Attachment HA2-2: Flood Information Management Protocol

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1.0 Introduction

1.1 Purpose

The purpose of the *Lewis & Clark County Flood Information Management Protocol* is to help facilitate unified dissemination of public information during flood events in Lewis and Clark County.

1.2 Scope

This protocol focuses on information management and public outreach and education efforts in preparation and in response to flood events in Lewis and Clark County. It is intended for use by officials of Lewis and Clark County and supporting entities and is considered a stand-alone attachment to the Flood Hazard Annex (HA-2) of the Lewis and Clark County Emergency Operations Plan.

1.3 Goals

The goals of this document are to:

- Increase public participation in pre-flood mitigation efforts of private property through communication and education;
- Increase public awareness of how to obtain resources prior to, during and after a flood event;
- Consistently communicate hazards and risks to the public and responders during a flood event so people can take appropriate action for their personal safety and property;
- Present information in a timely, accurate and consistent manner to manage expectations of the public, stakeholders, decision-makers and responders.

2.0 Situation & Assumptions

2.1 Situation

- Past flood events -- most recently in 2018, 2014 and 2011 -- highlighted an increased need for coordinated efforts in communicating with the public about flooding.
- There has been past confusion about the limitations of local government response during flood events. Local government is tasked with protecting public health, safety and infrastructure in a flood event, while private property protection is up to the private property owners.
- More education and outreach to residents in flood-prone areas on how to prepare themselves and their properties for flooding, as well as how to manage and remediate during and after flooding, is needed.

- The County needs to better communicate resources available to assist the public as well as measures the County is taking to prevent and mitigate damage caused by flooding in future events.
- *See the LCCO EOP, Flood Hazard Annex, Section 2.1 for more information on flooding in Lewis & Clark County*.

2.2 Assumptions

- Public information plays a critical role in maximizing public health, safety and successful management of a flooding incident.
- Lewis and Clark County and the media share an interest in giving the public timely and accurate information.
- Public information needs will change throughout the event, and from event to event.
- The media will want regular updates of ongoing activities and operations during a flood event.
- The public in Lewis and Clark County will need and want safety information and real-time status reports on risks, threats and emergency operations.
- In the absence of real-time updates, the public and news media may propagate rumors and misinformation about Lewis and Clark County and the incident operations.
- The Lewis and Clark County Communications Coordinator will assume the role of Incident Public Information Officer (PIO) unless other assignments are made.
- Each County department spokesperson should speak only to their areas of expertise.
- Subject matter experts may be needed to provide additional information to media during and after a flood event.
- If an incident is large enough and warrants it, an Emergency Operations Center (EOC) will be activated and additional resources recruited to assist in information dissemination.
- A Joint Information Center (JIC) may also be established if deemed necessary based on the incident.
- A flood event is not necessarily over when the water subsides.
- Coordination of post-flood messages is also important.

3.0 Concept of Operations

3.1 Activation

Activation of the County EOP HA-2 Flood Annex also activates all or a portion of this protocol as determined by Lewis and Clark County Department of Emergency Services, Chief Elected Official, or Incident Commander.

Phase 1: While there should be ongoing pre-flood education and communications, there may be a point during a flood event where it is necessary to consider a greater and more focused level of communication. Once the level of incident management has been

determined, the DES Manager and/or Incident Commander (IC) will decide if a PIO is necessary.

Phase 2: Depending on the level of the emergency and whether or not an IMT is established, the Communications Coordinator will either assume the role of Incident PIO or continue to work with departments and elected officials to disseminate necessary information per regular job duties.

Public Information

- See ESF 15 Annex in Section II.
- Once appointed, the Public Information Officer (PIO) will be responsible for public information coordination and dissemination during the emergency and should clear all press releases through the Incident Commander or Unified Command.
- All approved press releases, social media posts, website posts and email advisories should be logged and a copy saved for the disaster records.

3.2 Joint Information System (JIS)

The goal of information management is to provide complete, accurate, timely, consistent and credible information to the media and the public. To do this during an emergency requires a collaborative effort between multiple departments, elected officials and agencies.

A Joint Information System (JIS) integrates incident information and public affairs into a cohesive organizational concept or structure designed to provide consistent, coordinated, accurate, accessible, timely and complete information during crisis or incident operations. This is done by:

- **Gathering incident information:** Obtain verified, up-to-date information from appropriate sources, including subject matter experts, IMT staff and EOC staff.
- **Sharing information with partners and stakeholders:** Communicate with designated public information counterparts, state and local officials.
- **Disseminating incident information:** Work with JIS partners to coordinate the dissemination of accurate, consistent and comprehensive information about flooding, including potential public health risks, taking into account the unique needs of special audiences such as the elderly, people with disabilities, minorities, schools and individuals who cannot normally be reached by mass communication. It is critical to provide emergency information in a timely manner.
- **Analyzing public perceptions of response:** Address rumors and correct misinformation in a timely manner.

A *Joint Information System* may be organized virtually, with participating partners located in various locations throughout the county and communicating and coordinating electronically, or it may be organized in a physical location to facilitate face-to-face coordination. If moved to a physical location, this location is often called the *Joint Information Center*, or JIC.

3.3 Joint Information Center (JIC)

A Joint Information Center is a physical location where joint information partners come together to facilitate face-to-face coordination of information management operations. Lewis and Clark County may activate a JIC when the situation's complexity requires one and should appoint a qualified JIC Manager.

