

**Introduction**

As defined by DMA2K, hazard mitigation is any action taken to reduce or eliminate the long-term risk to human life and property from hazards. Part IV of the Dodge County All Hazard Mitigation Plan describes the mitigation goals and actions by Dodge County and its local units of government for each hazard identified in Part III. The intention is to reduce or avoid long-term vulnerability to the identified hazards.

According to FEMA, hazard mitigation refers to any sustained actions taken to reduce or eliminate the long-term risk to human life and property from hazardous conditions.

The Mitigation Strategies are prioritized in the order given to the Hazards in Part III of this plan. Part III details the hazards that have caused or are likely to cause disasters in Wisconsin, discusses hazards that threaten public health and safety, provides descriptions of disasters, hazards and threats include information on frequency of occurrences, significant occurrences, potential and actual impacts and related programs, and included input from the Dodge County Local Emergency Planning Committee. Based on those factors, hazards were ranked according to threat to human safety and possible damage to property. The cost-benefit review of each mitigation project will be conducted at the time of implementation. As extensive as the list is, it does not preclude other natural and man-made hazards that can occur in the County.

Furthermore, for those hazards that are listed below, it should be noted that the range of mitigation actions and projects is more extensive than this. Information was compiled from a number of mitigation plans and reports from local municipalities and all projects were considered. However, the choice to implement the following mitigation actions and projects were based on frequency of occurrence, potential and actual impacts on health and public safety and cost-benefit reviews.

Following each hazard is a list of mitigation goals and possible action projects for Dodge County and its local units of government. It was compiled from a number of mitigation plans and reports, government agencies, the County Emergency Management Director, Local Emergency Planning Committee, other County Departments, local units of government, and suggestions from the public. A summary of the recommended mitigation strategies is provided at the end of this section as table 24.

**Hazard: All Hazards**

**Goal**  
Prepare and protect residents and visitors from all hazards.

**Action:**

The County will continue to promote an increased use of National Oceanic and Atmospheric (NOAA) all-hazards radios. NOAA All-Hazards Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information directed from the nearby National Weather Service office. NWR broadcasts National Weather Service warnings, watches, forecasts and other hazardous information 24 hours a day. NWR is not only for thunderstorms, but also other hazards, making it a single source for comprehensive weather and emergency information. NWR also broadcasts warnings and posts event information for all types of hazards-both natural and environmental (such as chemical release or oil spills).

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. All municipalities are currently participating in this action and will continue on-going efforts to equip all residences with NOAA All-Hazards Radios.

**Action:**

The County will continue to add and update information on an Emergency Management Department link web site. The web site will contain information describing the types of natural and man-made hazardous disasters in the County and how to respond when a hazard threatens. The site will also contain information on the Local Emergency Planning Committee (LEPC), the Level B Hazmat Team, Citizen Corps Council, and links to other planning and preparedness sites.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. The only directly participating jurisdiction will be Dodge County.

**Hazard: Severe Thunderstorms****Goal**

Minimize the threat to human life and property damage caused by high winds and lightning.

**Action:**

The County will promote the planting of windbreaks to protect farmsteads, buildings, and open fields from high winds. Established trees and shrubs can slow wind on the downwind side of a windbreak for a distance of 10 times the height of the trees. The windbreak can also reduce soil erosion, act as snow fences, provide wildlife food and cover, and offer a number of other benefits.

There are a number of resources area farmers use to help install and pay for windbreaks. In Dodge County, the Land Conservation Department provides assistance to help establish windbreaks. Windbreaks can also be established through the Conservation Reserve Program (CRP), Conservation Enhancement Reserve Program (CREP), Conservation Security Program (CSP), and Environmental Quality Incentive Program (EQIP) from the USDA Natural Resource Conservation Service (NRCS).

**Participating Jurisdictions:**

The Dodge County Land Conservation Department provides general land and water conservation to all residents throughout Dodge County and will be the lead agency supporting those residents interested in their various programs.

**Projects Cost:**

Costs vary depending the type and scope of the project.

**Action:**

A review of local building codes will be conducted to determine if revisions are needed to improve the structures ability to withstand greater wind velocities. The building code provisions may include requirements for construction methods that employ cross-bracing, anchoring of walls to foundation, and anchoring roof rafters to walls (also

mitigates tornado risk) and measures to provide wind protection and retrofits for vulnerable features (windows, garage doors, patio doors, double-wide entry doors, siding, and bracing for walls and rafters). A document was created by FEMA and WEM to help provide adequate and inexpensive wind mitigation measures to local officials, residents, and business owners in preventing future wind damages to residential, commercial, and public structures. This document (provided on the WEM website) should be referenced when making changes to building codes.

