

Section III: Hazard Specific Annexes

Annex 3: Flood

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Introduction:

Primary Agency: Law Enforcement



Support Agencies:

- Fire Service Agencies
- Stillwater County Disaster and Emergency Services
- City/County 911 Dispatch Center
- Emergency Medical Services
- Public Works Agencies
- Public Health Agencies
- Montana DOT
- Montana Highway Patrol
- Montana National Guard
- Montana DES
- National Weather Service
- PPL of Montana
- American Red Cross of Montana

Purpose

To provide an organizational framework that will effectively utilize all available resource equipment and personnel within Stillwater County, control the dispatching of such equipment and manpower to locations where needed, and provide for effective operations at the scene during an emergency/disaster.

Scope:

This annex addresses dam failure/ flooding activities including warning, and shelter of extreme hazards causing a significant natural or technological disaster. The scope of this section will not attempt to address details regarding mutual aid responsibilities and procedures that are contained in other documents.

Situation & Assumptions

A. Situation

1. Rapid snowmelt floods and flooding during the rainy season months of May and June are a common occurrence in the county.

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2. State of the art meteorology and warning systems, adequate severe weather warnings, and information pertaining to flooding or rising temperatures leading to a rapid snowmelt is available and routinely provided to emergency management agencies within the county.
3. Portions of Stillwater County are subject to flooding. The Yellowstone River and its tributaries travel through the County. The County is located in the South Central part of the State with parts of the Absaroka Beartooth Wilderness running through the County. Spring time run off is typical causing river and stream beds to rise quickly.
4. Other minor drainages that also flood include Spokane Creek and the Grizzly, Oro Fino, and Dry Gulches, which empty directly into the City of Helena and have the potential to cause serious flooding in residential areas.
5. The increase of impervious road surfaces and development within the county floodplains has increased the risk of damage from floods within the county.
6. The County also is home to Mystic Lake Dam. Failure of the dam would cause significant flooding impacting county residents

B. Assumptions

1. Flooding/and or Dam Failure can affect the county at all times of the year. Although how each is handled may differ, the basic concepts and plans still remain the same.
2. Most Flooding type conditions provide advanced warning. This should provide for opportunity to implement plans and procedures into place that were initialized before the emergency.
3. Information pertaining to weather changes or systems that could result in flooding will continue to be available.
4. Normal, existing communications systems will be used unless interrupted; then any means will be employed to reestablish communications.
5. The DESC will endeavor to provide as much advanced notice as possible to allow all emergency response personnel and appropriate agency personnel to ensure the safety of their immediate families prior to departing for their duty assignments.
6. Damage potential from sabotage, improper maintenance or operation, earthquakes, heavy rain, rapid snow melt and flooding may cause erosion or cracks in a dam potentially leading to partial or complete dam failure.

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7. On-site visual inspections of the dams, the dam's spillways, controls systems, and areas below the dams are conducted regularly.

8. Emergency plans for surveillance of the dams and for evacuation of the public are developed and maintained on file at the County EOC as required.

9. An Incident Command System (ICS) in accordance with the National Incident Management System (NIMS) will ensure that the appropriate response leader will assume proper command of all response groups without the questioning of that individual's authority.

10. Both response and recovery operations may be hampered by snow/ice/debris blocked roads, damaged roads or bridges, and downed trees. It may take hours before response personnel to reach all affected areas.

11. The need for increased security may exist.

12. Demand for resources may be critical

13. Enhanced public awareness via techniques such as citizen handouts, ad campaigns, evacuation routes and mapping information may be helpful.

14. There may be a need to assess advanced evacuation/closing of inundation areas including business/industries, public parks, and local campgrounds, etc.

15. Advance preparation by health care facilities, businesses, industries, and utilities in inundation areas is essential to maintain needed services during response and recovery operations.

Concept of Operations

A. General

This annex may be activated under the following conditions:

- ◆ Severe Weather watches or warnings are issued by the NWS that affect Stillwater County.
- ◆ Reports of precipitations are greater than pre-established amounts at one or more rain gauge locations.
- ◆ Reports come in of a dam failure or threat of failure.
- ◆ During a flooding incident.

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- ◆ At the request of the IC, CEO, DESC, or authorized designees.

The initial stage of the activation is the alerting of all rain and stream gauge observers who will forward readings from their areas to the County EOC. Dam observers will be activated when a predetermined level in streams and rain gauges is reached. Emergency warning and evacuation procedures are prescribed in the appropriate dam emergency plan.