3.4 Messaging

Each entity involved in the incident should coordinate with the JIS/JIC to ensure conflicts are resolved and messaging is consistent prior to dissemination. The incident complexity will determine the types of collaborative products needed, e.g. fact sheets, key messages, talking points, and other related storylines for the media. *For pre-written messages, see Attachment 3.*

3.5 Wrap-Up & Recovery

Information management operations will be wrapped up as the incident situation allows and as determined by the Incident Commander in consultation with the PIO and appropriate agency partners. JIS participants should conduct a post-event debriefing to identify success stories, opportunities for improvement, and development of or contribution to an After Action Report/Improvement Plan (AAR/IP).

4.0 Organization & Responsibilities

4.1 Organization

As outlined in the County EOP and supporting annexes, the Incident Command System (ICS) will be used for managing incidents in Lewis and Clark County. A JIS and JIC are supporting elements of the overall ICS and generally branch out from the PIO position. Regardless, they should not supplant, nor should they be independent of, the incident management structure.

4.2 Responsibilities

Chief Elected Officials

- Chief Administrative Officer and Board of County Commissioners are kept apprised of incident and provide policy decision-making.

Lewis and Clark County Disaster and Emergency Services

- Analyze the impacted community and identify needs.
- In coordination with the Sheriff, identify if a PIO is needed and assign to the Incident Management Team and/or the EOC.
- Activate and ensure function of the EOC if necessary.
- Work with the Community Organizations Active in Disaster to ensure the community has resources and assistance.

- If a Joint Information System is activated, establish the Joint Information Center, dependent on incident size, need and complexity.
- Update elected officials.

Lewis and Clark County Sheriff's Office
- Appoint representative to the JIS.
- Act as spokesperson or designate duties as applicable.
- Provide information to the Public Information Officer on evacuation of affected residences and associated evacuation routes.

Lewis and Clark County Communications and Community Outreach
- Coordinate emergency public information activities for Lewis and Clark County.
- Coordinate and assist Lewis and Clark County departments and cooperating entities in disseminating pre- and post-flood messages.
- Assume the role of Incident PIO unless otherwise assigned (if someone else is assigned incident PIO, the following still apply).
    - Establish and maintain communications with PIOs from other agencies.
    - Attend IMT briefings and stakeholder meetings.
    - Coordinate messages with all involved Lewis and Clark County departments and offices.
    - Develop communication and outreach products (i.e. talking points and messages, briefings, fact sheets, news releases, media advisories, public service announcements, etc.). Use appropriate approval chain prior to release.
    - Act as spokesperson or designate duties as applicable.
    - Schedule and plan public meetings and media briefings as appropriate and necessary.
    - Prepare speakers for public meeting presentations and media interviews.
    - Analyze public perception of ongoing events and adjust messages if necessary.
    - Maintain incident activity logs and other records as deemed necessary.

Lewis and Clark Public Health
- Appoint representative to the JIS.
- Develop, coordinate, and disseminate messages regarding public health, either through Lewis and Clark Public Health or through a JIC if activated.

Lewis and Clark County Public Works Department
- Appoint representative to the JIS.
- Provide information to the PIO and GIS department on road and stream crossing closures.
- Monitor surface flooding and report updates to the IC/PIO.
- Communicate foreseeable possible impact/implications of flooding to public and critical infrastructure to the PIO.

Volunteer Fire Districts

- Appoint representative to the JIS if appropriate.

Montana Disaster & Emergency Services

- Coordinating agency between Lewis and Clark County and the State of Montana in the event of an emergency declaration by Lewis and Clark County and the need for additional State resources.

Other Stakeholders

- COAD: Provides volunteers and resources to assist private property owners, residents and the public.
    - Appoint representative to the JIS.

5.0 Maintenance

Lewis and Clark County DES and the Communications Coordinator, in coordination with appropriate partners, will review this document annually to ensure accuracy. The goals of this review will be to:

- Ensure overall accuracy and readiness,
- Address and resolve policy, methodology, and technical issues,
- Ensure this document coordinates with related plans, procedures and protocols,
- Make necessary corrections, edits, updates or procedural adjustments,
- Schedule and plan exercises.

6.0 Attachments

Attachment 1: Acronyms

Acronym	Meaning
AAR/IP	After Action Report/Improvement Plan
BoCC	Board of County Commissioners
CAO	Chief Administrative Officer
CC	Communications Coordinator
COAD	Community Organizations Active in Disasters
DES	Disaster And Emergency Services
EAS	Emergency Alert System
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IMT	Incident Management Team
JIC	Joint Information Center
JIS	Joint Information System
LCCO	Lewis and Clark County
PIO	Public Information Officer

Attachment 2: Definitions

100 Year Flood Event: This type of event is expected to be equaled or exceeded once on the average during any 100-year period (1% chance of being equaled or exceeded during any year).

Advisory: Significant weather impact, but not meeting the warning criteria.

Flash Floods: Flash floods are the result of intense storms dropping large amounts of rain within a short period of time, rapid snowmelts or dam failures. Flash floods occur with little or no warning and can reach full peak in only a few minutes.

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

Flood Warning: Is a forecast of impending floods advising of the expected severity of flooding (minor, moderate, or major), the affected river or body of water, and when and where flooding may begin. Flood Warnings 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 may begin.

Severe Thunderstorm Watch: Issued by the National Weather Service when the weather conditions are such that a severe storm (damaging winds 58 miles per hour or more, or hail 3/4 of an inch in diameter or greater) is likely to develop.

Severe Thunderstorm Warning: Issued by the National Weather Service when a severe thunderstorm has been sighted or indicated by weather radar.

Sleet: Identified as frozen raindrops (ice pellets bounce when hitting the ground or other objects). Sleet does not stick to trees and wires but sleet in sufficient depths does cause hazardous driving conditions.

Target Notification: The 911 Center calling County residents with emergency information.

Watch: Term used as an alerting procedure for an event that may occur.

