

PART SIX: SECONDARY UNNATURAL HAZARDS

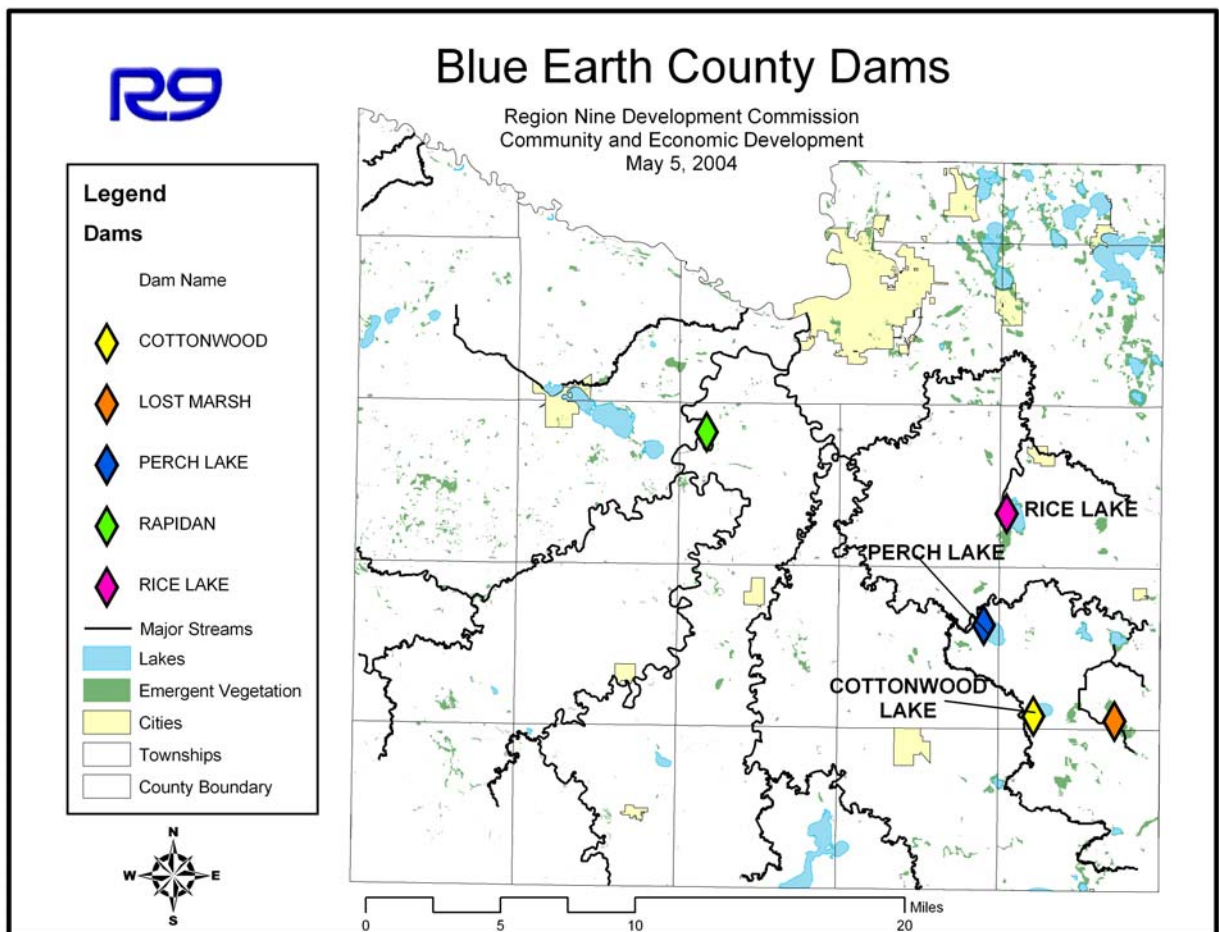
The following human-created or technological hazards are possible, but are not considered top priority in Blue Earth County by the jurisdictions within. They are summarized accordingly.

DAM FAILURE

Dams are human-made structures built to impound water. Dams are built for many purposes including water storage for potable water supply, livestock water supply, irrigation, or fire suppression. Other dams are built for flood control, recreation, navigation, and hydroelectric power or to contain mine tailings. Dams may also be multifunction, serving two or more of these purposes.

