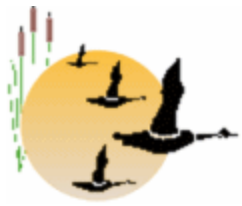

Dodge County
Wisconsin

Hazard Mitigation Plan

Dodge County, Wisconsin

Plan Update – February, 2021

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Acronyms

ACE	Army Corps of Engineers
ADA	Americans with Disabilities Act
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
ASCS	Agriculture Stabilization and Conservation Service
ASL	Above Sea Level
ASPR	Assistant Secretary for Preparedness and Response
Bq	Becquerel, a unit of radioactivity
CAD	Computer Aided Dispatch
CBRNE	Chemical, Biological, Radiological, Nuclear, or Explosive
CDBG	Community Development Block Grant
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
Ci	Curie, a unit of radioactivity
CI	City
CO	County
COAD	Community Organizations Active in Disaster
CTH	County Highway
DFIRM	Digital Flood Insurance Rate Map
DHS	U.S. Department of Homeland Security
DNR	Wisconsin Department of Natural Resources
DOD	U.S. Department of Defense
DOJ	U.S. Department of Justice
DPW	Departments of Public Works
DTM	Digital Terrain Maps
EAP	Emergency Assistance Program or Emergency Action Plan
EF	Enhanced Fujita Scale
EHS	Extremely Hazardous Substance
EM	Emergency Management
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EOP	Emergency Operating Procedure
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
F	Fahrenheit or Fujita Scale

FCC	Federal Communications Commission
FCIC	Federal Crop Insurance Corporation
FD	Fire Department
FEMA	Federal Emergency Management Agency
FIRMS	Flood Rate Insurance Maps
FMA	Flood Mitigation Assistance
FOIA	Freedom of Information Act
FOUO	For Official Use Only
FSA	Farm Service Agency
GIS	Geographic Information System
HazMat	Hazardous Materials
HazMit	Hazard Mitigation
HAZUS	Hazards United States
HAZUS-MH	Hazards United States Multihazard
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
HVA	Hazard Vulnerability Analysis
HWY	Highway
ICS	Incident Command System
L	Liter
LCD	Land Conservation Department
LE	Law Enforcement
LEPC	Local Emergency Planning Committee
LID	Land Information Department
LIDAR	Laser Imaging Detection and Ranging
LPDM	Lagrangian particle dispersion
LRP	Land Resources and Parks Department
LWM	Land and Water Management Department
MABAS	Mutual Aid Box Alarm System
MAP	FEMA's Risk Mapping, Assessment and Planning
ME	Medical Examiner
MHz	Megahertz
MMI	Modified Mercalli Intensity Scale
MOU	Memorandum of Understanding
MPH	Miles Per Hour
MSDS	Material Safety Data Sheet
NFIA	National Flood Insurance Act
NFIF	National Flood Insurance Fund
NFIP	National Flood Insurance Program

NFPA	National Fire Protection Association
NIDIS	National Integrated Drought Information System
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NRP	National Response Plan
NWS	National Weather Service
OJA	Office of Justice Assistance
PA	Public Address (System)
PDM	Pre-Disaster Mitigation
PGA	Peak Ground Acceleration
PH	Public Health
PSA	Public Service Announcement
POW	Plan of Work
RACES	Radio Amateur Civil Emergency Service
RES1	Single Family Dwelling
RES2	Manufactured Housing
RFC	Repetitive Flood Claims
SARA	Superfund Amendments and Reauthorization Act
SBA	Small Business Administration
SMART	Spatial Management, Analysis and Resource Tracking
SPI	Standardized Precipitation Index
SRL	Severe Repetitive Loss
STH	State Highway
SWAT	Special Weapons and Tactics
TN	Township
UASI	Urban Area Security Initiative
UC	Unified Command
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UW	University of Wisconsin
UW Ext	University of Wisconsin – Madison Division of Extension
VHF	Very High Frequency
VI	Village
VOAD	Voluntary Organizations Active in Disaster
WEM	Wisconsin Emergency Management
WISP	Wisconsin Irrigation Scheduling Program

Introduction and Background

The Dodge County Hazard Mitigation Plan is intended to provide strategies for reducing susceptibility to future damage to public and private infrastructure in the county. The Dodge County Emergency Management applied for and was awarded grants to update the hazard mitigation program is sponsored by the U.S. Department of Homeland Security - Federal Emergency Management Agency (FEMA) and is administered by the Wisconsin Department of Military Affairs - Wisconsin Emergency Management (WEM). The procedures utilized in preparing this plan are based on guidance provided by FEMA and WEM and should therefore be considered consistent with the requirements and procedures in the Disaster Mitigation Act of 2000.

Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-228, as amended) is the impetus for involvement of state and local governments in evaluating and mitigating natural hazards as a condition of receiving federal disaster assistance. Federal Emergency Management Agency (FEMA) rules for implementing Section 409 are in 44 CFR Part 206 Subpart M.

Section 409 states that the county is obligated to try to reduce damage susceptibility to any hazard that has received relief funding in the past. Developing a hazard mitigation plan provides an opportunity for communities to meet this requirement by developing strategies for reduction of potential losses from future natural disasters. Hazard mitigation planning is the process of developing a set of actions designed to reduce or eliminate long-term risk to people and property from hazards and their effects. Completion of this plan should put Dodge County in an advantageous position when competing for pre- and post-disaster mitigation project dollars because projects have been pre-identified. The cooperation of government, private and volunteer agencies is essential in mitigation efforts and over the long term it is hoped that implementation of this plan will save taxpayer dollars because less money is needed for post-disaster recovery activities. Furthermore, mitigation planning measures incorporated in economic or community development goals support more comprehensive and effective government. This plan evaluates the risks that all natural hazards pose to the citizens and property of Dodge County by presenting:

- A profile and analysis of past hazardous events

- An assessment of vulnerability of community assets
- Potential hazard mitigation strategies
- Methods for building community support and ensuring plan adoption

Plan Overview

The Dodge County Hazard Mitigation Plan provides background information on Dodge County and identifies those hazards that have occurred or could occur in the county. It includes a description of each hazard, its frequency of occurrence, appropriate actions in case of emergency and possible steps to mitigate the hazard. These hazards are the basis for the development of all county emergency plans.

A well-prepared plan allows emergency management to act swiftly and efficiently in the event of a hazard, reducing the damage and the cost incurred from displacing residents and businesses. Hazard mitigation activities will be emphasized in the plan as a major component of overall emergency management. The plan is intended to provide strategies for reducing future damages to public and private infrastructure in the county, including flood damage.

Previous Planning Efforts and Legal Basis

The Dodge County Office of Emergency Management has incorporated a hazard vulnerability analysis (HVA) that identifies all likely natural hazards that might or have occurred within the county into this plan; it is based on the State of Wisconsin's HVA.

There have also been plans and ordinances completed by individual Dodge County departments or municipalities, which were used as reference materials for this plan, including:

Dodge County [1]

Chapter 13	Environment
Chapter 29	Land Resources and Parks Department
Chapter 30	Construction and Effect of Ordinances
Appendix A	Land Use Code

[1] https://library.municode.com/wi/dodge_county/codes/code_of_ordinances?nodeId=14332

Appendix C	Shoreland Protection Ordinance
Appendix D	Floodplain Zoning Ordinance

City of Beaver Dam [2]

Chapter 14	Buildings and Building Regulations
Chapter 57	Construction Site Erosion
Chapter 58	Subdivisions
Chapter 59	Floodplains
Chapter 60	Shoreland Zoning
Chapter 67	Stormwater Management Utility
Chapter 68	Post-Construction Stormwater Management
Chapter 70	Zoning

City of Columbus [3] [4]

Comprehensive Plan for 2010-2030

Chapter 18	Buildings and Building Regulations
Chapter 46	Floodplain Regulations
Chapter 90	Subdivisions
Chapter 114	Zoning

City of Fox Lake [5]

Chapter 1	Zoning Code Index
Ch 1, Article K1	Mobile Homes
Chapter 2	Floodplain and Shoreland/Wetland Zoning

City of Hartford [6]

Chapter 12	Land Subdivisions
Chapter 14	Historic Preservation
Chapter 15	Unified Construction Code
Chapter 16	Floodplain Zoning
Chapter 20	Erosion Control and Stormwater Management
Chapter 29	Property Maintenance Code
Chapter 31	Licenses and Permits

City of Juneau [7]

Title 14	Floodplain
Title 15	Buildings and Construction
Title 16	Subdivisions
Title 17	Zoning

[2] https://library.municode.com/wi/beaver_dam/codes/code_of_ordinances
[3] https://wi-columbus.civicplus.com/2215/Ordinances-Resolutions
[4] https://library.municode.com/wi/columbus/codes/code_of_ordinances
[5] http://www.cityoffoxlake.org/2174/Zoning-Ordinances
[6] http://ci.hartford.wi.us/179/Municipal-Code
[7] https://library.municode.com/wi/juneau/codes/code_of_ordinances

City of Mayville [8]

Chapter 215	Erosion Control
Chapter 271	Licenses and Permits
Chapter 290	Mobile Homes and Mobile Home Parks
Chapter 405	Comprehensive Plan
Chapter 410	Floodplain Zoning
Chapter 420	Shoreland-Wetland Zoning
Chapter 425	Subdivision of Land
Chapter 430	Zoning

City of Watertown [9]

Chapter 253	Building Construction
Chapter 288	Erosion and Sediment Control
Chapter 325	Historic Preservation
Chapter 377	Mining, Nonmetallic
Chapter 453	Stormwater Management
Chapter 525	Comprehensive Plan
Chapter 532	Floodplain and Shoreland-Wetland Zoning
Chapter 545	Subdivision of Land
Chapter 550	Zoning

City of Waupun [10]

Chapter 11	Licenses and Permits
Chapter 13	Building Code
Chapter 16	Zoning Code
Chapter 17	Subdivision Ordinance
Chapter 19	Floodplain Zoning Ordinance
Chapter 20	Shoreland-Wetland Zoning Ordinance
Chapter 21	Historic Preservation
Chapter 22	Stormwater Management Ordinance
Chapter 23	Construction Site Erosion Control Ordinance

Town of Ashippun [11]

Chapter 12	Licenses and Permits
Chapter 14	Building Code
Chapter 16	Land Division Ordinance

[8] https://www.ecode360.com/MA2670
[9] https://www.ecode360.com/WA3515
[10] https://library.municode.com/wi/waupun/codes/code_of_ordinances
[11] https://www.townofashippun.org/ordinances/

Town of Beaver Dam [12]

Chapter 10	Buildings and Building & Property Maintenance
Chapter 54	Subdivisions
Chapters 62-63	Zoning
2030 Land Use (Comprehensive Plan)	

Town of Burnett [13] [14]

2030 Comprehensive Plan	
Ordinance 13	Amending Zoning Ordinance
Ordinance 23	Mineral Extraction
Ordinance 31	Amending Zoning Ordinance
Ordinance 34	Amending Zoning for Comprehensive Plan/ Farmland Preservation

Town of Calamus [15]

6-2001	Mobile Home Ordinance

Town of Clyman [16]

Section 3.5	Residential Building Restrictions
Section 4	Zoning Districts

Town of Elba [17]

Floodplain Map
Zoning Map

Town of Fox Lake [18]

Chapter 8	License/Registration/Permit
Chapter 14	Environmental Protections

Town of Herman [19]

Chapter 170	Building Construction
Chapter 188	Comprehensive Plan
Chapter 251	Land Division and Development
Chapter 257	Licenses and Permits
Chapter 384	Zoning

[12] https://www.townofbeaverdam.org/ordinances.aspx
[13] https://www.townofburnett.com/comprehensive-plan/
[14] https://www.townofburnett.com/ordinances/
[15] http://www.townofcalamus.com/ordinances
[16] https://townofclyman.org/ordinances-resolutions/
[17] https://townofelba.com/ordinances/
[18] http://townoffoxlake.org/code-of-ordinances
[19] https://www.ecode360.com/HE3157

Town of Hubbard [20]

2010-07-01	Proposed Town Zoning
2015-02-25	Land Division Ordinance Revision
2015-01-26	Zoning Ordinance Revision

Town of Lowell [21]

Title 13	Zoning
Title 14	Subdivision and Platting
Title 15	Building Code
2016-1	Zoning Code Amendment
2016-2	Zoning Code Amendment

Town of Rubicon [22]

1-8-18	Code of Ordinances (Revised)

Town of Theresa [23]

8-21-2012	Zoning Ordinance
Chapter 1	Building
Chapter 15	Cemetery Ordinance

Village of Brownsville [24]

Chapter 15	Building and Construction
Chapter 16	Mobile Homes and Parks
Chapter 18	Zoning Code
Chapter 25	Construction and Effect

Village of Clyman [25]

Chapter 144	Building Construction
Chapter 169	Comprehensive Plan
Chapter 175	Construction Site Erosion Control
Chapter 226	Historic Preservation
Chapter 377	Subdivision of Land
Chapter 440	Zoning

Village of Hustisford [26]

Chapter 140	Building Construction
Chapter 209	Licenses and Permits

[20] https://www.townofhubbard.com/ordinances/
[21] https://townoflowell.com/ordinances/
[22] https://townofrubicon.com/ordinances/
[23] https://townoftheresa.com/ordinances/
[24] http://www.villageofbrownsvilletoday.com/ordinances
[25] https://www.ecode360.com/CL3112
[26] https://www.hustisford.com/index.asp?SEC=E05571DE-B975-493F-950A-DCE5D5C26CE7&Type=B_BASIC

Chapter 281	Subdivision of Land
Chapter 325	Zoning

Floodplain Ordinance approved May 29, 2014

Village of Iron Ridge [27]

Chapter 7	Licensing and Regulation
Chapter 10	Land Use Regulations
Chapter 12	Floodplain

Village of Kekoskee [28]

2005 Comprehensive Plan

Village of Lomira [29]

Chapter 17	Subdivision
Chapter 18	Zoning

Village of Neosho [30]

Title 13	Zoning Code

Village of Randolph [31]

Chapter 163	Comprehensive Plan
Chapter 169	Construction Site Erosion Control
Chapter 233	Licenses and Permits
Chapter 320	Subdivision of Land
Chapter 375	Zoning

Village of Theresa [32]

Chapter 132	Building Construction
Chapter 138	Comprehensive Plan
Chapter 155	Erosion Control and Stormwater Management
Chapter 180	Floodplain Zoning
Chapter 215	Licenses and Permits
Chapter 224	Mining, Nonmetallic
Chapter 308	Subdivision of Land
Chapter 350	Zoning

[27] https://www.ironridge-wi.net/ordinances/
[28] http://kekoskee.com/comprehensive-plan
[29] https://villageoflomira.wixsite.com/website/ordinances
[30] https://www.villageofneosho.org/ordinances-and-resolutions/
[31] https://www.ecode360.com/RA3101
[32] https://www.ecode360.com/TH2108

The City of Horicon; Villages of Lowell and Resseville; and Towns of Chester, Emmet, Hustisford, Lebanon, LeRoy, Lomira, Oak Grove, Portland, Shields, Trenton and Westford have no online ordinances.

A local HVA serves as the starting point for the hazard mitigation plan. Other data on historical events is gathered from the National Weather Service's storm report database[33], recent news reports, local resources (e.g., website; local community ordinances; local plans such as the comprehensive plan, stormwater management plans), the FEMA Region V mitigation survey and from the memories of the local planning team members. Team members are presented with this data and asked to rate their concern (likelihood of future occurrences and amount of disruption/damage should it occur) on a five-point scale (very high, high, medium, low, very low). From that, team members, members of the community, survey respondents and other planning participants are asked to determine hazard mitigation strategies that might benefit their communities. Local existing plans are referenced again at this time, with the members and authors of these plans (e.g., comprehensive, stormwater management) serving as core members of the workgroup committee. The selected mitigation strategies are recorded and detail in each chapter as well as in the table in Appendix E.

Mitigation strategies are reviewed over the five years of the plan's life by the leadership staff from the applicable departments (e.g., Emergency Management, Sheriff's Office/Communications, Highway, Land Resources and Parks, Land Information, Zoning) with the elected leaders from the jurisdictions to triage projects and determine what can and should be done within the planning period. These options are usually discussed in open meetings prior to implementation, as required by Wisconsin state law. The determining factor for most projects is obviously budget availability. The units of government have several options for funding implementation including grants, special taxing authority (for the project and/or any matching funds), general purpose revenue from existing budgets and regulatory authority, which can be used to require that an individual or business complete the project using their funds. The units of government use or improve, if necessary, the mechanisms described above to ensure the implementation of hazard mitigation ideas.

[33] https://www.ncdc.noaa.gov/stormevents/

Plan Preparation, Adoption and Maintenance

The Dodge County Emergency Management Department contracted with Emergency Planning, Training and Exercise Consulting (EPTEC, Inc.) to draft this plan. A Hazard Mitigation Committee was organized to oversee the completion of this plan. The committee members include:

- Joe Adamson, Horicon Emergency Management
- Carleen Benninger, Town of Portland
- Kraig Biefeld, City of Watertown Fire Department and Emergency Management
- Brent Boyd, Town of Lebanon Public Works
- Bill Bremer, Town of Ashippun
- Bob Bruha, Scott Construction
- Brent Carlson, Town of Emmet
- Deb Carlson, Town of Emmet
- BJ DeMaa, City of Waupun Fire Department and Emergency Management
- Tim Dornfield, Village of Clyman Public Works
- Brian Drum, Town of Beaver Dam
- Jeff Duchac, Town of Chester
- Tim Fletcher, Town of Burnett
- Greg Fredrick, Town of Lebanon
- Lohny Fredrick, Town of Lebanon
- Loris Geschle, Town of Williamstown
- Norman Greeb, Town of Ashippun
- Dan Guenterber, Town of Hubbard
- Dan Hilgendorf, Village of Kekoskee
- Don Hilgendorf, Town of Williamstown
- Lloyd Hilgendorf, Town of Theresa
- Ron Hull, Town of Chester
- Nathan Kenpke, City of Mayville Planning
- Jim Ketchem, City of Mayville Police Department
- Jeremy Klug, City of Beaver Dam Utilities
- Diane Koch, Town of Theresa
- Russell Kottke, Town of Trenton
- Connie Kreitzman, Village of Clyman
- Jon Kuzniewicz, Town of Beaver Dam
- Adam Lechner, Village of Brownsville Public Works
- Michelle Liesener, Town of Ashippun
- Jacob Maas, City of Watertown Zoning
- Dave Margelofsky, Town of Hustisford
- Peter McFarland, Town of Shields
- Joe Meagher, County Emergency Management

- Chris Mireski, Village of Lomira Police Department
- Dan Mulhern, City of Beaver Dam Public Works
- Bill Nass, Town of Emmet
- Amy Nehls, County Emergency Management
- Jeff Neu, Town of Rubicon
- Doug Ninmann, Town of Burnett
- David Noe, City of Horicon Emergency Management
- Todd Ringle, Town of Lomira
- Tom Schaefer, Town of Rubicon
- Jon Schomik, Town of Lebanon
- Rebecca Schulz, Town of Hubbard
- Linda Schraufnagel, Town of LeRoy
- Dave Stange, Town of Calamus
- Nancy Thompson, Town of Portland
- Pete Thompson, Dodge County Highway Department
- Richard Walter, Town of Emmet
- Howard Zubble, Town of Hustisford
- Lenora Borchardt, EPTEC, Inc. (Contractor)

An informational brochure was created and copies were distributed throughout the community at local community gathering points such as municipal halls, libraries, etc. Meetings were held with chief elected officials from the municipalities to explain and gather input regarding the program (e.g., previous occurrences, mitigation strategies.) The FEMA Region V survey was sent to every Dodge County city, village and town clerk for distribution to the elected officials for discussion, review and completion. Key county departments (e.g., planning, zoning, highway, Sheriff's) also received the survey with a request for completion; the completed county and municipal surveys were compiled and the results, along with the cover letter, are in Appendix G.

The committee met several times, first to evaluate and incorporate input from local officials and then to review and provide input on the progress of the plan. A public notice was placed in the newspaper to invite members of the public, local officials, academia and business and industry leaders to review the plan. A working draft of the plan was distributed to the County Emergency Management Directors from Columbia, Dane, Fond du Lac, Green Lake, Jefferson, Washington and Waukesha Counties. No comments or edits were received. Multiple attempts and invitations to comment were made to elected officials and members of the public; comments received were reviewed and incorporated into the plan as appropriate. A copy of the mitigation brochure and a list of meeting dates and

informational sessions to gather public and official input can be viewed in Appendix G.

The Dodge County Hazard Mitigation Plan Workgroup reviewed the previous plan and past events records (generally gathered from the National Weather Service) and a consensus was reached on the anticipated probability of future events. This probability was designated as “very high,” “high,” “medium,” “low” or “very low” by the workgroup based on their evaluation and experience with the data.

The hazard mitigation strategies from the previous version of this plan were reviewed and progress is reported in Appendix D. The workgroup also, after reviewing the updated draft plan, selected the potential new mitigation projects, which are listed in Appendix E (Summary of Mitigation Strategies) and discussed in more detail in each chapter’s Hazard Mitigation Strategies section. The workgroup participants were given the *Mitigation Ideas: Possible Mitigation Measures by Hazard Type* (Mitigation Ideas, FEMA-R5, 9/02) booklet as an aid to generating ideas. All of the ideas generated during the workgroup meetings were incorporated into the plan and can be found in the Hazard Mitigation Strategies section of each chapter and are summarized in Appendix E. Based on the information collected, each of these projects was assigned a “very high,” “high,” “medium,” “low” or “very low” priority based on the workgroup’s internal consensus assessment during a discussion of the balances of risk, reward, cost effectiveness (cost benefit) and likelihood of local will and funding (local or grant) to complete the strategy.

The municipal leaders were briefed regarding the need to formally adopt this plan as a prerequisite for future mitigation funding eligibility. A draft was sent to Wisconsin Emergency Management (WEM) for review and tentative approval. Based on WEM’s comments, a final draft plan was completed and was forwarded to FEMA for determination of approvability. Once deemed approvable by FEMA, a general meeting was held to review the plan with members of the public, local officials, academia and business and industry leaders. Information and adoption paperwork was provided to the municipal leaders advising them of the need to formally adopt this plan as a prerequisite for future mitigation funding eligibility.

The resolution was passed by the Dodge County Board, the Cities of Beaver Dam, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown, and Waupun; the Villages of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho,

Randolph, Reeseville, and Theresa; and the Towns of Ashippun, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton and Westford. The City of Columbus and the Towns of Beaver Dam and Fox Lake did not adopt the plan. It should be noted that the City of Columbus and Village of Randolph are shared with Columbia County, the City of Hartford is predominantly in Washington County and the City of Waupun straddles the Dodge/Fond du Lac County line. Scanned copies of the adoption resolutions can be found in Appendix C. The final plan has been submitted to WEM for review and certification and notice of acceptance has been received of FEMA plan approval as of 8 February 2021.

The Disaster Mitigation Act of 2000 requires the monitoring, evaluation and updating of the hazard mitigation plan every five years. This hazard mitigation plan is designed to be a "living" document and therefore will be reviewed and updated within five years from its approval date. The Dodge County Hazard Mitigation Plan Workgroup will provide leadership and guidance throughout the plan's life cycle (i.e., monitoring, evaluating and updating.) Updates will allow municipal leaders and the public to provide input into the process. The public will be notified of this opportunity via legal public notices.

The process for integrating hazard mitigation actions into other planning mechanisms will be led by the County Emergency Management Director. As she receives information between the five-year update periods (e.g., comprehensive or capital improvement plans) that might be included, it will be added to Appendix H: Inter-Revision Updates. Dodge County Emergency Management maintains responsibility and is the point of contact for all issues (e.g., monitoring, updating and evaluating the effectiveness) regarding this plan. Municipalities can contact the County Emergency Management Director to add updated local information to Appendix H at any time. Furthermore, the county Emergency Management Director may solicit updates from the plan's stakeholders (county offices, municipalities, the public, etc.). The solicitation would seek to determine if there are new elements for the mitigation plan as well as any plans (new or updates) in which the mitigation plan can and/or will be used as a source plan. Note that after a disaster, the Emergency Management committee may also meet to discuss mitigation strategies that might be applicable. These same stakeholders will be invited to fully participate in the five-

year plan update, which will be detailed in the updated plan documents and will fully conform to FEMA's requirements.

During the plan's lifecycle, the county and incorporated municipalities will consider the strategies listed in Appendix E as they annually prioritize "regular" maintenance projects, as they set their annual budgets, after a disaster period and as grants become available that might help off-set the costs of some of the strategies listed within the plan. The latter will be instigated by notice of these opportunities by the County Emergency Management Director. These projects will be reported in the annual letter to the County Emergency Management Director. The Director will keep and compile the inter-revision data for inclusion in the five-year update, which will be coordinated through County Emergency Management beginning at least 18 months prior to expiration and at which time they will report on their progress towards meeting the hazard mitigation goals. The update will bring together many of the same workgroup members as well as any new stakeholders (e.g., elected officials, businesses, academia, members of the public) who respond to the invitation to participate and have an interest in mitigation planning.

The plan participants also recognize this document as an important planning tool within the community and will use this plan as a reference as they complete and update community ordinances and other planning such as zoning, shoreland, floodplain, wetland, park and recreation, sustainability, and farmland preservation. They will also refer to it as they are involved in the planning and other preparedness activities of the municipalities. Dodge County Emergency Management and the Land Resources and Parks Department referenced and used this plan as they created the "Dodge County Year 2030 Comprehensive Plan Recommendations Report" and will continue to use this plan as they update community ordinances such as zoning, shoreland, floodplain, wetland, etc. and in other stand-alone plans such as those for park and recreation, sustainability and farmland preservation and will refer to it as they are involved in the planning and other preparedness activities of their municipalities. The City of Watertown uses this plan as a companion to its Comprehensive Plan.

Many of these plans are on a regular updating cycle and as emergency management is notified that they are up for renewal, they will provide any relevant planning materials (from the hazard mitigation plan and any additional information received since the plan's approval). Municipalities with planning departments are also

encouraged to refer to the mitigation plan in their zoning updates, flood and shoreland planning and in their comprehensive plans. After this plan has passed its reviews from Wisconsin Emergency Management (WEM) and the Federal Emergency Management Agency (FEMA) and is approved, the County Planning Department and the municipalities will receive a copy. They have committed to using and referring to the mitigation plan as they complete their regularly scheduled reviews and updates of the aforementioned plans. Dodge County Emergency Management will also refer to this plan in their emergency preparedness activities.

Physical Characteristics of Dodge County

General Community Introduction

More than 10,000 years ago, small bands of people entered Dodge County on the edge of the receding glacier. As hunters and gatherers, early Native Americans followed and hunted herds of large animals and gathered food stuffs. The river systems from the south were used by early inhabitants to reach the wildlife and other resources the county provided in abundance. Numerous sites within the county show evidence of the early inhabitants including stone tools, campsites and settlements, burial and effigy mounds, garden plots and paintings and carvings on rock outcrops and stones.

The first white settlers were drawn for reasons of bountiful agricultural land, with wheat, corn, oats, potatoes and apples being the primary crops. Wheat growing was later replaced with dairying. Before mass settlement and agricultural pursuits, Dodge County was covered mainly with forests, wetlands, prairie and oak savannas.

Dodge County was created in 1836 and named in honor of Henry Dodge, then territorial governor of Wisconsin. The Town of Victory was chosen as the County Seat. The Town of Victory was later renamed City of Juneau after Paul Juneau, the son of Solomon Juneau, founder of Milwaukee.

In 1845 iron ore was discovered in Mayville and an iron ore works operated here for several decades until competition from mines in the Lake Superior region closed them. Sawmills and gristmills were widely distributed over Dodge County in the 1870's.

In 1875, John Jossie, came from Switzerland, developed the variety of cheese known as brick, and later opened the first brick cheese factory in the United States in Watertown, operating until 1943.

Dodge County is a leading county in the production of cheese, barley, alfalfa, hay and peas for canning. Industries include the manufacture of wood products, shoes, metal products, lawn care

equipment, magazines, stainless steel equipment and ice fishing equipment. [34] [35] [36]

Plan Area

Dodge County covers approximately 882 square miles or 564,660 acres with rivers, streams and creeks accounting for about 25 square miles of the total. Dodge County is home to approximately 87,786 people, according to 2017 U.S. Census Bureau estimates.

Dodge County lies within the Eastern Ridges and Lowlands geographical province. Topographic features are distinct, but they are low. Alternate weak and resistant rock layers are carved by streams and weather into a belted plain. This plain has parallel strips of upland and lowland corresponding to the more important resistant and weak strata. The uplands are called cuestas. A cuesta is a ridge which has a steep escarpment on one side and a long gentle slope of the other. The topography of the Eastern Ridges and Lowlands is controlled by cuestas. The Magnesian Cuesta runs through Dodge County. The cuesta of Lower Magnesian limestone varies in elevation from 724 feet above mean sea level (MSL) in Marinette County (near Pound) to 1240 feet above MSL in Dane County (at Lutheran Hill), showing a general increase in height from northeast to southwest.[37]

Dodge County is bordered on the east by Fond du Lac County and Washington County, on the south by Dodge County and Jefferson County, on the west by Dane County and Columbia County, and on the north by Green Lake County and Fond du Lac County.

In Wisconsin, there are three types of sub-county, full-service local government units: towns, which are unincorporated, and villages and cities, which are incorporated. Dodge County contains the Cities of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown and Waupun; the Villages of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville and Theresa; and the Towns of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira,

[34] https://www.co.dodge.wi.gov/community/about-us
[35] http://genealogytrails.com/wis/dodge/
[36] https://www.wistravel.com/south-central/dodge-county/
[37] http://www.wisconline.com/

Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton and Westford. See Appendix A for a map of Dodge County. The County and all municipalities except for the City of Columbus (which is primarily in Columbia County) and the Towns of Beaver Dam and Fox Lake have adopted the plan. Copies of the adoptions can be found in Appendix C.

Geology

The geology of Dodge County is very similar to a layered cake, with each layer of the cake representing a different geological material and different geologic period. Some rocks are metamorphic, formed billions of years ago, when Wisconsin was experiencing volcanic activity. Most of the bedrock layers however are sedimentary in nature, these layers were deposited when ancient seas rose and fell over Wisconsin hundreds of millions of years ago. The most recent layers are the result of glacial activity in the region. In order to learn more about the different aquifers, let's work our way forward through time in the order that these layers were formed starting with the oldest and lowermost geologic material.

The Precambrian layer is the bottommost layer of bedrock. While this layer underlies the entire county, it is the uppermost bedrock layer in only 1% of Dodge County. Precambrian rocks consist of some very old sedimentary rocks, as well as igneous and metamorphic rock types such as basalts, ryolites, and granites formed from volcanic activity and igneous intrusions. These are some of the oldest rocks in the world and were formed approximately 2.8 billion years ago. In general, most Precambrian rock types store very little water and do not transmit water readily, making for a very poor aquifer; as a result, it is not practical for most wells in Dodge County to extend into this geologic formation to obtain their water. Because this formation is found close to the surface in a small portion of the southwestern portion of the county, some wells do extend into this formation.

Located on top of the Precambrian rocks are the Cambrian sandstones. Cambrian sandstones are sedimentary rocks that were formed during the Cambrian period from about 550 to 490 million years ago. As upland areas eroded, weathered materials were deposited onto a nearly flat landscape by wind and rivers. This landscape was later submerged as sea levels rose. The ocean waves and currents redeposited the sand over the ocean floor, and over time this layer of sand was loosely cemented together to form sandstone rock. Sandstone is quite porous and allows a substantial

amount of water to be stored and transmitted through the small interconnected pore spaces between the cemented sand grains. Pouring water into sandstone is much like pouring water into a very rigid sponge. While this layer can be located at some depth below most of the county, it is the uppermost bedrock layer in only 3% of the county. This material when pumped can generally produce between 100 and 1,000 gallons per minute, which makes sandstone an excellent aquifer for obtaining water. It is generally the principal source of water for municipal and industrial wells in the county. Where this formation is close to the surface, wells may extend down into this layer to obtain their water.

Overlying the Cambrian sandstone layer, we find a formation of the Prairie du Chien dolomite which is the uppermost bedrock layer in 11% of the county. Dolomite is another sedimentary rock formed when ancient seas deposited limestone on the ocean floor. Over time the magnesium enriched sea water helped convert the limestone into dolomite rock. Dolomite is a dense rock that does not hold much water. Rather, groundwater is carried in the many cracks and fissures present in this formation. These are the same cracks and fissures that make this formation a good source of stone for buildings. Dolomite is also soluble in slightly acidic water, and over time solution fractures will continue to develop as water travels through the cracks in the dolomite.

In some parts of the county the Prairie du Chien layer is overlain by the St. Peter Sandstone; formed during a period when sea levels lowered and the area was exposed to weathering. Rivers and streams exhumed some of the underlying Cambrian Sandstone from upland areas, while wind and water redeposited the sand on top of the more recently formed dolomite layers. St. Peter sandstone is very finely sorted quartz sand that has been cemented together over time. This formation is the uppermost bedrock layer in about 20% of the county and is largely unsaturated.

The Galena-Platteville formation consists mostly of dolomite and its characteristics are similar to the Prairie du Chien formation. This formation underlies nearly 75% of the eastern portion of the county and constitutes approximately 50% of the uppermost bedrock layer in Dodge County. It is the aquifer most heavily relied upon for private wells.

This layer consists of shale that separates the Galena- Platteville Formation from the Silurian Formation. Shale has very limited permeability; as a result, this layer does not transmit very much

water. This layer is often referred to as an aquitard, because of its ability to restrict water movement. Very few wells rely on this formation to obtain water.

The Silurian Dolomite is only present in the northeastern portion of Dodge County and is the uppermost bedrock layer in 13% of the county. It consists mainly of dolomite deposits formed approximately 430 to 415 million years ago when Silurian seas probably covered all of Wisconsin. Because the unconsolidated materials overlying this formation are often thin and the bedrock can be highly fractured; this aquifer is relatively susceptible to contamination.

The unconsolidated materials overlying bedrock in Dodge County are largely sediments deposited by the glaciers that occupied this part of Wisconsin between 26,000 and 10,000 years ago, but also include some alluvium and marsh deposits. These materials can range in size from clay to boulders. Many of Dodge County's unique landscape features were formed by the advance and retreat of glaciers. [38]

Topography

Wisconsin lies in the upper Midwest between Lake Superior, the upper peninsula of Michigan, Lake Michigan and the Mississippi and Saint Croix Rivers. Its greatest length is 320 miles and greatest width 295 miles for a total area 56,066 square miles. Glaciation has largely determined the topography and soils of the state, except for the 13,360 square miles of driftless area in southwestern Wisconsin. The various glaciations created rolling terrain with nearly 9,000 lakes and several areas of marshes and swamps. Elevations range from about 600 feet above sea level along the Lake Superior and Lake Michigan shores and in the Mississippi floodplain in southwestern Wisconsin to nearly 1,950 feet at Rib and Strawberry Hills.

The Northern Highlands, a plateau extending across northern Wisconsin, is an area of about 15,000 square miles with elevations from 1,000 to 1,800 feet. This area has many lakes and is the origin of most of the major streams in the state. The slope down to the narrow Lake Superior plain is quite steep. A comparatively flat, crescent-shaped lowland lies immediately south of the Northern Highlands and embodies nearly one-fourth of Wisconsin. The eastern ridges and lowlands to the southeast of the Central Plains

[38] Dodge County Groundwater, 2007

are the most densely populated and have the highest concentration of industry and farms. The uplands of southwestern Wisconsin west of the ridges and lowlands and south of the Central Plains make up about one-fourth of the state. This is the roughest section of the state, rising 200 to 350 feet above the Central Plains and 100 to 200 feet above the Eastern Ridges and Lowlands. The Mississippi River bluffs rise 230 to 650 feet.[39]

During the last Ice Age, which ended about 10,000 years ago, a massive ice sheet covered the entire county. The county's topography was shaped by the advance and retreat of this ice mass. Glacial debris was deposited as ground moraine and other glacial formations, varying in thickness throughout the county from 100 to 300 feet in depth. There is approximately 400 feet of elevation change with the highest points reaching 1,200 feet above sea level in the northeast, to 800 feet above sea level in the southwestern portions of the county. The two most prominent topographic features in the county include the very flat, marsh areas, such as the Horicon Marsh, and the Niagara Escarpment, which rises 190 feet in some areas.[40]

Climate

The Wisconsin climate is typically continental with some modification by Lakes Michigan and Superior. Winters are generally cold and snowy and summers are warm. About two-thirds of the annual precipitation falls during the growing season; this is normally adequate for vegetation although there are occasional droughts. The climate favors dairy farming and the primary crops are corn, small grains, hay and vegetables. Storm tracks generally move from west to east and southwest to northeast.

The average annual temperature varies from 39°F in the north to about 50°F in the south with statewide extreme records of 114°F (Wisconsin Dells, 7/13/1936) and minus 55°F (Couderay, 2/2/1996 & 2/4/1996). During more than one-half of the winters, temperatures fall to minus 40°F or lower and almost every winter temperatures of minus 30°F or colder are reported from northern stations. Summer temperatures above 90°F average two to four days in northern counties and about 14 days in southern districts, including Dodge

[39] https://extension.wisc.edu/
[40] Dodge County Year 2030 Comprehensive Plan, 2009

County. During marked cool outbreaks in summer months, the central lowlands occasionally report freezing temperatures.

The freeze-free season ranges from around 80 days per year in the upper northeast and north-central lowlands to about 180 days in the Milwaukee area. The pronounced moderating effect of Lake Michigan is well-illustrated by the fact that the growing season of 140 to 150 days along the east-central coastal area is of the same duration as in the southwestern Wisconsin valleys. The short growing season in the central portion of the state is attributed to a number of factors, among them an inward cold air drainage and the low heat capacities of the peat and sandy soils. The average date of last spring freeze ranges from early May along the Lake Michigan coastal area and southern counties to early June in the northernmost counties. The first autumn freezes occur in late August and early September in the northern and central lowlands and in mid-October along the Lake Michigan coastline, however a July freeze is not entirely unusual in the north and central Wisconsin lowlands.

The long-term mean annual precipitation ranges from 30 to 34 inches over most of the Western Uplands and Northern Highlands, then diminishes to about 28 inches along most of the Wisconsin Central Plain and Lake Superior Coastal area. The higher average annual precipitation coincides generally with the highest elevations, particularly the windward slopes of the Western Uplands and Northern Highlands. Thunderstorms average about 30 per year in northern Wisconsin to about 40 per year in southern counties and occur mostly in the summer. Occasional hail, wind and lightning damage are also reported.

The average seasonal snowfall varies from about 30 inches at Beloit to well over 100 inches in northern Iron County along the steep western slope of the Gogebic Range. Greater average snowfall is recorded over the Western Uplands and Eastern Ridges than in the adjacent lowlands. The mean dates of first snowfall of consequence (an inch or more) vary from early November in northern localities to early December in southern Wisconsin counties. Average annual duration of snow cover ranges from 85 days in southernmost Wisconsin to more than 140 days along Lake Superior. The snow cover acts as protective insulation for grasses, autumn seeded grains, alfalfa and other vegetation. [41]

[41] http://www.aos.wisc.edu/~sco/

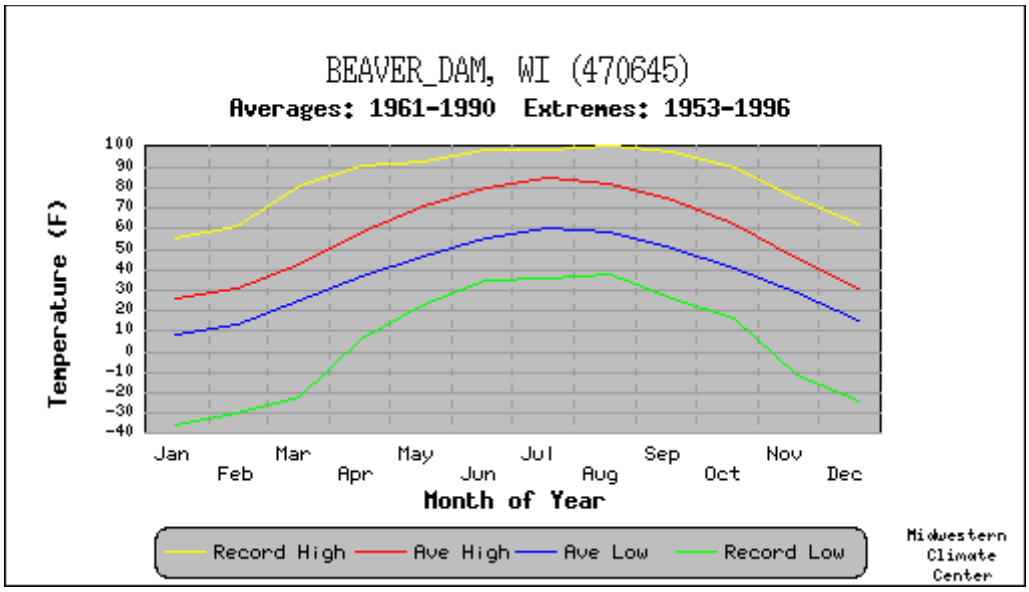
The average growing season is defined as the number of days following the last 32ºF freeze in the spring through the beginning of fall. [42] Dodge County's growing season averages 152 days with a range of 132 to 175 days. Dodge County's median date of last frost in the spring is May 6 and the median date of the first frost in the fall is October 6. [43]

Climate Normals	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Ave Daily High (F°)	25.9	30.8	42.7	58.2	71.0	79.8	84.0	81.6	73.4	61.5	45.4	30.6
Ave Daily Low (F°)	8.2	12.6	24.4	35.9	46.0	55.0	59.8	57.6	50.2	39.8	28.6	14.7
Growing Degree Days	0	1	33	151	350	524	655	595	395	193	36	3
Heating Degree Days	1485	1212	973	537	239	38	0	21	117	449	837	1311
Cooling Degree Days	0	0	0	0	37	113	219	167	21	6	0	0
Ave Precipitation (")	1.15	1.15	2.13	3.12	3.12	3.60	3.52	3.42	4.14	2.46	2.17	1.75
Ave Snowfall (")	8.7	6.8	5.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	9.5

Data from the weather station at Beaver Dam, latitude 43°27' N, longitude 88°51' W, elevation 840 ft. [44]

[42] https://www.wisconline.com/counties/climatenotes.html
[43] https://www.wisconline.com/counties/dodge/climate.html
[44] http://www.wisconline.com/counties/Dodge/climate.html

Climate Normals and Growing Season Summary[45]



In 2012, the Wisconsin Department of Health Services (DHS), Bureau of Environmental and Occupational Health (BEOH) was awarded a grant to study and prepare for anticipated climatic effects of the public's health. The Wisconsin Climate and Health Profile Report highlights evidence-based data related to extreme weather events, corresponding health outcomes and the development of projects and best practices to adapt to and prepare for future extreme weather events.

Over the past 60 years Wisconsin has become warmer and wetter, especially during the winter months. Evidence and research drawn from the Wisconsin Initiative on Climate Change Impacts (WICCI) suggest that climate-sensitive human health impacts will likely be affected by precipitation changes, heat extremes, drought, winter weather changes, disease vectors, surface water and groundwater. Those most vulnerable to these changes include the very young, elderly, persons with chronic disease (e.g., asthma), persons of low socio-economic status, persons with mental health issues and those who are socially isolated.

Possible impacts during the four seasons include:

[45] Data Provided by the Midwestern Regional Climate Center https://mrcc.illinois.edu

- Spring - More frequent and intense rain events may lead to more flooding with health impacts such as stress and mental health disorders; foodborne and waterborne illnesses; injuries; drowning; and death.
- Summer - Southern Wisconsin may experience approximately 28 more days exceeding 90 degrees Fahrenheit. Health impacts can include heat stress, respiratory disease, allergic reactions and death.
- Fall - Extended periods of warming could case more drought with health impacts including water and food insecurity; respiratory distress; allergic reactions; and death.
- Winter - Warmer winters might cause more ice, sleet and rain. Health impacts may include traffic accidents, power outages, injuries and death.[46]

Hydrology

The land in Wisconsin drains into Lake Superior, Lake Michigan and the Mississippi River. The Mississippi and St. Croix Rivers form most of the western boundary. About one-half of the northwestern portion of the state is drained through the Chippewa River, while the remainder of this region drains directly into the Mississippi or St. Croix Rivers and into Lake Superior. The Wisconsin River has its source at a small lake nearly 1,600 feet above mean sea level on the Upper Michigan boundary and drains most of central Wisconsin. Most of its tributaries also spring from the many lakes in the north. Except for the Rock River, a Mississippi River tributary which flows through northern Illinois, eastern Wisconsin, drains into Lake Michigan. The subcontinental divide traverses the county in a north-south direction in the eastern tier of communities, separating the county between the Mississippi River and the Great Lakes-St. Lawrence River drainage systems.

Most of the streams and lakes in the state are ice-covered from late November to late March. Snow covers the ground in practically all the winter months except in extreme southern areas. Flooding is most frequent and most serious in April due to the melting of snow and spring rains. During this period, flood conditions are often aggravated by ice jams which back up the flood waters. Excessive

[46] *Wisconsin Climate and Health Profile Report*, 2014, WI Department of Health Services, Bureau of Environmental and Occupational Health http://www.dhs.wisconsin.gov/publications/P0/P00709.pdf

rains of the thunderstorm type sometimes produce tributary flooding or flash flooding along the smaller streams and creeks.[47]

Groundwater reservoirs are recharged by direct precipitation. Spring is a prime time for recharge because evapotranspiration is low and melting snow and rainfall infiltrate and percolate the water table on unfrozen ground. Fall is another prime time for high recharge. During the summer, groundwater levels drop because precipitation is lower causing losses to evaporation and transpiration to exceed precipitation. In addition, groundwater is lost to surface waters by discharge in the form of springs.[48] The winter period normally lacks infiltration because of frozen ground.

Groundwater is a vital natural resource of Dodge County, which not only sustains lake levels and wetlands and provides the perennial base flow of the streams, but also is a major source of water supplies. In general, the county has an adequate supply of groundwater to support its growing population, agriculture, commerce and a viable, diverse industry. However, overproduction and water shortages may occur in areas of concentrated development and intensive water demand. The amount, recharge, movement and discharge of the groundwater is controlled by several factors, including precipitation, topography, drainage, land use, soil and the lithology and water-bearing properties of rock units ranging in age from Quaternary to Precambrian.

Major aquifers in Dodge County include unconsolidated deposits (mostly glacial deposits) and dolomite and sandstone bedrock. Because the groundwater used by most Dodge County residents is locally recharged, it is greatly affected by local geological conditions and local land use. People may be surprised that groundwater quality problems do exist in Dodge County. Some of the problems occur naturally from the contact of water with soil and rock; others are introduced by human activity.[49]

Over 21,000 acres of surface water cover parts of Dodge County, including 31 lakes and 50 rivers and streams. The glacial history of Dodge County left a poorly developed drainage system, shallow depressions for lakes, and numerous wetland areas. As a result, there are very few lakes in the county and the existing lakes are very shallow in depth, averaging only about seven feet.

[47] https://extension.wisc.edu/
[48] DeVaul, 1967.
[49] Dodge County Groundwater, 2007

A total of 387 miles of streams and rivers can be found in Dodge County. The most prominent are the Rock, Beaver Dam, and Crawfish Rivers. Numerous intermittent streams and creeks are scattered throughout Dodge County.[50] All of Dodge County is located within the Great Lakes – St. Lawrence River drainage system.

The state has nearly 11,500 public water systems which meet the daily water needs of about 4 million people. Public water systems that are owned by a community are called municipal water systems. In addition to the public water systems, about 850,000 private wells provide drinking water to Wisconsin's population. Unlike public water systems, protection and maintenance of a private well is largely the responsibility of homeowners.

Groundwater is the primary source of drinking water for most Dodge County residents, conveyed through private wells or municipal water systems. As with 70% of the state, the sand and gravel aquifer is the main source of groundwater. This aquifer includes primarily glacial deposits of unconsolidated sand and gravel. It is not a continuous layer, but rather is deposited in lenses or layers of sand and gravel interspersed with other fine-grained or low permeability deposits. As a result, well yields vary and depend primarily on the permeability and thickness of the sand and gravel at a particular location. The Status of Groundwater Quantity Report states that groundwater in general is abundant in Dodge County.[51]

Land use decisions can have impacts on groundwater, as anything that is spilled or spread on the ground can impact the quality. As a result, pollution is a very real threat to the county's water supplies. Dodge County obtains all of its domestic drinking water from groundwater sources, including both municipal and private wells. Recharge of the County's aquifers is derived almost entirely from locally occurring precipitation, giving our citizens control over, and responsibility for, their groundwater. Ways to protect groundwater include:

- Wellhead Protection Plans and Ordinances: Wellhead protection plans are developed to achieve groundwater pollution prevention measures within public water supply wellhead areas. A wellhead protection plan uses public involvement to delineate the wellhead protection area,

[50] Dodge County Year 2030 Comprehensive Plan, 2009
[51] WDNR, 1997

inventory potential groundwater contamination sources, and manage the wellhead protection area. All new municipal wells are required to have a wellhead protection plan. A wellhead protection ordinance is a zoning ordinance that implements the wellhead protection plan by controlling land uses in the wellhead protection area.

- Animal Waste Management Ordinances: Most Wisconsin counties have adopted an animal waste management ordinance that applies to all unincorporated areas of the county (areas outside of city and village boundaries). While the purposes of such ordinances vary among counties, a key purpose is often to protect the groundwater and surface water resources. This is accomplished by regulations such as:

  - Permitting of animal waste storage facilities;
  - Permitting of new and expanding feedlots;
  - Nutrient management;
  - Prohibiting:
    - Overflow of manure storage structures;
    - Unconfined manure stacking or piling within areas adjacent to stream banks, lakeshores, and in drainage channels;
    - Direct runoff from feedlots or stored manure to waters of the state;
    - Unlimited livestock access to waters of the state where high concentrations of animals prevent adequate sod cover maintenance.

- Nitrate - Aquifers that are close to the land surface have limited natural protection which makes them vulnerable to pollution.