Warning: Issued to forewarn an event that is imminent or has high probability of occurring.

Attachment 3: Suggested Messaging

Disaster and Emergency Services

Preparedness

- It is critically important that property owners and private citizens prepare their properties for natural disasters such as floods and wildfires.
- Be proactive to reduce the risk of damage to structures.
    - Maintain the natural drainage on your property by cleaning culverts and removing debris from ditches and low-lying areas.
    - Keep sandbags and sand on hand if you are in a flood prone area.
    - Elevate critical utilities such as electrical panels, switches, sockets, wiring, appliances and heating systems.
    - Waterproof basements and make sure your sump pump is working. Install a battery-operated backup in case of a power failure.
    - Anchor fuel tanks.
    - Move furniture, valuables and important documents to a safe place.

Flood Insurance

- Standard insurance policies do not cover flooding.
- Talk to your insurance agent to see if flood insurance is right for you.
    - Typically, flood insurance does not cover flooding from groundwater.

Sandbag Availability

- Lewis and Clark County will not provide sand and sandbags for private property protection.
- The County will use resources purchased with taxpayer dollars or provided by the State, such as sand, sandbags and other resources, to protect public and critical infrastructure.
    - There are opportunities for reimbursement from the State and Federal government when used for this purpose.
- Private property owners can buy sandbags at hardware and home improvement stores as well as various equipment places.
    - Stores can provide information on what they have available.
- Sand can be purchased at various commercial sand and gravel pits in the Helena Valley.
    - These places typically deliver to Lincoln and Augusta for an extra charge.
- The COAD will assist with sand and sandbag donations when appropriate, as well as provide volunteers to help those who need additional assistance.
    - The County works with these groups all year to plan for emergencies and ensure the community has resources when an emergency occurs.

Sandbag Use

- When using sandbags, pay attention to the effects placement could have on neighbors.
- Look at the big picture; diverting water from your property could have negative effects elsewhere.
- Work together to ensure the best outcome for everyone.
- Do not block roadways with sandbags; emergency services and law enforcement must have access.

Flooding Across Roads

- Emergency response vehicles, including law enforcement, County officials and volunteer organizations, may need to drive through floodwaters to assist in the response.
    - Some of these vehicles may be unmarked.
- People other than those mentioned above should not drive through standing water on roads or in parking lots.
    - The average vehicle can be swept off the road in 12 inches of moving water, and roads covered by water are prone to collapse.
    - Attempting to drive through water may also stall your engine and result in irreparable damage.
- Take alternative routes.

Community Organizations Active in Disasters

- The COAD plays a critical role in emergency and disaster situations, ensuring the community has resources and low-income and disabled residents are provided assistance.
- Some services of the COAD include:
    - Provide emergency and short-term shelter and/or housing.
    - Deliver food and water to affected residents and provide mass feeding if needed.
    - Provide sandbags and help with delivery and placement, as well as help with removal if needed.
    - Can set up a Multi-Agency Resource Center (MARC).
        - "One stop shop" for residents to receive disaster case management services, pick up things like well test kits, clean up kits, get information on cleanup, sign up for assistance mucking out if needed.
        - The size of the MARC depends on flood size.
    - Donations management, including both physical and financial donations.

Public Works

Role

- Public works is responsible for public infrastructure.

- During flood events, public works focuses on providing public safety and protecting public infrastructure and ensuring emergency services can reach residential areas.
    - Private property is the responsibility of individual property owners

Cleaning Ditches and Culverts

- Lewis and Clark County cleans ditches and culverts on County-maintained roads.
- Public works coordinates closely with the floodplain administrator to ensure all regulations are complied with when doing so.
- Driveway approach culverts are the responsibility of property owners.
    - Keeping approach culverts open will help keep floodwaters in the ditch rather than yards and driveways.

Road Closures

- Roads are closed on an as-needed basis to protect the integrity of the roads.
- It is also difficult to see through floodwater and submerged hazards can be dangerous and sometimes life-threatening.
- We understand road closures are an inconvenience.
    - However, please obey traffic signs, do not ignore barricades, listen to law enforcement and others providing closure enforcement and take detours around affected roads.
- Public works will assess the roads and will re-open as soon as it is safe to do so.

Community Development and Planning

- Many homes were built prior to any floodplain development review process.
- Today, homes can be built in flood prone areas.
    - A floodplain development permit is only required for areas with a 1% annual chance of flooding (100-year floodplain).
    - Homes that are permitted in these areas must be elevated with fill so the home will sit a minimum of two feet above the Base Flood Elevation.
- Home sites that have a .2% annual chance of flooding (according to the floodplain maps) are not regulated in Montana, and are therefore not subject to review or permitting.
    - In Lewis and Clark County, there have been homes in these areas that have experienced flooding in recent years.
- Lewis and Clark County does not have building permits.
    - Therefore, it is possible someone has constructed or will construct a home or other structure in a flood prone area without obtaining a floodplain development permit.

Public Health Department & Water Quality Protection District

See Appendix E for fact sheets and messages

- Assume your (drinking) water has been contaminated if floodwaters have reached or submerged your private wellhead. Shallow wells are also at a higher risk for contamination during flooding even if your well has not been overtopped.

- If you're unsure if your well has been contaminated, assume it has been.
- Use bottled water until your well water has been tested for bacterial contamination (Local labs on fact sheet).
- After floodwaters have receded – disinfect prior to use ("how to" on fact sheet).

Sheriff's Office

General

- Public safety is our top priority.
- We are working in close consultation with the other involved Lewis and Clark County officials.
- We are here to help and want people to listen to public officials and obey all law enforcement orders to ensure everyone stays safe.

FAQs

Why doesn't the County dredge Ten Mile Creek?

