nitrate Fertilizers	Oxidizer	330 feet	Up to ½ mile
Propane	Extremely Flammable	330 feet	Up to 1 mile
Anhydrous Ammonia	Toxic by Inhalation	200 feet	Up to 1.4 miles
Chlorine Gas	Toxic by Inhalation	900 feet	Up to 4.6 miles

Source: US Department of Transportation, 2004

While hazardous material releases can occur anywhere, the following maps include buffer zones around the primary hazardous materials transportation railroad and highway routes and are areas that would most likely be affected by a transportation-related hazardous material incident.

Figure 24: Valley County Hazardous Material Release Risk



The buffers around the highways and railways as shown in the map represent those areas with an enhanced risk from a hazardous materials release based on their proximity to regular hazardous materials transportation routes and infrastructure. Along the highways, buffer zones of 150 feet, 330 feet, ½ mile, and 1 mile were established based on the initial isolation and evacuation radius for diesel fuel/gasoline and propane releases. The railway buffers are 200 feet, 900 feet, 1.4 miles, and 4.6

miles, based on the isolation and evacuation radius for anhydrous ammonia and chlorine gas. Note that the actual evacuation zones are highly dependent on factors such as wind speed, wind direction, material released, and quantity released. The entire risk area likely will not be affected but a small section surrounding the spill location may.

Based on these buffer zones, the highest risk critical and special needs facilities can be identified. Should a hazardous material release affect one of the critical facilities, the level of emergency services available could be reduced. A release near a special needs facility may present unique evacuation challenges.
Critical and special needs facilities within 150 feet of the highways include:

- Hinsdale Fire Station
- KLTZ/KLAN
- Montana Fish, Wildlife, and Parks, Glasgow
- Nashua Pump House
- Nashua Senior Center
- Nashua Town Hall
- North Valley EMS
- Northern Border Pipeline, Glasgow
- Northern Electric Cooperative, Opheim
- Opheim Senior Center
- US Post Office, Nashua
- Valley County, Montana
- City of Glasgow
- Towns of Fort Peck, Nashua, and Opheim Pre-Disaster Mitigation Plan
- Community Wildfire Protection Plan
- US Post Office, Opheim
- Valley Electric Cooperative, Glasgow
- Williston Basin Substation, Hinsdale

Critical and special needs facilities within 200 feet of the railroad include:

- Hinsdale Fire Station
- Nashua Fire Station
- Williston Basin Substation, Hinsdale

Note: All other critical and special needs facilities in Glasgow, Hinsdale, Nashua, and Frazer fall within 900 feet, 1.4 miles, or 4.6 miles of the railroad and are also at risk. Those facilities in Fort Peck, Opheim, Saint Marie, and the more rural parts of the county are outside the railroad risk areas.

4.12.6 Hazardous Material Release and Climate Change

There is no documented link between hazardous material release and climate change.

4.12.7 Relationship to Other Hazards

Hazardous material incidences can have an impact on public health. Any hazardous material release or spill has the potential to have an impact on public health or safety.

4.13 Transportation Incidents

Transportation incidents were not identified in the 2008 Valley County Pre-Disaster Mitigation Plan. The only related hazard in the previous plan was aircraft accidents. For the 2015 plan update, transportation incidents were identified as a separate hazard to determine the impact potential they have in Valley County. Included in the hazard profile for transportation incidents is an additional analysis to provide a more in-depth look at what transportation incidents are the history of them within Valley County and the potential they have to impact residents. A definition of transportation incidents is provided prior to taking a closer look at the effect on Valley County in order to provide the reader with knowledge of the hazard.

4.13.1 Transportation Accident History

Valley County has experience with transportation accidents, which is, has largely been focused on motor vehicle accidents.

Vehicle Crash History

The Montana Department of Transportation provided data on crashes per county in Montana for the years of 2005-2014. One can see from the data in the tables below that 2006 had the highest number of fatalities with four. During the year of 2006, there was 13 serious injuries, which was the highest of all the years. The year of 2006 also had the highest number of serious injury crashes, with nine. There was 149 crashes in 2014 in Valley County. The highest number of crashes in Valley County was in 2006, with 127 crashes.

Table 67: Crash Data for Valley County

Injury Severity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fatality	2	4	1	1	3	3	2	3	2	3
Serious Injury	3	13	10	8	9	3	6	10	7	6
Other Injury	50	50	36	42	27	45	25	33	25	36
No Injury	174	166	140	163	171	108	138	68	109	103
Unknown/Other	6	7	5	8	3	3	3	2	3	1
Total	*235*	*240*	*192*	*222*	*213*	*162*	*174*	*116*	*146*	*149*
Crash Severity	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Fatal Crash	2	3	1	1	2	3	1	3	2	3
Serious Injury Crash	2	9	7	7	3	2	6	6	6	5
Other Injury Crash	33	31	20	30	18	30	19	22	16	19
No Injury Crash	93	83	77	80	91	60	54	42	51	56
Unknown/Other Crash	0	1	3	1	1	0	2	2	3	1
Total	*130*	*127*	*108*	*119*	*115*	*95*	*82*	*75*	*78*	*84*

Other Transportation Incidents

There were no records of railway or airplane accidents in Valley County during the 2009-2014 timeframe.

4.13.2 Transportation Accident Risk

The overall probability that a transportation accident will occur each year in Valley County is highly likely but its relative impact is low, and thus the overall risk for Valley County is little to none. The risk for a transportation incident for each of the cities is the same because data was only available at the countywide level. In assessing transportation incident data for the 2015 update, data from 2009 to 2014 was used to determine the risk. The table below provides the name of each of the cities in the county, the probability that a transportation incident will have an impact on that jurisdiction, the impact potential,

as well as the overall risk calculated by the determined probability and impact ratings.

Table 68: Transportation Accidents Hazard Risk Assessment

Transportation Accidents			
City/Town	Probability	Impact	Risk
Glasgow	Highly Likely	Low	Little to No
Fort Peck	Highly Likely	Low	Little to No
Nashua	Highly Likely	Low	Little to No
Opheim	Highly Likely	Low	Little to No
Valley County*	Highly Likely	Low	Little to No
Total	Highly Likely	Low	Little to No

The previous Pre-Disaster Mitigation Plan for Valley County included a separate risks analysis for aircraft accidents. For this update, aircraft accidents included indicated to be low to moderate and factored in the analysis for Transportation Accidents Risk Assessment.

4.13.3 Mitigation Actions in the Past Five Years

During the last five years, the Valley County Road Department has maintained and repaired roadways, which help to reduce roadway accidents.

This iteration of the mitigation plan has been expanded to include mitigation actions for all transportation incidents

4.13.4 Vulnerability to Residents

Any resident who uses the various transportation methods in Valley County including highway, railway, and air are potentially vulnerable to a transportation incident. In addition, residents who live closer to a roadway have the potential to be the victim of someone driving while impaired and potentially driving off the road. `The cities of Glasgow, Nashua and Opheim are located near highways in Valley County. Residents, who reside near a railway, such as in the cities of Glasgow and Nashua, are at an increased risk. While the previous iteration of the plan focused solely on aircraft accidents, this iteration of the plan has been expanded to account for all incidents. This new focus is a direct result of the county's proximity to the oil fields and the increase in traffic, machinery and hazardous materials being transported through the Valley County.

4.13.5 Traffic Accidents and Climate Change

The Climate Variability and Change with Implications for Transportation Report, published by Transportation Research Board, indicated the U.S. transportation system was built for the typical weather and climate experienced locally. Moderate changes in the mean climate have little impact on transportation. However, changes in weather and climate extremes can have considerable impact on transportation. Transportation relevant measures of extremes have been changing over the past several decades and are projected to continue to change in the future. Some of the changes are likely to have a positive impact on transportation and some negative.

As the climate warms, cold temperature extremes are projected to continue to decrease. Milder winter conditions would likely improve the safety record for rail, air, and ships. Warm extremes, on the other hand, are projected to increase. This change would likely increase the number of roadbed and railroad track buckling and adversely affect maintenance work.

Weather continues to play a significant role in a number of aviation accidents and incidents. While National Transportation Safety Board (NTSB) reports most commonly find the human error to be the direct accident cause, the weather is a primary

contributing factor in 23 percent of all aviation accidents. The total weather impact is an estimated national cost of $3 billion for accident damage and injuries, delays, and unexpected operating costs.

4.13.6 Relationship to Other Hazards

Hazardous material incidences are generally associated with transportation accidents or accidents at fixed facilities. All highways and railroads associated with transport, and anywhere that hazardous material is used or stored, is susceptible to a spill.

Tornadoes, windstorms and winter storms all have the potential to cause high winds or damage to infrastructure, which could make roadways impassable. Winter storms also have the potential to make roadways slippery with ice and snowy conditions. Whiteout conditions are also a possibility with winter storms, which could lead to increased transportation incidents. Natural hazards, such as tornadoes, windstorms, winter storms, hail, and lightning could cause an increase in railroad or air accidents because of conditions, which make it difficult to navigate or cause hazardous conditions.

4.14 Structural Fires

Structural fire was not identified in the 2008 Valley County Pre-Disaster Mitigation Plan, but the decision was made to include it in this update. Thus, an In-depth look at what structural fires are, the history of structural fires within Valley County, and the potential they have to impact residents was conducted.

Structures fires are uncontrolled fires occurring on any building or structure. This includes residential, business, or industrial type fires. Valley County annually encounters numerous structure fires reports and risks, which require the fire departments to respond. Valley County residents remain at risk of having their residence, place of business, or critical community buildings and facilities damaged or destroyed by structure fires.

4.14.1 Structural Fire Risk

While the probability of structural fires in Valley County is highly likely, its relative impact is moderate, and thus the overall risk for fires in Valley County is moderate. The risk for fires for each of the cities is the same because data was not available for individual cities/towns. The overall risk was determined based upon the specific data collected and outlined in the history section of this hazard profile. In assessing structural fires for the 2015 update, data from 2009 to 2015 was used to determine the risk for Valley County, including each of the cities and the county as a whole. The table below provides the name of each of the cities in the county, the probability that fire will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 69: Structural Fire Hazard Risk Assessment

Structural Fire Hazard Risk Assessment			
City/Town	Probability	Impact	Risk
Glasgow	Highly Likely	Moderate	Moderate
Fort Peck	Highly Likely	Moderate	Moderate
Nashua	Highly Likely	Moderate	Moderate
Opheim	Highly Likely	Moderate	Moderate
Valley County*	Highly Likely	Moderate	Moderate
Total	Highly Likely	Moderate	Moderate

4.14.2 Fire History in Valley County

The table below outlines the structural fires runs the fire department has responded to in Valley County since 2009.

Table 70: Structural Fire History for Valley County

Year	Fire Runs	Other Runs	Fire Deaths
2009	70	40	0
2010	80	37	0
2011	60	48	0
2012	90	31	0
2013	80	42	0
2014	79	36	0
2015	92	48	0

Source: Data provided by Valley County

4.14.3 Mitigation Actions in the Past Five Years

The 2008 Valley County Pre-Disaster Mitigation Plan indicated the following mitigation projects related to structural fires. The first project was building codes for Valley County and the towns of Fort Peck, Nashua, and Opheim. This mitigation project was listed as near term, which means the timeframe was within the next 0-3 years. Another mitigation project related to structural fires was abandoned building removal in the towns of Fort Peck, Nashua, and Opheim. The timeframe for this project was listed as mid-term (within the next 3-6 years) and ongoing. The final mitigation project from the previous plan related to structural fires was Fort Peck theater sprinkler system. This was also listed as a mid-term project with the timeframe being the next 3-6 years. In this planning iteration, fire mitigation is still a primary focus with many projects being carried over and or continued from the previous plan.

4.14.4Vulnerability in Valley County

Structural failures, such as inadequate design, older homes, poor maintenance, natural gas explosion or human factors (neglect or human error); can lead to increased vulnerability to fires. Most structural failures occur within residential homes and low-occupancy buildings where there are fewer people around to notice serious issues that could lead to a collapse or fire. There have been some structural collapses involved in commercial and industrial facilities that have caused numerous fatalities and injuries, but such incidents are rare and are usually due to overloading or design flaws. The majority of fatalities due to structure collapse involve residential structures.

4.14.5 Structural Fire and Climate Change

Structures located in the Wildland Urban Interface (WUI) are at increased risk of structure fire during a wildfire event. Climate change is likely to increase the possibility and impact of wildfires resulting in additional structure fires as a result.

4.14.6 Relationship to other Hazards

Structural fires are associated with other hazards such as summer storms, drought, flood, and winter storms. Summer storms are related because lighting strikes may ignite a structural fire. Windstorms that result in structural damage to structures increases the fuel load, which may escalate the risk of a structural fire. Flood, tornado, and high winds may also cause structural fires in their aftermath. Downed power lines, natural gas leaks or other sources of ignition initiated by natural hazards may spark a fire in structures. Routes to structures may be restricted due to flooding or debris from storms. Winter storms, such as blizzards or ice storms, may impair the movement of response vehicles and decrease response time to structural fires. The reduced response time could potentially increase the amount of damage.

4.15 Civil Disobedience

Civil disobedience was identified in the 2008 Valley County Pre-Disaster Mitigation Plan, was labeled Terrorism and Civil Unrest, and was identified as one of the hazards to be included in the 2015 plan update. Additionally, analyses are included in this 2015 plan update to include a more in-depth look at what civil disobedience is the history of it within Valley County, and the potential it has to affect the county's residents. A definition of civil disobedience is provided prior to taking a closer look at the effect it has on Valley County in order to provide the reader with knowledge of the hazard.

Civil disobedience is a term that generally refers to groups of people purposely choosing not to observe a law, regulation, or rule, usually to bring attention to their cause, concern, or agenda. It may also be defined as acts of violence by assemblages of three or more persons, which cause an immediate danger, or results in damage or injury to the property or person of any other individual.

Civil disobedience can take the form of small gatherings or large groups blocking or impeding access to a building, or disrupting normal activities by generating noise and intimidating people. They can range from a peaceful sit-in to a full-scale riot, in which a mob burns or otherwise destroys property and terrorizes individuals. Even in its more passive forms, a group that blocks roadways, sidewalks, or buildings interferes with public order. Generally, there are two types of large gatherings typically associated with disobedience: a crowd and a mob.

A crowd may be defined as a casual, temporary collection of people without a strong, cohesive relationship. Crowds can be classified into four categories:

- Casual Crowd – A casual crowd is merely a group of people who happen to be in the same place at the same time. The likelihood of violent conduct is non-existent.
- Cohesive Crowd – A cohesive crowd consists of members who are involved in some type of unified behavior. Members of this group are involved in some type of common activity, such as worshiping, dancing, or watching a sporting event. Although they may have intense internal discipline, they require substantial provocation to arouse to action.
- Expressive Crowd – An expressive crowd is one held together by a common commitment or purpose. Although they may not be formally organized, they are assembled as an expression of common sentiment or frustration. Members wish to be seen as a formidable influence. One of the best examples of this type is a group assembled to protest something.
- Aggressive Crowd – An aggressive crowd is comprised of individuals who have assembled for a specific purpose. This crowd often has leaders who attempt to arouse the members or motivate them to action. Members are noisy and threatening and taunt authorities. They tend to be impulsive and highly emotional and require only minimal stimulation to arouse them to violence. Examples of this type of crowd include demonstrations and strikes.

A mob can be defined as a large disorderly crowd or throng. Mobs are usually emotional, loud, tumultuous, violent, and lawless. Similar to crowds, mobs have different levels of commitment and can be classified into four categories:

- Aggressive Mob – An aggressive mob is one that attacks, riots, and terrorizes. The object of violence may be a person, property, or both. An aggressive mob is distinguished from an aggressive crowd only by lawless activity. Examples of aggressive mobs are the inmate mobs in prisons and jails, mobs that act out their frustrations after political defeat, or violent mobs at political protests or rallies.
- Escape Mob – An escape mob is attempting to flee from something such as a fire, bomb, flood, or another catastrophe. Members of escape mobs have lost their capacity to reason and are generally impossible to control. They are characterized by unreasonable terror.
- Acquisitive Mob – An acquisitive mob is one motivated by a desire to acquire something. Riots caused by other factors often turn into looting sprees. This mob exploits a lack of control by authorities in safeguarding property. Examples of acquisitive mobs would include the looting in south central Los Angeles in 1992.
- Expressive Mob – An expressive mob is one that expresses fervor or revelry following some sporting event,

religious activity, or celebration. Members experience a release of pent up emotions in highly charged situations. Examples of this type of mob include the June 1994 riots in Canada following the Stanley Cup professional hockey championship, European soccer riots, and those occurring after another sporting event in many countries, including the United States.

Although members of mobs have differing levels of commitment, as a group they are far more committed than members of a crowd are. As such, a "mob mentality" sets in, which creates a cohesiveness and sense of purpose that is lacking in crowds.

Throughout the history of the Montana, riots have occurred infrequently. However, as seen in other parts of the country, riots can cause significant property damage, injury, and loss of life. Civil disobedience varies widely in size and scope, and their impact is generally low.

4.15.1 Civil Disobedience Risk

The overall probability for that civil disobedience will occur each year in Valley County is unlikely and its relative impact is low, and thus the overall risk for Valley County is little to none. The risk for civil disobedience is the same for each of the cities because there has not been a history of it within Valley County. In assessing civil disobedience data for the 2015 update, data from 2009 to 2014 was used to determine the risk for each of the cities and the county as a whole. The table provided below provides the name of each of the cities in the county, the probability that civil disobedience will have an impact on that jurisdiction, the impact potential, as well as the overall risk calculated by the determine probability and impact ratings.

Table 71: Civil Disobedience Risk

Civil Disobedience			
City/Town	**Probability**	**Impact**	**Risk**
Glasgow	**Unlikely**	**Low**	**Little to No**
Fort Peck	**Unlikely**	**Low**	**Little to No**
Nashua	**Unlikely**	**Low**	**Little to No**
Opheim	**Unlikely**	**Low**	**Little to No**
Valley County*	**Unlikely**	**Low**	**Little to No**
Total	**Unlikely**	**Low**	**Little to No**

The 2015 update utilized the Risk = Frequency x Consequence (R = FC) formula and each jurisdiction has its own unique risk score based on the 28 points of data analyzed. The risk determined for the 2015 update represents little change from the previous plan, as the overall risk was little to none for the 2015 update. Similarly, the last plan update was done in 2008 and indicated that civil disobedience had the potential to have a low impact on Valley County.

4.15.2 History of Civil Disobedience in Valley County

While there is no generalizable data available regarding issues of specific and sustained civil disobedience in Valley County, the county and responsible agencies remain vigilant. Due to the need for restrict information regarding plans, policy and procedures pertaining to civil disobedience, this iteration of the plan does not list and or make know any new projects beyond what has already been including in past mitigation plan iterations.

Significant Civil Disobedience in Montana: The 1959 Riot at Montana State Prison

1959 was a turbulent year in Montana State Prison history. Following Warden Burrell's resignation in February 1958, the Montana Council on Corrections decided that in order to modernize the facility, the next warden of the prison would be selected from a nationwide search, putting an end to the tradition of gubernatorial appointees. Floyd Powell, of Wisconsin, was chosen from the candidates who applied, and he took control of the prison in August 1958. He managed to instill some

reforms before, in 1959, a riot kept the prison and the town of Deer Lodge on edge for thirty-six hours. The riot started on 16 April 1959 and was the longest and bloodiest riot at the facility. Instigated by a pair of inmates, Jerry Myles and Lee Smart, the riot would claim the lives of three people, wound several others, and maintain the facility under inmate control for thirty-six hours. It ended in the early hours of 18 April 1959 when a brace of National Guard troops stormed the facility. Then, in August of the same year, an earthquake structurally damaged Cellblock 2, leading to its destruction.

4.15.3 Major Declared Disasters for Civil Disobedience

There are no major declared disasters in Valley County for Civil Disobedience.

4.15.4 Mitigation Actions in the Past Five Years

The 2012 Montana Emergency Response Framework report provided information about the emergency response framework in the state. This framework in itself is a mitigation action. This report stated that under Montana statute, each level of government is responsible for the safety and security of its residents. Montanans expect local, tribal, and state governments to keep them informed and provide assistance in the event of an emergency or disaster. America's National Preparedness Goal (NPG) is to create and maintain a secure and resilient nation by employing an all-hazards approach to national preparedness that is flexible and scalable. The Montana Emergency Response Framework (MERF) fulfills both obligations as a comprehensive all-hazards plan providing for an effective and coordinated response to disasters and emergencies. The MERF supersedes the State of Montana's Disaster & Emergency Plan of 2001. This plan presents a consistent structure for utilizing the emergency response resources and capabilities of the state, local and tribal governments, volunteer agencies, the private sector and nongovernmental organizations (NGOs). Emergency response procedures, responsibilities, and lines of authority are defined in the MERF.

The MERF aligns itself with the National Response Framework (NRF) by incorporating the National Incident Management System (NIMS) and employing a functional approach to providing assistance in order to facilitate communication and coordination between the state and the federal government. Each Emergency Support Function (ESF) is assigned to a primary agency with other entities in supporting roles. The primary agency will work with Montana Disaster and Emergency Services (MT DES) in the development, coordination, and maintenance of appropriate annexes, and ensure tasks are completed during emergency operations.

A primary goal of the NRF and the MERF is to integrate federal, state and local/tribal special-purpose incident management and emergency response plans into an active and useful structure. NIMS includes the Incident Command System (ICS), a management system designed to enable effective, efficient incident management by integrating a combination of facilities, equipment, personnel, procedures and communications operating within a common organizational structure. The MERF is designed to integrate quickly and efficiently with the NRF. Consistent with NIMS and ICS principles, both the NRF and the MERF can be partially or fully implemented in the context of a threat, in anticipation of a significant event, or in response to a significant event. Selective implementation through the activation of one or more of the system's components allows maximum flexibility in meeting the unique operational and information sharing requirements of the situation at hand and enabling effective interaction with various non-federal entities.

This plan is always in effect for preparedness, response, and initial relief activities and implemented when a major emergency or disaster occurs or is imminent.

The Governor, the Adjutant General of the Montana National Guard, the Montana DES Administrator, Senior MT DES Officials and MT DES personnel, can make modifications to this plan. The state department functioning as the primary agency for the ESF may make modifications to ESF Annexes.

This plan also outlines the roles and responsibilities of officials and offices in Montana as well as the direction, control and coordination of local to the federal level management of emergency and disaster incidents.

4.15.5 Vulnerability in Valley County

According to the 2012 Montana Emergency Response Framework report, Montana is becoming more exposed to civil disobedience incidents and the threat of civil disorder is always increasing. Local and state law enforcement entities can become overwhelmed logistically and financially when an event extends for even a relatively short period.

4.15.6 Climate Change and Civil Disobedience

There is no documented relationship between climate change and civil disobedience.

4.15.7 Relationship to Other Hazards

Structural fires could be started because of civil disobedience.

4.16 Risk Assessment Summary

While the jurisdictional risk varied somewhat from the past plan, one fact remains; Valley is still at risk despite its efforts to mitigate natural hazards. Within Valley County and its participating jurisdictions, the hazard that has the highest number of disaster declarations for the county has been flooding. However, flooding has also had the highest number of mitigation actions, so one can recognize that the county is taking steps towards mitigating the impact and risk of flooding on the county.

This update identified 12 hazards as having a potential impact on the community. In taking a more in-depth look at each of the hazards and determining the frequency with which they occur, and calculating the impact and risk potential on the community, mitigation actions can be identified and prioritized accordingly. Of the 12 hazards in Valley County, the hazards with the highest impact potential are floods, and dam failure. These hazards are highly likely to occur in Valley County each year and have a high-risk potential for the community.

Through Valley County's risk analysis, it was determined that the city of Glasgow has the highest number of moderate or high impact and risk analysis ratings compared to other cities in the county. Glasgow has a high impact and risk rating for dam failure, flood, and severe summer weather. It also has a moderate impact and risks analysis ratings for the structural fire, severe winter weather, wildfire, and hazardous material hazards. This is important information for mitigation actions and prioritizing Glasgow among the other cities in the county. A more detailed look at which hazards were at the High, Moderate, and Low-level prioritization could be seen below in table 72.

Table 72 shows the hazard prioritization for Valley County as a whole, while Tables 73 through 77 show the hazard prioritization for each individual city in Valley County including Glasgow, Fort Peck, Nashua, Opheim, and the unincorporated areas of Valley County.

Table 72: Valley County Hazard Prioritizations

Valley County Hazard Prioritizations	
Level	**Hazard**
High	• Flood • Dam Failure
Moderate	• Hazardous Material • Severe Winter Weather • Severe Summer Weather • Structural Fire • Wildfire
Low	• Infectious Disease • Subsidence • Tornado • Transportation Incidents • Civil Disobedience

Table 73: City of Glasgow Hazard Prioritization

City Glasgow Hazard Prioritization	
Level	**Hazard**
High	• Flood • Dam Failure • Severe Summer Weather
Moderate	• Hazardous Material • Severe Winter Weather • Structural Fire • Wildfire
Low	• Infectious Disease • Subsidence • Tornado • Transportation Incidents • Civil Disobedience

Table 74: City of Fort Peck Hazard Prioritization

City Fort Peck Hazard Prioritization	
Level	**Hazard**
High	• None
Moderate	• Hazardous Material • Dam Failure • Structural Fire • Severe Winter Weather • Severe Summer Weather • Wildfire •
Low	• Infectious Disease • Subsidence • Flood • Tornado • Transportation Incidents • Civil Disobedience

Table 75: City of Nashua Hazard Prioritization

City Nashua Hazard Prioritization	
Level	**Hazard**
High	• None
Moderate	• Dam Failure • Flood • Hazardous Material • Structural Fire • Severe Winter Weather • Severe Summer Weather • Severe Winter Weather • Wildfire • Structural Fire
Low	• Infectious Disease • Subsidence • Tornado • Transportation Incidents • Civil Disobedience

Table 76: City of Opheim Hazard Prioritization

City Opheim Hazard Prioritization	
Level	**Hazard**
High	• None
Moderate	• Severe Winter Weather • Structural Fire • Severe Summer Weather
Low	• Flood • Infectious Disease • Subsidence • Tornado • Dam Failure • Hazardous Material • Wildfire • Transportation Incidents • Civil Disobedience

Table 77: Unincorporated Areas of Valley County Hazard Prioritization

Unincorporated Hazard Prioritization for Valley County	
Level	**Hazard**
High	• Flood • Dam Failure
Moderate	• Hazardous Material • Severe Winter Weather • Wildfire • Severe Summer Weather • Structural Fire
Low	• Infectious Disease • Subsidence • Tornado • Civil Disobedience • Transportation Incidents

The hazard prioritizationwas determined by using the best possible information concerning risks and vulnerabilities. The following factors were considered when prioritizing the hazards: Probability or Frequency of a "Disastrous" Event and impacts concerning Casualties/Trauma, Communication/Lack thereof, Continuity of Government, Debris, Emergency Services Disrupted/Limited, Evacuation Needs, Fatalities, Hazardous Material Release, Overwhelm of First Responders, Mass Care Needs, Physical Damage / Asset Destruction, Power, Disruption/Outages, Transportation, Disruption/Failure, and Economic Loss. For more information on these determinations, see the risk assessment methodology and individual hazard profiles.

As with any assessment involving natural or human-caused hazards, not all potential events may be represented here and an actual incident may occur in a vastly different way than described. This assessment, however, will be used where possible, to minimize damages from these events in the future. Every type of event is different, ranging from population to property, to economic impacts. Incidents also have different probabilities and magnitudes even within hazards. For example, a light snowstorm will be different from a blizzard and a moderate flood will be different from both of those. Some hazards have estimates of dollar losses and population impacts, whereas others are more qualitatively assessed, based on the information available during the risk assessment process.

Section 5: Capability Assessment

A capability assessment is required as part of the mitigation plan update. This chapter outlines how the mitigation capabilities of Valley County and the jurisdictions participating were assessed, the results of the assessment and recommendations to improve. The results of the capability assessment will be used to inform mitigation projects.

5.1 What Is A Capability Assessment?

The purpose of conducting a capability assessment is to determine the ability of a given jurisdiction to implement mitigation strategies. More specifically, the capability assessment helps to determine what mitigation actions are likely to be successfully implemented given the fiscal, technical, administrative and political framework of a jurisdiction. A capability assessment also provides an opportunity to assess existing plans, policies and current processes already in place. A capability assessment is required for plan approval.

5.1.1 Conducting the Capability Assessment

To yield insight into the jurisdiction's capability to mitigate hazards, the Hazard Mitigation Planning Team administered a multi-part self-assessment that consisted of two surveys. The first survey collected information regarding existing local plans, policies, programs, and ordinances. The survey also asked the participants to assess how much influence various mitigation elements (plans, policies, programs, and ordinances) had on the governance of their jurisdictions. The second survey consisted of questions relating to the fiscal, technical, administrative, and political will of the jurisdiction. Participants were asked to determine their capability with regard to the various administrative categories. Representatives from Valley County and the jurisdictions in the plan update were invited to participate.

5.1.2 Hazard Mitigation Plans, Policies, Programs and Ordinances

An evaluation of existing plans, programs, and policies was conducted to provide insight into how mitigation was achieved in the past and how might it be achieved in the future. An assessment was conducted to determine if and/or what plans existed and if they were utilized in the governance of the jurisdiction's mitigation activities. Finally, participants were asked to rank their capability with regard to mitigation and how comprehensiveness (interconnected) the identified local plans, policies, programs, and ordinances. The following are the results of the self-assessment.

Table 78: Plans Policies Programs and Ordinances in Place

Evaluation of Existing Plans, Policies, and Ordinances	
• HMP: Hazard Mitigation Plan • DRP: Disaster Recovery Plan • CLUP: Comprehensive Land Use Plan • FMP: Floodplain Management Plan • SMP: Stormwater Management Plan • EOP: Emergency Operations Plan • COOP: Continuity of Operations Plan • SARA: SARA Title III Emergency Response Plan • TRANS: Transportation Plan	• CIP: Capital Improvements Plan (that regulates infrastructure in hazard areas) • COMP: comprehensive PLAN • REG-PL: Regional Planning • HPP: Historic Preservation Plan • ZO: Zoning Ordinance • FDPO: Flood Damage Prevention Ordinance • NFIP: National Flood Insurance Program • BC: Building Codes

Plans	HMP	DRP	CULP	FMP	SMP	EOP	COOP	SARA	TRANS	CIP	COMP	REG-PL	HPP	ZO	FDPO	NFIP	BC	Score
Jurisdiction																		
Valley County	X		X	X	X	X		X		X	X			X		X	X	M
Fort Peck	X		X		X	X		X			X						X	L
Glasgow	X		X	X	X	X					X			X		X	X	M
Opheim	X		X			X		X			X						X	L
Nashua	X		X	X		X					X					X	X	L

Note: Scores of High, Moderate and Limited were determined by a self-assessment completed by the jurisdictions.

The first part of the capability assessment survey indicated that there is generally moderate to allow degree of existing plans, policies, and ordinances used to conduct mitigation. It was further suggested that the level of communication between and within agencies only occurred during the last mitigation plan update or after a significant event like a major flood. All indications suggest that Valley County should institute actions that will enhance its ability to support a comprehensive mitigation program.

5.1.3 Recommendations

As several jurisdictions have participated in the National Flood Insurance Program and have requested assistance for mitigation projects, it is obvious that mitigation actions are occurring across Valley County and within the participating jurisdictions. However, mitigation actions seem to be fragmented across several local plans, policies, programs, and ordinances. As such, it is recommended that efforts should be made to unify the county and participating jurisdictions so that mitigation efforts are coordinated and that the reporting of these activities is centralized. The county and jurisdictions should agree on a management process that establishes a governance committee to oversee the mitigation planning process, evaluates mitigation actions, reports mitigation actions for the inclusion of plan updates, and other activities that will help to support a comprehensive mitigation plan program. Finally, this update should reflect the noted recommendations by including a management strategy to strengthen capabilities and ensure the county's mitigation program is treated and managed as a true existing risk reduction program.