  In 2006, the Wisconsin DNR and DATCP reported that NO_3-N is the most widespread groundwater contaminant in Wisconsin and that the nitrate problem is increasing both in extent and severity with 80% of nitrate inputs originate from manure spreading, agricultural fertilizers, and legume cropping systems. Septic systems can also be a significant nitrate source in densely populated areas, areas where fractured bedrock is near the surface, or areas with coarse-textured soils. Additionally, concentrations of NO_3-N in private

wells frequently exceed the drinking water limit. For example, in 2005 11.6% of 48,818 private wells exceeded the nitrate limit.

Land use affects nitrate concentrations in groundwater with a study of over 35,000 private well samples being three times more likely to be unsafe to drink due to high nitrate in agricultural areas, especially those with sandy areas/highly permeable soils, than in forested areas. Groundwater with high nitrate from agricultural lands is more also more likely to contain pesticides than groundwater with low nitrate levels.

- Pesticides - A pesticide is any substance used to kill, control or repel pests or to prevent the damage that pests may cause. Included in the broad term “pesticide” are herbicides to control weeds, insecticides to control insects, and fungicides to control fungi and molds. Pesticides are used by businesses and homeowners as well as by farmers, but figures for the amounts and specific types of pesticides used are not generally available on a county-by-county basis. A 2005 report indicates that approximately 13 million pounds of pesticides are applied to major agricultural crops in Wisconsin each year, including over 8.5 million pounds of herbicides, 315,000 pounds of insecticides, one million pounds of fungicides, and 3 million pounds of other chemicals (this last category applied mainly to potatoes). The report also shows that herbicides are used on 100% of carrots for processing, 99% of potatoes, 98% of cucumbers for processing, 98% of soybeans, 97% of field corn, 89% of snap beans for processing, 87% of sweet corn, and 84% of green peas for processing. Insecticides are used on 97% of potatoes, 96% of carrots, and 88% of apples. Fungicides are used on 99% of potatoes, 88% of carrots, and 89% of apples.

- Arsenic - Arsenic is an element that occurs naturally in some of Wisconsin’s aquifers and may contaminate well water drawn from those aquifers. It is a particular problem in parts of the Fox River valley of northeastern Wisconsin. However, arsenic has been detected in wells in every county in Wisconsin, and arsenic concentrations greater than the drinking water limit of 10 µg/L (micrograms per

liter, or parts per billion) have been documented in 51 of Wisconsin's 72 counties.

- Contaminated Groundwater and/or Soil - Properties that were or are contaminated with hazardous substances can be found using the WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS).[52] Dodge County has one open leaking underground storage tank (LUST) site which has contaminated soil and/or groundwater with petroleum, which includes toxic and cancer-causing substances. However, given time, petroleum contamination naturally breaks down in the environment. There are 27 environmental repair (ERP) sites which are sites other than LUSTs that have contaminated soil and/or groundwater. Examples include industrial spills or dumping, buried containers of hazardous substances, and closed landfills that have caused contamination. There is also one open spill site.

- Concentrated Animal Feeding Operations (CAFO) - There are eight concentrated animal feeding operations (i.e., greater than 1,000 animal units) in Dodge County.[53] CAFOs are required under their Wisconsin Pollutant Discharge Elimination System (WPDES) permits to practice proper manure management and ensure that adverse impacts to water quality do not occur. Permit applicants must submit detailed information about the operation, a manure management plan, plans and specifications for all manure storage facilities, and a completed environmental analysis questionnaire. Once a WPDES CAFO permit is issued, operators must comply with the terms of the permit by following approved construction specifications and manure spreading plans, conducting a monitoring and inspection program, and providing annual reports. Other potential groundwater contaminants from agriculture include fertilizers and pesticides. Large amounts of nitrogen fertilizers are used

[52] https://dnr.wi.gov/topic/Brownfields/botw.html
[53] https://www.dnr.state.wi.us/topic/AgBusiness/data/CAFO/cafo_cty.asp?CountyChoice=Dodge&Submit=Submit

when fields are planted continuously with corn, and they can leach into groundwater as nitrate.[54]

- Licensed Landfills and Superfund Sites – There is one licensed landfill and two Superfund sites in Dodge County.[55] [56] In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund law. The Superfund law created a tax on the chemical and petroleum industries, which went into a trust fund to help pay for cleaning up abandoned or uncontrolled waste sites. The U.S. Environmental Protection Agency (EPA) administers the Superfund trust fund and works closely with state and local governments and tribal groups to remediate sites that may endanger public health or the environment. The contamination at many of these sites was created years ago when environmental regulations were virtually nonexistent and companies dumped or emitted hazardous materials freely into the environment. Years later the threat to humans and the ecosystems remains so great that the sites need to be cleaned up.

  Since much of this contamination was caused many years ago, it can be hard to find the parties responsible, or the parties responsible may be unwilling or unable to pay for the cleanup. In these cases, the Superfund trust fund can be used to pay for most of the cleanup process. States must pay for a portion of such cleanups. CERCLA also provides EPA with enforcement tools to compel those responsible for causing the contamination to pay for the cleanup, including the issuance of administrative orders. If the trust fund is used, then EPA and the state may go to court to recover their expenditures from those who are responsible.

- Cleanup -

  - Petroleum Environmental Cleanup Fund Award - The Petroleum Environmental Cleanup Fund Award

[54] https://dnr.wi.gov/topic/AgBusiness/CAFO/
[55] https://dnr.wi.gov/topic/waste/documents/faclists/WisLic_SWLandfills_byCnty_withWaste.pdf
[56] https://dnr.wi.gov/files/PDF/pubs/rr/RR005.pdf

(PECFA) program was created in response to enactment of federal regulations requiring release prevention from underground storage tanks and cleanup of existing contamination from those tanks. PECFA is a reimbursement program returning a portion of incurred remedial cleanup costs to owners of eligible petroleum product systems, including home heating oil systems. This program is scheduled to end June 30, 2020; however, liability for clean-up does not end when the program expires. As of June 30, 2004, $27,903,018 has been reimbursed by the PECFA fund to clean up 204 petroleum-contaminated sites in Dodge County. [57]

- Nitrate Removal Systems – No municipal water systems in Dodge County have spent money to reduce nitrate levels. As of 2005, over 20 municipal water systems in Wisconsin had spent over $24 million reducing nitrate concentrations in municipal water systems. [58]

WDNR's Outstanding and Exceptional Resource Waters Program provides a designation for Wisconsin's cleanest waters. An outstanding resource water is defined as a lake or stream that has excellent water quality, high recreational and aesthetic value, high quality fishing and is free from point source or non-point source pollution. An exceptional resource water is defined as a stream that exhibits the same high quality resource values as an outstanding resource water but that may be impacted by point source pollution or that may have the potential for future discharge from a small sewer community. There are no outstanding or exceptional resource waters in Dodge County. [59]

Fourteen watersheds are contained completely or partially within Dodge County and are explained in greater detail in the Flooding and Dam Failure chapter of this plan.

[57] https://docs.legis.wisconsin.gov/misc/lfb/informational_papers/january_2005/0059_petroleum_environmental_cleanup_fund_award_pecfa_program_informational_paper_59.pdf
[58] https://wi.water.usgs.gov/gwcomp/find/dodge/index_full.html
[59] http://dnr.wi.gov/topic/SurfaceWater/oerw/orwerw_county.pdf

Soil Types

Soil is composed of varying proportions of sand, gravel, silt, clay, and organic material. The composition of a soil must be evaluated prior to any development, as varying limitations exist for each soil. Dodge County soils are products of the deposits left after the glacier receded about 12,000 years ago. These deposits consisted of sand, gravel, large rocks, clay, limestone fragments, and igneous and metamorphic rocks. The deposits have prompted mineral and sand and gravel extraction throughout the county. The Niagara escarpment is a source of commercial grade stone and crushed lime. Iron deposits were also once mined on the escarpment.

The majority of soils in the county are upland silt loam considered good for agricultural uses. Topsoil generally ranges between 10 and 14 inches in depth. The seven general soil associations found in the county include Fox-Casco-Rodman, McHenry-Pella, Plano-Mendota, Houghton- Pella, St. Charles-LeRoy-Lomira, Theresa-Lamaritine-Hochheim and St. Charles-Miami-Elburn.[60] [61]

The Plano-Mendota Association consists of deep, nearly level to sloping, well drained and moderately well drained soils that have a silty and loamy subsoil formed on ground moraines and drumlins. This soil association makes up about ten percent of the county. In cultivated areas the main concern is controlling soil erosion and maintaining good soil health.

The Houghton-Pella Association consists of deep, nearly level, very poorly drained organic soils and soils that have a silty subsoil formed in decomposed sedges and reeds or in silty material and glacial drift. This association makes up about ten percent of the county. In cultivated areas the main management concern is drainage.

The St. Charles-Leroy-Lomira Association consists of deep, nearly level to steep, well drained soils that have a silty and loamy subsoil and is found on ground moraines and drumlins. This association makes up about eleven percent of the county. In cultivated areas the main management concern is controlling soil erosion and maintaining good soil health.

The Theresa-Lamartine-Hochheim Association consists of deep nearly level to steep, well drained, and somewhat poorly drained

[60] Dodge County Year 2030 Comprehensive Plan, 2009
[61] Dodge County Land and Water Resource Management Plan, 2012

soils that have a silty and loamy subsoil. This association makes up about 24 percent of the county. In cultivated areas the main management concern is controlling soil erosion and maintaining good soil health.

The Fox-Casco-Rodman Association consists of deep, nearly level to steep, well drained and excessively well drained soils that have silty and loamy subsoil. This soil association makes up about two percent of the county. In cultivated areas the main management concern is controlling soil erosion and maintaining good soil health.

The St. Charles-Miami-Elburn Association consists of deep, nearly level to steep, well drained to somewhat poorly drained soils that have a silty and loamy subsoil. This soil association makes up about 36 percent of the county. In cultivated areas the main management concern is controlling soil erosion and maintaining good soil tilth.

The McHenry-Pella Association consists of deep nearly level to moderately steep, well drained and poorly drained soils that have silty and loamy subsoil. This association makes up about seven percent of the county. In cultivated areas McHenry soils require careful erosion control management, Pella soils require drainage.

A Dodge County soil survey, the “Soil Survey of Dodge County, Wisconsin,” was prepared by the Natural Resources Conservation Service and can provide very specific details on the county’s soil types. [62]

Wetlands

According to the Wisconsin Department of Natural Resources, Dodge County has approximately 564,734 acres of wetlands (approximately 19.6% of its total area). This is 2.1% of the total statewide acreage of wetlands.[63]

From the sedge meadows of southern Wisconsin to the spruce bogs in the north, wetlands cover a wide array of landscapes. They share in common the ability to support aquatic or "water loving" plants, and provide habitat for more species of plants and animals than any other type of landscape in Wisconsin. Habitat is not their only functional value. Wetlands can also store water to prevent flooding, purify

[62] http://websoilsurvey.nrcs.usda.gov/app/
[63] http://dnr.wi.gov/wetlands/acreage.html

water, protect lake and stream shores from eroding and provide recreational opportunities for wildlife watchers, anglers, hunters and boaters.[64]

In Dodge County, wetlands are regulated by the Wisconsin Department of Natural Resources and the Dodge County Land Resources and Parks Department.

Because wetlands provide many benefits to the environment, several municipal, state and federal ordinances/regulations protect wetland areas. The basic concept associated with these laws is that wetland areas on any property cannot be disturbed without a permit. Wetlands store flood waters and filter water from precipitation before it enters lakes and streams. Some wetlands also recharge local groundwater aquifers. By slowing water movement, wetlands reduce the likelihood that heavy rainfall or spring snowmelt will cause erosion and flooding. Wetlands retain eroded soil and hold nutrients that would otherwise promote excessive weed growth and algae blooms in lakes and streams. These nutrients, when held in the wetlands, produce a heavy growth of vegetation that provides nesting sites, food and cover for waterfowl, small mammals and many other types of wildlife. Wetlands also provide recreational opportunities for humans (wildlife observation, hiking, hunting, etc.).

There are three basic factors in determining whether or not a property is a wetland:

- The presence of water at, near or above the surface (hydrology).
- Water present long enough to sustain aquatic plant life (hydrophytic vegetation).
- Soils indicative of wet conditions (hydric soils).

Figuring out what is or is not a wetland can be extremely confusing if you only associate “wetlands” with the presence of water. It is possible that a property could have standing water for a portion of the year and still not be a wetland and it is also possible that a true wetland with all three of the above characteristics may never have water present above the land surface.

[64] https://dnr.wi.gov/topic/wetlands/

Wetlands perform an important set of natural functions, which make them particularly valuable resources lending to overall environmental health and diversity. Some wetlands provide seasonal groundwater recharge or discharge. Those wetlands that provide groundwater discharge often provide base flow to surface waters. Wetlands contribute to the maintenance of good water quality, except during unusual periods of high runoff following prolonged drought, by serving as traps, which retain nutrients and sediments, thereby preventing them from reaching streams and lakes. They act to retain water during dry periods and hold it during flooding events, thus keeping the water table high and relatively stable. They provide essential breeding, nesting, resting, and feeding grounds and predator escape cover for many forms of fish and wildlife. These attributes have the net effect of improving general environmental health; providing recreational, research and educational opportunities; maintaining opportunities for hunting and fishing and adding to the aesthetics of an area.

Wetlands pose severe limitations for urban development. In general, these limitations are related to the high water table and the high compressibility and instability, low bearing capacity and high shrink-swell potential of wetland soils. These limitations may result in flooding, wet basements, unstable foundations, failing pavements and failing sewer and water lines. Moreover, there are significant and costly onsite preparation and maintenance costs associated with the development of wetland soils, particularly in connection with roads, foundations and public utilities.

Horicon National Wildlife Refuge and Horicon Marsh Wildlife Area**,** collectively known as the Horicon Marsh, make up the largest freshwater cattail marsh in the United States. This marsh has been designated as “A Wetland of International Importance” by the Ramsar Convention and accepted as a “Globally Important Bird Area” by the American Bird Conservancy.

The Green Bay Lobe of the Wisconsin glacier formed the Horicon Marsh during the last Ice Age more than 10,000 years ago. The glacier left behind a shallow, 50-square mile lake as it receded. Over time, this lake and the deposit of silt and organic materials reduced the depth of the basin. Due to its geological significance, Horicon Marsh has been included as a unit of the Ice Age National Scenic Reserve in cooperation with the National Park Service. The northern two-thirds of the marsh is under the jurisdiction of the U.S. Fish and Wildlife Service and the southern one-third is under the jurisdiction of the Wisconsin Department of Natural Resources.

After many years of damming, ditching, and draining in an attempt to alter the marsh, the Wisconsin Legislature passed the Horicon Marsh Wildlife Refuge Bill in 1927 for the restoration of the Marsh including land acquisition and dam construction to re-flood this drained wetland. Today, the Horicon Marsh covers about 32,000 acres, making it the largest freshwater marsh in the upper Midwest.[65]

Land Use

The land in Dodge County consists of farmland, shoreland and forests as well as commercial, residential and industrial land. The total land area is 882 square miles. The total water area is 25 square miles.

According to the Dodge County Land and Water Resource Management Plan, land use was as follows:

Land Use	Acreage	Percent of Total
Total Residential	9599.8	1.65%
Single family residential	9411	
Two family residential	85.3	
Multi-family residential	33.7	
Mobile home parks	69.8	
Commercial	648.3	0.11%
Industrial and Quarries	2887.9	0.50%
Public and quasi-public	1607.5	0.28%
Transportation	19007.7	3.27%
Parks and Recreation	4661.2	0.80%
Communication and utilities	118.7	0.02%
Surface water	19641.3	3.38%
Agriculture and other resource land	500270.984	86.16%
City and Village	22216.63	3.83%
County Total	580660.014	100.00%

Source: Dodge County Planning, Development and Parks Department, July 2012. Land use survey taken 2004.

[65] Dodge County Year 2030 Comprehensive Plan, 2009

There are six state natural areas, 5 state wildlife areas, one national wildlife area, five county parks and a recreational trail located in Dodge County including:

Fourmile Island Rookery Natural Area
Situated with Horicon Marsh, Fourmile Island contains one of the largest heron and egret rookeries in the Midwest. The narrow island is forested with large oaks, basswood, elm, aspen, and cottonwood--trees used for nests by great blue herons, black-crowned night herons, and great egrets. A July 1984 windstorm toppled nearly 80 trees. This, along with Dutch elm disease and the effects of heron guano, has reduced the number of trees and therefore the nesting habitat in recent years, although a January 1985 inspection showed nearly 500 trees still suitable as nest sites. The numbers of birds fluctuate from year to year although it appears that current numbers are down from historical highs. Fourmile Island Rookery is owned by the DNR and was designated a State Natural Area in 1965.

Waterloo Prairie Natural Area
Waterloo Prairie contains two widely separated units of low, wet grasslands along Stony Brook and its tributaries. The northern portion features a large, raised calcareous fen and spring complex with numerous wet seepage slopes while a more extensive wet prairie meadow lies to the south. The hummocky black peaty fen soil supports a diversity of species including such grasses as big blue-stem, blue-joint grass, Indian grass and sweet grass. Forbs include grass-of-Parnassus, valerian, Riddell's goldenrod, shooting-star, prairie blazing-star, wood-betony, swamp lousewort, prairie phlox, golden alexanders, pale-spiked lobelia, marsh pea, mountain mint, numerous asters and common bog arrow-grass (*Triglochin maritima*), a rare species despite its name. Along the west edge of the fen are numerous springs with water parsnip and spring runs flowing into Stony Creek. The alkaline wet to wet-mesic prairie is dominated by blue-joint grass, prairie cord grass and tussock sedge. Showy forbs include Michigan lily, marsh milkweed, marsh marigold and cowbane. Common nesting birds include willow flycatcher, yellow warbler, marsh wren, sedge wren, swamp sparrow and sandhill crane. Upland sandpiper and bobolink are frequently seen here. Management activities of prescribed burns and brushing are conducted to maintain fen vigor and integrity. Waterloo Prairie is owned by the DNR and was designated a State Natural Area in 1968.

Mayville Ledge Beech-Maple Woods Natural Area
Mayville Ledge is a one-half mile exposure of Niagara dolomite escarpment, ranging from 40 to 60 feet in height. The escarpment

slope supports an ungrazed forest of sugar maple, basswood, red oak and American elm. The understory is quite rich in ferns and other deep shade vegetation, including walking and bulblet ferns. The level plain above the escarpment supports a variable-aged woods of ironwood, American beech, sugar maple and yellowbud hickory trees. American beech is rare in this location and represents its westernmost range extension in southern Wisconsin. Mayville Ledge Beech-Maple Woods is owned by the University of Wisconsin-Milwaukee and was designated a State Natural Area in 1987.

Waterloo Quartzite Outcrops Natural Area

Waterloo Quartzite Outcrops consists of two separate geological features of Precambrian red quartzite and Paleozoic conglomerate rock. The southernmost outcrop, Stony Island, is a 23-acre quartzite island in the Crawfish and Maunesha River floodplain. Rock is abundant on the surface. The elevation from the floodplain to the top of the island is 40 feet with 5-30% slopes. A variety of hardwood species grow here with white oak, red oak, shagbark hickory and hackberry common. Some of these are open grown and over two feet in diameter. Other species include bur oak, black cherry, ash and basswood. Spring ephemerals are abundant and pale corydalis, a plant of cliff and savanna habitats, grows on the rocks. To the north, in the Waterloo Wildlife Area, is a 24-acre island of Pella silty clay loam and abundant quartzite outcrops. The outcrops are comprised of quartzite breccia, a rough rock comprised of very angular fragments of gray and red quartzite within a matrix of white quartz. This same rock occurs in at least four different localities in the Baraboo Hills and was formerly a monadnock, an isolated knob or ridge, during Precambrian times. The breccia has much geological value since the other minerals besides quartz are of great interest for isotopic dating of the breccia along with estimating the temperature of its formation. The exact cause of the breakage, or brecciation, of the quartzite is still controversial. The woods contain large white, bur, and red oaks, shagbark hickory, ash and basswood. Saplings include ironwood, hackberry, yellowbud hickory and hawthorn. The groundlayer is dominated by wild leek. Waterloo Quartzite Outcrops is owned by the DNR and was designated a State Natural Area in 2010.

Chub and Mud Lake Riverine Marsh Natural Area

Chub and Mud Lake Riverine Marsh is part of an extensive, 7,000-acre wetland impacted by “pulse-flooding” of the Beaver Dam and Crawfish Rivers that join 1.5 miles away. Water from about 688 square miles flows through the marsh. In years of very high water, the upper half of the marsh is inundated with 4 to 5 feet of water with

the deepest occurring in the southern portion. Aside from spring snowmelt flooding, the wetland holds about 6 to18 inches of water following a storm event. This occurs approximately 2 to 3 times per season. Much of the year the marsh does not have any standing water so drought has a major influence on the wetland vegetation. The highly dynamic nature of this riverine wetland creates very unique ecological conditions. Due to the extreme water levels, the marsh is dominated by very few plants, primarily river bulrush and native Phragmites. Cattails, which were a previous component, were killed by the extended high water in the June 2008 flood. Houghton muck soils dominate the marsh and while it can absorb water readily, it can also pass freely through it. This area is used by a diversity of wildlife including sandhill crane, great egret, great blue heron, tundra swan and a wide variety of waterfowl. The high quality of this area and extensive acreage also contribute to the high use of this site by foraging bats. Chub and Mud Lake Riverine Marsh is owned by the DNR and was designated a State Natural Area in 2010.

Chub Lake Oak Savanna Natural Area

Chub Lake Oak Savanna features a small, 21-acre savanna located on the south shore of Chub Lake. Large oaks dominate with bur, white, and red oaks along with shagbark hickory. Oaks have regenerated successfully at this site which has resulted in a more closed canopy and the resulting shade may have eliminated many of the native forbs and grasses. Thinning of trees along with prescribed burning and reseeding of locally collected native groundlayer species will help restore the integrity of this site. Although this is a relatively small site, it is restorable, easily accessible and offers a good opportunity for educational outreach on the imperiled nature of oak savanna ecosystems, which are globally rare today. Chub Lake Oak Savanna is owned by the DNR and was designated a State Natural Area in 2010.

Horicon Marsh State Wildlife Area

Horicon Marsh is the largest freshwater cattail marsh in the United States. Located in southeast Wisconsin, this vast wetland is only one hour drive from Milwaukee and Madison. While this marsh is renowned for its migrant flocks of Canada geese, it is also home to more than 290 kinds of birds which have been sighted over the years.

Due to its importance to wildlife, Horicon Marsh has been designated as a "Wetland of International Importance" and a "Globally Important Bird Area." Horicon Marsh is both a state wildlife area and national wildlife refuge.

Mud Lake Wildlife Area
Mud Lake Wildlife Area is approximately 4,500 acres and lies to the SW of Reeseville or NW of Watertown. From Watertown, travel west on Hwy 19, turn north on County Q. Turning west on County QQ and the property is accessible on Garden Road. Continuing north on County Q there are two access roads to enter the property located on Pit Road and Ranch Rd. Also from Hwy 19, turn north on County G and there are access signs and access parking lots along County G and also by turning east on Mud Lake Road.

There is a diversity of habitat types at Mud Lake Wildlife Area. The Beaver Dam River runs through the heart of the property where it joins the Crawfish River at the southern portion. There are two large lakes, Mud and Chub Lakes. There is a mixture of forested bottomland hardwoods, forested upland hardwoods, grasslands and marsh.

Shaw Marsh Wildlife Area
Shaw Marsh Wildlife Area is 900 acres of state-owned lands comprised mostly of wetlands with scattered upland prairie. The marsh is a shallow wetland basin that was formed by the Wisconsin Glacier. Shaw Brook runs from north to south through the heart of the wetland where it eventually joins the Beaver Dam River. The marsh is part of the Crawfish-Rock River system and is located about one mile south of the City of Beaver Dam. Find it from Beaver Dam: east 1 mile on Hwy 33, then south 2 miles on South Crystal Lake Road, then west on Parker Road. There are access points with parking areas along the Parker Road, Shaw Hill Road, County Road S, Blackbird Road and South Crystal Lake Road.

Sinnissippi Public Hunting Ground
Sinnissippi Public Hunting Ground is a 344-acre property located south of Horicon, Wisconsin in Dodge County. Best access is from Horicon, east 1 mile on Hwy 33, then south 2 miles on County TW, then west 1.2 miles on S and south 1 mile to main parking lot on E Horseshoe Road. Property adjoins Lake Sinnissippi along the north shore. The property consists of a diversity of mixed upland grass fields with hardwoods and a lake.

Sinnissippi is managed for day use only. Departmental staff maintains the property by conducting periodic prescribed burns to rejuvenate the grasslands and continued monitoring and control of invasive plant species from encroaching into the grasslands. During the fall hunting season Sinnissippi Public Hunting Ground is stocked

with pheasants from the state game farm to provide the public with additional hunting opportunities.

Theresa Marsh Wildlife Area
Theresa Marsh Wildlife Area is a 5,990-acre property located in northern Washington and eastern Dodge County. Grassland, cattail and brush marsh, woodland, agricultural land, seasonally flooded wetlands and permanent wetlands all are important in the proper management of the property.

In 1968, a mile-long dike and a dam were constructed on the west side of the marsh, creating a 1,500-acre flowage. About three miles of additional dikes and 18 water control structures have been installed since then, allowing water levels to be raised and lowered to provide ideal waterfowl habitat. Two 1,000-acre waterfowl refuges have been established, one on each end of the marsh, to provide food and resting areas for long distance migrants.

Waterloo Wildlife Area
Waterloo Wildlife Area is a property of approximately 4000 acres with a diverse range of habitat types. These habitat types include open water marsh, sedge meadow, fens (including a state natural area), lowland and upland hardwoods, some native prairie and extensive shrub carr.

The property is located in northwestern Jefferson County and southwestern Dodge County approximately one mile east of the city of Waterloo. Waterloo Wildlife Area is a sprawling set of state-owned properties spread across an area about 2 miles east to west and 7 miles north to south.

Astico Park
Astico Park is located on a peninsula along the historic Danville Mill Pond on a bend of the Crawfish River. Astico Park is in the southwestern part of Dodge County, three miles east of the City of Columbus. There is easy access to the park from Hwy TT off of Hwy 60. The park features river's edge and upland campsites, playground, a restroom/shower facility, a dump station, picnic areas and shelters, shoreline and wooded hiking trails, large open play fields to accommodate group activities and an expansive river shoreline which provides good canoeing and fishing opportunities in a scenic setting.

Derge Park
Derge Park located five minutes northwest of the City of Beaver Dam, covers about 13 acres on the west-central shore of Beaver Dam Lake, Wisconsin's 16th largest lake. The 6,600-acre lake provides excellent fishing and is popular for sailing, speed boating, and water skiing. Besides providing access to Beaver Dam Lake with a boat launch, piers and over 500 feet of shoreline, Derge Park contains campsites, picnic shelters, a shower/restroom building and a dump station.

Harnischfeger Park
Harnischfeger Park consists of 132 acres with nearly a mile of shoreline along the Rock River about one mile west of the unincorporated community of Ashippun in Southeastern Dodge County. This park now offers 9 campsites near the river along with a wide variety of facilities including a clubhouse, two open pavilions, mini-golf and disc golf courses, a large playground, volleyball and basketball courts, a baseball field, hiking and horse trails and river access for fishing and canoeing.

Horicon Ledge Park
Ledge Park covers 83 acres along the Niagara Escarpment, a natural rock ledge which divides the park into upper and lower areas and provides a breathtaking overlook of the famous Horicon Marsh and the surrounding countryside. The upper portion is heavily wooded and offers expansive picnicking areas, group shelter, hiking trails, campsites, shower building and playground. The lower portion also offers group shelters, picnic areas, hiking trails and a playground. The hiking trails wind along the ledge, between and over interesting and unique rock formations and through heavily wooded areas.

Nitschke Mounds Park
Nitschke Mounds Park is located near the center of Dodge County adjacent to the Wild Goose State Trail and just west of the Horicon Marsh**.** The property is nearly 54 acres in size and contains about 39 effigy, conical and linear mounds believed to have been constructed between 800 AD - 1100 AD by the Late Woodland Effigy Mound Culture. The mounds represent one of the best surviving examples of the Mound Builders culture that once occupied the Dodge County area

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Wild Goose State Trail
The Wild Goose State Trail, Wisconsin’s first “cooperative” State trail, is a multi-use recreation trail located in Dodge and Fond du Lac

Counties on an abandoned Chicago and Northwestern railroad corridor**.** The trail is owned by the Wisconsin Department of Natural Resources, while Dodge and Fond du Lac Counties develop, maintain and operate the trail. The trail runs from the southern trail head at HWY 60 (about 4 miles south of the City of Juneau) in Dodge County to the northern trail head at Rolling Meadows Drive in the City of Fond du Lac.

Vegetation

An oak savanna is present in the central portion of the county. Sugar maple, basswood, and elm dominate in the east and south portions of Dodge County. White, black, and red oaks are present in the southeast and there is sedge meadow in the northeast and northwest.[66]

[66] http://www.wisconline.com/counties/Dodge/index.html

Demographics

Human Settlement Patterns

The first evidence of human settlement in the Mississippi River Region was approximately 11,000 years ago, following closely the withdrawal of the Wisconsin glacier. These earliest known "Paleo-Indians" were hunter-gatherers that traveled in small nomadic family groups. This Ice Age era was known geologically as the Pleistocene period.

Between 1670 and 1680, the first Europeans to visit this land were the French traders to establish trading and military posts in the name of France, and the Jesuits to bring Christianity to the native inhabitants. Because the French made no definite settlement of the territory, they yielded their rights to the English in 1761, who claimed possession until after the Revolutionary War. By the Treaty of 1835, the Indian tribes gave up their homeland and were moved to the country west of the Mississippi.

More than 10,000 years ago, small bands of people entered Dodge County on the edge of the receding glacier. As hunters and gatherers, early Native Americans followed and hunted herds of large animals and gathered food stuffs. The river systems from the south were used by early inhabitants to reach the wildlife and other resources the county provided in abundance. Numerous sites within the county show evidence of the early inhabitants including stone tools, campsites and settlements, burial and effigy mounds, garden plots and paintings and carvings on rock outcrops and stones. [67]

The first white settlers were drawn for reasons of bountiful agricultural land, with wheat, corn, oats, potatoes and apples being the primary crops. Wheat growing was later replaced with dairying. Before mass settlement and agricultural pursuits, Dodge County was covered mainly with forests, wetlands, prairie and oak savannas.[68]

Dodge County was named for Henry Dodge, first Territorial governor of Wisconsin. It was fully organized Jan, 20, 1844. The seat of justice is at the village of Juneau, formerly known as Dodge Centre.[69]

[67] https://www.wistravel.com/south-central/dodge-county/
[68] https://www.co.dodge.wi.gov/community/about-us
[69] https://www.wisconsinhistory.org/Records/Article/CS7086

Population

In recent decades, the Dodge County population has decreased slightly. In the 2010 U.S. Census, the county was home to 88,770 people and according to the 1 July 2019 U.S. Census Bureau estimate[70], there were 87,839 people residing in Dodge County for an increase of 1.1%.

According to the 2014-2018 U.S. census estimate, there were 34,605 households in Dodge County with an average of 2.41 people per household. The 2014-2018 U.S. census numbers indicate that the median household income was $58,870 and that the per capita income is $28,543. Approximately 8.9% of the people live below the poverty line. The 2019 census estimate also indicated that there were approximately 38,072 housing units within the county as of 1 July.

According to the U.S. Census report, the majority of people in Dodge County reported that they were white (94.2%) with 89.6% stating they were white alone. People of Hispanic or Latino origin were counted as a subcategory of those reporting that they were white. Those reporting as two or more races were 1.1%. American Indians account for 0.6% of the population of Dodge County. Black or African American alone was 3.3% and Asian alone was 0.7%.

Other miscellaneous demographic information reported by the census bureau is detailed below. These figures identify potential needs for special consideration in a disaster response or in recovery operation planning and implementation.

- People under 5 years old: 4.6%
- People under 18 years old: 19.6%
- People over 65 years old: 18.2%
- Females: 47.2%
- Foreign born: 2.0%
- People with a disability, under 65 years old: 8.0%

Dodge County contains the Cities of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown, and Waupun; the Villages of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville, and Theresa; and the Towns of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman,

[70] https://www.census.gov/quickfacts/fact/table/dodgecountywisconsin,US/PST045219

Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton and Westford.

Transportation Network

According to the Wisconsin Department of Transportation (WisDOT), there is a total of 2,022 miles of highway in Dodge County. This includes 240 miles of state highway, 542 miles of county highway, and 1,240 miles of local roads. This street and highway system within Dodge County serves several important functions; including providing movement of vehicular traffic; providing access for vehicular traffic to abutting land uses; providing for the movement of pedestrians and bicycles and serving as a location for utilities and storm water drainage facilities.

Highways link Dodge County with some of Wisconsin's major cities, including: Portage, Madison, Milwaukee and Green Bay. They are arteries which feed Dodge County's workforce, visitors, goods, and resources. The map in Appendix A shows the Dodge County transportation system. The County is served by thirteen State highways (i.e., 49, 68, 33, 73, 16, 60, 26, 89, 19, 28, 67, 175, and 115) which encompass approximately 250 miles. The main State highways divide the county into sectors. Highway 49 runs east to west, along the Dodge/Fond du Lac County border. Highway 19 also runs east to west along the Dodge/Jefferson County border. Highway 33 runs east to west dividing the county into northern and southern regions. Highway 60 also runs east to west dividing the southern region of the County once again. Highway 26 runs north to south dividing the county into eastern and western regions. Highway 67 also runs north to south further dividing the eastern portion of the county. Two US Highways (151 and 41) serve the county. US Highway 151 runs diagonally through the western portion of the county. US Highway 41 runs north and south through the eastern portion of the township of Lomira.

Four railroads serve Dodge County. Although trucks transport most of the hazardous materials in the State and U.S., rail can carry significantly larger and various loads. The Wisconsin Southern Railroad runs diagonally through the county coming out of the City of Hartford and runs northwest to the City of Waupun with two spurs dividing in the Village of Iron Ridge going north to the City of Mayville and another dividing in the City of Horicon going west to the City of Beaver Dam. The Union Pacific Railway also runs diagonally across the county from the southern portion of the township of Clyman

northwest to the Village of Randolph. The Canadian Pacific Rail System runs westerly from the southeast portion of the township of Lowell to the City of Columbus. Another small railway, Central Ltd. which is now owned by Canadian National, runs north to south (parallel to State Highway 67/175) in the township of Lomira. An abandoned railway, which has been converted into a recreation trail, runs north to south parallel to State Highway 26 and starts at the State Highway 60 access point and continues on across the Dodge/Fond du Lac County border.

The County contains only one airport, Dodge County Airport, which is centrally located north of the City of Juneau and serves the entire county. The airport has two runways, is lighted and equipped for instrumental landing.

Dodge County has a good transportation network. Dodge County has maintained these roads along with others to provide a safe and efficient transportation system. With continued maintenance, these roads will continue to serve the population effectively.

Land Use and Development Trends

Dodge County is a mixed-use community. The county has some natural areas that will not be developed and some rural farming areas. The county was experiencing slow growth on par with other demographically similar Wisconsin counties until the economic "Great Recession" that began in 2008, which has halted growth and actually constricted the community activity in some areas. As of the time of this plan, the county is again experiencing growth trends that mirror the general national, state, and regional economy.

Current land use is variable and includes residential, commercial, industrial, agricultural, wetlands, woodlands and unused rural/open lands. The Wisconsin Department of Revenue (WDOR) tax assessment data classifies the land use in Dodge County as follows:

- *Agricultural (Includes WDOR categories of Forest, Agricultural Forest and Other)* - Lands devoted primarily to agriculture, small-scale agricultural forestation and lands that are producing, or are capable of producing, commercial forest products (as defined by State of Wisconsin Statute 70.05) and other supporting activities. Also includes lands containing dwelling units and related improvements associated with

agricultural use. This category does not include forests or woods that are in parks or that are not being forested under WDOR definitions.

- *Residential* - Lands containing dwelling units and related improvements not associated with agricultural use.
- *Commercial* - Lands, including improvements, devoted primarily to commercial operations, including, but not limited to dining, lodging, and retail sales establishments.
- *Manufacturing* - Lands, including improvements, devoted primarily to manufacturing and industrial operations, including, but not limited to, assembling, processing, and fabricating.
- *Undeveloped* - Lands generally unfit for any of the aforementioned uses, including, but not limited to, parks, hunting grounds, wetlands, ponds, gravel pits, and road rights of way.

Land Uses Changes Based on 2019 WDOR Dodge County Tax Assessment Data [71]

Land Use Category	2018 Equalized Value	2019 Equalized Value	Percent Change
Agricultural	$88,020,400	$92,644,700	5%
Agricultural Forest	$27,973,300	$30,837,100	10%
Forest	$10,033,700	$11,042,300	10%
Residential	$4,451,782,900	$4,797,502,900	8%
Commercial	$967,813,700	$1,010,006,500	4%
Manufacturing	$354,815,000	$376,977,100	6%
Undeveloped	$63,903,100	$64,890,700	2%
Other	$432,232,100	$442,769,200	2%
Total	**$6,396,574,200**	**$6,826,670,500**	**7%**

The following projects were identified for future development within the county:

- City of Columbus, Town of Elba and Town of Columbus
    - Raise River Road

[71] https://www.revenue.wi.gov/SLFReportsassessor/2019socdodge.PDF

- City of Watertown
    - Hydrologic and hydraulic study of unnamed stream on STH 19
    - Replace corrugated metal culvert with box culvert on Spaulding Street where an unnamed stream crosses.
    - Flood storage – Silver Creek north of STH 16
    - Hydrologic and hydraulic study – N. 4th Street crosses unnamed stream
- Village of Reeseville
    - Level out the railroad crossing on Main St.
- Village of Theresa
    - Increase culvert size – West Bend Rd., ¼ mile east of Pole Rd.
    - Raise road above flood stage – N. Pole Rd. at CTH DD south to bridge
- Town of Clyman
    - Creek Rd – Replace culverts from Welsh Rd to Cty K.
    - Eagle Rd – Replace culverts from Cty DJ to Dead End west of Cty KW.
    - Hogsback Rd – Replace culverts from Hwy 26 to Cty KW.
    - Bluff Rd – Replace culverts from Cty M to Sun Rd.
- Town of Elba
    - Slope Baden St.
    - Slope Campbell St.
    - Raise Soldner Rd.
    - Perform routine maintenance on Behan Rd.

Public Safety Support

The Dodge County Communications Center is the sole 9-1-1 Public Safety Answering Point (PSAP) and operates as a consolidated Dispatch Center for Dodge County. The communications center is staffed with sixteen 9-1-1 dispatchers, three Communications Sergeants and one Communications Lieutenant.

The departments listed below provide ongoing training to their staff and participate in periodically scheduled disaster exercises with area hospitals, other emergency medical services, law enforcement, fire services, and emergency management.

Medical

The Dodge County Office of Emergency Management, city and county emergency services responders, hospital emergency staff, and various departments have developed medical and mass casualty plans. These plans will be used in the event of a disaster. Dodge County communities are served by a complete range of health facilities and health professionals.

The following hospitals serve Dodge County and its residents:

- Beaver Dam Community Hospital
- Columbus Community Hospital
- Waupun Memorial Hospital
- Watertown Memorial Hospital
- Aurora Medical Center-Hartford

In addition, the 5 area hospitals in County and 23 area hospitals and 12 immediate care centers of Milwaukee County are accessible to Dodge County residents. These health care facilities will coordinate with responding agencies to ensure the best utilization of services and the least injury or loss of life from a disaster situation. It should also be noted that area hospitals have reciprocal verbal agreements for transferring critical patients during a disaster.

Dodge County Emergency Management holds a seat on the board of the South-Central Wisconsin Healthcare Emergency Readiness

Coalition[72], which focuses on regional medical coordination during an event.

The Dodge County Office of Emergency Management is in charge of the infrastructure for critical emergency 911, public safety, and highway communications in the county. Central Communications consists mainly of two parts:

1. Communications Towers / Sites – five (5) communications sites located throughout the county
2. E911 Communications Center / Emergency Operations Center (EOC) / Backup Center - critical radio and phone equipment located in the E911 Communications Center / EOC.

Ambulance Service

Dodge County relies on a mix of volunteer, paid-on-call and paid staff to provide pre-hospital emergency medical services (See Dodge EMS Zones Map in Appendix A for district boundary details). The following departments in Dodge County provide ambulance service:[73]

- **Beaver Dam Fire Department**
  205 South Lincoln Avenue
  Beaver Dam, WI 53916
  (920) 887-4609
  License Level: Paramedic

- **Brownsville Fire Company First Responders**
  515 Clark Street / PO Box 218
  Brownsville, WI 53006
  (920) 948-2540
  License Level: Emergency Medical Responder

- **Burnett First Responders**
  W6228 West Main Street / PO Box 295
  Burnett, WI 53922

[72] www.scwiherc.org
[73] https://www.dhs.wisconsin.gov/ems/provider/dodge.htm

(920) 382-6658
License Level: Emergency Medical Responder

- **Clyman First Responders**
  735 Main Street / PO Box 100
  Clyman, WI 53016
  (920) 696-3565
  License Level: Emergency Medical Responder

- **Dodge County Sheriff's TEMS**
  124 West Street
  Juneau, WI 53039
  (920) 88704609
  License Level: TEMS Team

- **Fox Lake Fire Department**
  248 East State Street / PO Box 65
  Fox Lake, WI 53933
  (920) 928-6115
  License Level: Emergency Medical Technician

- **Horicon Emergency Medical Service**
  220 Ellison Street
  Horicon, WI 53032
  (920) 485-3512
  License Level: Emergency Medical Technician

- **Hustisford First Responders**
  266 South Lake Street / PO Box 19
  Hustisford, WI 53034
  (920) 349-3814
  License Level: Emergency Medical Responder

- **Iron Ridge First Responders**
  110 West Pleasant Street
  Iron Ridge, WI 53035
  (920) 387-2080
  License Level: Emergency Medical Responder

- **Juneau Emergency Medical Service**
  128 East Cross Street / PO Box 85
  Juneau, WI 53039
  (920) 386-4813
  License Level: Emergency Medical Technician

- **Kekoskee First Responders**
  W3257 County Highway TW
  Mayville, WI 53050
  (920) 382-5848
  License Level: Emergency Medical Responder

- **Lebanon Fire Department EMS**
  N1738 Highway R
  Lebanon, WI 53047
  (920) 988-9332
  License Level: Advanced Emergency Medical Technician

- **Lomira Fire Department First Responders**
  549 Church Street
  Lomira, WI 53048
  (920) 238-0615
  License Level: Emergency Medical Responder

- **Lowell-Reeseville First Responders**
  214 Firehouse Drive / PO Box 199
  Reeseville, WI 53579
  (920) 390-0447
  License Level: Emergency Medical Responder

- **Mayville Emergency Medical Service**
  102 Mill Place
  Mayville, WI 53050
  (920) 387-7989
  License Level: Advanced Emergency Medical Technician

- **Mayville Emergency Medical Service TEMS**
  102 Mill Place
  Mayville, WI 53050
  (920) 387-7989
  License Level: TEMS Team

- **Neosho First Responders**
  210 South Schuyler Street
  Neosho, WI 53059
  (920) 625-3411
  License Level: Emergency Medical Responder

- **Theresa Ambulance Service**
  202A Milwaukee Street / PO Box 275
  Theresa, WI 53091

(920) 488-6301
License Level: Advanced Emergency Medical Technician

Each of these departments provides monthly training to their staff and they participate in periodically scheduled disaster exercises with area hospitals, other emergency medical services, law enforcement, fire services and emergency management.

Fire Service

There are 26 fire departments that serve the citizens of Dodge County. [74] The Beaver Dam Fire Department provides a full-time fire chief and deputy fire chief, along with a staff of 18 full-time firefighter/paramedics (six on each of the three 24-hour shifts) and 26 paid on-call firefighters. The City of Watertown also provides full-time staff. The remainder of the departments in the county rely on volunteers for this service. The location of each of the fire stations and fire service areas can be found in Appendix A.

- Alto Fire Department
- Ashippun Fire Department
- Beaver Dam Fire Department
- Brownsville Fire Company
- Burnett Volunteer Fire Department
- Clyman Volunteer Fire Department
- Columbus Fire Department
- Fox Lake Fire Department
- Hartford Fire Department
- Horicon Fire Department
- Hustisford Fire Department and Emergency Medical Service
- Iron Ridge Fire Department

[74] https://beta.firedepartment.net/directory/wisconsin/dodge-county/

- Juneau Volunteer Fire Department
- Kekoskee Fire Company
- Knowles Volunteer Fire Department
- Lebanon Fire Department and Emergency Medical Service
- Lomira Volunteer Fire Department
- Lowell Fire Department
- Mayville Fire Department
- Neosho Fire Department
- Randolph Fire Department
- Reeseville Fire Department
- Theresa Fire Department and Ambulance Service
- Watertown Fire Department
- Waupun Fire Department
- Woodland Fire Department

Law Enforcement

The Sheriff is the chief law enforcement officer in the county and is responsible for the protection of life and property within the boundaries of Dodge County. The Sheriff's Office provides law enforcement service to unincorporated areas of the county or to those jurisdictions that do not maintain full-time police service. The Sheriff's Office also provides security for the County Courthouse. The jail houses up to 358 inmates as of March, 2020. There are no designated Huber beds but housing is flexible and different sections can be turned into Huber beds if needed.

A large number of local law enforcement departments are also responsible for protecting and serving the citizens of the many municipalities within the county. Some are large, municipal departments with full-time officers, many with special trainings. Other departments are smaller and may have part-time staffing but

all proudly serve as law enforcement professionals. Municipalities with departments are listed below:

- Brownsville Police Department
- Mayville Police Department
- Iron Ridge Police Department
- Fox Lake Police Department
- Randolph Police Department
- Columbus Police Department
- Waupun Police Department
- Juneau Police Department
- Lomira Police Department
- Beaver Dam Police Department
- Lowell Police Department
- Reeseville Police Department
- Watertown Police Department
- Horicon Police Department
- Hustisford Police Department
- Theresa Police Department
- Hartford Police Department
- Emmet-Lebanon Police Department
- Neosho-Rubicon-Ashippun (NRA) Police Department

See the Dodge County Law Enforcement District Map in Appendix A for district boundary details. Also, the Wisconsin State Patrol

provides limited coverage from their east-central region office in Fond du Lac.[75]

Special Teams

In the event of a hazardous materials incident occurring in Dodge County, the countywide hazardous materials response team is prepared to respond whether the incident is a small spill or a full-scale response. The team is on call 24-hours a day and, if an incident occurs, they are paged by Dodge County Central Dispatch at the request of the local responders.

Hazardous materials response is also performed by Type II and Type III Teams.[76] Wisconsin Emergency Management contracts and manages twenty-two Regional Hazardous Materials Response Teams. The teams are divided into Task Forces: Northeast Task Force, Northwest Task Force, Southeast Task Force and the Southwest Task Force. These Task Forces are then divided into Type I, Type II and Type III teams, all with complimentary capabilities and training requirements.

The Wisconsin Hazardous Materials Response System may be activated for an incident involving a hazardous materials spill, leak, explosion, injury or the potential of immediate threat to life, the environment, or property. The Wisconsin Hazardous Materials Response system responds to the most serious of spills and releases requiring the highest level of skin and respiratory protective gear. This includes all chemical, biological, or radiological emergencies.

Dodge County COAD (Community Organizations Active in Disaster) is an affiliation of independent voluntary agencies, groups, and businesses that provide planning, preparedness, response, and recovery support for emergencies and disaster. The Dodge County COAD Council seeks to enhance citizen and community readiness through individual, organizational, and business cooperation to support all-hazard preparedness, response, recovery, and mitigation.[77]

[75] http://wisconsindot.gov/Documents/about-wisdot/who-we-are/dsp/dsp-regions-map.pdf
[76] http://emergencymanagement.wi.gov/training/docs/Regional_Hazardous_Materials_Resp_Teams_Map.pdf
[77] https://www.co.dodge.wi.gov/government/departments-e-m/emergency-management/coad

Archaeological and Historical Resources

The National Register of Historic Places also includes a listing of locations in Dodge County. [78] As mitigation projects are considered, the county is committed to ensuring that archaeological and historical sites are preserved.

Historic Sites		
Historic Site Name	Address	Municipality
Beaumont Hotel	45 Main St.	Mayville
Boller, W. H., Meat Market and Residence	705 S. Water St.	Lomira
Central State Hospital Historic District	Lincoln St. between Beaver Dam and Mason Sts.	Waupun
Dahl, Martin K., House	314 Beaver Dam St.	Waupun
Dodge County Courthouse	220 E. State St.	Juneau
Dodge County Historical Museum	127 S. Spring St.	Beaver Dam
Fountain Inn	203 Front Street	Beaver Dam
Fox Lake Railroad Depot	Cordelia St. and S. College Avenue	Fox Lake
Greenfield, Willard, Farmstead	N-7436 STH 26	Burnett Twp.
Hartwig, Ferdinand C., House	908 Country Lane	Watertown
Hensler Petroglyph Site	Address Restricted	Portland
Hollenstein Wagon and Carriage Factory	Bridge and German Sts.	Mayville
Horicon Site	Address Restricted	Waupun
Hotel Rogers	103 E. Maple Ave.	Beaver Dam
Hustis, John, House	N. Ridge St.	Hustisford
Hutchinson Memorial Library	228 N. High St.	Randolph

[78] https://nationalregisterofhistoricplaces.com/wi/dodge/state.html

Historic Sites		
Indian Point Site	Address Restricted	Fox Lake
Kekoskee Archeological District	Address Restricted	Kekoskee
Kliese Housebarn	N366 County Road EM	Emmet
Main Street Historic District	103 N. Main St.	Mayville
Schoenicke Barn	NE of Watertown on Venus Rd.	Watertown
Schulze, Ferdinand, House	N. 4262 Daley Rd.	Hustisford
Sock Road Bridge	NW of Lowell over the Beaver Dam River	Lowell
St. Andrew's Church	W3081 County Highway Y	LeRoy
St. Joseph's Roman Catholic Church	CTH Q and Rich Rd.	Shields
St. Mark's Episcopal Church	130 E. Maple St.	Beaver Dam
Swan House and Vita Spring Pavilion	230 Park Ave.	Beaver Dam
Van Brunt, Daniel C., House	139 W. Lake St.	Horicon
Waupun Public Library	22 S. Madison St.	Waupun
Weyenberg Shoe Factory	913 North Spring St.	Beaver Dam
White Limestone School	N. Main St. between Dayton and Buchanan Sts.	Mayville
Williams Free Library	105 Park Ave.	Beaver Dam
Wisconsin State Prison Historic District	200 S. Madison St.	Waupun
Zirbel-Hildebrandt Farmstead	W1328-1330 Highway 33	Herman

The Wisconsin Historical Society maintains a list of archaeological sites and cemeteries known as the Archaeological Site Inventory

Database (ASI); this list is available to governmental agencies upon request. These sites cover an extended period of time, and include campsites/villages/communities, cabins/homesteads, sugar mapling sites, cemetery/burial/ mounds, trading/fur posts, mill/sawmills and kilns.