Keeping the stream free of debris (trash, tree branches, etc.) that accumulates around bridges and culverts increase flow capacity, reduce flood impacts, and is generally a good maintenance practice. However, extensive channel dredging with the purpose of lowering the bed elevation over extended lengths of creek is not a sound management practice. The increase in channel capacity is typically short-lived as silt, sand, gravel and rock is transported into the reach and fills the dredged area as flood waters go down.

Why does the County not put in riprap or retaining walls to stop the water from leaving the creek bed?

Constructing levees above the natural streambank to allow more water in the channel is not a viable, long-term solution for flood protection. Due to the fact that Tenmile Creek is on an alluvial fan (learn about alluvial fans in next question), the floodplain is poorly defined and lacks effective flood carrying capacity. Putting levees along significant portions of the channel would only make flood impacts worse by further raising the channel in relation to the surrounding land. Flow capacity at bridges and culverts could also be reduced because of potential long-term raises in bed elevation.

What is an alluvial fan?

An **alluvial fan** is a fan-shaped deposit of gravel, sand, and silt. An alluvial fan occurs where a fast-moving mountain stream empties out onto a relatively flat plain. When this happens, sediment that was being carried by the stream deposits itself in the stream channel as the water velocity slows. This causes a build-up of alluvial (stream-transported) sediments in the area where the stream slope abruptly changes from steeper mountain terrain to relatively flat valley terrain. This results, over time, in a fan-shaped alluvial deposit that may have several stream channels that may be activated under different flow conditions.

YouTube video: https://www.youtube.com/watch?v=ELwEjenuHps

What is alluvial fan flooding?

Alluvial fan flooding is a hazard common to communities in the mountains of the western United States. Alluvial fan flooding can occur when stream flows are large enough to exceed the channel capacity of the stream, causing the stream to flow out of its bank and into previously active alluvial fan channels. Many flood mitigation techniques applied to other flood-prone areas have limited or no effectiveness on alluvial fans. Many alluvial fan communities now recognize these unique hazards, or have experienced repetitive flooding problems, and are seeking to implement flood management and mitigation plans. However, existing structures may need to rely upon flood proofing measures to reduce flood damage.

What is the County doing to mitigate flooding?

The County commissioned a Hydrologic and Hydraulic Study (https://www.lccountymt.gov/cdp/floodplain-development/2017-hh-study.html), completed in 2017.

The County is in the process of implementing the Trap Club Project. This $2.1 million project focuses on moving water through the flooding area more efficiently and with less disruption to transportation infrastructure, while reducing flood risk to Rossiter School.

Ongoing maintenance efforts include drainage ditch cleaning, culvert installation, culvert protection, and active planning efforts to mitigate known surface flooding areas.

Attachment 4: Information Dissemination

Information may be disseminated in a variety of ways. This is not an all-inclusive list as there may be other avenues for dissemination. There may also be things on this list that it is not feasible or applicable to do.

Social Media

- Utilize the Health Department, DES and general LCCO social media sites to disseminate flood preparedness information, flood information during a flood, and post-flood information.
- Work with partners to get out information via their social media pages.

Traditional Media

- Write and distribute press releases and/or reach out to reporters directly to cover topics identified to increase public awareness about flooding and flood preparedness.
- Hold press conferences and disseminate press releases as appropriate to provide media with timely flood-related information, including resources available and current status.
- Provide reporters with contact information of Incident PIO.

Website

- Keep website updated with information on flood preparedness.
- Add an incident specific webpage to the LCCO Home page with incident specific information.
- Provide resources for flood cleanup and remediation, well flushing, septic system management, etc.

Education and Outreach

- Identify Homeowners Associations to present and provide information.
- Provide information at Watershed Group meetings.
- Coordinate with appropriate people at applicable State agencies.
- Postcards reminding people how to prepare their property
- 2019 Three-Part series in coordination with the Valley Flood Committee, Lewis and Clark County and Community Organizations Active in Disasters (COAD).
- Roadway signs
- Presentation at Hometown Helena
- Wallet cards with County and COAD contact information

Attachment 5: Agency Contact List

NAME/TITLE	PHONE NUMBER	EMAIL
LCCO Administration	**406-447-8200**	
Roger Baltz Chief Administrative Officer	406-447-8311	rbaltz@lccountymt.gov
Susan Good Geise Commissioner	406-447-8302	sgeise@lccountymt.gov
Jim McCormick Commissioner	406-447-8304	jmccormick@lccountymt.gov
Andy Hunthausen Commissioner	406-447-8303	ahunthausen@lccountymt.gov
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LCCO DES	**406-447-8285**	
Reese Martin DES Coordinator	406-447-8285	rmartin@lccountymt.gov
Brett Lloyd Deputy DES Coordinator	406-457-8897	blloyd@lccountymt.gov
Pat McKelvey Deputy DES Coordinator	406-443-2253	patm2850@gmail.com
Jim Hyatt	406-443-5975	boogalu1@bresnan.net
LCCO Sheriff's Office	**406-447-8204**	
Leo Dutton Sheriff	406-447-8235	ldutton@lccountymt.gov
Jason Grimmis Undersheriff	406-447-8203	jgrimmis@lccountymt.gov
LCCO Health Department	**406-457-8900**	
Drenda Niemann Health Director/Health Officer	406-457-8910	dniemann@lccountymt.gov
Kathy Moore Environmental Health Division Administrator	406-457-8926	kmoore@lccountymt.gov
Eric Merchant Disease Control and Prevention Division Administrator	406-457-8914	emerchant@lccountymt.gov
Gayle Shirley Communications and Systems Improvement Manager	406-457-8908	gshirley@lccountymt.gov
Jennifer McBroom Watershed Outreach Coordinator	406-457-8584	jmcbroom@lccountymt.gov
Brett Lloyd Emergency Preparedness Coordinator	406-457-8897	blloyd@lccountymt.gov
LCCO Public Works		
Eric Griffin Director	406-447-8036	egriffin@lccountymt.gov
Audra Zacherl Assistant Director	406-447-8035	azacherl@lccountymt.gov