**Participating Jurisdictions:**

The Dodge County Planning and Development Department is the lead agency charged with administering the Dodge County Land Use Code. The towns of Ashippun, Calamus, Lebanon, Leroy, Lomira, Oak Grove, Rubicon, Shields and Trenton are currently under county zoning ordinances while the remaining townships regulate their own zoning ordinances unless construction falls within certain setback limits established by the Dodge County Land Use Code.

**Project Cost:**

Covered by Planning and Development’s annual budget.

**Project Timetable:**

Ongoing

**Action:**

The County will continue to promote the use of NOAA All-Hazard radios as a primary notification system to forward weather advisories to the general public and special locations. The County will continue to evaluate the different types of notification systems currently being used along with new types of notification technology.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. All municipalities are currently participating in this action and will continue on-going efforts to equip all residences with NOAA All-Hazards Radios.

**Project Cost:**

Approximately \$1,000 for the inventory of NOAA All-Hazard Radios.

**Action:**

The County will continue and promote the training of Law Enforcement Officers, Municipal Fire Department Members, Emergency Medical Services Personnel, and Municipal First Responders in the identification of dangerous weather patterns. The National Weather Service provides this type of training through their Weather Spotter Program. Dodge County will continue to sponsor this training annually.

**Participating Jurisdictions:**

Lead agencies will be the Dodge County Office of Emergency Management and the National Weather Service (Milwaukee-Sullivan).

**Project Cost:**

Class handouts and the presentation are provided out of the National Weather Service’s annual budget.

**Project Timetable:**

Annually.

**Hazard: Tornadoes****Goal**

Protect health, safety, and welfare of county residents and visitors.  
Along with future loss of property associated with tornadoes.

**Action:**

The County and local units of government will identify buildings that will provide protection to the public in the event of a tornado. There are a number of buildings in the County that can accommodate people during a tornado.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Emergency Management annual budget.

**Timetable:**

Ongoing.

**Action:**

Upon identifying existing buildings that could provide protection, the County and its local units of governments will identify areas that are deficient in tornado shelters. Concrete safe rooms should be constructed in these areas. Funding for the construction of safe rooms could be made available through the Wisconsin Department of Commerce's Committee Development Block Grant (CDBG).

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Costs vary, and are dependent on the utilization of the Dept. of Commerce CDBG funding assistance program.

**Project Timetable:**

Ongoing.

**Action:**

The County will require and promote construction standards and techniques to strengthen public and private structures against severe wind damage. Communities can require or encourage wind engineering measures and construction techniques that may include structural bracing, straps and clips, anchor bolts, laminated or impact-resistant glass, reinforced pedestrian and garage doors, window shutters, waterproof adhesive sealing strips, or interlocking roof shingles. Also, architectural design can make roofs less susceptible to uplift.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Planning and Development Department. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Planning and Development Department annual budget

**Project Timetable:**

Ongoing.

**Action:**

The County will encourage builders and owners of manufactured and mobile homes to use tie-downs with ground anchors. Using these devices can reduce the risk to mobile and manufactured home damage.

**Participating Jurisdictions:**

The lead agency will be the Dodge County Planning and Development Department. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Planning and Development Department annual budget

**Timetable:**

Ongoing.

**Hazard: Flooding**

**Goal**

Lessen the impact floods have on people, property, and the environment.

**Action:**

The County and local units of government will incorporate floodplain management in comprehensive planning. Determining and enforcing acceptable land uses through planning and regulation may not prevent inevitable flooding in flood-prone areas, but planning and regulation can alleviate the risk of damage by limiting exposure in such hazard areas.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Planning and Development Department. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Planning and Development Department annual budget.

**Project Timetable:**

Ongoing.

**Action:**

The aerial photography that is used with the County Geographic Information System (GIS) will be updated. Updated photography would be used to identify structures that were constructed or demolished in the flood zones. This would serve as an important planning tool.

**Participating Jurisdiction:**

Lead agency will be the County Land Information Office. Participating agencies will include the Dodge County Office of Emergency Management and all municipal governments located in Dodge County.

**Project Cost:**

Unknown at this time

**Project Timetable:**

2007

**Action:**

The County and its municipalities will utilize grants through the Department of Transportation to repair minor flood damage to roadways. Mitigation efforts through this program will reconstruct the flood damaged roadways to a point where future flooding would not cause additional damage. This program can be utilized for minor damage outside a Presidential Disaster Declaration.