All of these sites have been reported to the State Historical Society of Wisconsin and are protected sites. If there is concern that a mitigation project will impact one of these or any other identified or suspected archeological site, the county will work with the proper authorities to ensure that all applicable laws and regulations are followed.

Hazard Analysis and Previous Mitigation Projects

The following sections identify those hazards that have occurred or could occur in Dodge County. Each includes a description of a hazard and its frequency of occurrence. Also included is a section that describes the general vulnerabilities of the community and its infrastructure to each particular type of hazard. More detailed and specific analyses will be conducted as projects are identified for inclusion in grant applications. As part of the application process, the methodology of data collection and future development patterns will be addressed. Estimates of potential dollar losses and the methodology used to arrive at those estimates will also be described during this application process.

Wisconsin Emergency Management (WEM) completed and regularly updates the State Hazard Mitigation Plan, which was last revised in October, 2016. This plan describes the hazards that have occurred or are most likely to occur within the state and includes the frequency of occurrence, potential impacts and suggested actions to mitigate the hazard. This plan is the basis for the development of all emergency management plans and is distributed upon revision to county emergency government directors and other stakeholder agencies.

For this plan the Dodge County Hazard Mitigation Plan Workgroup reviewed past events records and an internal workgroup consensus was reached on the anticipated probability of future events, as well as the severity of the effects of those events. The probabilities and severities in the table below are designated as “very high,” “high,” “medium,” “low” or “very low” by the workgroup based on their evaluation and experience with the data.

The workgroup understands that historical weather data provided by the National Weather Service does not include events which may adversely affect their communities but fall below the reporting thresholds. However, each weather event was analyzed for historic frequency and averages over the last 25 years and is noted within each section. Additionally, a table with this information is included in Appendix B Frequency of Occurrence.

Hazard	Likelihood of Occurrence*	Severity of Effects if It Does Happen*	Misc. Notes
Drought/ Dust Storm	Low	People – Low Agriculture - Low	
Earthquake	Low	Very Low	
Flood – Flash Flood & River Flood	High	High	Flooding in lower Dodge Co. between Horicon & TNs of Ashippun, Lebanon, and Ixonia
Flood – Dam Break	Low	Low	
Wildfire	Medium	People – Low Environment - Medium	Fire can be good for the environment
Karst Sinkholes & Radon	Sinkholes – Med Radon - High	Sinkholes – Low Radon - High	
Severe Temperature	Hot – High Cold – High	Hot – Medium Cold - Medium	
Hail	High	People – Low Crops, roofs, cars - High	
Lightning	High	People – Low Computer – Medium	
Thunderstorm	High	People – Low Crops – Medium	
Tornado	High	Very High	
Derecho (High Wind) & Downburst	High	High	
Winter Storm (Snow & Ice)	High	Low	

Hazard	Likelihood of Occurrence*	Severity of Effects if It Does Happen*	Misc. Notes
Utility & Infrastructure Failure	Moderate	High	

The emphasis in the following sections is on mitigation activities for each hazard as a major component of overall emergency management. Mitigation or prevention activities reduce the degree of long-term risk to human life and property from natural and man-made hazards. The cooperation of government, academia, the private sector and volunteer agencies is essential in mitigation efforts. The Dodge County Office of Emergency Management is committed to working with municipalities and the private sector to ensure that county mitigation information is shared and it is incorporated into their planning as appropriate.

Each community will be given a copy of the plan to use as a reference during their own preparedness activities (i.e., planning, training, permitting, zoning). Communities that have comprehensive plans will reference this mitigation plan and its contents in the next scheduled plan update. Municipalities that do not have comprehensive plans either are under the purview of or request assistance from the Dodge County Land Resources and Parks Department; others have their own planning departments. Members of the Dodge County Land Resources and Parks Department and municipal planning departments were included on the Hazard Mitigation Workgroup and are aware of the benefits and requirements to utilizing this plan as they go about their preparedness activities.

Dodge County and its municipalities have a considerable history of identifying, planning and completing hazard mitigation projects including these (listed below), which received supplemental funding. It was also noted by the workgroup that there are several opportunities for grant funding from various federal and state resources including:[79]

Community Development Block Grant (CDBG) - The U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery Assistance provides flexible grants to help cities, counties and states recover from Presidentially-declared disasters, especially in low-income areas,

[79] https://dma.wi.gov/DMA/divisions/wem/mitigation/docs/HazardMitigationPlan/Appendix_C-Mitigation_Grants2.pdf

subject to availability of supplemental appropriations. In response to disasters, Congress may appropriate additional funding for the CDBG program as disaster recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process. Since CDBG Disaster Recovery assistance may fund a broad range of recovery activities, HUD can help communities and neighborhoods that otherwise might not recover due to limited resources. Disaster Recovery grants often supplement the disaster programs of FEMA, the SBA and the U.S. Army Corps of Engineers (i.e., these funds can be used for the local matching requirement of other federal grants).[80]

CDBG Emergency Assistance Program (EAP) Projects:

- EAP #05-01 Village of Randolph ($385,000) -Rehabilitation of damaged housing units, replacement of wells/septic systems and water/sewer lines, construction of replacement housing units, demolition and clearance of hazardous structures, and acquisition/relocation
- EAP #08-07 Dodge County ($665,000) - Rehabilitation of damaged housing units
- EAP #08-31 City of Beaver Dam ($1,857,000) - Mitigation
- EAP #08-43 Village of Neshkoro ($200,000) - Mitigation
- EAP #08-62 Village of Hustisford ($57,584) - Dam and embankment repairs

It was noted by the workgroup that there are several opportunities for grant funding from various federal and state resources including:

- **HMGP** - The Hazard Mitigation Grant Program (HMGP) is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under the Presidential major disaster declaration is available in all areas of the state following a Presidential disaster declaration.[81]

[80] http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs/drsi
[81] http://www.fema.gov/hazard-mitigation-grant-program

Hazard Mitigation Grant Program (HMGP) Projects Funded in Dodge County:

- DR-1526 2004 Dodge County ($19,894) - New plan is approved

- **PDM** - The Pre-Disaster Mitigation (PDM) program is authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. The PDM program is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future major disaster declarations.[82]

  Pre-Disaster Mitigation (PDM) Projects and/or Plans Funded in Dodge County[83]

  - 2010-C ($15,016) – Plan update was approved.

- **FMA** - The Flood Mitigation Assistance (FMA) program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). The Repetitive Flood Claims (RFC) program has the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time.[84]

- **SRL** - The Severe Repetitive Loss (SRL) program is authorized by Section 1361A of the NFIA has the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest amount of savings to the NFIF in the shortest period of time.[85]

[82] http://www.fema.gov/pre-disaster-mitigation-grant-program
[83] Note that several grants to the State of Wisconsin/WEM are listed when searching for Dodge County projects. These state projects are deemed as benefiting the state's counties but are not listed in this plan because they were not directly received by the county.
[84] http://www.fema.gov/flood-mitigation-assistance-program
[85] http://www.fema.gov/severe-repetitive-loss-program

- **RFC -** The Repetitive Flood Claims (RFC) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108–264), which amended the National Flood Insurance Act (NFIA) of 1968 (42 U.S.C. 4001, et al). Up to $10 million is available annually for the Federal Emergency Management Agency (FEMA) to provide RFC funds to assist states and communities to reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP). FEMA may contribute up to 100 percent of the total amount approved under the RFC grant award to implement approved activities, if the applicant has demonstrated that the proposed activities cannot be funded under the FFMA program. [86]

- **406 Mitigation –** The Public Assistance-Section 406 Mitigation Funding may be considered by FEMA in a federal disaster declaration to fund mitigation measures to a public facility damaged by the event that enhance the facility's ability to resist similar damage in future events. This funding is authorized under Section 406 of The Robert T. Stafford Disaster Relief and Emergency Assistance Act and provides discretionary authority to fund mitigation measures in conjunction with the repair of the disaster-damaged facilities, which usually present themselves during the repair efforts. The mitigation measures must be related to eligible disaster-related damages and must directly reduce the potential for future, similar disaster damages to the eligible facility. This work is performed on the parts of the facility that were actually damaged by the disaster and the mitigation provides protection from subsequent events. Mitigation measures must be determined to be cost-effective, technically feasible, and in compliance with statutory, regulatory and executive order requirements. In addition, the measure cannot cause a negative impact to the facility's operation, surrounding areas, or susceptibility to damage from another hazard.[87]

    - DR-1526 2004 Dodge County ($34,508)
      - Purchase/distribution of weather radios

- **Municipal Flood Control Grant Program** - This Wisconsin Department of Natural Resources (DNR) grant is available to all cities, villages, towns, tribes and metropolitan sewerage districts. Assistance is provided with items such as the acquisition of

[86] http://www.fema.gov/repetitive-flood-claims-program
[87] http://www.fema.gov/public-assistance-local-state-tribal-and-non-profit/hazard-mitigation-funding-under-section-406-0

property, vacant land, structure removal, flood proofing, administrative support and others.[88] Dodge County has not received any grants from the Municipal Flood Control Grant Program.

- **Dam Removal Grant Program** - This Wisconsin DNR grant is available to all cities, villages, towns, tribes and metropolitan sewerage districts and provides 100% of eligible project costs up to a maximum of $50,000 to remove a dam. Assistance is provided with items such as: the acquisition of property, vacant land, structure removal, flood-proofing, administrative support and others.[89] Dodge County has not received any dam removal grants.

[88] http://dnr.wi.gov/Aid/MunFloodControl.html
[89] http://dnr.wi.gov/aid/damremoval.html

All Hazards

One of the bedrock principles of emergency management is to approach issues from an all-hazards perspective. This is generally very cost effective because it accomplishes preparedness and/or mitigation goals for many types of disasters with one resource. Some of the all hazards mitigation projects that Dodge County would like to accomplish are detailed in the following sections.

The planning committee also used the all hazards approach to identify mitigation goals for the county and all of its municipalities. The purpose hazard mitigation plan is to identify hazard areas, to assess the risks, to analyze the potential for mitigation and to recommend mitigation strategies where appropriate. Potential mitigation projects will be reviewed using criteria that stress the intrinsic value of the increased safety for people and property in relation to the monetary costs to achieve this (i.e., a cost-benefit analysis). With that in mind, the planning goals for this entire plan, as determined by the mitigation planning committee were:

- **Objective 1:** To preserve life and minimize the potential for injuries or death.
- **Objective 2:** To preserve and enhance the quality of life throughout Dodge County by identifying potential property damage risks and recommending appropriate mitigation strategies to minimize potential property damage.
- **Objective 3:** To promote countywide planning that avoids transferring the risk from one community to an adjacent community, where appropriate.
- **Objective 4:** To identify potential funding sources for mitigation projects and form the basis for FEMA project grant applications.

Vulnerability

Perhaps one of the largest risks that falls under the all-hazards banner is the continuing challenge of securing funding to keep up with the rapid technological changes and advances in the public safety communications infrastructure. When departments cannot communicate with each other, they cannot be effectively coordinated in a disaster which could cause potential delays in providing critical services to citizens in need.

Another vulnerability is the fact that not all agencies that work together in disaster response and recovery can communicate with one another (i.e., are interoperable). Local first response agencies are generally able to communicate with one another but communications-related issues will remain ongoing challenges as technologies evolve and departments acquire equipment suitable for their response.

Also, it is a continuing challenge to ensure that emergency services can notify the public in a timely manner. Because of the nature of modern society, adequate notification requires multiple outlets but managing the usage, cost and updates of these systems is an ongoing project for all communities.

Hazard Mitigation Strategies

Dodge County and its municipalities have sought out grants and partnerships to reduce the significant costs to improving their core communication networks but much of the technology upgrade has been from county and municipal budgetary expenditures.

In this plan, many of the non-core communications projects that are listed here are either not capital improvement projects and therefore are not very expensive (e.g., upgrading Memoranda of Understanding (MOU), updating the website) or they are projects that require significant capital outlays and are, for the most part, grant-dependent. Since the profile (e.g., economic, geographic) of an area may change between the identification of a project in this plan and the availability of grant funds, projects will be identified within the plan and be slated for detailed study and analysis at such time as grants become available. The detailed study will identify the types and numbers of existing and future structures, the potential dollar losses to vulnerable structures and the lead agency or department who will manage the project. At that point, grant-eligible projects will be evaluated using the appropriate grant criteria for factors such as:

- Overall benefit to the community
- Economic feasibility (i.e., a cost-benefit analysis)
- Compliance with environmental, social justice and other laws

The hazard mitigation strategies listed below are not “bricks and mortar” changes. Rather, they are enhancements to computer

and radio equipment and plans that allow better communication with the public in times of crisis and therefore do not reduce effects for existing or future buildings and infrastructure.

Public Alert and Notification

Public alert and notification plans are vital in a time of crisis to reduce property damage and human casualties. An advance plan allows the appropriate authorities to perform their emergency duties in an efficient manner. Dodge County will maintain the following:

- Facilities, systems and procedures to activate warning and communication capabilities.
- Systems to support communications, including:
    - Sirens to warn the public. It should be noted that all sirens are municipally-owned; the county dispatch center can test/tone some of them but some can only be activated by the municipality.
        - City of Mayville
            - Replace siren that has not worked in years.
        - Town of Burnett
            - Explore new siren project.
        - City of Juneau
            - Three sirens need replacing to bring into compliance with narrow-banding requirements.
            - Potential increase in NOAA weather radio usage.
    - Local television, radio and newspaper connections to spread warning information.
        - The Dodge County Emergency Management Department will continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather

radios using media outreach every spring, annual radio appearance, spotter training and community fairs.

        - The Cities of Watertown and Waupun will continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios in in the spring newsletter and annually with the tornado section.

    - An emergency communications center. Dodge County Office of Emergency Management receives and distributes warning information to the public and emergency services agencies.

        - Village of Iron Ridge plans to establish and equip a permanent EOC.

During an emergency, the general public receives information by sirens, NOAA weather radio, local broadcast or printed media, Code Red, and if needed by door-to-door notification by emergency services personnel and a mobile public address system. It should be noted that the ability to use the NOAA weather radio system for an expanded list of emergency messages is a positive move that makes this alert and warning tool even more valuable. As a result, Dodge County will continue to promote increased use of these radios among the public by sponsoring public information campaigns that point citizens to vendors. The county emergency management office will also support similar campaigns sponsored by the National Weather Service and the amateur radio club. In addition, the City of Horicon includes the use of weather radios in its emergency plan.

Methods for notification of people with functional and access needs include door-to-door warnings, foreign language media messages and closed-caption television messages. Other notices and procedures can be found in Dodge County's Emergency Operations Plan which is reviewed and updated on a regular schedule.

Dodge County should be capable of the following:

- Disseminate emergency warning and notification to the public though its county-wide warning systems,

- Support emergency management operations.

- Provide adequate warning and communication systems, and
- Plan for alternative means and resources in the event of a warning or communication system breakdown.

Dodge County will prepare facilities, systems and procedures to activate warning and communication. During an emergency, Dodge County will deliver prompt and accurate warnings to businesses and residents.

Website

Geographic information system (GIS) mapping data is available from the Dodge County website. The County Emergency Management Office also has a general webpage[90] and has, in past disasters, been able to post links to disaster-specific information from FEMA, to volunteer, etc. In recognition of the importance of this communication tool, especially in pre-planning activities, county offices will review their web pages to ensure that important information and links for general preparedness topics are available from agencies such as the Department of Homeland Security/FEMA, the American Red Cross and Wisconsin Emergency Management. The county will also look for ways to publicize the website so that community members will know what valuable information is there.

- City of Juneau
  - Linking to the County EM site
- Village of Iron Ridge
  - The Village of Iron Ridge is building a new website. Planning to link the City and Town of Fox Lake and the Village of Lomira.
- Town of Clyman
  - Linking to the County EM site

[90] https://www.co.dodge.wi.gov/government/departments-e-m/emergency-management

Community Preparedness (Planning, Training & Exercising)

Dodge County has a comprehensive preparedness program and will work with its municipalities to complete preparedness programs that will also support mitigation goals. Potential projects include:

- Completing a study on how to best meet EMS needs going forward.
- The Cities of Watertown and Beaver Dam will explore sites for new fire departments.
- Dodge County Emergency Management will review and consult the county's current Smart Growth Plan as development continues.
- The City of Waupun will continue community evaluations of hardened structures as appropriate.

Drought and Dust Storms

Two types of drought occur in Wisconsin: agricultural and hydrologic. Agricultural drought is a dry period that reduces crop yields. Hydrologic drought is a dry period of sufficient length and intensity to affect lake and stream levels and the height of the groundwater table. These two types of drought may, but do not necessarily, occur together.

Agricultural drought in a Wisconsin corn field in 2012.

Dust storms result from a combination of high winds and dry, loose soil conditions. While high winds and periods of drought have each occurred in Dodge County, there has never been a recorded dust storm event. Since natural hazards that have occurred in the past are more likely to occur in the future, it is unlikely that a dust storm event will occur in Dodge County. This assertion is further bolstered by the fact that there is very little irrigation done within the county and that the soils in Dodge County are not prone to blowing. While there are concerns about topsoil erosion and some mitigation activities may be planned that would reduce the effects of these types of events, they will not be a major focus of this plan.

Physical Characteristics

The understanding that a deficit of precipitation has different impacts on groundwater, reservoir storage, soil moisture, snowpack and streamflow led to the development of the Standardized Precipitation Index (SPI) in 1993. The SPI quantifies the precipitation deficit for multiple time scales. These time scales reflect the impact of drought on the availability of the different water resources. Soil moisture conditions respond to precipitation anomalies on a relatively short

scale. Groundwater, streamflow, and reservoir storage reflect longer-term precipitation anomalies. For these reasons, the SPI is calculated for 3-, 6-, 12-, 24- and 48-month time scales.

The SPI calculation for any location is based on the long-term precipitation record for a desired period. This long-term record is fitted to a probability distribution, which is then transformed into a normal distribution so that the mean SPI for the location and desired period is zero. Positive SPI values indicate greater than median precipitation and negative values indicate less than median precipitation. Because the SPI is normalized, wetter and drier climates can be represented in the same way and wet periods can also be monitored using the SPI.

The classification system shown in the SPI values table (below) defines drought intensities resulting from the SPI. The criteria for a drought event are also defined for any of the time scales. A drought event occurs any time the SPI is continuously negative and reaches an intensity of -1.0 or less. The event ends when the SPI becomes positive. Each drought event, therefore, has a duration defined by its beginning and end and an intensity for each month that the event continues. The positive sum of the SPI for all the months within a drought event can be termed the drought's "magnitude." Current SPI maps for the United States can be found online.[91]

SPI Values[92]	
2.0+	Extremely wet
1.5 to 1.99	Very wet
1.0 to 1.49	Moderately wet
-0.99 to 0.99	Near normal
-1.0 to 1.49	Moderately dry
-1.5 to -1.99	Severely dry
-2.0 and less	Extremely dry

The Palmer Index is an older scale and is used more often by governmental organizations. It is effective in determining long-term drought (i.e., over several months) and is not as good with short-term forecasts (i.e., weeks.) It uses a zero as normal; drought is shown in terms of negative numbers and excess moisture is reflected by positive figures. The future incidence of drought is highly

[91] https://www.ncdc.noaa.gov/temp-and-precip/drought/nadm/indices/spi/div#select-form
[92] https://drought.unl.edu/ranchplan/DroughtBasics/WeatherandDrought/MeasuringDrought.aspx

unpredictable and may also be localized, making it difficult to determine probability with any accuracy.

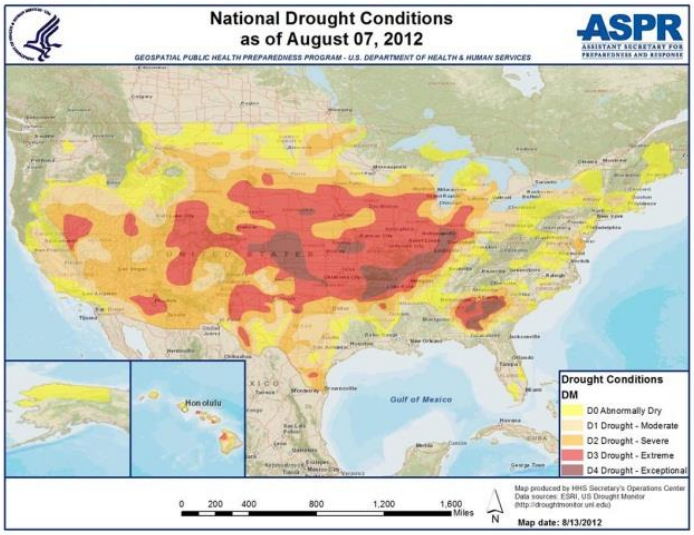
Drought conditions may vary from below-normal precipitation for a few weeks to a severe lack of normal precipitation for several months. Drought primarily affects agricultural areas because the amount and timing of rainfall has a significant impact on crop production. The severity of a drought cannot therefore be completely measured in terms of precipitation alone but must include crop yields.

Frequency of Occurrence

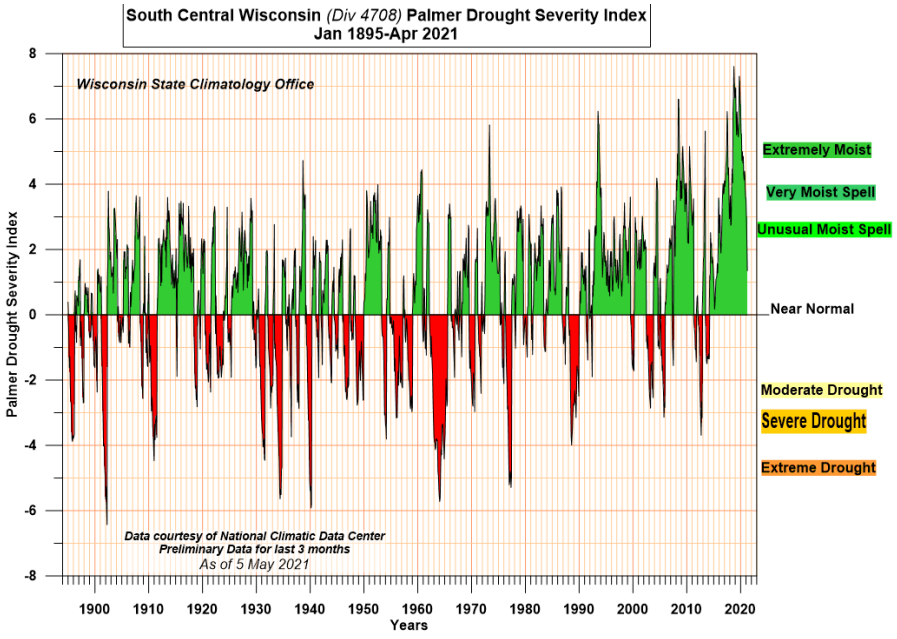
Drought is a relatively common phenomenon in Wisconsin and has occurred statewide in 1895, 1910, 1939, 1948, 1958, 1976, 1988, 1992, 2003, 2005 and 2012. The 1976 drought received a Presidential Emergency Declaration with damage to 64 Wisconsin counties, including Dodge. Estimated losses of $624 million primarily affected the agricultural sector. Reports show that Dodge County was as affected as the rest of the state in this drought, receiving money for emergency feed programs for livestock and for increased fire protection of its wilderness areas. It should be noted that only 19% ($119,434,924) of this loss was compensated by any federal program.

The 2012 heat wave resulted in significant droughts across more the half the country as well as increases in heat related illnesses and deaths. Although July, 2019 was the hottest month in U.S. history, conditions in July, 2012 caused severe drought conditions that eclipsed the record set during the heart of the Dust Bowl in 1936. The worst of the heat was in the Midwest, the Plains, and along the Eastern Seaboard. Most of the contiguous US had record and near-record warmth for the seven-month period, except the Pacific Northwest, which was near average. The August 7, 2012 Drought Monitor map shows 52.27% of the United States and Puerto Rico in moderate drought or worse with Dodge County in the D2 – Severe Drought category.[93]

[93] 2012 Heat & Drought Federal Report, HHS ESF 8, UPDATE #2, U.S. Department of Health and Human Services, Assistant Secretary for Preparedness and Response



The Palmer Index chart for the years between January 1895 and May 2020 in South Central Wisconsin, which includes Dodge County follows:[94]



As can be seen from the frequency table above, Dodge County regularly experiences drought to at least a moderate level two to three times every ten years. While drought is a regular occurrence, it is generally very difficult to predict with any accuracy but according to the Wisconsin Hazard Mitigation Plan, "the NWS and National Integrated Drought Information System (NIDIS) are improving

[94] http://www.aos.wisc.edu/~sco/clim-watch/graphics/pdsi-ts-08-l.gif

methodology to accurately forecast drought conditions. Both organizations use a combination of current and historical precipitation, streamflow, ground water, and crop data to perform short-term and long-term forecasts."[95]

On July 15, 2005, the Governor declared a drought emergency for the entire state of Wisconsin. This declaration, the first since August 2003, allowed farmers access to additional water for crop irrigation. The summer of 2012 was also extremely hot and dry across much of the United States, including Wisconsin. A table showing the drought events recorded by the National Weather Service for Dodge County can be found in Appendix B.

Considering past occurrences, it can be surmised that Dodge County has a low probability of drought occurrence in the future and the likelihood of damage to both people and agriculture due to drought is considered low for agricultural and other types of losses. Over the past 25 years a drought has occurred 18 times for an average of less than one time per year.

Vulnerability

Drought generally impacts farm output by reducing crop yields and the health and product output (e.g., milk) of livestock. As a result, a drought will seriously impact the economy of the entire county. Dust storms impact farms in the long term by blowing away the top levels of soil, which are the richest. This could economically impact the county by reducing its long-term viability for farming. The concern for agricultural losses due to drought is difficult to estimate because each incident will impact the county differently based on the length of the drought, when it occurs in the planting season and which crops were planted in various locations in that particular season but one can see, by looking at the agricultural statistics listed below, that this sector is an important part of the Dodge County economy and that the losses could be considerable:

- Average size of farms: 205 acres
- Average value of agricultural products sold per farm: $90,888
- Average value of crops sold per acre for harvested cropland: $172.89

[95] State of Wisconsin Hazard Mitigation Plan

- The value of livestock, poultry, and their products as a percentage of the total market value of agricultural products sold: 69.99%
- Harvested cropland as a percentage of land in farms: 76.84%
- Average number of cattle and calves per 100 acres of all land in farms: 26.69
- Corn for grain: 128,434 harvested acres
- All wheat for grain: 9,687 harvested acres
- Soybeans for beans: 66,445 harvested acres
- Vegetables: 11,239 harvested acres
- Land in orchards: 169 acres [96]

Drought is also a major risk factor for wildfire and can reduce the amount of surface water available for recreational activities (e.g., boating, fishing, water skiing) and for wildlife. This is important because, for example, low water levels can lead to an outbreak of disease (e.g., botulism) in migratory bird pools.

Prolonged drought can also impact the groundwater reserves. This can reduce the ability of the municipal water services and rural individuals on wells to draw adequate fresh water. This may especially impact rural homeowners who tend to have wells that are not drilled as deeply as municipal wells. In Dodge County, the population that lives outside of the cities and villages are generally on well water. There could also be a safety risk during dust storms if they are severe enough to reduce the visibility of the roadways for drivers.

Hazard Mitigation Strategies

The goal of drought and dust storm mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events.

Some Dodge County communities have adopted water usage regulations during drought conditions but in general, mitigation strategies for periods of drought include preparing informational releases and plans for farmers and homeowners that can be used if needed.

[96] http://www.city-data.com/county/Dodge_County-WI.html

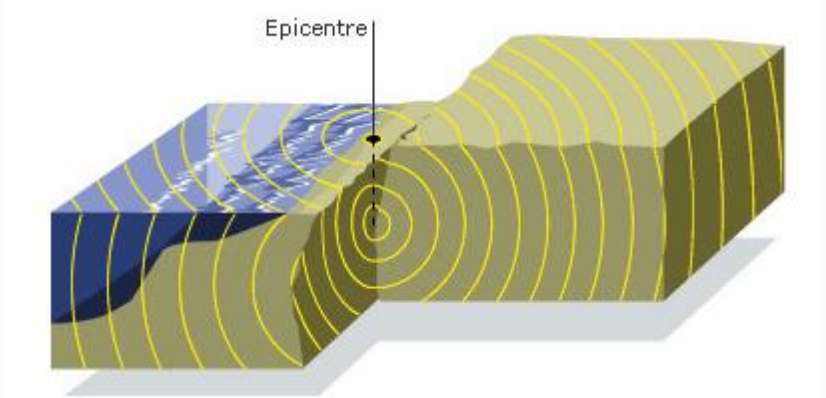
Dodge County farmers can contact the Dodge County University of Wisconsin – Madison Division of Extension and its federal partners from the U.S. Department of Agriculture for information and guidance related to drought. Various federal and state publications are available regarding ground water movement, the hydrologic cycle and irrigation methods. These agencies are also the lead agencies for obtaining emergency food and water supplies for agricultural use and for providing information regarding crop insurance.

Municipalities and the county will work together to ensure that drought considerations are included in emergency plans and will provide emergency information to non-farm concerns as needed.

The hazard mitigation strategies listed above primarily involve providing information on water conservation measures to farmers and the public. Water conservation will ensure that the resource is available for critical residential, business and agricultural uses (e.g., drinking, food irrigation, manufacturing, firefighting) and good farming practices may help prevent erosion of the rich topsoil found in Dodge County. Since drought and dust storms are not hazards that affect buildings or traditional infrastructure (e.g., bridges, culverts) these strategies did not need to be designed to reduce damages to existing or future buildings and infrastructure.

Earthquakes

An earthquake is a shaking or sometimes violent trembling of the earth which results from the sudden shifting of rock beneath the earth's crust. This sudden shifting releases energy in the form of seismic waves (wave-like movement of the earth's surface.)[97]



Physical Characteristics

Earthquakes can strike without warning and may range in intensity from slight tremors to great shocks. They can last from a few seconds to over five minutes and they may also occur as a series of tremors over a period of several days. The actual movement of the ground during an earthquake is seldom the direct cause of injury or death. Casualties usually result from falling objects and debris because the shocks have shaken, damaged or demolished buildings and other structures. Movement may trigger fires, dam failures, landslides or releases of hazardous materials that compound an earthquake's disastrous effect.

Earthquakes are measured by two principle methods: seismographs and human judgment. The seismograph measures the magnitude of an earthquake and interprets the amount of energy released on the Richter Scale, a logarithmic scale with no upper limit. For example, an earthquake measuring 6.0 on the Richter Scale is ten times more powerful than a 5.0 and 100 times more powerful than a 4.0. This is a measure of the absolute size or strength of an earthquake and

[97] http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/earthquake_guide.pdf

does not consider the effect at any specific location. The Modified Mercalli Intensity (MMI) Scale measures the strength of a shock at a particular location (i.e., intensity.)

A third less often used way of measuring an earthquake's severity involves comparing its acceleration to the normal acceleration caused by the force of gravity. The acceleration due to gravity, often noted "g," is equal to 9.8 meters per second. Peak Ground Acceleration (PGA) measures the rate of change of motion relative to the rate of acceleration due to gravity and is expressed as a percentage. These three scales can be roughly correlated, as expressed in the table that follows: [98]

Earthquake PGA, Magnitude and Intensity Comparison Table			
PGA [%g]	**Magnitude [Richter]**	**Intensity [MMI]**	**Description [MMI]**
<0.17	1.0 - 3.0	I	I. Not felt except by a very few under especially favorable conditions.
0.17 - 1.4	3.0 - 3.9	II - III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
1.4 - 9.2	4.0 - 4.9	IV - V	IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing cars rock noticeably. V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
9.2 - 34	5.0 - 5.9	VI - VII	VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
34 - 124	6.0 - 6.9	VII - IX	VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
>124	7.0 and higher	VIII or higher	X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. XI. Few, if any [masonry] structures remain standing. Bridges destroyed. Rails bent greatly. XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.

[98] Wald, Quitoriano, Heaton and Kanamori, 1999

Most of Wisconsin's occurrences have not been severe, with only one registering 5.1 on the Richter Scale.

Frequency of Occurrence

Earthquakes that have affected Wisconsin from 1899 to 1987 are listed in the table that follows. The most severe earthquake in Wisconsin was the record earthquake of 1811, centered along the New Madrid Fault. Most earthquakes that do occur in Wisconsin are very low in intensity and can hardly be felt. These very minor earthquakes are fairly common, occurring every few years. Events of moderate magnitude have occurred in locations in Illinois and Michigan. Those and other stronger earthquakes centered in other parts of the country have been felt primarily in Southern Wisconsin.

Date	Location	Latitude North	Longitude West	Maximum Intensity	Magnitude
10/12/1899	Kenosha	42° 34'	87° 50'	II	3.0
3/13/1905	Marinette	45° 08'	87° 40'	V	3.8
4/22/1906	Shorewood	43° 03'	87° 55'	II	3.0
4/24/1906	Milwaukee	43° 03'	87° 55'	III	--
1/10/1907	Marinette	45° 08'	87° 40'	III	--
5/26/1909	Beloit	42° 30'	89° 00'	VII	5.1 (max)
10/7/1914	Madison	43° 05'	89° 23'	IV	3.8
5/31/1916	Madison	43° 05'	89° 21'	II	3.0
7/7/1922	Fond du Lac	43° 47'	88° 29'	V	3.6
10/18/1931	Madison	43° 05'	89° 23'	III	3.4
12/6/1933	Stoughton	42° 54'	89° 15'	IV	3.5
11/7/1938	Dubuque	42° 30'	90° 43'	II	3.0
11/7/1938	Dubuque	42° 30'	90° 43'	II	3.0
11/7/1938	Dubuque	42° 30'	90° 43'	II	3.0
2/9/1943	Thunder Mountain	45° 11'	88° 10'	III	3.2
5/6/1947	Milwaukee	43° 00'	87° 55'	V	4.0
1/15/1948	Lake Mendota	43° 09'	89° 41'	IV	3.8
7/18/1956	Oostburg	43° 37'	87°45'	IV	3.8
7/18/1956	Oostburg	43° 37'	87°45'	IV	3.8
10/13/1956	South Milwaukee	42° 55'	87°52'	IV	3.8
1/8/1957	Beaver Dam	42° 32'	98°48'	IV	3.6
2/28/1979	Bill Cross Rapids	45° 13'	89°46'	--	<1.0 MoLg
1/9/1981	Madison	43° 05'	87°55'	II	--
3/13/1981	Madison	43° 37'	87°45'	II	--
6/12/1981	Oxford	43° 52'	89°39'	IV-V	--
2/12/1987	Milwaukee	42° 95'	87°84'	IV-V	--
2/12/1987	Milwaukee	43° 19'	87°28'	IV-V	--
6/28/2004	Troy Grove, IL	41° 46'	88°91'	IV	4.2

Also in Wisconsin, a 2012 article published in the Milwaukee Journal-Sentinel discussed an incident in Waupaca County that was not an earthquake as traditionally discussed and understood. This episode is highlighted in this plan because it was widely reported in the state and could be a concern for Dodge County citizens:[99]

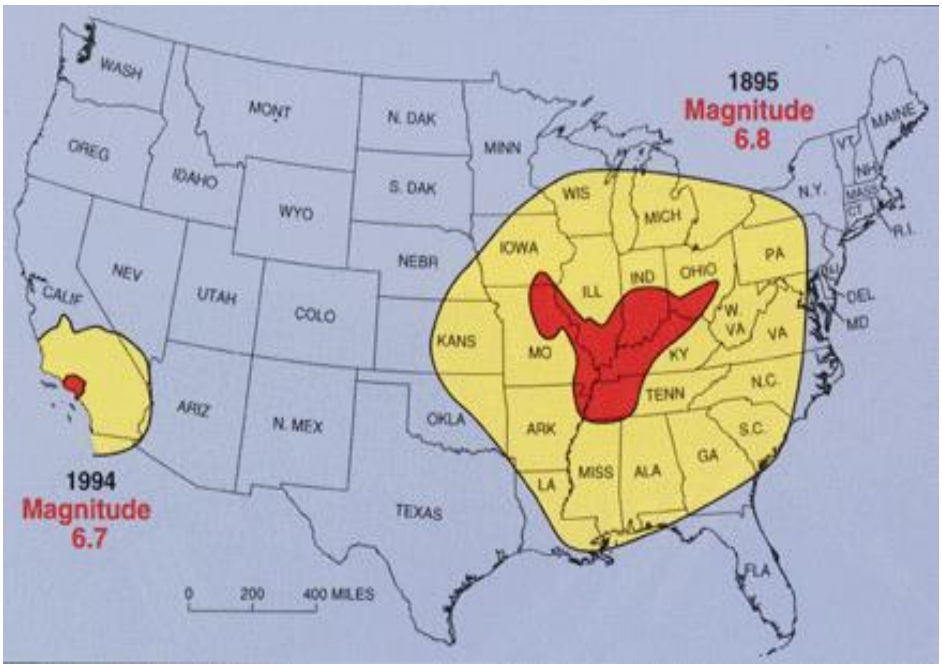
> *A 1.5-magnitude earthquake was recorded at 12:15 a.m. March 20 beneath Clintonville, according to the National Earthquake Information Center. The center is operated by the U.S. Geological Survey.*
>
> *The U.S. Geological Survey said several days of booms and vibrations that rattled windows and nerves last week likely were caused by a swarm of small earthquakes.*
>
> *Scientists at the Wisconsin Geological and Natural History Survey in Madison said the low-intensity seismic activity could have been produced by a phenomenon known as postglacial rebounding.*
>
> *Granite bedrock beneath eastern Waupaca County is slowly adjusting to a great weight being lifted off it when the last glacier melted more than 10,000 years ago. As the granite stretches, rising only a few millimeters a year, it can crack to relieve pressure, according to David Hart, a geophysicist at the Wisconsin Geological and Natural History Survey.*
>
> *As it cracks, one piece slides or shifts places, releasing enough energy to create a seismic wave that rises to the surface.*
>
> *There is no known geologic fault beneath central Wisconsin so the postglacial rebounding is the only thing stretching the bedrock crust in the state, Hart said.*

This phenomenon was widely reported in local, state and national news and drew interest from the public.

The nearest major active fault is the New Madrid Fault, stretching along the central Mississippi River Valley in Missouri. In recent years, considerable attention has focused on seismic activity in the New Madrid seismic zone that lies within the central Mississippi Valley, extending from northeast Arkansas through southeast Missouri, western Tennessee and western Kentucky to southern Illinois. Scientists at the Center for Earthquake Information have computed a set of probabilities that estimates the potential for

[99] http://www.jsonline.com/news/wisconsin/rumbling-booming-resumes-in-clintonville-6e4p9o8-144653925.html

different magnitude earthquakes to occur at the New Madrid Fault. Even an 8.3 magnitude earthquake at the New Madrid Fault, however, would cause only minor damage in the southeastern corner of Wisconsin. At this time, it is not possible to predict the exact date, duration or magnitude of an earthquake.



As seen on the map in Appendix A, the earthquake threat to Dodge County is considered low (the 50-year acceleration probability is 4%.) Minor damage (e.g., cracked plaster, broken windows) from earthquakes has occurred in Wisconsin but most often the results have been only rattling windows and shaking ground. There is little risk except to structures that are badly constructed. Most of the felt earthquakes reported have been centered in other nearby states. The causes of these local quakes are poorly understood and are thought to have resulted from the still-occurring rebound of the earth's crust after the retreat of the last glacial ice. The likelihood of damage from an earthquake is also very low.

Vulnerability

Any impact in the community from earthquake would likely be due to a few broken windows and personal effects that fell in the earthquake. The damage to critical infrastructure and buildings would be negligible although there could be indirect effects from any

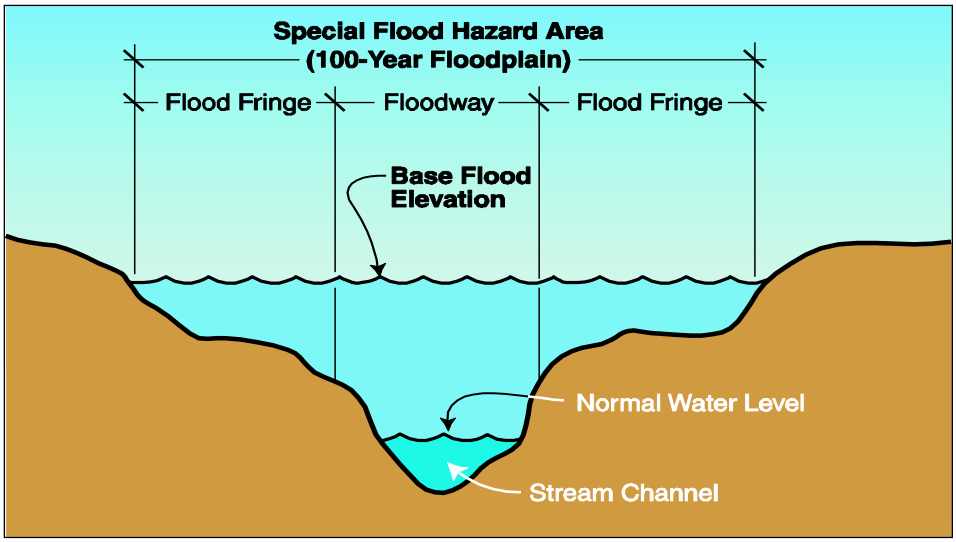
unlikely losses to the electrical grid, transportation routes/goods shipments and pipelines.

Hazard Mitigation Strategies

Since Dodge County is not likely to suffer directly from a severe earthquake, the community impacts are not considered significant and mitigation planning for this hazard is not necessary. If there is ever a need, obviously emergency resources will be mobilized but the goal for this section of the plan is therefore to educate on the low risks of earthquake damage in Dodge County.

Flooding and Dam Failure

Flooding is defined as a general condition of partial or complete inundation of normally dry land (i.e., the floodplains) caused by the overflow of inland waters or the unusual and rapid accumulation or runoff of surface waters from any source. Floodplains are the lowlands next to a body of water that are susceptible to recurring floods.[100]



Floods are common in the United States, including Wisconsin, and are considered natural events that are hazardous only when adversely affecting people and property.

Physical Characteristics

Major floods in Wisconsin have usually been confined either to specific streams or to locations that receive intense rainfall in a short period of time.

Flooding that occurs in the spring due to snow melt or during a period of heavy rain is characterized by a slow buildup of flow and velocity in rivers and streams over a period of days. This buildup continues until the river or stream overflows its banks, for as long as a week or two, then slowly recedes. Generally, the timing and location of this

[100] FEMA, August 2001

type of flooding is fairly predictable and allows ample time for evacuation of people and property.

For prediction and warning purposes, floods are classified by the National Weather Service into two types: those that develop and crest over a period of approximately six hours or more and those that crest more quickly. The former are referred to as "floods" and the latter as "flash floods". Flash flooding occurs solely from surface run-off that results from intense rainfall. Flash flooding occurs less frequently in Wisconsin than flooding associated with spring snow melt but it is unpredictable.

Generally, the amount of damage from flooding is a direct consequence of land use. If the ground is already saturated, stripped of vegetation or paved, the amount of run-off increases, adding to the flooding. There is also a concern regarding the loss of topsoil and erosion due to flooding.

Terms commonly used when referring to flooding are "100-year flood" and "flood plain." A "100-year flood" is defined as a flood having a one percent chance of being equaled or exceeded in magnitude in any given year.

Flood Probability Terms Table[101]

Flood Recurrence Intervals	Percent Chance of Occurrence Annually
10 year	10.0%
50 year	2.0%
100 year	1.0%
500 year	0.2%

The Wisconsin Department of Natural Resource (DNR), working with local zoning offices, has designated flood plain areas as those places where there is the greatest potential for flooding. Flooding may also occur due to a dam breach or overflow. Dams are barriers built across a waterway to store, control or divert water; a dam failure is a failure of the dam that causes downstream flooding. Failures may

[101] State of Wisconsin Hazard Mitigation Plan

be caused by technological events (e.g., materials failure) or by natural events (e.g., landslide, earthquake) with flooding being the most common result.

According to the Wisconsin Department of Natural Resources (WDNR) Dam Safety Program there are approximately 3,800 dams in existence in the State of Wisconsin. Since the late 19th century, more than 700 dams have been built, then washed out or removed. Since 1967, approximately 100 dams have been removed. Almost 60% of the dams in Wisconsin are owned by a former company or private individual, 9% by the State of Wisconsin, 17% by a municipality such as a township or county government and 14% by other ownership types.

The federal government has jurisdiction over most large dams in Wisconsin that produce hydroelectricity - approximately 5% or nearly 200 dams. The Wisconsin Department of Natural Resources regulates the rest of the dams. A dam with a structural height of over 6 feet and impounding 50 acre-feet or more, or having a structural height of 25 feet or more and impounding more than 15 acre-feet is classified as a large dam. There are approximately 1,160 large dams in the State of Wisconsin.

The Wisconsin DNR database lists the following small, uncontrolled agricultural dams included in Dodge County[102]

Dam Official Name	Size	Latitude	Longitude	Owner Type	Waterway Name (Downstream City)
LAKE EMILY	SMALL	43.6324891	-88.9683439	TOWN	OUTLET LAKE EMILY
HANSFIELD	SMALL	43.613548	-88.8588021		TRIB TO ALTO CREEK
NEOSHO	LARGE	43.3113364	-88.5181832	VILLAGE	RUBICON RIVER
THERESA	SMALL	43.5190539	-88.4520978	VILLAGE	ROCK
LOWER WOOLEN MILLS DAM		43.4490188	-88.839743		BEAVER DAM CREEK
HERBERT A. POLSIN , ETUS	SMALL	43.3366477	-88.8204605		DRAINAGE CHANNEL
CAMP CROSS ACRES BOYS CAMP	SMALL	43.2641751	-88.5975178	PRIVATE	TRIB BAKER CREEK
SAYLESVILLE DAM		43.3007133	-88.4382629	PRIVATE	RUBICON RIVER
THERESA MARSH POOL 1	SMALL	43.5359307	-88.4154456	DNR	EAST BRANCH ROCK-TR
POOL ELEVEN	SMALL	43.6114088	-88.6249977	USDI	HORICON MARSH
THERESA MARSH RUNOFF POND A	SMALL	43.5258861	-88.4368585	DNR	TR-E BRANCH ROCK
FRANKFURTH MARSH	LARGE	43.5749489	-88.6444211	USDI	HORICON MARSH
HORICON MARSH-BURNETT	LARGE	43.5100767	-88.675978	DNR	BURNETT DITCH

[102] https://dnr.wi.gov/damsafety/damSearch.aspx

Dam Official Name	Size	Latitude	Longitude	Owner Type	Waterway Name (Downstream City)
CAMELOT COUNTRY CLUB #9 DAM	SMALL	43.5893643	-88.4091068	PRIVATE	
BARCH,KATHLEEN M	SMALL	43.3052379	-88.4385141	PRIVATE	TR-RUBICON RIVER
THERESA MARSH POOL 6	SMALL	43.53526	-88.4229782	DNR	TR-E BRANCH ROCK
USF&WS	SMALL	43.6156038	-88.6066333	USDI	UNNAMED TRIB TO ROCK RIVER
HORICON MARSH I-1	SMALL	43.4654049	-88.6294957	DNR	HORICON MARSH
CAMELOT COUNTRY CLUB #8	SMALL	43.5892388	-88.4102599	PRIVATE	
POOL THREE	SMALL	43.6232075	-88.6654188	PRIVATE	HORICON MARSH
KEKOSKEE	LARGE	43.5287057	-88.565092	PRIVATE	EAST BRANCH ROCK
MIDDLE BEAVER DAM		43.4530361	-88.8382246		BEAVER DAM CREEK
HORICON MARSH I-2	SMALL	43.4709809	-88.6258555	DNR	HORICON MARSH
ALTO CREEK #1, 2 & 3		43.59631	-88.87455	LA	ALTO CREEK
THERESA MARSH POOL 2	SMALL	43.5376899	-88.4160464	DNR	EAST BRANCH ROCK-TR
ROSATI DAM	SMALL	43.5770852	-88.6744936		TRIB TO ROCK RIVER
THERESA MARSH	LARGE	43.5241487	-88.4242195	DNR	EAST BRANCH OF THE ROCK RIVER
MERTEN, WALTER L.	SMALL	43.2666419	-88.5045099	PRIVATE	TR-MUD RUN CREEK
THERESA MARSH POOL 5	SMALL	43.5405872	-88.4158625	DNR	EAST BRANCH ROCK-TR
TALL BOYS	SMALL	43.4235689	-88.5872791	PRIVATE	UNNAMED
HORICON MARSH I-4	SMALL	43.4658652	-88.6102309	DNR	HORICON MARSH
FOX LAKE	LARGE	43.55954	-88.91979	CITY	OLD MILL CREEK
ALDERLY MILL	LARGE	43.2174995	-88.4474006	PRIVATE	ASHIPPUN
KARSTEN NO.1	LARGE	43.475	-88.5922438	PRIVATE	TR-HORICON MARSH
UPPER HORICON	LARGE	43.524082	-88.6445612	USDI	MAIN DITCH
DEDOLPH, CARTER,AND JOYCE	SMALL	43.3964201	-88.9541375	PRIVATE	NONE
UPPER MAYVILLE	LARGE	43.4938235	-88.5428709	CITY	EAST BRANCH ROCK
HORICON MARSH-GREENHEAD	LARGE	43.5076027	-88.5884174	DNR	E.BRANCH ROCK OFFSTREAM
BACHHUBER, M.W.	SMALL	43.5530671	-88.5871066	PRIVATE	TR-EAST BRANCH ROCK RIVER
HORICON	LARGE	43.4461608	-88.6310616	DNR	MAIN DITCH
FOX LAKE SILT POND	SMALL	43.5661555	-88.9136324	TOWN	MILL CREEK
LABROS, ARTHUR	SMALL	43.5888148	-88.5422767	PRIVATE	TR-GILL CREEK
HORICON MARSH EAST DIKE	LARGE	43.4725614	-88.6126935	DNR	HORICON MARSH
FISH CAMP MARSH DAM	SMALL	43.5112863	-88.8695496	DNR	TRIB TO BEAVER DAM LAKE
KARSTEN NO.2	LARGE	43.4298641	-88.5458873	PRIVATE	OLIVER CREEK
POOL EIGHT	SMALL	43.5452876	-88.5987175	USDI	HORICON MARSH
HORICON MARSH-MIESKE	SMALL	43.4951513	-88.6550697	DNR	MIESKE DITCH
POOL TWO	SMALL	43.6260995	-88.6746806	USDI	HORICON MARSH
HEINRICH,WILLIAM	SMALL	43.5542944	-88.5389606		TR-GILL CREEK
ROVICS, JACK	SMALL	43.3617042	-88.7229047	PRIVATE	CASPER CR.