5.2 Fiscal, Technical, Administrative and Political Capabilities

As part of the capability assessment, each jurisdiction self-assessed their unique technical, fiscal, administrative, and the political will to conduct mitigation projects. The Assessment of Local Capability Table provides an overview of each

jurisdiction's rankings. An "L" indicates limited capability, an "M" indicates moderate capability, and an "H" indicates high capability. The results of the self-assessment are listed below.

Table 79: Assessment of Local Capability

Assessment of Local Capability— Multi Jurisdictional Hazard Mitigation Plan				
An "L" indicates Limited capability; an "M" indicated moderate capability; and an "H" indicates high capability.				
Jurisdiction	Technical Capability	Fiscal Capability	Administrative Capability	Political Capability
Valley County	M	M	M	M
Fort Peck	**L**	**L**	**L**	**L**
Glasgow	**M**	**L**	**L**	**M**
Opheim	**L**	**L**	**L**	**L**
Nashua	**L**	**L**	**L**	**L**

Note: Scores of High, Moderate and Limited were determined by a self-assessment of the jurisdictions.

5.2.1 Technical Capability

Technical Capability is defined as possessing the skills and tools needed for making decisions regarding mitigation activities, programs, and policies. The concept of "technical" was left to the participants to self-define; however, several examples were provided to assist the participant in completing the survey. For instance, having accesses to and/or being able to use geographic information systems (GIS) and database management capabilities would be an indication of possessing the technical capabilities needed to make informed decisions regarding mitigation activities. Not having the ability to manage grants and not having a working knowledge of mitigation programs would be an indication of not possessing the technical capabilities needed to make informed decisions regarding mitigation programs or policies.

The analyses of the responses to the capability assessment indicated that there is generally a Limited technical capability; however, as the size of the jurisdiction increases (Glasgow and Valley County being the largest two jurisdictions) so does their capabilities. The result of the technical capability assessment highlights the notion that the existing capability of most jurisdictions could be improved.

5.2.2 Recommendations

Local Mitigation Action Plans should include strategies that will strengthen the technical capabilities of the jurisdictions and county. While there is a wide range of technical resources across the county and municipal governments, the development of a systematic protocol for sharing resources could significantly increase the level of technical capability to analyze natural hazards and develop meaningful actions to reduce their impact. The development of regional mitigation actions could also be used to assist in this effort. In all, Valley County and its jurisdictions should rely on its existing partners and local agencies to ensure those with minimal or limited resources are successful.

5.2.3 Fiscal Capability

The fiscal capability is defined as having the fiscal resources available to implement mitigation policies and projects. It was noted that fiscal capability might take the form of grants received, locally based revenue sources, or other means to fund mitigation activities. For instance, the costs associated with mitigation policy and project implementation varies widely. In some cases, policies are tied primarily to staff costs associated with the creation and monitoring of a given program. In other cases, money is linked to a project, such as property acquisition that can require a substantial commitment from local, state, and federal funding sources.

The analyses of the responses to the capability assessment indicated that there is a moderate to limited fiscal capability at the county and respective municipal levels. Fiscal capability seemed to be influenced by the jurisdictional population in that

largest jurisdiction (Valley County) seemed to rate its ability higher than less populated jurisdictions.

(NOTE: Population size is not always correlated with risk. The risk of a smaller population can be equal to or even greater than the risk of more populated areas. However, more populated jurisdictions typically have larger tax bases and/or more resources to address their risk).

5.2.4 Recommendations

To evaluate the fiscal capabilities needed to successfully implement mitigation policies and projects, jurisdictions should ask several basic questions:

- Does the action require a monetary commitment?
- Does the action require staff resources?
- Can jurisdictions combine resources with other counties or municipalities to address identified problems?
- Is the jurisdiction willing to commit local revenue on a sustained or one-time basis?

In order to implement mitigation projects and policies, some monetary commitment, or staff resources will be required. Resources may take the form of a non-federal match requirement or the cost associated with staff time devoted to mitigation policy development and implementation. County and municipal governments should consider combining financial and staff resources to achieve efficiencies in implementing mitigation activities to address hazards across the region. It is important to consider that hazards tend to impact regions and not just individual jurisdictions; thus, combining resource is often a benefit to multiple jurisdictions.

Finally, if local governments have access to ongoing sources of revenue, a comprehensive and sustained effort can be achieved. Jurisdictions are encouraged to create mitigation based revenue resources, for example, a storm-water management fee or the development of a budgetary line item that specifically addresses hazard mitigation could be adopted.

5.3 Administrative Capability

The administrative capability is defined as the ability to complete the necessary administrative elements of typical mitigation activities and project. Examples include the availability of jurisdictional staffing, ability to document mitigation progress, grant reporting, and the existing organizational resources needed to implement mitigation strategies.

The analysis of the Administrative Capability Assessment indicated there is a limited to moderate administrative capability throughout Valley County. While the Valley County example suggests that administrative capability is related to the size of the jurisdiction, regional data suggests that administrative capability is not related to the size of the jurisdictions. In most cases and more than likely in Valley County, a jurisdiction's administrative capability is dependent upon the makeup and relationships of the jurisdiction rather than the resources or population of the jurisdiction.

5.3.1 Recommendations

The enhancement of administrative capability may be achieved through county/municipal training, outreach, and mentoring. Specifically, sharing resources within jurisdictions might improve jurisdictions administrative capabilities. In addition, efforts to demonstrate the impacts of mitigation across a jurisdiction's governmental functions might increase awareness and buy-in. Finally, training of jurisdictional personnel with regard to mitigation related programs and/or the purpose of mitigation can increase specific knowledge skills and abilities.

5.4 Political Capability

One of the most difficult and sensitive capabilities to evaluate involves the political will of a jurisdiction to enact meaningful mitigation policies and projects. The fiscal capability was defined as the level of interest that both the citizens and government officials of a given jurisdiction have in conducting mitigation projects. Examples of a political capability included the existence of special interest groups organized around disaster and/or hazard-related causes. The fact of a jurisdiction having recently had a significant or reoccurring event. The jurisdiction's history of conducting mitigation projects and the willingness of elected officials to allocate resources to hazard disaster and/or mitigation projects.

According to the results of the self-assessment, Valley County, and its participating jurisdictions had contrasting levels of political capability to enact meaningful and proactive mitigation actions. Comments provided in the self-assessment from county and municipal government officials indicated that while there is an interest in disaster mitigation activities, there are planning and resources barriers, which affect the jurisdictions ability to implement comprehensive mitigation activities.

5.4.1 Recommendations

Political support from elected officials can prove to be critically important. Past events, including flooding, tornadoes, and major winter storms should be used to educate elected officials regarding the merits of mitigation planning. When possible, local governments who have implemented hazard mitigation projects should attempt to assess their effectiveness following future events.

Documenting mitigation projects and policies that work is a high priority among FEMA officials. Therefore, following disasters, local governments should work with local groups like the silver jackets, the state, and FEMA officials to evaluate and showcase the success of past mitigation projects. The results should be presented to locally elected officials in order to provide real-world examples of how mitigation can protect lives and property.

Finally, county extension offices are resources for training, education, and validation. Working with the State Land Grant University, county extension offices can provide a wealth of knowledge concerning hazard impact and the steps to mitigate them.

5.5 Conclusions on Local Capability

The capability of jurisdictions in Valley County is different from jurisdiction to jurisdiction with like sized jurisdiction often claiming the various capabilities. County-level government and the larger municipal governments typically scored higher than smaller municipalities. In addition, larger municipalities tend to function independently. An important consideration in this plan update should be the concept of comprehensive planning with the integration of mitigation planning efforts made both between and within the participating jurisdictions.

In addition to ensuring mitigationplanning efforts are integrated, strategies should be crafted to match the respective jurisdiction's reality. For example, if a jurisdiction does not have the political will to mitigate the harm caused by high winds, i.e., building a storm shelter, strategies directly stating that the jurisdiction is to build a storm shelter will not be as successful as strategies aimed at fostering education and building consensus. Strategies should use a building block approach starting with a limited achievable goal, build up to larger goals, and eventually achieve the ultimate goal. (Create awareness for the need of a storm shelter, identify partners, and build consensus regarding those who deem a storm shelter a worthy endeavor, identify funding concerning how to pay for the project, and then finally build the storm shelter)

The Valley County Multi-Jurisdictional Hazard Mitigation Plan Update contained in this plan provides the vehicle to begin the process of having a true mitigation program. However, in order to succeed it will require clearly articulating the benefits of participating in and sustaining the mitigation planning process and related mitigation based programs. One of the best ways

to obtain local buy-in and long-term success is the education, identification, and implementation of achievable mitigation actions. While promoting the mitigation plan is the responsibility of all agencies, it is highly recommended that the Valley County Disaster and Emergency Service Coordinator and other key stakeholder's lead and promote this effort.

5.6 Linking the Capability Assessment, the Risk Assessment, and the Mitigation Strategy

The conclusions of the Capability Assessment and Risk Assessment serves as the foundation for a meaningful hazard mitigation strategy. During the process of identifying the goals and mitigation actions, each jurisdiction must consider not only their level of hazard risk but also their existing capability to minimize or eliminate that risk. In jurisdictions where the overall hazard risk is considered moderate, and local capability is considered limited, then specific mitigation actions that account for these conditions should be considered. This may include less costly actions such as minor ordinance revisions or public awareness activities. If necessary, specific capabilities may need to be improved in order to better address recurring threats. Similarly, in cases where the hazard vulnerability is limited and overall capability is moderate, more emphasis can be placed on actions that may affect future vulnerability such as guiding development away from known hazard areas.

Section 6: Mitigation Goals, Objectives, & Strategies

The Mitigation Goals, Objectives, and Strategy section describe how Valley County intends to reduce or eliminate potential losses. The Mitigation Goals, Objectives, and Strategies section provides a framework for the county and participating jurisdictions to mitigate the effects of natural hazard events on their population, economy, and property. The mitigation strategy is the coordinated effort of agencies and partners to develop and implement a comprehensive range of inventive and effective natural hazard mitigation actions.

Mitigation Strategy Approach

- Establish mitigation goals and objectives that aim to reduce or eliminate long-term vulnerability to natural- hazard events
- Identify and analyze a comprehensive range of hazard-specific mitigation strategies that aim to achieve the goals and objectives of the mitigation strategy
- Describe how Valley County and participating jurisdictions will prioritize, implement, and administer mitigation strategies

The Mitigation Goals, Objectives, and Strategy section is an extension of the previous sections of this report and incorporates the findings of the hazards risk assessment to assist in prioritizing mitigation actions. In addition, the Mitigation Goals, Objectives, and Strategies section provide consideration of the findings of the capability assessment to identify mitigation actions that are manageable and address potential capability gaps. Finally, a maintenance and management section describes how the strategies are to be managed and accounted for in future updates.

FEMA Requirements Addressed in this Section

The Hazard Mitigation Planning Team developed the mitigation strategy consistent with the process and steps presented in the Federal Emergency Management Agency's (FEMA) How-To-Guide: Developing the Mitigation Plan (FEMA 386-3).

§201.6(c)(3) [The plan shall include the following:] A *mitigation strategy* that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.

§201.6(c)(3)(i) [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

§201.6(c)(3)(ii) [The hazard mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

§201.6(c)(3)(iii) [The hazard mitigation strategy shall include an] action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

§201.6(c)(3)(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

6.1 Mitigation Goals, Objectives, & Development

While Valley County and its cities have engaged in several mitigation actions over the past five years, the area remains at risk. Those hazards posing the most risk due to frequency and impact include flooding and severe winter/summer storms. Due to the increase in hazardous materials being transported through the region, hazardous material releases are an increased risk and is a heightened priority for this plan update.

This plan update includes the creation of five new all-encompassing mitigation goals versus the four hazard specific goals that were listed in the immediate past iteration of the plan. This update eliminates completed projects from the past plan, reassesses the validity of past projects as well as adds new projects. The mitigation projects were derived from the updated community profile, hazard profile, a robust 28-point risk assessment and with the input from the local governments and citizens.

6.2 Strategies/Projects

The process of creating new mitigation projects officially commenced on November 2015 with the planning team visiting each of the jurisdictions. Based on the concepts found in FEMA Publication 386-3, these meeting included a mitigation tutorial, an overview of what mitigation projects, how to identify potential projects, a review the past plan and an overview of the purpose of the mitigation plan as set by FEMA, the State of MT and the Hazard Mitigation Steering Committee. Attendees were instructed to review the existing mitigation goals, objectives, and strategies of the previous plan to determine what had been accomplished over the past five years, what projects were currently relevant and what new projects should be added to the plan update. Subsequently, the Hazard Mitigation Steering Committee, key stakeholders, and public attendees discussed the current mitigation goals, objectives, and strategies. The feedback provided from these discussions, allowed modifications to the goals, objectives, and projects as needed.

In the evaluation of mitigation strategies, stakeholders were instructed to consider the following criteria:

- Funding Options & Cost
- Staff Time
- Feasibility ((the findings of the capability assessment)
- Population Benefit
- Property Benefit
- Values Benefit
- Maintenance
- Hazard Rating

In the evaluation and creation of projects, stakeholders were asked to assess each potential project in terms of eliminating risk and probability of success. Stakeholders were also requested to consider and provide direct and indirect costs and benefits. Indirect costs and benefits were defined as intangible things such as social effects.

Upon completion of the mitigation project creation/evaluation process, the stakeholders provided a comprehensive list of desired strategies to the Hazard Mitigation Planning Team who subsequently organized the lists into common themes as well as evaluated and prioritized the submitted projects. Once the arranged actionable projects, the mitigation strategies were shared with stakeholders. Stakeholders were asked to accept, reject, modify, and or re-rank/prioritize the projects.

Once the data from all of the jurisdictions was again received, the Hazard Mitigation Planning Team again reorganized the data into a comprehensive list of strategies. The Hazard Mitigation Planning Team, who refined the list by eliminating duplication, providing succinctness, and generally organizing the strategies into a comprehensive and workable format, then reviewed the list. Once the refinement was complete, the mitigation strategies list was again shared with the participating jurisdictions and stakeholders for additional comment. After all of the comments were received and incorporated, a final list of strategies was made public for review and comment. The final comment and review section lasted approximately one month, ending at the end of January 2016.

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The following is a summary of the mitigation update planning process:

1) New goals
2) Prioritization Criteria
3) Implementation Process
4) Projects
5) Mitigation Strategy Implementation and Administration

For this update, the mitigation goals were reorganized to be more general and all encompassing. The goals were also increased from four to five. The mitigation goals were chosen and created by the Steering Committee with input from those wishing to participate.

Mitigation Goals:

- Increase community understanding of emergency management and build support for hazard mitigation
- Develop, promote, integrate and track mitigation strategies
- Continue to improve and enhance the county's emergency management program
- Increase the economic stability, core values, and quality of services of the participating jurisdictions
- Increase mitigation resources to eliminate or minimize harm done to people, property, jobs, and natural resources in Valley County by natural and manmade hazards

6.3 Hazard/Project Relationship

The hazard project relationship table establishes that each of the hazards has at least one project assigned to it. Most hazards have multiple projects assigned to them.

Table 80: Hazards Mitigated by Each Proposed Project

Projects	Flooding	Fires	Infectious Disease	HAZMAT Event	Severe Summer Storms	Severe Winter Storms	Subsidence	Tornado
Building Codes	X	X	X	X	X	X	X	X
Martin Coulee culvert	X							
NOAA Weather Radios	X	X		X	X	X		X
The Pines Wildfire Planning		X						
Hoyt Park Storm Drainage Project	X							
Flood Setbacks	X							
Growth Policy	X	X	X	X	X	X	X	X
Subdivision Regulations	X	X	X	X	X	X	X	X
Increase Capacity of Rural Firefighters		X						
Milk River Drive Stabilization	X						X	
Increase Capacity of Firefighters		X						
Develop Power Outage Plan	X	X		X	X	X		X
Fresno Dam Releases	X						X	
Update/Modernize Evacuation Plan	X	X		X	X	X		X
Portable Pump	X							
Northern-Side Diversion Box	X							
South Side Storm Water Pump Stations	X							
North-Side Water Pump Station	X							
North-Side Water Collection System	X						X	
Billingsley Road Bridge	X							
Countywide StormReady					X	X		X
Federal MOUs	X	X	X	X	X	X	X	X
Nashua Ice Jam Plan	X							
Dry Hydrants		X						
Structure Elevation Measurements	X							
Flood Mapping Improvements	X							
Baylor Bridge Replacement	X							
Beaverton Creek Bridge Replacement	X							
Snake Creek Bridge Replacement	X							
Sewage Gas Generator	X	X			X	X		X

Projects	Flooding	Fires	Infectious Disease	HAZMAT Event	Severe Summer Storms	Severe Winter Storms	Subsidence	Tornado
Critical Infrastructure Power Backs Up	X						X	
EAS Equipment		X		X				
Levee Mitigation Plan								
Milk River Channel Reroute	X						X	
Property Buys Outs					X	X		
Levee Gates Rehabilitation	X							
Public Education	X	X	X	X	X	X	X	X
Red Flag Public Information		X						
Hinsdale Ditch	X							
Nashua NFIP Improvements	X							
Nashua Gates and Backflow Valves	X							
Abandoned Building Removal		X						
Fort Peck Theater Sprinkler System		X						
Fairgrounds Drainage	X							
All Weather Storm Shelter					X	X		X
Tornado Safe Rooms								X
Electric Infrastructure Protection		X						
Universal First Responder Communications	X	X		X	X	X		X
Fire Breaks		X						
Glasgow Levee Mitigation Plan	X							
Flood Education	X							
Mowing and Brush Clearing		X						
Nashua Dikes	X							
Diversion Dams	X							
Green Meadow Estates Flood Mitigation	X							
Fencing and Alarm Systems	X	X	X	X	X	X	X	X
Mosquito Controls			X					
Valley Co. Library elevator and update for emergency shelter	X				X	X		X
Glasgow River Gage	X							
Emergency Route Ordinances	X	X		X	X	X		X
Vegetative Fuel Treatments		X						

Projects	Flooding	Fires	Infectious Disease	HAZMAT Event	Severe Summer Storms	Severe Winter Storms	Subsidence	Tornado
Hanger at Airport	X	X		X	X	X		X
Fort Peck Culvert Replacement and Installation	X						X	
Update and Maintain Siren and Public Alert Systems				X	X	X		X
Generators	X	X		X	X	X		X
Firewise Program		X						
Disease Education			X					
Glasgow Sullivan Park Mitigation	X							
Valley Co Food Bank building	X	X		X	X	X		X
Hazardous Material Route				X				
Fort Peck Emergency route road repair	X	X		X	X	X		X
Railroad Safety				X				
Disease Surveillance			X					
Fort Peck Erosion Control Critical infrastructure							X	
Valley Co. Courthouse furnace update					X	X		
Valley Co. Courthouse roof repair					X	X		

6.4 Project Prioritization

To ensure continuity from the immediate past iteration of the mitigation plan the Steering Committee decided that the action prioritization methodology of project prioritization remained the same as the previous Valley County Mitigation Plan. Thus, the philosophy and methodology remained intact from the immediate past iteration of the plan. It is again noted that each of the proposed projects has value, however, time and financial constraints do not permit all of the proposed actions to be implemented immediately. By prioritizing the actions, the most critical, cost-effective projects can be achieved in the short term. The prioritization of the projects serves as a guide for choosing and funding projects, however, depending on the funding sources, some actions may be best achieved outside the priorities established here.

To ensure that community goals and other factors are taken into account when prioritizing projects, a prioritization model that uses the following factors was again used: cost, staff time, feasibility, population benefit, property benefit, values benefit, maintenance, and hazard rating.

- **Cost** considers the direct expenses associated with the project such as material and contractor expenses.
- **Staff time** evaluates the amount of time needed by a local government employee to complete or coordinate the project.
- **Feasibility** assesses the political, social, and/or environmental ramifications of the project and the likelihood such a project would proceed through permitting, public review processes, and/or private business implementation.
- **Population benefit** considers the possible prevention of deaths and injuries through the project's implementation.

- **Property benefit** estimates the reduction of property losses, including structures and infrastructure, from the hazard being mitigated.
- **Values benefit** considers the economic, ecologic, historic, and social benefits of the project.
- Maintenance rates the amount of work required to keep the mitigation measure effective and useful.
- **Hazard rating** is based on the results of the risk assessment and is a measure of the history, probability, severity, and vulnerabilities of the hazard.

Each of the factors was ranked qualitatively for each of the projects. The methods used to assign a category and the associated score id generally defined in Table 81. The highest possible score is 30. Some factors have a greater range than others, thus indicating a higher weighting. These weightings allow for appropriate prioritization of the project. More specifically, 11 of 30 points account for benefits (population benefit, property benefit, and values benefit), 11 of 30 points account for direct and indirect costs (cost, staff time, and maintenance), 5 of 30 points account for the hazard rating (incorporates hazard probability and impacts; see Section 4.5), and 3 of 30 points account for project feasibility.

Table 81: Prioritization Criteria

Factor	Threshold	Rating	Score
Cost (Range: 1-5)	Little to no direct expenses	Low	5
	Less than $5,000	Low-Moderate	4
	$5,000-$25,000	Moderate	3
	$25,001-$100,000	Moderate-High	2
	Greater than $100,000	High	1
Staff Time (Range: 1-3)	Less than 10 hours of staff time	Low	3
	10-40 hours of staff time	Moderate	2
	Greater than 40 hours of staff time	High	1
Feasibility (Range: 1-3)	Positive support for the project	High	3
	Neutral support for the project	Moderate	2
	Negative support for the project	Low	1
Population Benefit (Range: 1-4)	Potential to reduce more than 20 casualties	Very High	4
	Potential to reduce 6-20 casualties	High	3
	Potential to reduce 1-5 casualties	Moderate	2
	No potential to reduce casualties	Low	1
Property Benefit (Range: 1-4)	Potential to reduce losses to more than 20 buildings or severe damages to infrastructure	Very High	4
	Potential to reduce losses to 6-20 buildings or substantial damages to infrastructure	High	3
	Potential to reduce losses to 1-5 buildings or slight damages to infrastructure	Moderate	2
	No potential to reduce property losses	Low	1
Values Benefit (Range: 1-3)	Provides significant benefits to economic, ecologic, historic, or social values	High	3

	Provides some benefits to economic, ecologic, historic, or social values	Moderate	2
	None or very little benefit to economic, ecologic, historic, or social values	Low	1
Maintenance (Range: 1-3)	Requires very little or no maintenance	Low	3
	Requires less than 10 hours per year	Moderate	2
	Requires more than 10 hours per year	High	1
Hazard Rating (Range: 1-5)	See the appropriate hazard risk assessment	High	3
	See the appropriate hazard risk assessment	Moderate	2
	See the appropriate hazard risk assessment	Low	1

The following table provided an overview of all of the projects and priority scorecard.

Table 82: Project Score Card

Jurisdictions	Projects	Cost	Staff Time	Feasibility	Population Benefit	Property Benefit	Values Benefit	Maintenance	Hazard Rating	TOTAL SCORE
Fort Peck, Glasgow, Nashua, & Valley County	Building Codes	4	3	2	4	4	2	1	5	25
Valley County	Martin Coulee culvert	3	2	3	4	2	2	3	5	24
Fort Peck, Glasgow, Nashua, & Valley County	NOAA Weather Radios	4	2	3	4	1	2	3	5	24
Valley County	The Pines Wildfire Planning	5	1	3	3	3	2	2	5	24
Glasgow	Hoyt Park Storm Drainage Project	2	1	3	4	4	3	2	5	24
Glasgow, Nashua and Valley County	Flood Setbacks	5	2	2	2	4	2	2	5	24
Fort Peck, Glasgow, Nashua, & Valley County	Growth Policy	5	2	2	3	4	2	1	5	24
Fort Peck, Glasgow, Nashua, & Valley County	Subdivision Regulations	5	2	2	3	4	2	1	5	24
Opheim	Increase Capacity of Rural Fire Fighters	1	2	3	4	4	3	3	3	23
Glasgow	Milk River Drive Stabilization	4	2	2	2	3	2	3	5	23
Fort Peck	Increase Capacity of Fire Fighters	1	2	3	4	4	3	3	3	23
Fort Peck, Glasgow, Nashua, & Valley County	Develop Power Outage Plan	3	3	4	1	4	2	3	3	23
Valley County	Fresno Dam Releases	5	2	2	2	3	2	2	5	23
Nashua	Update/Modernize Evacuation Plan	2	2	3	4	3	2	2	5	23
Nashua	Portable Pump	4	2	3	1	4	2	2	5	23
Glasgow	Northern-Side Diversion Box	1	1	3	4	4	3	2	5	23
Glasgow	South Side Storm Water Pump Stations	1	1	3	4	4	3	2	5	23
Glasgow	North-Side Water Pump Station	1	1	3	4	4	3	2	5	23
Glasgow	North-Side Water collection system	1	1	3	4	4	3	2	5	23
Glasgow	Billingsley Road Bridge	1	1	3	4	4	3	2	5	23

Jurisdictions	Projects	Cost	Staff Time	Feasibility	Population Benefit	Property Benefit	Values Benefit	Maintenance	Hazard Rating	TOTAL SCORE
Fort Peck, Glasgow, Nashua, & Valley County	Countywide StormReady	5	2	3	3	1	2	2	5	23
Fort Peck, Glasgow, Nashua, & Valley County	Federal MOUs	5	2	2	2	3	2	2	5	23
Nashua	Nashua Ice Jam Plan	3	1	3	4	3	3	1	5	23
Fort Peck, Nashua, Opheim and Valley county	Dry Hydrants	3	2	2	2	3	2	3	5	22
Fort Peck, Glasgow, Nashua, & Valley County	Structure Elevation Measurements	4	1	2	3	2	2	3	5	22
Fort Peck, Glasgow, Nashua, & Valley County	Flood Mapping Improvements	1	2	2	3	4	2	3	5	22
Valley County	Baylor Bridge Replacement	1	1	3	4	3	3	2	5	22
Valley County	Beaverton Creek Bridge Replacement	1	1	3	4	3	3	2	5	22
Valley County	Snake Creek Bridge Replacement	1	1	3	4	3	3	2	5	22
Nashua	Sewage Gas Generator	3	2	3	1	4	2	2	5	22
Fort Peck, Nashua Opheim,	Critical Infrastructure Power Back Up	3	2	3	1	4	2	2	5	22
Fort Peck, Glasgow, Nashua, & Valley County	EAS Equipment	3	2	3	4	1	2	2	5	22
Nashua	Levee Mitigation Plan	1	1	3	4	4	3	1	5	22
Nashua	Milk River Channel Reroute	1	1	3	4	4	3	1	5	22
Nashua	Property Buy Outs	1	1	3	4	4	3	1	5	22
Glasgow	Levee Gates Rehabilitation	1	1	3	4	4	3	1	5	22
Fort Peck, Glasgow, Nashua, & Valley County	Public Education	4	1	2	4	3	2	1	5	22
Fort Peck, Glasgow, Nashua, & Valley County	Red Flag Public Information	5	2	2	2	3	2	1	5	22
Valley County	Hinsdale Ditch	2	2	2	2	3	2	3	5	21
Nashua	Nashua NFIP Improvements	5	2	2	1	1	2	3	5	21
Nashua	Nashua Gates and Backflow Valves	3	2	2	1	3	2	3	5	21
Fort Peck, Nashua	Abandoned Building Removal	2	2	2	2	3	2	3	5	21
Fort Peck	Fort Peck Theater Sprinkler System	3	2	2	2	2	2	3	5	21
Valley County	Fairgrounds Drainage	2	2	3	2	3	2	2	5	21
Opheim	All Weather Storm Shelter	2	1	3	4	3	3	2	3	21
Glasgow	Tornado Safe Rooms	3	2	2	4	1	2	2	5	21
Fort Peck, Glasgow, Nashua, & Valley County	Electric Infrastructure Protection	1	1	2	3	4	3	2	5	21
Fort Peck, Glasgow, Nashua, & Valley County	Universal First Responder Communications	1	2	2	4	4	2	2	4	21
Opheim, Fort Peck	Fire Breaks	3	1	2	2	4	3	1	5	21
Glasgow	Glasgow Levee Mitigation Plan	1	1	3	4	3	3	1	5	21
Fort Peck, Glasgow, Nashua, & Valley County	Flood Education	4	1	2	3	3	2	1	5	21
Fort Peck, Glasgow, Nashua, & Valley County	Mowing and Brush Clearing	4	1	2	2	4	2	1	5	21

Jurisdictions	Projects	Cost	Staff Time	Feasibility	Population Benefit	Property Benefit	Values Benefit	Maintenance	Hazard Rating	TOTAL SCORE
Nashua, Valley County	Nashua Dikes	1	2	2	2	3	2	3	5	20
Glasgow, Nashua, & Valley County	Diversion Dams	1	2	2	2	3	2	3	5	20
Glasgow	Green Meadow Estates Flood Mitigation	1	1	2	2	4	2	3	5	20
Fort Peck, Glasgow, Nashua, & Valley County	Fencing and Alarm Systems	2	2	2	3	3	2	3	3	20
Fort Peck, Glasgow, Nashua, & Valley County	Mosquito Controls	3	2	3	4	1	1	3	3	20
Valley County	Valley Co. Library elevator and update for emergency shelter	1	1	3	4	3	3	2	3	20
Glasgow	Glasgow River Gage	3	2	2	3	1	2	2	5	20
Fort Peck, Glasgow, Nashua, & Valley County	Emergency Route Ordinances	5	2	2	2	1	1	2	5	20
Fort Peck, Glasgow, Nashua, & Valley County	Vegetative Fuel Treatments	2	2	2	2	3	2	2	5	20
Valley County	Hanger at Airport	1	2	2	4	1	2	2	5	19
Fort Peck	Fort Peck Culvert Replacement and Installation	3	2	3	2	2	2	2	3	19
Fort Peck, Glasgow, Nashua, & Valley County	Update and Maintain Siren and Public Alert Systems	1	2	2	4	1	2	2	5	19
Fort Peck, Glasgow, Nashua, & Valley County	Generators	1	2	2	3	2	2	2	5	19
Fort Peck, Glasgow, Nashua, & Valley County	Firewise Program	2	1	2	2	4	2	1	5	19
All	Disease Education	4	2	2	4	1	2	1	3	19
Glasgow	Glasgow Sullivan Park Mitigation	1	1	3	1	2	2	3	5	18
Valley County	Valley Co Food Bank Building	1	2	3	4	1	2	2	3	18
Fort Peck, Nashua	Hazardous Material Route	1	1	2	2	3	2	2	5	18
Fort Peck	Fort Peck Emergency Route Road Repair	2	1	3	3	2	2	2	3	18
Glasgow, Nashua, & Valley County	Railroad Safety	4	1	2	3	2	2	1	3	18
Fort Peck, Glasgow, Nashua, & Valley County	Disease Surveillance	4	1	2	4	1	2	1	3	18
Fort Peck	Fort Peck Erosion Control Critical infrastructure	1	3	2	1	1	3	3	2	16
Valley County	Valley Co. Courthouse furnace update	1	2	3	1	1	2	2	3	15
Valley County	Valley Co. Courthouse roof repair	1	2	3	1	1	2	2	3	15

6.5 Implementation Process

A critical component of any mitigation program is the implementation of the mitigation projects. The proposed and prioritized projects are shown in Table 83 with the associated responsible stakeholders, resources needed, and goal timeframes for the projects. The timeframes are defined as follows:

- Near Term: Within 0-3 years
- Mid Term: Within 3-6 years
- Long Term: Within 7-10 years
- Ongoing: Initiated in the near, mid, or long term and continuing

Note: Some projects may be best achieved outside of the goal timeframes depending on the funding and staff resources available. Others may not be feasible in the goal timeframe due to financial, staff, or political limitations. This prioritized list, however, allows the county, city, and towns to focus on the projects with the greatest benefits.