Dam failures can occur at any time in a dam's life; however, failures are most common when water storage for the dam is at or near design capacity. At high water levels, the water force on the dam is higher and several of the most common failure modes are more likely to occur. Correspondingly, for any dam, the probability of failure is much lower when water levels are substantially below the design capacity for the reservoir.

Blue Earth County Dam Location Map



Vulnerability to Dam Failure

The National Inventory of Dams (NID) lists 5 dams in Blue Earth County, all of which carry a hazard category of low, meaning failure would like result in no loss of life and physical/ economic damage only to the dam owner. The chart below summarizes the risk levels and locations of these dams.

County	Dam Name	River	MCD	Hazard Category
Blue Earth	Rapidan	Blue Earth River	Rapidan Twp.	Low
Blue Earth	Rice Lake	Le Sueur River	McPherson Twp.	Low
Blue Earth	Perch Lake	Little Cobb	Beauford Twp.	Low
Blue Earth	Cottonwood Lake	Cobb River	Medo Twp.	Low
Blue Earth	Lost Marsh WMA	Bull Run Creek	Medo Twp.	Low

Blue Earth County Dam Failure Risk Assessment

Hazard:	Dam Failure
Location	Any of the five identified dams located throughout the county
Historic Events	None on record
Likely to happen now?	No
How often?	Very infrequently
Where would event occur?	Any of the four identified dams located throughout the county
Severity of event?	Low
When would hazard likely occur?	Any time of year
What other hazards could occur at the same time?	Flooding
Economic impacts	Costs incurred to repair/rebuild dam, property damages
Loss of life impacts	Very minimal
Risk Level VH – Very High H – High L – Limited M – Minimal	Citizens/People: M Animals/Livestock: M Housing: M Critical Structures: M Infrastructure: L Total: L
Risk Assessment	
Unlikely – 1 Occasional – 2 Likely – 3 Highly Likely – 4	<u>Frequency of Occurrence</u> 1
More than 12 hours – 1 6-12 hours – 2 3-6 hours – 3 Minimal-None – 4	<u>Warning Time</u> 1
Limited – 1 Minor – 2 Major – 3 Substantial – 4	<u>Potential Severity</u> 3

Minimal – 1 Limited – 2 High – 3 Very High – 4	<u>Risk Level</u> 2
(Total divided by 4) Very Low – 1 Low – 2 Moderate – 3 High – 4	<u>Overall Priority</u> 1.75 Low

Potential Impacts and Cascading Effects

The potential impacts of dam failure include the loss of life and possible injuries, secondary impacts such as flooding and damage to or loss buildings and infrastructure, increased demand on emergency services and equipment, loss and/or reduction in available water reserves, and economic impacts such as the costs associated with repair/replacement of dam facilities. Most of the effects due to a dam failure in Blue Earth County would be minimal.

Dam Failure Gaps and Deficiencies

There have been no program gaps or deficiencies regarding the possibility of a dam failure hazard event identified within Blue Earth County.

ACTIONABLE MITIGATION STEP:

This Actionable Mitigation Step is more elaborately explained with project, timeframe, responsible jurisdictions/staff, possible funding sources, and priority level in the Action Plan section of this document. Suggested area of focus is denoted in parentheses.

Dam Inspection (All Five Blue Earth County Dams) – The Minnesota DNR regulates nearly 900 of the numerous dams in the state. The DNR and the US Army Corps of Engineers routinely inspect the dams and reservoir capabilities for flooding and dam failure. Their reports indicate whether the sizes of the dams are adequate for any major floods and spring runoff.

TERRORISM

Human-caused hazards are intentional, criminal, malicious uses of force and violence to perpetrate disasters against people or property. They can be the result of terrorism – actions intended to intimidate or coerce a government or the civilian population to further political or social objectives – which can be either domestic or international, depending on the origin, base and objectives of the terrorist organization. Or they can be acts of individuals perpetrated for personal reasons. Hazards can result from the use of weapons of mass destruction, including biological, chemical, nuclear and radiological weapons; arson, incendiary, explosive and armed attacks; industrial sabotage and intentional hazardous materials releases; and cyber terrorism.