**Participating Jurisdictions:**

Lead agency will be the Wisconsin Department of Transportation. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Wisconsin Department of Transportation Flood Damage Aid Program

**Project Timetable:**

Ongoing

**Hazard: Dam Failure**

**Goal**

Eliminate the loss of life and reduce the risk of downstream property damage resulting from a dam failure.

**Action:**

Wisconsin Administrative Code NR 335.07 requires an adequate emergency action plan for all new and existing dams which meet the large dam criteria or pose a threat to life or property. Dams that are rated by the Department of Natural Resources (DNR) as a high or significant threat are required to have Emergency Action Plans developed. Currently three dams in Dodge County have a high rating and eight have a significant rating. Two of the three dams with high rating have Emergency Action Plans developed and on file with the Emergency Management Department. The remaining dam located in the Town of Theresa does not have an Emergency Action Plan on file with the Emergency Management Department. The eight dams rated as significant do not have Emergency Action Plans on file with the Emergency Management Department.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management along with the jurisdictions that potentially may be involved (including the Department of Natural Resources).

**Project Cost:**

Dam owners or the Land Conservation Department budget.

**Project Timetable:**

2008

**Hazard: Winter Storms****Goal:**

Create safety awareness information for residents of and visitors to Dodge County, enabling self-protective actions during and after winter storm events.

**Action:**

The County will encourage the development of snow fences for public safety. Using snow fences or “living snow fences” (rows of trees or other vegetation) can limit blowing and drifting of snow over critical roadway segments. As mentioned previously under “Thunderstorms”, assistance can be provided by the County Land Conservation Department and the Natural Resource Conservation Service (NRCS) to develop windbreaks. Windbreaks are advantageous to the County Highway Department and towns to prevent blowing and drifting on roadways.

**Participating Jurisdictions:**

Lead agencies will be the County Land Conservation and County Highway Departments. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Costs Vary

**Project Timetable:**

Ongoing

**Action:**

The County will promote winter hazards awareness, including home and travel safety measures, such as avoiding travel during winter storms. The use of emergency kits, both home and car will be promoted.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Emergency Management annual budget

**Project Timetable:**

Ongoing

**Hazard: Drought**

**Goal**

Minimize crop loss while maintaining water supplies during times of drought.

**Action:**

The County will encourage farmers that irrigate to use the Wisconsin Irrigation Scheduling Program (WISP). This research-based program assists growers in determining frequency and amounts of irrigation throughout the growing season. It can be extremely helpful during a drought.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Land Conservation Department and the County UW-Extension. Dodge County will be the only directly responsible jurisdiction.

**Project Cost:**

Covered by the UW Extension and Land Conservation Department annual budgets

**Project Timetable:**

2007

**Action:**

The County will be prepared on how to inform farmers during times of drought. This would include feed assistance or financial assistance programs and managing crops and livestock during drought conditions.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Land Conservation Department and the County UW-Extension. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the UW Extension and Farm Service Agency annual budget

**Project Timetable:**

Ongoing

**Action:**

The County will inform farmers on the advantages/disadvantages of crop insurance to preserve economic stability for farmers during a drought.

**Participating Jurisdictions:**

Lead agencies will be Dodge County UW-Extension with Farm Service Agency (FSA). Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the UW Extension and Farm Service Agency annual budget

**Project Timetable:**

Ongoing

**Hazard: Wildfires**

**Goal**

Protect the safety and property of residents from wildfires.

**Action:**

The County, Department of Natural Resources (DNR) and U.S. Fish and Wildlife Service will continue to make outreach efforts to homeowners on protecting their homes and structures from wildfires. Since Dodge County is mostly rural, emphasis will be placed on construction and establishing defensible areas around structures. The recommendation that roofs and exterior siding be of ignition-resistant materials will be made and at least 30 feet left between homes and surrounding combustible vegetation. Outreach efforts can exist in the form of websites, local newspaper articles, and pamphlets to homeowners.

**Participating Jurisdictions:**

The lead agency will be the Dodge County Office of Emergency Management, along with the Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service.

**Project Cost:**

Costs vary.

**Project Timetable:**

Ongoing.

**Action:**

Local fire departments will provide and receive training for fighting wildfires.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management and the municipal fire departments serving Dodge County.

**Project Cost:**

Covered under municipal fire/EMS/first responder budgets. Hazmat related training can be funded through Wisconsin Emergency Management.