Dam Official Name	Size	Latitude	Longitude	Owner Type	Waterway Name (Downstream City)
WIERSMA	SMALL	43.594072	-88.9865378	PRIVATE	CAMBRA CREEK
HUSTISFORD	LARGE	43.3460073	-88.5985789	VILLAGE	ROCK
JUNEAU ROD & GUN CLUB	SMALL	43.3465181	-88.7125694	PRIVATE	UNNAMED TRIB TO DEAD CREEK
POOL NINE	SMALL	43.5450251	-88.5976976	USDI	HORICON MARSH
LUCK	SMALL	43.5089729	-88.6881662	PRIVATE	UNNAMED TRIB TO SPRING BROOK
THERESA MARSH POOL 4	SMALL	43.5371867	-88.4158107	DNR	EAST BRANCH ROCK-TR
THERESA MARSH RUNOFF POND B	SMALL	43.5134117	-88.3990869	DNR	TR-E BRANCH ROCK
GRANT DAM		43.4129332	-88.8608828	PRIVATE	BEAVER DAM CREEK
MISHLER,ROBERT	SMALL	43.3532405	-88.4255749	PRIVATE	INTERMITTENT TR BUTLER CR.
FURNACE BRIDGE (LOWER MAYVILLE)	LARGE	43.5067803	-88.5416324	CITY	EAST BRANCH ROCK
FOX LAKE CARP BARRIER	SMALL	43.5585928	-88.9203942	DNR	BEAVER DAM
HORICON MARSH - BUCHHUBER				DNR	UNNAMED TRIB TO HORICON MARSH
GIBBS,KENNETH	SMALL	43.5552033	-88.9118235	PRIVATE	INLET BEAVER DAM LAKE
THERESA MARSH POOL 3	SMALL	43.535842	-88.4154333	DNR	EAST BRANCH ROCK-TR
CAMELOT COUNTRY CLUB #7	SMALL	43.5896204	-88.4093897	PRIVATE	UNNAMED TRIB TO LOMIRA CR
UPPER BEAVER DAM	LARGE	43.4543529	-88.8433158	CITY	BEAVER DAM RIVER
LOWELL	LARGE	43.3399519	-88.8192481	VILL	BEAVER DAM RIVER
BEAVER DAM CREEK 3	SMALL	43.4555711	-88.8411276	CITY	BEAVER DAM CREEK
NORWIND FARMS	SMALL	43.2885781	-88.8089261	PRIVATE	UNNAMED TRIB TO BEAVER DAM R.
DANVILLE	LARGE	43.3206402	-88.9535707	PRIVATE	CRAWFISH R
HORICON MARSH-REDHEAD	LARGE	43.5102875	-88.5931782	DNR	E.BRANCH ROCK OFFSTREAM
GIESE,WILLIAM	SMALL	43.5321878	-88.894135	PRIVATE	TR-BEAVER DAM LAKE
HUSTISFORD CANNING COMPANY	SMALL	43.3450915	-88.5976752	VILLAGE	ROCK
CRYSTAL LAKE	SMALL	43.4530863	-88.8029338	CITY	OUTLET OF CRYSTAL LAKE
FRANZ, MARIE	SMALL	43.2666281	-88.5044329		TR-MUD RUN
WIERSMA	SMALL	43.5931496	-88.9858254	PRIVATE	CAMBRA CREEK

Most of these dams are small, mill-type dams under the jurisdiction of the DNR and are also privately owned. None of these dams could handle the volume of water generated by a 100- or 500-year flood without overtopping. These dams are inspected by the Wisconsin Department of Natural Resources (DNR) and the largest are required to have an Emergency Action Plan (EAP) and failure analysis on them. There are no dams in other counties that pose a significant flooding risk to the citizens of Dodge County.

The Wisconsin Department of Natural Resources assigns hazard ratings to large dams within the state. When assigning hazard ratings, two factors are considered: existing land use and land use controls (zoning) downstream of the dam. Dams are classified into three categories that identify potential hazards to life and property downstream should the dam fail. A high hazard indicates that a failure would most probably result in the loss of life. A significant hazard indicates a failure could result in appreciate property damage. A low hazard exists where failure would result in only minimal property damage and loss of life is unlikely. For Dodge County, there are three dams that have a high hazard rating – City of Beaver Dam, Upper Dam; City of Mayville, Upper Mayville; and Town of Theresa, Theresa Marsh. Eight have a significant rating, while the rest are low.

One potential effect of flooding is erosion. Erosion is defined as the removal of soil by the force of waves, currents and/or ice at a lakeshore or streambank or by the power of wind or water on open land. Erosion is a natural process that can be accelerated by natural disasters (e.g., flooding, heavy rains, strong winds, drought) or by human activity (e.g., removal of plants/trees, tilling.) Because of the many waterways in Dodge County, there is concern about ensuring the stabilization of the shorelines.

Watersheds

There are 14 watersheds in three basins covering Dodge County, including the Upper Rock River Basin, the Upper Fox River Basin, and the Milwaukee River Basin. For water resource planning purposes, each river basin is further divided into watersheds. Following is a brief description of each watershed:

Upper Fox River Basin

Lower Grand River Watershed [103]

The Lower Grand River Watershed is located primarily in Green Lake County, but also in Marquette, Columbia and Dodge counties. It is 70,011 acres in size and includes 185 miles of streams and rivers, 1,264 acres of lakes and 13,715 acres of wetlands. The watershed is dominated by agriculture (44%), wetlands (19%), forest (17%) and

[103] https://dnr.wi.gov/water/watershedDetail.aspx?key=924855

grassland (14%) and is ranked high for nonpoint source issues affecting groundwater.

Milwaukee River Basin

East and West Branches Milwaukee River Watershed [104]

The Milwaukee River East-West Watershed covers 266 square miles and is located in portions of Dodge, Fond du Lac, Ozaukee, Sheboygan, and Washington counties. The East and West Branches of the Milwaukee River meet the Milwaukee River mainstream near the Village of Kewaskum in Washington County. The Milwaukee River then runs south and east to western Ozaukee County where this watershed meets the Milwaukee River South Watershed.

Upper Rock River Basin

Ashippun River Watershed [105]

The Ashippun River watershed lies in Dodge, Washington and Waukesha counties. Its tributaries include Mud Run, Dawson Creek and Davey Creek, a tributary to the Rock River. Agriculture is the primary land use (57%).

Beaver Dam River Watershed [106]

The Beaver Dam River Watershed is located primarily in Dodge County, with small segments lying in Columbia, Green Lake and Fond du Lac Counties. As in the basin's other watersheds, land use is primarily agricultural (64%), with dairy farming and cash grain cropping predominant.

Calamus Creek Watershed [107]

This small watershed in west central Dodge County consists only of Calamus Creek and has no municipal wastewater dischargers. Land use in the watershed is 67% agricultural and wetlands cover 18%. There are no municipalities in the Calamus Creek Watershed.

East Branch Rock River Watershed [108]

The East Branch Rock River Watershed lies directly to the east of Horicon Marsh, with the western portion of the watershed in Dodge County and the eastern portion in Washington County. The primary land use in the watershed is agriculture (66%). Theresa Marsh

[104] https://dnr.wi.gov/water/watershedDetail.aspx?key=924834
[105] https://dnr.wi.gov/water/watershedDetail.aspx?key=924759
[106] https://dnr.wi.gov/water/watershedDetail.aspx?key=924754
[107] https://dnr.wi.gov/water/watershedDetail.aspx?key=924755
[108] https://dnr.wi.gov/water/watershedDetail.aspx?key=924761

Wildlife Area and Allenton Wildlife Area are large wetland complexes in the watershed. The East Branch of the Rock River meanders through almost the entire width of the watershed, approximately 45 miles. The East Branch of the Rock River is the primary source of water for part of Horicon Marsh and is also the main source of sediment loading to the marsh. Many creeks in the watershed exhibit good visual water quality, but polluted runoff impairs potential uses.

Lower Crawfish River Watershed [109]

The Lower Crawfish River watershed includes the Crawfish River and all its tributaries from the dam at Columbus downstream to its confluence with the Rock River at Jefferson. Its watershed, about 172 square miles, is predominately agricultural (70%). The City of Lake Mills lies in the watershed as do portions of the cities of Columbus and Jefferson.

Maunesha River Watershed [110]

The Maunesha River Watershed is located in Dane, Dodge and Jefferson counties. Agriculture is the dominant land use (70%) and polluted agricultural runoff is thought to be the primary water quality concern. The watershed has two state wildlife areas, the Waterloo Wildlife Area and the Deansville Marsh Wildlife Area. The draining of land for agriculture over the last 150 years has reduced the quality and extent of wetlands in the watershed.

Middle Rock River Watershed [111]

The Maunesha River Watershed is located in Dane, Dodge and Jefferson counties. Agriculture is the dominant land use (70%) and polluted agricultural runoff is thought to be the primary water quality concern. The watershed has two state wildlife areas, the Waterloo Wildlife Area and the Deansville Marsh Wildlife Area. The draining of land for agriculture over the last 150 years has reduced the quality and extent of wetlands in the watershed.

Oconomowoc River Watershed [112]

The Oconomowoc River Watershed drains approximately 128 square miles encompassing portions of Dodge, Jefferson, Washington and Waukesha counties. The Oconomowoc River, the principal stream draining the watershed, rises in Section 10, Town of Richfield, Washington County, where it is formed by the confluence of farm ditches and drainage from field tiles. From its source, the river

[109] https://dnr.wi.gov/water/watershedDetail.aspx?key=924857
[110] https://dnr.wi.gov/water/watershedDetail.aspx?key=924858
[111] https://dnr.wi.gov/water/watershedDetail.aspx?key=924914
[112] https://dnr.wi.gov/water/watershedDetail.aspx?key=924758

flows in a southwesterly direction through six major lakes for approximately 49 miles before entering the Rock River in the Town of Ixonia, Jefferson County.

The land use in the watershed is distributed as follows: 41% agricultural, 6% urban, 16% forest, and 13% wetland. Major lakes in the watershed include Friess Lake in Washington County, and Beaver, Fowler, Lac LaBelle, Keesus, Moose, North, Oconomowoc, Okauchee, Pine and Silver lakes in Waukesha County.

Other than the Oconomowoc River, major streams include Coney Creek, Flynn Creek, Little Oconomowoc River and Mason Creek in Washington County; Battle Creek, Little Oconomowoc River, Mason Creek and Rosenow Creek in Waukesha County; and Battle Creek in Jefferson County.

Rubicon River Watershed [113]

The Rubicon River watershed is in Dodge and Washington Counties. The primary land use is agricultural (59%), although some urbanization is occurring near Hartford and Slinger, the only municipal wastewater dischargers in the watershed.

Sinissippi Lake Watershed [114]

The Sinissippi Lake watershed is a large watershed, about 237 square miles, which includes the mainstream of the Rock River from the dam at Horicon downstream to the Watertown dam and all the streams which flow into the Rock in this reach. Land use is predominantly agricultural (67%). The watershed includes most of the city of Horicon, about half the City of Watertown, and the communities of Iron Ridge, Juneau, Hustisford, Clyman, Lebanon and Ixonia.

Upper Crawfish River Watershed [115]

This 164-square mile watershed contains the Crawfish River above the dam at Columbus and the entire North Branch of the Crawfish River. The major land use (73%) in the watershed is farming - either dairying, cash crops or feeder animals - similar to the other watersheds in the Upper Rock River Basin. The communities of Columbus, Fall River and Doylestown are also within its boundaries.

[113] https://dnr.wi.gov/water/watershedDetail.aspx?key=924860
[114] https://dnr.wi.gov/water/watershedDetail.aspx?key=924859
[115] https://dnr.wi.gov/water/watershedDetail.aspx?key=924756

Upper Rock River Watershed [116]

The Upper Rock River Watershed is divided roughly in half by a county boundary, with the northern portion of the watershed in Fond du Lac County and the southern portion in Dodge County. This watershed encompasses approximately 258 square miles and includes 335 total stream miles, 1,629 total lake acres, and 40,443 total wetland acres. Wetlands and lakes make up 25% of the water resources in the watershed. The dominant water resources in this watershed are both the West and South branches of the Rock River as well as all of Horicon Marsh. The primary land use is agricultural (59%), but urbanization continues to grow.

Floodplain Regulations

Floodplain regulations have been in place in the cities, villages and towns of Dodge County for many years. The Department of Natural Resources requires that each municipality approve regulations that meet DNR guidelines. These regulations and guidelines result from the value of Wisconsin lakes and waterways and a desire to preserve them and to protect the people who reside near them. Unregulated development can lead to loss of lives and property during floods.

Chapter 614, Laws of Wisconsin 1965, requires counties to adopt regulations giving all lands within 300 feet of navigable rivers or streams protection from haphazard development. Under this legislation, Dodge County has adopted a zoning ordinance which gives a measure of protection to watersheds. The law protecting flood plains was created to meet the following objectives:

- Reduce the hazards to life and property from flooding.
- Protect flood plain occupants from a flood which is or may be caused by their own land use, which is or may be undertaken without full realization of the danger.
- Protect the public from the burden of extraordinary financial expenditures for flood control and relief.

Encroachment on flood plains, including structures or fill, reduces the flood-carrying capacity.

[116] https://dnr.wi.gov/water/watershedDetail.aspx?key=924760

Frequency of Occurrence

Wisconsin has experienced several major floods during the last two decades. The 1973 and 1986 floods revealed that no flood plains or urban areas in Wisconsin can be considered safe from damages. Mill-dams have developed leaks on occasion but have not caused any flooding problems.

Dodge County does have a history of flooding problems, especially along the approximately 405 miles of streams and rivers in the county. Dodge County has been included in six Presidential Disaster Declarations requests for flooding, the most recent of which are detailed below: [117]

- FEMA-DR-994: On July 2, 1993, the President declared a major disaster as a result of flooding, severe storms, and tornadoes that occurred between June 7 and Aug 25, 1993. The declaration was granted for both Public and Individual Assistance as well as Hazard Mitigation.
- FEMA-DR-1332: On June 24, 2000 the President declared a Major Disaster as a result of severe storms, tornadoes, and flooding that occurred between May 26 and July 19. The declaration was granted for both Public and Individual Assistance as well as Hazard Mitigation.
- FEMA DR-1526: On June 18, 2004, the President declared a major disaster as a result of severe storms and flooding that began on May 7th. Dodge County was eligible for both Public and Individual Assistance as well as Hazard Mitigation.
- FEMA 1768-DR-WI: On June 14, 2008, the President declared a major disaster as a result of severe storms, tornadoes and flooding that began on June 5. Dodge County was eligible for both Public and Individual Assistance as well as Hazard Mitigation.

The following list summarizes damages attributed to flooding in Dodge County by the National Flood Insurance Program through 10 August 2020:

[117] https://www.fema.gov/disasters

Dodge County NFIP Loss Claims				
Jurisdiction	**Total Loss**	**Closed Loss**	**Closed Without Payment**	**Total Payments**
City of Beaver Dam	1	0	1	$0.00
Dodge County	18	9	9	$62,311.89
City of Hartford	3	1	2	$268,265.58
City of Mayville	10	7	3	$19,600.12
Village of Theresa	3	3	0	$9,124.97
City of Watertown	22	18	3	$181,323.98
City of Waupun	15	12	3	$73,545.81

There was one repetitive loss property through 27 July 2020. The property is a single-family residential structure in the City of Mayville with two claims totaling $10,994.00. The total NFIP claims shown above include the repetitive loss property.

Tables showing the flood and flash flood events recorded by the National Weather Service can be found in Appendix B. A careful review of the geography and history of flooding in Dodge County leads to the conclusion that there is a high probability of flooding in the future and a high probability of damage and losses due to flooding. This flooding could occur due to urban stream flooding, flash flooding or, less likely, due to a dam failure. It was also determined that there was a low probability of a dam break in the county and a low probability of damage and losses due to a dam break.

Vulnerability

After flooding, whether caused by a storm or dam failure, there is often damage. Potential vulnerabilities due to flooding events can include flooded public facilities and schools, many of which are the community's shelters needed when individual housing is uninhabitable. Utilities are also vulnerable in floods, which can bring

down electric lines/poles/transformers, telephone lines and can disrupt radio communications. The loss of communications can impact the effectiveness of first response agencies, which need to communicate via two-way radio to mount emergency response and recovery activities. The public media communications utilized by emergency managers to provide timely and adequate emergency public information can also be impacted.

Residential structures may suffer from flooded basements, damaged septic systems and damaged functionals (e.g., HVAC systems, clothes washers and driers). Homes may also be impacted by sewer back-up and, if the home is not properly cleaned after a flood, bacterial growth and mold may impact the home's air quality and cause illness among the occupants.

Businesses can suffer building and equipment damage similar to homes. Businesses may lose expensive product stored in basement or other low areas as well as the ability to operate from their facility. If the facility must close, its owners and employees will most likely suffer economic hardships beyond what their personal losses may have entailed. Agricultural business losses involve the loss of standing crops and harvests that are damaged by flooded storage facilities in the immediate time period. On a longer time scale, the erosion of rich topsoil by floodwaters can degrade the land and impact future crop yields.

Perhaps one of the most expensive types of flood damage is that to roadways, which are washed out, inundated and/or covered by debris, blocking access to emergency and general public traffic.

Appendix A contains maps depicting the floodplain in Dodge County. Appendix F contains excerpts from the Dodge County HAZUS report. HAZUS-MH uses state-of-the-art geographic information system (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. FEMA HAZUS-MH data were used to estimate the number of structures located within the one-percent chance, or 100-year floodplain, based upon Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA), the results of which are outlined in the report.

Hazard Mitigation Strategies

Dodge County is committed to remaining compliant with the requirements of the National Flood Insurance Program (NFIP) and all other state and federal laws. According to the NFIP, the following communities participate in the program. Notes to the side indicate information from the communities regarding their understanding of their participation.

- Dodge County. Please note that the county participation covers the unincorporated municipal areas (i.e., the towns).

- Cities of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Mayville, Watertown and Waupun.

- Villages of Brownsville, Hustisford, Iron Ridge, Kekoskee, Neosho, Reeseville and Theresa.

There are no areas in Dodge County which have had special flood areas identified by FEMA but are not in the NFIP program. One hazard mitigation strategy selected is to inform the public about the availability of flood insurance; this task will be carried out by Dodge County Emergency Management.

The plan is intended to identify areas that are particularly susceptible to flooding, assess the risks, analyze the potential for mitigation and recommend mitigation strategies where appropriate. The goals of this plan are:

- Goal 1: To reduce, in a cost-effective manner, the loss of lives and property due to these events. Another part of this goal is to promote safety and health in areas that have been or are prone to be flooded.
- Goal 2: To preserve and enhance the quality of life throughout Dodge County by identifying potential property damage risks and recommending appropriate mitigation strategies to minimize potential property damage during/due to flooding.
- Goal 3: To promote countywide planning that avoids transferring the risk from one community to an adjacent community.
- Goal 4: To ensure that all communities in Dodge County participate in the NFIP so that all county residents have access to affordable flood insurance coverage.
- Goal 5: To identify potential funding sources for mitigation projects and form the basis for project grant applications

through FEMA's Pre-Disaster Mitigation (PDM) and/or Flood Mitigation Assistance (FMA) programs.

Short term actions that can lessen the effects of flooding include:

- Issuance of early warnings through flood advisory bulletins,
- Dissemination of instructions to the public through the media.
- Preparation of congregate care facilities.
- Evacuation of people and property.

Temporary protective measures such as sandbagging, protection of buildings and other structures and cut-off of gas and electricity may also be implemented. Presently, Dodge County has quick access to a limited stock of sandbags to assist with flood containment.

The current emphasis in flood mitigation is on long-range actions. Such actions include the adoption of proper floodplain zoning ordinances and land-use planning. There are several communities within the county engaged in a comprehensive planning process. The county is involved with these communities and their processes to ensure data sharing and consistency among the communities.

There is a need for ongoing review and updating of some of the flood-related data, information and projects in the county including:

- Continue updating GIS mapping data on the planned five-year cycle.
    - Maintain topographic maps for purpose of current information inclusive of updated aerial photography.
    - Update orthophotos (aerial photography).
    - Complete new LIDAR flight for updated elevations.

The Dodge County Emergency Management Office disseminates public information materials related to flooding and the National Flood Insurance Program (NFIP) and will continue to have printed information as well as links to applicable sites on their webpage. The county and municipal zoning offices will also work together to ensure

that floodplain ordinance outreach within the community continues and to ensure that homeowners and builders follow floodplain regulations.

Dodge County has a history of expensive damage to buildings and infrastructure due to floods. In addition to the strategies listed above that deal with public information and planning, the community can make current and future buildings and infrastructure more disaster-resistant by:

- Using its maps and hydrology studies to ensure that properties at risk are identified and, as available, appropriate grants are sought and secured to mitigate losses. Good data also ensures that decision-makers can create and enforce appropriate zoning and/or building regulations to make any new structures disaster-resistant.

- Looking for acceptable (environmentally, socially, cost-benefit, politically, etc.), permanent solutions for removing water from flood-prone areas. Seek out funding sources (grants) to execute solutions. Some of the potential solutions may include acquisitions, demolitions, floodproofing or moving water to surface streams.

- Pre-identifying infrastructure (roads, bridges, culverts, shoulders) prone to flooding and directing current and future budgetary dollars towards making the infrastructure disaster-resistant as it is scheduled for routine maintenance. Also performing preventative maintenance in areas of concern. Areas of concern include:

    - Dodge County

        - Develop, review and update dam break analysis and Emergency Action Plans as needed or required by DNR. There is one high risk dam and two significant risk dams in the county.

        - Conduct a pipe inventory to identify undersized pipes.

    - City of Beaver Dam

        - Explore options for properly mitigating flood-prone properties in the city.

- Conduct dam break analysis and EAP for City Dam.

- City of Juneau
  - Address flooding concerns during repair of S Mills St and Lincoln Ave.
  - Explore options concerning flooding issues involving a ditch along Wild Goose Trail in the CI of Juneau.

- City of Waupun
  - Address flooding concerns for Harris Mill Creek. Obtain hydrology/flow study to determine where water is originating.
  - Explore possibility of diverting water to Department of Corrections land from Beaver Dam St to ease flooding concerns.

- Village of Clyman
  - Reline sewers in town.

- Village of Hustisford
  - Review dam break analysis and Emergency Action Plan. Revise if needed.
  - Evaluate and complete drainage and erosion mitigation projects outlined in the Hustisford Lake District Project.

- Village of Iron Ridge
  - Reline sewer system for Main St and adjoining streets.
  - Explore options to alleviate multiple concerns stemming from 101-year-old train trestle.

- Village of Kekoskee
  - Explore options (ex. dam break analysis) for Lechner's Dam, a private dam in the village.

- Village of Neosho
    - Continue to regularly inspect Neosho Dam. Revisiting and revising EAP when needed.
- Town of Fox Lake
    - Explore options to resolve spring flooding issues to15-20 properties on North side of Fox Lake.
- Town of Herman
    - Explore options to address road flooding issues.
- Town of Lebanon
    - Seek opportunities to discuss repeated road flooding.
- Town of Lomira
    - Explore and resolve stormwater management problem at 600 block of E Ave.

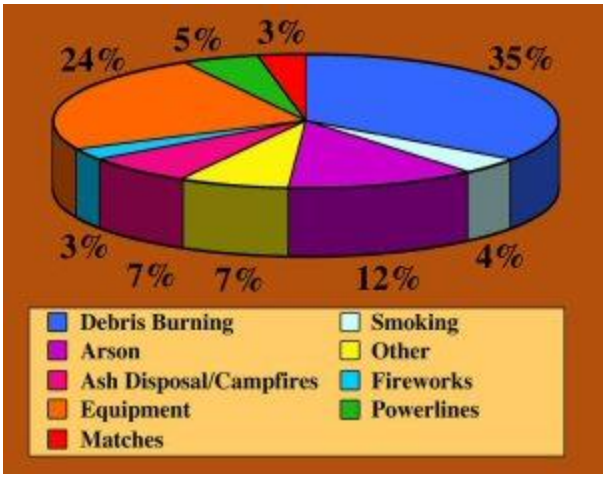
Fires (Grassfires and Wildfires)

The grassfire and wildfire (fires on open or agricultural land) season in Dodge County begins in March and continues through November, although fires can occur at any time during any month of the year. Generally speaking, however, fires are more likely to occur whenever vegetation is dry as a result of a winter with little snow or a summer with sparse rainfall.

The Wisconsin Department of Natural Resources (DNR) is responsible for forest fire protection on approximately 18 million acres of forest and wild land in Wisconsin. The U.S. Forest Service maintains forest fire protection on two million acres of this land while local fire departments retain responsibility for the remaining wooded acreage.

Physical Characteristics

The Wisconsin DNR has previously reported that approximately 1,500 fires annually burn over 5,000 acres of the land that they protect; over 90% of these fires are human-caused. It should be noted that these figures do not include areas of the state where a local fire department has primary responsibility for service.



There are six state natural areas, five state wildlife areas, one national wildlife area, five county parks and a recreational trail located in Dodge County. Local fire departments are responsible for

fire protection in these open acreage areas although state firefighting assets would provide mutual aid assistance in the state-owned lands.

Frequency of Occurrence

While the total number of open fires in Wisconsin has decreased over the years, the potential danger to lives and property remains due to the increased encroachment of development into previously open lands. Overall, the probability for a forest fire or wildfire in Dodge County is medium. The probability of damage from forest or wildfire is considered low for people and medium for the environment.

There has been one statewide wildfire event recorded since 1950 by the National Weather Service. This event occurred on 23 April 1994 and caused no injuries or deaths but did cause $500,000 in crop and property damage (each).

Since the fire in 1994, there has been one wildfire in Dodge County on Oct 1, 2006. It caused no injuries or deaths and no crop or property damage.

Vulnerability

Grassfires and wildfires can impact the ecology of the open lands. Dodge County has six state natural areas: Fourmile Island Rookery, Waterloo Prairie, Mayville Ledge Beech-Maple Woods, Waterloo Quartzite Outcrops, Chub and Mud Lake Riverine Marsh and Chub Lake Oak Savanna. The county has five state wildlife areas: Westford, Shaw Marsh, Mud Lake and Waterloo and Horicon Marsh, which is also a national wildlife refuge. It has five county parks: Horicon Ledge, Derge, Astico, Nitschke Mounds and Harnischfeger and a recreational trail: Wild Goose State Trail. All would be impacted by a wildfire since a disruption from fire could erase the usability of this habitat for wildlife and/or recreational purposes for many years.

In 2003, the National Association of State Foresters produced a Field Guidance for Identifying and Prioritizing Communities-at-Risk (CAR). The purpose of the guide was to provide states with a nationally consistent approach for assessing and displaying the risks to communities from wildfire. The DNR, in cooperation with its federal and tribal partners, began working on the statewide assessment of Communities-at-Risk in 2004.

Communities-at-Risk is a model to identify broad areas of the state that are at relatively high exposure to resource damage due to wildfire. Results of the model can then be used by local governments developing Community Wildfire Protection Plans (CWPP) and by the DNR to reduce local risks of wildland fire by prioritizing hazard mitigation and fire protection efforts.

The approach used in this risk assessment model is based on the "Methodology" section of the NASF Field Guidance document which recommends assessing and mapping four factors:

- Historic Fire Occurrence
- Hazard
- Values Protected
- Capabilities

Modifications to this methodology were made to fit the GIS mapping data layers available for Wisconsin. The Wisconsin DNR uses three factors to assess Communities-at-Risk to wildfire damage:

- Hazard – the relative likelihood that an ignited wildfire will achieve sufficient intensity to threaten life or property based on land cover type and historic fire regime.
- WUI (Values at Risk) – the relative vulnerability of each 2000 census block to wildfire damage based on housing density and spatial relationship with undeveloped vegetation based on housing density and proximity to vegetation (Wisconsin's Wildland-Urban Interface). Wisconsin's WUI was layered with a weighted vegetation layer to accentuate proximity to flammable vegetation.
- Ignition Risk – the relative likelihood of a wildfire ignition within a given 30-m pixel based on historic fire occurrence, population density and proximity to a potential ignition source.

Models were developed in GIS to create statewide grids representing each of the three weighted {Hazard (40%), WUI (30%) and Risk (30%)} inputs. This composite grid represents communities-at-risk (CAR) on a 0-9 scale of threat, with zero representing no threat and nine a very high threat. The data was then represented by municipal civil divisions (MCDs), which are city and village boundaries. Quantitative markers were assigned for five threat levels: very low, low, moderate, high and very high and those MCDs determined to have a high or very high threat of wildfire were considered CARs. 337 communities met the requirements for being "at risk."

Communities in Wisconsin vary considerably in size. This is particularly evident in a north-south pattern, with larger more rural towns in northern Wisconsin and smaller, more urban towns in southern Wisconsin. Because of this variation in size, the potential for missing areas of high risk due to smoothing out by other parts of the town was greater for larger towns. For this reason, WI DNR incorporated a "Community of Concern" category to identify those towns that have portions of their town in high risk of wildfire but were not otherwise included as a Community-at-Risk. A Community-of-Concern was determined to be an area of at least two contiguous square miles at high or very high risk; 237 communities were named as Communities-of-Concern.[118]

As can be seen on the map in Appendix A, in Dodge County, there are no communities that were identified as Communities at Risk (High or Very High) or Community-of-Concern. [119]

Hazard Mitigation Strategies

Government at all levels is developing mitigation programs in fire control and firefighting tactics with the goal of protecting lives and property from loss due to grassfire and wildfire. Local fire departments attend regular trainings on firefighting tactics to keep their skills honed. The County Emergency Management Office assists local departments and their staff with available grant applications for training, exercising, equipment and planning as able and requested.

The emergency management office also partners with the local fire departments to provide information on the County Emergency Management website about fire safety and other mitigation strategies to the public (e.g., protecting structures from wildfires, ask people not to burn combustibles), especially during Fire Safety Week in October of each year.

The Wisconsin Department of Natural Resources (DNR) has a service center and a field station in Horicon. If there was a large wildfire for which local firefighters would request state assistance, the DNR may be able to provide limited assistance based upon their deployment level at that time.

[118] Wisconsin State Hazard Mitigation Plan
[119] https://dnr.wi.gov/topic/forestFire/documents/communitiesAtRiskWildfire.pdf

County Emergency Management will also partner with local fire departments to conduct outreach to stakeholders about preventing and managing wildfires caused by railroads.

The hazard mitigation strategies listed above primarily involve providing information on general fire safety measures to the public for residential and commercial structures and providing ongoing training to the firefighters who fight these types of fires. These measures provide basic fire safety information but, since Dodge County has few forested areas (primarily parks and other non-inhabited recreational areas) and most open areas are utilized for agriculture with no buildings or infrastructure on them, there is no need to have measures designed to reduce damages to existing or future

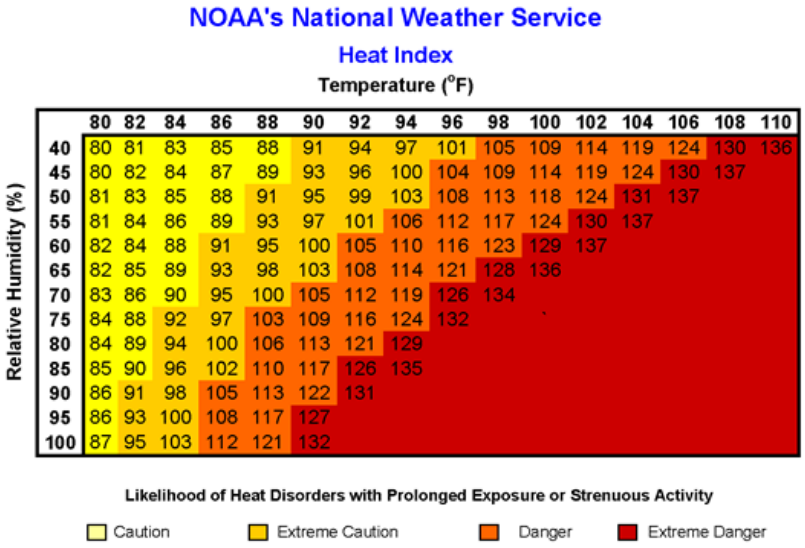
Severe Temperatures

Characteristics

Temperature extremes can cause disruption of normal activities for the population, property loss and even the loss of life, especially among the more vulnerable members of our population such as children and the elderly.

Physical Characteristics: Heat

Heat emergencies are a result of the combination of very high temperatures and very humid conditions.



The Heat Index estimates the relationship between these two conditions and reports them as a danger category, as can be seen in the following table. [120]

[120] FEMA, 1997; NWS, 1997

Heat Index and Disorders Table			
Danger Category		**Heat Disorders**	**Apparent Temperatures [°F]**
IV	Extreme Danger	Heatstroke or sunstroke imminent.	>130
III	Danger	Sunstroke, heat cramps, or heat exhaustion likely; heat stroke possible with prolonged exposure and physical activity.	105-130
II	Extreme Caution	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity.	90-105
I	Caution	Fatigue possible with prolonged exposure and physical activity.	89-90

The major risks to people due to extreme heat are:

- Heatstroke – a potentially lethal medical emergency where the ability of a person to thermo-regulate is compromised resulting in the rise of the body's core temperature to above 105°F (Fahrenheit).

- Heat Exhaustion – a less threatening medical condition where the victim complains of dizziness, weakness and/or fatigue. The victim may have a normal or slightly elevated temperature and usually can be successfully treated with fluids.

- Heat Syncope – a sudden "faint" or loss of consciousness usually brought on by exercising in warmer weather than one is accustomed to, usually no lasting effect.

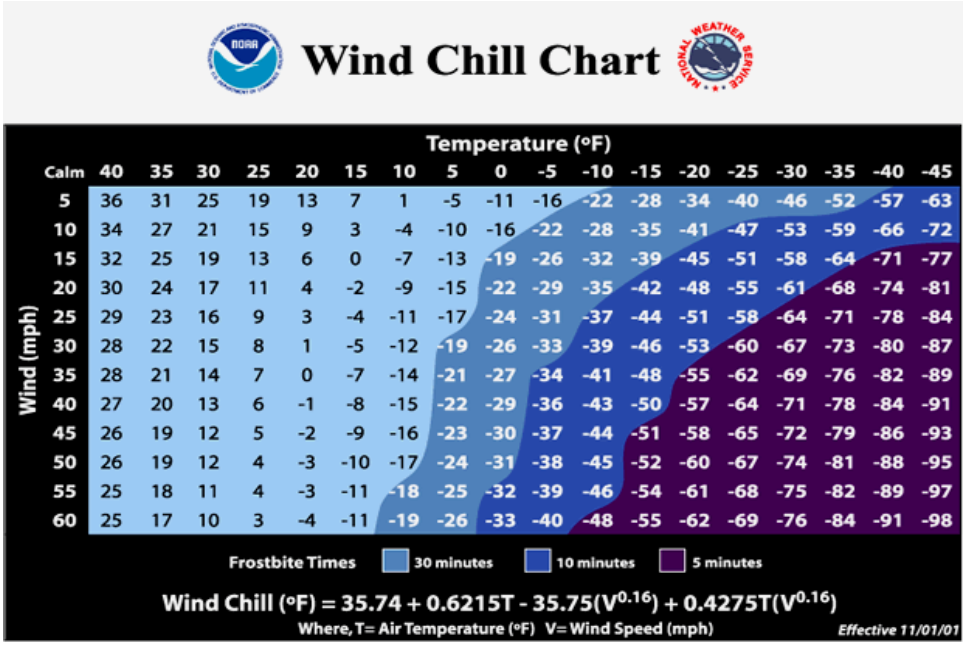
- Heat Cramps – muscular cramping brought on by exercising in warmer weather than one is accustomed to, no lasting effect.

Extreme heat conditions may also affect pets and livestock, decreasing agricultural output by the latter. Crops may suffer reduced yield due to extremely hot conditions.

Physical Characteristics: Cold

Wind chill is a relationship between wind and cold that is based on the rate of heat loss from exposed skin. As the wind speed increases, heat is drawn from the body, driving down skin

temperature and eventually core body temperature. The following table illustrates this relationship.[121]



The major risks to people due to extreme cold are:

- Hypothermia – occurs when, due to exposure to cold, the body is unable to maintain its proper core temperature. It may occur in temperatures above freezing and may lead to death.

- Frostbite – describes local cooling, usually to an extremity, which occurs when exposure to cold air or liquid causes constriction of the blood vessels. There are three degrees of frostbite:

    - Frostnip – brought on by direct contact with a cold object or exposure to cold air or water. Tissue damage is minor and response to treatment is usually very good.

    - Superficial Frostbite – involves the skin and subcutaneous layers.

[121] https://www.weather.gov/safety/cold-wind-chill-chart

  - Freezing – is deep frostbite in which the skin, subcutaneous layers and deeper structures (e.g., muscles, bone, deep blood vessels, organ membranes) of the body are affected and can become frozen.

- Chilblains - lesions that occur from repeated/chronic exposure of bare skin to temperatures of 60°F or lower.

- Trench foot – a condition that occurs when the lower extremities remain in cool water for a prolonged period of time.

Frequency of Occurrence: Heat

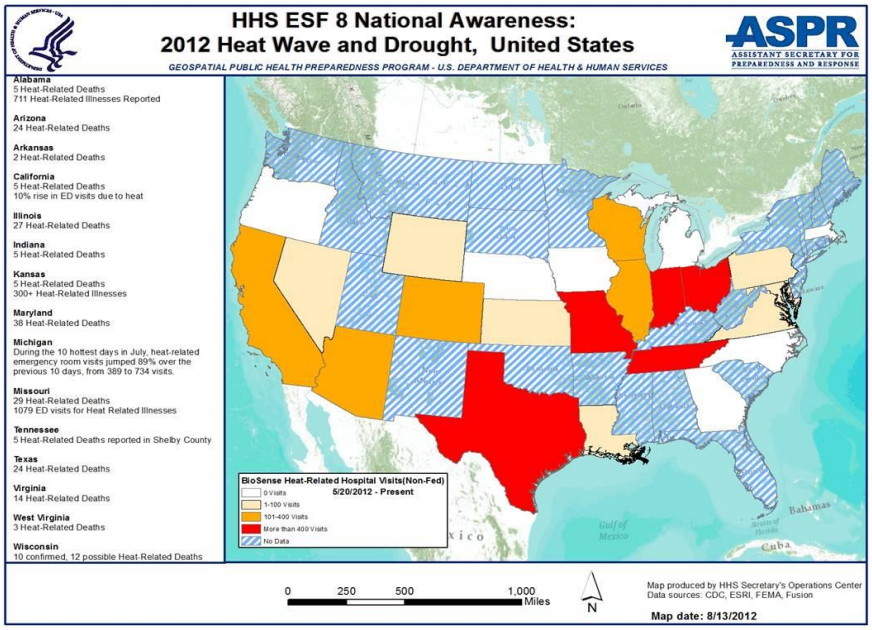
Wisconsin has been affected by several bouts of extreme heat including during the Dust Bowl period from 1934-1936. Other heat events occurred in 1979, 1995, 2001, 2011 and 2012.

Tables showing the excessive heat and heat events recorded by the National Weather Service in Dodge County [122] can be found in Appendix B.

It should be noted that during the summer of 2012 much of the country, including Dodge County, experienced a heat wave, resulting in significant droughts across more the half the country as well as increases in heat related illnesses and deaths. July was the hottest month in US history, eclipsing the record set during the heart of the Dust Bowl in 1936. The worst of the heat was in the Midwest, the Plains and along the Eastern Seaboard. Most of the contiguous US had record and near-record warmth for the seven-month period, except the Pacific Northwest, which was near average.

With the increase in heat-related illnesses comes an increase in emergency department (ED) admission across the country. Dehydration, heat exhaustion and heat stroke were the most common cause for patients' heat-related ED admissions. Most heat-related visits occurred in patients between the ages of 19 and 70. In Wisconsin, there were ten confirmed and possibly 12 heat-related deaths.[123]

[122] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN
[123] 2012 Heat & Drought Federal Report, HHS ESF 8, UPDATE #2, U.S. Department of Health and Human Services, Assistant Secretary for Preparedness and Response



According to the State of Wisconsin Hazard Mitigation Plan, extreme heat is the number-one weather killer in Wisconsin with most of the heat deaths attributed to major heat waves. As can be seen by the historical tables, Dodge County, like the rest of the state, is likely to experience extreme heat events every two to three years with extended, major heat waves occurring about every two decades.

The workgroup therefore felt that there was a high likelihood of occurrence in any given year. The committee also felt that the loss of property, primarily crop and livestock output has a medium likelihood of occurring in a drought year. The loss of life or injury to people has a medium likelihood of occurrence for the general population but the committee recognized that the likelihood increases for certain populations such as the elderly, chronically ill, children, those who work outdoors and those with limited financial resources (i.e., to pay for heating and air conditioning).

Frequency of Occurrence: Cold

Wisconsin regularly has extreme cold temperatures as part of its winter climate. Tables that outline extreme cold/wind chill and

cold/wind chill events which have been recorded by the National Weather Service in Dodge County[124] can be found in Appendix B.

After examining this data, the workgroup believed that cold and/or extreme cold has a high likelihood of occurrence in any given year. Since there are no crops out during the winter and most properties (homes, businesses, barns) are insulated for this climate, the loss of property due to temperature extremes is medium although individuals may suffer damage due to water main breaks and other such problems. They further believed that the loss of life or injury to people has a medium likelihood of occurrence among the general population when there are cold/extreme cold weather events. Again, the workgroup recognized that people who work outdoors, who have limited financial resources, the elderly, the young and the chronically ill have a higher risk profile.

Vulnerability

There has been a trend toward higher temperatures that is expected to continue. As with drought, periods of high temperatures can cause decreased poultry and bovine production rates, which impact the economy of the community's large agricultural base.

More frequent and longer sub-zero stretches have been noted during the winter. These, coupled with concerns about utility failures, can disrupt agriculture, particularly with water supply disruption and with wind chill effects posing a risk to livestock and farmer health. Temperature extremes also pose significant problems for functional needs populations such as the elderly, the young, and the disabled. The primary general effects of extreme cold consist of water lines and mains freezing and breaking, disrupting water supply; shutting down of rural bus lines due to safety risks for children; and school closings, most often due to wind chill concerns.

Vulnerability to temperature extremes is generally assessed on an individual basis with the most vulnerable sections of our community's population having the greatest risk. These people may include the elderly, the very young and the chronically ill. People from economically disadvantaged backgrounds, especially those listed in the categories above, are even more vulnerable since they are least able to afford the cost of adequate heating or air conditioning systems.

[49 & 124] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

The Dodge County social services agencies are aware of many of these people who reside in our communities and they, along with the public health department, have plans and access to economic assistance programs to help these people in times of concern.

Hazard Mitigation Strategies

The goal of severe temperature mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. Temperature extremes are difficult for a community to mitigate and the risks are to the health and safety of citizens, animals and crops. There are no strategies that need to be employed to reduce damages to buildings and infrastructure.

Dodge County Emergency Management participates in the statewide public information campaigns for Winter and Heat Awareness Weeks each year in spring and fall and they provide links to personal preparedness information on their website. Emergency Management also has plans to support emergency sheltering operations and the Dodge County Human Services Department has a protocol to open sheltering services for citizens in need during periods of severe temperatures. The county and its municipal and private sector partners will continue to review, update and support these projects over time.

Sinkholes and Radon

A sinkhole is a natural depression or hole in the Earth's surface which may have various causes. Some are naturally caused by karst processes (e.g., the chemical dissolution of carbonate rocks such as limestone) or suffusion processes in sandstone. Others are formed as a result of human activities such as in the collapse of old mine workings close to the surface. Sinkholes may vary in size from 3.3 to 2,000 feet (both in diameter and depth) and vary in form from soil-lined bowls to bedrock-edged chasms. Sinkholes may be formed gradually or suddenly and are found worldwide.[125]

Radon is a chemical element with symbol “Rn” and atomic number 86. It is a radioactive, colorless, odorless, tasteless noble gas, occurring naturally as an indirect decay product of uranium or thorium. Its most stable isotope, ^{222}Rn, has a half-life of 3.8 days. Radon is one of the densest substances that remains a gas under normal conditions. It is also the only gas under normal conditions that only has radioactive isotopes and is considered a health hazard due to its radioactivity.[126]

Physical Characteristics

Sinkholes can form naturally in areas with karst geology (i.e., areas with limestone or other bedrock that can be dissolved by water). As the limestone rock under the soil dissolves over time from rainfall or flowing groundwater, a hollow area may form underground into which surface soil can sink. Sinkholes also can be caused by human activity such as collapsed, abandoned underground mines. Even though sinkholes have not been a factor in any natural disaster in Wisconsin, identifying areas with karst conditions is important for not only public safety and protection of structures but because karst features provide direct conduits to groundwater. Areas with karst conditions are vulnerable to groundwater contaminants from pollutants entering a sinkhole, fissure or other karst feature.

[125] https://en.wikipedia.org/wiki/Sinkhole
[126] https://en.wikipedia.org/wiki/Radon

Enlarged fracture in Brown County, WI

Radon is formed as one intermediate step in the normal radioactive decay chains, through which thorium and uranium slowly decay into lead. Thorium and uranium are the two most common radioactive elements on earth; they have been around since the earth was formed. Their naturally occurring isotopes have very long half-lives, (i.e., billions of years). Thorium and uranium, their decay product radium, and its decay product radon, will therefore continue to occur for tens of millions of years at almost the same concentrations as they do now. As radon itself decays, it produces new radioactive elements called radon daughters or decay products. Unlike the gaseous radon itself, radon daughters are solids and stick to surfaces, such as dust particles in the air. If such contaminated dust is inhaled, these particles can stick to the airways of the lung and increase the risk of developing lung cancer.

Frequency of Occurrence

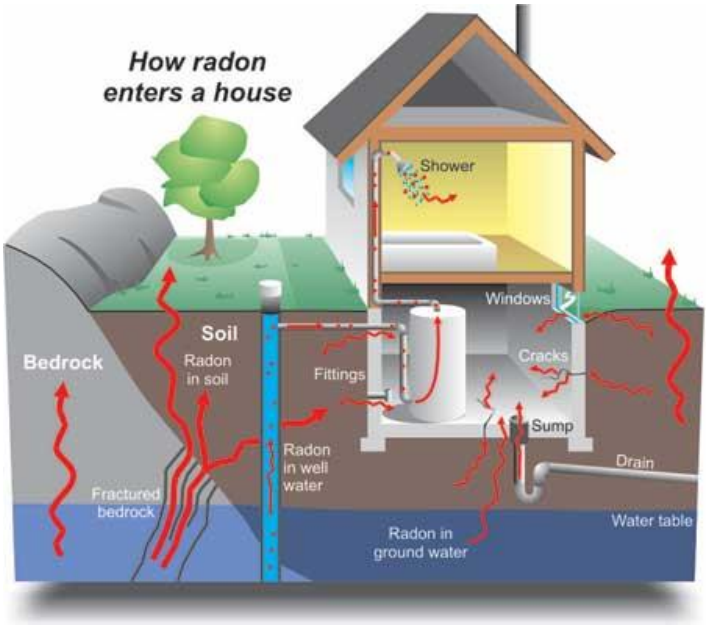
The karst potential map in Appendix A shows that Dodge County has a deep karst features throughout the entire county. The presence of this geologic feature supports the medium probability of complications (e.g., sinkholes, fissures to groundwater) to residents. The good news is that the complications due to karst geology have a low probability of causing significant damage, injury or death.

Sinkhole in Monroe County, WI

Radon is produced by the radioactive decay of radium-226, which is found in uranium ores; phosphate rock; shales; igneous and metamorphic rocks such as granite, gneiss and schist; and, to a lesser degree, in common rocks such as limestone, which is found in abundance in Dodge County. Every square mile of surface soil, to a depth of 6 inches, contains approximately 1 gram of radium, which releases radon in small amounts to the atmosphere. On a global scale, it is estimated that 2,400 million curies (90 TBq) of radon are released from soil annually.

Radon concentration varies widely from place to place. In the open air, it ranges from 1 to 100 Bq/m^3, even less (0.1 Bq/m^3) above the ocean. In caves or aerated mines, or ill-aerated houses, its concentration climbs to 20–2,000 Bq/m^3

Between five and ten percent of the homes in Wisconsin have radon levels above the US EPA guideline of 4 pCi/L for the year average on the main floor. Every region of Wisconsin has some homes with elevated radon levels. The committee felt there is a high probability of radon, with the severity caused by it also high.