Blue Earth County Terrorism Hazard Risk Assessment

Hazard:	Terrorism
Location	Countywide, particularly public buildings, dams, transportation facilities, and water systems, as well as vulnerable areas such as power generation facilities and agricultural businesses that store chemicals
Historic Events	None
Likely to happen now?	Unlikely
How often?	Extremely rarely
Where would event occur?	Anywhere in County
Severity of event?	Could be very severe in an extreme event
When would hazard likely occur?	Any time of year
What other hazards could occur at the same time?	Infectious diseases, flooding, dam failure, water supply contamination, exposure to hazardous materials, fire
Economic impacts	Potentially devastating if event is severe enough
Loss of life impacts	Potential for significant loss of life
Risk Level VH – Very High H – High L – Limited M – Minimal	Citizens/People: H Animals/Livestock: M Housing: M Critical Structures: H Infrastructure: H Total: L
Risk Assessment	
Unlikely – 1 Occasional – 2 Likely – 3 Highly Likely – 4	<u>Frequency of Occurrence</u> 1
More than 12 hours – 1 6-12 hours – 2 3-6 hours – 3 Minimal-None – 4	<u>Warning Time</u> 4
Limited – 1 Minor – 2 Major – 3 Substantial – 4	<u>Potential Severity</u> 3
Minimal – 1 Limited – 2	<u>Risk Level</u> 2

High – 3 Very High – 4	
(Total divided by 4) Very Low – 1 Low – 2 Moderate – 3 High – 4	<u>Overall Priority</u> 2.5 Low/Moderate

Vulnerability to Terrorism and Specific Areas of Concern

Cascading effects and risk of an intentional human-caused disaster are highly dependent on the specific mode of attack used and asset targeted. Many of these have been detailed in the technological hazards portion of the plan covering dam failure and hazardous materials incidents. Fires and secondary explosions are possible with explosive attacks and fires from arson attacks can extend beyond the intended target. Targets could also include any building or facility that is owned, operated, or utilized by any level of government, including local, county, state, and federal. Most of the concern regarding the possibility of terrorism events in Blue Earth County is connected with the municipal water supplies of cities throughout the county. Additionally, due to the agricultural nature of Blue Earth County areas, there are also agricultural chemical use/storage sites that may possibly be targeted in an attack, including the City of Lake Crystal, which has concerns that materials stored in and around the community could be used to create large-scale weapons (explosives using fertilizer, ammonia, etc). Additionally, the City of Lake Crystal has concerns for the infrastructure (water and electrical production/distribution), and the City of Good Thunder has also noted concern with their municipal water supplies.

Potential Impacts and Cascading Effects

The potential impacts of acts of terrorism include the loss of life and injuries sustained due either to the event itself or the aftermath, possible secondary hazards such as fires or outbreaks of infectious diseases, the loss or reduction of necessary supplies such as water, widespread panic among residents, increased demand on emergency services, and impacts on buildings and infrastructure that may be either damaged or destroyed in such an event, which can lead to economic losses for the area as well.

ACTIONABLE MITIGATION STEPS:

Actionable Mitigation Steps are more elaborately explained with project, timeframe, responsible jurisdictions/staff, possible funding sources, and priority level in the Action Plan section of this document. Suggested areas of focus are denoted in parentheses.

1. School Security Measures (Mankato) – City officials may want to consider working with school administration at these school facilities to evaluate the possibility of an attack on school grounds, and if deemed necessary undertake increased security actions to reduce the risks of any form of terror event at these schools.
2. Increase Security of Chemical and Fertilizer Facilities (Lake Crystal) – The City of Lake Crystal may wish to consider implementing measures to increase the security of chemical and fertilizer facilities located within the community, either on an immediate and continuing basis or at times when it is decided that there is an increased level of threat to the facilities from some form of terrorism.

3. Increased Protection of Water Supplies (Countywide) - The communities may wish to consider undertaking means to increase the security of their water municipal water supplies from tampering or attack. This has the added benefit of increasing safety as well as it further restricts access by unauthorized personnel (particularly children) and consequently may reduce the chances of an accident.
4. Coordination/Cooperation with State and Federal Officials (Countywide) – Blue Earth County officials should continue to work with state and federal officials and agencies on domestic preparedness efforts to mitigate impacts from a terrorism event.
5. Limit Pedestrian Access to Government Buildings (Countywide) – Government buildings may wish to restrict pedestrian access to all facilities, or specified areas within the buildings. This could be enforced at specified times as deemed necessary.
6. Design New Facilities with Terrorism in Mind (Countywide) – Facilities that may face an increased threat from terrorism should utilize design and building elements to minimize threats from terrorist attacks, such as blast-resistant materials and fire suppression systems. If it has been determined that there is an increased risk of a terrorism event targeting a government building, structural improvements/upgrades that lead to increased security and resistance may be considered as well.