Doug Nisbet Road and Bridge Superintendent	406-447-8031	dnisbet@lccounytmt.gov
Dan Karlin Engineer	406-447-8034	dkarlin@lccountymt.gov
COAD		
Joe Wojton Chair	406-442-8244	Joe.wojton@usw.salvationarmy.org
Fire Chiefs		
Dave Sammons East Valley	406-459-5160	dsammons@mt.gov
Mark Emert Helena	406-447-8470	memert@helenamt.gov
Jerry Shepherd West Valley	406-458-3717	Westvalley631@gmail.com
Troy Maness East Helena	406-439-3292	ehresq@bresnan.net
City of Helena		
Ana Cortez, City Manager	406-447-8403	acortez@helenamt.gov
City of East Helena		
James Schell, Mayor	406-227-5321	mayorschell@easthelenamt.us

Attachment 6: Media Contact List

NAME/ORGANIZATION	PHONE NUMBER	EMAIL
Matt Brown Associated Press	406-896-1528 C: 406-696-4213	apmontana@ap.org
Matt Volz Associated Press		mvolz@ap.org
Jesse Chaney Helena Independent Record	406-447-4074	Jesse.chaney@helenair.com
Mike Woodel Helena Independent Record	406-447-4083	Michael.woodel@helenair.com
Tom Kuglin Helena Independent Record	406-447-4076	Tom.kuglin@helenair.com
Tom Plank Helena Independent Record	406-447-4086	Thomas.plank@lee.net
Roger Dey Blackfoot Valley Dispatch	406-362-4131	info@blackfootvalleydispatch.com
Daryl Flowers Fairfield Sun Times	406-467-2334 C: 406-750-5605	suntimes@3rivers.net
Corin Cates-Carney Montana Public Radio	253-495-5193	Corin.cates-carney@umontana.edu
Montana Radio Company	406-442-6645	kmtx@montanaradio.com
Cherry Creek Media	303-468-6500	contact@cherrycreekmedia.com
KTVH/KXLH (CBS and NBC)	406-422-1216	news@kxlh.com news@ktvh.com
KFBB (ABC Fox Montana)	406-453-4370	newsroom@kfbb.com
Helena Civic Television	406-447-1608	hctv@bresnan.net

Attachment 7 – Health Department Fact Sheets

Lewis & Clark Public Health

1930 Ninth Avenue
Helena, MT 59601
406-457-8900
www.LewisAndClarkHealth.org
publichealth@lccountymt.gov

During and After Flooding: What's Safe to Eat

Floodwaters are contaminated with bacteria and other germs that can cause human illness. To prevent illness, **you should destroy the following items if they have been in contact with flood waters**:

- fresh meats and poultry
- fresh fruits and vegetables
- ready-to-eat foods
- lunch meats
- cheese
- home-canned foods
- medicines and cosmetics
- food packages that are not airtight
- flour and other commodities in bags
- packaged frozen foods
- crown-capped bottles
- screw-top glass containers

When in doubt, throw it out!

Canned Foods

Water seepage can carry harmful bacteria into all but airtight containers. Carefully inspect all hermetically sealed (airtight) packages and metal cans. If the packages are leaking, bulging, or show evidence of puncture, destroy them.

You can salvage airtight packages with protective outer packaging and sealed metal cans in good condition, but **clean and disinfect them carefully before opening**.

To clean and disinfect cans of food:

1. Remove labels, but mark the can so you can identify the contents after disinfection. Colored crayon, wax pencil, indelible marker, or adhesive tape may be used.
2. **Wash** cans in warm water containing soap or detergent. Then **rinse** the detergent from the can.
3. **Disinfect** by soaking cans for at least 1½-2 minutes in a tub containing a disinfecting solution made by mixing a solution of 1 cup of household bleach to 5 gallons of water (or 2 tablespoons per quart). Use waterproof gloves, and do not wash your hands in this solution.
4. **Rinse** cans in clear water that is bottled, disinfected, or which has been boiled for at least 5 minutes.
5. **Re-inspect** the packages. If you have any doubt about the integrity of a package, do not use it.

If you have airtight foods that normally require freezing or refrigeration, please refer to the sections below.

Refrigerated Foods

Flood conditions often disrupt natural gas, electricity, and other utilities. Refrigerators will not operate when electrical power is out. If your refrigerator has been out of operation for more than 6 hours, or if your food has been warmed to above 45°F for more than 3 hours, throw away all foods that need refrigeration.

Where power is out or turned off and alternate refrigeration is not available, you can salvage foods by putting them in insulated containers or ice chests and transport them to alternate refrigeration as soon as possible. In no case should they be left without refrigeration for more than 4 hours. Wherever possible, the temperature of the food should be held below 45°F. If dry ice is available, it may be used for temporary refrigeration or to preserve frozen foods.

A dial type metal probe thermometer can be used to check food temperatures. Many of these thermometers can be calibrated to 32° F in ice water. Use a container of ice and add water. Place the thermometer in the ice water and wait until the temperature stabilizes. A calibration nut is located under the dial and can be adjusted by turning with a wrench while the thermometer is still in the ice water.