6.5.1 Mitigation Projects

The county and participating jurisdictions recognize the importance of incorporating mitigation into the overlapping emergency management functions (prepare, respond, recover), existing local and state building codes, zoning ordinances, and various plans (land use, community development, water improvement development, etc.). For this reason, the provided list of comprehensive all-hazard mitigation strategies also identify strategies that would, and will, improve the county's and participating jurisdiction's emergency management capabilities, while creating communities that are resilient in the face of disaster. The development of this plan has provided Valley County and its participants with a unique opportunity to assess current capabilities, identify gaps, and evaluate the strategies needed to improve the ability to protect the county and participating jurisdictions.

The following is a table of complete actions in order of their priority score. The Table also illustrates the jurisdiction(s) owning the project, coordinating agency, resources and the goal frame of each project.

Table 83: Mitigation Projects

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
Valley County City of Glasgow Towns of Fort Peck and Nashua	Building Codes	County Commission Town Councils	Staff Time Technical Expertise	Near Term	25
Valley County	Martin Coulee Culvert	County Commission NFIP Coordinator	Staff Time Technical Expertise	Near Term	24
Valley County City of Glasgow Towns of Fort Peck and Nashua	NOAA Weather Radios	County Commission City and Town Councils Valley County LEPC National Weather Service	Staff/Volunteer Time Funding	Near Term Ongoing	24
Valley County	The Pines Wildfire Planning	Fire Department US Army Corps of Engineers US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Planning Expertise	Near Term Ongoing	24
City of Glasgow	Hoyt Park Storm	City Council	Staff Time	Near Term	24

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
	Drainage Project (SWIF Plan)	NFIP Coordinator	Technical Expertise		
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Setbacks	County Commission City and Town Councils NFIP Coordinator	Staff Time Technical Expertise	Near Term	24
Valley County City of Glasgow Towns of Fort Peck and Nashua	Growth Policy	County Commission City and Town Councils	Staff/Volunteer Time Funding	Near Term Ongoing	24
Valley County City of Glasgow Towns of Fort Peck and Nashua	Subdivision Regulations	County Commission	Staff Time Planning Expertise Technical Expertise	Near Term	24
Towns of Fort Peck and Opheim	Increase Capacity of Rural Firefighters	Opheim and Fort Peck Town Councils	Staff Time Technical Expertise Funding	Near Term	23
Town of Nashua	Milk River Drive Stabilization	Nashua Town Council Valley County Road Department	Staff Time Technical Expertise Funding	Mid Term	23
Valley County City of Glasgow Towns of Fort Peck and Nashua	Develop Power Outage Plan	County Commission Valley DES City and Town Councils	Staff Time Technical Expertise	Near Term	23
Valley County City of Glasgow · Town of Nashua	Fresno Dam Releases	County Commission Glasgow City Council Nashua Town Council US Bureau of Reclamation Montana DNRC	Staff Time Partner Participation Technical Expertise	Near Term Ongoing	23
Nashua	Update/Moderni ze Evacuation Plan	Nashua Town Council Valley County DES	Staff Time Technical Expertise Funding	Near Term	23
Nashua	Portable pump	Nashua Town Councils	Staff Time Technical Expertise	Near Term	23
City of Glasgow	Northern-Side Diversion Box (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	23
City of Glasgow	South Side Storm Water Pump Stations (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	23
City of Glasgow	North-Side Water Pump Station (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	23

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
City of Glasgow	North-Side Water collection system (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	23
City of Glasgow	Billingsley Road Bridge (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	23
Valley County Towns of Fort Peck, Nashua, and Opheim	Countywide StormReady	Valley County LEPC Valley County DES National Weather Service	Staff Time Partner Participation	Near Term	23
Valley County City of Glasgow Towns of Fort Peck and Nashua	Federal MOUs	Fire Department County Commission City and Town Councils US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Partner Participation Technical Expertise	Near Term Ongoing	23
Town of Nashua	Nashua Ice jam plan	Town Council Valley County DES NFIP Coordinator	Staff Time Technical Expertise	Near Term	23
Valley County City of Glasgow Towns of Fort Peck, Opheim, and Nashua	Dry Hydrants	Fire Department	Staff/Volunteer Time Technical Expertise Public Participation Funding	Near Term Ongoing	22
Valley County City of Glasgow Towns of Fort Peck and Nashua	Structure Elevation Measurements	County Commission City and Town Councils	Staff Time Technical Expertise	Near Term	22
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Mapping Improvements	NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term	22
Valley County	Baylor Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term	22
Valley County	Beaverton Creek Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term	22
Valley County	Snake Creek Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term	22
Nashua	Sewage gas generator	Nashua Town Council	Staff Time Technical Expertise	Near Term	22
Fort Peck, Nashua Opheim,	Critical Infrastructure Power Backs Up	Towns Councils Valley County DES	Staff Time Technical Expertise Funding	Near Term	22

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
Valley County City of Glasgow Towns of Fort Peck and Nashua	EAS Equipment	Valley County DES Valley County LEPC National Weather Service Radio Station	Staff Time Technical Expertise Funding	Near Term	22
Nashua	Levee Mitigation Plan	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term	22
Nashua	Milk River Channel Reroute	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term	22
Nashua	Property Buys Outs	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term	22
Glasgow	Levee Gates Rehabilitation (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	22
Valley County City of Glasgow Towns of Fort Peck and Nashua	Public Education	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	22
Valley County City of Glasgow Towns of Fort Peck and Nashua	Red Flag Public Information	Fire Department	Staff/Volunteer Time Partner Participation Public Participation	Near Term Ongoing	22
Valley County	Hinsdale Ditch	County Commission	Staff Time Technical Expertise Funding	Mid Term	21
Town of Nashua	Nashua NFIP Improvements	Town of Nashua Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Funding	Mid Term	21
Town of Nashua	Nashua Gates and Backflow Valves	Nashua Town Council	Staff Time Technical Expertise Partner Participation Funding	Mid Term	21
Valley County City of Glasgow Towns of Fort Peck and Nashua	CRP Land Haying	County Commission City and Town Councils Fire Department Farm Service Agency	Staff/Volunteer Time Partner Participation	Mid Term Ongoing	21
Towns of Fort Peck, Nashua, and Opheim	Abandoned Building Removal	Town Councils Fire Department	Staff/Volunteer Time Funding	Mid Term Ongoing	21
Town of Fort Peck	Fort Peck	Fort Peck Fine Arts Council	Partner Participation	Mid Term	21

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
	Theater Sprinkler System	Fire Department and private owner	Funding		
Valley County	Fairgrounds drainage	County Commission	Staff Time Technical Expertise Funding	Mid Term	21
Opheim	All weather storm shelter	Opheim Town Council Valley DES	Staff Time Technical Expertise Funding	Near Term	21
Towns of Nashua and Opheim	Tornado Safe Rooms	Town Councils	Staff Time Technical Expertise Funding	Mid Term	21
Valley County City of Glasgow Towns of Fort Peck and Nashua	Electric Infrastructure Protection	Fire Department	Staff Time Technical Expertise Partner Participation Funding	Mid Term Ongoing	21
Valley County City of Glasgow Towns of Fort Peck and Nashua	Universal First responder communications	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	21
Valley County City of Glasgow Towns of Fort Peck and Nashua	Fire Breaks	County Commission City and Town Councils Fire Department Montana DNRC US Bureau of Land Management Corps of Engineer	Staff/Volunteer Time Public Participation Funding	Mid Term Ongoing	21
City of Glasgow	Glasgow Levee Mitigation Plan (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	21
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Education	NFIP Coordinator Valley County DES Valley County LEPC National Weather Service	Staff Time Technical Expertise Public Participation	Mid Term	21
Valley County City of Glasgow Towns of Fort Peck, Nashua, and Opheim	Mowing and Brush Clearing	County Commission City and Town Councils Fire Department Railroad US Army Corps of Engineers	Staff/Volunteer Time Public Participation Funding	Mid Term Ongoing	21
Town of Nashua	Nashua Dikes	Nashua Town Council NFIP Coordinator	Staff Time Technical Expertise Funding	Near Term	20
Valley County	Diversion Dams	County Commission NFIP Coordinator	Staff Time Technical Expertise Funding	Long Term	20

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
City of Glasgow	Green Meadow Estates Flood Mitigation	City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	20
Valley County Towns of Fort Peck, Nashua, and Opheim	Fencing and Alarm Systems	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	20
Valley County City of Glasgow Towns of Fort Peck and Nashua	Mosquito Controls	County Commissioners City Councils	Staff Time Technical Expertise	Near Term	20
Valley County	Valley Co. Library Elevator and Update for Emergency Shelter	County Commission	Staff Time Technical Expertise Funding	Mid Term	20
Valley County City of Glasgow · Town of Nashua	Glasgow River Gage	NFIP Coordinator National Weather Service US Geological Survey	Staff Time Technical Expertise Funding	Long Term	20
Valley County City of Glasgow Towns of Fort Peck and Nashua	Emergency Route Ordinances	County Commission City and Town Councils Fire Department Hospital Railroad	Staff/Volunteer Time Partner Participation	Long Term Ongoing	20
Valley County City of Glasgow Towns of Fort Peck and Nashua	Vegetative Fuel Treatments	County Commission Fire Department Montana DNRC US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Funding Technical Expertise	Long Term	20
Valley County	Hanger at Airport	County Commission	Staff Time Technical Expertise Funding	Mid Term	19
Fort Peck	Fort Peck Culvert Replacement and Installation	For Peck Town Council	Staff Time Technical Expertise Funding	Mid Term	19
Valley County City of Glasgow Towns of Fort Peck and Nashua	Update and Maintain Siren and Public Alert Systems	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	19
Valley County City of Glasgow Towns of Fort Peck and Nashua	Generators	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	19

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe	TOTAL SCORE
Valley County City of Glasgow Towns of Fort Peck and Nashua	Firewise Program	County Commission City and Town Councils Fire Department Montana DNRC US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing	19
Valley County City of Glasgow Towns of Fort Peck and Nashua	Disease Education	County Health Department	Staff Time Technical Expertise Public Participation	Long Term	19
City of Glasgow	Glasgow Sullivan Park Mitigation (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term	18
Valley County	Valley Co Food Bank building	County Commissioners	Staff Time Technical Expertise	Near Term	18
Fort Peck, Nashua	Hazardous Material Route	Nashua Town Council;	Staff Time Technical Expertise	Near Term	18
Fort Peck	Fort Peck Emergency route road repair	Fort Peck Town Council	Staff Time Technical Expertise	Near Term	18
Valley County City of Glasgow · Town of Nashua	Railroad Safety	Fire Department County Commission Glasgow City Council Nashua Town Council Railroad National Weather Service	Staff/Volunteer Time Partner Participation Technical Expertise	Near Term Ongoing	18
Valley County City of Glasgow Towns of Fort Peck and Nashua	Disease Surveillance	County Health Department Health Care Providers	Staff Time Technical Expertise Partner Participation	Long Term	18
Fort Peck	Fort Peck Erosion Control Critical Infrastructure	Fort Peck Town Council Corps Of Engineers	Staff Time Technical Expertise Funding	Mid Term	16
Valley County	Valley Co. Courthouse Furnace Update	County Commission	Staff Time Technical Expertise Funding	Mid Term	15
Valley County	Valley Co. Courthouse Roof Repair	County Commission	Staff Time Technical Expertise Funding	Mid Term	15

Mitigation strategies are the foundation of a truly effective emergency management program. Mitigation, as defined by FEMA, is any strategy taken to eliminate or reduce long-term risk to human life and property from the consequences of natural, and human-caused hazards. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and

repeated damage. Mitigation efforts provide value to the Valley county residents by creating safer communities and reducing the loss of life and property. The benefits of implementing mitigation strategies include:

- Mitigation creates safer communities by reducing losses of life and property
- Mitigation enables individuals and communities to recover more rapidly from disasters
- Mitigation lessens the financial impact of disasters on individuals, the Treasury, state, local and tribal communities

6.5.2 Plan Implementation and Alignment

Valley County and participating jurisdictions feel that it is imperative to make mitigation a way of life for its participating jurisdictions, agencies, and general community. In order to implement sustainable and resilient strategies, it is essential to integrate mitigation into other community planning initiative. Existing planning mechanism was used to assist the Hazard Mitigation Steering Committee and local jurisdictions in identifying areas where hazard mitigation information and/or actions may be incorporated.

During the planning process, the county and participating jurisdictions were asked to investigate opportunities to incorporate mitigation measures that would meet the goals and objectives of this plan as well as the implementation and alignment of the plan into existing programs/policies/plans as outlined in Table 84 shown below (see the Capability Assessment for additional insights).

Table 84: Programs/Policies/Plans

Programs/Policies/Plans	Mitigation Integration/ Alignment Required	Represented Jurisdictions
City of Glasgow SWIF Plan	Completed 2015	City of Glasgow
City of Glasgow Building Codes	Ongoing	City of Glasgow
Valley County Emergency Operations Plan	Ongoing	All Participating Jurisdictions
Valley County Flood Hazard Mitigation Plan	Ongoing	All Participating Jurisdictions
Valley County Growth Policy	Ongoing	All Participating Jurisdictions
Valley County Emergency Operations Plan	Ongoing	All Participating Jurisdictions
Valley County Resource Use Plan	Ongoing	All Participating Jurisdictions
Valley County Subdivision Regulations	Ongoing	All Participating Jurisdictions
Montana State Multi-Hazard Mitigation Plan	Yes I/A	All Participating Jurisdictions
Montana State Building Code	Yes I/A	All Participating Jurisdictions

NOTE: This table represents areas where the plan update may be incorporated. The actual implementation process is outlined below.

One of the implementation steps of the mitigation plan is to revise all of the plans to incorporate the mitigation actions identified in this plan. To accomplish the integration of mitigation actions, the Valley County Emergency Service Coordinator will contact the individuals responsible for the above-listed plans, and request that those documents incorporate or reference relevant portions of this plan.

Revisions to these documents will follow the revision or amendment guidelines established for each plan. In addition, the Valley County Emergency Service Coordinator will send a letter to the pertinent organizations to ensure plan incorporation.

Table 85: Jurisdictional Process for Mitigation Incorporation

Jurisdiction	Form of Governance	Point of Contact
Glasgow	Mayor/Council	Becky Erickson
Fort Peck	Mayor/Council	John Jones
Nashua,	Mayor/Council	Allen Bunk
Opheim	Mayor/Council	Doug Bailey
Valley County	County Commissioners	Dave Reinhardt

As Valley County, the City of Glasgow, and the Towns of Fort Peck, Nashua, and Opheim develop new plans, such as capital improvement plans, and existing plans are updated, the new plans and updates will utilize the hazard information and projects identified in this mitigation plan for consideration and inclusion. Table 86 shows examples of projects and how they can be incorporated into existing and future planning documents. Note that some proposed mechanisms may not be feasible at this time due to the staff, technical expertise, and financial exist in the county and jurisdictions, the information in this mitigation plan will be valuable for future planning efforts. Resources need to implement the program.

Table 86: Mitigation Strategies

Existing or Anticipated Plan	Mitigation Strategies	Estimated Revision or Creation Timeframe
Building Codes	Adopt building codes that require disaster resistance to hazards such as severe thunderstorms, the wind, tornadoes, floods, wildfire, winter storms, terrorism, and earthquakes.	Near Term*
Capital Improvement Plans	When developed, consider and include projects related to hazard mitigation, such as transportation and public utility infrastructure improvements, in the capital improvements schedule.	Long Term*
Ordinances	Adopt ordinances that create disaster resistance such as mowing and fire reduction ordinances and flood ordinances.	Mid Term
Zoning	Update or create zoning ordinances to limit development in high hazard areas.	Near Term*
Valley County Community Wildfire Protection Plan	Create a plan that meets federal standards and identifies hazards and mitigation measures specific to wildfire.	Mid Term
Valley County Emergency Operations Plan	Integrate the operational, response, training, and preparedness needs that are not directly tied to mitigation into the county's emergency operation plan	Mid Term
Valley County Growth Policy	Further, incorporate elements of the risk assessment and mitigation strategy into the county's growth policy, considering sustainability and disaster resistance a top priority.	Near Term
Valley County Subdivision Regulations	Include elements of the risk assessment and mitigation strategy in the county's subdivision regulations, considering sustainability and disaster resistance a top priority.	Near Term
Note: Some activities such as building codes and land use regulations are more easily implemented by some communities than others because of the community, planning, and enforcement resources available.		

Section 7: Monitor and Maintain the Mitigation Plan

The Plan Maintenance section of Sheridan County 2016 Hazard Mitigation Plan describes the formal process that will ensure the mitigation plan remains an effective and relevant document. This section establishes the method and schedule for monitoring, evaluating, and updating the Hazard Mitigation Plan during a five-year planupdate cycle and establishes how Valley County will maintain community involvement in the plan.

Plan Maintenance Approach

- Incorporate hazard mitigation actions into existing planning mechanisms
- Determine how mitigation projects and actions will be monitored
- Establish indicators of effectiveness or success
- Develop an evaluation and revision schedule to ensure the Plan is up-to-date at the end of the five-year-cycle
- Establish a process for public input and community involvement during the planning cycle

FEMA Requirements Addressed in this Section

The Valley County Hazard Mitigation Steering Committee created the plan maintenance strategy consistent with the process and steps presented in the Federal Emergency Management Agency's (FEMA) How-To Guide: Bringing the Plan to Life (FEMA 386-4). The following FEMA requirements are addressed in this section:

§201.6(c)(4)(i): The plan maintenance process shall include a section describing the method and schedule for monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

§201.6(c)(4)(ii): The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans where appropriate.

§201.6(c)(4)(iii): The plan maintenance process shall include a discussion on how the community will continue public participation in the plan maintenance process.

7.1 Development and Acceptance

Maintaining the Valley County Mitigation Plan is crucial if Valley County is to have a comprehensive mitigation program. This section creates a maintenance timeline, assigning accountability, creates oversight, and governance.

The Hazard Mitigation Planning Team created the monitor and maintenance a section of the mitigation plan. The section was presented to the Valley County Disaster and Emergency Services Coordinator for comment and acceptance. Following some very slight modifications, this section was put out for review and comment and officially accepted for inclusion in the plan.

7.2 Process

During the five-year planning cycle, the Valley County Disaster and Emergency Services Coordinator will undertake the following initiatives:

- Collect annual information from the agencies involved in implementing mitigation projects or activities identified in the Mitigation Strategy section of this plan
- Maintain and update the mitigation action table
- Conduct site visits and obtain reports of completed or initiated mitigation actions to incorporate in the plan revision as needed
- Research and document new natural disaster information pertaining to Valley County during the planning cycle and incorporate into a revised risk assessment section as needed
- Organize (at a minimum) annual meetings with each of the participating jurisdictions and county commissioners to discuss relevant hazard mitigation issues, provide status updates, and discuss available grant opportunities
- Organize biannual meetings with mitigation steering committee members to discuss relevant hazard mitigation issues, provide status updates, and discuss available grant opportunities
- Coordinate, compile, and disseminate hazard mitigation funding information and applications
- Convene a meeting of the Hazard Mitigation Steering Committee within a timely period following a natural disaster, when funding is announced to prioritize and submit potential mitigation actions for funding and/or at the direction of the Disaster and Emergency Services Coordinator

The above activities outline plan maintenance during the four years leading up to the fifth year of the planning cycle (2016-2021). Beginning in August 2017, the Valley County Disaster and Emergency Services Coordinator will reconvene the Planning Committee to discuss and update the status of the hazard mitigation actions listed in the plan. The Valley County Disaster and Emergency Services Coordinator will be responsible for ensuring the compilation, documentation, and incorporation of all changes derived from the activities listed above into a revised plan document.

7.3 Evaluation

The hazard mitigation plan will be evaluated annually to determine the effectiveness of its projects, programs, and policies. The Valley County Disaster and Emergency Services Coordinator will be responsible for scheduling and organize the planning meetings, collecting, analyzing and incorporating annual reports, and providing revised drafts to the Hazard Mitigation Steering Committee. Annually the Hazard Mitigation Steering Committee members will assess the current version of the plan and determine the improvements necessary for the plan update. The Valley County Disaster and Emergency Services Coordinator will evaluate the Hazard Mitigation Steering Committee to determine if other agencies should be added.

A thorough examination of the plan will take place during the fifth year of the process to ensure Valley County has an updated hazard mitigation plan at the end of the planning cycle. The Hazard Mitigation Steering Committee will review the goals and action items to determine their relevance to changing situations in the county, as well as changes in state or federal policy, and to ensure they are addressing current and expected conditions. The Hazard Mitigation Steering Committee will look at any changes in county funding and other resources that may influence plan implementation, and program changes to determine the need for reassignment. The Hazard Mitigation Steering Committee will review all portions of the plan to determine if this information should be updated or modified given any newly available data.

7.4 Plan Evaluation Criteria

The follow criteria will utilized to evaluate the plan.

- Are the mitigation actions effective?
- Are there any changes in land development that affect mitigation priorities?
- Do the goals, objectives, and action items meet social, technical, administrative, political, legal, economic, and environmental criteria as defined in the mitigation project section of this plan?
- Are the goals, objectives, and mitigation actions relevant given any changes in Valley County?
- Are the goals, objectives, and mitigation actions relevant given any changes to state or federal regulations or policy?
- Is there any new data that affects the Risk Assessment portion of the plan?

7.5 Update

The Valley County Disaster and Emergency Services Coordinator will ensure the Hazard Mitigation Steering Committee updates the Hazard Mitigation Plan every five years to reflect the results of the annual reports and on-going plan evaluation. Throughout the planning cycle, the Valley County Disaster and Emergency Services Coordinator will ensure that new information is compiled and incorporated into the plan. The Valley County Disaster and Emergency Services Coordinator will also incorporate recommended comments expressed by FEMA in the initial review into the plan revision. At the end of the planning cycle, the Hazard Mitigation Steering Committee will submit the updated plan to the State Emergency Management Office and FEMA for review. After FEMA has approved the plan, the county will again formally adopt the plan. The following table is an outline of how the plan will be updated upon FEMA-approval:

Table 87: Plan Update Schedule

Timeframe	Participant	Outcome
First Quarter 2017	Hazard Mitigation Steering Committee Participating Jurisdictions	Reconvene Planning Committee to discuss mitigation action progress and possible plan improvements.
First Quarter 2018	Hazard Mitigation Steering Committee Participating Jurisdictions	Reconvene Planning Committee to discuss mitigation action progress and possible plan improvements.
First Quarter 2019	Hazard Mitigation Steering Committee Participating Jurisdictions	Reconvene Planning Committee to discuss mitigation action progress and possible plan improvements.
Fourth Quarter 2019	Hazard Mitigation Steering Committee Participating Jurisdictions County Commissioners	Apply for plan update grant funding
First Quarter 2020	Hazard Mitigation Steering Committee Participating Jurisdictions	Reconvene Planning Committee to discuss mitigation action progress and possible plan improvements.
Fourth Quarter 2020	Hazard Mitigation Steering Committee Participating Jurisdictions MT DES	Reconvene Hazard Mitigation Planning Team and begin plan update. Coordinate monthly meetings with Hazard Mitigation Steering Committee.
First Quarter 2021	Hazard Mitigation Steering Committee Participating	Continue plan update.

Timeframe	Participant	Outcome
	Jurisdictions MT DES	
Fourth Quarter 2021	Hazard Mitigation Steering Committee Participating Jurisdictions MT DES	Submit plan to FEMA for final approval

7.6 Incorporation into Existing Planning Mechanisms

As part of the local capability assessment conducted during the planning process, the Hazard Mitigation Steering Committee identified current plans, programs, policies/ordinances, and studies/reports that will augment or help support mitigationplanning efforts. The Hazard Mitigation Steering Committee will meet on an annual basis, and will be the mechanism for ensuring the county integrates hazard mitigation into its future planning activities. Following plan approval and adoption, the Hazard Mitigation Steering Committee and participating jurisdictions will work to incorporate, where applicable, the plan into the planning mechanisms identified in the mitigation action section.

Throughout the plan maintenance cycle, the Valley County Disaster and Emergency Services Coordinator will work with the county and participate jurisdictions to integrate hazard mitigation goals and actions into the general operations of Valley County agencies. The Valley County Disaster and Emergency Services Coordinator will work with agencies to identify opportunities as outlined below:

- Update work plans, policies, or procedures to include hazard mitigation concepts
- Identify potential mitigation funding within capital and operational budgets
- Issue plans, policies, executive orders, regulations, or other directives to carry out mitigation actions
- Add hazard mitigation elements to redevelopment plans

7.7 Continued Public Involvement

Valley County is dedicated to continued public involvement in the hazard mitigation planning and review process. During all phases of plan maintenance, the public will have the opportunity to provide feedback. The 2016 plan will be maintained and available for review on the county website. Individuals will have an opportunity to submit comments for the plan update at any time. The Valley County Disaster and Emergency Services Coordinator will compile all comments and present them at the annual Hazard Mitigation Steering Committee meetings, where members will consider them for incorporation into the revision. To help publicize the revised plan six months prior to the submission of the 2021 plan update, Valley County will post a notice on its website requesting feedback on an updated draft plan. The Hazard Mitigation Planning Team will hold community involvement meetings with representatives from academic institutions, the private sector, community groups, and neighboring jurisdictions. This will provide the public an opportunity to express their concerns, opinions, or ideas about any updates/changes that are proposed to the plan.

7.8 The Hazard Mitigation Steering Committee

The Hazard Mitigation Steering Committee oversees changes and modifications to the county plan, and will regularly review each goal and objective to determine its relevance to the changing situation of the county. The Hazard Mitigation Steering Committee will also monitor and evaluate the mitigation strategies in this plan to ensure that the document reflects current hazard/risk analysis, development trends, code changes, and risk perceptions.

The Hazard Mitigation Steering Committee and the participating jurisdictions agree that outreach and input will be solicited throughout the plan's lifecycle through workshops, presentations, meetings, the internet, and other public information and education campaigns.

To ensure the plan is up to date and relevant the Hazard Mitigation Steering Committee meets annually, within a timely manner after any actual or exercised disaster, and/or at the direction of the Valley County DES Coordinator.

7.9 Participating Jurisdictions

Participating jurisdictions are key stakeholders within the Valley County Mitigation Plan and have agreed to be an active participant in the mitigation process. While not required, participating jurisdictions may be active Hazard Mitigation Steering Committee members. Participating jurisdictions are welcome to attend mitigation-planning meetings and/or review the minutes of the meetings.

The participating jurisdictions have agreed to ensure the mitigation plan is current and relevant. Participating jurisdictions agree to provide updates of appropriate activities occurring within their jurisdictions on a regular basis, and/or at the direction of the Valley County DES Coordinator.

Participating jurisdictions have agreed to ensure that within their own jurisdictions the mitigation plan is integrated into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate. Jurisdictions also agree to work with the Valley County Disaster and Emergency Services Coordinator to identify areas of plan integration, as well as provide annual progress reports of the integration of the mitigation plan into existing and or new plans. Conversely, the Valley County Disaster and Emergency Services Coordinator agrees to ensure participating jurisdictions are included in the planning process, particularly when plan updates will affect the participating jurisdictions, and when or if changes are made to the mitigation plan. Furthermore, the participating jurisdictions agree to work with the Valley County Disaster and Emergency Services Coordinator and Hazard Mitigation Steering Committee when requested.

Appendix A: Mitigation Funding Sources

Funding for mitigation projects exists from a multitude of sources. Some sources may be specifically designed for disaster mitigation activities, while others may have another overarching purpose that certain mitigation activities may qualify for. Most mitigation funding sources are recurring through legislation or government support. Some, however, may be from an isolated instance of financial support. Whenever possible, creative financing is encouraged. Often, additional funding sources are found through working with other agencies and businesses to identify common or complementary goals and objectives. Table 88 shows the programs that may be available to Valley County, the City of Glasgow, and the Towns of Fort Peck, Opheim and Nashua. The traditional mitigation programs that are especially relevant for the county and communities are shown in bold.

This list of potential funding sources is certainly not all-inclusive. Many opportunities for mitigation funding exist in both the public and private sectors such as businesses, foundations, and philanthropic organizations.