Vulnerability

The most likely consequences of sinkholes in Dodge County would be that sinkholes or fissures would provide a conduit to pollute the groundwater. A less likely occurrence would be the collapse of the ground under structures such as homes, businesses, roadways and railroads, causing economic losses and possible injury to residents and the community.

Epidemiological studies have shown a clear link between breathing high concentrations of radon and incidence of lung cancer. Thus, radon is considered a significant contaminant that affects indoor air quality worldwide. According to the United States Environmental Protection Agency, radon is the second most frequent cause of lung cancer, after cigarette smoking, causing 21,000 lung cancer deaths per year in the United States. About 2,900 of these deaths occur among people who have never smoked. While radon is the second most frequent cause of lung cancer, it is the number one cause among non-smokers, according to EPA estimates. [127]

[127] https://www.epa.gov/radon/health-risk-radon

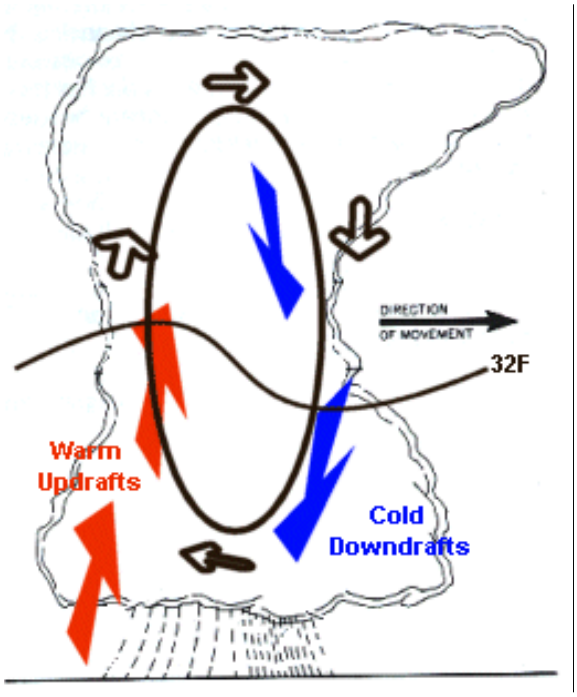
Hazard Mitigation Strategies

The goal of sinkhole mitigation activities is to reduce, in a cost-effective manner, the likelihood of illness/death from groundwater contamination as well as the potential for loss of lives and property due to these events. Dodge County has Niagara Karst in the eastern section of the county and a high-water table. The County Land Conservation Department will consider karst features in land use planning, stormwater management and hazardous materials planning to avoid possible damage to structures due to sinkholes or contamination of groundwater. Dodge County will continue to work with its municipal partners to ensure that areas at risk of karst-related complications are identified and appropriate mitigation strategies are considered.

Dodge County Public Health, with the Wisconsin Department of Health, will explore potential radon mitigation strategies to include educating the public about the risks and providing radon test kits.

Storms: Hail

Studies of thunderstorms indicate that two conditions are required for hail to develop: sufficiently strong and persistent up-draft velocities and an accumulation of liquid water in a super-cooled state in the upper parts of the storm. Hailstones are formed as water vapor in the warm surface layer rises quickly into the cold upper atmosphere. The water vapor is frozen and begins to fall; as the water falls, it accumulates more water vapor. This cycle continues until there is too much weight for the updraft to support and the frozen water falls too quickly to the ground to melt along the way. The graphic below depicts hail formation:[128]



Injury and loss of life are rarely associated with hailstorms, however extensive property damage is possible, especially to crops.

[128] Source: NWS, January 10, 2003

Physical Characteristics

Hail may be spherical, conical or irregular in shape and can range in size from barely visible in size to grapefruit-sized dimensions. Hailstones equal to or larger than a penny are considered severe.

Hail Size Estimates[129]	
Size	**Inches in Diameter**
Pea	1/4 inch
Marble/mothball	1/2 inch
Dime/Penny	3/4 inch
Nickel	7/8 inch
Quarter	1 inch
Ping-Pong Ball	1 1/2 inch
Golf Ball	1 3/4 inches
Tennis Ball	2 1/2 inches
Baseball	2 3/4 inches
Tea cup	3 inches
Grapefruit	4 inches
Softball	4 1/2 inches

Hail falls in swaths that can be from twenty to one hundred miles long and from five to thirty miles wide. A hail swath is not a large continuous path of hail but generally consists of a series of hail cells that are produced by individual thunderstorm clouds traveling in the same area.

Frequency of Occurrence

Hailstorms usually occur from May through August and Wisconsin averages two or three hail days per year. Dodge County has a high probability of hail occurrence in Wisconsin. The likelihood of damage to people due to hail is considered low; while the likelihood of damage to crops, roofs and vehicles is considered high. Over the past 25 years hail has occurred 132 times for an average of just over 5 times per year.

Most hail damage occurs in rural areas because maturing crops are particularly susceptible to bruising and other damage caused by

[129] NWS, January 10, 2003

hailstones. The four months of hailstorm activity correspond to the growing and harvesting seasons for most crops. A table showing the hail events recorded by the National Weather Service in Dodge County[130] can be found in Appendix B.

It should be noted that this table represents only the hail incidents reported to the National Weather Service. One limitation of the source data is that it showed no property or crop loss, death or injury while it is likely that there was some loss incurred. After a careful review of the data by the workgroup, it was believed that there has been more accurate record-keeping and recording since the 1990s but that the table also shows an increasing frequency in the occurrence of hailstorms.

Vulnerability

Hail, typically occurring in conjunction with thunderstorms and lightning, can damage many types of infrastructure. Public and private vehicles (e.g., campers, boats, cars, trucks) are liable to have their windshields cracked, bodies dented and paint damaged as a result of hail. This damage can occur, depending on the size of the hail, whether the vehicle is moving through the storm or is stationary. Hail on the roadway can also cause vehicles to slide off the road. Vehicle damage and iced roadways are of particular concern when you consider the need for emergency vehicles such as police cars, fire trucks and ambulances to quickly move to assist victims in a disaster.

Hail can also damage critical infrastructure such as street signs, electric lines/poles/transformers, telephone lines and radio communication equipment. These pieces of infrastructure are needed by both first response agencies and the general community to ensure safe transport; warm, safe homes and good internal and external communications abilities.

Residential and business properties are liable to receive damage to signs, siding, billboards, trees and windows. Manufactured housing is particularly vulnerable to damage due to its lower construction standards.

[130] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

Hail can be particularly damaging to agricultural concerns, including farm buildings, standing crops and livestock. Hail is a localized phenomenon and it would be difficult to estimate losses.

Hazard Mitigation Strategies

The goal of mitigating for hail is to reduce the amount of financial loss due to these incidents. Insurance is the most widely used adjustment for crop and property damages due to hail. Hail crop insurance is available from two sources: commercial stock and mutual companies and the Federal Crop Insurance Corporation (FCIC). Farmers rarely purchase insurance coverage up to the full value of the losses that would result from a severe hailstorm.

The Dodge County University of Wisconsin – Madison Division of Extension distributes information on various hail insurance options. In the event of major damage, a team composed of county and federal agricultural agency representatives and the county emergency management director have primary responsibility for assessing and documenting hail damage.

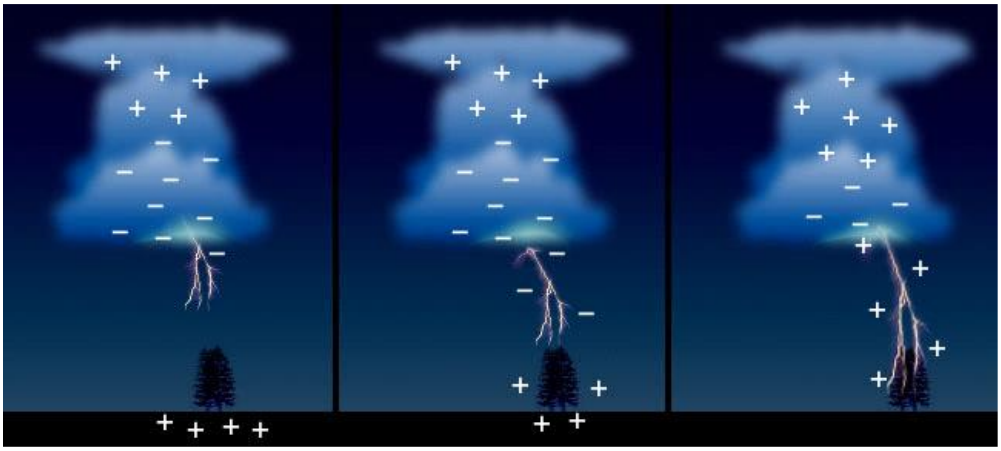
The Dodge County Emergency Management Office provides hail information to the public as part of the spring severe weather awareness week. The office also provides information about hail on the website and in display racks. Federal emergency assistance is available in the form of low-interest loans when a Presidential Disaster is declared or when the United States Department of Agriculture (USDA) declares that a county is eligible for aid. Damage from hailstorms alone is generally not extensive enough to invoke a disaster declaration.

The hazard mitigation strategies listed above primarily involve providing information on safety measures and insurance to the public for agricultural concerns and residential and commercial structures. These measures provide basic safety information but, since there is little one can do to prevent hail damage, these measures will do little to reduce damages to existing or future buildings and infrastructure but the recommended insurance may make recovery easier.

Storms: Lightning

Lightning is a phenomenon associated with thunderstorms; the action of rising and descending air separates and builds-up positive and negative charge areas. When the built-up energy is discharged between the two areas, lightning is the result.[131]

Formation of Lightning



Lightning may travel from cloud to cloud, cloud to ground, or if there are high structures involved, from ground to cloud.

Physical Characteristics

The temperatures in a lightning stroke rise to 50,000°F (Fahrenheit). The sudden and violent discharge which occurs in the form of a lightning strike is over in one-millionth of a second.

Lightning damage occurs when humans and animals are electrocuted, fires are caused by a lightning stroke, materials are vaporized along the lightning path or sudden power surges cause damage to electrical or electronic equipment. Lightning, an underestimated hazard, kills more people in an average year than do hurricanes or tornadoes.

[131] University Corporation for Atmospheric Research [UCAR]

Frequency of Occurrence

Nationwide, forty-five percent of the people killed by lightning have been outdoors, about sixteen percent were under trees, six percent were on heavy road equipment and thirty-three percent were at various unknown locations. Less than ten percent of the deaths involved individuals inside buildings; these deaths were primarily due to lightning-caused fires.

Wisconsin has a high frequency of property losses due to lightning. Insurance records show that annually one out of every fifty farms has been struck by lightning or had a fire which may have been caused by lightning. Generally, rural fires are more destructive than urban fires because of limited lightning protection devices, isolation, longer response times and inadequate water supplies. Dodge County has a high probability of lightning occurrence; the likelihood of damage due to lightning is considered low for people in the county and medium for things such as computers.

A table showing the lightning events recorded by the National Weather Service (NWS) in Dodge County[132] can be found in Appendix B. This table from the NWS is obviously not reporting all of the incidents of lightning strikes but those with notable/reportable losses from the past and can reasonably be inferred to show that there is exposure to potential future losses.

Vulnerability

Lightning, which often occurs in conjunction with thunderstorms and hail, can damage many types of infrastructure, including electric lines/poles/transformers, telephone lines and radio communication equipment. These pieces of infrastructure are needed by both first response agencies and the general community to ensure safe transport; warm, safe homes and good internal and external communications abilities.

Residential and business properties are liable to receive damage either as a result of a lightning strike causing a fire or other type of direct damage or by overloading electronic equipment (e.g., computers, televisions) that have not been properly connected to a surge protector. The latter concern is especially important to business and government, which in modern America rely on

[132] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

computers and other electronic equipment to manage the large amounts of data manipulated in our information-based economy.

Lightning can damage agricultural assets including farm buildings, standing crops and livestock. It is also one of the major sources of ignition for forest and wildfires.

Hazard Mitigation Strategies

The goal of lightning mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. The two primary ways to effectively reduce lightning losses are modifying human behavior and protecting structures (e.g., using fire resistant materials in building construction). The use of fire-resistant materials will make existing buildings and future construction less likely to catch fire or will minimize fire damage and spread due to lightning strike. Surge protectors limit data losses.

The Dodge County Emergency Management Office has awareness and educational materials in a display rack and online that inform the public of safety procedures to follow during a lightning storm. Severe summer weather safety information is also emphasized during Tornado Awareness Week.

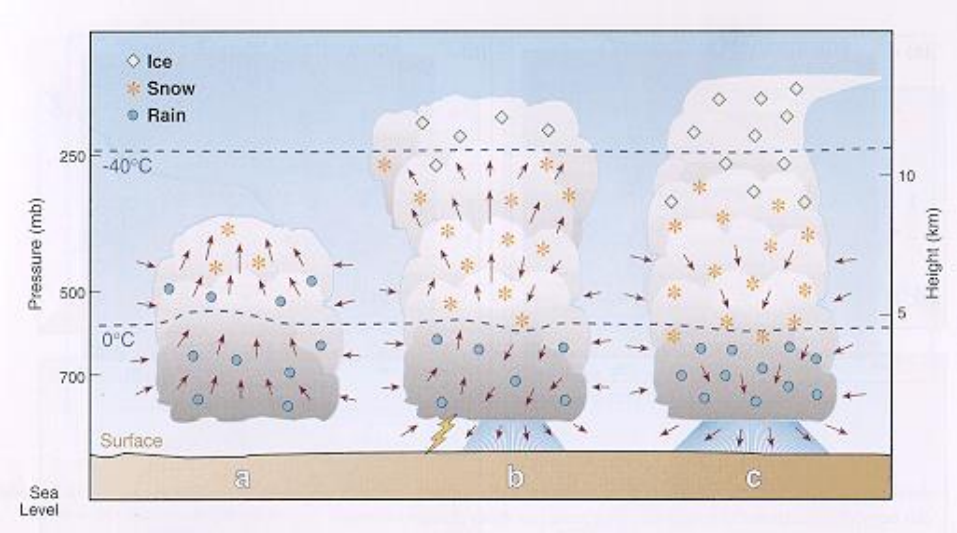
Storms: Thunderstorms

There are three distinct stages of development for thunderstorms (birth, growth, maturity) each of which can be seen in the following schematic. [133]

In the first stage of development, an updraft drives warm air up beyond condensation levels where clouds form.

The second stage of development occurs as levels of water vapor in the expanding cloud rise past saturation and the air cools sufficiently to form solid and liquid particles of water. At this point, rain or snow begins to fall within the cloud.

A thunderstorm's mature stage is marked by a transition of wind direction within the storm cells. The prevailing updraft which initiated the cloud's growth is joined by a downdraft generated by precipitation. Lightning may occur soon after precipitation begins. Hail and tornadoes may also develop during this stage.



Physical Characteristics

A thunderstorm often is born, grows, reaches maturity and dies in a thirty-minute period. The individual thunderstorm cell often travels between thirty and fifty miles per hour. Strong frontal systems may

[133] National Weather Service - Flagstaff

create one squall line after another, each composed of many individual thunderstorm cells. These fronts can often be tracked across the state from west to east with a constant cycle of birth, growth, maturity and death of individual thunderstorm cells.

Frequency of Occurrence

Thunderstorm frequency is measured as the number of days per year with one or more incidents. There are approximately 100,000 thunderstorms in the United States every year and approximately 10% of those are considered severe (i.e., has at least ¾" hail, winds of at least 58 mph or a tornado). Most Wisconsin counties, average between 30 and 40 thunderstorm days per year. In Dodge County there are typically several severe thunderstorms per year. In Wisconsin, Dodge County has a high incidence of hurricane-force thunderstorm winds, with 60 events documented between 1844 and 2010.[134] Hurricane-force winds are greater than or equal to 75 miles per hour. Thunderstorms can occur throughout the year with the highest frequency during the months of May through September. The majority of storms occur between the hours of noon and midnight.

The probability of thunderstorms occurring in Dodge County is high as these storms usually occur one or more times each year during the summer in Wisconsin and Dodge County. The probability of damage to people is considered to be low; damage to crops would be medium. However, damage from thunderstorms usually is a result of the hail, lightning, winds and/or flash flooding that can occur as part of the storm. The likelihood of damage from these causes is in discussed in the appropriate chapters.

Tables showing the thunderstorm events that have been recorded by the National Weather Service in Dodge County can be found in Appendix B. [135]

Vulnerability

Thunderstorms, which often produce hail and lightning and may occasionally spawn tornadoes, high wind storms or flash flooding, can damage many types of infrastructure. Dodge County's thunderstorm vulnerabilities due to associated hail, lightning, winds

[134] 2011 Wisconsin State Hazard Mitigation Plan
[135] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

and flood waters are discussed in the other hazard chapters of this plan.

Hazard Mitigation Strategies

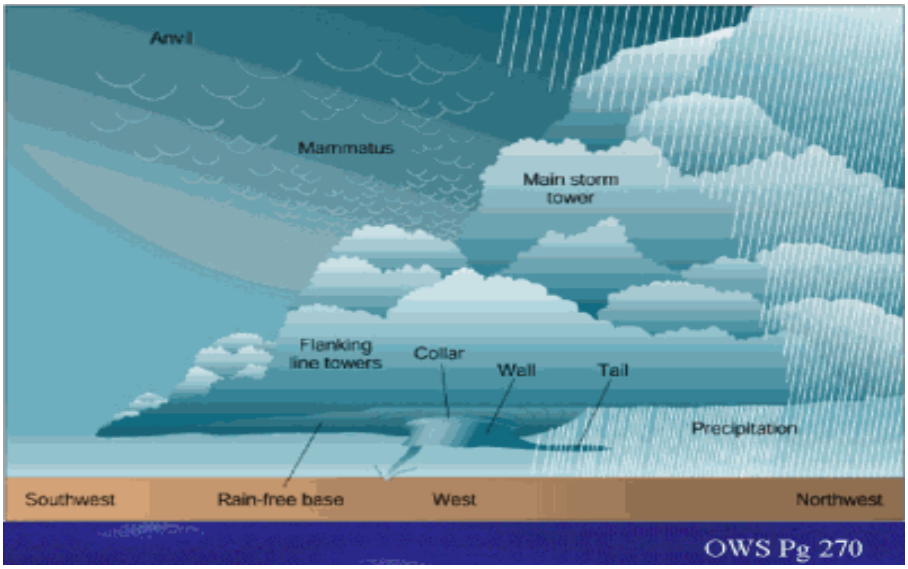
The goal of thunderstorm mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. Dodge County Emergency Management has developed severe weather safety information that it disseminates to the public in a display rack and online with the goal of protecting the lives and property of citizens. During Tornado Awareness Week, there is extensive media coverage of safety tips. Additionally, the department assists the National Weather Service (NWS) in conducting tornado spotter training programs and in organizing local tornado spotter networks.

Dodge County Emergency Management has also committed to working with local fair and festival boards, as they are requested, to help create emergency plans in the event of bad weather.

The damage to buildings and infrastructure in a thunderstorm is generally caused by components of the storm such as hail, flooding, lightning or wind. A discussion of strategies to reduce effects on existing and future buildings and infrastructure is discussed in the chapters that discuss each of these components in detail.

Storms: Tornadoes and High Winds

A tornado is a violently rotating funnel-shaped column of air. The lower end of the column may or may not touch the ground. Average winds in the tornado are between 173 and 250 miles per hour but winds can exceed 300 miles per hour. It should also be noted that straight-line winds may reach the same speeds and achieve the same destructive force as a tornado.

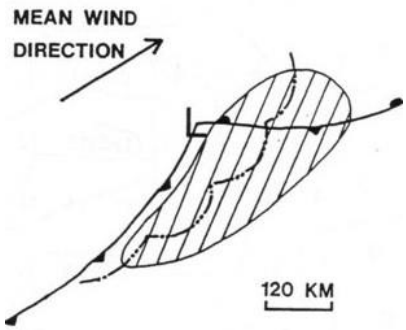


A derecho is a widespread, long-lived, violent, convectively-induced straight-line windstorm that is associated with a fast-moving band of severe thunderstorms usually taking the form of a bow echo. Derechos blow in the direction of movement of their associated storms; this is similar to a gust front except that the wind is sustained and generally increases in strength behind the "gust" front. A warm weather phenomenon, derechos occur mostly in summer, especially July, in the northern hemisphere. They can occur at any time of the year and occur as frequently at night as in the daylight hours.

The traditional criteria that distinguish a derecho from a severe thunderstorm are *sustained* winds of 58 mph during the storm as opposed to gusts, high and/or rapidly increasing forward speed and geographic extent (typically 250 nautical miles in length). In addition, they have a distinctive appearance on radar (bow echo); several unique features, such as the rear inflow notch and bookend vortex

and usually manifest two or more downbursts. There are three types of derechos:[136]

- Serial: Multiple bow echoes embedded in a massive squall line typically around 250 miles long. This type of derecho is usually associated with a very deep low. Also because of embedded supercells, tornadoes can easily spin out of these types of derechos.
- Progressive: A small line of thunderstorms take the bow-shape and can travel for hundreds of miles.
- Hybrid: Has characteristics of a serial and progressive derechos. Hybrid derechos are associated with a deep low like serial derechos but are relatively small in size like progressive derechos.
- Low Dewpoint: Occurs in an environment of comparatively limited low-level moisture, with appreciable moisture confined to the mid-levels of the atmosphere.



Serial Derecho

Progressive Derecho

Physical Characteristics

Tornadoes are visible because low atmospheric pressure in the vortex leads to cooling of the air by expansion and to condensation and formation of water droplets. They are also visible as a result of the airborne debris and dust in its high winds. Wind and pressure differential are believed to account for ninety percent of tornado

[136] http://en.wikipedia.org/wiki/Derecho

damage in most cases. Because tornadoes are associated with storm systems, they usually are accompanied by hail, torrential rain and intense lightning.

Tornadoes typically produce damage in an area that does not exceed one-fourth mile in width or sixteen miles in length. Tornadoes with track lengths greater than 150 miles have been reported although such tornadoes are rare.

Tornado damage severity is measured by the Fujita Tornado Scale, which assigns an "F" ("Fujita") value from 0 – 5 to denote the wind speed.

The Fujita Tornado Scale[137]

Category	Wind Speed	Description of Damage
F0	40-72 mph	Light damage. Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage to sign boards.
F1	73-112 mph	Moderate damage. The lower limit is the beginning of hurricane speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads.
F2	113-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
F3	158-206 mph	Severe damage. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; cars lifted off ground and thrown.
F4	207-260 mph	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown off; cars thrown and large missiles generated.
F5	261-318 mph	Incredible damage. Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100-yards; trees debarked.

On 1 February 2007, the National Weather Service began rating tornadoes using the EF-scale. It is considerably more complicated than the F-scale and it will allow surveyors to create more precise assessments of tornado severity. Below is a comparison between the Fujita Scale and the EF Scale:

Fujita Scale			Derived EF Scale		Operational EF Scale	
F Number	Fastest ¼ mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200

[137] FEMA, 1997

5	261-318	262-317	5	200-234	5	Over 200

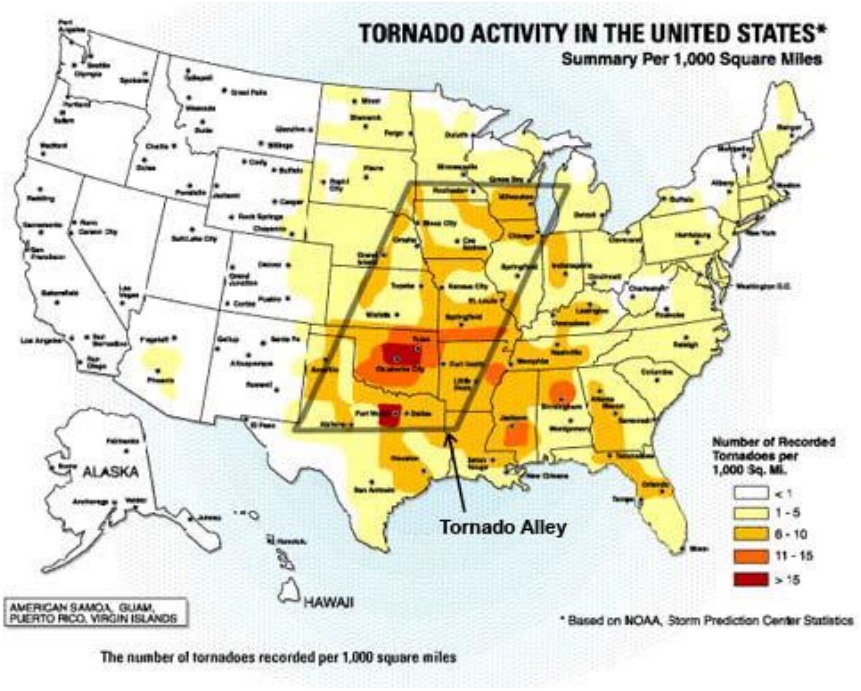
Downburst Characteristics

Downburst damage is often highly localized but resembles damage caused by a tornado. In some cases, even an experienced investigator cannot identify the nature of a storm without mapping the direction of the damaging winds over a large area. There are significant interactions between tornadoes and nearby downbursts.

A classic downburst example occurred on 4 July 1977 when a severe thunderstorm moved across Northern Wisconsin. Extensive areas of tree and property damage, somewhat like a tornado, were reported. After an aerial survey was completed to map both direction and F-scale intensity of the damaging winds it was determined that no evidence of a tornado was found anywhere within the path of the damage swath, which was 166 miles long and 17 miles wide. The survey revealed that there were scattered local centers from which straight-line winds diverged outward. These local wind systems were identified as downbursts with at least 25 specific locations recognized by the low-flying aircraft.

Frequency of Occurrence

Wisconsin lies along the northern edge of the nation's tornado belt, which extends north-eastward from Oklahoma into Iowa and across to Michigan and Ohio. Winter, spring and fall tornadoes are more likely to occur in southern Wisconsin, which includes Dodge County, than in northern counties.



Wisconsin's tornado season runs from the beginning of April through September with the most severe tornadoes typically occurring in April, May and June. Tornadoes have, however, occurred in Wisconsin during every month of the year. Many tornadoes strike in late afternoon or early evening but they do occur at other times. Deaths, injuries and personal property damage have occurred and will continue to occur in Wisconsin.

Tables showing the frequency of high winds, funnel clouds and tornadoes as reported by the National Weather Service can be found in Appendix B.[138] There have been 20 funnel clouds reported for the county. The probability of Dodge County being struck by a tornado in the future is high and the likelihood of damage from future incidents is very high. The probability of high wind (Derecho) and downbursts is high and the likelihood of damages is high. All parts of Dodge County are equally susceptible to tornadoes and high winds.

Vulnerability

Injury to people is a primary concern in tornado and high wind events. Two of the highest risk places are mobile home parks and campgrounds; Dodge County has several of each type of property. Both have high concentrations of people in a small area, generally

[138] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

have structures that provide less protection than standard construction homes generally do not provide storm shelters. Other places of concern during these types of events include critical emergency facilities such as hospitals and public works/highway garages, police stations and fire departments, which contain equipment and services needed by the public after a tornado.

Mobile Home Parks [139][140]	
Park Name	**Location**
North Hills	Beaver Dam
Flyway Meadows	Waupun
Sunnyside Estates	Beaver Dam
Reeseville Acres	Reeseville
Sunnyside Mobile Home Park	Beaver Dam
South Hills	Beaver Dam
Country Acres Mobile Homecourt	Horicon
Sunny Creek Land Lease Community	Resseville
Marshview Terrace	Waupun
River View Hills LLC	Theresa
Sunny Creek	Reeseville
Breezy Point	Horicon
Majestic Hills	Beaver Dam
Oak Park Acres	Lomira
Meadowbrook Mobile Home Park	Iron Ridge
North Bills Mobile Park	Beaver Dam
Hidden Meadows	Waupun

139 https://www.mobilehome.net/mobile-home-park-directory/wisconsin/county/dodge-county
140 https://www.mhvillage.com/Communities/MobileHomeParks.php?State=WI&County=Dodge

Campgrounds [141]	
Campground Name	**Location**
Harnischfeger County Park	Ashippun
Playful Goose of Horicon	Horicon
Wild Goose City Park	Juneau
Ledge County Park	Mayville
Bridge, Beaver Dam	Beaver Dam
Derge County Park	Beaver Dam
Willow Mill Campsites	Beaver Dam
Trailer Island Campground	Fox Lake
Waupun Park	Waupun

Schools, in addition to holding children, are the major type of structure used as community disaster shelters and their loss might therefore affect the community on several levels (e.g., the death or injury of children, the loss of a community housing shelter). School gymnasiums are often the specific location of the community shelter but they are especially vulnerable in tornadoes because the large-span roof structure is often not adequately supported.

Community infrastructure such as power lines, telephone lines, radio towers and street signs are often vulnerable to damage from tornadoes and high winds and can be expensive to replace. The loss of radio towers that hold public safety communications repeaters can adversely impact the ability of first responders to mount an effective response; damage to towers that hold public media equipment may adversely impact the ability to distribute adequate public information.

Residential property is likely to have siding and roofing materials removed, windows broken from flying debris and garages blown down due to light construction techniques. Perhaps one of the

141 http://www.hikercentral.com/campcounty/Wisconsin_Dodge.html

largest types of loss on private property is due to tree damage, which is generally not covered by federal disaster assistance.

Business properties are at risk for having damage to infrastructure including signs, windows, siding and billboards. Agricultural buildings, such as barns and silos, are also generally not constructed in a manner that makes them wind resistant, which can lead to the loss of livestock and harvest. Standing crops are also at risk from high winds and tornadoes.

Hazard Mitigation Strategies

The goal of tornado and high wind mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. Dodge County has a history of damage to buildings and infrastructure due to tornadoes and high winds. Some strategies below will deal with public information and alert and notification while others will enable the community to make current and future buildings and infrastructure more disaster-resistant by enacting more “bricks and mortar” solutions.

An effective warning system is the single most important resource for alerting the public to a tornado hazard, which is critical to the main goal of saving lives and reducing property losses. Forecasting of tornadoes is difficult, however, because of the suddenness of their onset, their relatively short duration, the extreme variability of a tornado striking area, limited knowledge of tornado dynamics and the limitations of the weather observation system. Tornado sirens are municipally owned and maintained in Dodge County although some can be activated by the county.

County Emergency Management promotes the use of NOAA weather radios for public alert and notification and also contracts with the My State USA mass notification telephone system to relay emergency messages to the citizenry. The department also continues to evaluate various technologies to determine if they can be effectively integrated into the county’s alert and notification systems.

During the past several years, there has been a statewide Tornado Awareness Week in late March or April. Media information packets are distributed to reemphasize and alert the public to tornado warning procedures. Dodge County actively promotes tornado safety public information as well as other summer severe weather

public awareness and educational efforts, including applicable links on the county website. Dodge County also assists the National Weather Service with sponsoring tornado spotter training and in organizing local tornado spotter networks.

Across the county currently, maintenance buildings and lodges are used at campgrounds as shelters. The county is considering projects that would provide information to builders and owners of manufactured and mobile homes encouraging the use of tie-downs with ground anchors. This relatively inexpensive strategy reduces the damage to these homes in lower F-scale tornadoes. As part of the tornado preparedness program, the county plans to work with the municipalities to construct tornado shelters in areas where deficient, especially in mobile home parks and campgrounds. The City of Horicon has mobile home complexes and are interested in having shelters there as well as constructing a shelter at the Playful Goose Campground. The City of Waupun will seek grant funding to a fund a tornado shelter at the Flyway Meadows mobile home park. The U.S. Department of Commerce Community Development Block Grants may be an avenue to achieve the necessary funding. If grant funding is not available, park owners will be encouraged to plan shelters on their properties.

The Dodge County Land Resources and Parks Department ensures that local building codes to improve structures' abilities to withstand greater wind velocities meet state minimum requirements. The department also promotes construction standards and techniques which exceed state minimum requirements.

Finally, the county would like to promote the planting of windbreaks to protect farmsteads, buildings and open fields from high winds. Utilizing a number of different sources for cost-sharing, including an annual tree sale to citizens each spring.

Storms: Winter

Due to its position along the northern edge of the United States, Wisconsin, including Dodge County, is highly susceptible to a variety of winter weather storm phenomena.

Picture of snow drifts after the “Groundhog Day Blizzard” in 2011.

Physical Characteristics

The National Weather Service descriptions of winter storm elements are:

- Heavy snowfall - Accumulation of six or more inches of snow in a 12-hour period or eight or more inches in a 24-hour period.
- Blizzard - An occurrence of sustained wind speeds in excess of 35 miles per hour (mph) accompanied by heavy snowfall or large amounts of blowing or drifting snow.
- Ice storm - An occurrence of rain falling from warmer upper layers of the atmosphere to the colder ground, freezing upon contact with the ground and exposed objects near the ground.
- Freezing drizzle/freezing rain - Effect of drizzle or rain freezing upon impact on objects with a temperature of 32 degrees Fahrenheit or below.

- Sleet - Solid grains or pellets of ice formed by the freezing of raindrops or the refreezing of largely melted snowflakes. This ice does not cling to surfaces.
- Wind chill - An apparent temperature that incorporates the combined effect of wind and low air temperatures on exposed skin.

In Wisconsin, the winter storm season generally runs from November through March and Wisconsin residents are most familiar with heavy snowstorms, blizzards, sleet and ice storms. The majority of Wisconsin snowfalls are between one and three inches per occurrence, although heavy snowfalls that produce at least ten inches may occur four or five times per season. Northwestern Wisconsin encounters more blizzards than the southeastern portions of the state.

Damage from ice storms can occur when more than half an inch of rain freezes on trees and utility wires, especially if the rain is accompanied by high winds. Another danger comes from accumulation of frozen rain pellets on the ground during a sleet storm, which can make driving hazardous.

Frequency of Occurrence

Annual snowfall in Wisconsin varies between thirty inches in southern counties to one hundred inches in the north. Dodge County averages approximately 40 inches of snow annually. Storm tracks originating in the southern Rockies or Plains states that move northeastward produce the heaviest precipitation, usually six to twelve inches. Low-pressure systems originating in the northwest (Alberta) tend to produce only light snowfalls of two to four inches. Snowfalls associated with Alberta lows occur more frequently with colder weather.

Although massive blizzards are rare in Wisconsin, blizzard-like conditions often exist during heavy snowstorms when gusty winds cause blowing and drifting of snow. For example, near blizzard conditions existed in Wisconsin in February, 2011 when record snowfalls were recorded in many areas and very strong northeast winds were gusting from 45 to 60 mph for an extended period of time. It should be noted that there were two additional large snow storms that occurred in late February and late March of 2011.

Both ice and sleet storms can occur at any time throughout the winter season from November to April. Ice storms of disastrous proportions occurred in central Wisconsin in February 1922 and in southern Wisconsin in March 1976. A Presidential Disaster Declaration occurred as a result of the 1976 storm. Utility crews from surrounding states were called in to restore power, which was off for up to ten days in some areas. Other storms of lesser magnitude caused power outages and treacherous highway conditions.

Tables showing winter storm statistics as reported by the National Weather Service can be found in Appendix B.[142] The tables show that there is little property damage but this does not take into account the public costs of managing the snow and ice as well as the costs of managing utility repair to power, telephone and water lines. There are seven recorded blizzard events for the county.

The probability that there will be severe winter storms in Dodge County is medium and the likelihood that those storms will cause significant damage is also low.

Vulnerability

Winter storms present a serious threat to the health and safety of affected citizens and can result in significant damage to property. Heavy snow or accumulated ice can cause the structural collapse of homes, commercial buildings and agricultural structures; down power lines or isolate people from assistance or services by impeding transportation by the general public, emergency responders and public transportation resources.

The loss of electrical service and/or the blocking of transportation routes can adversely affect the ability of commercial enterprises to conduct business. This economic injury may be felt by both the business owner and employees unable to work during this period.

Hazard Mitigation Strategies

The goal of winter storm mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. Communities prepare for severe winter weather by ensuring that plowing and sanding equipment is operational and available to

[142] http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=55%2CWISCONSIN

handle potential emergencies. Funding is budgeted for the overtime hours of extra personnel but in a large emergency this may not be adequate. Redundant communication modes (e.g., radio, telephone) exist between government, police, fire, EMS, hospitals and highway departments. The Dodge County Emergency Operations Plan provides for coordination of public safety support agencies such as the American Red Cross and for resource acquisitions during winter emergencies.

Winter safety information is prepared and distributed to the media and the public by the Dodge County Emergency Management Office during Winter Awareness Week in November. Preparedness information is also available from display racks in the courthouse and the website. The distributed information includes home and travel safety measures and also encourages the use of snow fences and living snow fences. During a storm, the public is advised to monitor local radio, television and NOAA weather alert radios for up-to-date forecasts. The Dodge County Highway Department is responsible for much of the response to and recovery from winter storm events. They also encourage the use of snow fences and living snow fences in rural areas.

The hazard mitigation strategies listed above involve providing information on general safety measures to the public, which provide basic safety information and increasing the road condition information and salt stores. Since response to winter storms is primarily a government and/or corporate function comprised of tasks such as clearing roads of snow and ice and repairing downed utility lines (discussed in the next chapter), they are reasonable measures that can be employed to reduce damages to existing or future buildings and infrastructure.

Utility Failure

A utility emergency is a disruption to the building services, usually defined as electrical power, water, natural gas and/or sewage that restricts the ability of people to safely occupy the facility. Electrical power or natural gas outages are often caused by a fuel shortage caused by an oil embargo, power failure or natural disaster. Disruptions to the water and sewage systems are often the direct result of a natural disaster (e.g., flooding) or are indirect losses due to another failure (e.g., a power outage disrupts the pumping of water and/or sewage).

Physical Characteristics

Modern society is very dependent on electrical power for normal living and is therefore quite disrupted by loss of power. Most power outages last about fifteen minutes to one hour. If longer, the utilities will inform the local news media of the anticipated duration of the outage. Thunderstorms with lightning are a possible cause of power failure.

Fuel shortages can be caused by localized imbalances in supply. Labor strikes, severe cold weather or snowstorms also can cause a local shortage.

Three municipal electric systems provide service to portions of the county. Alliant Energy primarily serves the northern two-thirds of the county, Wisconsin Electric Power Company serves the far southern and far eastern portions of the county, and the Columbus Rural Electric Cooperative serves the City of Columbus and far western portions of the county. The City of Juneau has its own system. The City of Waupun also serves portions of the Town of Chester and the Village of Hustisford also serves most of the Town of Hustisford. All communities in Dodge County have gas service available. Wisconsin Gas Company, Wisconsin Electric Power Company and Alliant Energy provide natural gas service throughout the county.

Electrical substation

Rural residents usually heat their homes with propane. During the winter of 2014 there was a propane shortage due to five factors:

1. An increase in the amount of propane used to dry corn due to a late crop harvest coinciding with heavy rains depleted supplies last fall.
2. From November 28 to December 18 a major pipeline supplying propane to Wisconsin, Minnesota and Iowa was temporarily closed for maintenance.
3. Colder-than-normal winter temperatures.
4. An increase in exports of propane.
5. Constrained rail service.

On January 25, 2014 the Governor declared a state of emergency in response to the shortage and the state provided and estimated $31.2 million in funding to residents of Burnett, Polk and Washburn Counties. During this period, suppliers were rationing propane forcing people to use alternative heat sources, which can cause carbon monoxide poisoning or may lead to fires.

Thunderstorms with lightning are a possible cause of power failure. Fuel shortages can be caused by localized imbalances in supply.

Labor strikes, severe cold weather or snowstorms also can cause a local shortage.

The water and sewage systems are most often a function of a municipal system and are usually found in more urbanized areas. Rural water is often provided by individual wells found on each property and sewage is managed by a septic system, also found on each individual property. Both municipal and individual systems are vulnerable to flooding, which can overwhelm the sewage systems and contaminate both municipal and private wells. Both types of systems are also vulnerable to electrical power loss because the electrical system powers the pumps and lift stations that move and treat the water and sewage.

Frequency of Occurrence

Dodge County may have one or more short power outages (i.e., lasting less than six hours) per year but does not have a history of extended power outages. The possibility always exists that a man-made or natural disaster could affect the power system for an extended period of time.

In general, Dodge County has a moderate likelihood of utility failures with a high risk of damage, death or injury due to a loss. Obviously, power outages are more likely to occur and the severity is greater in areas of higher human population (i.e., urban areas) but the loss of power to rural customers, while affecting fewer people, generally lasts longer and can be as life-threatening, especially if a person with functional and access needs (e.g., the elderly, the young, those on special medical equipment) is involved.

Vulnerability

The failure of a utility to function can have wide-ranging impact in Dodge County. People, especially those with functional and access needs, in residential properties may not be able to safely live in their homes because of inadequate heat, the inability to cook, etc. Businesses, including the utilities themselves, may lose money due to the inability to produce goods and services for which they can bill. While there are generally back-up generators on sewage lift stations in Dodge County, other utilities may also be non-operational due to damaged infrastructure, which can be very expensive to replace and/or repair. Critical infrastructure such as hospitals, schools and

governmental facilities may not be able to operate or may have to operate at a reduced capacity due to the loss of utility services. EPCRA facilities may not be able to adequately control and contain their chemicals and there may be a release of hazardous materials that can impact people or the environment.

Agricultural assets may be impacted by the loss of utilities because extreme temperatures reduce the volume of livestock products and products such as milk may not be able to be properly stored. Modern farms also require on a large amount of automation for feeding, watering and managing the wastes of the facility.

Finally, transportation on roadways may become unsafe due to the loss of directional and street lights.

Hazard Mitigation Strategies

The goal of utility failure mitigation activities is to reduce, in a cost-effective manner, the loss of lives and property due to these events. Dodge County has worked directly with the utility companies and emergency management responders in formulating emergency management plans. During a fuel or power shortage, residents, schools, industry and businesses will be asked to take measures to conserve fuel. If the fuel shortage reaches a critical stage, all non-essential facilities will be closed and contingency plans will be activated. Dodge County plans to continue to actively evaluate the utility systems' preparedness in cases of disaster in order to create mitigation strategies for likely scenarios. It will be critical to ensure adequate power for critical facilities and infrastructure such as governmental facilities, medical care facilities, mass clinic sites, traffic signals, and public shelters. The Cities of Columbus and Juneau with the Village and Town of Hustisford would like to evaluate the feasibility of burying power lines as community improvement projects are designed.

In the event of a prolonged power outage, Dodge County has generators available to provide power for radio communication and EOC operation. Evacuation and shelter arrangements have been prepared in case of a severe power outage. Currently countywide emergency shelters only have emergency back-up power (e.g., to exit lights), which is not adequate to fulfill the needs of evacuees. The Cities of Beaver Dam, Fox Lake and Waupun and the Villages of Iron Ridge, Lomira, Neosho and Randolph would like to retrofit

pre-identified shelters to accept electric panels for external generators.

It should be noted that schools are often top choices as community disaster shelters but few of the county's schools have back-up generators. The City of Juneau would like to install a generator for the Dodgeland (K-12) School. Currently, the only place in the county with sufficient power to operate air handling units is the EOC. There is some emergency power to run boilers and minimal lighting in the pre-identified shelters but this would not be adequate for long-term operations. The Village of Theresa would also like to add a stand-by generator to the elementary school.

Several municipalities have concerns about their ability to run critical infrastructure such as municipal service/public buildings and shelters during a disaster. The following communities would like to evaluate and add generating capabilities to critical community infrastructure:

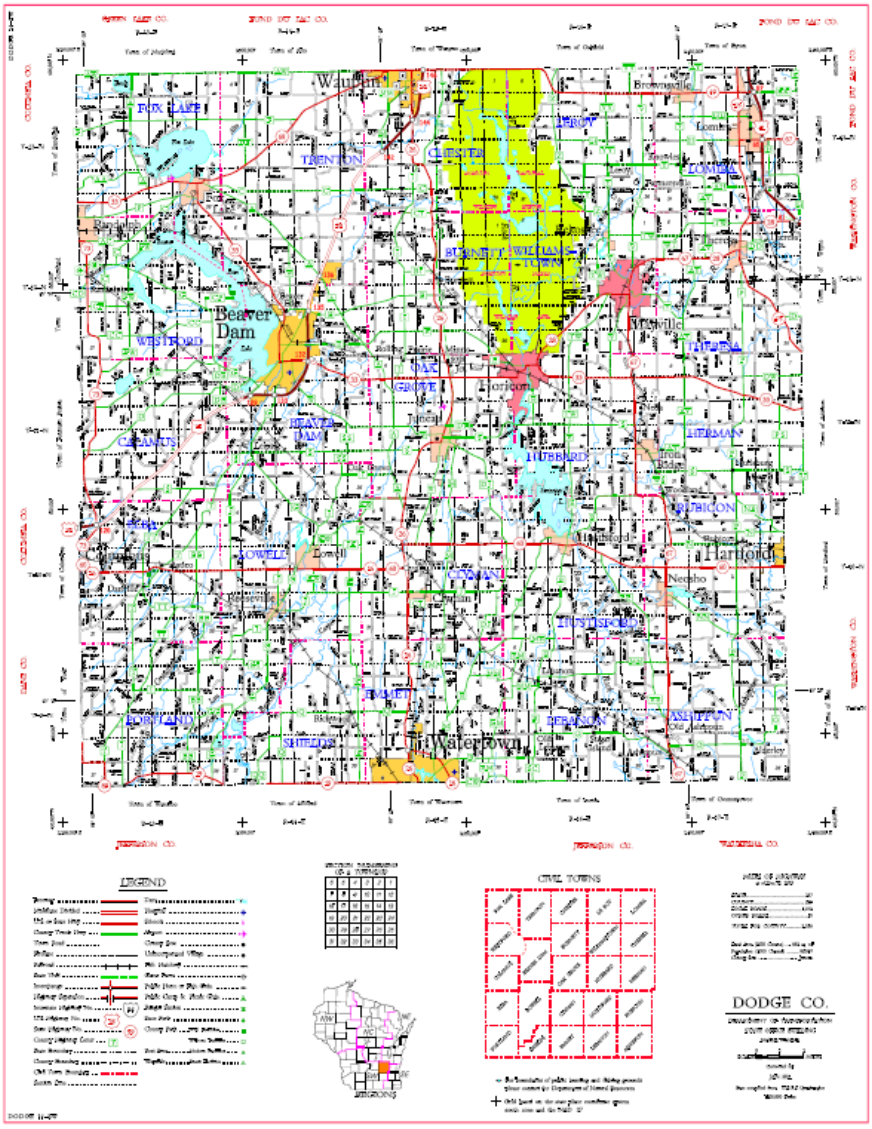
- CI of Fox Lake – add standby generator for the fire department/ city hall building and add a generator hook-up to the Sages School building
- CI of Mayville – evaluate the back-up power needs of the critical infrastructure of the community (e.g., public buildings, shelters).
- CI Waupun – add generator at City Hall as it is a designated shelter, voting location and would be needed for continuity of government
- VI of Brownsville – add generator back-up to the Brownsville Community Center and generator hook-ups to the library and Lutheran school
- VI of Lomira - add standby generator for Lomira Village Hall
- VI of Reeseville – upgrade the fire station generator to run the entire building and add a generator hook-up to the Reeseville Community Center
- VI of Randolph – add stand-by generator to the city hall/ community center building and add a generator hook-up to the library
- TN Burnett – add generator at town hall, which has plows, the fire department and high-capacity wells for fire protection
- TN Calamus – need back-up system. Town hall has shop attached; also have South Beaver Dam Elementary School next door and the town hall is their designated reunification site.

- TN of Lomira – need a generator at the town hall

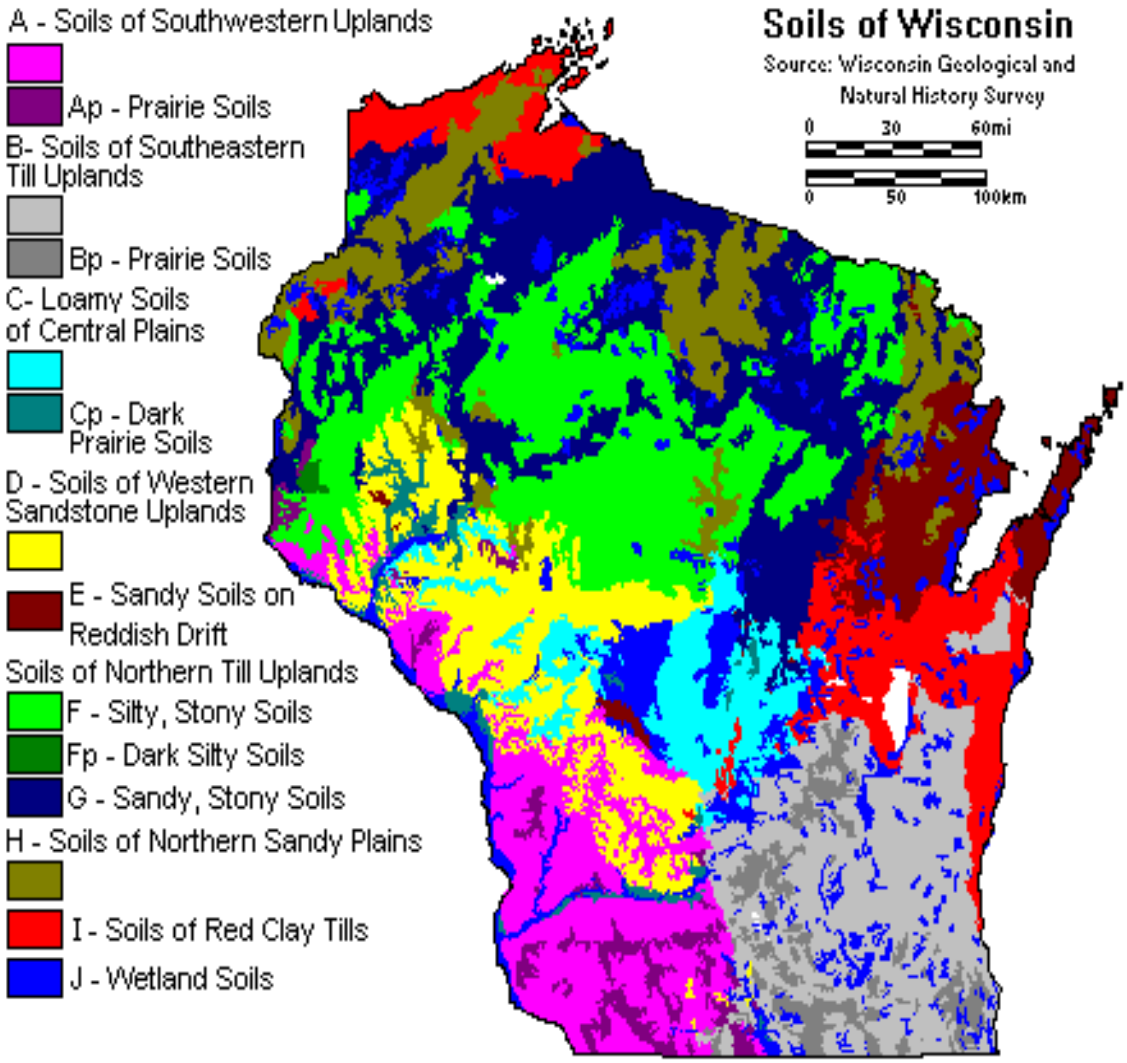
Water service is generally provided by the incorporated municipalities and its continuation is a major concern for them. In a power outage, water is available for 24 hours but water is still needed beyond that for regular community usage and firefighting.