**Project Timetable:**

Ongoing.

**Action:**

The County, DNR and U.S. Fish and Wildlife Service will identify and map fire zones throughout the County. These maps will be distributed to the local fire departments.

**Participating Jurisdictions:**

The lead agency will be the DNR and the U.S. Fish and Wildlife Service with assistance from the Dodge County Land Information Office and Emergency Management.

**Project Cost:**

Costs vary.

**Project Timetable:**

As grants become available for this project, the agencies should work together to develop a timetable for completion.

**Hazard: Hazardous Material Incidents**

**Goal**

Protect people and natural resources from adverse affects of hazardous material incidents.

**Action:**

The County will continue to support a Level B Hazardous Materials Response Team to respond to hazardous spill situations. Several factors support this such as the density of traffic carrying hazardous materials over the major transportation routes of state and federal highways, the pipeline that delivers petroleum through the County, and a railway that crosses along several communities. Maintaining this level of emergency services will provide timely responses to incidents that require a Level B Hazardous Materials Response Team.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Office of Emergency Management along with the Dodge County Hazardous Materials Response Team, and the Local Emergency Planning Committee. Other participating jurisdictions will include the municipal volunteer fire departments that have member representation on the Dodge County Level B HazMat Team.

**Project Cost:**

\$10,000 budgeted annually through the Emergency Management Department; utilize the State of Wisconsin Computer & HazMat Equipment Grant

**Project Timetable:**

Ongoing

**Action:**

The County will prevent or reduce hazardous material exposure by separation and buffering between industrial areas and other land uses. Industrial areas will be located away from schools, nursing homes, hospitals, and other facilities with large and vulnerable populations.

**Participating Jurisdictions:**

Lead agency will be the Dodge County Planning and Development Department. Participating agencies will include all municipal governments located in Dodge County.

**Project Cost:**

Covered by the Planning and Development Department annual budget.

**Project Timetable:**

Ongoing

**Identified Municipal Mitigation Projects**

The following municipal mitigation projects were identified through the Pre-Disaster Mitigation planning process. These projects are not inclusive of all projects that may be identified at a later date or after a Presidential Disaster Declaration.

<b>Table 21</b>		
<b>Municipal Mitigation Projects</b>		
<b>Municipality</b>	<b>Project Description</b>	<b>Estimated Cost</b>
City of Beaver Dam	The City of Beaver Dam is owner of a dam that controls a 6,000 acre reservoir and a 100,000 acre flood plain. As a result of restrictions down stream from the dam the City is not able to flow an adequate volume of water out of the lake to maintain an acceptable lake level in heavy rain events. Also in extreme storm events such as 100 year floods more severe concerns arise such as extremely high lake levels on the existing dam. The simplest approach to correct the problems would be to divert a major volume around the city by running a storm sewer down Rowell Avenue and adding a culvert on Cooper street.	\$2,000,000  Price based on estimates from contractor and suppliers.
City of Juneau	Correct a drainage ditch problem that results in flooding problems created by the overflow of water into this drainage ditch. The requested area is a one mile long drainage ditch that runs along the Wild Goose State Trail. The ditch is in need of being scraped or dug out to remove the over growth of trees and cattails that prevents the proper flow of water from occurring. The drainage ditch is fed by storm water basins feeding into this ditch from several city streets, when the water backs up into the ditch it flows into residential back yards resulting in flooding.	\$2,500
Village of Brownsville	Conduct a Public Education and Awareness Program for residents to be prepared in the event of a disaster	To Be Determined
Village of Randolph	Storm ditch scraping along Highway 73 running west behind Village Hall.	To Be Determined

<p>Towns of: Beaver Dam and Oak Grove</p>	<p>The county fairgrounds property is split by two separate townships. In the event of severe weather there is no adequate shelter area for the patrons of the park. Numerous people attend various events at the fairgrounds throughout the summer season and a large number of these people are bussed in and do not have immediate access to evacuate the premises. A storm shelter will be constructed on the property to provide some type of sheltering from severe weather that commonly afflicts our area.</p>	<p>To Be Determined</p>
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**Table 22 – Summary of Mitigation Strategies**