B. Direction & Control

- ◆ See Direction and Control Annex in Section II: Functional Annexes

- ◆ Incident Command

a. **Response:** The affected jurisdiction's senior **Law Enforcement** official or designee.

*Unified Command (*suggested*): LE, Fire, PW, PH, and DESC

b. **Recovery:** Senior **Public Works** official or designee.

*Unified Command (*suggested*): PW, PH, DESC, and NGO

- ◆ The Incident Commander will establish an Incident Command Post (ICP) as soon as possible and ensure that the location of the ICP is disseminated to all responders. Other ICS positions and sections will be staffed as needed to maintain a manageable span of control

- ◆ In a disaster, several ICS units may be established to manage the significant areas of need. The IC will adapt the management structure to reflect the need and complexity of the incident. A unified Command may be established.

- ◆ The IC may also take other management steps such as requesting activation of the EOC, and requesting agency representative within the EOC.

- ◆ The Emergency Operations Center (EOC) on the first floor of the Stillwater County Courthouse may be activated during a flood watch or incident. Minimum manning should include:

DES coordinator and deputy.

At least one county commissioner.

Administrator of the Environmental Health Division of the Health Department, or a sanitarian.

Red Cross representative.

National Guard liaison officer (if the Guard is activated). The National Guard may be activated by a request from the county commissioners to the administrator of the MT DES (**406-324-4777** - 24 hours). The county must first exhaust its resources before a request for Guard assistance will be

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honored. Once the Guard is activated, all requests for its assistance will be made through the Guard liaison officer in the EOC.

A Montana DES liaison officer.

- ◆ The EOC will provide support to the Incident Commander(s) in such areas as evacuation, communications, transportation, shelter, and any other resources required.
- ◆ A situation map will be maintained by the Planning Section in the EOC to illustrate the flooded areas and roads, number of people evacuated and any other pertinent information. Reports from the road and bridge crews and the sheriff's office will be used for the situation map.

C. Authorities and Limitations

- ◆ The Incident Commander (IC) has authority to coordinate the use of resources and personnel at the scene of the emergency.
- ◆ PPL has the authority to manage flow for Mystic Lake Dam.
- ◆ The Commissioners have the authority to declare a State of Emergency within their jurisdiction and the responsibility to request a state or federal declaration if appropriate.
- ◆ Commissioners have the authority to enter into mutual aid agreements between their jurisdictions and other jurisdictions.
- ◆ MCA 10-3-104 and 10-3-406 give the Governor and local chief elected officials the authority to *“direct and compel the evacuation of all or part of the population from an emergency or disaster area.....when necessary for the preservation of life or other disaster mitigation, response, or recovery;”* and to *“control the ingress and egress to and from an emergency or disaster area, the movement of persons within the area, and the occupancy of premises therein.”*
- ◆ Law Enforcement has the authority to order evacuations and close roads in emergent circumstances.
- ◆ City officials have the authority to condemn a building in the city as unsafe to occupy.
- ◆ The MTDOT and the Federal Highway Administration have the authority to close state and federal highways and bridge structures.
- ◆ The County Road & Bridge and City Public Works Departments have authority to close streets and bridges within their jurisdictions.
- ◆ County Health Officers have broad authority over matters of public health to include air and water quality concerns, food supplies, wastewater systems, and disease prevention.

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◆ The County Coroner's Office is the lead agency for the collection, storage, and disposition of all human remains and their personal effects.

D. Warning and Notification

1. See the Alert and Warning Annex in Section II: Functional Annexes.

2. The National Weather Service will contact the DES Coordinator and Sheriff when a flood threatens. The DESC will inform the EOC staff of the warning.

The NWS and United States Geological Survey (USGS) have three flood gauges in Stillwater County. Two stations on West Rosebud Creek monitor at Emerald Lake, and near Roscoe. There is one station on the Stillwater River near Absarokee. It takes four to eight hours for a flood crest to reach the Columbus from Emerald Lake.

3. A flood watch will be announced by the NWS when conditions develop that may cause a flood. These conditions may include a high snow pack and heavy rainstorms. If a flood appears imminent due to swollen streams and threatening weather conditions, a "flood warning" will be called for by the NWS. All emergency services will be placed on standby. The DESC and Sheriff will receive regular reports from the weather service. The DESC will pass the reports along to commissioners, the city manager, and mayors.

a. *Flood Warnings*: are forecasts of impending floods and are distributed to the public by radio and television, and through the local government. The warning message tells the expected severity of flooding, (minor, moderate, or major), the affected waterway, and when and where flooding will begin.

b. *Flash Flood Warnings*: are the most urgent type of flood warning issued, and are also transmitted to the public over radio, TV, and by other signals depending upon the local need.