Appendix A: Maps

Dodge County Base Map

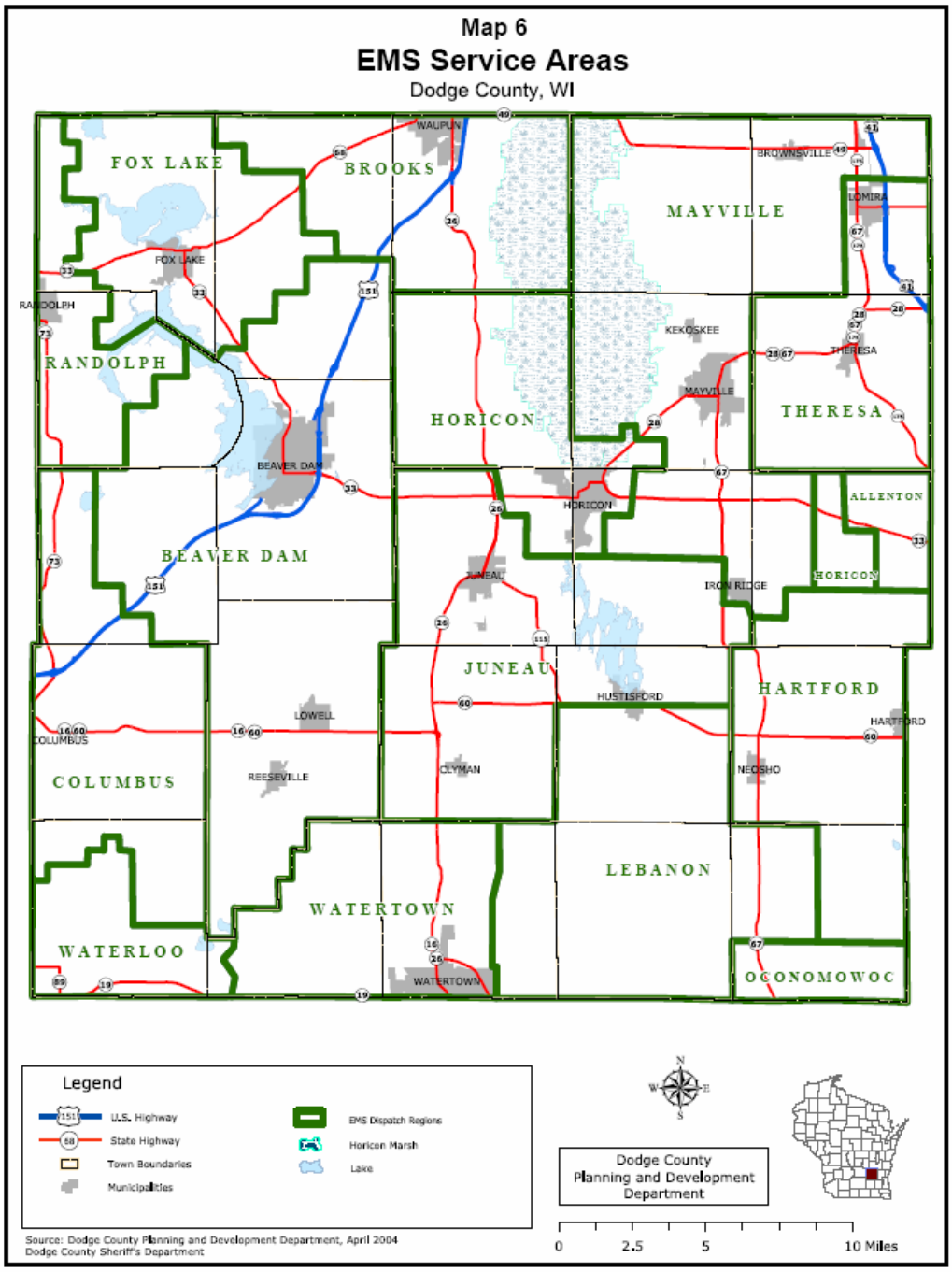


Soils Types[143]

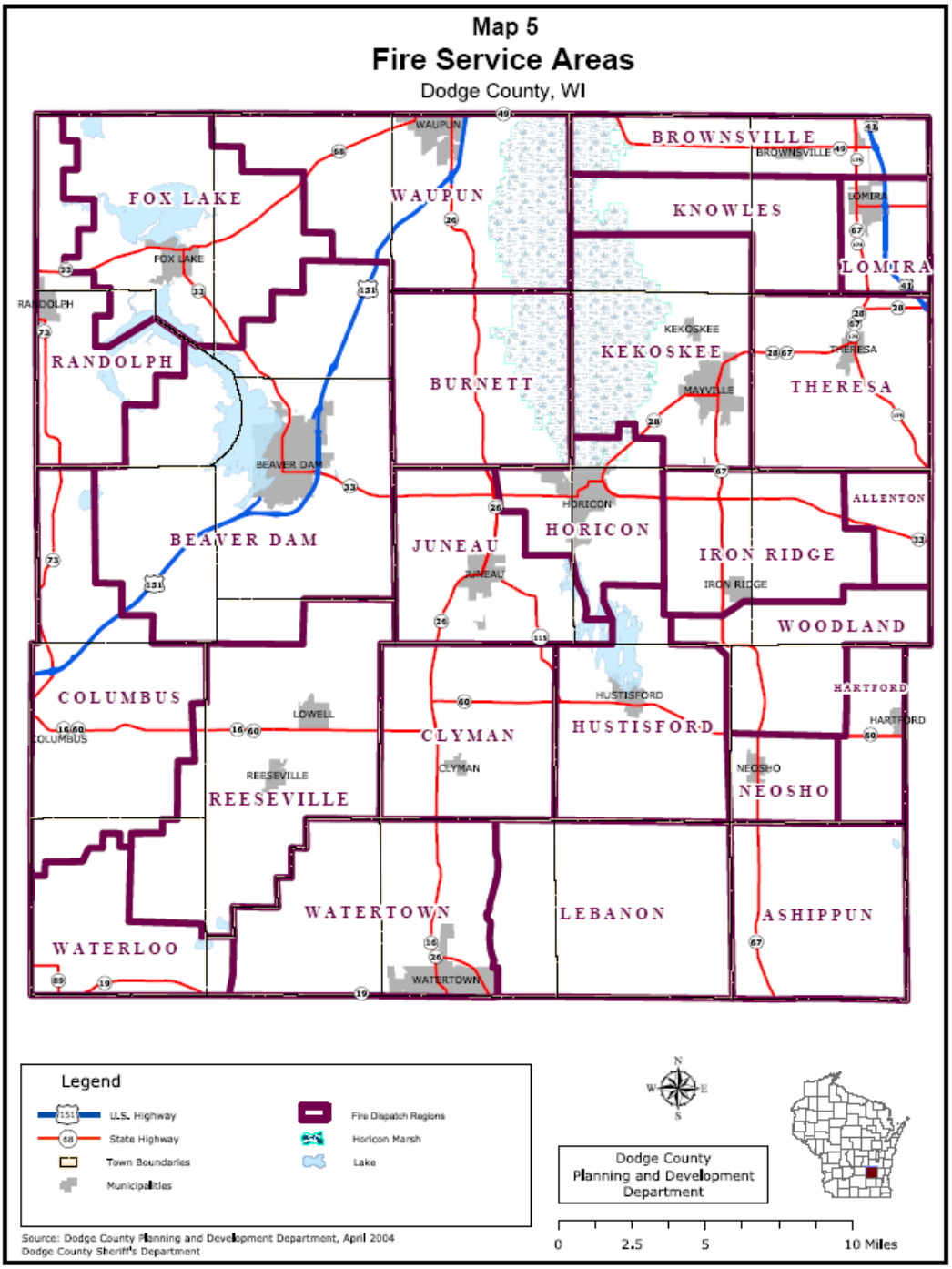


[143] Source: *Soils of Wisconsin* compiled by F. D. Hole, 1973; Wisconsin Geological and Natural History Survey Map, scale (approx.) 1: 3,150,000.

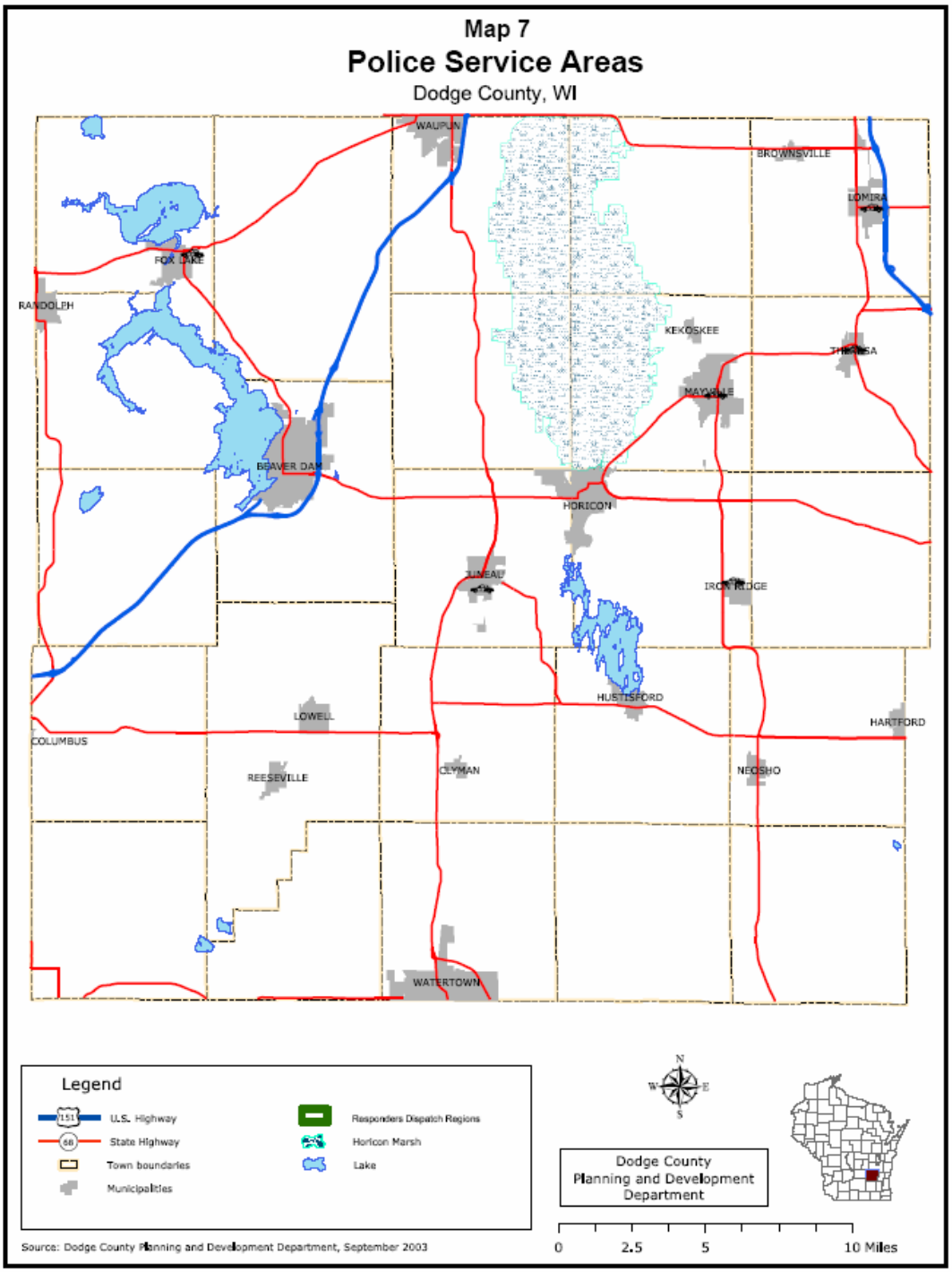
Dodge County EMS Service Areas



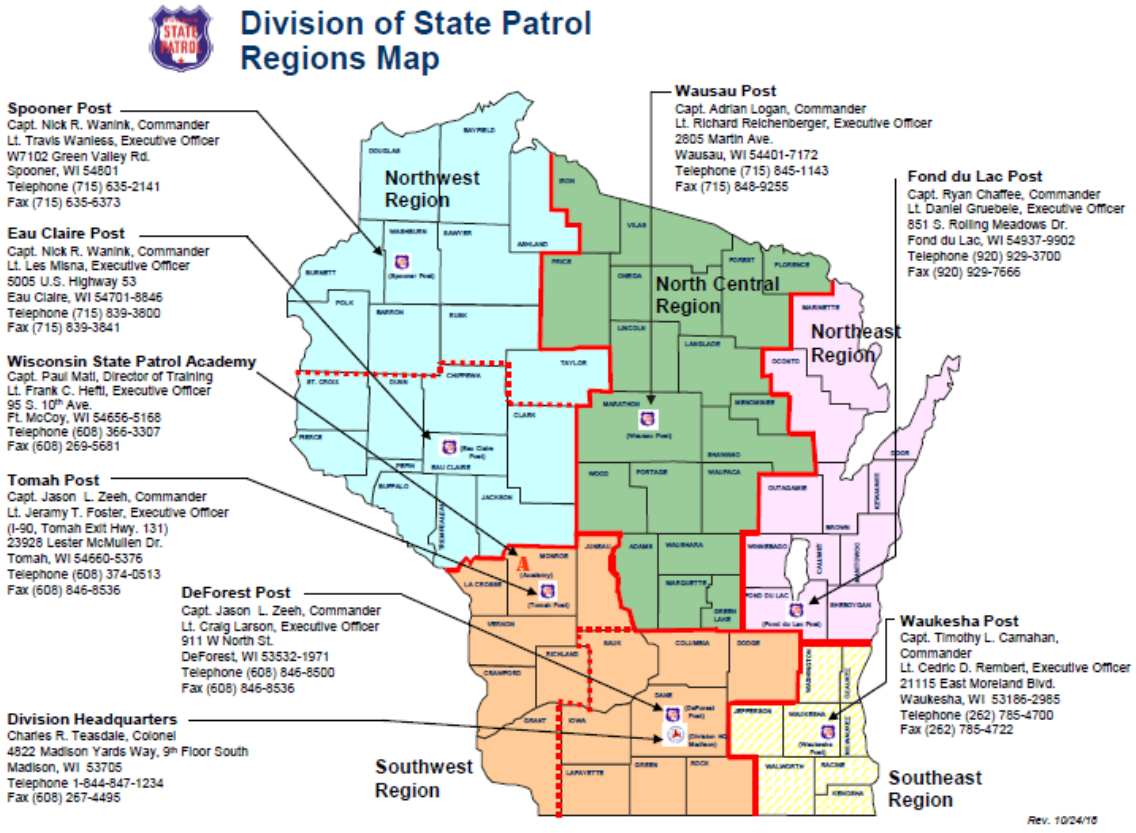
Dodge County Fire Districts



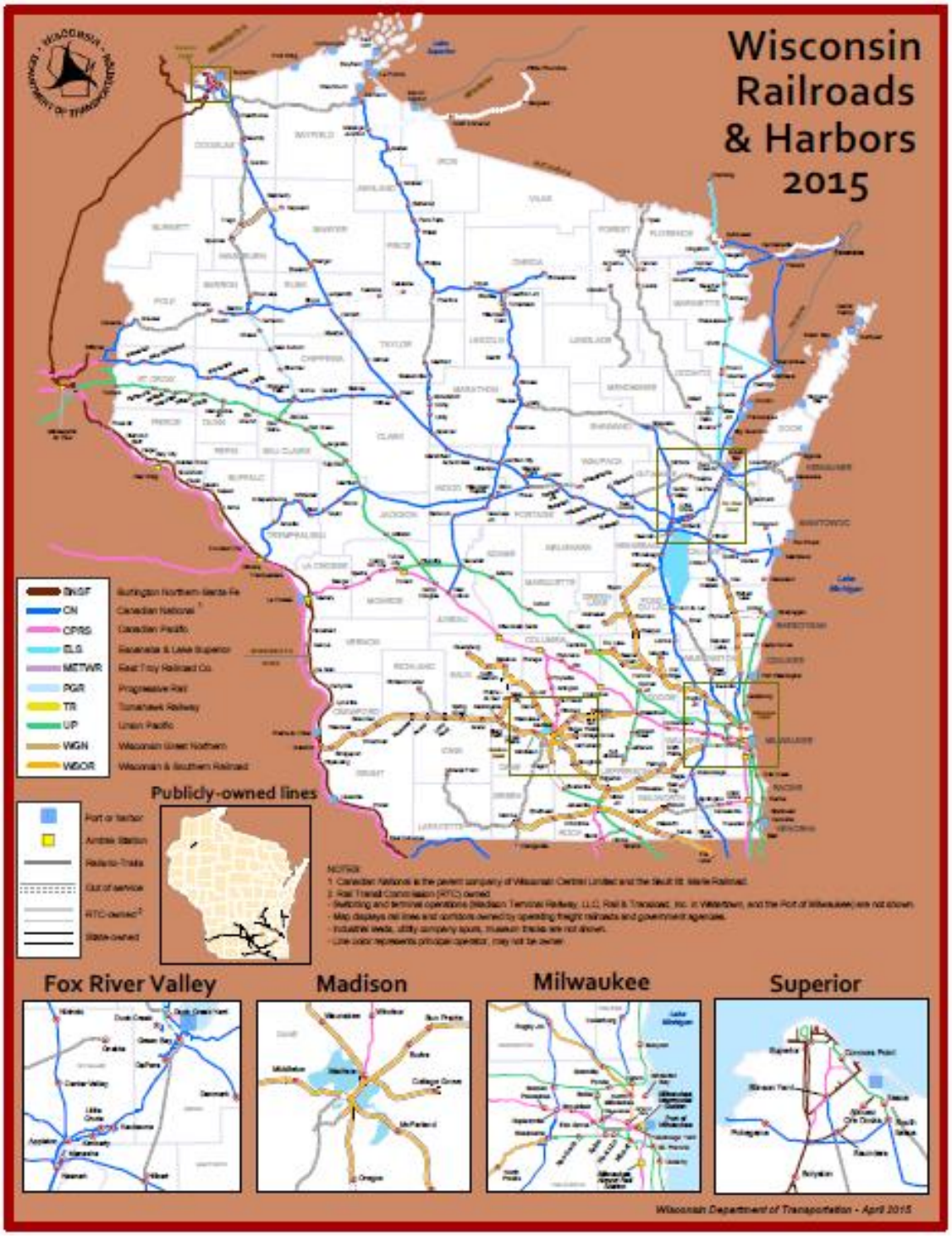
Dodge County Law Enforcement Districts



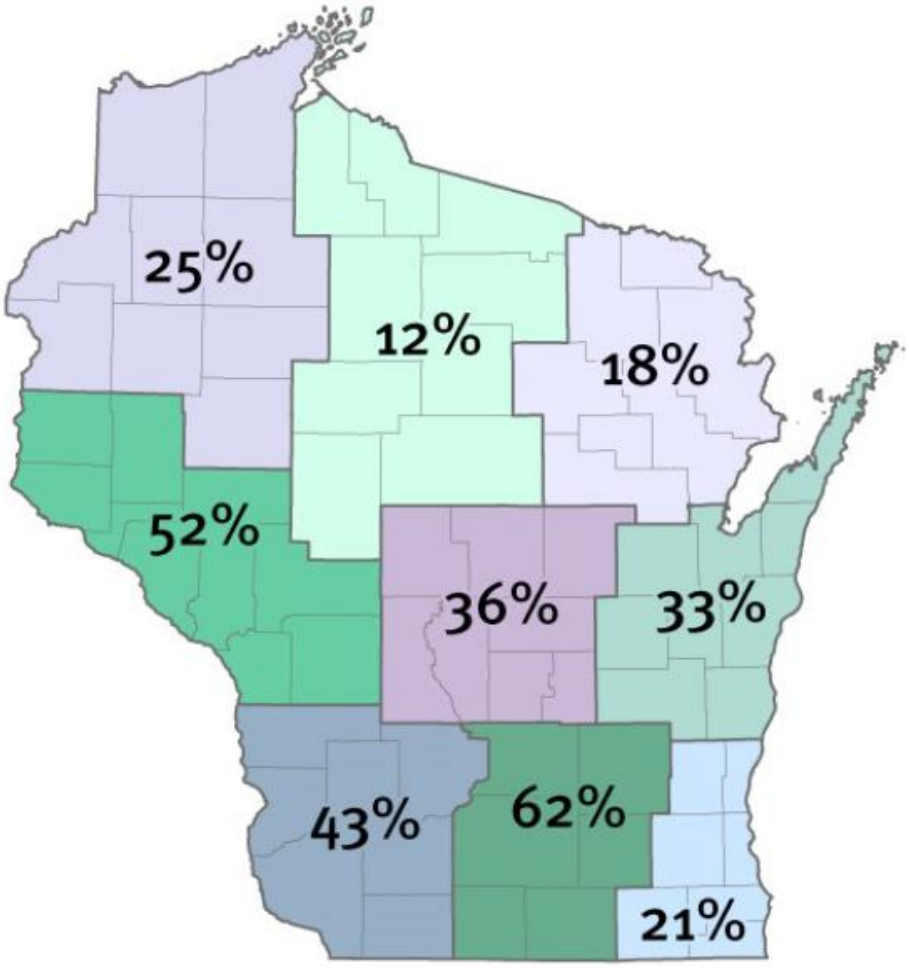
Wisconsin State Patrol Regions



Wisconsin Railroads & Harbors



Percentage of Private Wells with Detectable Herbicides or Herbicide Metabolites (2001)[144]

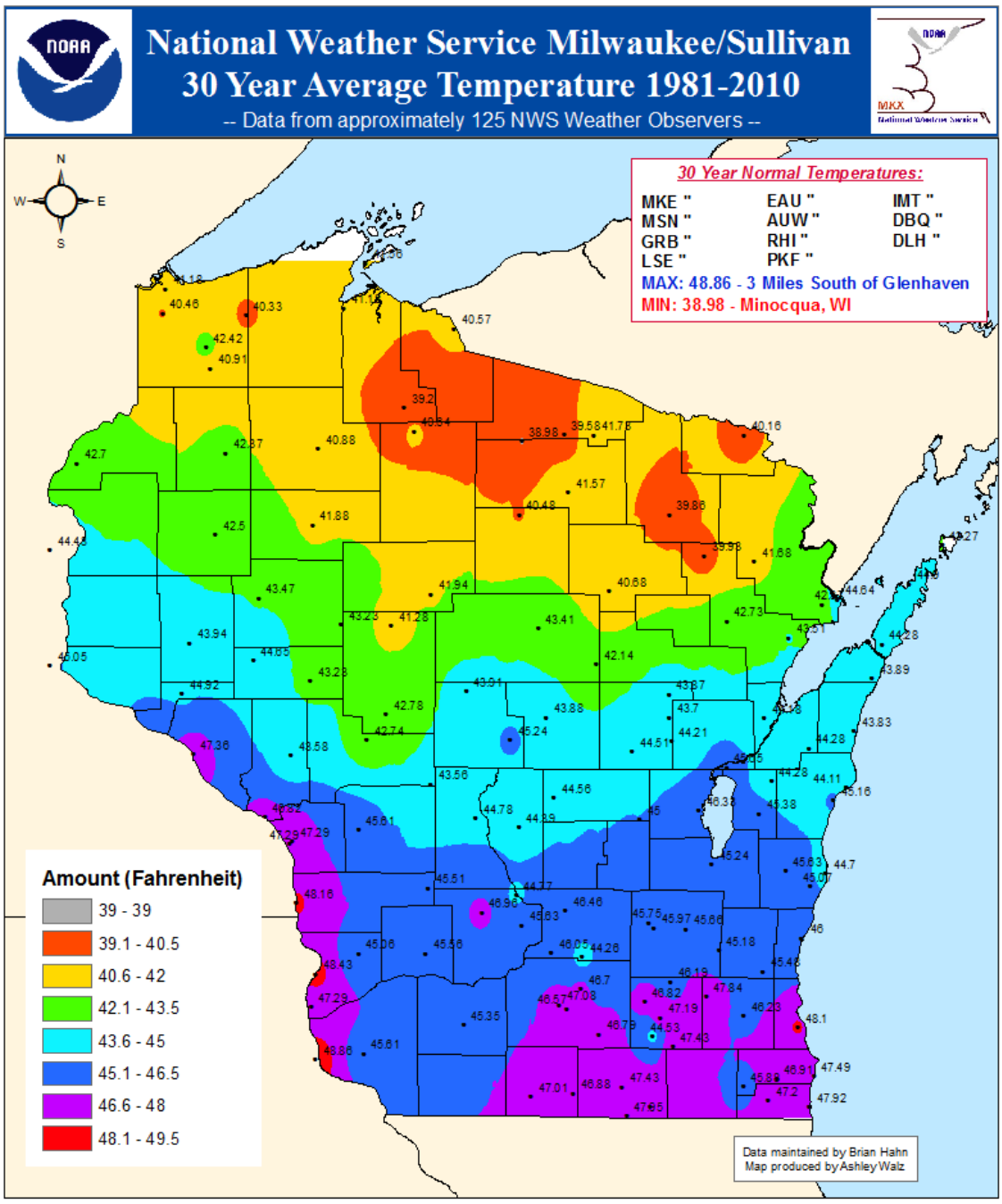


Herbicide data: Wisconsin Department of Agriculture, Trade and Consumer Protection, 2002, Agricultural chemicals in Wisconsin groundwater: final report, *http://www.datcp.state.wi.us/arm/agriculture/land-water/environ_quality/pdf/arm-pub-98.pdf*

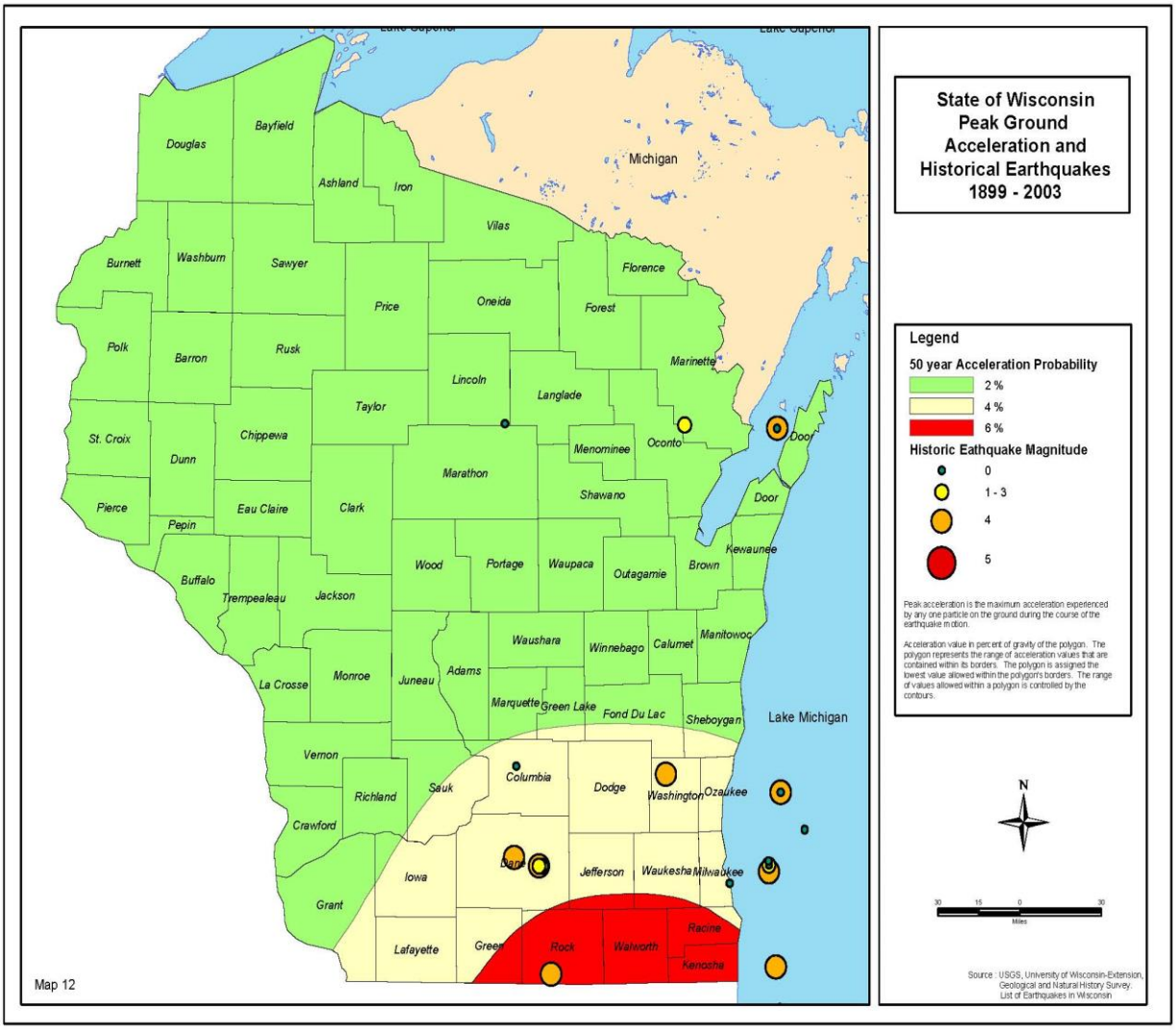
Figure created for the "Protecting Wisconsin's Groundwater Through Comprehensive Planning" web site, 2007, *http://wi.water.usgs.gov/gwcomp/*

[144] https://wi.water.usgs.gov/gwcomp/find/dodge/pesticidestate.html

Wisconsin 30 Year Average Temperature

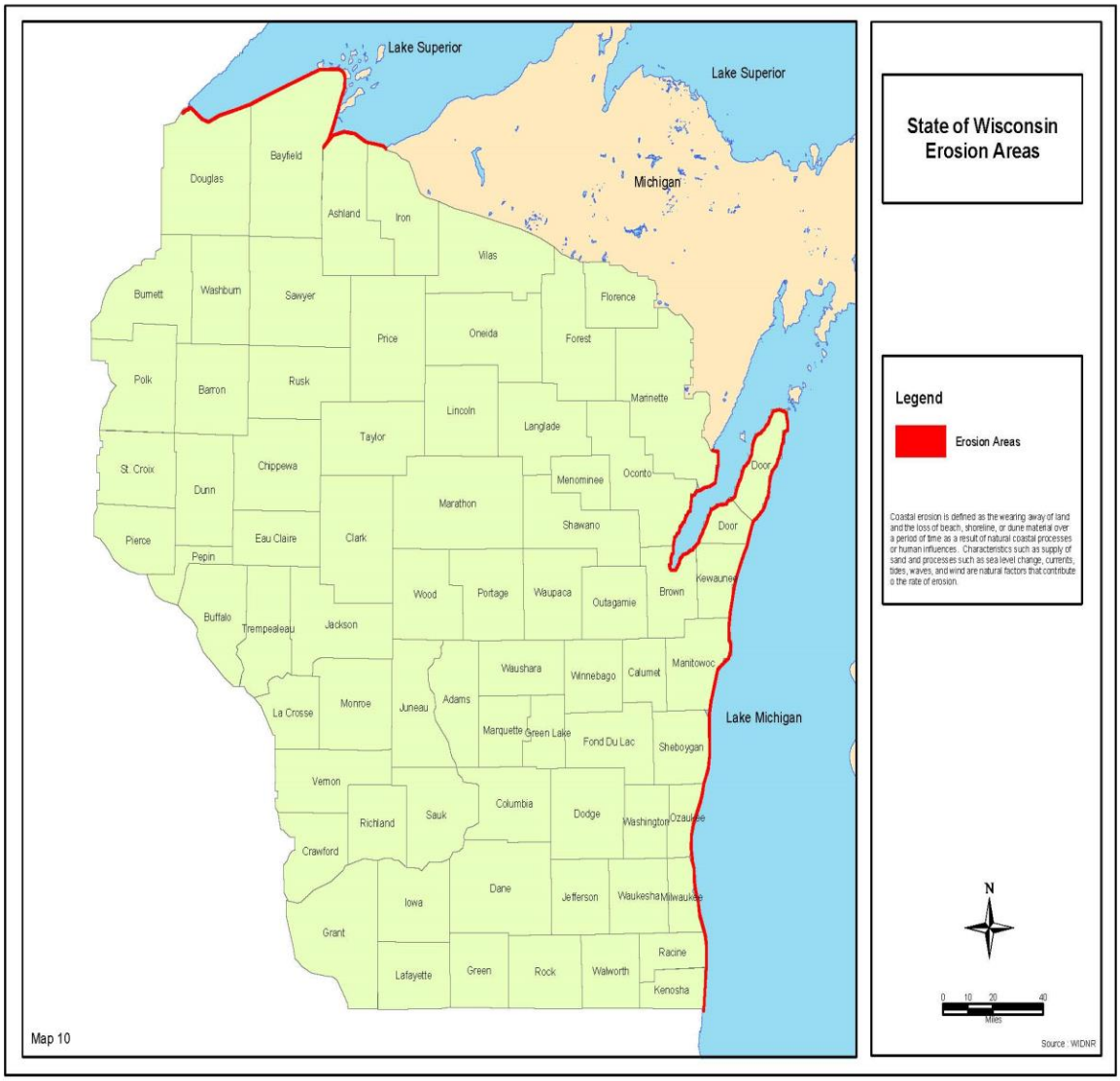


Earthquakes in Wisconsin[145]



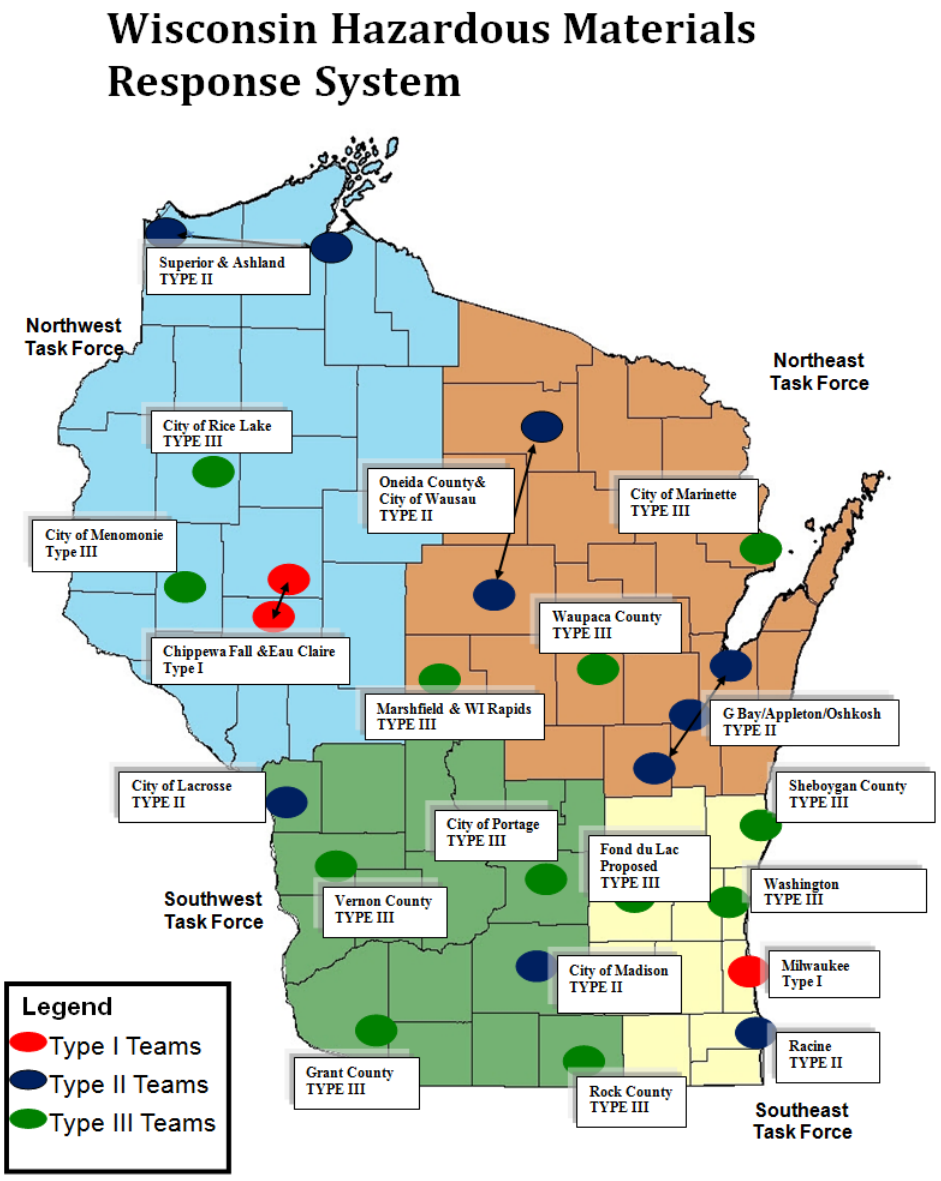
[145] Wisconsin Emergency Management, State Hazard Mitigation Plan

Erosion Areas in Wisconsin[146]

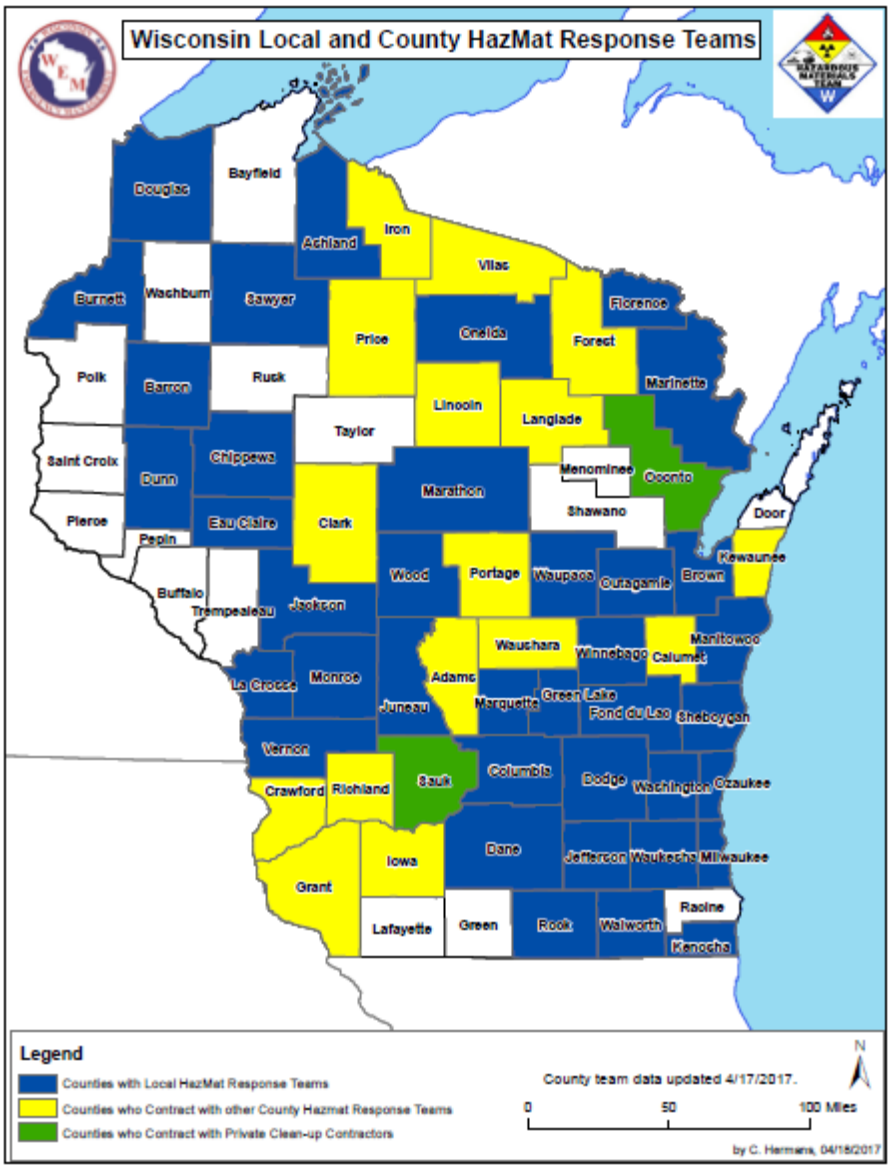


[146] Wisconsin Emergency Management, State Hazard Mitigation Plan

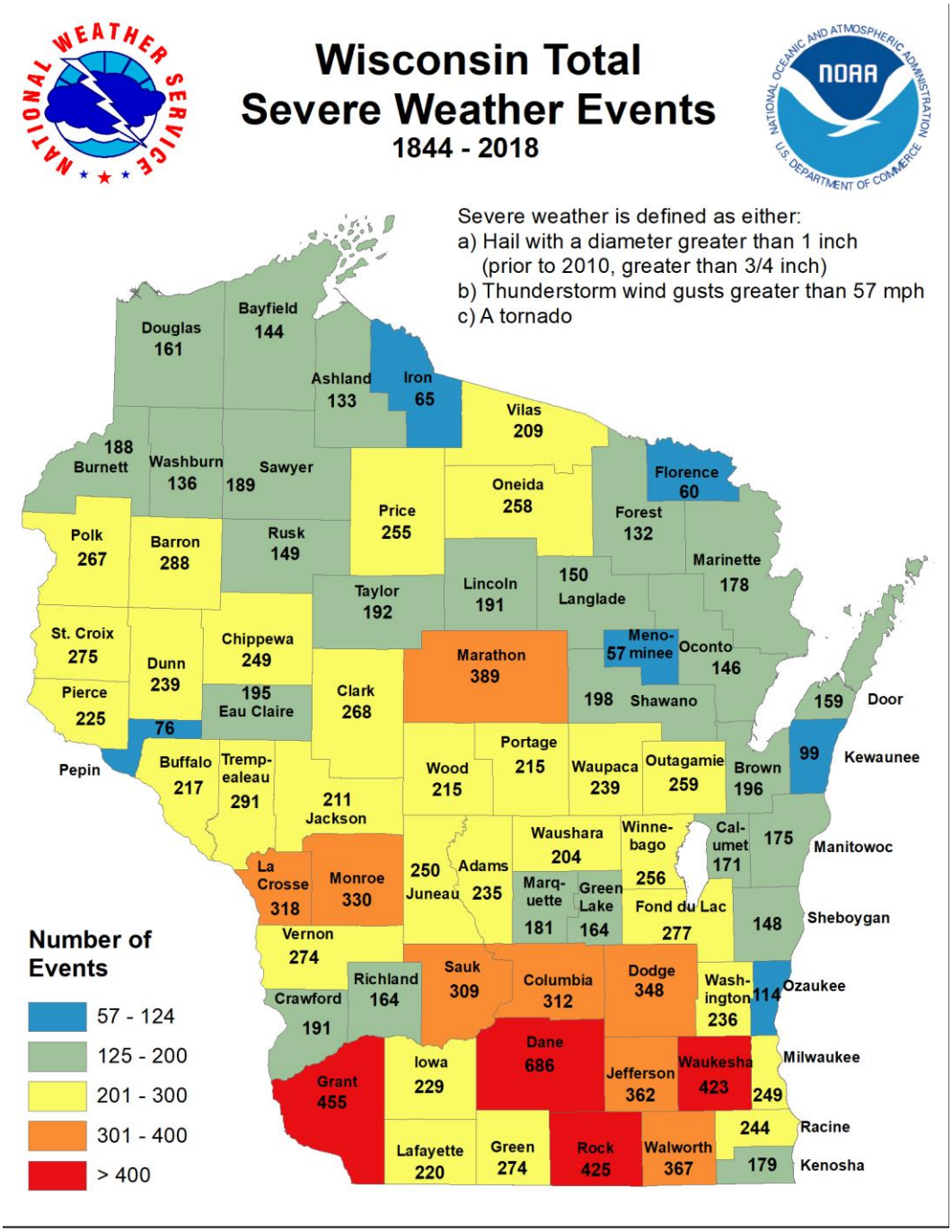
Wisconsin's Regional & County/Local HazMat Response Teams



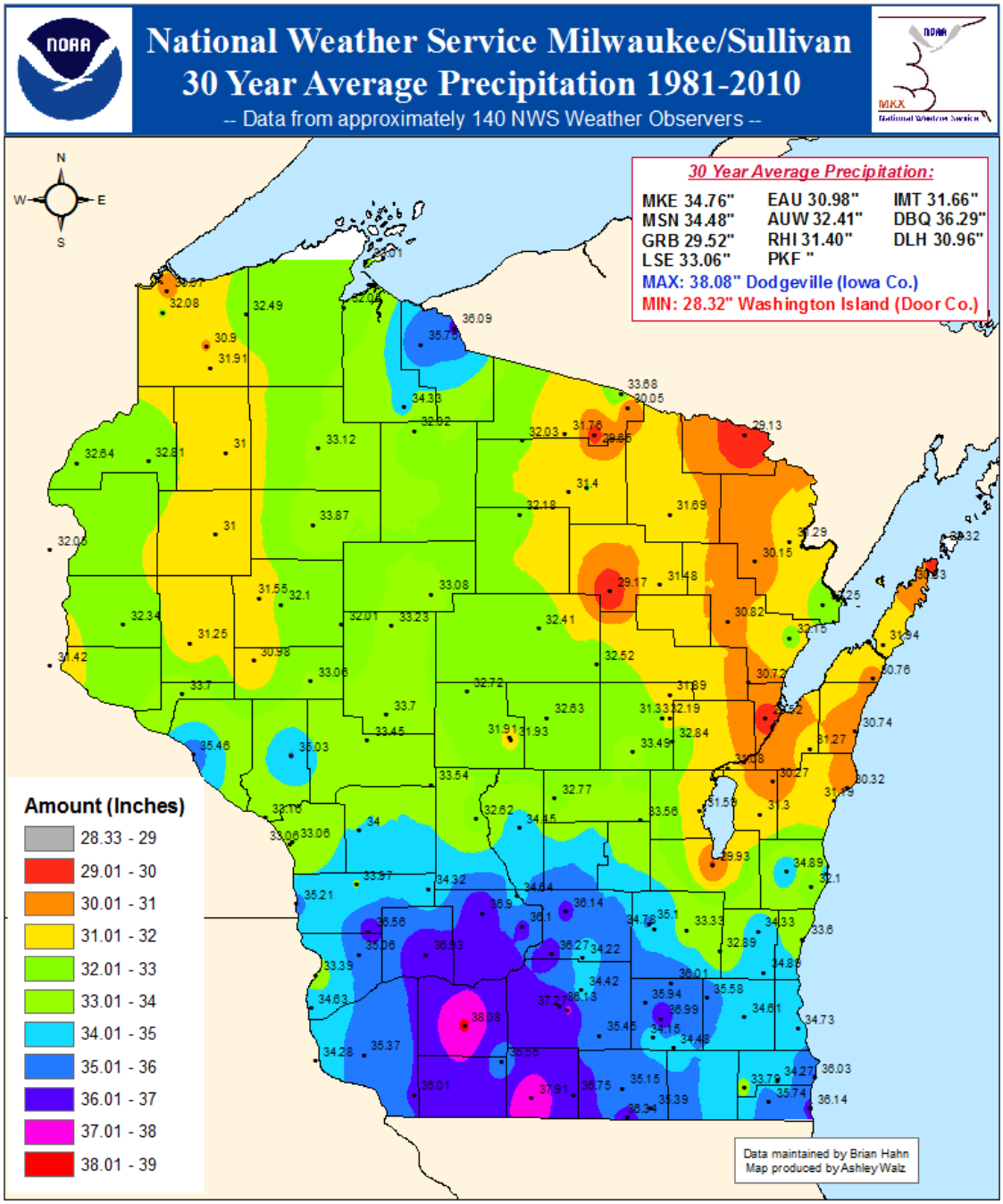
Wisconsin Hazardous Materials Response Teams