<b>Hazard Type</b>	<b>Mitigation Measures</b>	<b>Priority</b>	<b>Project Cost</b>	<b>Responsible Management</b>	<b>Project Timetable</b>	<b>Comments</b>
<b>All Hazards</b>	Continue to promote the increase use of National Oceanic and Atmospheric Administration (NOAA) All-Hazard radios	Medium	Covered by radio sales	EM Dept.	On-going	Dodge County Office of Emergency Management promotes and distributes NOAA All-Hazard radios.
	Continue to add/update Emergency Management Department link off their existing County web page	High	Covered by Dept. annual budget	EM Dept.	On-going	
<b>Severe Thunder Storms</b>	Promote the planting of windbreaks to protect farmsteads, buildings & open fields from high winds	Medium	Costs Vary	LCD and NRCS	On-going	Utilize a number of different sources for cost-sharing
	Review local building codes to improve structures ability to withstand greater wind velocities	High	Covered by Dept. annual budget	P&D Dept.	2007	
	Promote NOAA All-Hazard Radios	Medium	Covered by radio sales	EM Dept.	On-going	Dodge County Office of Emergency Management promotes and distributes NOAA All-Hazard radios.
	Continued training for Law Enforcement, Fire, EMS, First Responder, and the public in the identification of dangerous weather formations	High	Covered by the National Weather Service	EM Dept.	Annually	National Weather Service Storm Spotter Class.
<b>Tornados</b>	Identification of buildings that could be utilized for tornado shelters.	Medium	Covered by Dept. annual budget	EM Dept.	On-going	

	Identify and construct tornado shelters in area where deficient	Low	Costs Vary	EM Dept.	On-going	Utilize the Dept. of Commerce's CDBG for funding assistance
	Require and promote construction standards and techniques	Low	Covered by Dept. annual budget	P&D Dept.	On-going	
	Encourage builders and owners of manufactured and mobile homes to use tie-downs with ground anchors.	Medium	Covered by Dept. annual budget	P&D Dept.	On-going	
	Promote NOAA All-Hazard Radios	Medium	Covered by radio sales	EM Dept.	On-going	Dodge County Office of Emergency Management promotes and sells NOAA weather radios.
	Continued training for Law Enforcement, Fire, EMS, First Responder, and the public in the identification of dangerous weather formations	High	Covered by the National Weather Service	EM Dept.	Annually	National Weather Service Storm Spotter Class.
<b>Flooding</b>	Incorporate floodplain management in comprehensive planning.	High	Covered by Dept. annual budget	P&D Dept.	2008	
	Update aerial photography used by the County Land Information Department GIS County coverage	Low	Unknown at this time	LIO Dept.	2008	
	Utilize grants through the Dept. of Transportation to repair minor flood damage to roadways	Medium	Wis. Dept. of Transportation Budget	DOT / Municipalities	On-going	Wisconsin Dept. of Transportation Flood Damage Program
<b>Dam Failure</b>	Develop a dam break analysis and Emergency Action Plan for one high risk	Medium	Cost to be determined	Dam Owners or LCD	2008	Possible FEMA PDM grant for this project.

	dam and two significant risk dams					
<b>Winter Storms</b>	Encourage the development of snow fences	Low	Costs vary	HWY Dept. and LCD Dept.	On-going	As grants become available
	Promote winter awareness, including home and travel safety measures	High	Covered by Dept. annual budget	EM Dept.	On-going	
<b>Drought</b>	Encourage farmers that irrigate to use the Wisconsin Irrigation Scheduling Program (WISP)	Low	Covered by Dept. annual budget	UW-EXT. LCD Dept.	2007	
	County will be prepared how to inform farmers during times of drought	Medium	Covered by Dept. annual budget	UW-EXT.	On-going	
	Inform farmers on purchasing crop insurance	Medium	Covered by Dept. annual budget	UW-EXT. Dept. FSA	On-going	
<b>Wildfires</b>	Provide outreach efforts to homeowners on protecting homes and structures from wildfire	Medium	Costs Vary	EM Dept. Wis. DNR	On-going	
	Provide ample training for volunteer fire fighters for larger fires	High	Covered under Dept. budgets	Local Fire Dept.	On-going	HazMat related trainings may be funded through Wisconsin Emergency Management.
<b>Hazardous Materials</b>	Continue support for the Level B Emergency Response Team to respond to hazardous spill situations	High	\$10,000.00	EM Dept.	Annual	Utilize the State Computer & HazMat Equipment Grant \$10,000.

	Prevent or reduce hazmat exposure by separation & buffering between industrial and other land uses	High	Covered by Dept. annual budget	P&D Dept.	On-going	
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EM Dept. = County Emergency Management Department  
 FSA = Federal Farm Service Agency  
 LCD = County Land Conservation Department  
 P&D Dept. = County Planning and Development Department  
 LIO Dept. = Land Information Department