4. The situation will be assessed using reports from the weather service, sheriff's office and county road and bridge crews. The weather service will be asked to estimate the arrival of the flood crest.

5. If a flood appears imminent, the EAS may be used by the DESC or the NWS. The DESC or his deputy will activate the EAS by contacting the **NWS (1-800-240-4596)** to initiate the message. If phones are down, a message may be hand delivered to the primary EAS station, KEMC Radio, 1500 North 30th, Billings MT 59101 or to the NWS EAS which will distribute. They are located at 2170 Overland Ave, Billings, MT 59102. Radio and TV stations will copy the message and interrupt regular programming for the broadcast. The message should include the creeks and areas to be affected and the estimated time the flood crest will arrive. Other warning methods such as sirens, mobile loud speakers, or door-to-door notification may also be utilized.

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6. Flood messages will be cleared through the Weather Service office, coordinated with the commissioners, and released through the IC, DESC or his designee (e.g. PIO).

E. Public Information

- ◆ See the Public Information Annex in Section II: Functional Annexes
- ◆ The EOC will be responsible for all pre-emergency public education and information.
- ◆ Once appointed, the Public Information Officer (PIO) will be responsible for public coordination and dissemination during the emergency and will clear all press releases through the Incident Commander or DESC.
- ◆ All approved press releases will be logged and a copy saved for the disaster records.
- ◆ The EAS will be used when appropriate. Route information will be called in to the radio and TV stations, if time permits.
- ◆ During the flood watch, the PIO, in conjunction with the weather service, will provide pertinent information over radio and TV. The public will be reminded to remain calm, stay tuned for more information, and to begin the following precautionary measures:
 - a. Determine if your property is in the floodplain. Ask neighbors or call the floodplain administrator at 322-8055.
 - b. Be prepared to be self-sufficient for a minimum of 72 hours:
 - ◆ Have a food supply that requires little or no cooking and no refrigeration because electric power may be interrupted.
 - ◆ Keep a portable radio, emergency cooking equipment, lights and flashlights in working order.
 - ◆ Keep first aid and critical medical supplies (prescriptions, insulin, etc.) on hand.
 - c. Keep emergency waterproofing materials on hand, such as sandbags, plywood, plastic sheeting and lumber.
 - d. Clean private culverts and drainage facilities near your home.
 - e. Announce that sandbags and sand may be purchased at Riverside Sand and Gravel, KEM Ready Mix, along with several locations in Billings.
 - f. After the flood, make these announcements:

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When entering a flooded building, do not use a flame as a light source because of possible gas leaks. Use a flashlight

Watch for electrical shorts or live wires. Do not turn on the lights until the electrical system is checked by an electrician.

Take wooden furniture outside, but do not place in the sun to prevent warping. A garage or carport is ideal.

Do not pump out a basement too quickly because ground water may cause the walls to buckle. When floodwater subsides, begin pumping about one-third of the water each day.

Water for drinking and food preparation should be boiled vigorously for 10 minutes, until the water supply system has been declared safe by the Health Department.

F. Considerations and Implementation Responsibilities

Every type of disaster has issues that are unique to that type of situation. This section is designed to point out the disaster specific issues or areas of consideration and what agency, private or governmental, is responsible to resolve that issue.

◆ Bridge Evaluation: *Public Works*

Floods by their very nature can endanger transportation. Floating debris on a stream or river can collect on bridge footings and supports. If left unchecked, this debris can cause structural damage to a bridge that endangers all who may need to transit it. Therefore, the MTDOT and the County Road Department have the responsibility and the technical expertise to inspect all suspect bridges to determine whether they are safe for transit. If unsafe, they may be temporarily or permanently closed.