PART SEVEN: ACTION PLAN

Priority Goals as Established in the Blue Earth County All-Hazard Mitigation Planning Process

The following goals have been determined as being the “priority listing” of goals for Blue Earth County hazard-mitigation planning efforts, as they are the forms of hazard events that have been deemed most likely to have a serious detrimental impact on Blue Earth County and all communities therein. These priority goals have been determined using the input of all Blue Earth County persons involved in the creation of this plan, using Social, Technical, Administrative, Political, Legal, Environmental, and Economic (also referred to as “STAPLEE”) criteria. While participants made cost estimates based upon personal projections, more in-depth analysis will be conducted during future updates to the plan, in the form of a cost-benefit analysis. In addition, the planning process permitted deliberation of key issues and strategic areas of focus which influenced the decision making process in identifying county goals. It is recommended that Blue Earth County pursue this set of goals for hazard mitigation as soon as possible. While all possible hazard events could have a serious negative impact on the County, due to the fact that they have not been determined as being priority hazards they are not included within this section of Blue Earth County Goals, Objectives, and Strategies. However, every hazard does have Actionable Mitigation steps that have been designed to minimize the impact of these hazards on the County, and these are listed and described under the “Actionable Mitigation Steps for All Hazards” section.

Goal 1: To protect and preserve the public health, safety, and welfare in the event of major natural disasters such as floods.

Strategies:

- A. By continuing to administer the National Flood Insurance Program.
- B. By enforcing the County Floodplain Ordinance.
- C. By updating the County Floodplain regulations as needed.
- D. By working to get FEMA approval for a Letter of Map amendment removing structures determined by staff to be out of the floodway designated as such instead of mistakenly identified by FIRM maps as existing within the floodway.
- E. By publishing public notices and educational information to inform citizens of the purpose and content of regulations, as well as the need for flood insurance.
- F. By maintaining or replacing levees, stormwater drains or other flood reduction structures to prevent damage to structures/utilities due to flooding.
- G. By coordinating planning with agencies that are responsible for community development to reduce damage to structures in the floodplains. Acquisition, relocation or flood-proofing the structures should be options explored as part of this planning.

Goal 2: To protect and preserve the public health, safety, and welfare in the event of major natural disasters such as fire.

Strategies:

- A. By adopting and administering the Minnesota State Building Code (currently under review).
- B. By seeking out and nurturing Joint Powers Agreements between fire departments in adjoining communities and between townships and cities to provide needed assistance in the event of a disaster.
- C. By adequately funding and training fire personnel.

Goal 3: To protect and preserve the public health, safety, and welfare in the event of major natural disasters such as tornadoes, and to guarantee the existence of community evacuation plans and shelter plans in the event of massive relocation due to *any* human-made or natural disaster.

Strategies:

- A. By working with hospitals, nursing homes, schools, and civic centers to see that adequate shelter areas are designated.
- B. By working with the aforementioned entities to make certain employees, patients, students, etc. are aware of these plans.
- C. By including the aforementioned entities in on-going talks to guarantee remodeling or new construction to buildings does not affect ability to provide adequate shelter.
- D. By enforcing the County requirement that all manufactured home parks include a storm shelter.
- E. By publishing public notices and distributing educational information informing citizens of proper shelter and evacuation procedures in the event of a tornado.

Goal 4: To make certain the efforts of emergency response personnel are properly coordinated with equipment in the event of a man-made or natural disaster.

Strategies:

- A. By following emergency response procedures adopted by Emergency Services Personnel in cooperation with the State, the County, the Cities, and the Townships.
- B. By fostering close working relationships with all Federal, State, County, and Municipal agencies that may be needed in the event of an air, railway, or highway accident which results in the release of hazardous materials.
- C. By continuing to adequately fund Emergency Response staff.

Goal 5: To protect animal agriculture against disease outbreaks and deal effectively with outbreaks if one were to occur.

Strategies:

- A. By continuing the MPCA delegated feedlot inspection program in the County.
- B. By using good bio-security techniques while inspecting and taking advantage of the latest advances in disease prevention as they are brought forward by the industry.