

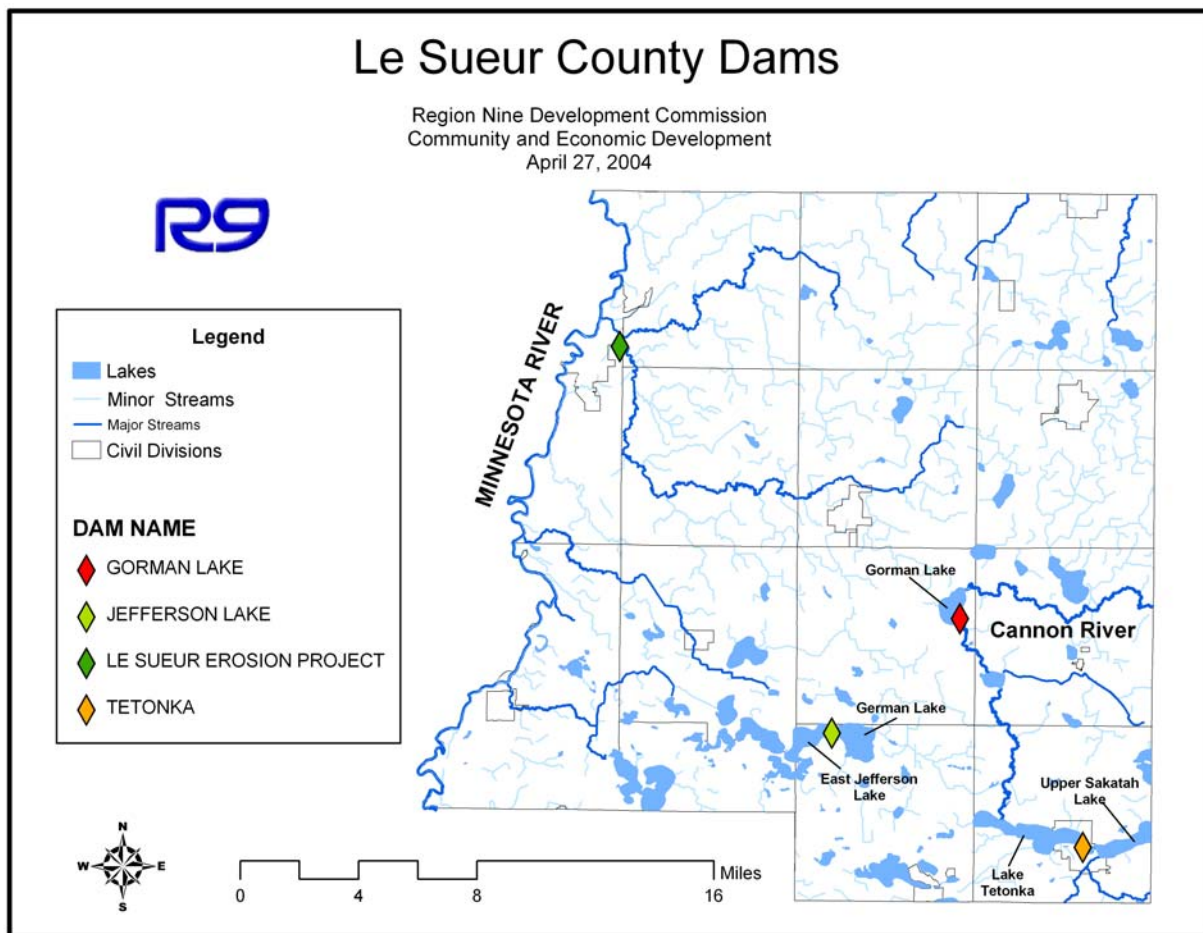
PART SIX: SECONDARY UNNATURAL HAZARDS

The following man-created or technological hazards are possible, but are not considered top priority in Le Sueur County by the jurisdictions within. They will be summarized.

DAM FAILURE

Dams are manmade 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, 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.



Le Sueur County Dam Failure Risk Assessment

Hazard:	Dam Failure
Location	Cordova, Waterville, Le Sueur
Historic Events	None on record
Likely to happen now?	No
How often?	Very infrequently
Where would event occur?	Dams on Cannon River and Le Sueur Creek
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
<i>Risk Assessment</i>	
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> 2
Limited – 1 Minor – 2 Major – 3 Substantial – 4	<u>Potential Severity</u> 1
Minimal – 1 Limited – 2 High – 3 Very High – 4	<u>Risk Level</u> 1
(Total divided by 4) Very Low – 1 Low – 2 Moderate – 3 High – 4	<u>Overall Priority</u> 1 Very Low

Vulnerability to Dam Failure

The National Inventory of Dams (NID) lists 4 dams in Le Sueur County, three 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. One dam, located as part of the Cannon River near Waterville, is classified as having ‘significant’ hazard potential, although no loss of life is expected in the event of a disaster, only structural and environmental damage.

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 Le Sueur 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 Le Sueur County.

ACTIONABLE MITIGATION STEP:

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. Dam Inspection (All 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

Terrorism hazards are intentional, criminal, malicious uses of force and violence to perpetrate disasters against people or property. This is the result of human-caused 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. They may of individuals perpetrated for personal reasons. Hazards can result from the use of weapons of mass destruction (WMD). Examples of WMD that could be used include biological, chemical, nuclear and radiological weapons. Other forms of dangerous attacks could take the form of arson, incendiary, explosive and armed attacks. In addition, industrial sabotage and intentional hazardous materials releases and cyber terrorism (an attack on electronic mediums such as communications) may be used.

Le Sueur County Terrorism Hazard Risk Assessment

Hazard:	Terrorism
Location	Countywide, particularly public buildings, dams, transportation facilities, and water systems
Historic Events	None
Likely to happen now?	Unlikely
How often?	Extremely rarely/Never
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
<i>Risk Assessment</i>	
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 High – 3	<u>Risk Level</u> 2

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

Vulnerability to Terrorism

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, or federal. Other significant areas that could be targeted include schools or other areas where large groups of people congregate. New Prague has identified some concern with biological and/or chemical terrorism, due to the large facilities such as schools and hospitals that are located in the community, as well as the current relative ease of access to some infrastructure facilities. The City of Le Center noted that they are concerned with infrastructure terrorism because it is currently rather easy to access their water supply and wastewater treatment plant, and that they are also concerned with physical terrorism because of their status as the county seat and the courthouse building that is located within the city. The City of Kilkenny has indicated a concern with chemical-related terrorism events in the form of water supply contamination.

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.

Terrorism Gaps and Deficiencies

There have been no program gaps or deficiencies regarding the possibility of a terrorism event identified within Le Sueur County.

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. Increased Protection of Water Supplies (Le Center, Kilkenny) – Le Center and Kilkenny should increase protection and monitoring of their water supplies and wastewater treatment plant to prevent tampering. This has the additional benefit of reducing the possibility of an accident, particularly when children could access the area.

2. Limit Pedestrian Access to Government Buildings (Countywide) – Government buildings may wish to restrict pedestrian access to all facilities, or specified areas within the buildings.
3. Design New Facilities with Terrorism in Mind (Countywide, particularly governmental buildings such as the county courthouse in Le Center) – 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.
4. Coordination/Cooperation with State and Federal Officials (Countywide) – Le Sueur County officials should continue to work with state and federal officials and agencies on domestic preparedness efforts to mitigate impacts from a terrorism event.