Table88: Mitigation Funding Sources

Name	Description	Managing Agencies
Name	**Description**	**Managing Agencies**
AmeriCorps	Provides funding for volunteers to serve communities, including disaster prevention.	▪ Corporation for National & Community Service
Assistance to Firefighters Grants	Provides funding for fire prevention and safety activities and firefighting equipment.	▪ Department of Homeland Security
Clean Water Act Section 319 Grants	Provides grants for a wide variety of activities related to non-point source pollution runoff mitigation.	▪ The US Environmental Protection Agency
Community Development Block Grant (CDBG)	Provides funding for sustainable community development, including disaster mitigation projects.	▪ The US Housing and Urban Development
Economic Development Administration (EDA) Grants and Investments	Invests and provides grants for community construction projects, including mitigation activities.	▪ US Economic Development Administration
Emergency Watershed Protection	Provides funding and technical assistance for emergency measures such as floodplain easements in impaired watersheds.	▪ US Natural Resources Conservation Service
Environmental Quality Incentives Program	Provides funding and technical assistance to farmers and ranchers to promote agricultural production and environmental quality as compatible goals.	▪ US Natural Resources Conservation Service

Name	Description	Managing Agencies
Flood Mitigation Assistance Program (FMA)	Provides pre-disaster flood mitigation funding (with priority for repetitive flood loss properties under the National Flood Insurance Program).	▪ Montana Department of Natural Resources and Conservation ▪ FEMA – Region VIII
Hazard Mitigation Grant Program (HMGP)	Provides post-disaster mitigation funding.	▪ Montana Disaster & Emergency Services ▪ FEMA – Region VIII
Hazardous Fuels Mitigation Program	Provides funding for the reduction of hazardous wildfire fuels.	▪ US Bureau of Land Management
Hazardous Materials Planning and Training Grants	Provides funding for planning and training for hazardous materials releases.	▪ Montana Disaster & Emergency Services
Homeland Security Grants	Through multiple grants, provides funding for homeland security activities. Some projects can be considered mitigation.	▪ Montana Disaster & Emergency Services ▪ US Department of Justice ▪ US Department of Homeland Security
Housing and Urban Development (HUD) Grants	Provides a number of grants related to safe housing initiatives.	▪ The US Housing and Urban Development
Individual Assistance (IA)	Following a disaster, funds can mitigate hazards when repairing individual and family homes.	▪ Montana Disaster & Emergency Services ▪ FEMA – Region VIII
Law Enforcement Support Office 1033 Program	Provides surplus military property to local law enforcement agencies.	▪ Montana Public Safety Service Bureau
Map Modernization Program	Provides funding to establish or update floodplain mapping.	▪ Montana Department of Natural Resources and Conservation ▪ FEMA – Region VIII
National Fire Plan (NFP)	Provides funding for pre-disaster wildfire mitigation.	▪ Montana Department of Natural Resources and Conservation ▪ US Forest Service
National Wildlife Wetland Refuge System	Provides funding for the acquisition of lands into the federal wildlife refuge system.	▪ US Fish and Wildlife Service
North American Wetland Conservation Fund	Provides funding for wetland conservation projects.	▪ US Fish and Wildlife Service
NRCS Conservation Programs	Provides funding through a number of programs for the conservation of natural resources.	▪ US Natural Resources Conservation Service

Name	Description	Managing Agencies
Partners for Fish and Wildlife	Provides financial and technical assistance to landowners for wetland restoration projects in "Focus Areas" of the state.	▪ US Fish and Wildlife Service
PPL Montana Community Fund	Provides grants to Montana organizations in the areas of education, environment, and economic development.	▪ PPL Montana
Pre-Disaster Mitigation (PDM) Grants	Provides grants through a competitive process for specific mitigation projects, including planning.	▪ Montana Disaster & Emergency Services ▪ FEMA – Region VIII
Public Assistance (PA)	Following a disaster, funds can be used to mitigate hazards when repairing damages to public structures or infrastructure.	▪ Montana Disaster & Emergency Services ▪ FEMA – Region VIII
Reclamation and Development Grants Program	Provides funding from the interest income of the Resource Indemnity Trust Fund to local governments for dam safety and other water related projects.	▪ Montana Department of Natural Resources and Conservation
Renewable Resource Development Grant	Provides funding to protect, conserve, or develop renewable resources, including water.	▪ Montana Department of Natural Resources and Conservation
Repetitive Flood Claims (RFC) Grant	Provides funding to reduce flood damages to insured properties that have had one or more claims to the NFIP.	▪ Montana Department of Natural Resources and Conservation ▪ FEMA – Region VIII
Rural Development Grants	Provides grants and loans for infrastructure and public safety development and enhancement in rural areas.	▪ US Department of Agriculture, Rural Development
Rural Fire Assistance (RFA) Grant	Funds fire mitigation activities in rural communities.	▪ National Interagency Fire Center
SBA Pre-Disaster Mitigation Loan Program	Provides low-interest loans to small businesses for mitigation projects.	▪ US Small Business Administration (SBA)
Severe Repetitive Loss (SRL) Grant	Provides funding to reduce flood damages to residential insured properties that have had at least four claims to the NFIP.	▪ Montana Department of Natural Resources and Conservation ▪ FEMA – Region VIII
Small Flood Control Projects	Authority of USACE to construct small flood control projects.	▪ US Army Corps of Engineers (USACE)

Name	Description	Managing Agencies
Streambank & Shoreline Protection	Authority of USACE to construct streambank stabilization projects.	▪ US Army Corps of Engineers (USACE)
Wetland Program Development Grants (WPDGs)	Provides funding for studies related to water pollution prevention.	▪ The US Environmental Protection Agency

Appendix B: Hazard Event Data

B.1 Infectious Disease Data from 2013

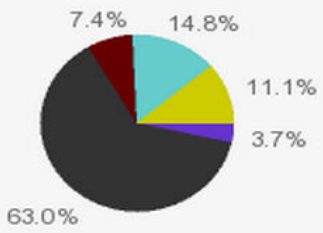
Valley County	Number
Campylobacteriosis	
Chlamydia	14
Coccidioidomycosis	
Cryptosporidiosis	
Dengue Fever	
Ehrlichiosis chaffeensis	
Giardiasis	
Gonorrhea	
Haemophilus influenza, all serotypes	
Hantavirus Pulmonary Syndrome	
Hepatitis A, Acute	
Hepatitis B, Acute	
Hepatitis B, Chronic*	
Hepatitis C, Acute	
Hepatitis C, Chronic*	3
Histoplasmosis	
HIV	
Legionellosis	1
Leishmaniasis	
Lyme Disease	
Meningococcal Disease	
Pertussis	
Q Fever	
Rabies, Animal	
Salmonellosis	
Shigellosis	
Spotted Fever Rickettsiosis	
STEC	
Streptococcus pneumonia	1
Syphilis	
Tickborne Relapsing Fever	
Transmissible Spongiform Encephalopathies	
Tuberculosis	
Tularemia	
Varicella (Chickenpox)	5
Vibriosis	
West Nile	2

B.2 Hazardous Material Data from Right to Know Network for 1982 to 2014

Summary

Total number of incidents: **27**
Total number of reported fatalities: **8**
Total number of reported hospitalizations: **1**
Total number of reported injuries: **1**
Total number of people evacuated: **0**
Total reported property damage: **$1,000,000**
Get list of incidents

Incident Type



	Type of incident	Number of incidents
	Fixed site (e.g. incident at a building)	3
	Continuous release	0
	Storage tank, drilling platform, or pipeline	4
	Unknown sheen on water	2
	Mobile vehicle (plane, truck, train, ship, etc.)	17
	Other or unknown	1

Expand pie chart and table to all categories

Top 5 cities for numbers of incidents

GLASGOW, MT	5
FORT PECK, MT	5
NASHUA, MT	4
WOLF POINT, MT	2
KINTYRE, MT	2

Expand summary to all cities

Top 5 dischargers for numbers of incidents

Discharger Left Blank	15
HELIS OIL AND GAS	2
BNSF RAILROAD	2
BNSF RAILWAY	1
USA CORPS OF ENGINEERS	1

Expand summary to all dischargers

Top 5 discharger types for numbers of incidents

UNKNOWN	12
PRIVATE ENTERPRISE	9
FEDERAL GOVERNMENT	2
N/A	1
STATE GOVERNMENT	1

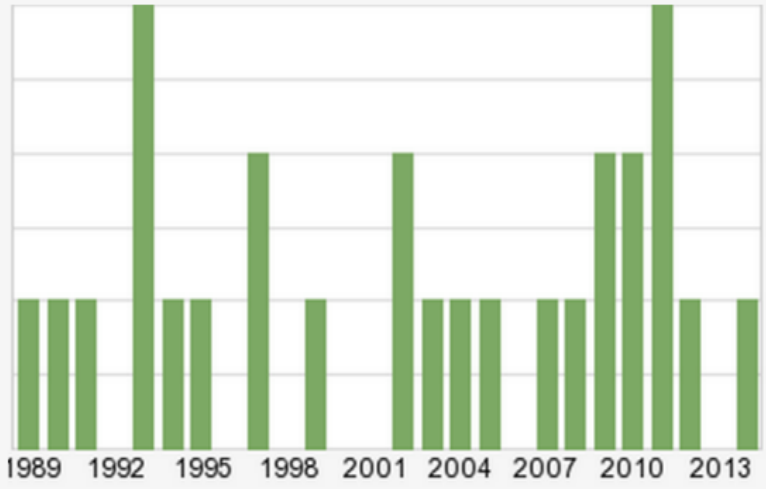
Expand summary to all discharger types

Top 5 incident causes for numbers of incidents

UNKNOWN	13
OTHER	5
EQUIPMENT FAILURE	4
DERAILMENT	3
NATURAL PHENOMENON	1

Expand summary to all incident causes

Number of incidents trend



B.3 Flood Data from NOAA for 1/1/1964 to 1/1/2015

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	1.711M	0.00K
OSWEGO	VALLEY CO.	MT	06/16/1996	21:17	MST	Flash Flood		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/23/1997	11:00	MST	Flood		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/1997	19:00	MST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	VALLEY CO.	MT	03/15/1999	19:00	MST	Flood		0	0	20.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	03/29/1999	02:00	MST	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/08/1999	02:00	MST	Flash Flood		0	0	0.00K	0.00K
SOUTH PORTION	VALLEY CO.	MT	07/08/2000	12:30	MST	Flash Flood		0	0	0.00K	0.00K
LARSLAN	VALLEY CO.	MT	07/09/2000	17:08	MST	Flash Flood		0	0	0.00K	0.00K
WEST CENTRAL PORTION	VALLEY CO.	MT	07/12/2001	19:45	MST	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	07/24/2001	17:10	MST	Flash Flood		0	0	0.00K	0.00K
SOUTH PORTION	VALLEY CO.	MT	08/21/2002	01:30	MST	Flash Flood		0	0	20.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/15/2004	08:00	MST	Flood		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/27/2004	09:00	MST	Flood		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	04/01/2004	00:00	MST	Flood		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/01/2004	00:00	MST	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/06/2005	19:30	MST	Flash Flood		0	0	75.00K	0.00K
SOUTH PORTION	VALLEY CO.	MT	06/07/2005	01:30	MST	Flash		0	0	75.00K	0.00K

						Flood					
SOUTH PORTION	VALLEY CO.	MT	06/07/2005	01:30	MST	Flash Flood		0	0	200.00K	0.00K
FT PECK	VALLEY CO.	MT	06/20/2005	23:20	MST	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/20/2005	23:45	MST	Flash Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	06/21/2005	00:30	MST	Flash Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	06/21/2005	03:00	MST	Flash Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/25/2005	15:45	MST	Flash Flood		0	0	0.00K	0.00K
OPHEIM	VALLEY CO.	MT	06/28/2005	21:00	MST	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/28/2005	21:30	MST	Flash Flood		0	0	0.00K	0.00K
LARSLAN	VALLEY CO.	MT	05/23/2006	15:00	MST	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/22/2007	20:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/01/2007	05:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/16/2007	15:50	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/16/2007	23:00	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/16/2007	23:30	MST-7	Flash Flood		0	0	50.00K	0.00K
DUCK CREEK	VALLEY CO.	MT	05/27/2010	21:00	MST-7	Flash Flood		0	0	1.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/28/2010	19:44	MST-7	Flash Flood		0	0	0.00K	0.00K

HINSDALE	VALLEY CO.	MT	03/23/2011	11:38	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/04/2011	03:21	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	04/05/2011	12:02	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	04/06/2011	08:54	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/07/2011	00:04	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	04/08/2011	12:02	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	04/13/2011	21:28	MST-7	Flood		0	0	0.00K	0.00K
VANDALIA	VALLEY CO.	MT	04/21/2011	21:21	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	05/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/01/2011	00:01	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/10/2011	11:04	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/10/2011	23:08	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/11/2011	08:26	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/18/2011	05:21	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/20/2011	09:19	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/22/2011	06:00	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	05/23/2011	16:45	MST-7	Flood		0	0	0.00K	0.00K

VANDALIA	VALLEY CO.	MT	05/25/2011	13:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	05/30/2011	19:48	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	06/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K
OSWEGO	VALLEY CO.	MT	06/05/2011	13:16	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/07/2011	08:20	MST-7	Flash Flood		0	0	0.00K	0.00K
BLUFF CREEK RAWS	VALLEY CO.	MT	06/07/2011	15:22	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	VALLEY CO.	MT	06/07/2011	15:45	MST-7	Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/11/2011	15:11	MST-7	Flash Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/11/2011	16:57	MST-7	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/11/2011	19:35	MST-7	Flood		0	0	0.00K	0.00K
SAINT MARIE	VALLEY CO.	MT	06/17/2011	12:25	MST-7	Flash Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	06/17/2011	22:37	MST-7	Flood		0	0	0.00K	0.00K
KING COULEE RAWS	VALLEY CO.	MT	06/20/2011	20:21	MST-7	Flood		0	0	0.00K	0.00K
PARK GROVE	VALLEY CO.	MT	07/01/2011	00:00	MST-7	Flood		0	0	0.00K	0.00K

GLASGOW	VALLEY CO.	MT	07/22/2011	14:03	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/22/2011	14:26	MST-7	Flash Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	05/25/2013	18:25	MST-7	Flash Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	06/04/2013	19:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/04/2013	19:40	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	06/06/2013	03:40	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	08/24/2014	05:00	MST-7	Flood		0	0	1.120M	0.00K
GLASGOW INTL AIRPORT (KGGW)	VALLEY CO.	MT	08/24/2014	06:25	MST-7	Flash Flood		0	0	150.00K	0.00K
HINSDALE	VALLEY CO.	MT	08/24/2014	15:01	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	08/24/2014	21:50	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	08/26/2014	06:16	MST-7	Flood		0	0	0.00K	0.00K
NASHUA	VALLEY CO.	MT	08/26/2014	06:40	MST-7	Flood		0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	09/01/2014	00:00	MST-7	Flood		0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	09/01/2014	00:00	MST-7	Flood		0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	09/03/2014	06:12	MST-7	Flood		0	0	0.00K	0.00K
Totals:								0	0	1.711M	0.00K

B.4 Summer Storms Data from NOAA for 1/1/1964 to 1/1/2015 (Hail, Heat, Lightning, Rain, Thunder & Wind)