Wisconsin Total Severe Weather Events

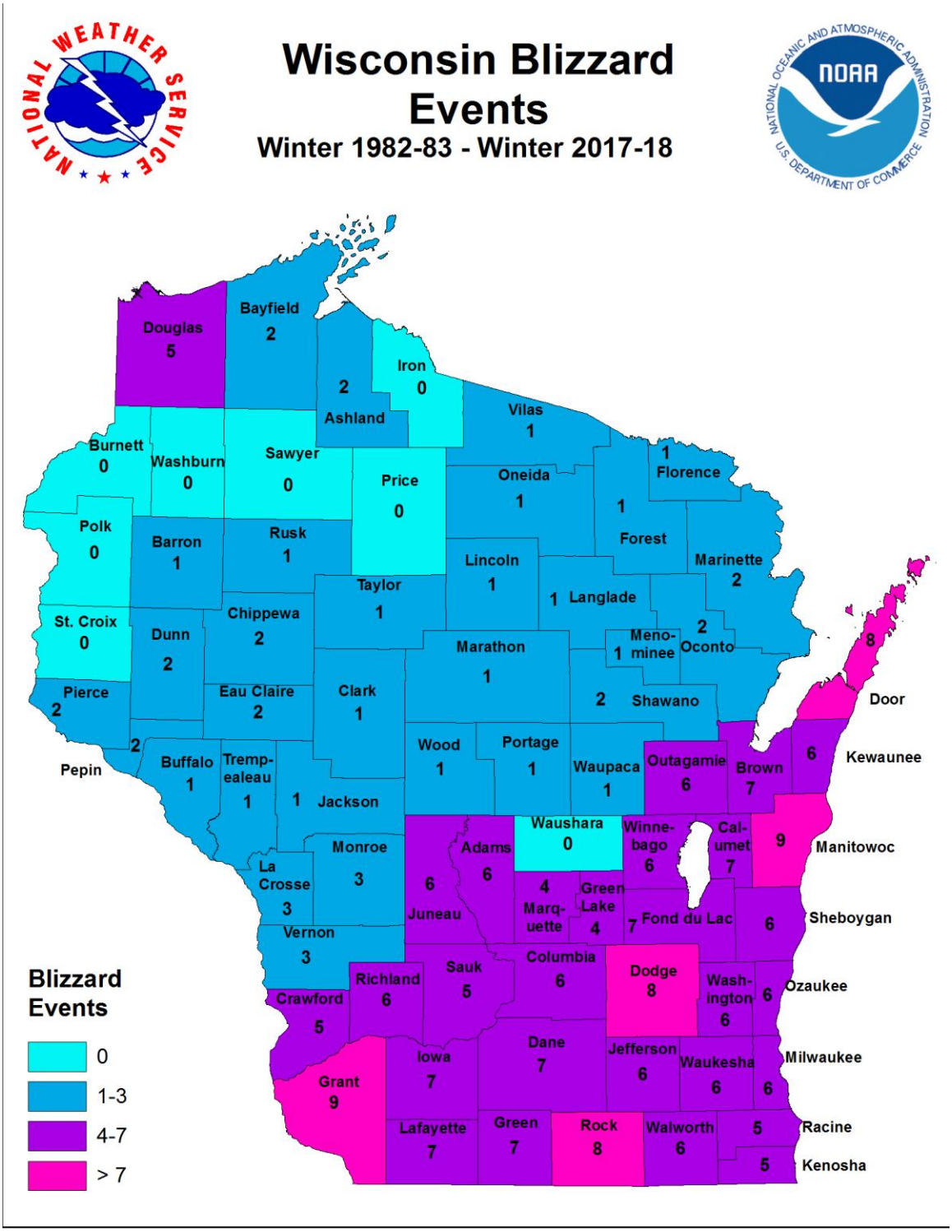


Wisconsin 30-Year Average Precipitation

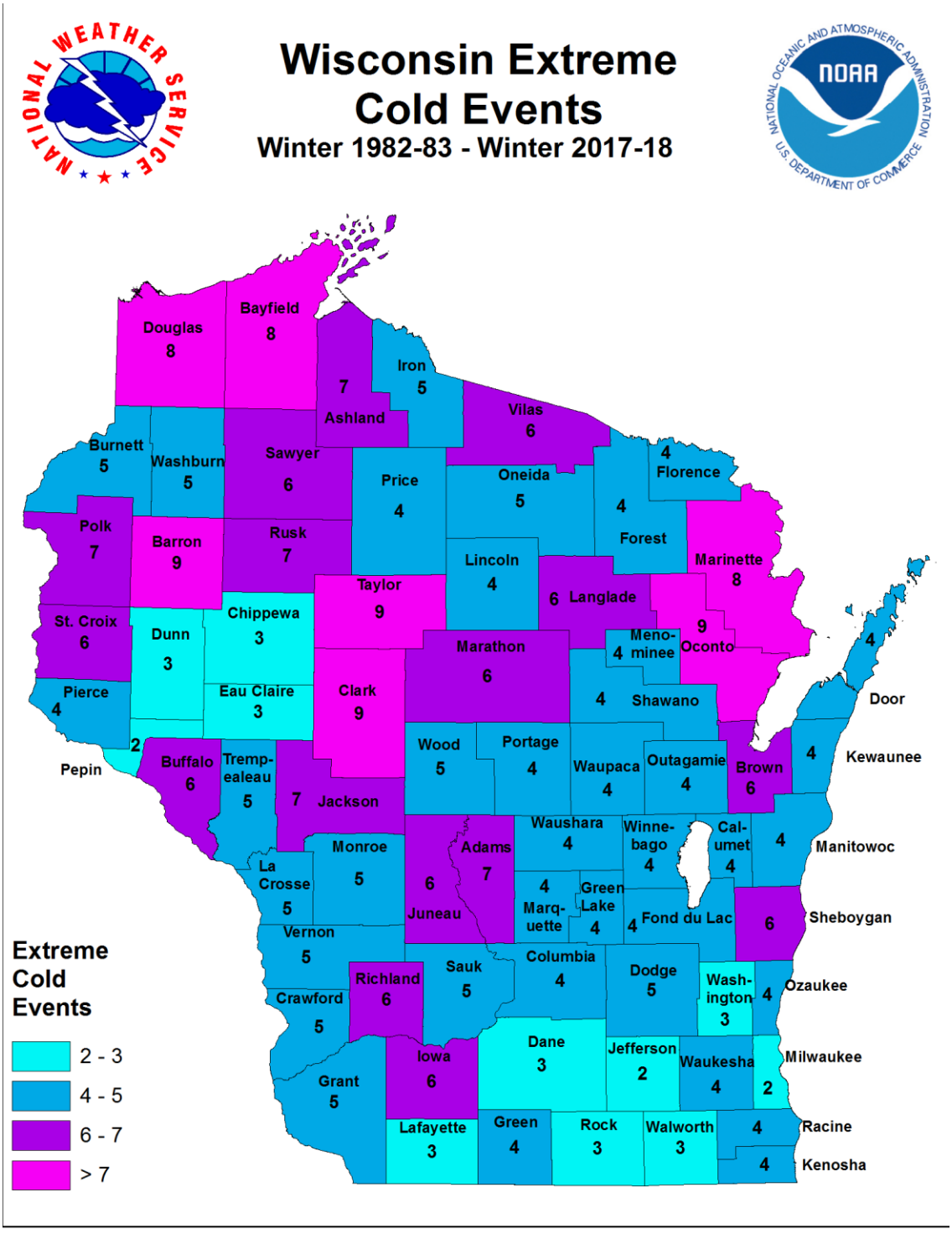


Blizzard Events

Appendix A: Maps

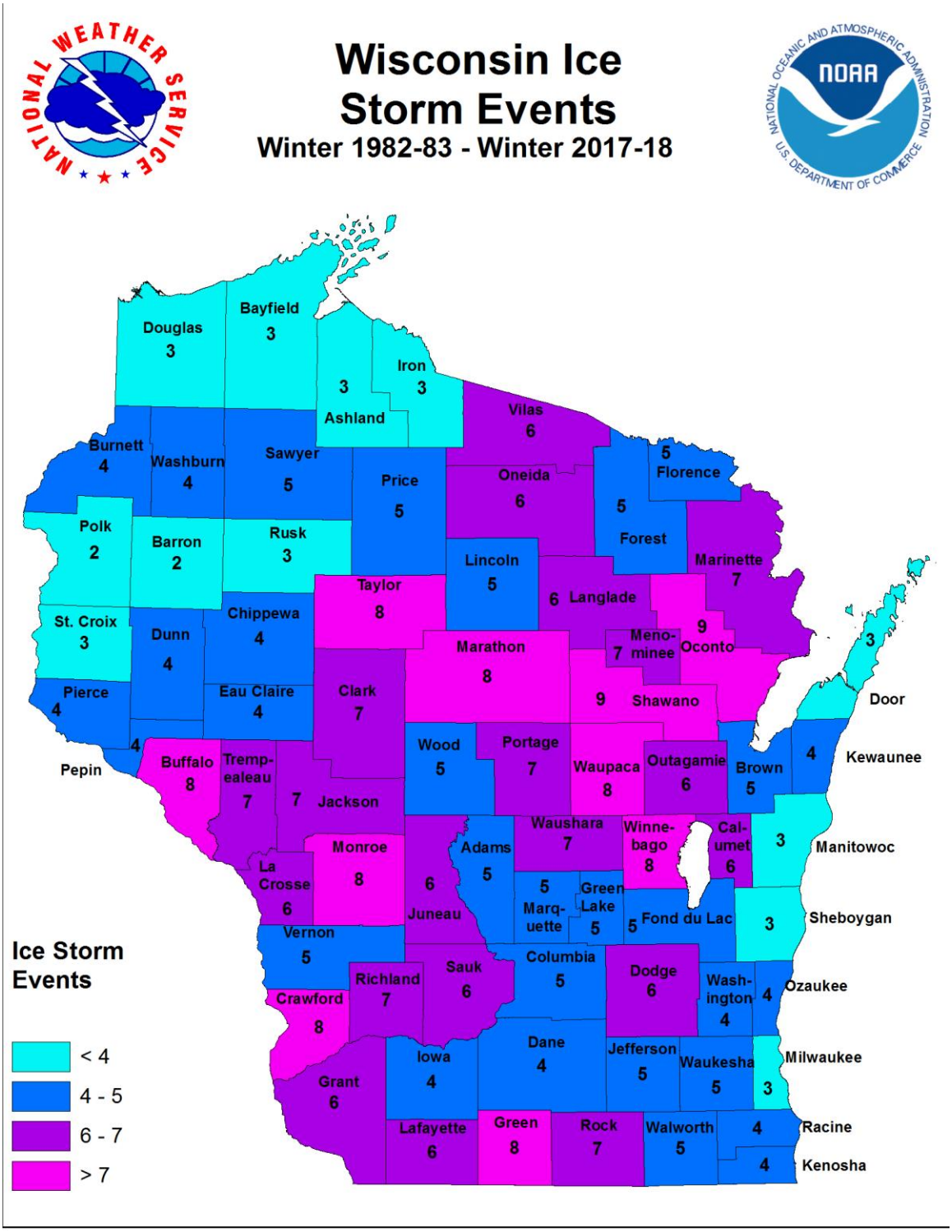


Extreme Cold Events

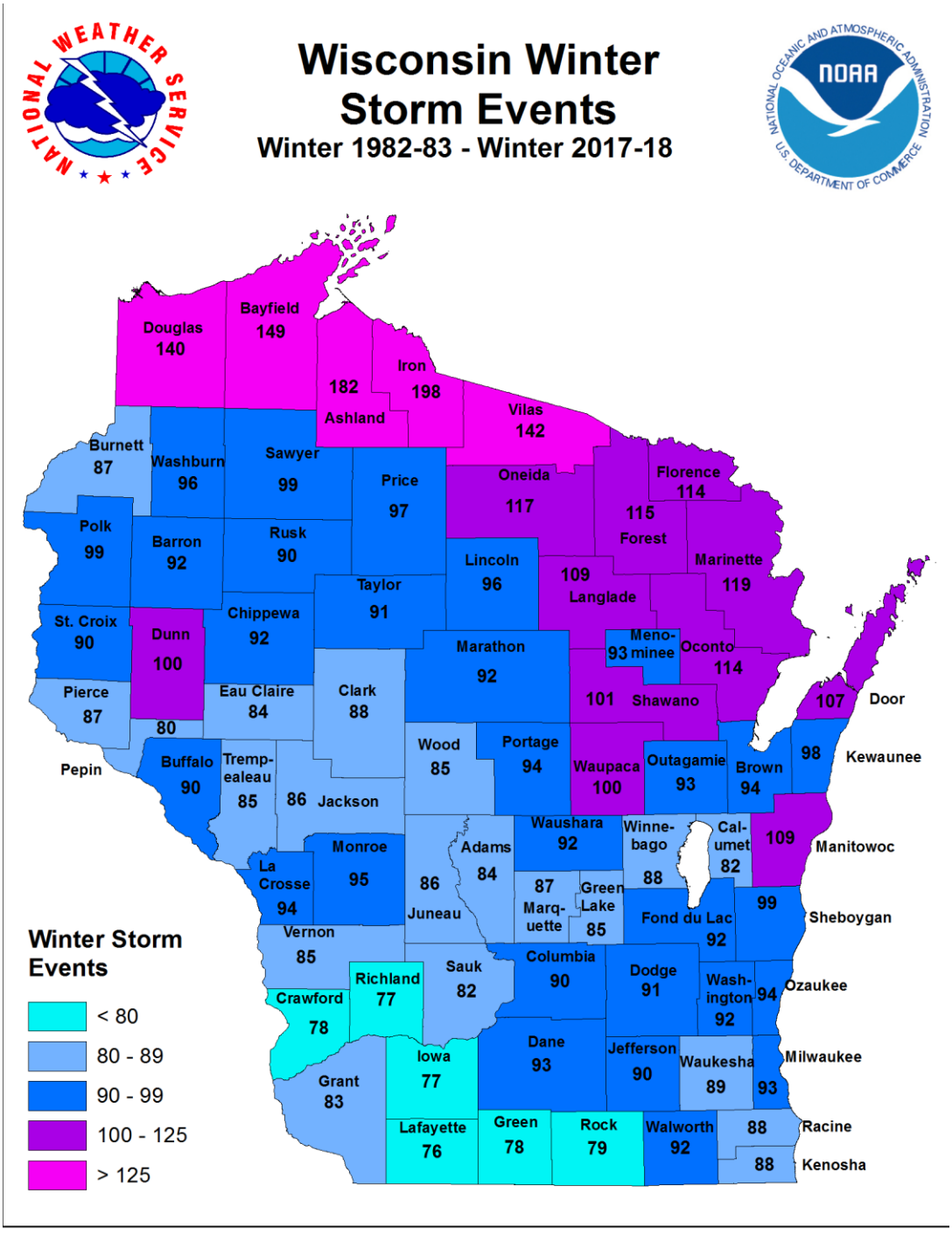


Ice Storm Events

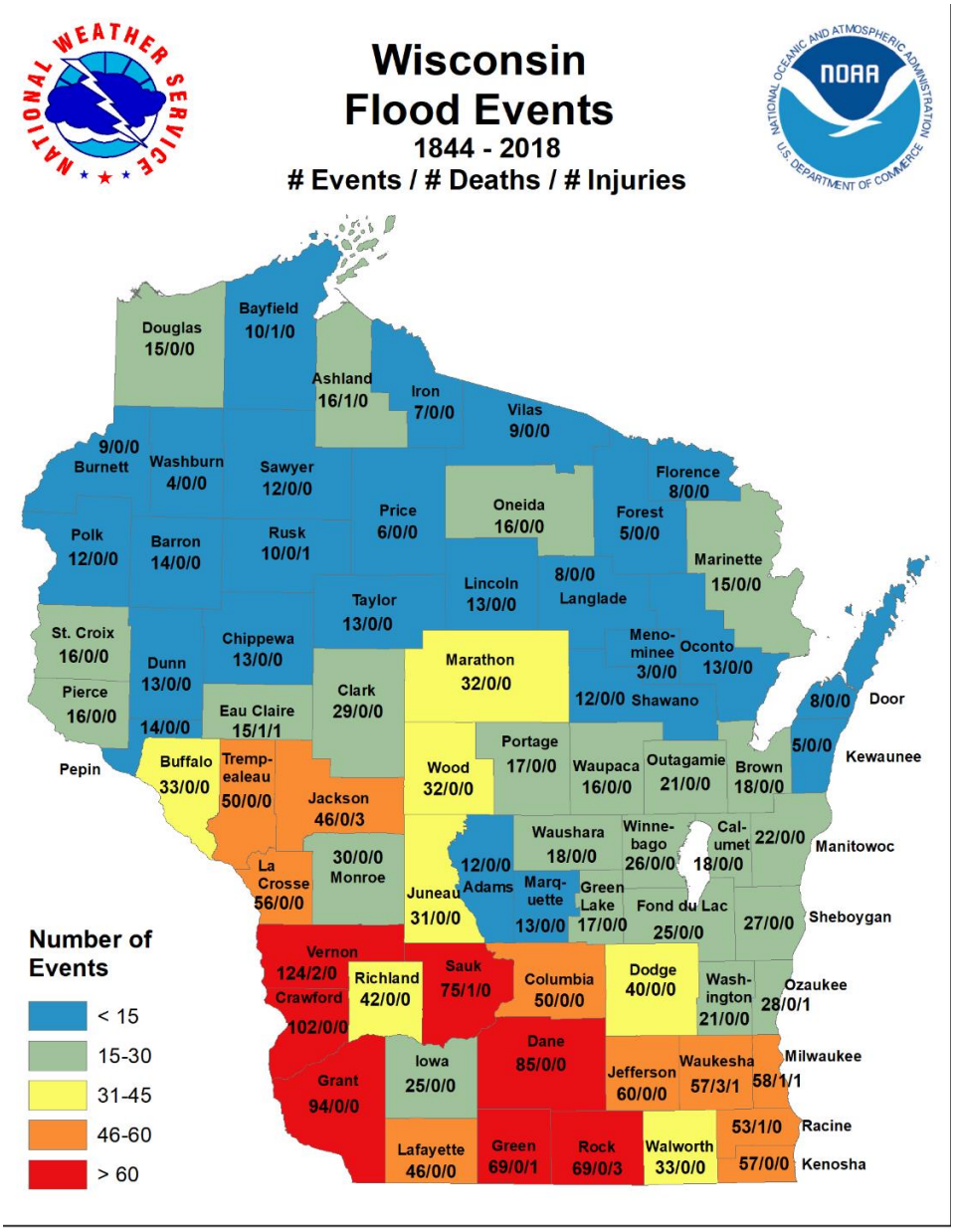
Appendix A: Maps



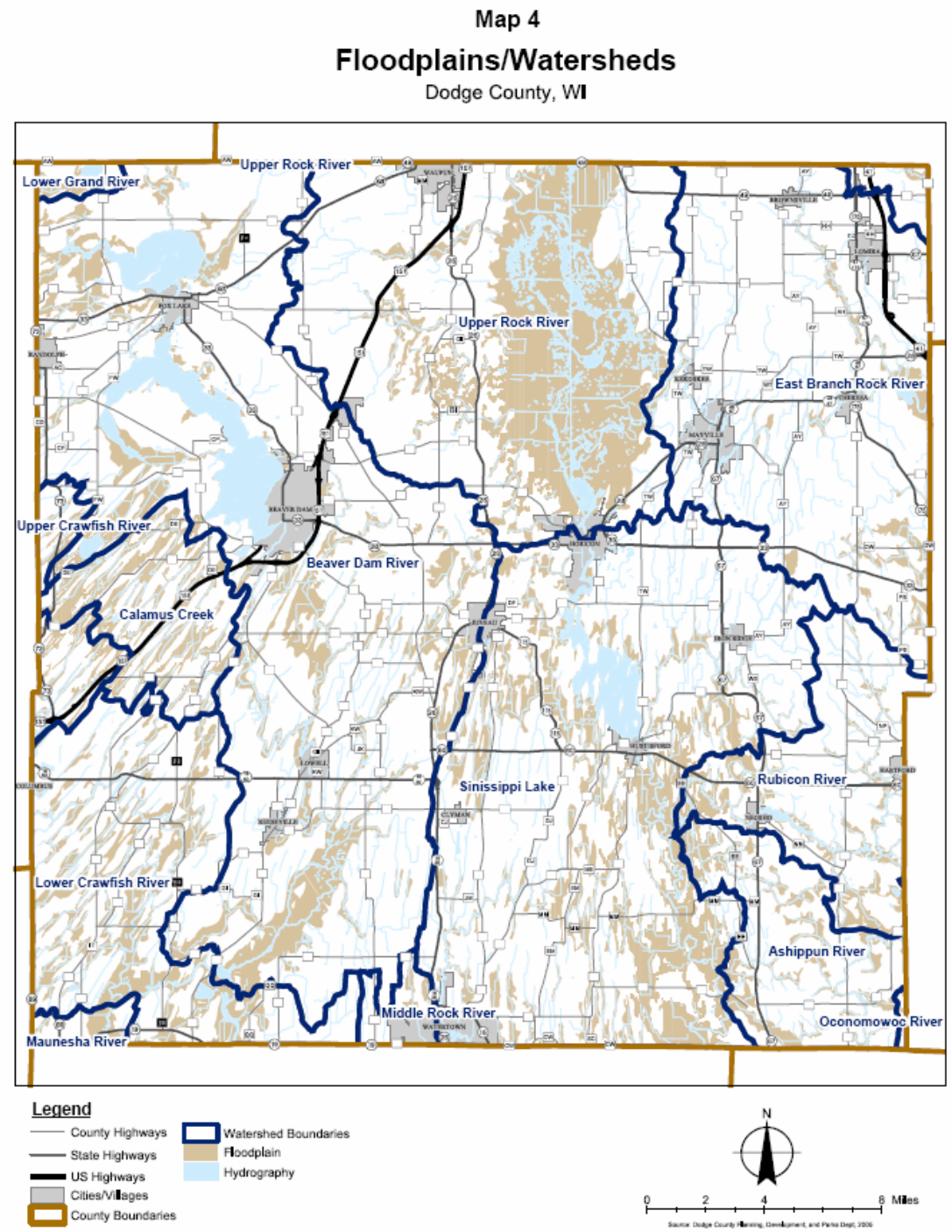
Winter Storm Events


Wisconsin Winter Storm Events
Winter 1982-83 - Winter 2017-18
NATIONAL WEATHER SERVICE
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
Douglas 140
Bayfield 149
Iron 198
Ashland 182
Vilas 142
Burnett 87
Washburn 96
Sawyer 99
Price 97
Oneida 117
Florence 114
Forest 115
Polk 99
Barron 92
Rusk 90
Lincoln 96
Langlade 109
Marinette 119
Taylor 91
St. Croix 90
Dunn 100
Chippewa 92
Marathon 92
Meno-minee 93
Oconto 114
Pierce 87
Eau Claire 84
Clark 88
Shawano 101
Door 107
Pepin 80
Buffalo 90
Tremp-ealeau 85
Jackson 86
Wood 85
Portage 94
Waupaca 100
Outagamie 93
Brown 94
Kewaunee 98
Waushara 92
Winne-bago 88
Cal-umet 82
Manitowoc 109
Monroe 95
La Crosse 94
Adams 84
Juneau 86
Marq-uette 87
Green Lake 85
Fond du Lac 92
Sheboygan 99
Vernon 85
Columbia 90
Dodge 91
Wash-ington 92
Ozaukee 94
Richland 77
Sauk 82
Crawford 78
Grant 83
Iowa 77
Dane 93
Jefferson 90
Waukesha 89
Milwaukee 93
Lafayette 76
Green 78
Rock 79
Walworth 92
Racine 88
Kenosha 88
Winter Storm Events
< 80
80 - 89
90 - 99
100 - 125
> 125

Wisconsin Total Flood Events



Dodge County Watersheds

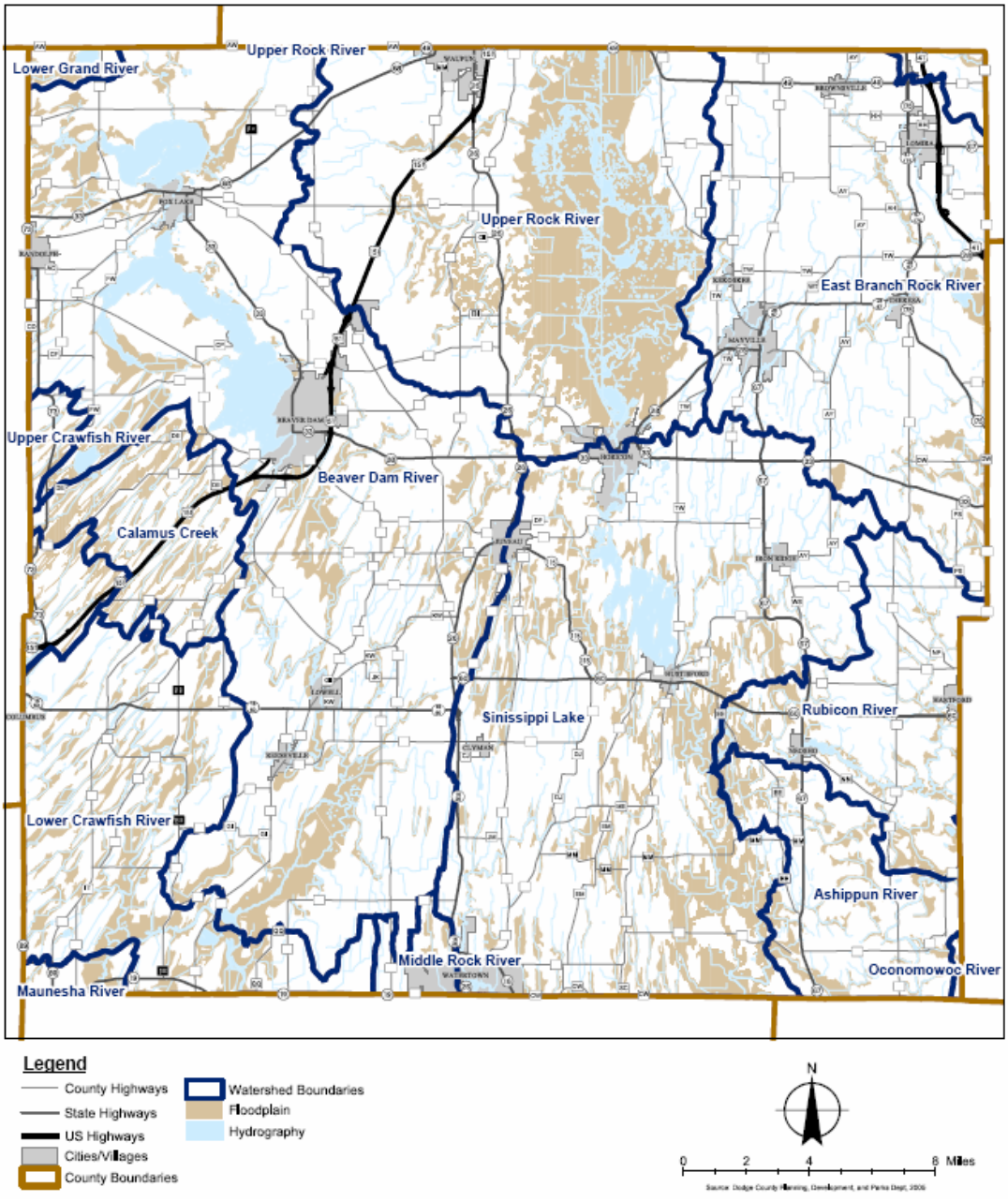


Dodge County Floodplains

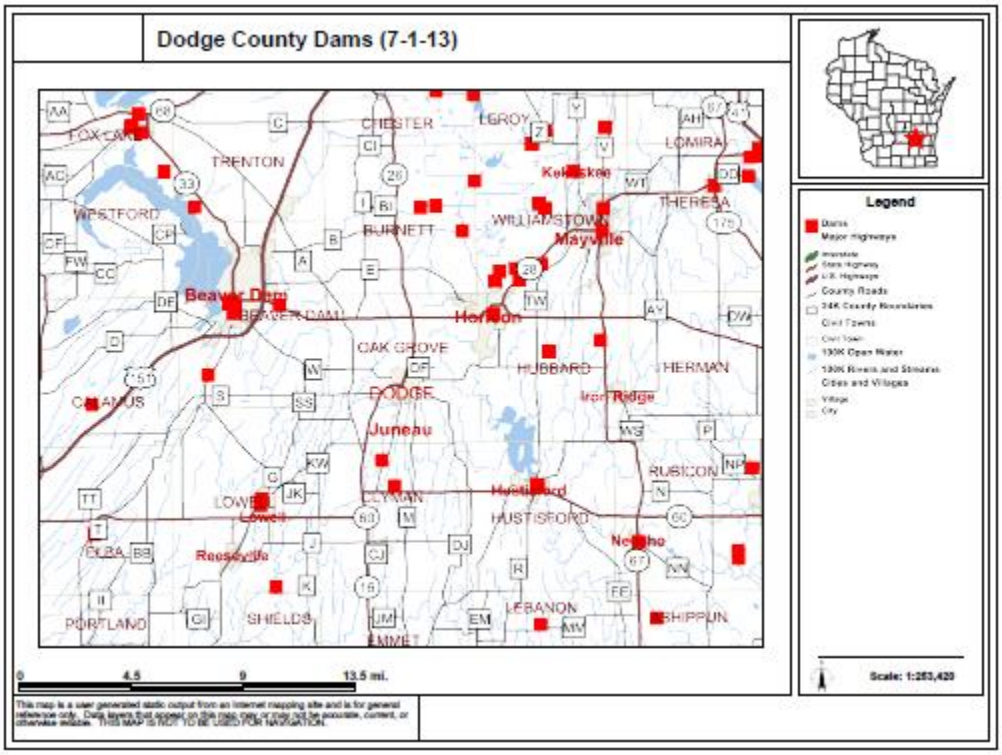
Map 4

Floodplains/Watersheds

Dodge County, WI



Dodge County Dams[147]



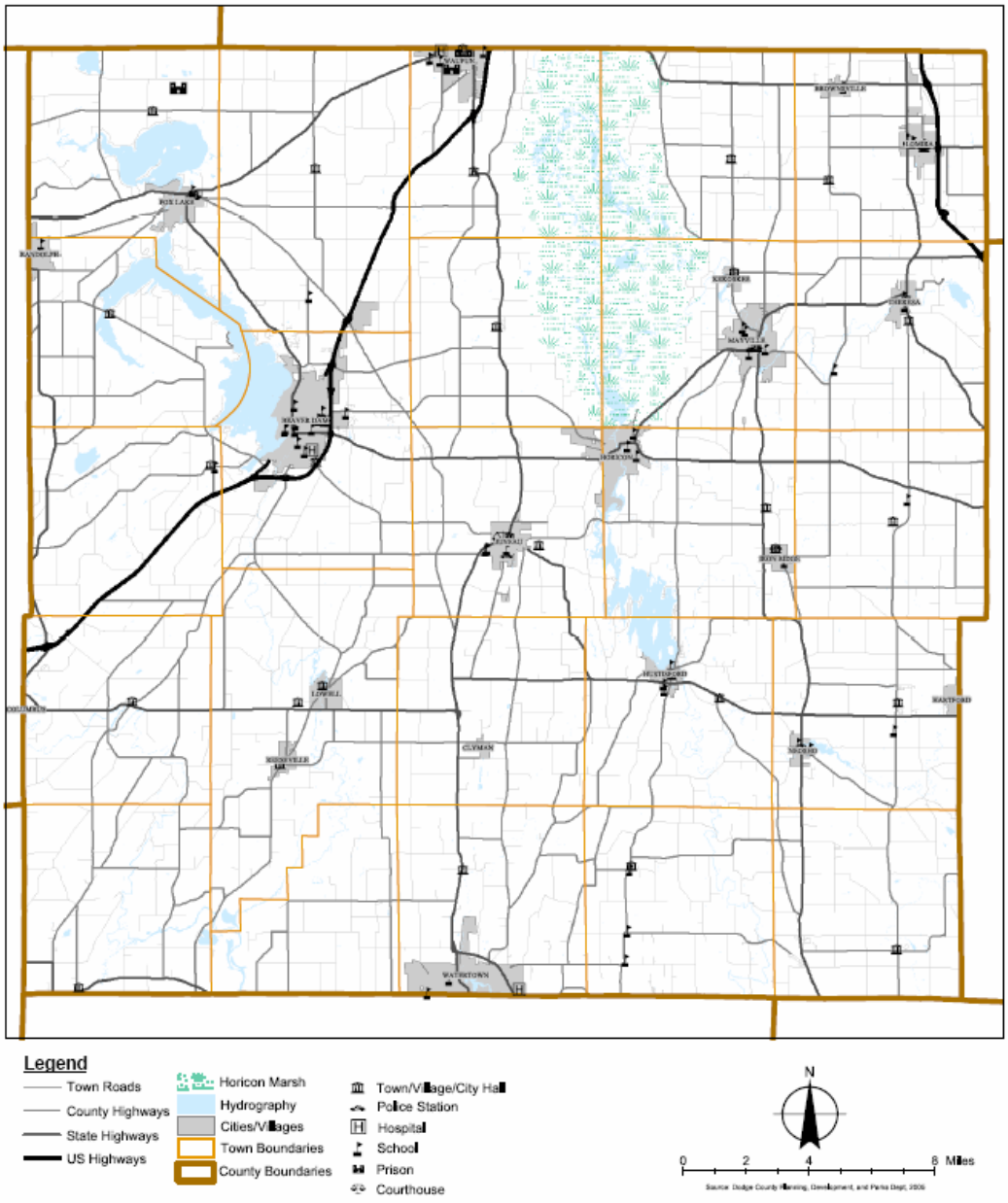
[147] http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=SurfaceWaterViewer

Dodge County Critical Facilities

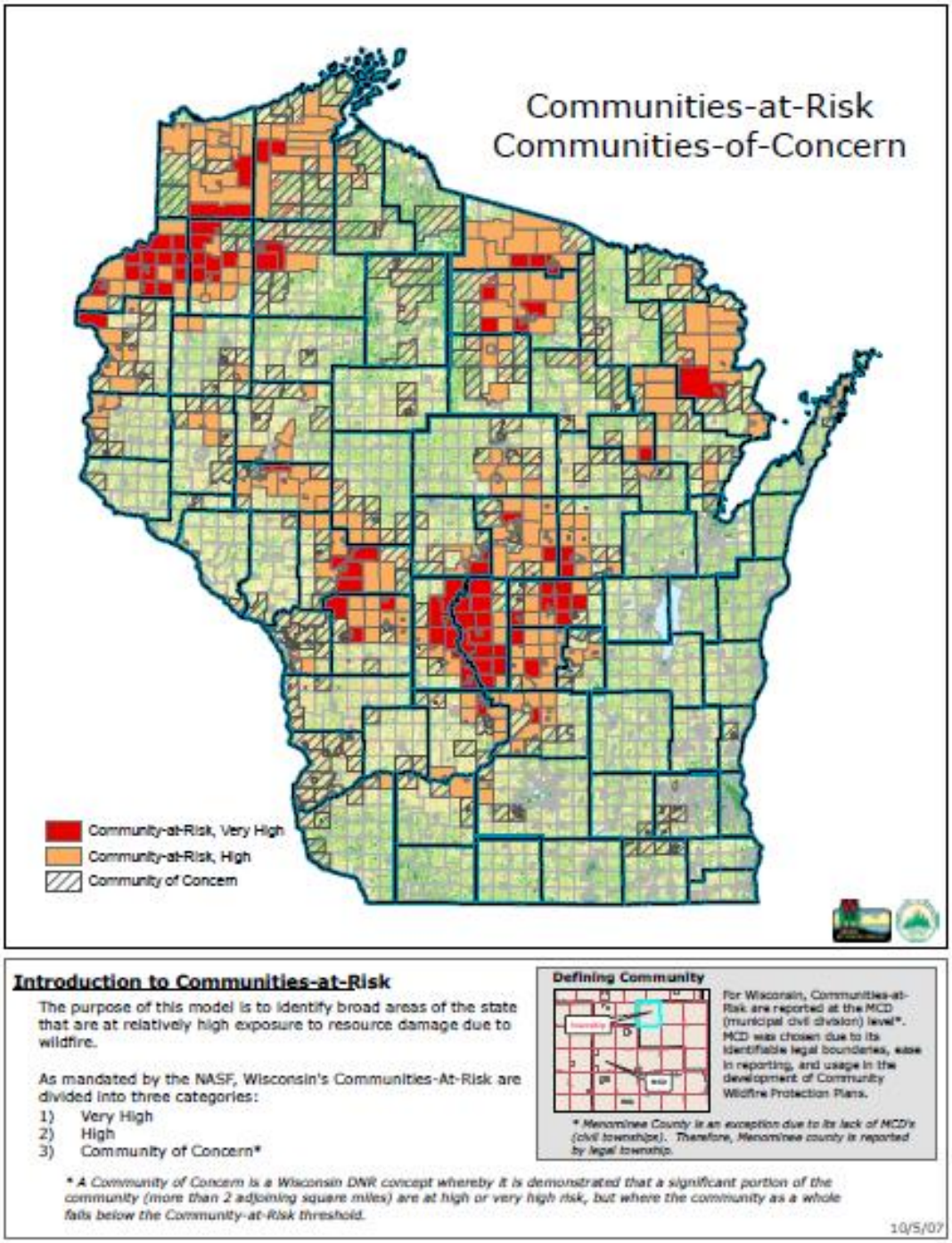
Map 8

Critical Facilities

Dodge County, WI

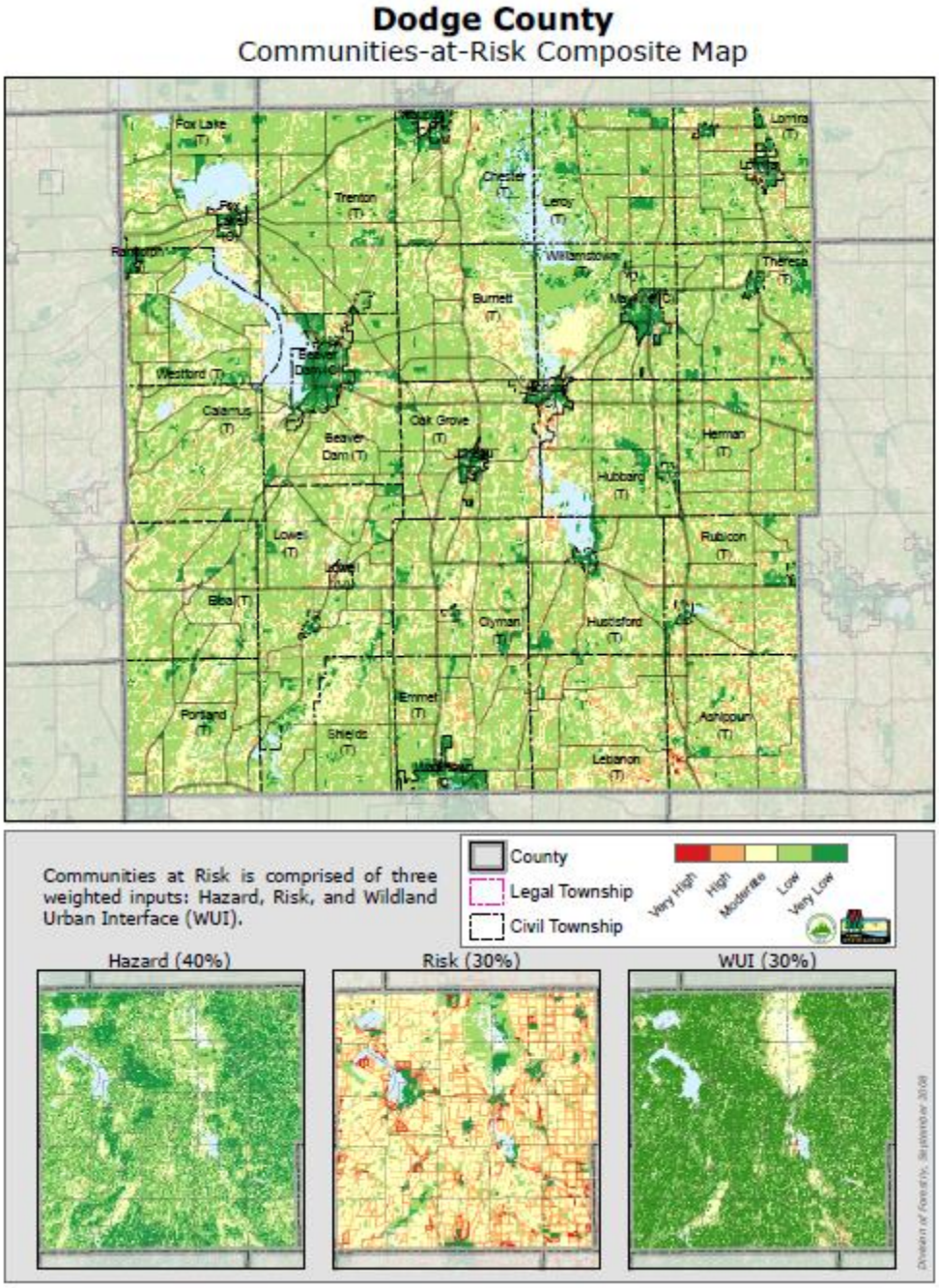


Wildfire Communities-at-Risk[148]



[148] Wisconsin Department of Natural Resources

Wildfire Communities-at-Risk Composite Map[149]

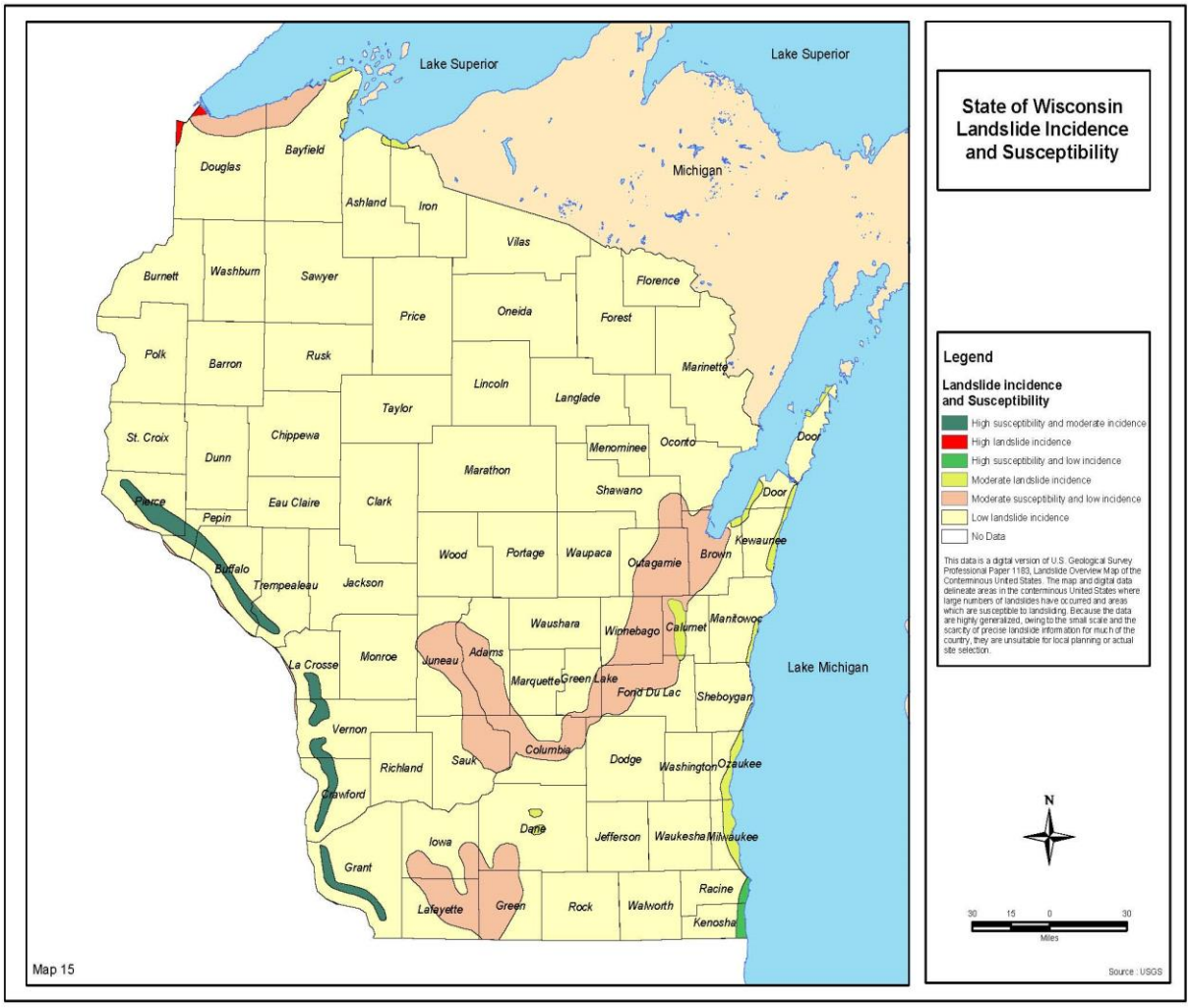


[149] Wisconsin Department of Natural Resources

Wildfire Communities-at-Risk Municipal Map[150]

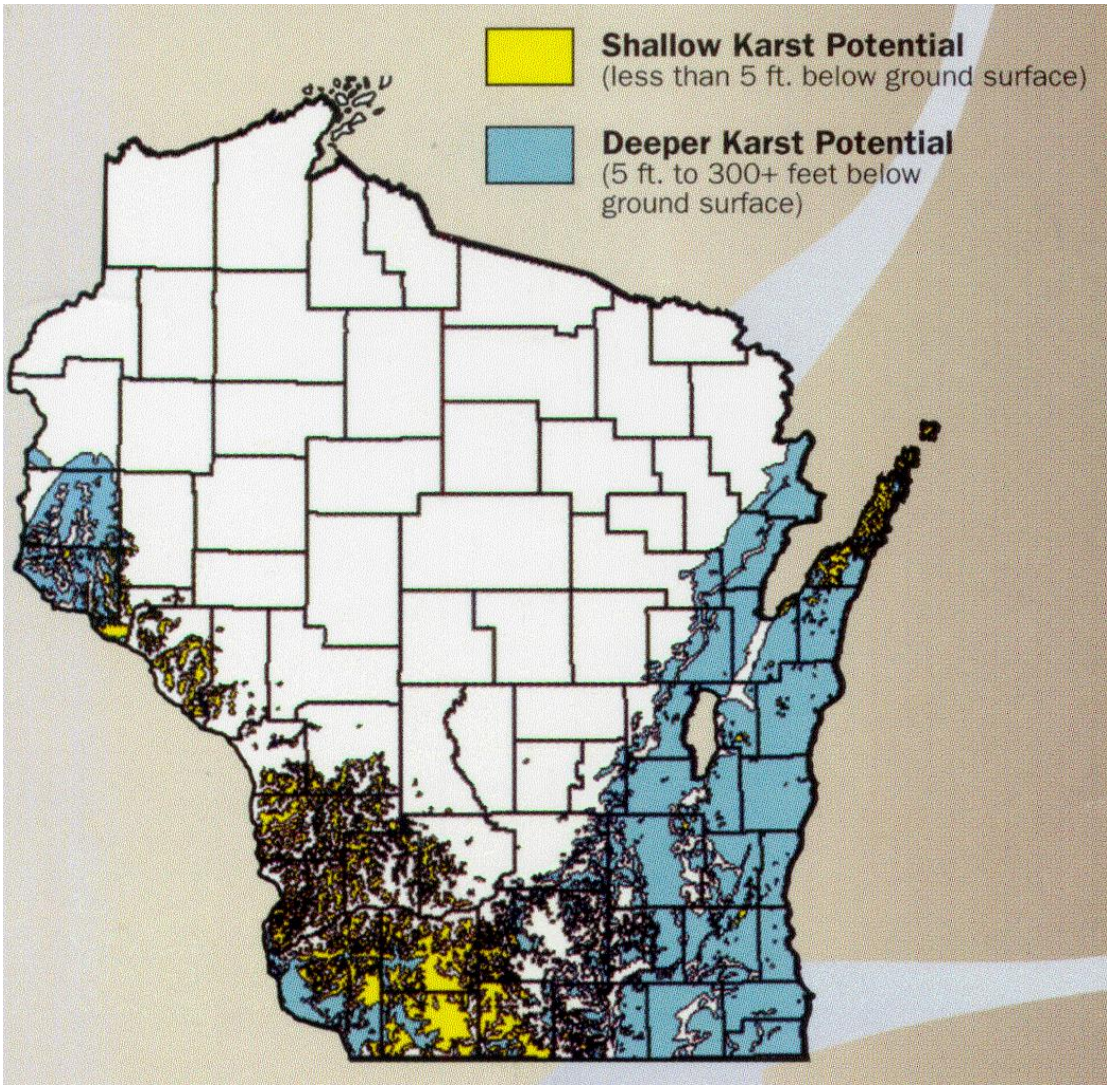
[150] Wisconsin Department of Natural Resources

Landslide Incidence and Susceptibility[151]



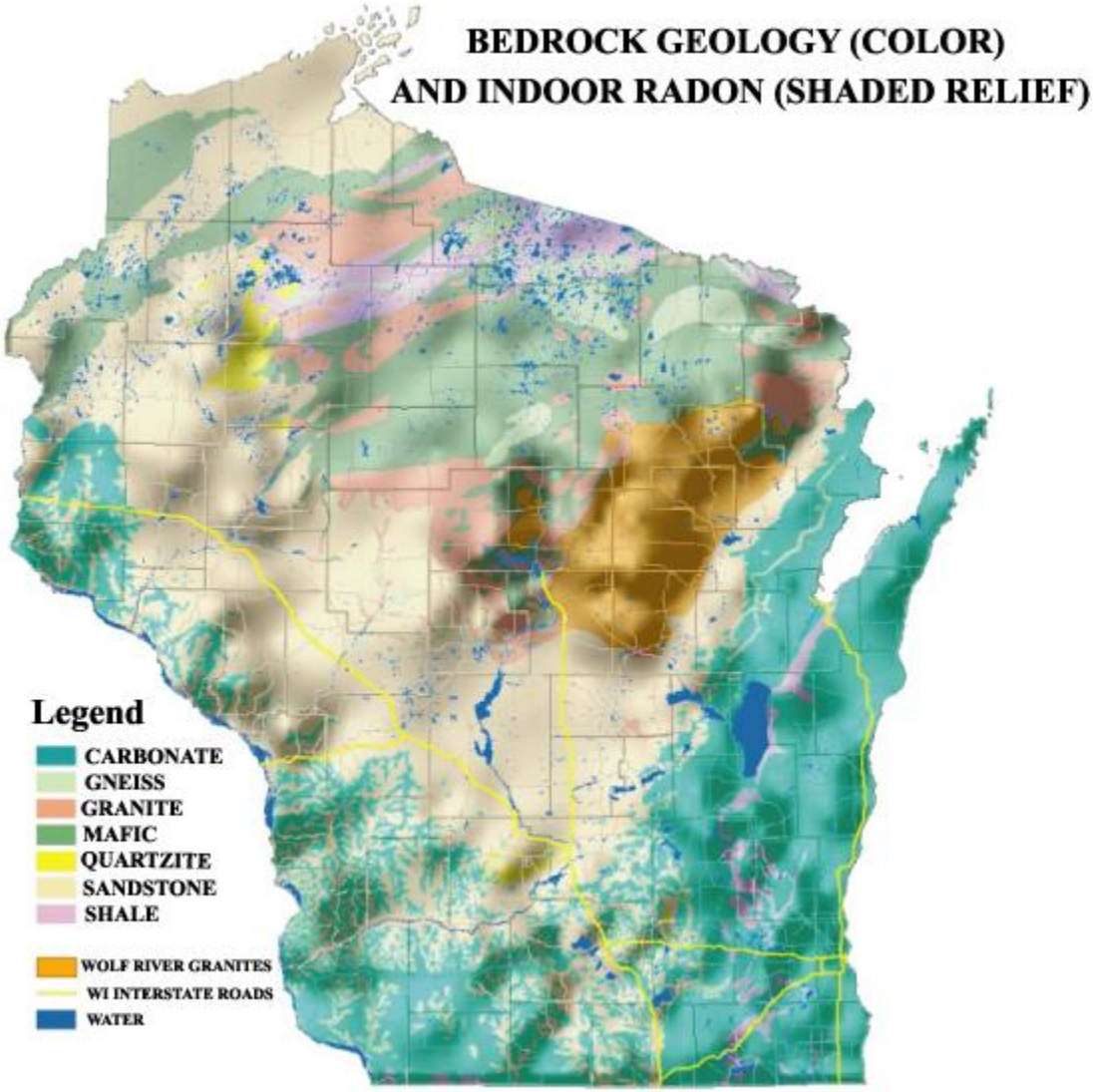
[151] Wisconsin Emergency Management, State Hazard Mitigation Plan