◆ Debris Removal: *Public Works*

Removal of flood-deposited debris from public roads/highways and associated culverts is the responsibility of the agency that is responsible for its maintenance. Care should be taken to ensure that debris removal efforts are coordinated with other agencies that may have an associated responsibility, such as the MTDEQ, BLM, MTFWP, BOR etc. Removal of debris from private property is the responsibility of the property owner. (see *Debris Management Annex*)

◆ Disease Prevention: *Public Health*

Of major concern during periods of flooding are the contamination of potable water supplies, contamination of food supplies and the disruption of sanitary services. In addition, floodwaters can create habitat for insects that carry disease. Historically, some flooding events in the past have allowed raw sewage from overloaded pumps, sewers, and septic systems directly into the waterways. These problems could rapidly develop into a major health crisis without immediate attention. The Stillwater-County Health Department will be in charge of the prevention of disease during the flood. Responsibilities will include:

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- ◆ Providing information on probable contamination, testing and disinfecting wells in flooded areas and recommendations for personal hygiene.
- ◆ Identifying sources of safe drinking water during disaster situations.
- ◆ Inspecting shelters for sanitary conditions, including food and water supplies, wastewater and garbage disposal.
- ◆ Providing public information on flood clean up, food salvaging operations and other disease prevention measures.
- ◆ Conducting damage assessment in licensed food facilities.
- ◆ Providing information on probable sewage contamination, identifying sources for portable toilets when needed, and providing information on appropriate clean up.
- ◆ Brief the city and county commissioners, health department director, D.E.S. coordinator and the Red Cross on sanitary conditions in the flooded areas and shelters.
- ◆ Coordination with pertinent agencies for disposal of human and animal remains.
- ◆ Implementation of disease prevention and control strategies including mass prophylaxis as appropriate.

◆ **Evacuations:** *Chief Elected Officials*

Upon the establishment of the EOC, the Commission or their designee has the responsibility to order appropriate citizen evacuations utilizing local law enforcement or other emergency responders as deemed appropriate. Prior to the establishment of the EOC, the Incident Commander has the responsibility to recommend evacuations if the situation is imminently critical. (*see Evacuation Annex*)

◆ **Power Outages:** *Northwestern Energy*

Northwestern Energy will provide response to the loss of commercial power. Auxiliary power capabilities exist at the 911 Dispatch Center, County EOC, and the hospital. Public Works also has access to portable generators.

◆ **Reservoir Management:** *PPL*

The management of water releases from reservoir water storage sites is significant to all citizens and landowners downstream from the dam. PPL is the primary agencies responsible for regulating the flow from their storage facilities. Their primary goal is to maintain the structural integrity of the dam.

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◆ **Road Closures and Emergency Transportation Routes:** *Law Enforcement*

Rising flood waters may necessitate closure of roads due to unsafe driving conditions caused by fast water running across a road or damage to a bridge as a result of flooding. State, County, or City law enforcement agencies working in conjunction with the MTDOT and County Roads Department can enforce the closure of roads and rerouting of traffic.

◆ **Sandbagging and Runoff Containment:** *Public Works*

- ◆ Road and bridge crews will clean culverts and barrow pits during the flood watch. Creeks will also be cleared of debris at bridge sites to allow the water passage under the bridge. The crews will patrol areas of the greatest flood hazard to determine trouble spots.
- ◆ Road barricades and warning signs will be posted at the direction of the road and bridge foreman.
- ◆ Roads will be closed at the direction of the public works director. Factors to be considered before closing a road will be the height and velocity of the water, condition of the road, and whether or not the road is sole access.
- ◆ There is a natural tendency during floods to want to protect homes and businesses. Erecting a sandbag barrier around the structure can be an effective method of protecting property and diverting water flow. The public is often a willing workforce to assist with the construction and maintenance of a sandbag barrier. The County Roads, Parks and Planning Department in conjunction with all municipal public works departments are a source of sand and sandbags. *(see Appendix 1: Sand Bag Coordination Plan)*

◆ **Search and Rescue:** *Sheriff's Department*

Floods by their very nature can isolate citizens. The Sheriff's department manages the County Search and Rescue. When needed to locate or recover isolated citizens during a flood, they will be deployed.

◆ **Shelter and Family Referral Services:** *American Red Cross*

If temporary lodging is needed due to flooding, the ARC will activate, publish information concerning shelters, and manage shelter operations. It is critical that all relief efforts to shelter and feed citizens are a coordinated effort between the Red Cross and all affected communities. The EOC is the logical broker for this communication. Call:

◆ **Stillwater District ARC 1-800-272-6668 (24 hrs)**

The Salvation Army may also be requested to provide shelters and mass feeding for the county. Army operations will be coordinated through the EOC and Red Cross to prevent duplication of effort. Call: 1-800-282-6668

(see Mass Care Annex)

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◆ **Special Populations:** *Law Enforcement*

As the situation dictates, it may be required to evacuate elderly and infirmed citizens from nursing homes, foster homes and other public and private facilities. Special transportation and trained personnel may be required to accomplish this task. Incarcerated populations may also be required to be moved and this will require special transportation accommodations as well as trained security personnel. Additionally, prisoner work crews may also be used to build dikes and other sandbag operations if appropriate.