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Totals:						0	0	3.583M	781.00K
VALLEY CO.	MT	07/18/1964	18:00	Hail	1.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/01/1964	18:09	Hail	2.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/01/1964	19:00	Hail	1.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/18/1965	17:00	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/17/1967	20:00	Thunderstorm Wind	54 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/07/1968	14:00	Thunderstorm Wind	60 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/23/1971	19:00	Hail	2.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/13/1973	22:48	Thunderstorm Wind	53 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/07/1974	04:44	Thunderstorm Wind	56 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/07/1974	22:03	Thunderstorm Wind	69 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/29/1975	21:09	Thunderstorm Wind	55 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/07/1975	15:52	Thunderstorm Wind	54 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/07/1975	16:13	Thunderstorm Wind	55 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/07/1975	16:24	Thunderstorm Wind	60 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/09/1976	21:30	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/01/1976	23:37	Thunderstorm Wind	56 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/05/1976	00:25	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/1976	20:19	Thunderstorm Wind	51 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/09/1978	17:05	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/02/1978	23:00	Thunderstorm Wind	58 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/25/1980	13:00	Thunderstorm Wind	62 kts.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VALLEY CO.	MT	07/13/1981	18:04	Thunderstorm Wind	58 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/10/1983	02:30	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/19/1983	02:34	Thunderstorm Wind	76 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/07/1985	21:30	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/02/1985	19:10	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/02/1985	19:37	Thunderstorm Wind	53 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/22/1987	15:55	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/06/1988	17:45	Thunderstorm Wind	55 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/30/1988	18:05	Thunderstorm Wind	60 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/29/1988	18:30	Thunderstorm Wind	60 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/29/1988	19:40	Thunderstorm Wind	69 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/04/1988	03:46	Thunderstorm Wind	76 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/04/1988	06:00	Thunderstorm Wind	57 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/05/1988	18:30	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/05/1988	20:00	Thunderstorm Wind	80 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/05/1988	20:20	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/18/1988	19:43	Thunderstorm Wind	72 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/18/1988	19:45	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/18/1988	21:00	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/19/1989	19:20	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/07/1989	18:30	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/18/1989	19:52	Thunderstorm Wind	63 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/18/1989	21:00	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	06/27/1990	19:25	Hail	0.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VALLEY CO.	MT	06/28/1990	17:05	Hail	1.25 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/25/1991	04:27	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/04/1991	18:00	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/04/1991	21:25	Hail	1.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/04/1991	21:40	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/16/1991	05:00	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/17/1991	21:30	Hail	1.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/04/1991	21:00	Hail	1.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/06/1992	15:30	Hail	1.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	08/06/1992	16:42	Hail	1.00 in.	0	0	0.00K	0.00K
Glasgow	MT	08/15/1993	19:20	Hail	2.50 in.	0	0	50.00K	0.00K
Fort Peck	MT	08/15/1993	20:25	Hail	1.00 in.	0	0	5.00K	0.00K
Fort Peck	MT	08/16/1993	18:46	Thunderstorm Wind	0 kts.	0	0	5.00K	0.00K
Glasgow	MT	08/16/1993	19:37	Thunderstorm Wind	52 kts.	0	0	5.00K	50.00K
Glasgow	MT	08/16/1993	19:39	Thunderstorm Wind	0 kts.	0	0	500.00K	5.00K
Lustre	MT	08/16/1993	20:38	Thunderstorm Wind	52 kts.	0	0	5.00K	0.00K
Glasgow	MT	08/16/1993	20:38	Thunderstorm Wind	52 kts.	0	0	5.00K	0.00K
VALLEY CO.	MT	05/16/1994	22:15	Hail	1.75 in.	0	0	50.00K	0.00K
Glasgow	MT	05/16/1994	23:00	Hail	1.75 in.	0	0	500.00K	0.00K
Nashua	MT	05/16/1994	23:25	Thunderstorm Wind	0 kts.	0	0	50.00K	0.00K
Nashua	MT	05/16/1994	23:25	Hail	1.00 in.	0	0	50.00K	0.00K
Glasgow	MT	05/17/1994	00:00	Hail	1.00 in.	0	0	5.00K	0.00K
Richland	MT	05/17/1994	00:05	Hail	1.75 in.	0	0	500.00K	0.00K
Glasgow	MT	06/07/1994	01:00	Thunderstorm Wind	50 kts.	0	0	0.00K	5.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Glasgow	MT	07/18/1994	18:00	Hail	1.25 in.	0	0	0.00K	500.00K
VALLEY CO.	MT	07/29/1995	14:25	Thunderstorm Wind	57 kts.	0	0	0.00K	0.00K
BELGRADE	MT	07/29/1995	14:28	Thunderstorm Wind	53 kts.	0	0	0.00K	0.00K
BOZEMAN	MT	07/29/1995	15:03	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
LIVINGSTON	MT	07/29/1995	15:36	Thunderstorm Wind	69 kts.	0	0	0.00K	0.00K
HARLOWTON	MT	07/29/1995	16:08	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
LIVINGSTON	MT	07/29/1995	16:45	Thunderstorm Wind	78 kts.	0	0	15.00K	5.00K
Fort Peck	MT	08/26/1995	18:00	Hail	3.00 in.	0	0	6.00K	0.00K
(GGW)GLASGOW INTL AR	MT	05/31/1996	20:45	Hail	0.75 in.	0	0	0.00K	0.00K
(GGW)GLASGOW INTL AR	MT	06/03/1996	19:32	Hail	1.75 in.	0	0	0.00K	0.00K
NASHUA	MT	06/03/1996	20:15	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	06/09/1996	22:54	Thunderstorm Wind	61 kts.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	06/11/1996	10:40	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/11/1996	10:43	Hail	1.00 in.	0	0	0.00K	0.00K
RICHLAND	MT	06/11/1996	10:55	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/11/1996	10:59	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	06/14/1996	10:43	Hail	1.00 in.	0	0	0.00K	0.00K
NASHUA	MT	06/14/1996	11:08	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/14/1996	12:10	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/16/1996	18:50	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	06/16/1996	19:27	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/16/1996	19:45	Hail	1.50 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	06/17/1996	18:53	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/17/1996	19:07	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/17/1996	19:15	Thunderstorm Wind		0	0	50.00K	0.00K
GLENTANA	MT	06/17/1996	19:49	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/17/1996	20:07	Thunderstorm Wind	57 kts.	0	0	0.00K	0.00K
LUSTRE	MT	06/17/1996	20:15	Thunderstorm Wind		0	0	0.50K	0.00K
LUSTRE	MT	06/24/1996	21:35	Hail	1.50 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/24/1996	21:47	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/27/1996	15:25	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
HINSDALE	MT	06/06/1997	22:07	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
HINSDALE	MT	06/26/1997	20:25	Thunderstorm Wind	52 kts.	0	0	0.00K	10.00K
LUSTRE	MT	06/26/1997	21:05	Thunderstorm Wind	54 kts.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/1997	19:08	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
WHEELER	MT	06/29/1997	19:25	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/29/1997	19:35	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
GLASGOW	MT	07/06/1997	19:07	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/17/1997	18:19	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
HINSDALE	MT	07/17/1997	18:20	Thunderstorm Wind		0	0	3.00K	0.00K
HINSDALE	MT	07/17/1997	18:47	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
GLASGOW	MT	07/17/1997	18:56	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
FT PECK	MT	07/17/1997	18:58	Hail	in.	0	0	2.00K	0.00K
GLASGOW	MT	07/17/1997	19:00	Thunderstorm Wind	100 kts.	0	0	0.00K	0.00K
GLASGOW	MT	07/17/1997	19:30	Thunderstorm Wind		0	0	20.00K	0.00K
GLASGOW	MT	07/17/1997	19:45	Thunderstorm Wind		0	0	10.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	07/23/1997	22:08	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	08/02/1997	18:20	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	08/02/1997	18:25	Hail	0.75 in.	0	0	0.00K	0.00K
FRAZER	MT	08/02/1997	18:40	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/02/1997	20:00	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	08/14/1997	19:54	Thunderstorm Wind	53 kts.	0	0	0.00K	0.00K
HINSDALE	MT	08/14/1997	20:00	Thunderstorm Wind	63 kts.	0	0	0.00K	0.00K
GLASGOW	MT	08/14/1997	20:05	Thunderstorm Wind	57 kts.	0	0	0.00K	0.00K
GLASGOW	MT	08/14/1997	20:14	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
GLASGOW	MT	08/28/1997	23:13	Thunderstorm Wind	66 kts.	0	0	0.00K	0.00K
GLASGOW	MT	08/28/1997	23:30	Thunderstorm Wind		0	0	100.00K	0.00K
GLASGOW	MT	08/28/1997	23:30	Thunderstorm Wind	79 kts.	0	0	10.00K	0.00K
GLASGOW	MT	08/28/1997	23:30	Thunderstorm Wind	65 kts.	0	0	0.00K	0.00K
FT PECK	MT	08/28/1997	23:31	Thunderstorm Wind		0	0	0.50K	0.00K
FT PECK	MT	08/28/1997	23:35	Hail	0.75 in.	0	0	50.00K	0.00K
FT PECK	MT	08/28/1997	23:35	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
FT PECK	MT	08/28/1997	23:45	Hail	0.02 in.	0	0	0.00K	0.00K
FRAZER	MT	08/29/1997	00:10	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
LUSTRE	MT	08/29/1997	00:15	Thunderstorm Wind	81 kts.	0	0	10.00K	0.00K
OSWEGO	MT	08/29/1997	00:15	Thunderstorm Wind	64 kts.	0	0	0.00K	0.00K
FRAZER	MT	05/27/1998	12:00	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	06/23/1998	13:15	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/23/1998	19:00	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/01/1998	17:20	Hail	0.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	07/04/1998	01:00	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/04/1998	02:30	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/04/1998	16:30	Hail	1.00 in.	0	0	0.00K	6.00K
HINSDALE	MT	07/05/1998	16:30	Hail	0.88 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/05/1998	18:07	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	07/06/1998	10:25	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	07/06/1998	10:30	Hail	0.88 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/06/1998	14:40	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/06/1998	15:30	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/11/1998	18:51	Thunderstorm Wind	66 kts.	0	0	0.00K	0.00K
FT PECK	MT	07/11/1998	19:05	Thunderstorm Wind	52 kts.	0	0	10.00K	0.00K
GLASGOW INTL ARPT	MT	07/11/1998	19:14	Thunderstorm Wind	56 kts.	0	0	0.00K	0.00K
FT PECK	MT	07/11/1998	19:31	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
LARSLAN	MT	07/18/1998	18:10	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/18/1998	18:50	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/01/1998	16:54	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
FT PECK	MT	08/01/1998	17:00	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	08/01/1998	17:40	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
HINSDALE	MT	08/17/1998	19:45	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
HINSDALE	MT	08/17/1998	20:00	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
HINSDALE	MT	08/17/1998	20:00	Thunderstorm Wind	62 kts.	0	0	0.00K	0.00K
LARSLAN	MT	08/17/1998	21:20	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	02/02/1999	21:00	High Wind	52 kts.	0	0	0.00K	0.00K
FT PECK	MT	06/21/1999	18:18	Thunderstorm Wind		0	0	50.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
FT PECK	MT	06/21/1999	18:30	Thunderstorm Wind		0	0	8.00K	0.00K
TAMPICO	MT	06/21/1999	18:45	Thunderstorm Wind	65 kts.	0	0	0.00K	0.00K
GLASGOW	MT	06/21/1999	18:45	Thunderstorm Wind	58 kts.	0	0	0.00K	0.00K
VANDALIA	MT	06/21/1999	18:46	Thunderstorm Wind	80 kts.	0	0	0.00K	0.00K
OSWEGO	MT	06/21/1999	19:20	Thunderstorm Wind	70 kts.	0	0	0.00K	0.00K
OPHEIM	MT	06/21/1999	19:20	Thunderstorm Wind	70 kts.	0	0	3.00K	0.00K
OPHEIM	MT	06/21/1999	19:28	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
OPHEIM	MT	06/25/1999	03:25	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	06/25/1999	04:05	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/07/1999	18:31	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
GLASGOW	MT	07/07/1999	18:39	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	07/07/1999	18:40	Hail	1.00 in.	0	0	0.00K	0.00K
GLENTANA	MT	07/12/1999	16:50	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/21/1999	16:39	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/21/1999	18:25	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/21/1999	18:40	Hail	2.50 in.	0	0	0.00K	100.00K
GLASGOW	MT	07/21/1999	18:40	Hail	4.00 in.	0	0	5.00K	0.00K
GLASGOW	MT	07/21/1999	18:50	Hail	4.50 in.	0	0	1.500M	100.00K
NASHUA	MT	07/21/1999	19:20	Hail	2.50 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/21/1999	19:47	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/21/1999	20:15	Hail	0.88 in.	0	0	0.00K	0.00K
FRAZER	MT	07/21/1999	20:48	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/21/1999	21:49	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/21/1999	22:40	Hail	0.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	07/24/1999	16:29	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
FT PECK	MT	08/13/1999	17:45	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	10/31/1999	15:30	High Wind	63 kts.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	11/01/1999	00:00	High Wind	56 kts.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	11/04/1999	09:00	High Wind	54 kts.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	12/18/1999	22:00	High Wind	54 kts.	0	0	0.00K	0.00K
Totals:						0	0	3.583M	781.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Totals: (for 500 results below)						0	2	12.707M	22.100M
VALLEY (ZONE)	MT	04/03/2000	05:00	High Wind	59 kts. M	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	04/05/2000	03:00	High Wind	61 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	06/07/2000	23:02	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/07/2000	23:10	Hail	0.88 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/08/2000	00:00	Hail	1.75 in.	0	0	0.00K	0.00K
NASHUA	MT	06/08/2000	20:30	Thunderstorm Wind	60 kts. E	0	0	0.00K	0.00K
HINSDALE	MT	06/08/2000	21:30	Hail	1.25 in.	0	0	0.00K	0.00K
NASHUA	MT	06/09/2000	00:30	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/02/2000	17:15	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	07/02/2000	19:11	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/02/2000	19:20	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
LUSTRE	MT	07/02/2000	20:20	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
VANDALIA	MT	07/03/2000	18:21	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	07/03/2000	18:23	Thunderstorm Wind	71 kts. M	0	0	250.00K	100.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	07/03/2000	18:30	Thunderstorm Wind	70 kts. M	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	07/03/2000	18:30	Hail	1.00 in.	0	0	10.00K	0.00K
GLASGOW	MT	07/03/2000	18:40	Thunderstorm Wind	61 kts. M	0	0	0.00K	0.00K
PARK GROVE	MT	07/03/2000	18:45	Thunderstorm Wind	61 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/03/2000	19:00	Hail	0.88 in.	0	0	0.00K	0.00K
FRAZER	MT	07/03/2000	19:10	Thunderstorm Wind	68 kts. M	0	0	0.00K	0.00K
OSWEGO	MT	07/03/2000	19:10	Thunderstorm Wind	55 kts. M	0	0	0.00K	0.00K
FRAZER	MT	07/03/2000	19:27	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/06/2000	01:51	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/06/2000	01:55	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/06/2000	02:05	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/08/2000	21:30	Hail	2.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/09/2000	15:13	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/09/2000	15:25	Hail	2.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/09/2000	15:55	Hail	0.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/09/2000	17:03	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/09/2000	17:38	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	07/09/2000	18:00	Hail	1.25 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/10/2000	17:05	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/10/2000	17:07	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/10/2000	17:11	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/10/2000	17:37	Hail	2.00 in.	0	0	10.00K	100.00K
GLASGOW	MT	07/10/2000	18:20	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/21/2000	20:00	Hail	0.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	07/21/2000	20:18	Hail	0.75 in.	0	0	0.00K	0.00K
PARK GROVE	MT	08/01/2000	18:20	Hail	0.75 in.	0	0	0.00K	0.00K
PARK GROVE	MT	08/01/2000	18:20	Hail	1.25 in.	0	0	0.00K	0.00K
NASHUA	MT	08/01/2000	18:40	Hail	1.00 in.	0	0	0.00K	0.00K
NASHUA	MT	08/01/2000	18:50	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	08/01/2000	19:23	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	08/11/2000	14:35	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
GLENTANA	MT	08/11/2000	14:35	Hail	3.00 in.	0	0	50.00K	150.00K
OPHEIM	MT	08/11/2000	15:05	Hail	3.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/11/2000	15:10	Thunderstorm Wind	65 kts. M	0	0	0.00K	0.00K
GLENTANA	MT	08/11/2000	15:15	Hail	1.50 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/11/2000	15:15	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	09/04/2000	02:40	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	09/04/2000	03:30	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	09/04/2000	03:35	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	09/04/2000	03:37	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	09/04/2000	08:55	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	09/04/2000	09:01	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	09/04/2000	09:10	Hail	0.75 in.	0	0	0.00K	0.00K
VANDALIA	MT	09/04/2000	09:40	Hail	0.75 in.	0	0	0.00K	0.00K
OSWEGO	MT	10/01/2000	21:40	Hail	0.88 in.	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	12/27/2000	18:00	High Wind	65 kts. E	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	12/27/2000	18:10	High Wind	58 kts. M	0	0	0.00K	0.00K
VALLEY (ZONE)	MT	12/27/2000	18:51	High Wind	70 kts. E	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/01/2001	11:30	High Wind	35 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	06/03/2001	18:45	High Wind	35 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	06/09/2001	11:50	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/15/2001	12:25	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/25/2001	03:35	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
NASHUA	MT	07/01/2001	10:32	Hail	0.88 in.	0	0	0.00K	0.00K
NASHUA	MT	07/01/2001	11:30	Hail	0.75 in.	0	0	0.00K	0.00K
FRAZER	MT	07/01/2001	12:10	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	07/10/2001	13:44	Thunderstorm Wind	60 kts. M	0	0	0.00K	0.00K
FT PECK	MT	07/10/2001	15:05	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	07/12/2001	19:06	Hail	1.50 in.	0	0	0.00K	150.00K
HINSDALE	MT	07/12/2001	20:05	Hail	1.75 in.	0	0	0.00K	50.00K
BEAVERTON	MT	07/12/2001	20:08	Hail	1.50 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/20/2001	15:51	Thunderstorm Wind	84 kts. M	0	0	0.00K	0.00K
OPHEIM	MT	07/20/2001	16:00	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/20/2001	16:10	Hail	1.75 in.	0	0	45.00K	0.00K
OPHEIM	MT	07/20/2001	16:20	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/21/2001	18:10	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/21/2001	18:20	Thunderstorm Wind	56 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/21/2001	18:35	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/21/2001	18:51	Thunderstorm Wind	53 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/21/2001	18:51	Thunderstorm Wind	51 kts. M	0	0	0.00K	0.00K
OSWEGO	MT	07/21/2001	19:44	Thunderstorm Wind	56 kts. M	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	07/24/2001	16:40	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2001	17:05	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2001	18:10	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2001	18:15	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	07/24/2001	18:17	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2001	18:17	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	07/24/2001	18:25	Hail	1.25 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2001	18:40	Thunderstorm Wind		0	0	10.00K	0.00K
FT PECK	MT	07/24/2001	20:44	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
FT PECK	MT	07/24/2001	20:57	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/28/2001	17:51	Thunderstorm Wind	64 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	08/04/2001	19:51	High Wind	51 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	09/19/2001	17:35	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	09/19/2001	17:40	Hail	0.75 in.	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	10/31/2001	21:51	High Wind	52 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/01/2001	00:19	High Wind	36 kts. M	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	11/01/2001	12:05	High Wind	36 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/13/2002	00:51	High Wind	53 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/11/2002	05:51	High Wind	50 kts. M	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	02/11/2002	05:51	High Wind	50 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	MT	02/11/2002	06:56	High Wind	37 kts. M	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...									
CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/11/2002	07:17	High Wind	54 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/13/2002	16:15	High Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	05/28/2002	16:50	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2002	14:11	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/22/2002	17:51	Thunderstorm Wind	66 kts. M	0	0	0.00K	0.00K
VANDALIA	MT	06/29/2002	14:21	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	06/29/2002	14:40	Thunderstorm Wind	57 kts. M	0	0	0.00K	0.00K
FT PECK	MT	06/29/2002	14:40	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
TAMPICO	MT	06/29/2002	14:41	Thunderstorm Wind	53 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2002	14:51	Thunderstorm Wind	58 kts. M	0	0	0.00K	0.00K
OPHEIM	MT	06/29/2002	14:51	Thunderstorm Wind	55 kts. M	0	0	0.00K	0.00K
FT PECK	MT	06/29/2002	14:55	Thunderstorm Wind	54 kts. M	0	0	0.00K	0.00K
OPHEIM	MT	06/29/2002	15:20	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
OPHEIM	MT	06/29/2002	15:30	Hail	1.00 in.	0	0	0.00K	0.00K
OSWEGO	MT	07/04/2002	21:51	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	07/08/2002	17:45	Thunderstorm Wind	60 kts. E	0	0	50.00K	0.00K
GLASGOW	MT	07/08/2002	17:51	Thunderstorm Wind	83 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/08/2002	17:51	Thunderstorm Wind	55 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	07/08/2002	18:17	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	07/08/2002	18:28	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	07/08/2002	18:40	Thunderstorm Wind	55 kts. E	0	0	75.00K	0.00K
OPHEIM	MT	07/08/2002	18:45	Thunderstorm Wind	53 kts. M	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
PARK GROVE	MT	07/08/2002	19:00	Thunderstorm Wind	60 kts. M	0	0	10.00K	0.00K
OSWEGO	MT	07/08/2002	19:05	Thunderstorm Wind	53 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/14/2002	12:00	Heat		0	0	0.00K	0.00K
GLASGOW	MT	07/14/2002	21:51	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/14/2002	22:30	Thunderstorm Wind	56 kts. M	0	0	0.00K	0.00K
FT PECK	MT	07/14/2002	23:15	Thunderstorm Wind	60 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/16/2002	20:50	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	07/24/2002	14:51	Thunderstorm Wind	53 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	08/06/2002	21:15	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
OSWEGO	MT	08/06/2002	23:52	Hail	0.75 in.	0	0	0.00K	0.00K
OSWEGO	MT	08/16/2002	13:15	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
GLASGOW	MT	08/20/2002	23:10	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/21/2002	00:00	Hail	1.75 in.	0	0	0.00K	0.00K
FT PECK	MT	08/21/2002	00:20	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	08/26/2002	18:29	Hail	0.88 in.	0	0	0.00K	0.00K
FT PECK	MT	08/26/2002	18:33	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/26/2002	19:55	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/30/2002	00:30	Hail	0.88 in.	0	0	0.00K	0.00K
OPHEIM	MT	09/03/2002	19:45	Thunderstorm Wind	50 kts. M	0	0	0.00K	0.00K
OPHEIM	MT	09/03/2002	20:35	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
HINSDALE	MT	09/05/2002	00:00	Thunderstorm Wind	52 kts. M	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	01/03/2003	18:51	High Wind	54 kts. M	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/03/2003	20:00	High Wind	58 kts. M	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	06/05/2003	14:00	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	06/05/2003	17:51	Thunderstorm Wind	56 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	06/30/2003	18:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/13/2003	18:27	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/06/2003	19:37	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/06/2003	21:31	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/07/2003	02:30	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	08/09/2003	05:12	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/09/2003	10:25	Hail	2.00 in.	0	1	0.00K	0.00K
NASHUA	MT	08/09/2003	10:45	Hail	1.00 in.	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	08/11/2003	06:00	Heat		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	08/11/2003	06:00	Heat		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/23/2003	15:51	High Wind	52 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/23/2003	15:51	High Wind	51 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/24/2003	11:46	High Wind	38 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/27/2003	15:51	High Wind	54 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/17/2003	09:08	High Wind	36 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/10/2004	12:50	High Wind	37 kts. MS	0	0	0.00K	0.00K
GLASGOW	MT	05/08/2004	12:51	Thunderstorm Wind	62 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/09/2004	18:20	High Wind	66 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/31/2004	08:30	High Wind	37 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	06/07/2004	08:51	High Wind	50 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	07/11/2004	17:30	Hail	4.25 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/11/2004	17:44	Hail	1.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/11/2004	18:00	Hail	1.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/11/2004	18:10	Hail	3.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/11/2004	18:10	Hail	2.00 in.	0	0	0.00K	50.00K
OPHEIM	MT	07/11/2004	18:45	Hail	2.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/30/2004	19:00	Thunderstorm Wind	57 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/30/2004	19:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	07/30/2004	19:55	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW INTL ARPT	MT	08/01/2004	01:10	Thunderstorm Wind	62 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	08/01/2004	01:25	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/01/2004	01:35	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	08/05/2004	20:51	Thunderstorm Wind	57 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	08/05/2004	21:13	Thunderstorm Wind	57 kts. EG	0	0	0.00K	0.00K
FRAZER	MT	08/23/2004	14:37	Hail	0.75 in.	0	0	0.00K	0.00K
FRAZER	MT	08/23/2004	14:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/11/2004	13:50	High Wind	51 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	12/20/2004	09:50	High Wind	52 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	03/06/2005	10:50	High Wind	50 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	MT	03/06/2005	12:50	High Wind	60 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...									
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/09/2005	14:50	High Wind	63 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	04/09/2005	18:50	High Wind	54 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/14/2005	14:51	High Wind	56 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	04/14/2005	17:51	High Wind	64 kts. MG	0	0	0.00K	0.00K
OSWEGO	MT	05/17/2005	15:10	Hail	0.75 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/21/2005	09:50	High Wind	56 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	05/21/2005	12:50	High Wind	53 kts. MG	0	0	0.00K	0.00K
NASHUA	MT	06/06/2005	17:10	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	06/06/2005	17:10	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	06/06/2005	17:25	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	06/06/2005	20:30	Heavy Rain		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	06/17/2005	01:30	High Wind	55 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	06/17/2005	19:10	Hail	0.88 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/17/2005	19:15	Thunderstorm Wind	57 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	06/17/2005	19:25	Hail	0.88 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/17/2005	20:17	Thunderstorm Wind	63 kts. MG	0	0	0.00K	0.00K
OPHEIM	MT	06/17/2005	20:30	Hail	0.75 in.	0	0	0.00K	0.00K
BAYLOR	MT	06/17/2005	20:30	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/17/2005	21:05	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/17/2005	21:07	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
LUSTRE	MT	06/17/2005	21:33	Thunderstorm Wind	70 kts. EG	0	0	25.00K	0.00K
GLASGOW	MT	06/17/2005	22:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	06/20/2005	21:25	Hail	0.88 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	06/20/2005	23:00	Hail	1.00 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	06/20/2005	23:05	Hail	1.75 in.	0	0	150.00K	0.00K
PARK GROVE	MT	06/20/2005	23:15	Thunderstorm Wind	57 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	06/20/2005	23:15	Hail	2.00 in.	0	0	900.00K	0.00K
FT PECK	MT	06/20/2005	23:15	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	06/20/2005	23:15	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/20/2005	23:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
PARK GROVE	MT	06/20/2005	23:15	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/20/2005	23:30	Thunderstorm Wind	57 kts. MG	0	0	0.00K	0.00K
OPHEIM	MT	06/21/2005	03:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLENTANA	MT	06/21/2005	04:00	Hail	1.25 in.	0	0	0.00K	0.00K
OPHEIM	MT	06/21/2005	05:00	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:35	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:35	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:38	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:38	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/22/2005	20:41	Thunderstorm Wind	52 kts. ES	0	0	0.00K	0.00K
BLUFF CREEK	MT	06/22/2005	21:00	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
SAINT MARIE	MT	06/25/2005	15:22	Hail	0.88 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	06/25/2005	15:33	Hail	1.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
LUSTRE	MT	06/25/2005	15:45	Hail	1.00 in.	0	0	0.00K	0.00K
BAYLOR	MT	06/25/2005	15:45	Hail	0.88 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/25/2005	15:55	Hail	0.88 in.	0	0	0.00K	0.00K
BAYLOR	MT	06/25/2005	16:00	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/25/2005	16:20	Hail	0.75 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	06/25/2005	18:44	Hail	1.50 in.	0	0	0.00K	0.00K
FT PECK	MT	06/25/2005	18:51	Hail	0.88 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2005	18:12	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2005	18:20	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2005	18:22	Hail	1.00 in.	0	0	0.00K	0.00K
GLENTANA	MT	07/02/2005	18:35	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/13/2005	19:15	Thunderstorm Wind	81 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	07/13/2005	19:20	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
DUCK CREEK	MT	07/13/2005	19:35	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/13/2005	19:45	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/13/2005	19:48	Thunderstorm Wind	59 kts. MG	0	0	10.00K	0.00K
GLASGOW	MT	07/13/2005	19:50	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	07/13/2005	19:58	Thunderstorm Wind	57 kts. MG	0	0	0.00K	0.00K
OPHEIM	MT	08/01/2005	19:20	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	08/10/2005	16:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
PINES	MT	08/16/2005	16:30	Hail	0.75 in.	0	0	0.00K	0.00K
PINES	MT	08/16/2005	17:45	Hail	0.88 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/17/2005	20:20	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	09/10/2005	11:00	Heavy Rain		0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/18/2005	12:50	High Wind	54 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	04/17/2006	00:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/02/2006	16:50	High Wind	50 kts. MG	0	0	0.00K	0.00K
TAMPICO	MT	05/30/2006	15:53	Hail	0.88 in.	0	0	0.00K	0.00K
GLASGOW	MT	05/30/2006	16:30	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/14/2006	03:15	Hail	1.00 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	07/12/2006	19:20	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
SAINT MARIE	MT	07/26/2006	00:12	Lightning		0	1	0.00K	0.00K
GLASGOW	MT	08/09/2006	16:25	Thunderstorm Wind	55 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	08/09/2006	16:45	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/09/2006	17:20	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	08/30/2006	22:50	High Wind	50 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/08/2007	12:00	High Wind	35 kts. MS	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	01/08/2007	12:00	High Wind	36 kts. MS	0	0	0.00K	0.00K
KING COULEE RAWS	MT	04/18/2007	16:20	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	05/03/2007	15:50	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	05/03/2007	17:15	Hail	0.75 in.	0	0	0.00K	0.00K
VANDALIA	MT	05/13/2007	15:30	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	05/13/2007	15:35	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	05/13/2007	18:10	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
DUCK CREEK	MT	05/13/2007	18:15	Hail	0.88 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/05/2007	23:03	Thunderstorm Wind	67 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	06/16/2007	15:55	Hail	1.75 in.	0	0	5.00K	0.00K
VANDALIA	MT	06/16/2007	16:00	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
HINSDALE	MT	06/16/2007	16:10	Hail	1.75 in.	0	0	0.00K	0.00K
VANDALIA	MT	06/16/2007	16:32	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/16/2007	16:38	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
TAMPICO	MT	06/16/2007	16:42	Hail	1.75 in.	0	0	0.00K	0.00K
TAMPICO	MT	06/16/2007	16:42	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
TAMPICO	MT	06/16/2007	16:47	Hail	1.75 in.	0	0	5.00K	0.00K
GLASGOW	MT	06/16/2007	16:50	Hail	3.00 in.	0	0	8.000M	15.000M
GLASGOW	MT	06/16/2007	16:50	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	06/16/2007	16:50	Hail	1.50 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/16/2007	17:05	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	06/16/2007	17:12	Thunderstorm Wind	77 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	06/16/2007	17:12	Thunderstorm Wind	70 kts. EG	0	0	10.00K	0.00K
NASHUA	MT	06/16/2007	17:20	Thunderstorm Wind	80 kts. EG	0	0	0.00K	0.00K
NASHUA	MT	06/16/2007	17:20	Hail	2.75 in.	0	0	3.000M	5.000M
GLASGOW	MT	06/16/2007	20:25	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/16/2007	21:30	Hail	0.75 in.	0	0	0.00K	0.00K
PINES	MT	06/24/2007	20:30	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	06/24/2007	21:23	Thunderstorm Wind	56 kts. MG	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2007	18:30	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2007	18:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2007	18:40	Hail	0.88 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/02/2007	18:42	Hail	1.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
LARSLAN	MT	07/02/2007	18:54	Hail	1.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/02/2007	18:57	Hail	1.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/02/2007	19:15	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/06/2007	22:20	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	07/06/2007	22:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/13/2007	00:00	Heat		0	0	0.00K	0.00K
GLASGOW	MT	07/14/2007	20:00	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
OPHEIM ARPT	MT	07/24/2007	17:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLENTANA	MT	07/24/2007	17:45	Thunderstorm Wind	69 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	08/10/2007	17:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/10/2007	17:55	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
NASHUA	MT	08/10/2007	18:14	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	08/10/2007	18:40	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/10/2007	18:40	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
GLENTANA	MT	08/10/2007	18:50	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	08/10/2007	18:50	Hail	0.75 in.	0	0	0.00K	0.00K
GLENTANA	MT	08/10/2007	18:54	Hail	1.00 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	09/04/2007	15:07	Hail	0.88 in.	0	0	0.00K	0.00K
FRAZER	MT	09/04/2007	16:05	Hail	0.88 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/13/2007	03:04	High Wind	56 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/13/2007	04:30	High Wind	61 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/13/2007	04:36	High Wind	59 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/13/2007	04:39	High Wind	61 kts. EG	0	0	10.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/13/2007	04:41	High Wind	61 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/2008	10:10	High Wind	52 kts. EG	0	0	10.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/2008	12:45	High Wind	56 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/2008	12:55	High Wind	52 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/2008	13:14	High Wind	54 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	03/24/2008	13:50	High Wind	36 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/24/2008	14:00	High Wind	52 kts. EG	0	0	1.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	04/29/2008	22:16	Thunderstorm Wind	51 kts. MG	0	0	3.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	05/18/2008	15:59	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K
FRAZER	MT	06/13/2008	14:30	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/26/2008	05:30	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/26/2008	05:44	Hail	0.88 in.	0	0	0.00K	0.00K
TAMPICO	MT	06/26/2008	06:00	Hail	0.75 in.	0	0	0.00K	0.00K
TAMPICO	MT	06/26/2008	06:15	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/26/2008	08:33	Hail	0.88 in.	0	0	0.00K	0.00K
GLENTANA	MT	06/26/2008	16:15	Hail	1.00 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/11/2008	08:55	Strong Wind	47 kts. MG	0	0	5.00K	0.00K
PARK GROVE	MT	07/24/2008	13:55	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	07/26/2008	17:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LUSTRE	MT	07/26/2008	18:15	Hail	1.75 in.	0	0	0.50K	0.00K
FRAZER	MT	07/26/2008	18:40	Hail	2.00 in.	0	0	0.00K	0.00K
GLENTANA	MT	08/10/2008	15:00	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/10/2008	15:05	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/10/2008	21:05	Hail	0.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	08/10/2008	23:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LARSLAN	MT	08/10/2008	23:40	Hail	0.75 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/11/2009	21:53	High Wind	65 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/13/2009	17:00	High Wind	50 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/31/2009	05:00	High Wind	50 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	01/31/2009	06:30	High Wind	37 kts. MS	0	0	0.00K	0.00K
FRAZER	MT	05/14/2009	17:05	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
FRAZER	MT	05/19/2009	20:03	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	05/19/2009	20:06	Hail	1.25 in.	0	0	0.00K	0.00K
FRAZER	MT	05/19/2009	20:09	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	05/24/2009	15:50	Heavy Rain		0	0	0.00K	0.00K
GLASGOW	MT	05/24/2009	16:50	Thunderstorm Wind	55 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	05/24/2009	17:05	Heavy Rain		0	0	0.00K	0.00K
DUCK CREEK	MT	05/24/2009	17:25	Thunderstorm Wind	60 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	05/24/2009	17:25	Heavy Rain		0	0	0.00K	0.00K
NASHUA	MT	05/24/2009	17:40	Heavy Rain		0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VANDALIA	MT	06/25/2009	16:00	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	06/25/2009	16:50	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	06/25/2009	17:10	Thunderstorm Wind	55 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	06/25/2009	17:10	Thunderstorm Wind	55 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	06/25/2009	17:17	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K
NASHUA	MT	06/25/2009	17:25	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
NASHUA	MT	06/25/2009	17:45	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
LUSTRE	MT	06/25/2009	17:55	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	07/03/2009	16:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	07/03/2009	17:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
TAMPICO	MT	07/03/2009	17:15	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/03/2009	17:25	Thunderstorm Wind	60 kts. MG	0	0	0.00K	0.00K
LUSTRE	MT	07/03/2009	18:10	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
DUCK CREEK	MT	07/03/2009	18:16	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
OSWEGO	MT	07/03/2009	19:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LARSLAN	MT	07/05/2009	14:35	Hail	0.88 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/05/2009	14:55	Hail	1.25 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/05/2009	15:05	Hail	1.75 in.	0	0	0.00K	0.00K
VANDALIA	MT	07/06/2009	20:15	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
VANDALIA	MT	07/06/2009	20:15	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/06/2009	20:39	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	07/13/2009	16:34	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/13/2009	17:20	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/13/2009	18:14	Hail	1.00 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
DUCK CREEK	MT	08/12/2009	18:55	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	08/19/2009	13:55	Strong Wind	39 kts. MG	0	0	0.00K	0.00K
FRAZER	MT	09/13/2009	21:16	Hail	1.00 in.	0	0	0.00K	0.00K
LARSLAN	MT	09/14/2009	00:38	Hail	1.00 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/08/2010	15:50	High Wind	53 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	04/08/2010	17:44	High Wind	36 kts. MS	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	05/04/2010	08:00	High Wind	35 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/04/2010	08:44	High Wind	60 kts. MG	0	0	0.00K	0.00K
LARSLAN	MT	05/19/2010	17:50	Hail	0.88 in.	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	05/25/2010	01:00	Heavy Rain		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/25/2010	02:36	High Wind	50 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	05/28/2010	21:40	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/16/2010	21:43	Heavy Rain		0	0	2.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	06/17/2010	11:48	High Wind	35 kts. MS	0	0	0.00K	0.00K
LUSTRE	MT	06/24/2010	15:30	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/24/2010	16:03	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/01/2010	19:58	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	07/01/2010	19:59	Thunderstorm Wind	51 kts. MG	0	0	20.00K	0.00K
GLASGOW	MT	07/01/2010	19:59	Lightning		0	0	2.00K	0.00K
NASHUA	MT	07/01/2010	20:10	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
LARSLAN	MT	07/01/2010	20:45	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/10/2010	15:00	Strong Wind	36 kts. MG	0	0	1.00K	0.00K
HINSDALE	MT	07/28/2010	18:10	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/28/2010	18:10	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/28/2010	18:28	Thunderstorm Wind	65 kts. EG	0	0	0.00K	0.00K
VANDALIA	MT	07/28/2010	18:57	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/28/2010	19:15	Thunderstorm Wind	65 kts. MG	0	0	3.00K	0.00K
GLASGOW	MT	07/28/2010	19:15	Hail	0.75 in.	0	0	0.00K	0.00K
TAMPICO	MT	07/28/2010	19:17	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/28/2010	19:35	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/28/2010	19:38	Thunderstorm Wind	74 kts. EG	0	0	25.00K	0.00K
LUSTRE	MT	07/29/2010	14:55	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/29/2010	15:50	Hail	0.88 in.	0	0	0.00K	0.00K
FRAZER	MT	07/31/2010	19:10	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/31/2010	19:15	Thunderstorm Wind	61 kts. EG	0	0	2.00K	0.00K
HINSDALE	MT	08/01/2010	19:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/01/2010	19:15	Hail	0.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	08/06/2010	18:30	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/06/2010	18:40	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/06/2010	19:18	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	08/06/2010	19:23	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	08/06/2010	19:37	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	08/06/2010	20:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	750.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
NASHUA	MT	08/06/2010	20:20	Thunderstorm Wind	104 kts. EG	0	0	0.00K	750.00K
OPHEIM	MT	08/11/2010	16:26	Hail	0.75 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/11/2010	16:50	Hail	1.75 in.	0	0	0.00K	0.00K
GLENTANA	MT	08/11/2010	18:13	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	08/11/2010	20:33	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/11/2010	20:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LUSTRE	MT	08/11/2010	22:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	08/21/2010	12:50	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	08/21/2010	13:20	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	08/21/2010	17:10	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	02/13/2011	07:00	High Wind	35 kts. MS	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/13/2011	07:30	High Wind	55 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/30/2011	01:00	High Wind	50 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	06/02/2011	15:08	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
NASHUA	MT	06/02/2011	15:17	Hail	0.75 in.	0	0	0.00K	0.00K
NASHUA	MT	06/06/2011	23:28	Hail	0.75 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/06/2011	23:36	Hail	0.88 in.	0	0	0.00K	0.00K
NASHUA	MT	06/06/2011	23:51	Heavy Rain		0	0	0.00K	0.00K
LUSTRE	MT	06/06/2011	23:53	Hail	0.75 in.	0	0	0.00K	0.00K
FRAZER	MT	06/07/2011	02:12	Thunderstorm Wind	56 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	06/29/2011	18:14	Thunderstorm Wind	53 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	06/29/2011	18:25	Thunderstorm Wind	72 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	06/29/2011	18:40	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:40	Hail	2.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:40	Hail	2.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:40	Hail	1.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:42	Hail	2.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:45	Hail	2.00 in.	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	06/29/2011	18:48	Hail	2.25 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/29/2011	18:53	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
VANDALIA	MT	06/29/2011	19:05	Hail	2.00 in.	0	0	0.00K	0.00K
VANDALIA	MT	06/29/2011	19:05	Hail	1.00 in.	0	0	0.00K	0.00K
LARSLAN	MT	06/29/2011	19:20	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
NASHUA	MT	06/29/2011	19:28	Hail	1.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	06/29/2011	19:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	06/29/2011	19:44	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	07/02/2011	17:43	Hail	1.75 in.	0	0	0.00K	0.00K
FT PECK	MT	07/02/2011	17:44	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/03/2011	19:35	Hail	0.88 in.	0	0	0.00K	0.00K
OPHEIM	MT	07/03/2011	20:05	Hail	0.88 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	07/05/2011	17:44	Hail	1.50 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/14/2011	20:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	07/16/2011	19:44	Thunderstorm Wind	74 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	07/18/2011	21:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
TAMPICO	MT	07/18/2011	21:10	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	07/18/2011	21:30	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	13:38	Hail	2.75 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	13:38	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	13:42	Hail	1.25 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	13:43	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	13:46	Hail	1.00 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	07/22/2011	13:59	Hail	2.75 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	07/22/2011	14:00	Hail	2.00 in.	0	0	0.00K	0.00K
NASHUA	MT	07/22/2011	14:04	Hail	1.25 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	14:05	Heavy Rain		0	0	0.00K	0.00K
NASHUA	MT	07/22/2011	14:05	Hail	1.25 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/22/2011	14:15	Heavy Rain		0	0	0.00K	0.00K
DUCK CREEK	MT	07/22/2011	14:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
FRAZER	MT	07/22/2011	14:45	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/22/2011	14:46	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	07/22/2011	14:46	Hail	1.00 in.	0	0	0.00K	0.00K
NASHUA	MT	07/22/2011	15:00	Hail	1.75 in.	0	0	0.00K	0.00K
Totals: **(for 500 results above)**						0	2	12.707M	22.100M

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
TAMPICO	MT	07/26/2011	12:57	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/26/2011	13:10	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K
SAINT MARIE	MT	07/26/2011	13:27	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
OPHEIM	MT	08/14/2011	18:04	Hail	1.00 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
OPHEIM	MT	08/14/2011	18:05	Hail	2.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/14/2011	18:35	Hail	1.00 in.	0	0	0.00K	0.00K
OPHEIM	MT	08/31/2011	02:15	Thunderstorm Wind	74 kts. EG	0	0	17.00K	0.00K
GLASGOW	MT	08/31/2011	17:41	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
OPHEIM	MT	08/31/2011	18:00	Thunderstorm Wind	61 kts. MG	0	0	0.00K	0.00K
LUSTRE	MT	08/31/2011	18:13	Hail	0.88 in.	0	0	0.00K	0.00K
LUSTRE	MT	08/31/2011	18:13	Thunderstorm Wind	62 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/26/2011	03:10	High Wind	35 kts. MS	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	12/26/2011	03:45	High Wind	50 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/29/2011	14:30	High Wind	52 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/05/2012	13:45	High Wind	50 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/13/2012	19:00	High Wind	57 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/06/2012	10:40	High Wind	52 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	05/06/2012	15:55	High Wind	62 kts. MG	0	0	0.00K	0.00K
BLUFF CREEK RAWS	MT	06/08/2012	17:35	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	06/08/2012	19:50	Hail	1.00 in.	0	0	0.00K	0.00K
KING COULEE RAWS	MT	06/08/2012	20:17	Hail	1.75 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	06/08/2012	20:52	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	06/08/2012	20:56	Thunderstorm Wind	63 kts. MG	0	0	0.00K	0.00K
NASHUA	MT	06/08/2012	21:43	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	06/13/2012	16:30	Hail	0.75 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
HINSDALE	MT	06/24/2012	01:45	Hail	1.00 in.	0	0	0.00K	0.00K
BAYLOR	MT	06/24/2012	04:00	Hail	0.75 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	06/24/2012	04:15	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/24/2012	05:18	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	06/24/2012	08:19	Hail	1.00 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	06/26/2012	16:00	High Wind	56 kts. MG	0	0	15.00K	0.00K
KING COULEE RAWS	MT	07/01/2012	21:55	Thunderstorm Wind	51 kts. MG	0	0	0.00K	0.00K
DUCK CREEK	MT	07/01/2012	22:15	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	07/01/2012	22:20	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/01/2012	22:22	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/01/2012	22:26	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
FRAZER	MT	07/01/2012	22:58	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
BAYLOR	MT	07/03/2012	14:45	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
SAINT MARIE	MT	07/03/2012	14:55	Hail	0.75 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/03/2012	15:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LUSTRE	MT	07/03/2012	15:25	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/03/2012	15:41	Hail	1.00 in.	0	0	0.00K	0.00K
LUSTRE	MT	07/03/2012	15:41	Hail	1.00 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	07/11/2012	15:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LUSTRE	MT	07/11/2012	16:10	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/14/2012	17:00	Strong Wind	35 kts. EG	0	0	1.00K	0.00K
KING COULEE RAWS	MT	07/23/2012	18:45	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GLASGOW	MT	07/23/2012	20:00	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
SAINT MARIE	MT	07/28/2012	19:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	07/30/2012	22:40	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
DUCK CREEK	MT	07/30/2012	22:55	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	10/16/2012	16:00	High Wind	52 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/16/2012	21:44	High Wind	60 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/05/2012	13:02	High Wind	51 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/29/2013	17:45	High Wind	52 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	04/29/2013	21:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
DUCK CREEK	MT	05/13/2013	18:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
FT PECK	MT	05/13/2013	18:42	Thunderstorm Wind	57 kts. MG	0	0	0.00K	0.00K
FT PECK	MT	05/13/2013	18:45	Thunderstorm Wind	58 kts. EG	0	0	0.00K	0.00K
KING COULEE RAWS	MT	05/13/2013	21:44	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
DUCK CREEK	MT	05/25/2013	16:10	Hail	0.75 in.	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	05/25/2013	16:55	Hail	1.50 in.	0	0	0.00K	0.00K
BAYLOR	MT	05/25/2013	17:45	Hail	3.00 in.	0	0	0.00K	0.00K
GLASGOW	MT	05/25/2013	17:49	Hail	0.75 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	05/25/2013	18:01	Hail	1.00 in.	0	0	0.00K	0.00K
DUCK CREEK	MT	05/26/2013	19:40	Hail	1.00 in.	0	0	0.00K	0.00K
GLASGOW INTL AIRPORT (KGGW)	MT	06/19/2013	22:30	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
BLUFF CREEK RAWS	MT	06/19/2013	22:45	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
GLASGOW	MT	06/19/2013	22:45	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
GLASGOW	MT	07/05/2013	06:59	Hail	0.75 in.	0	0	0.00K	0.00K
BLUFF CREEK RAWS	MT	07/07/2013	21:00	Thunderstorm Wind	61 kts. MG	0	0	0.00K	0.00K
BAYLOR	MT	07/07/2013	21:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
BAYLOR	MT	07/07/2013	21:15	Hail	0.75 in.	0	0	0.00K	0.00K
BAYLOR	MT	07/07/2013	21:28	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
BAYLOR	MT	07/07/2013	21:28	Thunderstorm Wind	60 kts. MG	0	0	0.00K	0.00K
OSWEGO	MT	07/20/2013	16:35	Hail	0.88 in.	0	0	0.00K	0.00K
OSWEGO	MT	07/20/2013	16:45	Hail	1.00 in.	0	0	0.00K	0.00K
SAINT MARIE	MT	07/24/2013	13:49	Hail	2.00 in.	0	0	0.00K	0.00K
LARSLAN	MT	07/24/2013	13:55	Hail	1.50 in.	0	0	0.00K	0.00K
NASHUA	MT	07/24/2013	14:10	Hail	1.00 in.	0	0	0.00K	0.00K
NASHUA	MT	07/24/2013	14:40	Hail	1.00 in.	0	0	0.00K	0.00K
OSWEGO	MT	07/24/2013	14:49	Hail	1.00 in.	0	0	0.00K	0.00K
FRAZER	MT	07/24/2013	15:05	Hail	1.75 in.	0	0	0.00K	0.00K
FRAZER	MT	07/24/2013	15:18	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/24/2013	15:45	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/24/2013	15:45	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/24/2013	15:54	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/24/2013	16:05	Hail	1.75 in.	0	0	0.00K	0.00K
HINSDALE	MT	07/24/2013	16:08	Hail	1.25 in.	0	0	0.00K	0.00K
NASHUA	MT	07/24/2013	16:30	Hail	1.25 in.	0	0	0.00K	0.00K
TAMPICO	MT	07/24/2013	16:35	Hail	1.25 in.	0	0	0.00K	0.00K
FRAZER	MT	07/24/2013	17:00	Hail	1.00 in.	0	0	0.00K	0.00K
FT PECK	MT	07/24/2013	17:15	Hail	1.00 in.	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
DUCK CREEK	MT	07/24/2013	17:20	Hail	0.75 in.	0	0	0.00K	0.00K
FT PECK	MT	07/24/2013	17:20	Hail	0.75 in.	0	0	0.00K	0.00K
BAYLOR	MT	08/05/2013	15:50	Hail	1.00 in.	0	0	0.00K	0.00K
NASHUA	MT	08/10/2013	14:55	Hail	1.25 in.	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/28/2013	04:15	High Wind	57 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/20/2014	03:00	High Wind	50 kts. MG	0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	MT	01/26/2014	04:00	High Wind	62 kts. MG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/26/2014	06:44	High Wind	55 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	04/18/2014	17:55	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	04/19/2014	17:37	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	05/31/2014	14:40	Hail	1.25 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	05/31/2014	15:00	Thunderstorm Wind	55 kts. MG	0	0	0.00K	0.00K
HINSDALE	MT	06/25/2014	18:44	Hail	1.00 in.	0	0	0.00K	0.00K
HINSDALE	MT	06/25/2014	20:06	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/11/2014	01:33	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/11/2014	01:45	Hail	1.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/11/2014	01:45	Hail	1.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	01:30	Hail	1.00 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	15:35	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	15:46	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	15:55	Thunderstorm Wind	58 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	15:56	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K