Measure the temperature of food when you remove it from the refrigerator. **If you don't know the temperature at which food has been kept or for how long, throw it away.**

Frozen Foods

You should immediately transfer frozen foods to alternate freezers or to well-insulated chests or boxes containing dry ice. Throw away frozen foods that have been thawed and held above 45°F for more than 4 hours. You can refreeze or refrigerate foods thawed for up to 3 hours that still contain ice crystals and are as cold as if refrigerated.

Some foods can be re-frozen even if they are above 45°F for a day or more. These include frozen juices, commercially packaged fruit, breads, rolls, cakes, pie crusts, commercial bread dough, flour, corn meal, and nuts. There is some risk of mold, yeasty smell or texture loss, including sliminess, on the exterior of the food. If this occurs, discard the food.

Sealed bags of smoked fish require refrigeration at below 38°F. Discard those products if they are held above that temperature for more than 4 hours.

You can get more information by calling Lewis and Clark Public Health, 457-8900.

The mission of Lewis and Clark Public Health is to improve and protect the health of all residents of Lewis and Clark County.

June 2011— some information courtesy of the Montana Department of Environmental Quality and Department of Public Health and Human Services

Lewis & Clark Public Health

1930 Ninth Avenue
Helena, MT 59601
406-457-8900
www.LewisAndClarkHealth.org
publichealth@lccountymt.gov

Managing Your Septic System During/Following a Flood

If your home or the area around it has flooded, your septic tank may fill with water that leaks in through the lid. Rising ground water may enter around the inlet or outlet, or your drain field may become saturated and unable to drain. Water entering the tank or a saturated drain field may cause sewage to back up into your home, depending on the elevation of your septic system relative to the lowest drains or toilets.

Wastewater can transmit diseases to people and pets if you don't take appropriate protective

Wastewater contains human disease-causing pathogens such as bacteria, viruses, and parasites. Safe disposal of wastewater is essential to protect your health and the health of others. **Keep children and pets away from sewage or wastewater-affected areas!**

The immediate concern during and after flooding is exposure to germs and damage to your floors, walls, or furnishings from the water. A longer-term concern is that flooding of the septic tank may wash out solids from the tank back into the sewer pipe, causing blockages or system damage.

Keep safety in mind at all times. Older septic tanks can collapse if pumped while covered with flood water, and any septic tank can float out of the ground if it is pumped out during very high ground water conditions. Also, some onsite wastewater treatment systems use electrical equipment, such as pumps, that can short out or be damaged by flooding. Call professional help if you need it!

What should I do if I suspect my septic tank has been flooded?

Do not use or flush your toilet until you know that the septic tank and associated sewer pipes are intact. Otherwise wastewater could flow back up into the house through the toilet, shower, bath, and laundry drains.
If you suspect your wastewater system has been physically damaged by the flood, contact a licensed septic
system installer or a licensed plumber to have it assessed.

Septic tanks inundated with flood water should be professionally pumped after the flood emergency has subsided. Pumping should be delayed until flood waters have receded and the water table has lowered.

Contact the local health department (447-8351) for a list of licensed septic tank pumpers in your area or look in the Yellow Pages under "*Septic Tanks-Cleaning.*"

Take care cleaning or pumping out a flooded septic tank because this could cause the tank to float out of the ground and damage the tank or sewer pipes.

If your drain field area is waterlogged or clogged, stop using the system as much as possible and let it dry out. Otherwise, household waste may overflow into your home or yard. Call a professional to pump the system.

What should I do if sewage has overflowed inside my home?

Sewage contains harmful bacteria, viruses, and parasites. Sewage needs to be cleaned up as soon as possible.

Keep children and pets away from the area until this is done. Some appropriate clean-up procedures are:

- Use rubber gloves, boots, and eye protection.
- Remove and discard contaminated household materials that cannot be cleaned or disinfected, such as carpet and children's soft toys.
- Clean all contaminated areas with hot water and detergent, then disinfect. Pay special attention to cooking utensils, work surfaces, and other surfaces such as floors and walls.
- Dip utensils in a solution of 1.5 cups of household chlorine bleach in 2 gallons of cold water (a household bucket) for 2 minutes. Rinse in clean water.
- For disinfecting hard surfaces, use the same solution and leave the surface wet for 10 minutes. Rinse off with clean water.
- Disinfect cleaning mops, brooms, and brushes with the bleach solution.
- Clean and dry dirty shoes and wash your clothes separately after clean-up.
- Increase ventilation inside the house.
- Throw out food containers that have been in contact with sewage, including unopened bottles.
- Attend to any cuts and wounds immediately. Disinfect the wound and then cover with a waterproof dressing.
- Wash your hands and other affected parts of your body with soap and water.

What should I do if sewage has overflowed outside my home?

Report the spill to the Environmental Services Division of Lewis and Clark Public Health, 447-8351. The department will inspect the system and advise you on what you need to do.

For more information, contact the Environmental Services Division, 447-8351.

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After the Flood: Water and Mold Clean-up

Drying Out Your Home

The first step to preventing mold is to dry out your house. Here's how:

- If you have electricity and an electrician has determined that it's safe to turn it on, use a "wet-dry" shop vacuum, a water transfer pump, or a sump pump to remove standing water. Wear rubber boots while working in wet areas.
- If you don't have electricity, or if it's not yet safe to turn it on, you can use a portable generator to power equipment. (Note: Never operate a gasoline-powered tool in an enclosed space, even if windows and doors are open; it can create dangerous levels of carbon monoxide.)
- If weather permits, open doors and windows to aid the drying-out process.
- Use fans and dehumidifiers to remove excess moisture. Place fans so they blow out a window or door. If your home heating, ventilating, and air-conditioning system was flooded, have it checked and cleaned by a maintenance or service professional who is experienced with mold clean-up. To keep water from coming back, make sure rain from gutters and your roof drain away from the house. Sloping the ground away from your house can help to keep basements and crawl spaces dry.
- Make sure basements and crawl spaces have proper drainage to limit water seepage. Ventilate them to dry them out.