◆ **Stream Bank Stabilization:** *FWP*

Flooding causes significant erosion that can damage fish runs, navigation, recreation and agriculture. The MT Department of Fish, Wildlife, and Parks is the lead agency for streams and rivers restoration efforts following a flood.

◆ **Telephone Outages:** *Qwest*

Qwest and Sprint will provide response to the loss of conventional telephone service. Cellular telephones may not work when conventional lines are lost. If the interruption to phone service promises to be lengthy, or widespread, alternative communication such as Amateur Radio may be used to establish contact between the public and government facilities.

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Key Contact Numbers for Floods:

Agency	Primary #	
American Red Cross of Montana		(1-800-272-6668 (24 hrs))
BLM Bureau of Land Management		(406) 896-2900/ 896-5010
BOR Bureau of Reclamation		(406) 247-7600
Environmental Health, Stillwater Co.		(406) 322-8055
EPA Environmental Protection Agency	406-457-5015	1-800-227-8917/1-800-2278914
FHA Federal Highway Administration		(406) 449-5302
Riverside Sand & Gravel		(406) 326-2242 /780-1202
KCTR	(406) 248-7827	(406) 252-4899
KEMC		(406) 657-2987 (24 hrs)
KBLG		(406) 652-8400
MTDEQ MT Dept. of Environmental Quality	406-841-5000	(406) 247-4445 (406) 247-4430
MT DES Duty Officer		(406) 324-4777 (24 hr)
MTDNRC Dept. of Natural Resources		(406) 698-3743 /406-247-4400
MTDOT MT Dept. of Transportation		(406) 657-0217
MTFWP MT Fish, Wildlife, & Parks Dept.		(406) 247-2940
NWS Billings National Weather Service		1-800-240-4596/ (406) 652-0851
Northwestern Energy	1-800-823-7697	(888) 467-2427
PPL		(406) 896-4680/896-4681
Qwest	(800) 223-7508	(800) 954-1211
Salvation Army		(406) 249-9149
Southern Baptist Convention		406-422-0475

DAM FAILURE/FLOOD

Portions of Stillwater County are subject to flooding in the event of a failure of the dam located at Mystic Lake. This section will identify response orientated actions to be taken by specific agencies and officials. Mystic Lake Dam is managed by PP and L Montana. Their Emergency Action Plan is located in Stillwater County Sheriff's Office.

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Appendix 3.1: Sand Bag Coordination Plan

The public, particularly those living in the floodplain, will be encouraged to stockpile bags and sand before a flood. Sand and bags are for sale to the public from:

Riverside Sand and Gravel, 326-2242 or 780-1202
KEM Ready Mix, 328-6308

There are also several places in Billings where they can be purchased including:

Billings Construction Supply, 248-8355
Mintana Mills, 245-8425

County Sandbags are stored at the county shops and will be used to protect public property. Reserves kept may also be made available to the public when the Commissioners declare an emergency. Bags are also available through the MT DES at Ft. Harrison, and neighboring counties, however these MUST be replaced after the flood.

Bags will be distributed to the public, at determined sites by the IC or DESC. Sand will be distributed by Riverside Sand and Gravel and potentially Stillwater County Road and Bridge Dept.

TO ensure an orderly distribution of the bags, and sand to the public, volunteers may be stationed at the sandbag and sand distribution points. They will have a radio or cell phone to contact the EOC for more bags, sand or to request assistance for crowd control. Relief rews will be provided by the EOC.

The DES Coordinator will contact ARC for standby status to facilitate a fast response as soon as a flood watch is issued by the National Weather Service. National Guard will be asked to assume this responsibility if the Governor declares a disaster or emergency.

The EOC Logistics Section will be responsible for the distribution and accounting for sand bags. *A member of the Rural Fire Council, preferably from a district that is not involved in the flood, will serve as the "sand bag coordinator" for the first 48 hours, after which the task will be transferred to the Logistics Chief if appropriate.*

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Appendix 3.2: Mystic Lake Dam Emergency Plan

PPL Montana has completed a comprehensive emergency plan to handle failure of the Mystic Lake Dam. PPL's plan accompanies Stillwater County's Emergency Operations Plan for flooding and can be found in the 911 Dispatch Center and in the DES Office.