Location	St.	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
VALLEY CO.	MT	07/24/2014	16:00	Thunderstorm Wind	63 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:00	Thunderstorm Wind	57 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:04	Thunderstorm Wind	64 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:10	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:11	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:15	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:20	Hail	0.75 in.	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:53	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:53	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	16:57	Thunderstorm Wind	70 kts. EG	0	0	0.00K	0.00K
VALLEY CO.	MT	07/24/2014	17:15	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
VANDALIA	MT	08/28/2014	20:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/28/2014	21:30	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
HINSDALE	MT	08/28/2014	21:40	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/16/2014	04:00	High Wind	53 kts. MG	0	0	0.00K	0.00K
Totals:						0	0	33.00K	0.00K

B.5 Tornado Data from NOAA for 1/1/1964 to 1/1/2015

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	400.25K	0.00K
VALLEY CO.	VALLEY CO.	MT	08/06/1970	11:00	CST	Tornado	F1	0	0	0.25K	0.00K
VALLEY CO.	VALLEY CO.	MT	06/11/1972	13:05	CST	Tornado	F2	0	0	2.50K	0.00K
VALLEY CO.	VALLEY CO.	MT	06/11/1972	13:05	CST	Tornado	F1	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	06/25/1975	16:55	CST	Tornado	F2	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	06/25/1975	17:05	CST	Tornado	F2	0	0	25.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	06/25/1975	17:38	CST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/04/1978	17:00	CST	Tornado		0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/10/1983	02:10	CST	Tornado	F1	0	0	2.50K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/05/1988	20:30	MST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/05/1988	20:30	MST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/05/1988	20:30	MST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/05/1988	20:30	MST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	07/05/1988	20:30	MST	Tornado	F0	0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	08/18/1989	20:00	MST	Tornado	F0	0	0	0.00K	0.00K
Glasgow	VALLEY CO.	MT	06/06/1995	18:05	MST	Tornado	F0	0	0	0.00K	0.00K
Glasgow	VALLEY CO.	MT	06/22/1995	20:36	MST	Tornado	F0	0	0	0.00K	0.00K
Glasgow	VALLEY CO.	MT	08/26/1995	17:45	MST	Tornado		0	0	0.00K	0.00K
VALLEY CO.	VALLEY CO.	MT	08/26/1995	18:00	MST	Tornado	F0	0	0	0.00K	0.00K
Fort Peck	VALLEY CO.	MT	08/26/1995	18:10	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/17/1997	18:15	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/21/1999	18:45	MST	Tornado	F0	0	0	0.00K	0.00K
OPHEIM	VALLEY CO.	MT	06/21/1999	19:30	MST	Tornado	F1	0	0	250.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/07/2000	20:25	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/02/2000	19:05	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/03/2000	18:40	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/10/2000	17:15	MST	Tornado	F0	0	0	0.00K	0.00K
TAMPICO	VALLEY CO.	MT	07/20/2001	14:55	MST	Tornado	F0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/08/2002	18:15	MST	Tornado	F0	0	0	0.00K	0.00K
HINSDALE	VALLEY CO.	MT	07/08/2002	18:25	MST	Tornado	F0	0	0	10.00K	0.00K
PARK GROVE	VALLEY CO.	MT	07/08/2002	18:40	MST	Tornado	F0	0	0	100.00K	0.00K
OPHEIM	VALLEY CO.	MT	08/10/2007	18:45	MST-7	Tornado	EF1	0	0	10.00K	0.00K
FRAZER	VALLEY CO.	MT	07/13/2009	18:33	MST-7	Tornado	EF0	0	0	0.00K	0.00K
FRAZER	VALLEY CO.	MT	07/13/2009	18:40	MST-7	Tornado	EF0	0	0	0.00K	0.00K
KING COULEE RAWS	VALLEY CO.	MT	06/21/2010	15:00	MST-7	Tornado	EF0	0	0	0.00K	0.00K
GLASGOW	VALLEY CO.	MT	06/29/2011	18:09	MST-7	Tornado	EF0	0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	400.25K	0.00K

B.6 Wildfire Data from NOAA for 1/1/1964 to 1/1/2015

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	175.00K	0.00K
GLASGOW	VALLEY CO.	MT	07/15/2003	08:00	MST	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/15/2006	17:00	MST	Wildfire		0	0	100.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/04/2008	20:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/10/2008	20:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	07/28/2008	10:00	MST-7	Wildfire		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/08/2010	17:30	MST-7	Wildfire		0	0	75.00K	0.00K
Totals:								0	0	175.00K	0.00K

B.7 Winter Storm Data from NOAA for 1/1/1964 to 1/1/2015

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	3	5.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/10/1996	09:00	MST	Heavy Snow		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/18/1996	21:00	MST	Heavy Snow		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/16/1996	03:00	MST	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/29/1996	06:30	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/21/1997	09:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/22/1997	16:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/28/1997	11:00	MST	Winter Storm		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/12/1997	09:45	MST	Blizzard		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	03/09/1998	02:00	MST	Winter Storm		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	03/23/1998	01:00	MST	Heavy Snow		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	12/04/1998	06:00	MST	Heavy Snow		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	12/29/1998	18:00	MST	Winter Storm		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	05/11/1999	19:30	MST	Heavy Snow		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	04/13/2000	22:00	MST	Winter Storm		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	11/05/2000	06:00	MST	Winter Storm		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	12/15/2000	10:00	MST	Blizzard		0	0	0.00K	0.00K
VALLEY (ZONE)	VALLEY (ZONE)	MT	12/27/2000	07:00	MST	Ice Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/05/2002	01:00	MST	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	05/07/2002	07:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/07/2002	07:00	MST	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	10/28/2003	11:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/26/2003	17:00	MST	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/26/2003	18:00	MST	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/01/2004	20:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/01/2004	22:00	MST	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/24/2004	06:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/24/2004	06:00	MST	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/10/2004	12:00	MST	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	CENTRAL AND SOUTHERN	MT	02/10/2004	12:00	MST	Blizzard		0	3	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...	VALLEY (Z...										
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/11/2004	01:00	MST	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	05/11/2004	01:00	MST	Heavy Snow		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/30/2004	00:00	MST	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/30/2004	01:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/31/2004	19:00	MST	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/01/2005	00:00	MST	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/12/2005	10:00	MST	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/12/2005	12:15	MST	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/17/2005	02:00	MST	Heavy Snow		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/17/2005	02:00	MST	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/01/2007	06:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/01/2007	09:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/28/2008	15:55	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/28/2008	21:53	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/08/2008	17:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/08/2008	20:53	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/09/2008	16:44	MST-	Extreme		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
					7	Cold/wind Chill					
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/09/2008	18:53	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	05/01/2008	10:00	MST-7	Heavy Snow		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	10/11/2008	21:26	MST-7	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	10/11/2008	23:00	MST-7	Heavy Snow		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/13/2008	00:00	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/13/2008	01:00	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/13/2008	16:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/13/2008	20:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/20/2008	02:53	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/20/2008	02:55	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/21/2008	18:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/21/2008	21:45	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/28/2008	13:30	MST-7	Ice Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/29/2008	03:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/29/2008	03:30	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	CENTRAL AND SOUTHERN	MT	01/08/2009	07:45	MST-	Ice Storm		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...	VALLEY (Z...				7						
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/08/2009	08:30	MST-7	Ice Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/11/2009	21:44	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/13/2009	12:45	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	04/28/2009	19:00	MST-7	Heavy Snow		0	0	5.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/12/2009	20:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/05/2010	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/05/2010	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/22/2010	17:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/23/2010	22:00	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/24/2010	00:00	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/23/2010	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	11/23/2010	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/10/2010	07:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/20/2010	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/20/2010	06:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	CENTRAL AND SOUTHERN	MT	12/29/2010	05:00	MST-	Winter Storm		0	0	0.00K	0.00K

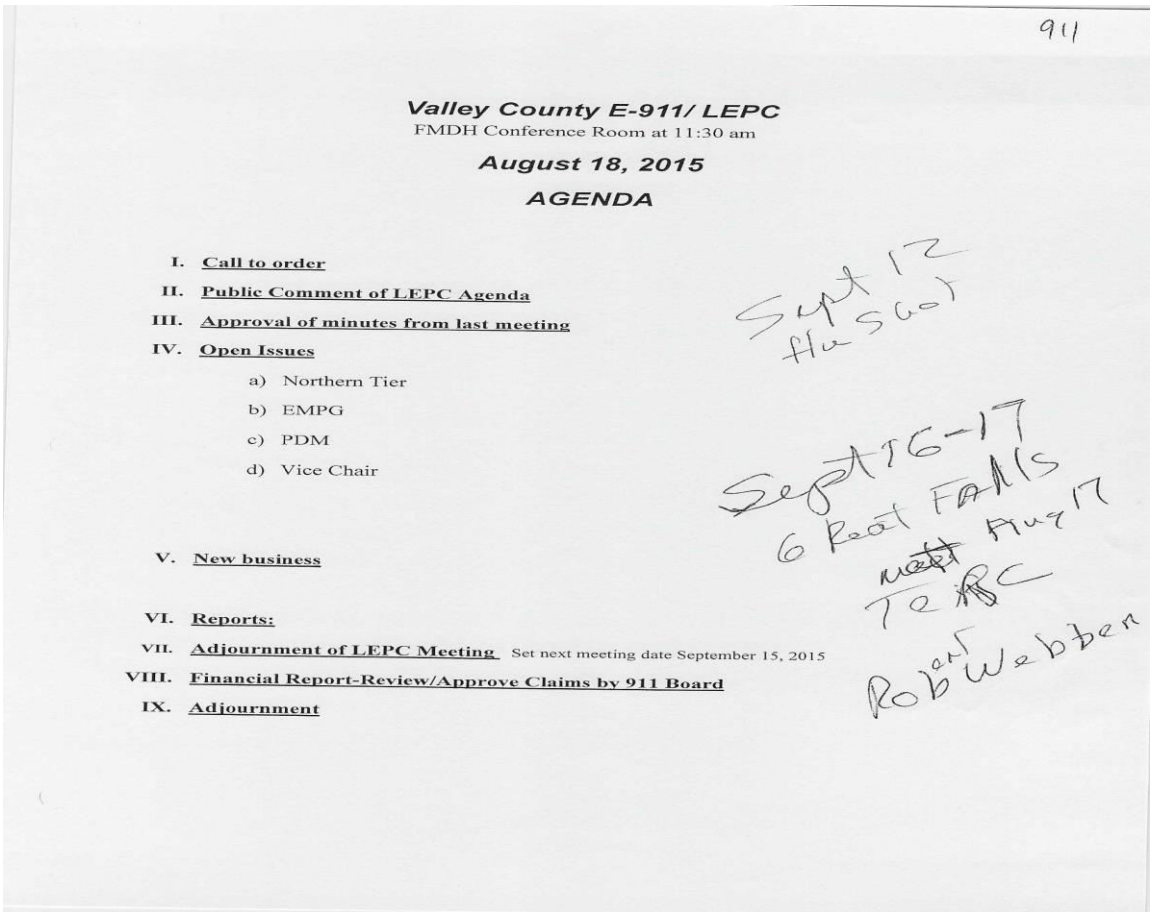
Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...	VALLEY (Z...				7						
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/29/2010	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/29/2010	14:23	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/29/2010	14:23	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/01/2011	00:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/07/2011	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/22/2011	01:00	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/31/2011	01:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/31/2011	04:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/31/2011	17:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/31/2011	17:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/01/2011	00:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/01/2011	00:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/01/2011	19:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/01/2011	21:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	02/17/2011	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	CENTRAL AND SOUTHERN	MT	02/17/2011	05:00	MST-	Winter Storm		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...	VALLEY (Z...				7						
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	02/25/2011	22:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/21/2011	18:00	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/21/2011	18:00	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/22/2011	10:52	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/23/2011	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	04/03/2011	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/18/2011	00:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/18/2012	02:44	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/18/2012	04:54	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/08/2012	16:30	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	11/08/2012	16:30	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/09/2012	08:51	MST-7	Blizzard		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	01/10/2013	19:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/11/2013	11:35	MST-7	Blizzard		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	01/30/2013	23:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN	CENTRAL AND SOUTHERN	MT	01/31/2013	02:53	MST-	Extreme		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VALLEY (Z...	VALLEY (Z...				7	Cold/wind Chill					
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/03/2013	18:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	03/17/2013	07:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	03/17/2013	08:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	04/13/2013	20:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	04/13/2013	21:00	MST-7	Winter Storm		0	0	0.00K	0.00K
NORTHERN VALLEY (ZONE)	NORTHERN VALLEY (ZONE)	MT	12/02/2013	09:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/02/2013	14:00	MST-7	Winter Storm		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	12/06/2013	01:00	MST-7	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CENTRAL AND SOUTHERN VALLEY (Z...	CENTRAL AND SOUTHERN VALLEY (Z...	MT	11/09/2014	05:00	MST-7	Winter Storm		0	0	0.00K	0.00K
Totals:								0	3	5.00K	0.00K

Appendix C: Participation

Public and Jurisdictional Meetings with Agendas:



911

Valley County E-911/ LEPC
FMDH Conference Room at 11:30 am
August 18, 2015
AGENDA

I. Call to order
II. Public Comment of LEPC Agenda
III. Approval of minutes from last meeting
IV. Open Issues
    a) Northern Tier
    b) EMPG
    c) PDM
    d) Vice Chair

V. New business

VI. Reports:
VII. Adjournment of LEPC Meeting Set next meeting date September 15, 2015
VIII. Financial Report-Review/Approve Claims by 911 Board
IX. Adjournment

Sept 17 Hu Sch

Sept 16-17 6 Rest FALLS next Aug 17 TERC

Rob Webber

Valley County E-911/LEPC

FMDH Conference Room at 11:30 am

July 21, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) Northern Tier

b) EMPG/PDM

c) Sheltering Committee Report

d) Siren Committee Report

e) Vice-Chair position open

V. **New business**

a) Dan Sietsema Roosevelt County DES

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting dateAugust, 18, 2015

VIII. **Financial Report-Review/Approve Claims by 911 Board**

IX. **Adjournment**

Valley County E-911/LEPC

FMDH Conference Room at 11:30 am

June 16, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) Northern Tier

b) EMPG / PDM

c) Sheltering Committee Report

d) Siren Committee Report

V. **New business**

a) Vice-Chair position open

b) Chempack Restock

c) Water Treatment Trailer

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting dateJuly 21, 2015

VIII. **Financial Report-Review/Approve Claims by 911 Board**

IX. **Adjournment**

Valley County E-911/LEPC

FMDH Conference Room at 11:30 am

May 19, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) Northern Tier

b) EMPG (Emergency Management Performance Grants Program)

c) PDM (Pre-Disaster Mitigation Grant Program) with Mike Kemp

1) Valley County Profile

d) Red Cross Representative – Abbra Firman

1) Community Sheltering Update

V. **New business**

a) Water treatment trailer exercise – June 9 & 10 FMDH

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting dateJune 16, 2015

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

Valley County E-911/ LEPC

FMDH Conference Room at 11:30 am

April 21, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) Northern Tier

b) EMPG

c) Siren committee report

d) Sheltering committee report

e) PPM

V. **New business**

e) Red Cross Representative Visit

f) HVA Analysis – Valley County

g) Public Health Walk- Wednesday April 22

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date May 19th, 2015

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

Valley County E-911/LEPC

FMDH Conference Room at 11:30 am

March 17, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

- a) Northern Tier
- b) Emergency Management Performance Grants Program (EMPG)
- c) Pre-Disaster Mitigation Grant Program (PDM)
  - 1) Valley County Profile
- d) Valley View After Action Report
- e) Community Sheltering Update
- f) Dropbox

V. **New business**

- a) Community Development Block Grant
- b) Hospital / Clinic shooter/hostage drill – April 21 or 22
- c) Water treatment trailer exercise – June 8 & 9

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting dateApril 21, 2015

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

AGENDA –DEPARTMENT HEAD MEETING

March 11, 2015 – Courthouse Community Room

Start 0900 to 1000

ITEM	REMARKS
Review Agenda	
Discuss PDM	
Department Heads Report	
Other Items of Interest	
Adjourn	

Valley County E-911/ LEPC

FMDH Conference Room at 11:30 am

February 10, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) EMPG

b) Northern Tier

c) PDM

Tuesday
17 Feb
12:00 OSISA

V. **New business**

Mike Kemp

LEPC meetings

Committee assignments

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date March 17th, 2015

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

Valley County E-911/ LEPC

FMDH Conference Room at 11:30 am

November 18, 2014

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) EMPG

b) Northern Tier

c) PDM

V. **New business**

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date and adjourn

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

Valley County E-911/ LEPC

FMDH Conference Room at 11:30 am

August 19, 2014

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) EMPG

b) Northern Tier

c) Sara II Reports

d) PDM (Pre-Disaster Mitigation)

V. **New business**

Web EOC
Valley View Disaster Drill
Alternative communications

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date and adjourn

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

XI. **Adjournment**

Valley County E-911/LEPC

AGENDA

June17, 2014

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a)EMPG

b)Northern Tier

c) Sara II Reports

d) PDM (Pre-Disaster Mitigation)

V. **New business**

Web EOC
Valley View Disaster Drill
Alternative communications

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date and adjourn

VIII. **Public Comment of 911 Agenda**

IX. **Financial Report-Review/Approve Claims by 911 Board**

X. **Public Comment** Regarding 911Board Interest

Levee Committee Meeting 12/8/15
Agenda

1. RFP initial meeting with Interstate Engineering – Jed Kirkland – *Bob*

   ~~Dec 16-17-15 – Meeting~~
   JAN 5 Tuesday 2:00 – Right way Access encouraged survey
   w/ other Office

2. DOC – NDRG/CDBG January 15 Meeting in Helena

   17 to 18 million

   100 flood plain

   Fema Remap flood plain copy RFP

3. Update of SWIF V5 – *Larry/All*

4. Other - *all*

5. Adjourn

Upcoming events:

- ***a. RFP initial meeting with Interstate Engineering – Jed Kirkland***
- ***b. January 15 DOC/NDRG - Helena***

Valley County E-911/ LEPC

FMDH Conference Room at 11:30 am

October 20, 2015

AGENDA

I. **Call to order**

II. **Public Comment of LEPC Agenda**

III. **Approval of minutes from last meeting**

IV. **Open Issues**

a) EMPG

b) PDM

c) Tower Leases

Nov 13, 7:00 Railroad Training

V. **New business**

Dispatch down Saturday for electrical crossover

VI. **Reports:**

VII. **Adjournment of LEPC Meeting** Set next meeting date November 17, 2015

VIII. **Financial Report-Review/Approve Claims by 911 Board**

IX. **Adjournment**

Town of Nashua
Council Meeting Agenda
February 8, 2016 6:30pm
Nashua Civic Center

1. Call to order of the meeting
2. Pledge of Allegiance
3. Approval of Minutes of January 11, 2016 Meeting
4. Public Input of Items on the Agenda
5. Mitigation Goals document and Emergency Operations Plan
6. MMIA Claim
7. Law Enforcement
8. Fire Department
9. Public Works
10. Clerk Input
11. Council Input
12. Public input-Items not listed on the agenda

Adjournment:

Next Meeting: March 14, 2016 at 6:30pm

Glasgow Levee Meeting

AGENDA

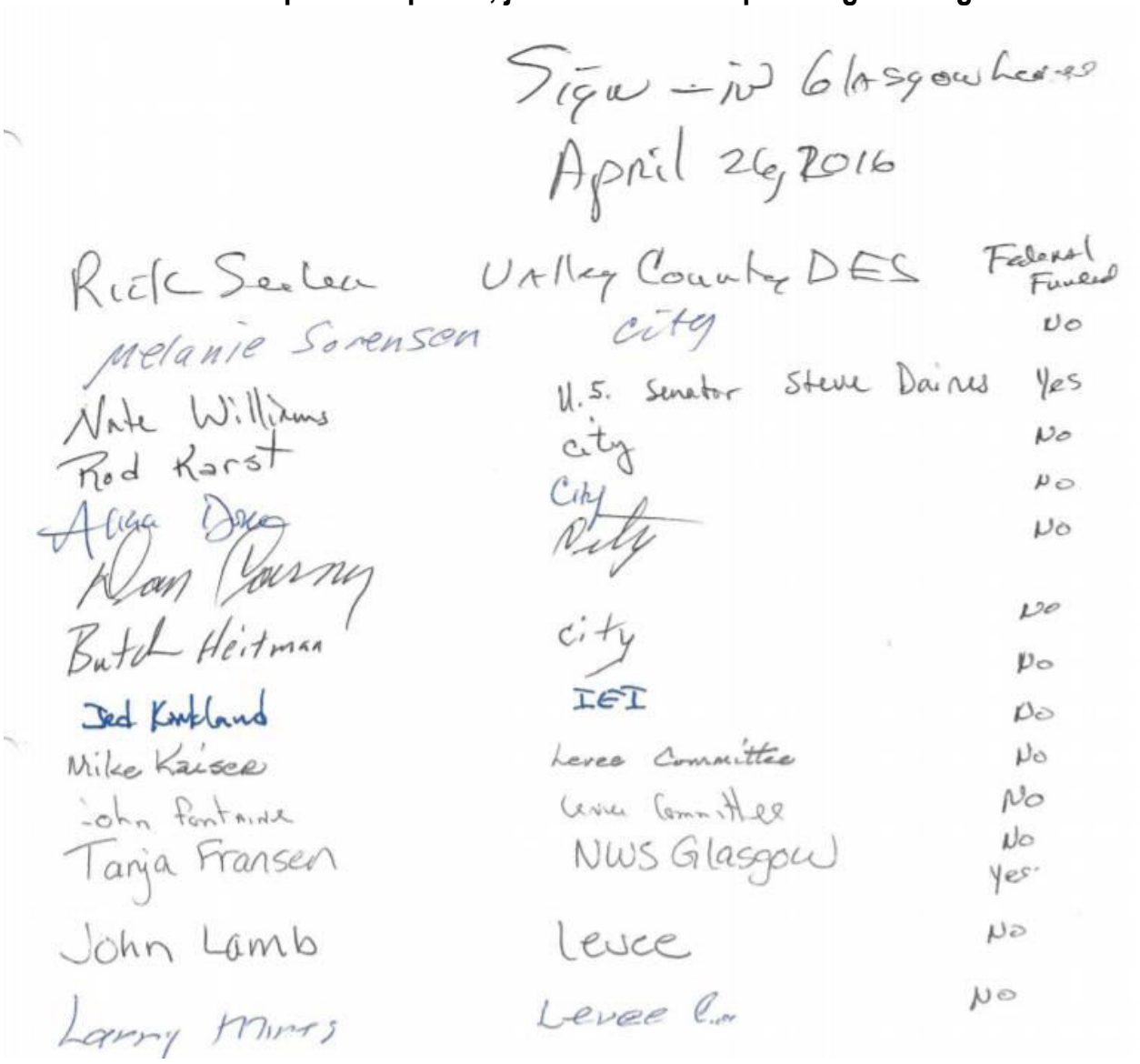
Date – August 18,2015

Time –2:00 P.M.

Glasgow Weather Office

- Call to Order
- Agenda additions
- Minutes from previous meetings
- Committee Reports
- Other business
- Adjournment

Attendance roster of public of public, jurisdictional and planning meetings:



Sign - in Glasgow Levee
April 26, 2016

		Federal Funded
Rick Seeley	Valley County DES	
Melanie Sorensen	City	No
Nate Williams	U.S. Senator Steve Daines	Yes
Rod Karst	city	No
Alicia Doke	City	No
Adam Gurney	City	No
Butch Heitman	city	No
Jed Kirkland	IEI	No
Mike Kaiser	Levee Committee	No
John Fontaine	Levee Committee	No
Tanja Fransen	NWS Glasgow	No
John Lamb	Levee	Yes.
Larry Mires	Levee C...	No

LEPC MEETING, January 19, 2016 ~~November 7, 2015~~ end 1:30 pm

FMDH CONFERENCE ROOM

3rd Tuesday of the Month @ 11:30 a.m.

Please sign in		Name	Email	Phone	Affiliation	Feb Mail
		Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	NO
	911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
	✓911 Board	**Brien Gault**	bgault@nemont.net	942-0134	Police Captain	NO
	911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	NO
		Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
		Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
	✓	Charles Wilson	dentist@nemont.net	228-8600	Community member	No
	911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
	LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	
		Collen Pankratz	vctransit @valleycountymt.gov	228-8744	Valley County Transit	
		Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	No
	✓	Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	No
		Dana Nixdorf			Valley View Home	
	✓	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	No
		Dave Pippin	dpippin@valleycountymt.gov		Community member	
		Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	
		Don Manfreda	don@valleyview1.net		Valley View Home	No
	911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	
		Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
		Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
	✓	Lucas Locke	airport@valleycountymt.gov		Airport Manager	No
		Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	
		Patrick Menge	patrick.menge@fmdh.org		FMDH	No
		Paul Score	paul.score@mdu.com	654-7315	MDU	
		Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	
	✓Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	No
	✓911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	Yes
		Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	
	✓Vice Chair	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	No
	911 Board	**Vernon Buerkle**	vbuerkle@valleycountymt.gov		VC Undersheriff	
Please sign in		Name	Email	Phone	Affiliation	
		Bob HANSON	robert.hansen@fmdh.org	263-8625	STATE Amb.	NO
		ROBERT KOMPEL	RKOMPEL@AOL.COM	263-8076	CITY OF GLASGOW	NO
		Robert Brunelle	robert@nemont.net	263-7621		NO

LEPC MEETING/ Nov 17, 2015 FMDH CONFERENCE ROOM

3rd Tuesday of the Month @ 11:30 a.m.

Please sign in		Name	Email	Phone	Affiliation	
		Becky Erickson	cityofglasgow@hotmail.com		Mayor	
		Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	
		Bob Kompel	rkompel@aol.com		City Engineer	
	911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
Brien Gault		Brien Gault	bgault@nemont.net	942-0134	Police Captain	
	911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	
		Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
		Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
		Charles Wilson	dentist@nemont.net	228-8600	Community member	
	911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
	LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	
		Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard	
		Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	
		Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	
		Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	
		Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH	
		Dave Pippin	dpippin@valleycountymt.gov		Community member	
		Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	
		Don Manfreda	don@valleyview1.net		Valley View Home	
	911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	
		Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
		Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
		Joleen Cotton		263-9666	Valley County Transit	
		Lucas Locke	airport@valleycountymt.gov		Airport Manager	
		Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	
		Patrick Menge	patrick.menge@fmdh.org		FMDH	
		Paul Score	paul.score@mdu.com	654-7315	MDU	
Paul Tweten		Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	
Rene Clampitt	Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	
Rick Seiler	911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	
	LEPC Vice Chair	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	
		Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	
		Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff	

START 11:30 to 1:00 PM

LEPC member list 2015 boards

PRE-DISASTER MITIGATION PLAN Meeting

DATE December 8, 2015 LOCATION: Glasgow Levee Meeting

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.	Fed Fund
Rick Seiler				
Valley Co DES	Circle One: (Yes) No	1 hr	rseiler@co.valley.mt.us	yes
City of Glasgow				
[illegible]	Circle One: Yes (No)	1 hr	[illegible]	No
Larry Inmes				
Levee Committee	Circle One: Yes (No)	1 hr		No
John Fontaine				
Levee Committee	Circle One: Yes (No)	1 hr		No
Ricky Cerucha	Circle One: Yes (No)	1 hr		No
John Lamb	Circle One: Yes (No)	1 hr	johnelamb@msn.com	No
Alicia Doke				
City of Glasgow	Circle One: Yes (No)	1 hr	adoke.cog@gmail.com	NO
ROBERT HOMPEL				
	Circle One: Yes (No)	1 hr		NO
Paul Tweten	Circle One: Yes (No)	1 hr	ptweten@valleycountymt.gov	NO
Rod Karst	Circle One: Yes (No)	1 hr	mtcoach@hotmail.com	NO
	Circle One: Yes (No)	1 hr		

Meeting Start Time: ~~5:00~~ 2:00 P.M.

Meeting End Time: ~~2:00~~ 4:30 P.M.

PRE-DISASTER MITIGATION PLAN Meeting

DATE ~~November~~ November 10, 2015 LOCATION: Dept Head Meeting

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
MIKE BAIN			support@valleycountymt.gov
Tech Support	Circle One: Yes (No)	½ hr	406-230-2016
Nick Murnion			nmurnion@valleycountymt.gov
Valley County Attorney	Circle One: Yes (No)	½ hr	406 228 6287
NANCY HAMILTON			
SAFETY	Circle One: Yes (No)	½ hr	
Connie Boresen			
Health	Circle One: Yes (No)	½ hr	
Colleen VanKratz			
Transit	Circle One: Yes (No)	½ hr	
GLEN MEIER			
SHERIFF	Circle One: Yes (No)	½ hr	
Rene Clampitt			rclampitt@valleycountymt.gov
VC 911	Circle One: Yes (No)	½ hr	228-6022
Dave Reinhardt			
comm	Circle One: Yes (No)	½ hr	
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00 P.M.~~ 9:00 AM

Meeting End Time: ~~1:00 P.M.~~ 10:00 AM

PRE-DISASTER MITIGATION PLAN Meeting

DATE ~~November~~ November 10, 2015 LOCATION: Dept Head Meeting

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
Ruth Sorlie	DES	½ hr.	rsorlie@co.valley.mt.us
DES	Circle One: (Yes) No		263-1479
John Cote		½ hr	jcote@valleycountymt.gov
County Maintenance	Circle One: Yes (No)		
Vicky Weitz	C.O.A.	½ hr	vweitz@valleycountymt.gov
Paul Tweten	Circle One: (Yes) No		ptweten@valleycountymt.gov
Lucas Locke		½ hr	airport@valleycountymt.gov
	Circle One: Yes (No)		
Todd Young		½ hr.	TYoung@valleycountymt.gov
	Circle One: Yes (No)		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00~~ 9:00 AM ~~P.M.~~

Meeting End Time: ~~9:00 P.M.~~ 10:00 AM

LEPC MEETING 1 — Octob), 2015 — FMDH CC RENCE ROOM

October 20, 2015 — 3rd Tuesday of the Month @ 11:30 a.m.

Please sign in		Name	Email	Phone	Affiliation	Federal Flood
		Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	No
	911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
	911 Board	**Brien Gault**	bgault@nemont.net	942-0134	Police Captain	No
	911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	
		Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
		Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
		Charles Wilson	dentist@nemont.net	228-8600	Community member	No
	911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
	LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	
		Collen Pankratz	vctransit @valleycountymt.gov	228-8744	Valley County Transit	
		Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	
		Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	No
		Dana Nixdorf			Valley View Home	
		Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	No
		Dave Pippin	dpippin@valleycountymt.gov		Community member	
		Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	
		Don Manfreda	don@valleyview1.net		Valley View Home	
	911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	
		Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
		Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
		Lucas Locke	airport@valleycountymt.gov		Airport Manager	No
		Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	
		Patrick Menge	patrick.menge@fmdh.org		FMDH	No
		Paul Score	paul.score@mdu.com	654-7315	MDU	
		Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	No
	Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	No
	911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	Yes
		Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	Yes
	Vice Chair	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	No
	911 Board	**Vernon Buerkle**	vbuerkle@valleycountymt.gov		VC Undersheriff	No
		Tyler Edwards	tedwards@nemont.net	228-8050	Glasgow PD	No

Email at 11:30 — Card 12:30

LEPC MEETING/ Septembe , 2015 FMDH CON ENCE ROOM

3rd Tuesday of the Month @ 11:30 a.m.