Finding Mold

- In addition to areas that were flooded, search for moisture in areas with a damp or moldy smell, especially in basements, kitchens, and bathrooms.
- Look for water stains or colored, fuzzy growth around ceilings, walls, floors, windowsills, and pipes.
- If you smell a musty odor, search behind and below carpeting, furniture, or stored items.
- Inspect kitchens, bathrooms and basements for standing water, water stains and patches of out-of-place color.

Cleaning up Mold

- If there is more than a little mold, use a mask or respirator that will filter out mold spores. Usually it will be designated as an N95, 3M #1860 or TC-21C particulate respirator.
- Wear eye protection, rubber gloves, and clothing that you can launder immediately after clean-up.

- If you can, take damp furniture outside to dry and clean, because direct sunlight prevents mold growth.
- Dispose of mold-contaminated materials, especially porous items. It's impossible to completely remove mold from porous surfaces such as paper, sheetrock (drywall), wallpaper, and carpet padding, so these materials should be removed and discarded.
- Keep windows open and use fans or dehumidifiers to dry surfaces as long as the mold problem remains.
- Dampen moldy materials before removal to minimize the number of airborne mold spores.
- For mold on hard surfaces such as hard plastic, glass, metal, and countertops, scrub with a non-ammonia soap or detergent. (Note: Do not mix ammonia and bleach; the fumes are toxic.)
- Scrubbing may not completely remove mold growth on structural wood, such as wall studs, so you may need to sand the wood. Wear personal protective gear and isolate the work area from the rest of the home.

If you have a lot of water damage, or if mold growth covers more than 10 square feet of your home, you may need or want to hire a professional. Many are listed under *"Carpet & Rug Cleaning & Restoration"* in the Yellow Pages.

Once Mold Is Gone

Disinfect the area using a bleach-and-water solution or another disinfectant. The amount of bleach recommended per gallon of water varies considerably. A clean surface requires less bleach than a dirty surface. A solution of 1/4 cup to 1/2 cup bleach to 1 gallon of water should be adequate for clean surfaces. Concentrations as high as 1½ cups of bleach per gallon of water are recommended for wood and concrete surfaces that could not be thoroughly cleaned.

Let the surface stay wet for about 10-15 minutes to allow the solution to disinfect. Provide adequate ventilation during disinfecting, and wear rubber gloves.

Finally, rinse the entire area with clean water and dry the surfaces as quickly as possible using the methods suggested above under "Dry Out Your Home First."

For More Information

- Centers for Disease Control and Prevention (CDC): http://www.cdc.gov/mold/
- U.S. Environmental Protection Agency (EPA): http://www.epa.gov/mold/

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and protect the health of all residents of Lewis and Clark County.

Revised May 2014

Lewis and Clark County
Water Quality Protection District

316 North Park, Room 220
Helena, MT 59623
(406) 457-8927 Fax: (406) 447-8398

Your Well: What to Do After the Flood

Well and Pump Inspection

Flood Conditions at the Well: Your well may be contaminated by flood water, even if there is no apparent damage or the well head is not visibly underwater.

Electrical System: After flood waters have receded and the pump and electrical system have dried, **do not turn on the equipment until the wiring system has been checked** by a qualified electrician, well contractor, or pump contractor. If the pump control box was submerged during the flood, all electrical components must be dry before electrical service can be restored. Get help from a well or pump contractor in turning on your pump.

WARNING: There is a danger of electrical shock and damage to your well and pump if they have been flooded. Rubber boots and gloves **do not** provide enough protection from electric shock.

WARNING: Do not drink, cook, or wash with water from a private well that has been flooded. It can make you sick.

Pump Operation: All pumps and their electrical components can be damaged by sediment and flood water. The pump, including the valves and gears, will need to be cleaned of silt and sand. If the pump is not cleaned and properly lubricated, it can burn out. Get help from a well or pump contractor who will be able to clean, repair or maintain different types of pumps.

Emergency Disinfection of Flooded Wells

Before disinfection: Check the condition of your well. Make sure there is no exposed or damaged wiring. If you notice any damage, call a professional before the disinfection process.

The Montana State University Extension Service offers a video explanation of how to disinfect a well using "shock chlorination" at: www.youtube.com/watch?v=MZJ6FxK6cwk&feature=player_embedded

Disinfection Materials:

- Non-scented household liquid bleach
- Rubber gloves
- Eye protection
- Old clothes
- A funnel

Step 1: Turn off the electricity at the well and remove the well cap.

Step 2: To determine how much bleach to add, you need to know the depth of the well (see shock chlorination table).

Step 3: Mix the bleach with 5 gallons of water in a bucket and carefully pour the solution into the well casing.

Step 4: After adding the bleach solution, run water from an outside hose into the well casing until you smell chlorine coming from the hose. Then turn off the outside hose.

Shock Chlorination Table	
Total well depth in feet	Cups of bleach for treatment
0-50	5
51-100	7
101-150	10
151-200	12

Step 5: Turn on all cold water faucets, inside and outside of your house, until you detect a chlorine odor in each faucet. Then shut them all off. If you have a water treatment system, switch it to "bypass" before turning on the indoor faucets.

Step 6: Wait 24-48 hours before turning the faucets back on. **It is important not to drink, cook, bathe, or wash with this water during this time period;** it contains high amounts of chlorine.

Step 7: Once the waiting period is over, turn on an outside spigot with a hose attached and run water into a safe area where it will not disturb plants, lakes, streams, or septic tanks. Run the water until there is no longer any chlorine odor. Turn the water off.