Please sign in	Name	Email	Phone	Affiliation	Federal Funds
→	Becky Erickson	cityofglasgow@hotmail.com		Mayor	
	Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	
	Bob Kompel	rkompel@aol.com		City Engineer	
911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
	Brien Gault	bgault@nemont.net	942-0134	Police Captain	No
911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	No
	Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
	Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
	Charles Wilson	dentist@nemont.net	228-8600	Community member	No
911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
~~LEPC Chairman~~/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	No
	~~Cody Lentz~~	cody.l.lentz.mil@mail.mil	672-0198	National Guard	
	Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	No
	Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	
	Dana Nixdorf			Valley View Home	
	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	
	Dave Pippin	dpippin@valleycountymt.gov		Community member	
	Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	No
	Don Manfreda	don@valleyview1.net		Valley View Home	
911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	No
→	Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
	Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
→	Joleen Cotton		263-2460	Valley County Transit	
	Lucas Locke	airport@valleycountymt.gov		Airport Manager	
	Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	No
	Patrick Menge	patrick.menge@fmdh.org		FMDH	No
	Paul Score	paul.score@mdu.com	654-7315	MDU	
	Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	
Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	No
911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	Yes
	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	Yes
Vice Chair	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	NO
	Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff	NO

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

Dept Head Meeting

DATE: September 9,2015 LOCATION: Courthouse community room

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Miles Traveled Round Trip to Attend Meeting	E-mail Address: Phone No.
Rick Seiler DES	Circle One: (Yes) No		rseiler@valleycountymt.gov
Lucas Locke Airport	Circle One: Yes (No)		
Connie Boresow VCHD	Circle One: Yes (No)		choresen@valleycountymt.gov
Brenda Anderson Treasurer	Circle One: Yes (No)		banderson@valleycountymt.gov
Shelley Lee Mills MSU EXTENSION	AG EXTENSION AGENT Circle One: (Yes) No		smills@montana.edu 228-6241
Vicky Wetz C.J.A.	Circle One: Yes (No)		vwetz@valleycounty.mt.gov
Colleen Pankratz Transit	Circle One: Yes No		vc-transit@valleycountymt.gov
Rene Clampitt 911 Coordinator/Planner	Circle One: Yes (No)		rclampitt@valleycountymt.gov
Dave Reinhardt Commiss	Circle One: Yes (No)		dreinhardt@valleycounty mt.gov
Todd Young Road Dept	Circle One: Yes (No)		tyoung@valleycounty MT.gov
Paul Tweten commiss	Circle One: Yes (No)		ptweten@valleycounty mt.gov

Meeting Start Time: 9:00

ND

Meeting End Time: 10:00

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING Levee Meeting

DATE: Aug 18, 2015 **LOCATION:** Glasgow Weather Office

Start 2:00 PM End 4:00 PM

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Miles Traveled Round Trip to Attend Meeting	E-mail Address: Phone No.
Rick Seiler	DES		wseiler@valleycountymt.gov
Valley County DI	Circle One: (Yes) No		406-263-1479
Becky Erickson		-0-	
Mayor of Glasgow	Circle One: Yes (No)		leeandbeckyerickson@yahoo.com
MARK GRUENER			mgruener@mcn.net
MTDES D-6 Fld Officer	Circle One: (Yes) No		(406) 366-1835
Red Karst			mtcoach@hotmail.com
City Council - Glasgow	Circle One: Yes (No)		406-263-8757
Alicia Doke			cityofglasgowmt@hotmail.com
City of Glasgow	Circle One: Yes (No)		406-228-3476 ext 2
Jon Carlson			406-263-7301
Levee Com	Circle One: Yes (No)		
Mike Kaiser			survey@nemont.net
Levee Committee	Circle One: Yes (No)		406-228-2654
MICHAEL EIDE			406-263-2184
Locky Mines	Circle One: Yes (No)		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: Meeting End Time:

LEPC MEETING/9 AUGUST 18, 2015 FMDH CONF NCE ROOM

START 11:30AM END 12:55 18 3rd Tuesday of the Month @ 11:30 a.m.

Please sign in	Name	Email	Phone	Affiliation
	Becky Erickson	cityofglasgow@hotmail.com		Mayor
	Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools
	Bob Kompel	rkompel@aol.com		City Engineer
911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire
	Brien Gault	bgault@nemont.net	942-0134	Police Captain
911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief
	Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner
	Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian
	Charles Wilson	dentist@nemont.net	228-8600	Community member
911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire
LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH
	Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard
	Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health
	Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire
	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing
	Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH
	Dave Pippin	dpippin@valleycountymt.gov		Community member
	Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner
	Don Manfreda	don@valleyview1.net		Valley View Home
911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff
	Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch
	Jim Taylor	james.taylor@mdu.com	263-2583	MDU
	Joleen Cotton	jcotton@valleycountymt.gov	263-2460	Valley County Transit
	Lucas Locke	airport@valleycountymt.gov		Airport Manager
	Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer
	Patrick Menge	patrick.menge@fmdh.org	228-3582	FMDH
	Paul Score	paul.score@mdu.com	654-7315	MDU
	Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner
Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator
911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES
	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau
	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept
	Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE August 11, 2015 **LOCATION:** <u>Public PDM Meeting at Cottonwood Inn</u>

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
NANCY CARNEY Levee Committee Larry Mires Levee Committee	Circle One: Yes (No)	[redacted]	lmires@itstriangle.net 406-263-8402
Tori Matejovsky GNCC	GNDC – Exec. Dir. Circle One: Yes (No)	[redacted]	torimatejovsky@gmail.com 653-2590
David R Pippin WPC	Circle One: Yes (No)	[redacted]	davepippin2@gmail.com
DAVID LYNCH land owner	Circle One: Yes (No)	[redacted]	BART1572@YAHOO.COM (406) 942 0480
land owner Herb Fullerton	Circle One: Yes (No)	[redacted]	
	Circle One: Yes No		
[illegible] VCHD	Circle One: Yes (No)	[redacted]	
TANIA SRANSEN Levee Committee [illegible]	Circle One: (Yes) No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00~~ 5:45 P.M.

Meeting End Time: ~~9:00~~ P.M. [illegible]

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE August 11, 2015 **LOCATION: Public PDM Meeting at Cottonwood Inn**

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
Landowner			
Ron Kemp	Circle One: Yes (No)	ha	painterhouse220@yahoo.com
Tristan Kemp			
landowner	Circle One: Yes No	ha	N/A
Levee committee			
Becky Terrell	Circle One: Yes (No)	ha	
melanie clemmons			
Levee committee	Circle One: Yes (No)	ha	MSO response 9/21
Debbie Seiler			
LANDOWNER	Circle One: Yes (No)	ha	
David Corcoran			
Black Cement	Circle One: (Yes) No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00~~ P.M. 5:45

Meeting End Time: ~~9:00~~ P.M. 8:30

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE August 11, 2015 **LOCATION: Public PDM Meeting at Cottonwood Inn**

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
NANCY CARNEY Levee Committee	Circle One: Yes (No)		
Larry Mires Levee Committee	Circle One: Yes (No)		lmires@frontier.net 406-263-8402
Tori Matejovsky GNDC	GNDC – Exec. Dir. Circle One: Yes (No)		torimatejovsky@gmail.com 653-2596
Howard L Pippin LEPC	Circle One: Yes (No)		davepippin2@bresnan.com
DAVID LYNCH Land Owner	Circle One: Yes (No)		EART1572@YAHOO.COM (406)942 0480
Land Owner Herb Fullerton	Circle One: Yes (No)		
	Circle One: Yes No		
[illegible] VCHD	Circle One: Yes (No)		
TANJA FRANSEN Levee Committee Mathews Society	Circle One: (Yes) No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00~~ 5:45 P.M.

Meeting End Time: ~~9:00~~ P.M.

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE August 11, 2015 **LOCATION: Public PDM Meeting at Cottonwood Inn**

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
Land owner			
Ron Kemp	Circle One: Yes (No)	2½ ha	painterhouse220@yahoo.com.
Tristan Kemp			
land owner	Circle One: Yes (No)	2½ ha	N/K
Levee committee			
Betty Erickson	Circle One: Yes (No)	2½ ha	
melanie Lemm			msorensen@mt.gov
Levee committee	Circle One: Yes (No)	2½ ha	
xDebbie Seiler			
LAND OWNER	Circle One: Yes (No)	2½ ha	
David Corcoran			
Block Consult	Circle One: (Yes) No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		
	Circle One: Yes No		

Meeting Start Time: ~~5:00~~ 5:45 P.M.

Meeting End Time: ~~9:00~~ 8:30 P.M.

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE August 11, 2015 **LOCATION: Public PDM Meeting at Cottonwood Inn**

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Talk about PDM	E-mail Address: Phone No.
Rick Seiler	DES/Coordinator	2½hrs	rseiler@valleycounty.mtgov
Valley	Circle One: (Yes) No		406-263-1479
Neal Moeykens		2½ hr	
Valley	Circle One: Yes (No)		
Mike Kaiser		2½hr	
Valley Levee Com.	Circle One: Yes (No)		
Paul Tweten		2½	ptweten@valleycounty.mt.gov
Valley Co Commissioner	Circle One: Yes (No)		263-7893
Michael Kemp		2½hr	Michael.Kemp@is-consulting.com
Consultant	Circle One: Yes (No)		
Michael Burns		2½hr	
landowner	Circle One: Yes (No)		
Butch Heitman		2½hr	
landowner	Circle One: Yes No		
John Lamb		2½hr	
Levee Committee	Circle One: ~~Yes~~ (No)		
Gina Loss			
weather Service	Circle One: (Yes) ~~No~~		
MANNY GRAHAM		2½hr.	
landowner	Circle One: Yes (No)		
TISA Seiler		2½hr	
UCHD	Circle One: Yes (No)		228-6205

Meeting Start Time: ~~5:00~~ 5:45 P.M.

Meeting End Time: ~~9:00~~ 8:30 P.M.

3rd Tuesday of the Month @ 11:30 a.m.

Please sign in		Name	Email	Phone	Affiliation	Federal Funded
		Becky Erickson	cityofglasgow@hotmail.com		Mayor	
		Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	
		Bob Kompel	rkompel@aol.com		City Engineer	
	911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
		Brien Gault	bgault@nemont.net	942-0134	Police Captain	
	911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	
		Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
		Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
		Charles Wilson	dentist@nemont.net	228-8600	Community member	No
	911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
	LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	No
		Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard	
TISA Seiler		Connie Boreson tiseiler @	~~cboreson~~@valleycountymt.gov	724-7232	VC Health	No
		Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	
		Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	
		Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH	
		Dave Pippin	dpippin@valleycountymt.gov		Community member	
		Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	No
		Don Manfreda	don@valleyview1.net		Valley View Home	
	911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	
		Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
		Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
		Joleen Cotton		263-2460	Valley County Transit	
		Lucas Locke	airport@valleycountymt.gov		Airport Manager	
N Hamilton		Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	No
		Patrick Menge	patrick.menge@fmdh.org		FMDH	No
		Paul Score	paul.score@mdu.com	654-7315	MDU	
Paul Tweten		Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	
	Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	No
	911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	Yes
	LEPC Vice Chair	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	
		Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	No
		Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff	No

Daw Stockman Yes Mark mtdot D-6 Field Office Yes

LEPC MEETING/

JUNE 16 2015

FMDH CONFERENCE ROOM
3rd Tuesday of the Month @ 11:30 a.m.

Please sign in	Name	Email	Phone	Affiliation 1:30
	Becky Erickson	cityofglasgow@hotmail.com		Mayor
	Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools
	Bob Kompel	rkompel@aol.com		City Engineer
911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire
Trent Gaines Police Lt	Brien Gault	bgault@nemont.net	942-0134	Police Captain
911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief
	Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner
	Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian
Chris Wilson	Charles Wilson	dentist@nemont.net	228-8600	Community member
911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire
LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH
	Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard
Connie Boreson	Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health
	Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire
	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing
	Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH
	Dave Pippin	dpippin@valleycountymt.gov		Community member
	Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner
	Don Manfreda	don@valleyview1.net		Valley View Home
911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff
	Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch
	Jim Taylor	james.taylor@mdu.com	263-2583	MDU
	Joleen Cotton	263-96666	~~263-2460~~	Valley County Transit
	Lucas Locke	airport@valleycountymt.gov		Airport Manager
	Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer
Patrick Menge	Patrick Menge	patrick.menge@fmdh.org		FMDH
	Paul Score	paul.score@mdu.com	654-7315	MDU
	Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner
Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator
911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES
LEPC Vice Chair	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau
	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept
	Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff

LEPC member list 2015 boards

LEPC MEETING, May 19. 2015

FMDH CONFERENCE ROOM
3rd Tuesday of the Month @ 11:30 a.m.

Please sign in	Name	Email	Phone	Affiliation	
	Becky Erickson	cityofglasgow@hotmail.com		Mayor	
	Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	
	Bob Kompel	rkompel@aol.com		City Engineer	
911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire	
Brien Gault	Brien Gault	bgault@nemont.net	942-0134	Police Captain	
911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief	
	Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
	Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian	
Chl Wilson	Charles Wilson	dentist@nemont.net	228-8600	Community member	
911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire	
LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH	
	Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard	
Connie Boreson	Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	
Dan Carney	Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire	
Darcel Wesen	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	
	Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH	
	Dave Pippin	dpippin@valleycountymt.gov		Community member	
	Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	
D-mf	Don Manfreda	don@valleyview1.net		Valley View Home	
911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff	
	Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
	Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
	Joleen Cotton	joleen@valleyview1.net	263-2460	Valley County Transit	
	Lucas Locke	airport@valleycountymt.gov		Airport Manager	
N.Hamilton	Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	
	Patrick Menge	patrick.menge@fmdh.org		FMDH	
	Paul Score	paul.score@mdu.com	654-7315	MDU	
Paul Tweten	Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner	
Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	
911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES	
LEPC Vice Chair	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau	
Todd Young	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	
	Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff	

Abbra Fiman — abbra.fiman@redcross.org 210-8286 - ARC

MEETING, start 11:30 to

April 21/2015 FMDH CONFERENCE ROOM

3rd Tuesday of the Month @ 11:30 a.m.

ase sign in		Name	Email	Phone	Affiliation
		Becky Erickson	cityofglasgow@hotmail.com		Mayor
		Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools
		Bob Kompel	rkompel@aol.com		City Engineer
	911 Board	**Brandon Brunelle**	glasgowfd@yahoo.com	230-2472	City Fire
		Brien Gault	bgault@nemont.net	942-0134	Police Captain
	911 Board	**Bruce Barstad**	bbarstad@nemont.net	942-0135	City Police Chief
		Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner
		Cam Shipp	cshipp@valleycountymt.gov		VC Sanitarian
		Charles Wilson	dentist@nemont.net	228-8600	Community member
	911 Board	**Chris Knodel**	knodelchris@yahoo.com		Long Run Fire
	LEPC Chairman/911 Board	**Clay Berger**	clay.berger@fmdh.org		EMS Director/FMDH
		Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard
		Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health
		Dan Carney	cityofglasgow@hotmail.com	263-7301	Fire
		Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing
		Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH
		Dave Pippin	dpippin@valleycountymt.gov		Community member
		Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner
		Don Manfreda	don@valleyview1.net		Valley View Home
	911 Chairman	**Glen Meier**	gmeier@valleycountymt.gov		VC Sheriff
		Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch
		Jim Taylor	james.taylor@mdu.com	263-2583	MDU
		Joleen Cotton	Dale-Adele	~~263-2460~~	Valley County Transit
		Lucas Locke	airport@valleycountymt.gov		Airport Manager
		Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer
		Patrick Menge	patrick.menge@fmdh.org		FMDH
		Paul Score	paul.score@mdu.com	654-7315	MDU
		Paul Tweten	ptweten@valleycountymt.gov	263-7893	Commissioner
	Secretary/Treasurer	**Rene Clampitt**	rclampitt@valleycountymt.gov	263-6222	911 Coordinator
	911 Board	**Rick Seiler**	rseiler@nemontel.net	263-1479	DES
	LEPC Vice Chair	Tanja Fransen	tanja.fransen@noaa.gov	230-1151	Weather Bureau
		Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept
		Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff

LEPC member list 2015 boards

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE: April 8, 2015 **LOCATION: Employee meeting at Valley County Courthouse**

Start 9:00 AM Finish 10:00 AM

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? (Yes or No)	Time reviewing Community profile	E-mail Address: Phone No.	Ed Funds
Rick Seiler DES	DES Coordinator Circle One: (Yes) No	3 hrs	rseiler@valleycounty 263-1479 gov	mt. Yes
Bruce Peterson	Circle One: Yes (No)	1 hr	bpeterson@valleycountymt. 228-6219	mt. not NO
Rene Clampitt	Circle One: Yes (No)	1 hr		No
Dave Reinhardt	Circle One: Yes (No)	1 hr.	rclampitt@valleycountymt. gov dreinhardt@valley	No
Sherri R. Turner VCSO	Circle One: Yes (No)	1 hr.	county mt. gov vcsheriff@ Valley	No
Tara Strommen Clerk of Court	Circle One: Yes (No)	1 hr	County mt. gov tstrommen@mt.gov	No
Leslie Simenson VCHD	Circle One: Yes (No)	1 hr	lsimenson@valley.county 228-62016	mt.gov No
Leanne Fontaine V. Co. Extension	Circle One: Yes No	1 hr.	valleyextension@valley county mt. gov	No
Mike Bain IT Support	Circle One: Yes (No)	1 hour	support@valleycountymt.gov	No
Teddi Seiler VC Treasurer	Circle One: Yes (No)	1 hr	tseiler@valleyCounty.mt.gov	No
Paul Twiten	Circle One: Yes (No)	1 hour	ptwyden@ valleycounty mt. gov	No

Meeting Start Time: Meeting End Time:

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE: 3/11/2015 **Location : Valley County Courthouse**

Start 9:00 AM End 10:30 PM

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? Yes or No	Time reading Community Profile	E-mail Address: Phone No.	Fed Fund
Ella Twoteeth Valley Co. Health Dept	Circle One: Yes (No)	30"	etwoteeth@valleycounty.mt.gov	No
Stone Tihista ILCWeed & Glasgow Mosquito	Circle One: Yes (No)	1 hr	stihista@valleycounty.mt.gov	No
Shelley Bryan, Clerk District Court	Circle One: Yes (No)	30 min	sbryan@mt.gov	No
Brenda Anderson Valley Co. Treasurer	Circle One: Yes (No)	30 min	banderson@valleycounty.mt.gov	No
Glen Meier SHERIFF	Circle One: Yes (No)	30 min	GMeier@ValleyCounty.MT.Gov	No
Robert J Bennett Valley County	Assistant Sheriff Circle One: Yes (No)	30 min		No
	Circle One: Yes No			
	Circle One: Yes No			
	Circle One: Yes No			
	Circle One: Yes No			
	Circle One: Yes No			

Meeting Start Time:

Meeting End Time:

PRE-DISASTER MITIGATION PLAN UPDATE
STAKEHOLDERS PLAN REVIEW MEETING

DATE: 3/11/2015 — Dept Head Meeting — **Location : Valley County Courthouse**

Start 9:00 AM — End 10:30 AM

Name: (Please Print) Organization:	Affiliation or Title: Federally Salaried? Yes or No	Time reading Community Profile	E-mail Address: Phone No.	Fed Fund
Rick Sorlen	DES Coordinator	3 hours	hsorlen@valleycounty	mt.gov
DES - Valley	Circle One: (Yes) No		263-1479	YES
Todd Young		3 hours	TYoung@valleycounty.MT.gov	NO
Valley County Road Dept	Circle One: Yes (No)		263-1479	
James H Beck		2 1/4 hrs	bpeterson@valleycounty	mt.gov
Valley Commissioner	Circle One: Yes (No)			NO
Cameron Shipp		3 hrs	CShipp@valleyco.mt.gov	NO
VC Courthouse - FB Admin	Circle One: Yes (No)			
Nick Murnion		30 min	nmurnion@valley	
Valley County Attorney	Circle One: Yes (No)		county mt. gov	NO
Pete Clampitt		2 hrs	pclampitt@valleycountymt.g	NO
V.C Planner	Circle One: Yes (No)			
Dave Reinhardt		2 hrs	dreinhardt@valley co.	
Commissioner	Circle One: Yes (No)		mt. gov.	YES
Colleen Hankratz		30 min	vctransit@valleycountyga	YES
Valley County Transit	Circle One: (Yes) No		228-8744	
Valley Cat		30 m	vwitz@valleycounty.MT.	NO
Valley Co Extension	Circle One: Yes (No)			
Shelley + Rambo		1 hr	Valley Extension@	NO
Paul Twiten	Circle One: Yes (No)		ptwiten@valleycounty.mt.gov	
Mike Bain	NO	1 hr	support@valleycountymt.gov	NO
	Circle One: Yes No			

Meeting Start Time: 9:00 — Meeting End Time:

MEETING

FEBRUA .0, 2015

FMDH CO .RENCE ROOM

Please sign in	Name	Email	Phone	Affiliation	
	Don Manfreda	~~WH~~ don@valleyview1.net	263-2460	Valley View Hom	Federal Fund
	Becky Erickson	cityofglasgow@hotmail.com		Mayor	No
	Bob Connors	rjc.montana@gmail.com	381-4604	Supt of Schools	
	Bob Hanson	sparkyrgh@yahoo.com	263-5733	Long Run Fire	
	Bob Kompel	rkompel@aol.com		City Engineer	
	Brandon Brunelle	glasgowfd@yahoo.com	230-2472	City Fire	
	Brien Gault	bgault@nemont.net	942-0134	Police Captain	No
	Bruce Barstad	bbarstad@nemont.net	942-0135	City Police Chief	
	Bruce Peterson	bpeterson@valleycountymt.gov		VC Commissioner	
PRESENT	Cam Shipp	cshipp@valleycountymt.gov	228-6264	VC Sanitarian	No
PRESENT	Charles Wilson	dentist@nemont.net	228-8600	Community member	No
	Clay Berger	clay.berger@fmdh.org	263-3671	EMS Director/FMDH	No
	Cody Lentz	cody.l.lentz.mil@mail.mil	672-0198	National Guard	
	Connie Boreson	cboreson@valleycountymt.gov	724-7232	VC Health	No
	Dan Carney	cityofglagow@hotmail.com	263-7301	Fire	No
	Darcel Wesen	darcel.d.wesen@boeing.com		MARCO/Boeing	No
	Dave Nixdorf	dave.nixdorf@fmdh.org	263-7301	FMDH	
	Dave Pippin	dpippin@valleycountymt.gov		VC Commissioner	No
	Dave Reinhardt	dreinhardt@valleycountymt.gov		VC Commissioner	
	Glen Meier	gmeier@valleycountymt.gov		VC Sheriff	No
	Jan Garrison	jgarrison@valleycountymt.gov	228-6273	Dispatch	
	Jim Taylor	james.taylor@mdu.com	263-2583	MDU	
	Joleen Cotton	joleen@valleyview1.net	~~263-2460~~ 263-9263	~~Valley View Home~~	No
	Lucas Locke	airport@valleycountymt.gov		Airport	
	Nancy Hamilton	nhamilton@valleycountymt.gov	230-0922	VC Safety Officer	No
	Patrick Menge	patrick.menge@fmdh.org		FMDH	No
	Paul Score	paul.score@mdu.com	654-7315	MDU	
	Paul Tweten	tweten@hotmail.com	263-7893	VC Roads	
	Rene Clampitt	rclampitt@valleycountymt.gov	263-6222	911 Coordinator	No
	Rick Seiler	rseiler@nemontel.net	263-1479	DES	Yes
	Tanja Fransen	tanja.fransen@noaa.gov	230-1151 / 228-4043	Weather Bureau 4042	Yes
	Todd Young	tyoung@valleycountymt.gov	750-5369	Road Dept	No
	Vernon Buerkle	vbuerkle@valleycountymt.gov		VC Undersheriff	

Opheim

Mitigation Actions Meetings
OffsiteMeetings

Nov16-30

Fort Peck; Glasgow; Opheim; Nashua

Agenda:

1. Consultant will discuss the mitigation process, what has been accomplished, next steps and answer any outstanding questions.
2. Consultant will review the migration action process.
3. Discussion with the Jurisdiction POC (hazards risk and mitigation actions) Jurisdiction will be asked to share what actions they believe are needed to protect them form Hazards.

Documentsrequired: Past mitigation action survey to be provided by EM

Inkind match:

Printed name and title of Jurisdictional representative Dorothy Crandell

Date 12-21-15

Duration of meeting 30min (1 hour) 1:30 Min 2 Hour

Signature of Jurisdictional representative Dorothy Crandell

start 10:00
end 11:00

Rich Siler — Federal Funded? Yes
Scott St. John — No
Doug Bank — No

Mitigation Actions Meetings

OffsiteMeetings

Nov16-30

Fort Peck; Glasgow; Opheim; Nashua

County Commissioner

Agenda:

1. Consultant will discuss the mitigation process, what has been accomplished, next steps and answer any outstanding questions.
2. Consultant will review the migration action process.
3. Discussion with the Jurisdiction POC (hazards risk and mitigation actions) Jurisdiction will be asked to share what actions they believe are needed to protect them form Hazards.

Documentsrequired: Past mitigation action survey to be provided by EM

Inkind match:

Printed name and title of Jurisdictional representative BRUCE PETERSON, County Commissioner

Date 19 Dec 15

Duration of meeting (30min) 1 hour ~~1.30 Min~~ 2 Hour

Signature of Jurisdictional representative

start at 2:00 pm
end 2:30

Rick Seiler

Federal Funded

23 Dec 15

30 min

start 1:30 pm
end 2:00 pm

Rick Seiler — YES
Paul Tostenson — NO
Bruce Peterson — NO

Fort Peck

Mitigation Actions Meetings
OffsiteMeetings

Nov16-30

Fort Peck; Glasgow; Opheim; Nashua

Agenda:

1. Consultant will discuss the mitigation process, what has been accomplished, next steps and answer any outstanding questions.
2. Consultant will review the migration action process.
3. Discussion with the Jurisdiction POC (hazards risk and mitigation actions) Jurisdiction will be asked to share what actions they believe are needed to protect them form Hazards.

Documentsrequired: Past mitigation action survey to be provided by EM

Inkind match:

Printed name and title of Jurisdictional representative_____

Date 12-17-15

Duration of meeting 30min (1 hour) 1:30 Min 2 Hour

Signature of Jurisdictional representative_____

Start 2:00 PM
End 3:00 PM

Federal Funded
Yes
NO
NO
NO

Mitigation Actions Meetings
Offsite Meetings

Nov16-30

Fort Peck; Glasgow; Opheim; Nashua

Agenda:

1. Consultant will discuss the mitigation process, what has been accomplished, next steps and answer any outstanding questions.
2. Consultant will review the migration action process.
3. Discussion with the Jurisdiction POC (hazards risk and mitigation actions) Jurisdiction will be asked to share what actions they believe are needed to protect them form Hazards.

Documents required: Past mitigation action survey to be provided by EM

Inkind match:

Printed name and title of Jurisdictional representative_____

Date 11-19-15

Duration of meeting 30min (1 hour) 1:30 Min 2 Hour

Signature of Jurisdictional representative

Federal Funded

Yes

No

No

No

Mitigation Actions Meetings
OffsiteMeetings

Glasgow

Nov16-30

Fort Peck; Glasgow; Opheim; Nashua

Agenda:

1. Consultant will discuss the mitigation process, what has been accomplished, next steps and answer any outstanding questions.
2. Consultant will review the migration action process.
3. Discussion with the Jurisdiction POC (hazards risk and mitigation actions) Jurisdiction will be asked to share what actions they believe are needed to protect them form Hazards.

Documentsrequired: Past mitigation action survey to be provided by EM

Inkind match:

Printed name and title of Jurisdictional representative_____

Date 11-19-15

Duration of meeting 30min 1 hour (1:30 Min) 2 Hour

Signature of Jurisdictional representative_____ Federal Funded

Reed Smith — Yes

Russell Hart — No

Stacey A Amundson — No

Ron Kemp — No

Invitation to Participate (Email, paper of record and Websites):

INPUT INVITED ON VALLEY COUNTY PRE-DISASTER MITIGATION PLAN

Valley County and the City of Glasgow, Towns of Fort Peck , Nashua and Opheim invite your input on the final version of the updated Valley County Pre-Disaster Mitigation Plan. For those wishing to participate in this opportunity the plan can be found at the Valley County Road Shop (54145 Highway 2 West, Glasgow, Mt. 59230) or e-mail rseiler@valleycountymt.gov for a copy. Can also be seen on the Valley County Website ,valleycountymt.net

Input will be accepted up until 14 days upon the date of this announcement. If you have any questions please contact Rick Seiler (Valley County DES Coordinator at 406-263-1479)

Gmail by Google

Richard Seiler <rseiler@valleycountymt.gov>

Public Meeting Tonight
1 message

Corcoran, David <DCorcoran@mt.gov> Tue, Aug 11, 2015 at 4:12 PM
To: Tanja Fransen - NOAA Federal <tanja.fransen@noaa.gov>, Richard Seiler <rseiler@valleycountymt.gov>

Hello,

I've attached a summary of the project and the state's approach moving forward. Feel free to provide for distribution at the meeting, if you have the time to do it with such short notice! At the very least, it will hopefully provide you folks with somewhat of a framework.

In terms of framing the unmet needs discussion tonight, we'd like if we could start to focus the conversation around the below questions:

- As a result of the flooding, what were the short and long term impacts related to:
  - The community's health & well-being?
  - The overall economy & social/cultural fabric?
  - The community's infrastructure and environment (both natural and manmade)
  - How the community/region responds to and prepares for future events (i.e. leadership/strategy)
- When thinking about potential projects that will promote long-term resilience in the Glasgow/Valley County area, how do these projects relate to and/or promote:
  - Public health, safety & overall well-being?
  - Economic vitality and the social/cultural fabric?
  - Infrastructure needs and environmental considerations (water, wastewater, housing, natural resources, environmental constraints, etc.)?
  - Being proactive as a community in the face of future events – and the steps necessary to become more proactive?

Look forward to talking with you folks tonight!

Thanks,

Gmail by Google

Richard Seiler <rseiler@valleycountymt.gov>

Community Meeting - Please share and join us

1 message

Rene Clampitt <rclampitt@valleycountymt.gov> Tue, Aug 11, 2015 at 10:32 AM
To: Brien Gault <bgault@nemont.net>, Bruce Barstad <bbarstad@nemont.net>, BRUCE PETERSON <bpeterson@valleycountymt.gov>, C L Wilson <dentist@nemont.net>, CAM SHIPP <cshipp@valleycountymt.gov>, City of Glasgow <cityofglasgowmt@hotmail.com>, Colleen Pankratz <vctransit@nemont.net>, Connie Boreson <cboreson@valleycountymt.gov>, Darcel Wesen <darcel.d.wesen@boeing.com>, Dave Reinhardt <dreinhardt@valleycountymt.gov>, Don Manfreda <don@valleyview1.net>, GLEN MEIER <gmeier@valleycountymt.gov>, Janet Garrison <jgarrison@valleycountymt.gov>, Jim Taylor <JAMES.TAYLOR@mdu.com>, Joleen Cotton <jcotton@valleycountymt.gov>, Nancy Hamilton <nhamilton@valleycountymt.gov>, PATRICK MENGE <patrick.menge@fmdh.org>, Paul Tweten <ptweten@valleycountymt.gov>, paul.score@mdu.com, Richard Seiler <rseiler@valleycountymt.gov>, Tanja Fransen <tanja.fransen@noaa.gov>, Todd Young <tyoung@valleycountymt.gov>, Vernon Buerkle <vbuerkle@valleycountymt.gov>

Disasters? What Disasters?