Step 8: The system should now be disinfected, and you can now use the water.

Step 9: Have your water tested for bacteria 7-14 days after disinfection.

Well disinfection will not provide protection from pesticides, heavy metals, and other types of non-biological contamination. If you suspect such contamination, special treatment is required.

Sampling and Testing Well Water

Three laboratories in Helena offer well sampling and testing for contamination. They are:

- Alpine Analytical, 449-6282
- Energy Laboratories, 442-0711
- State of Montana Public Health Laboratory, 444-2642

If you have questions about the safety of your well water, contact the Lewis and Clark County Water Quality Protection District at 457-8927 or the Environmental Services Division of Lewis and Clark Public Health at 447-8351.

USE ONLY PROPERLY DISINFECTED WATER FOR DRINKING, COOKING,

MAKING DRINKS (INCLUDING BABY FORMULA), OR BRUSHING TEETH

Use **bottled water** that has not been exposed to flood waters if it's available.

If you don't have bottled water, you should **boil water** to make it safe. Boiling will kill most types of disease-causing organisms that may be present. If the water is cloudy, filter it through clean cloths or allow it to settle, then draw off the clear water for boiling. **Boil the water for 5 minutes**, let it cool, and store it in clean containers with covers.

If you can't boil water, **disinfect it using household bleach**. Bleach will kill some, but not all, types of disease-causing organisms. If the water is cloudy, filter it through clean cloths or allow it to settle, then draw off the clear water for disinfection. **Add 5 drops** of regular, unscented, liquid household bleach **for each quart of water**, stir it well, and let it stand for 30 minutes before you use it. Store in clean containers with covers.

Cleaning Up After a Flood

When you get ready to clean up after a flood, remember that flood water may contain sewage and other contaminants.

- Keep kids and pets away from flooded areas until you've finished your cleanup.
- Wear rubber boots and waterproof gloves.
- Steam-clean all carpeting.
- Replace fiberglass insulation that has been exposed to flood waters.
- Wash walls and floors with a chlorine solution (1 cup of household bleach to 5 gallons of water). Rinse metal and wood surfaces with clean water after 10 minutes to avoid rusting or other chemical reactions.
- Use bleach or another disinfectant when laundering clothes, bedding, or other fabric items.

More Information

About flood preparedness and response:
Centers for Disease Control and Prevention
http://emergency.cdc.gov/disasters/floods/

About food and water safety:
US Food and Drug Administration
www.fda.gov/Food/ResourcesForYou/Consumers/ucm076881.htm

About well water quality:
US Environmental Protection Agency
http://water.epa.gov/drink/info/well/whatdo.cfm

At the Health Department:
Disease Control and Prevention Division
406-447-8361
Environmental Services Division
(septic systems) 406-447-8351
Water Quality Protection District
(wells) 406-457-8927

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Revised August 2018

Floods & Your Health

A Public Health Guide

While the focus during flooding is often on protecting property, don't forget to protect the health and safety of you and your family.

Lewis & Clark Public Health

Drinking Water

Get Well Water Tested

Flood water is often contamined with bacteria and other disease-carrying germs. If you have a private well, and if flood waters have reached your wellhead, your well water is likely to be contaminated, too.

To get your well water tested for contamination, contact one of these local laboratories:

- Alpine Analytical, 449-6282
- Energy Laboratories, 442-0711
- State of Montana Public Health Laboratory, 444-2642

Don't use contaminated water or questionable water for any domestic purpose such as cooking, drinking, bathing, brushing your teeth, or making baby formula.

How to Disinfect Your Water

Use bottled water. If necessary, you can disinfect water that might possibly have been contaminated in one of two ways:

- Bring it to a boil and allow it to boil for 5 minutes, OR
- Mix it with household bleach at a ratio of 5 drops of bleach to 1 quart of water.

For their health and safety, keep children from playing in flood water!

Bathing and Washing

Cleanliness a Must

Because flood water is often contaminated with disease-carrying germs, it's very important to wash your hands after coming into contact with it -- especially before eating.

If your tap water isn't safe to use, wash your hands with soap and water that has been boiled or disinfected. You can set up a temporary hand-washing station by using a large water jug that contains clean water.

If soap and water aren't available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Keep in mind that hand sanitizers are not effective when hands are visibly dirty.

Bathe only when you're sure your water is clean and safe. Listen to local authorities for further instructions. Sometimes water that's not safe to drink can be used for bathing.

Avoid exposure to flood waters if you have an open wound.

Food Safety

Throw These Away!

Flood waters are contaminated with bacteria and other germs that can cause human illness. Destroy the following items if they have been exposed to flood waters:

- fresh meats and poultry
- fresh fruits and vegetables
- ready-to-eat foods
- lunch meats
- cheese
- home-canned foods
- medicines and cosmetics
- food packages that are not airtight
- flour
- packaged frozen foods
- other commodities in bags

Disinfect These

You can salvage airtight packages and sealed metal cans in good condition (not leaking, bulging, or punctured). Just clean and disinfect them carefully before opening:

- Remove labels, but mark cans so you can identify contents after disinfection.
- Wash cans in warm, soapy water and rinse well.
- Soak cans for at least 2 minutes in a tub of disinfecting solution made by mixing 1 cup household bleach with 5 gallons water (2 tablespoons per quart). Wear waterproof gloves.
- Rinse cans in clear water that is bottled, disinfected, or otherwise safe to drink.

Additional Resources

- Hydrologic and Hydraulic Draft Study: https://www.lccountymt.gov/cdp/floodplain-development/2017-hh-study.html
- Valley Flood Committee: https://www.lccountymt.gov/des/flood-information/valley-flood-committee.html