Your input is needed! The City of Glasgow and Valley County are working on several projects related to hazards and disasters. We'd like to hear your input on these topics, as well as explain potential future funding opportunities for the numerous issues that we face here on the Hiline. From the concerns with the Glasgow levee, to our severe summer storms, the many flood types we see, winter weather, hazmat and disease, we want to hear what concerns you have, and what ideas you have. What needs are there in the community that should be addressed? What repetitive losses can we work on mitigating? This meeting will touch upon the Valley County Pre-Disaster Mitigation Plan that is being updated, give updates on what the Glasgow Levee Committee has been working on, and discuss the Community Development Block Grant on Disaster Resilience being administered by the Montana Dept of Commerce. This is a public meeting, and you are welcome to join us on Tuesday, August 11th from 6-8 pm at the Cottonwood Inn.

Please feel free to share this with anyone who may be interested.

Thanks,

Tanja Fransen
Glasgow Levee Committee/Local Emergency Planning Committee

Gmail by Google

Richard Seiler <rseiler@valleycountymt.gov>

Public Meeting Tonight

1 message

Corcoran, David <DCorcoran@mt.gov> Tue, Aug 11, 2015 at 4:12 PM
To: Tanja Fransen - NOAA Federal <tanja.fransen@noaa.gov>, Richard Seiler <rseiler@valleycountymt.gov>

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    - The community's infrastructure and environment (both natural and manmade)
    - How the community/region responds to and prepares for future events (i.e. leadership/strategy)
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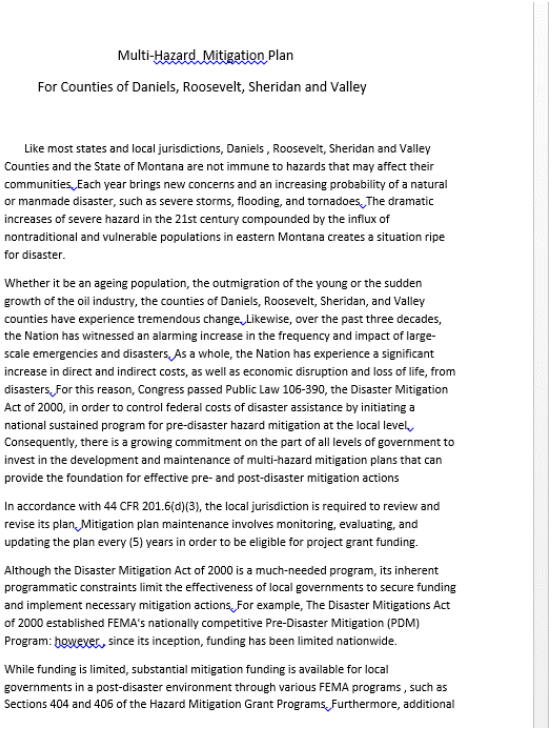
    - Economic vitality and the social/cultural fabric?
    - Infrastructure needs and environmental considerations (water, wastewater, housing, natural resources, environmental constraints, etc.)?
    - Being proactive as a community in the face of future events – and the steps necessary to become more proactive?

Look forward to talking with you folks tonight!

Thanks,



Multi-Hazard Mitigation Plan

For Counties of Daniels, Roosevelt, Sheridan and Valley

Like most states and local jurisdictions, Daniels , Roosevelt, Sheridan and Valley Counties and the State of Montana are not immune to hazards that may affect their communities. Each year brings new concerns and an increasing probability of a natural or manmade disaster, such as severe storms, flooding, and tornadoes. The dramatic increases of severe hazard in the 21st century compounded by the influx of nontraditional and vulnerable populations in eastern Montana creates a situation ripe for disaster.

Whether it be an ageing population, the outmigration of the young or the sudden growth of the oil industry, the counties of Daniels, Roosevelt, Sheridan, and Valley counties have experience tremendous change. Likewise, over the past three decades, the Nation has witnessed an alarming increase in the frequency and impact of large-scale emergencies and disasters. As a whole, the Nation has experience a significant increase in direct and indirect costs, as well as economic disruption and loss of life, from disasters. For this reason, Congress passed Public Law 106-390, the Disaster Mitigation Act of 2000, in order to control federal costs of disaster assistance by initiating a national sustained program for pre-disaster hazard mitigation at the local level. Consequently, there is a growing commitment on the part of all levels of government to invest in the development and maintenance of multi-hazard mitigation plans that can provide the foundation for effective pre- and post-disaster mitigation actions

In accordance with 44 CFR 201.6(d)(3), the local jurisdiction is required to review and revise its plan. Mitigation plan maintenance involves monitoring, evaluating, and updating the plan every (5) years in order to be eligible for project grant funding.

Although the Disaster Mitigation Act of 2000 is a much-needed program, its inherent programmatic constraints limit the effectiveness of local governments to secure funding and implement necessary mitigation actions. For example, The Disaster Mitigations Act of 2000 established FEMA's nationally competitive Pre-Disaster Mitigation (PDM) Program: however , since its inception, funding has been limited nationwide.

While funding is limited, substantial mitigation funding is available for local governments in a post-disaster environment through various FEMA programs , such as Sections 404 and 406 of the Hazard Mitigation Grant Programs. Furthermore, additional funding sources are available through various pre- and post-disaster programs operated by other federal agencies.

Daniels, Roosevelt, Sheridan, and Valley Counties have hired Integrated Solutions Consulting (ICS) from West Fargo, ND to update our Multi-Hazard Mitigation Plans (PDM) .We have completed Task 1- Organize Recourses- which consist of coordinate with Mitigation Planning Team, update process and identify hazard. Task 2-Risk Assessment-Community profile, Hazard Profile & various analyses-which consist of community profile, Risk(vulnerability, disaster modeling Etc.), Estimate losses. Task 3-Prioritize Mitigation Strategy- which consist of Review and analyze the results of the Hazard profiles and loss estimation, updating goals & objectives, review the implementation strategy, capabilities assessment. To be completed is Task 1- public involvement, Task 3-Identification and prioritization of mitigation actions. Task 4-Complete Multi-Hazard Mitigation Plan Update, which consist of write, print and distribute draft of the updated plan, Review the documented planning process. Task 5-Finalize Update.

Valley County, City of Glasgow and Towns of Fort Peck, Nashua, and Opheim invite your input concerning mitigation projects to be added to the updated Multi-Hazard Mitigation Plan. For those wishing to participate in this opportunity a list of the recommended projects can be found online at valleycountymt.net. Input will be accepted up until 30 days upon the date of this announcement. If you have any questions please contact Rick Seiler, Valley County Disaster and Emergency Coordinator, at rseiler@valleycountymt.gov or 406-263-1479

ValleyCounty Mitigation Plan

Glasgow - Fort Peck – Nashua - Opheim

The Following is a list of proposed projects to be incorporated into the County's Multi-Jurisdictional Hazard mitigation plan. Per state and federal requirements, the plan is required to be updated every 5 years. It is encouraged that citizens of Valley County and its respective cities be an active part of this update process. Please review and provide your input concerning the identified projects to be include in the updated plan below. Feedback may include, but is not limited to the following:

- Adding new projects to the recommendation list
- Voicing your opinion for and or against any of the recommended projects
- Providing any additional detailsdeem pertinent to the recommended projects.
- Modifying any of the provided information pertaining to the recommended projects

All feedback should be provided toDES Coordinator RickSeiler. One can provide input verbally or in writing, what is important is that we receive your feedback.

If you have any questions place Contact Rick Seiler at 406-263-1479

Thank you for your Assistance!

Approved Projects to be include in the Plan Update:

Jurisdictions	Projects	Coordinating Agencies and Partners	Resources Needed	Goal Timeframe
Valley County City of Glasgow Towns of Fort Peck and Nashua	Building Codes	County Commission Town Councils	Staff Time Technical Expertise	Near Term
Valley County	Martin Coulee culvert	County Commission NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	NOAA Weather Radios	County Commission City and Town Councils Valley County LEPC National Weather Service	Staff/Volunteer Time Funding	Near Term Ongoing
Valley County	The Pines Wildfire Planning	Fire Department US Army Corps of Engineers US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Planning Expertise	Near Term Ongoing
City of Glasgow	Hoyt Park Storm Drainage Project (SWIF Plan)	City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Setbacks	County Commission City and Town Councils NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Growth Policy	County Commission City and Town Councils	Staff/Volunteer Time Funding	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Subdivision Regulations	County Commission	Staff Time Planning Expertise Technical Expertise	Near Term
Towns of Fort Peck and Opheim	Increase capacity of rural fire fighters	Opheim and Fort Peck Town Councils	Staff Time Technical Expertise Funding	Near Term
Town of Nashua	Milk River Drive Stabilization	Nashua Town Council Valley County Road Department	Staff Time Technical Expertise Funding	Mid Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Develop Power outage plan	County Commission Valley DES City and Town Councils	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow · Town of Nashua	Fresno Dam Releases	County Commission Glasgow City Council Nashua Town Council US Bureau of Reclamation Montana DNRC	Staff Time Partner Participation Technical Expertise	Near Term Ongoing
Nashua	Update/Modernize evacuation Plan	Nashua Town Council Valley County DES	Staff Time Technical Expertise Funding	Near Term
Nashua	Portable pump	Nashua Town Councils	Staff Time Technical Expertise	Near Term

City of Glasgow	Northern-Side Diversion Box (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
City of Glasgow	South Side Storm Water Pump Stations (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
City of Glasgow	North-Side Water Pump Station (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
City of Glasgow	North-Side Water collection system (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
City of Glasgow	Billingsley Road Bridge (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County Towns of Fort Peck, Nashua, and Opheim	Countywide StormReady	Valley County LEPC Valley County DES National Weather Service	Staff Time Partner Participation	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Federal MOUs	Fire Department County Commission City and Town Councils US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Partner Participation Technical Expertise	Near Term Ongoing
Town of Nashua	Nashua Ice jam plan	Town Council Valley County DES NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck, Opheim and Nashua	Dry Hydrants	Fire Department	Staff/Volunteer Time Technical Expertise Public Participation Funding	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Structure Elevation Measurements	County Commission City and Town Councils	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Mapping Improvements	NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term
Valley County	Baylor Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term
Valley County	Beaverton Creek Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term
Valley County	Snake Creek Bridge Replacement	County Commission	Staff Time Technical Expertise Funding	Mid Term
Nashua	Sewage gas generator	Nashua Town Council	Staff Time Technical Expertise	Near Term
Fort Peck, Nashua Opheim,	Critical infrastructure power back up	Towns Councils Valley County DES	Staff Time Technical Expertise Funding	Near Term

Valley County City of Glasgow Towns of Fort Peck and Nashua	EAS Equipment	Valley County DES Valley County LEPC National Weather Service Radio Station	Staff Time Technical Expertise Funding	Near Term
Nashua	Levee Mitigation Plan	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term
Nashua	Milk river channel reroute	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term
Nashua	Property buy outs	Nashua Town Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Partner Participation Funding	Near Term
Glasgow	Levee Gates Rehabilitation (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Public Education	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Red Flag Public Information	Fire Department	Staff/Volunteer Time Partner Participation Public Participation	Near Term Ongoing
Valley County	Hinsdale Ditch	County Commission	Staff Time Technical Expertise Funding	Mid Term
Town of Nashua	Nashua NFIP Improvements	Town of Nashua Council NFIP Coordinator Montana DNRC FEMA – Region VIII	Staff Time Technical Expertise Funding	Mid Term
Town of Nashua	Nashua Gates and Backflow Valves	Nashua Town Council	Staff Time Technical Expertise Partner Participation Funding	Mid Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	CRP Land Haying	County Commission City and Town Councils Fire Department Farm Service Agency	Staff/Volunteer Time Partner Participation	Mid Term Ongoing
Towns of Fort Peck, Nashua, and Opheim	Abandoned Building Removal	Town Councils Fire Department	Staff/Volunteer Time Funding	Mid Term Ongoing
Town of Fort Peck	Fort Peck Theater Sprinkler System	Fort Peck Fine Arts Council Fire Department and private owner	Partner Participation Funding	Mid Term
Valley County	Fairgrounds drainage	County Commission	Staff Time Technical Expertise Funding	Mid Term
Opheim	All weather storm shelter	Opheim Town Council Valley DES	Staff Time Technical Expertise Funding	Near Term
Towns of Nashua and Opheim	Tornado Safe Rooms	Town Councils	Staff Time Technical Expertise	Mid Term

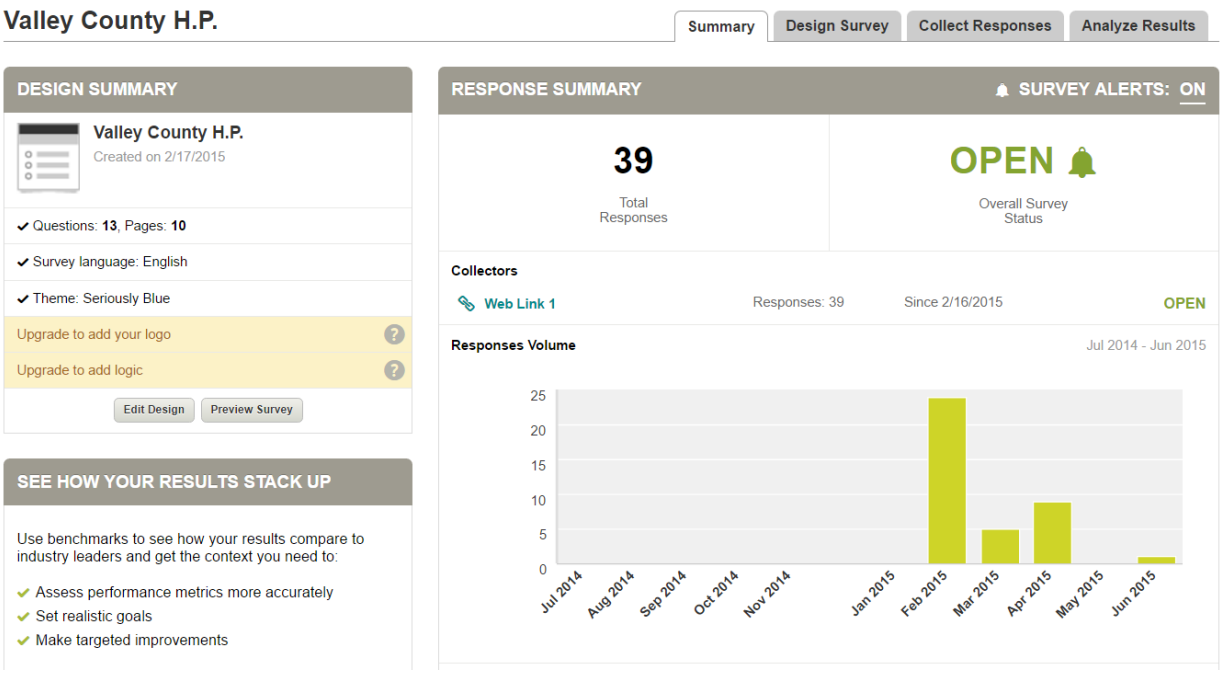
			Funding	
Valley County City of Glasgow Towns of Fort Peck and Nashua	Electric Infrastructure Protection	Fire Department	Staff Time Technical Expertise Partner Participation Funding	Mid Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Universal First responder communications	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Fire Breaks	County Commission City and Town Councils Fire Department Montana DNRC US Bureau of Land Management Corps of Engineer	Staff/Volunteer Time Public Participation Funding	Mid Term Ongoing
City of Glasgow	Glasgow Levee Mitigation Plan (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Flood Education	NFIP Coordinator Valley County DES Valley County LEPC National Weather Service	Staff Time Technical Expertise Public Participation	Mid Term
Valley County City of Glasgow Towns of Fort Peck, Nashua, and Opheim	Mowing and Brush Clearing	County Commission City and Town Councils Fire Department Railroad US Army Corps of Engineers	Staff/Volunteer Time Public Participation Funding	Mid Term Ongoing
Town of Nashua	Nashua Dikes	Nashua Town Council NFIP Coordinator	Staff Time Technical Expertise Funding	Near Term
Valley County	Diversion Dams	County Commission NFIP Coordinator	Staff Time Technical Expertise Funding	Long Term
City of Glasgow	Green Meadow Estates Flood Mitigation	City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County Towns of Fort Peck, Nashua, and Opheim	Fencing and Alarm Systems	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Mosquito Controls	County Commissioners City Councils	Staff Time Technical Expertise	Near Term
Valley County	Valley Co. Library elevator and update for emergency shelter	County Commission	Staff Time Technical Expertise Funding	Mid Term
Valley County City of Glasgow · Town of Nashua	Glasgow River Gage	NFIP Coordinator National Weather Service US Geological Survey	Staff Time Technical Expertise Funding	Long Term
Valley County City of Glasgow Towns of Fort Peck and	Emergency Route Ordinances	County Commission City and Town Councils Fire Department	Staff/Volunteer Time Partner Participation	Long Term Ongoing

Nashua		Hospital Railroad		
Valley County City of Glasgow Towns of Fort Peck and Nashua	Vegetative Fuel Treatments	County Commission Fire Department Montana DNRC US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Funding Technical Expertise	Long Term
Valley County	Hanger at Airport	County Commission	Staff Time Technical Expertise Funding	Mid Term
Fort Peck	Fort Peck culvert replacement and installation	For Peck Town Council	Staff Time Technical Expertise Funding	Mid Term
Valley County City of Glasgow Towns of Fort Peck and Nashua	Update and maintain Siren and public alert systems	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Generators	Valley County LEPC Valley County DES	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Firewise Program	County Commission City and Town Councils Fire Department Montana DNRC US Bureau of Land Management US Fish and Wildlife Service	Staff/Volunteer Time Technical Expertise Public Participation	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Disease Education	County Health Department	Staff Time Technical Expertise Public Participation	Long Term
City of Glasgow	Glasgow Sullivan Park Mitigation (SWIF Plan)	Glasgow City Council NFIP Coordinator	Staff Time Technical Expertise	Near Term
Valley County	Valley Co Food Bank building	County Commissioners	Staff Time Technical Expertise	Near Term
Fort Peck, Nashua	Hazardous Material Route	Nashua Town Council;	Staff Time Technical Expertise	Near Term
Fort Peck	Fort Peck Emergency route road repair	Fort Peck Town Council	Staff Time Technical Expertise	Near Term
Valley County City of Glasgow · Town of Nashua	Railroad Safety	Fire Department County Commission Glasgow City Council Nashua Town Council Railroad National Weather Service	Staff/Volunteer Time Partner Participation Technical Expertise	Near Term Ongoing
Valley County City of Glasgow Towns of Fort Peck and Nashua	Disease Surveillance	County Health Department Health Care Providers	Staff Time Technical Expertise Partner Participation	Long Term
Fort Peck	Fort Peck Erosion Control Critical infrastructure	Fort Peck Town Council Corps Of Engineers	Staff Time Technical Expertise Funding	Mid Term

Valley County	Valley Co. Courthouse furnace update	County Commission	Staff Time Technical Expertise Funding	Mid Term
Valley County	Valley Co. Courthouse roof repair	County Commission	Staff Time Technical Expertise Funding	Mid Term

NOTE: The list projects are simply proposed and there is no guarantee that projects will be completed. In addition, jurisdictions are not obligated to complete any of the listed projects. All projects in listed in the mitigation plan are simply suggestions based on an informed assessments and recommendation.

Public and jurisdictional surveys:



Valley County H.P.

Summary | Design Survey | Collect Responses | Analyze Results

CURRENT VIEW

+ FILTER | + COMPARE | + SHOW

No rules applied

Rules allow you to FILTER, COMPARE and SHOW results to see trends and patterns. Learn more »

SAVED VIEWS (1)

Original View (No rules applied)

+ Save as...

EXPORTS

SHARED DATA

No shared data

Sharing allows you to share your survey results with others. You can share all data, a saved view, or a single question summary. Learn more »

Share All

RESPONDENTS: 39 of 39

Export All | Share All

Question Summaries | Data Trends | Individual Responses

All Pages

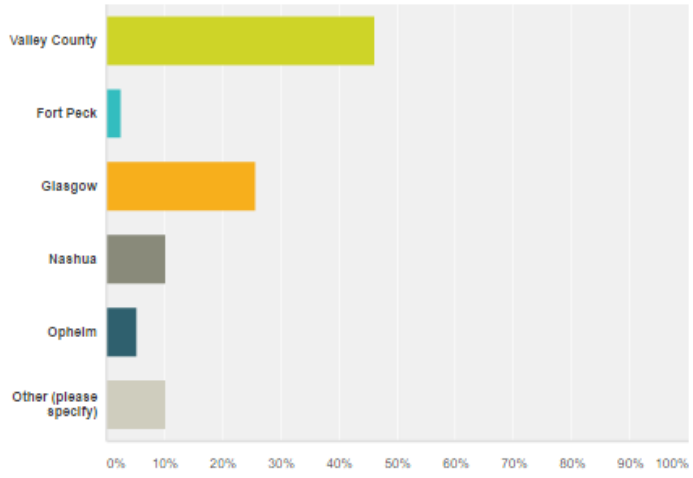
PAGE 2

Q1

Customize | Export

What jurisdiction do you represent in ValleyCounty?

Answered: 39 Skipped: 0



Answer Choices		Responses	
Valley County		46.15%	18
Fort Peck		2.56%	1
Glasgow		25.64%	10
Nashua		10.26%	4
Ophelm		5.13%	2
Other (please specify)	Responses	10.26%	4
Total			39

Valley County (Hazard Profile Survey)

Item 1
Steering Committee Meeting #2

The first step in conducting risk analyses is to create a hazard profile. The first step in creating a hazard profile is identifying which hazards have the most probability of affecting a community. With regard to the Valley County mitigation plan update, an all-inclusive list of hazards was considered for inclusion in the plan update. The Planning Team reviewed several sources to include Valley County's previous hazard mitigation plan, hazards identified by FEMA in the Multi-Hazard Identification and Risk Assessment publication, the most recent iteration of the Montana State Multi-Hazard Mitigation Plan, and mitigation plans of other counties (Sheridan Roosevelt & Daniels.). In addition to reviewing the region's mitigation plans, the planning team reviewed the record for declared disasters, searched several hazard related database (NOAA, FEMA, USGS, NHC etc.), conducted a basic internet search and surveyed local experts and residents.

Findings

The planning team's effort to create an all-inclusive list of hazards resulted in a comprehensive list of hazards. These hazards are listed below:

Possible Hazards for Inclusion in the HMP		
aircraft incidents	blizzard, cybercrime	civil disobedience
communicable disease	dam failure	drought
earthquake	energy shortage	fire
Floods	Hail	hazardous material incidents
infectious disease	ice storms	lightning
power outage	Rainstorm	subsidence
Terrorism	Tornadoes	transportation incidents
windstorms	Wildfire	MethLabs

Recommendations

While the results of the search identified several hazards (25 total), it would not be prudent or realistic to include all of the noted hazards in the 2015 update. With respect to hazard risk and its effect on the participating jurisdictions, many of these hazards are very similar. As such, adding them would simply result in mass duplication concerning mitigation strategies. In addition, many of these hazards are not aligned with the purpose of this planning update…Natural Hazards Mitigation Planning. As such, to ensure efficiency, the planning team suggests the noted hazards be paired down to the 8 hazards identified below (See the proposed hazard Table).

Proposed Hazards (Valley)		
Natural Hazards	Technological Hazards	Political Hazards
Infectious Disease	Hazardous Material	

Flood (Dam Failure)		
Structure Fire		
Summer Storms (Hail, Heat, Lightning, Rain, Thunder & Wind)		
Tornado		
Wildfire		
Winter Storms (Blizzard, Extreme Cold & Ice Storms)		

The planning team feels that the proposed hazard are both broad enough to delimit Valley County's risk to hazards, but short enough to create a manageable and realistic plan. To note, that the hazards presented in the proposed hazard table also best represents the findings from the community survey.

The following rational was used to create the aforementioned list.

- Infectious disease was included as it included communicable diseases were as communicable diseases do not include infectious diseases.
- Drought will not be included as it was not included in the latest state HMP (HMP are not set up to address issues associated with drought).
- Flooding takes into account Dam failure.
- Issues of, electric failure should be eliminated as it will be treated as a consequence of hazard rather than hazard itself.
- Summer storms will take into account damage caused by Hail, Heat, Lightning, Rain, Thunder & Wind).
- Winter storms will take into account damage caused by Blizzard, Extreme Cold & Ice Storms).
- The hazards of political unrest, Aircraft Incidents, cybercrime and terrorism etcetera are 1) not natural hazards; 2) are addressed in other plans.
- While Hazardous Material is not a natural hazard, ISC's preliminary investigation seems to suggest that the County and or its jurisdictions are at a significant risk of hazmat events (Rail, Highway, Industry) and as such, ISC strongly encourages this hazard be included in the plan update.

NEXT STEPS

ISC will survey the Steering Committee to determine what hazards should be brought forward for discussion and inclusions into the 2015 Hazard Mitigation Plan Update.

Hazards in the State Plan (Montana)		
Natural Hazards	**Technological Hazards**	**Political Hazards**
Dam Failure	**Hazardous Material Incidents**	
Earthquakes		
Flooding		
Landslides		
Severe Thunderstorms (Hail, Wind and Tornadoes)		

Volcanic Eruptions		
Wild land and Rangeland Fires		
Winter Storms and Avalanche		
Hazards in the Last Plan (Valley)		
Natural Hazards	**Technological Hazards**	**Political Hazards**
Communicable Disease	**Aircraft Accident**	**Terrorism/Civil unrest**
Drought and Infestation	**Energy Shortage**	
Earthquake	**Hazardous Material**	
Flood		
Severe Thunderstorms and strong wind		
Wildfire		
Winter weather		
Proposed Hazards (Valley)		
Natural Hazards	**Technological Hazards**	**Political Hazards**
Infectious Disease	**Hazardous Material**	
Flood		
Structure Fire		
Summer Storms (Thunder, Lightning, Hail Wind)		
Tornado		
Wildfire		
Winter Storms (Blizzard, Ice, extreme cold)		

CAPABILITY SELF-ASSESSMENT SURVEY

Item 1
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What is A Capability Assessment

The purpose of conducting a capability assessment is to determine the ability of a given jurisdiction to implement a mitigation strategy. As in any planning process, based on an understanding of those jurisdictions that are tasked with strategy implementation, it is important to know what actions are feasible. More specifically, the capability assessment helps to determine what mitigation actions are likely to be implemented over time given the fiscal, technical, administrative and political framework of the Jurisdiction. It also provides an opportunity to assess existing plans, policies and processes in place.
What follows is a basic self-assessment survey that will allow us to identify the extent of continuity, advantages and strengths existing within your cities and County.

Conducting the Capability Self-Assessment Survey

The Capability Assessment takes approximately 30 minutes to an hour to complete. The survey is comprised of three parts:

1. An evaluation of existing plans, policies and ordinances. (Part 1)
2. An assessment of Jurisdictional capabilities. (Part 2)
3. In-kind Match data collection. (Part 3)

Part 1- Existing Plans Policies and Ordinances:

Part 1 of the self-assessment is meant to identify existing plans utilized in the governance of your jurisdiction.

- Within table one (Existing Plans Policies and Ordinances); please identify your jurisdiction by placing an X in the column directly to the right of the city name.
- Within table one, find and review the row identified as "Plans, Policies and Ordinances." If you are unsure of the acronyms used in the table, please consult the key located at the top of the table.
- Moving across the row from your jurisdiction, with an X indicate what plans, policies and ordinances exist and or are used by your jurisdiction. If you are unsure if a certain plan, policy and ordinance is used simply, leave the column blank.
- While plans, policies and ordinances may exist, sometimes they exist in name only. Meaning while plans, policies and ordinances might exist, they may not be used in the governance of your Jurisdiction. **In the very last Column** "Score" Indicate to the best of your ability, the degree to which you believe the totality of the plans, policies and ordinances you noted as existing are actually utilized. Please use "H" for highly used; "M" for moderately used and an "L" for low use.

Table 1

Evaluation of Existing Plans, Policies and Ordinances																		
• HMP: Hazard Mitigation Plan • DRP: Disaster Recovery Plan • CLUP: Comprehensive Land Use Plan • FMP: Floodplain Management Plan • SMP: Storm water Management Plan • EOP: Emergency Operations Plan • COOP: Continuity of Operations Plan • SARA: SARA Title III Emergency Response Plan • TRANS: Transportation Plan									• CIP: Capital Improvements Plan (that regulates infrastructure in hazard areas) • COMP: comprehensive PLAN • REG-PL: Regional Planning • HPP: Historic Preservation Plan • ZO: Zoning Ordinance • FDPO: Flood Damage Prevention Ordinance • NFIP: National Flood Insurance Program • BC: Building Codes								
Plans	HMP	DRP	CULP	FMP	SMP	EOP	COOP	SARA	TRANS	CIP	COMP	REG-PL	HPP	ZO	FDPO	NFIP	BC	Score
Jurisdiction																		
Valley County																		
Fort Peck																		

Evaluation of Existing Plans, Policies and Ordinances	
• HMP: Hazard Mitigation Plan • DRP: Disaster Recovery Plan • CLUP: Comprehensive Land Use Plan • FMP: Floodplain Management Plan • SMP: Storm water Management Plan • EOP: Emergency Operations Plan • COOP: Continuity of Operations Plan • SARA: SARA Title III Emergency Response Plan • TRANS: Transportation Plan	• CIP: Capital Improvements Plan (that regulates infrastructure in hazard areas) • COMP: comprehensive PLAN • REG-PL: Regional Planning • HPP: Historic Preservation Plan • ZO: Zoning Ordinance • FDPO: Flood Damage Prevention Ordinance • NFIP: National Flood Insurance Program • BC: Building Codes

Plans	HMP	DRP	CULP	FMP	SMP	EOP	COOP	SARA	TRANS	CIP	COMP	REG-PL	HPP	ZO	FDPO	NFIP	BC	Score
Glasgow																		
Opheim																		
Nashua																		

Part 2 Assessment of Local Capability:
Part two of this self-assessment is used to determine the technical, administrative/institutional, fiscal and political capabilities of your jurisdiction.

- Please review the capability definitions below (technical, administrative/institutional, fiscal and political).
- Within table two; please identify your jurisdiction by placing an X in the column directly to the right of the city name.
- Locate the categories (technical, administrative/institutional, fiscal and political) at the top of the table. With the row assigned to your jurisdiction indicate what you believe are your Jurisdiction's capabilities. Use "H" for a high level of capability; "M" for a moderate level of capability and "L" for a low level of capability.
- NOTE there are no right or wrong answers!

Capability Definitions:

- **Technical capability** can be defined as possessing the skills and tools needed to improve decision-making, including the development of sound mitigation actions.
- **Fiscal capability** or the ability to take financial action is closely associated with the amount of money available to implement policies and projects. This may take the form of grants received or state and locally based revenue.
- **Administrative and institutional capability** is defined as jurisdictions staffing abilities and the existing organizational structures needed to implement mitigation strategies.
- **Political capability** is the level of interest that both the citizens and government officials of a given jurisdiction has in conducting mitigation projects.

Assessment of Local Capability Table 2

Assessment of Local Capability— multi Jurisdictional Hazard Mitigation Plan				
An "L" indicates low capability; an "M" indicated moderate capability; and an "H" indicates high capability.				
Jurisdiction	Technical Capability	Fiscal Capability	Administrative Capability	Political Capability
Valley County				
Fort Peck				
Glasgow				
Opheim				
Nashua				

Part 3 In-kind Match

Part three of this self-assessment survey is meant as a way to fulfill the County's obligation in providing in-kind match. As such, please provide the requested information.

Please indicate the amount of time spent completing this self-assessment: _____

Please provide the date you completed the document: _____

Please provide your Official Title: _____

Please print your name: _____

Thank you for your time and effort! If you have any questions please contact Rick Seliler Valley County Emergency Manager.