Karst Potential[152]



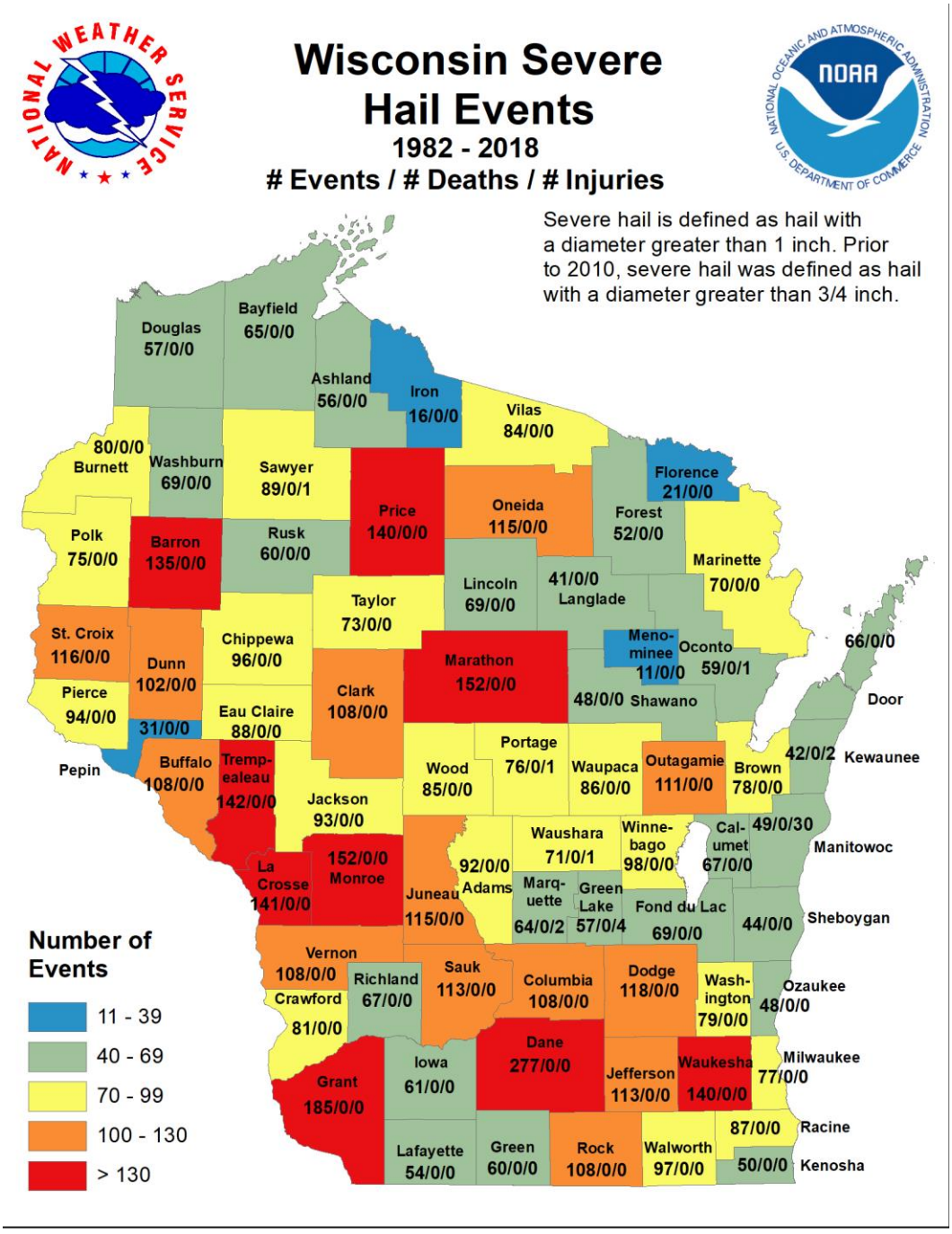
[152] Wisconsin Emergency Management, State Hazard Mitigation Plan

Wisconsin Indoor Radon[153]

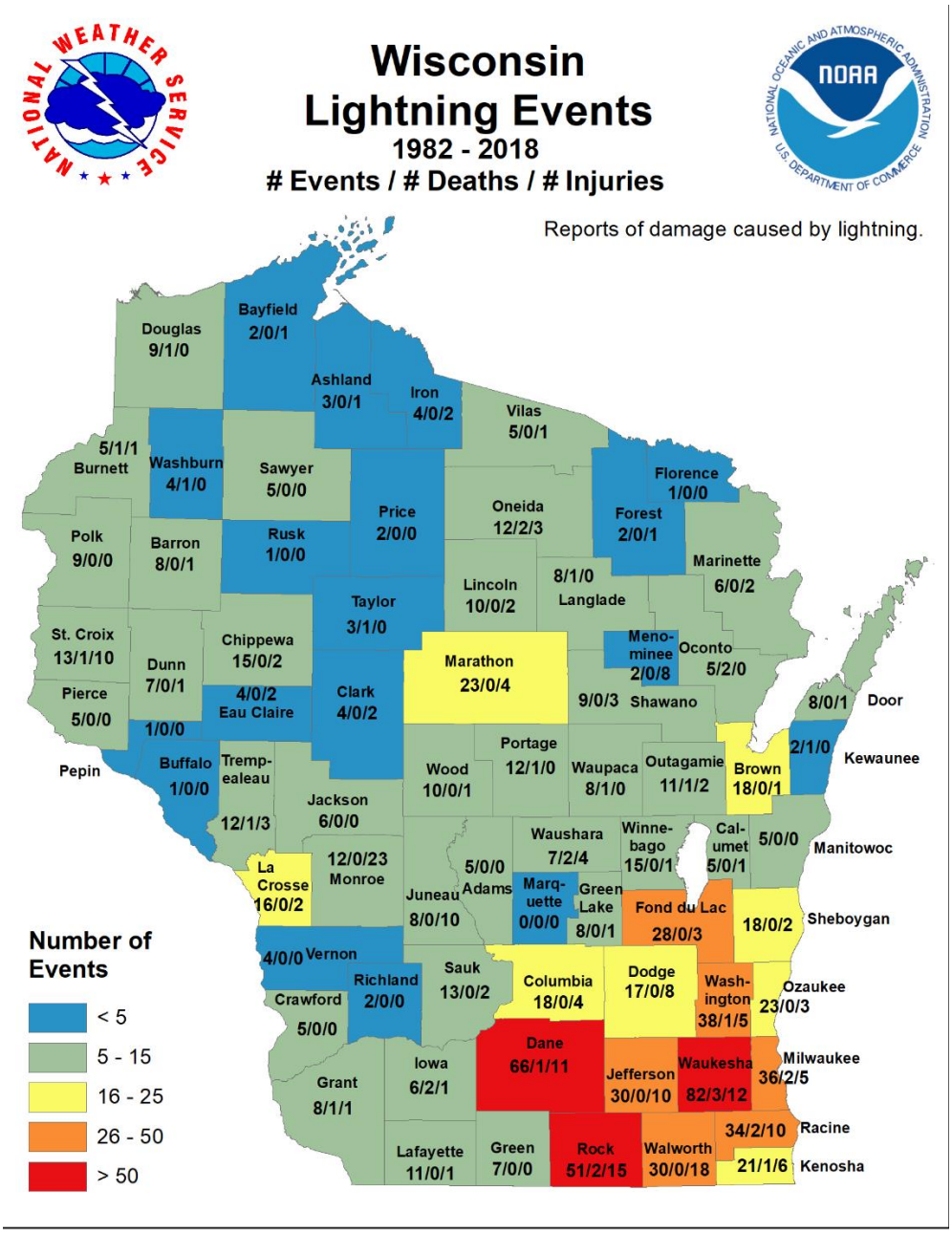


[153] http://www.dhs.wisconsin.gov/radiation/radon/GeologyMapLarge.htm

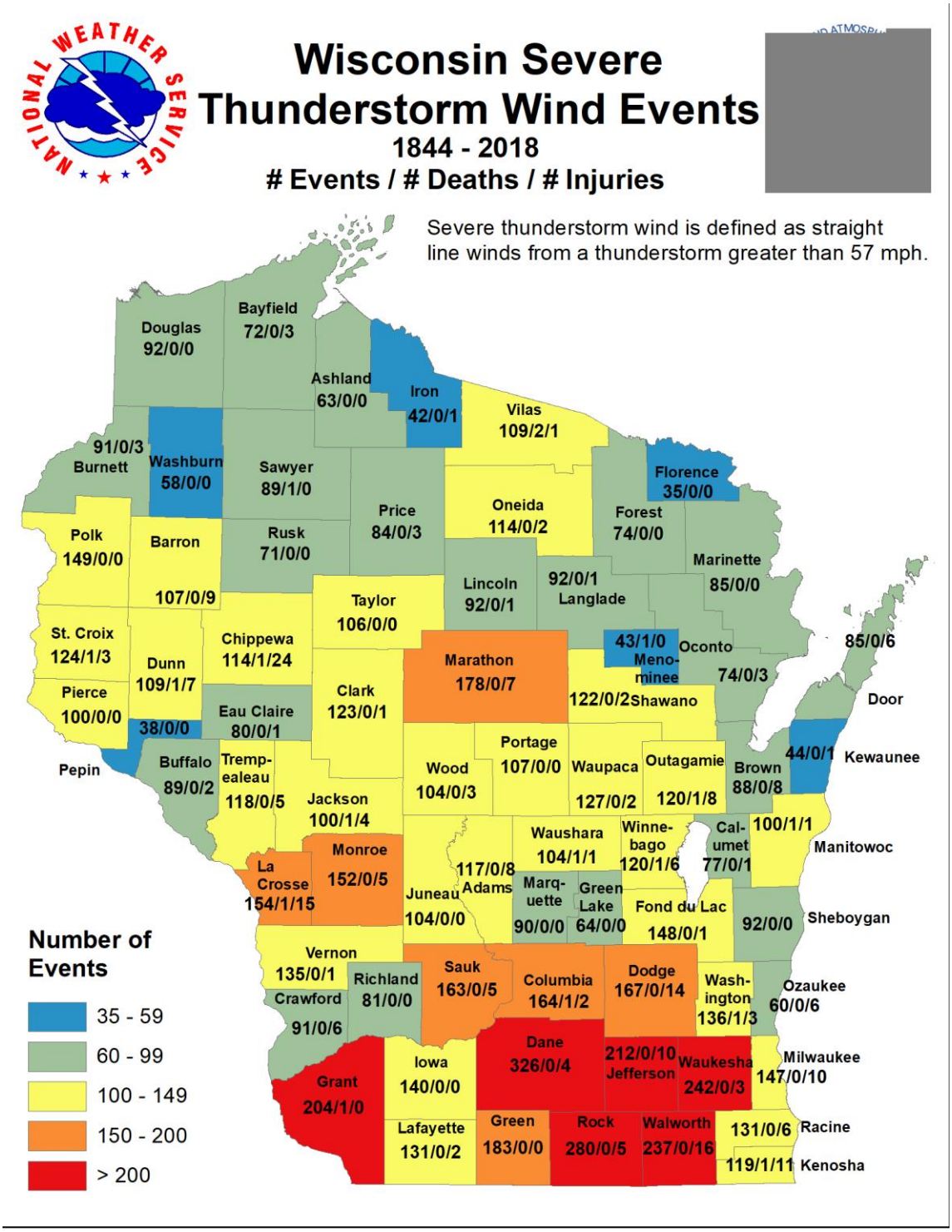
Wisconsin Severe Hail Events



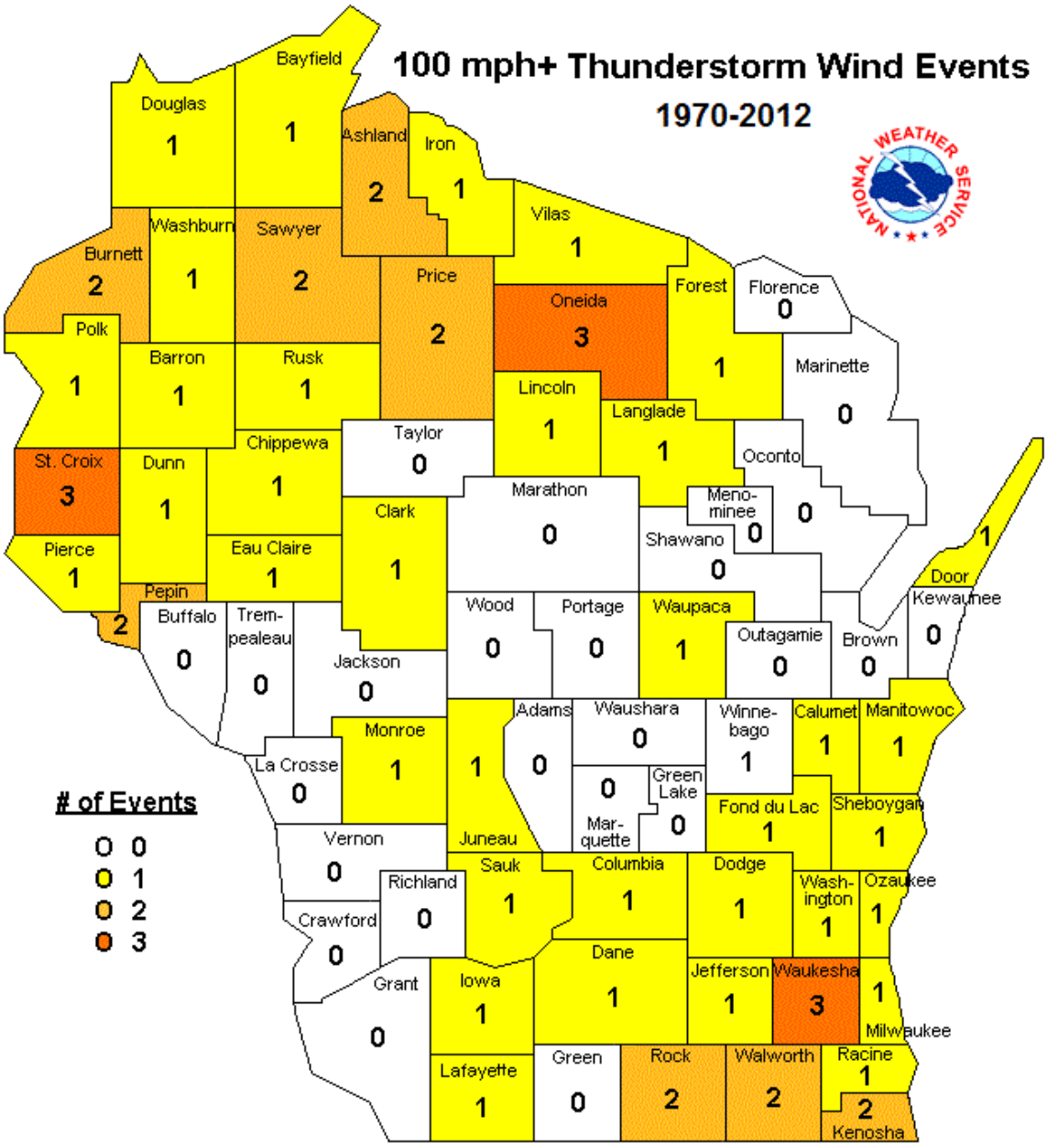
Wisconsin Lightning Events



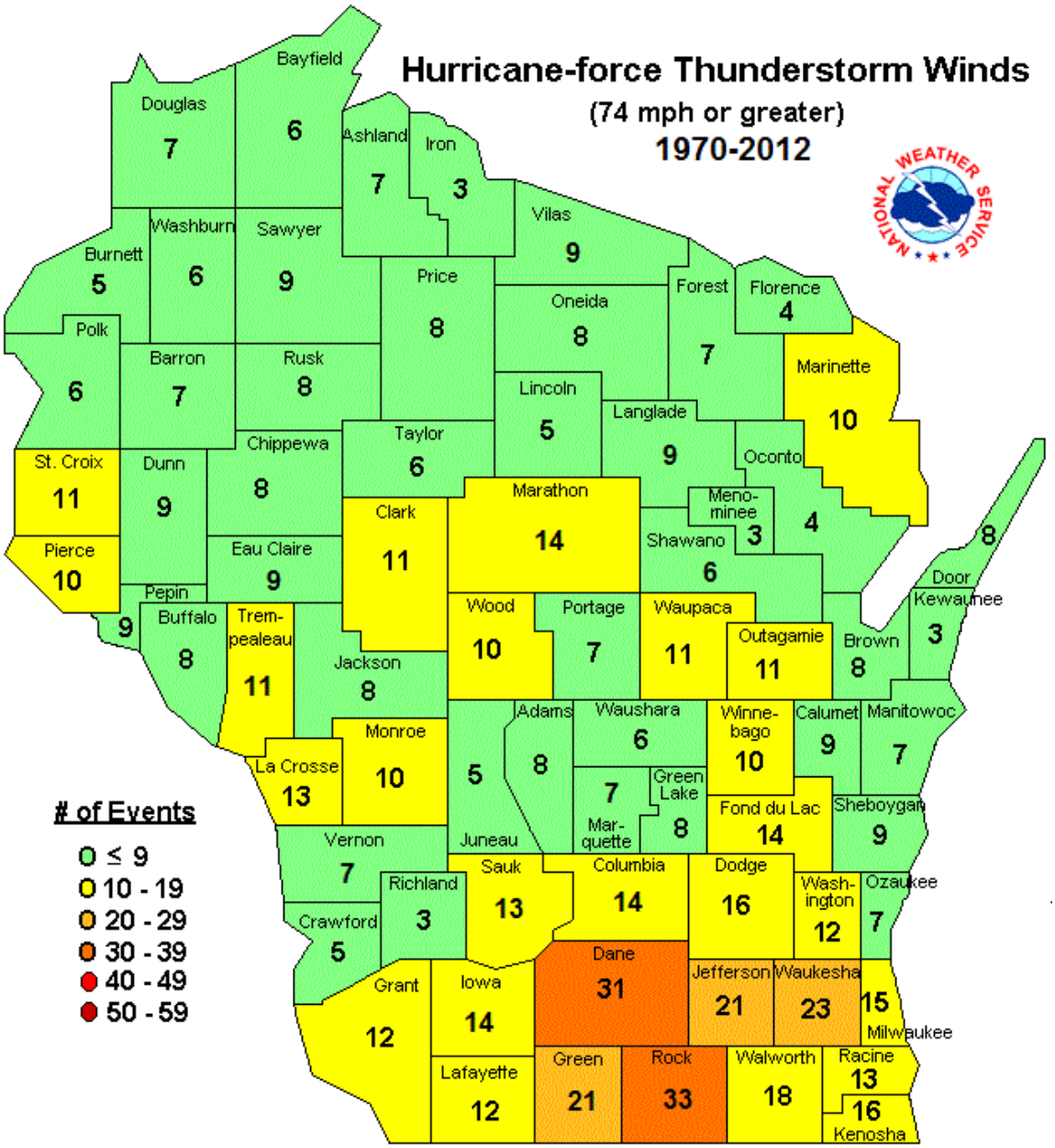
Wisconsin Severe Thunderstorm Wind Events



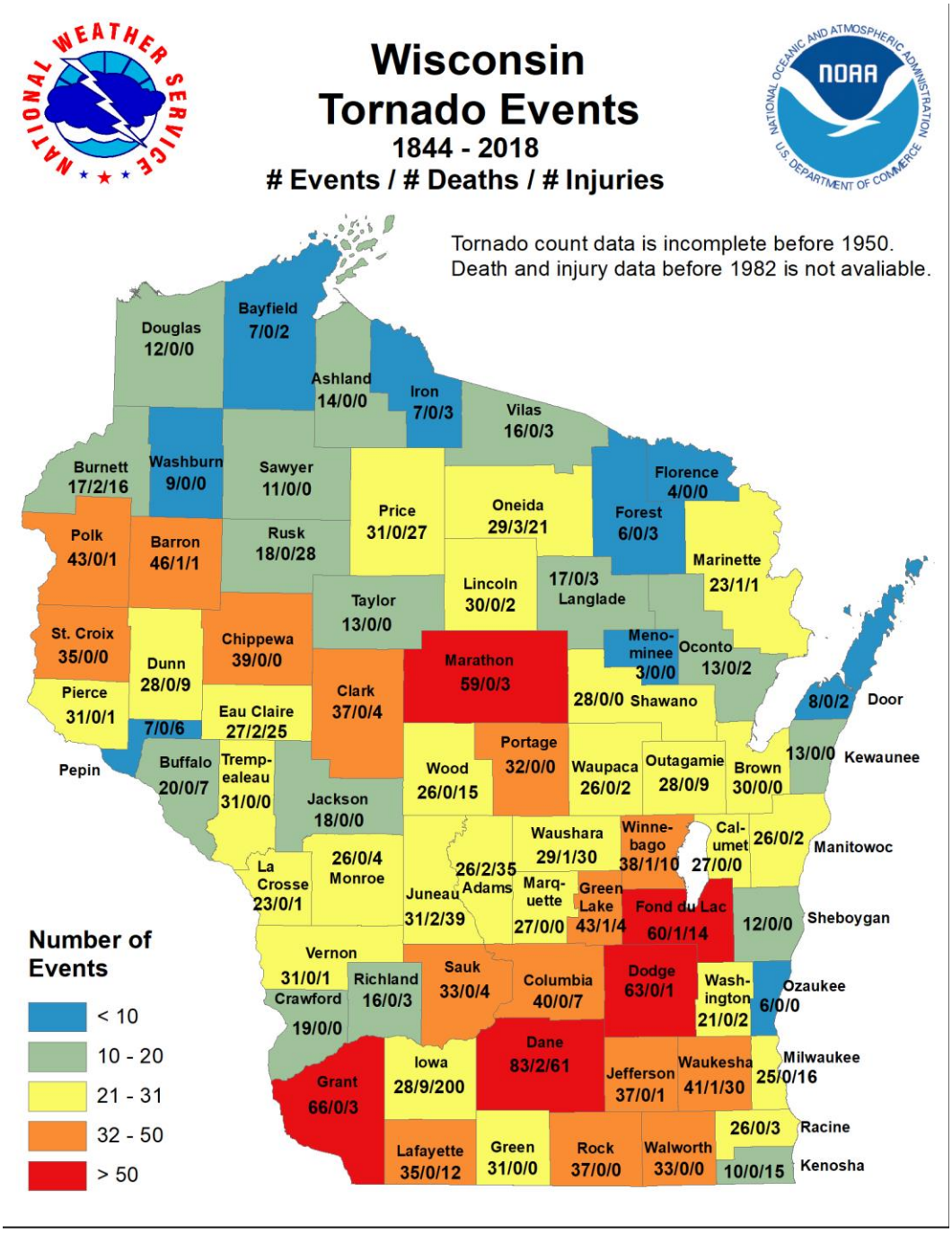
Wisconsin 100+ mph Thunderstorm Wind Events



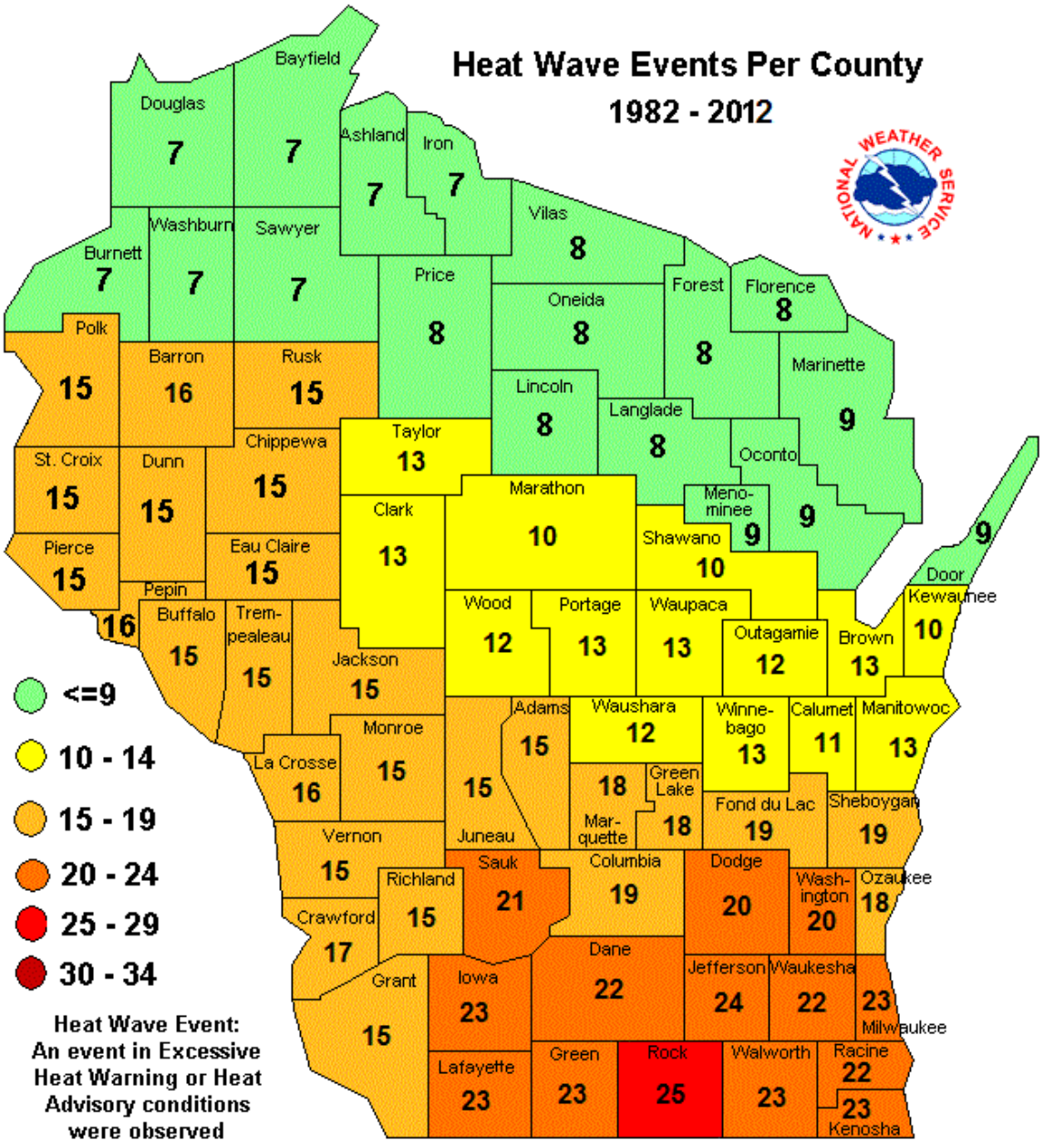
Wisconsin Hurricane-force (74+ mph) Thunderstorm Winds



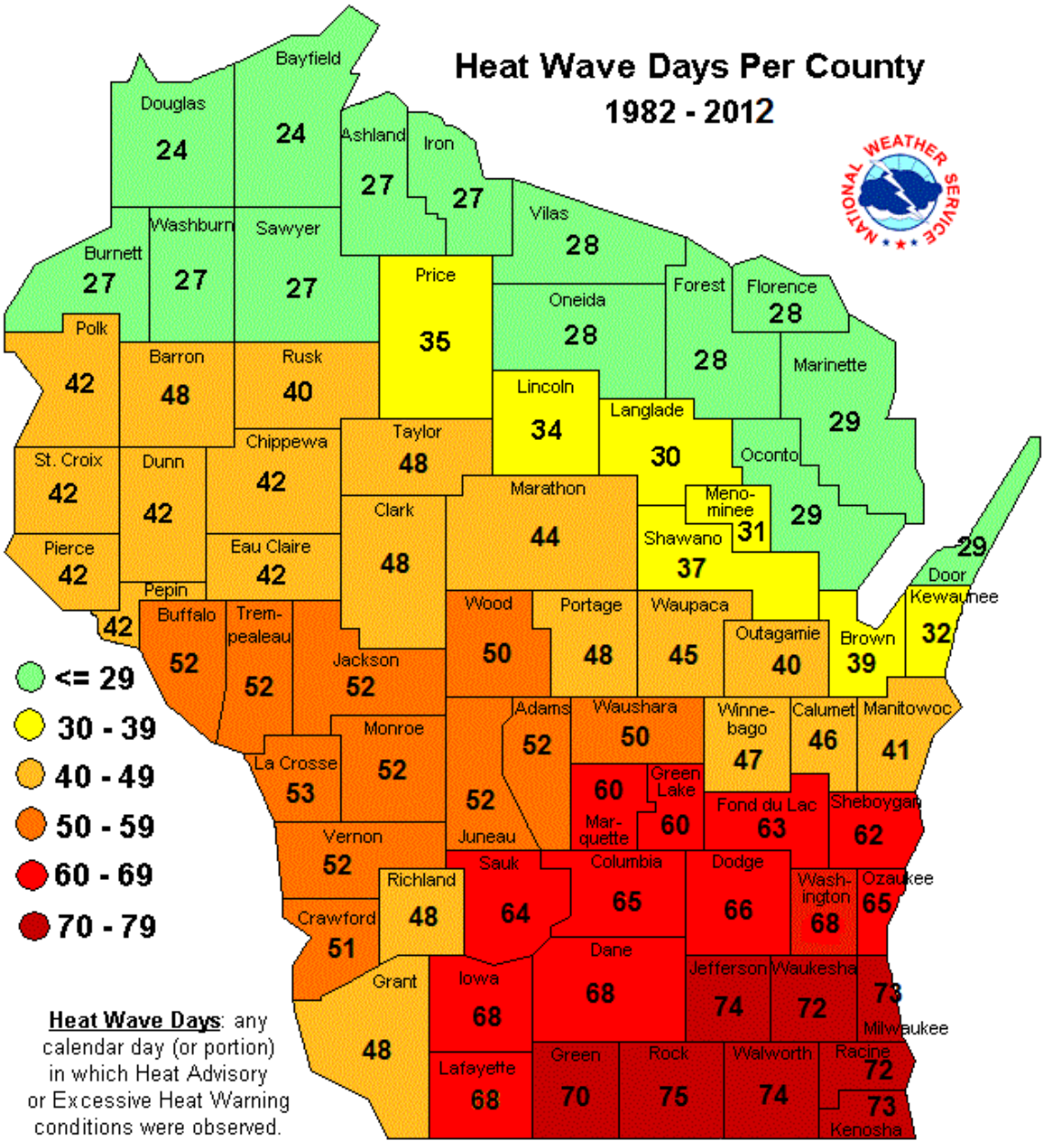
Wisconsin Tornado Events



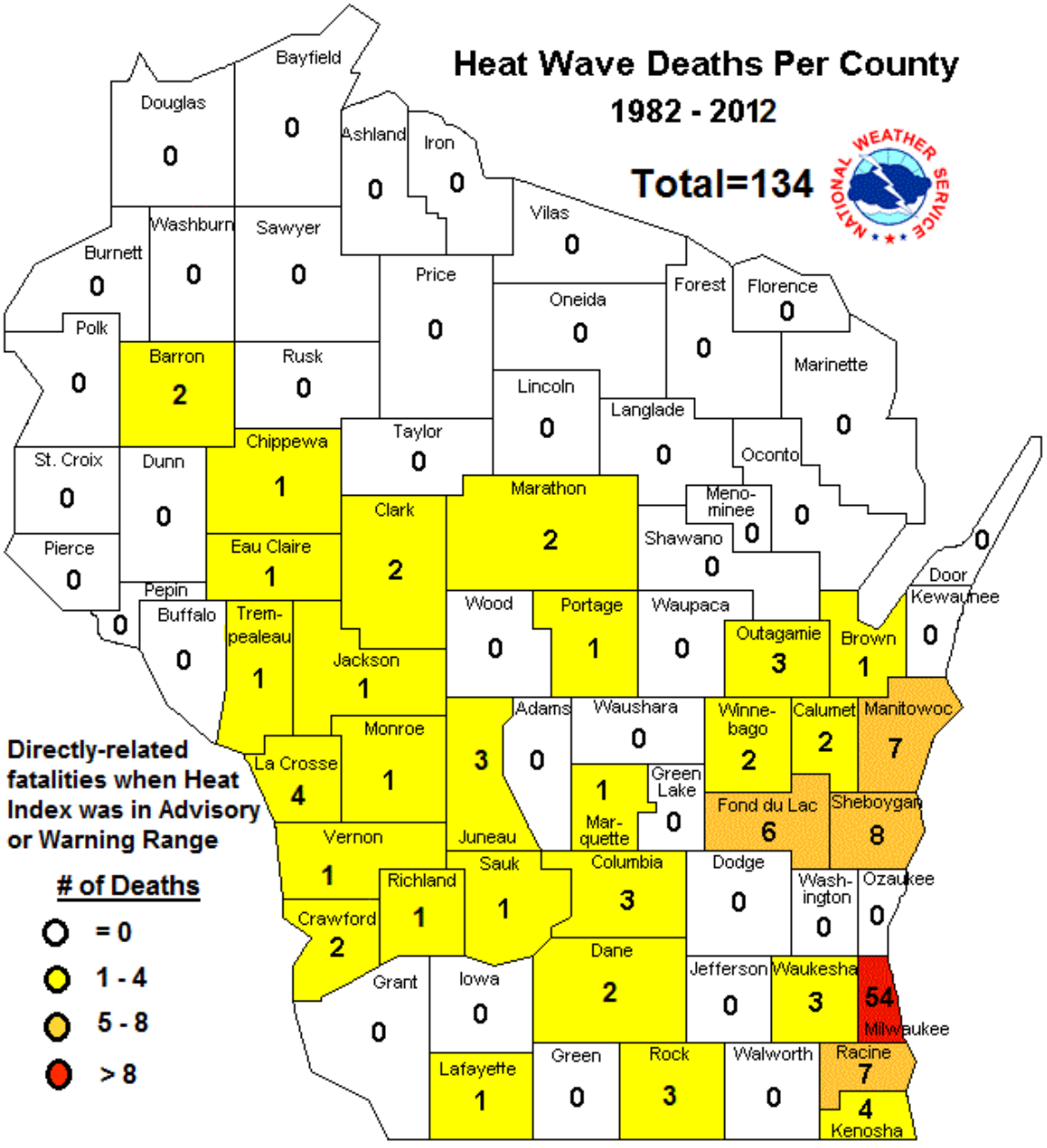
Wisconsin Heat Wave Events



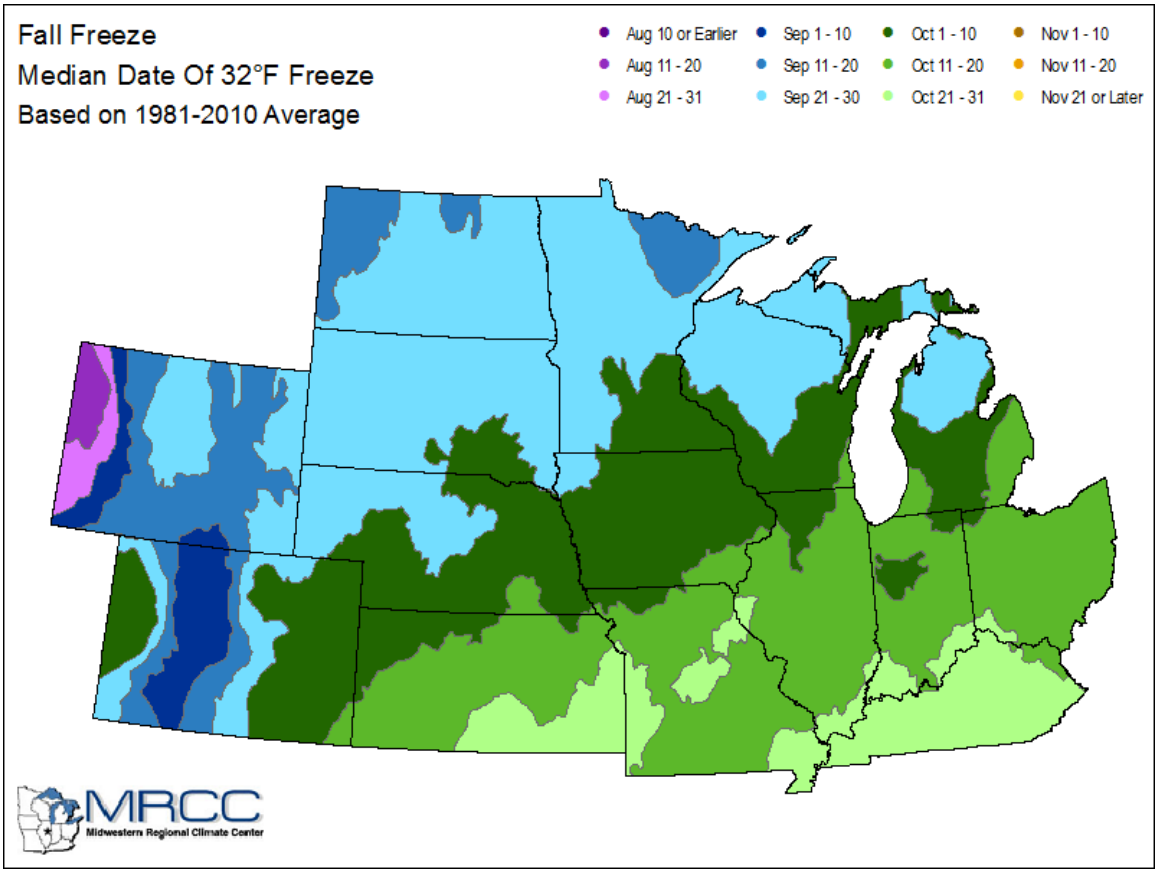
Wisconsin Heat Wave Days



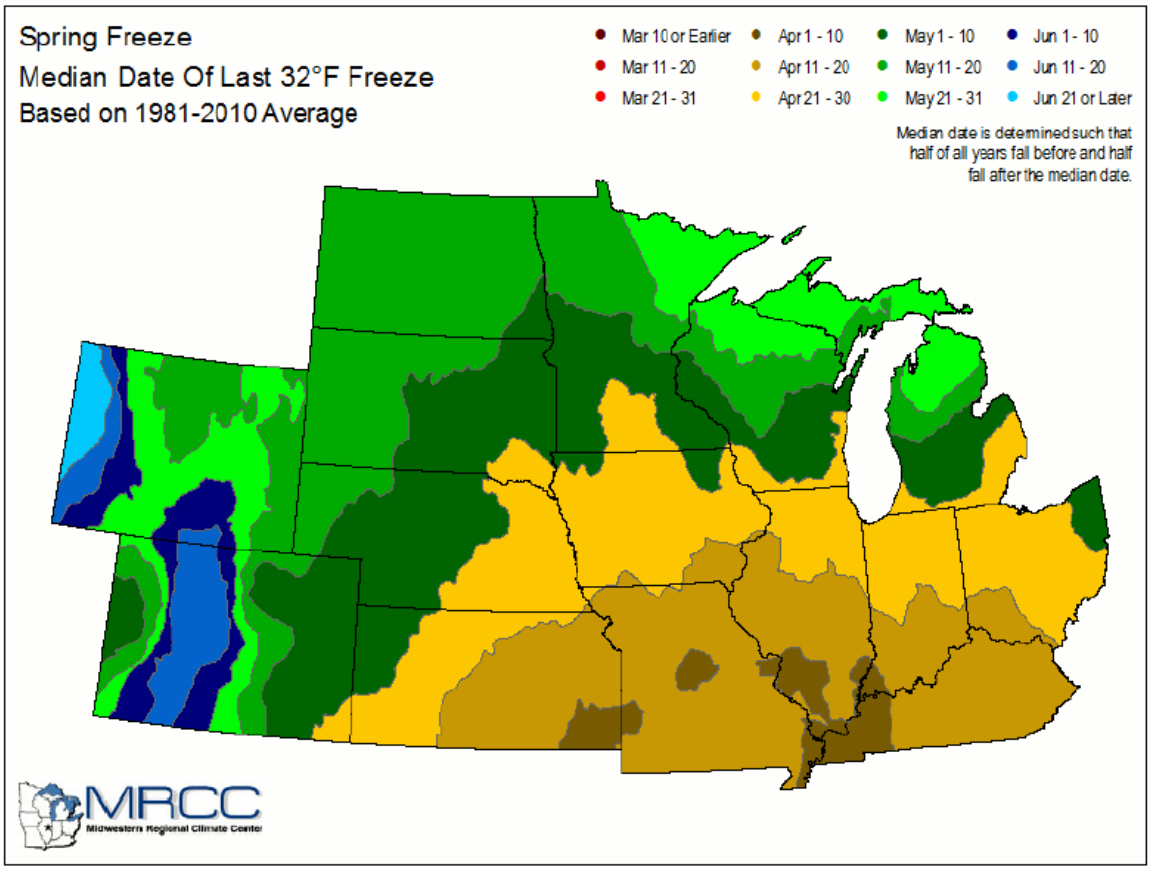
Wisconsin Heat Wave Deaths



Median Date of First Freeze[154]

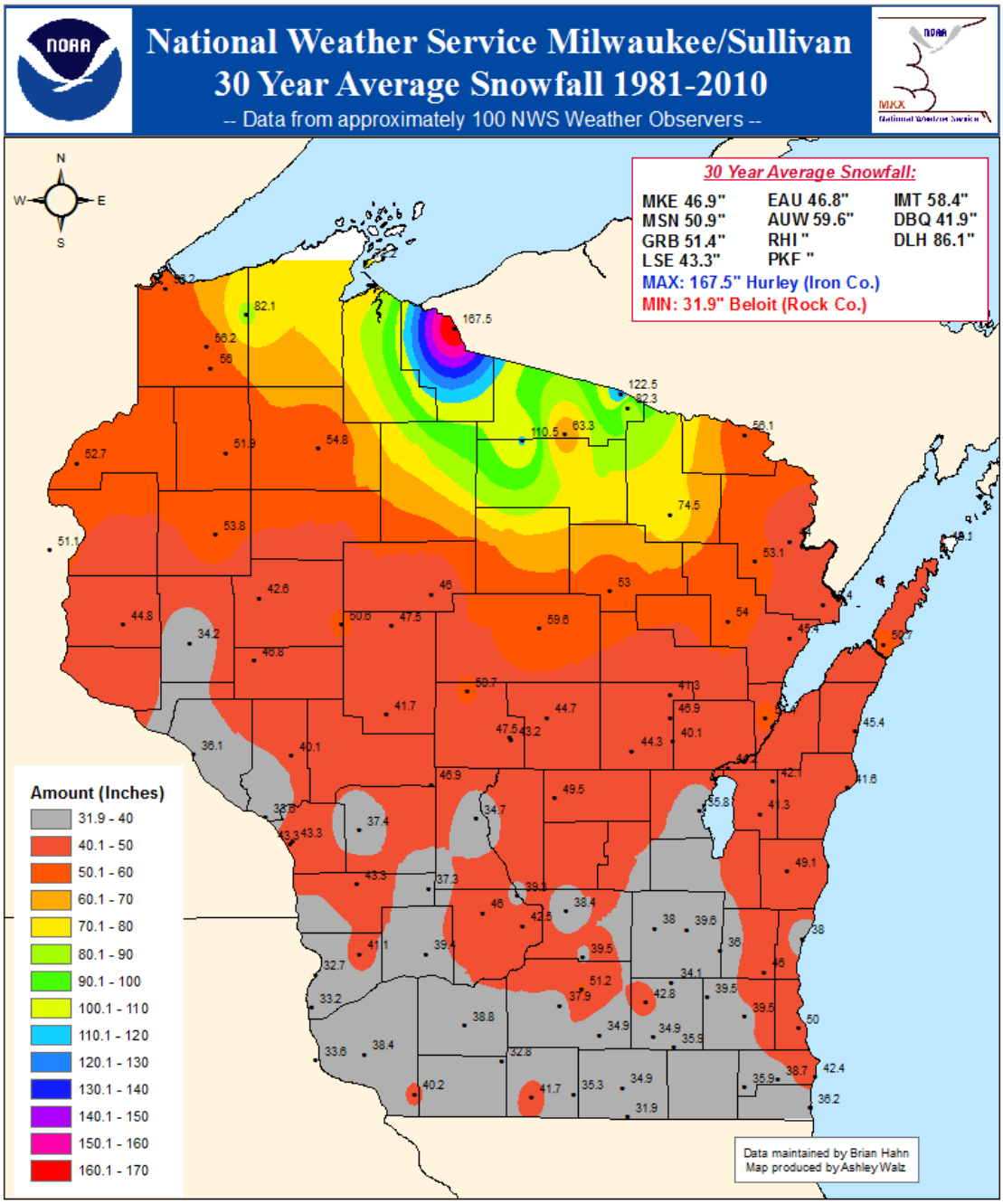


Median Date of Last Freeze[155]

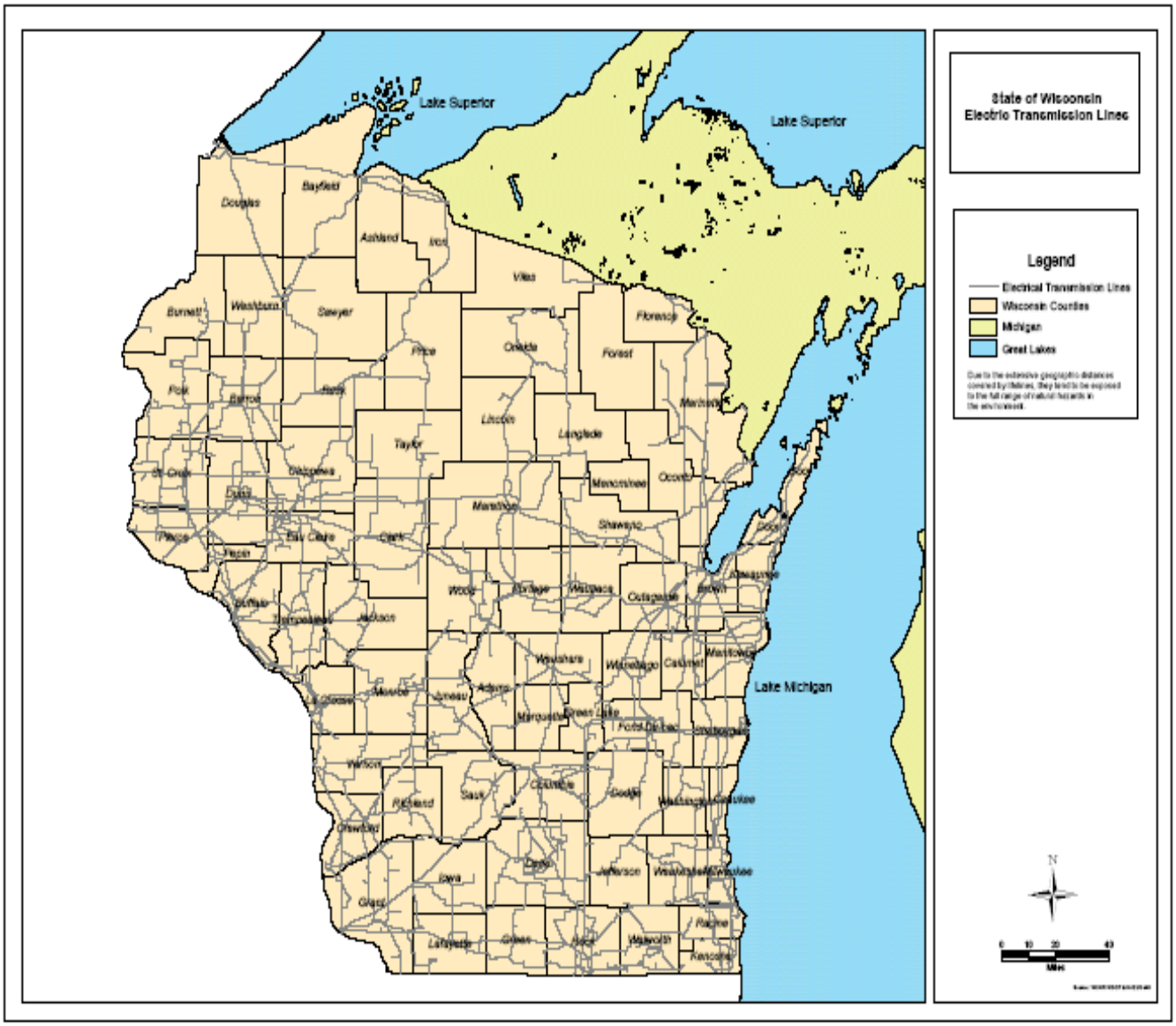


154 http://www.crh.noaa.gov/images/mkx/climate/FallFirstFreeze.png
155 http://www.crh.noaa.gov/images/mkx/climate/springlastfreeze.png

Wisconsin Average Seasonal Snowfall

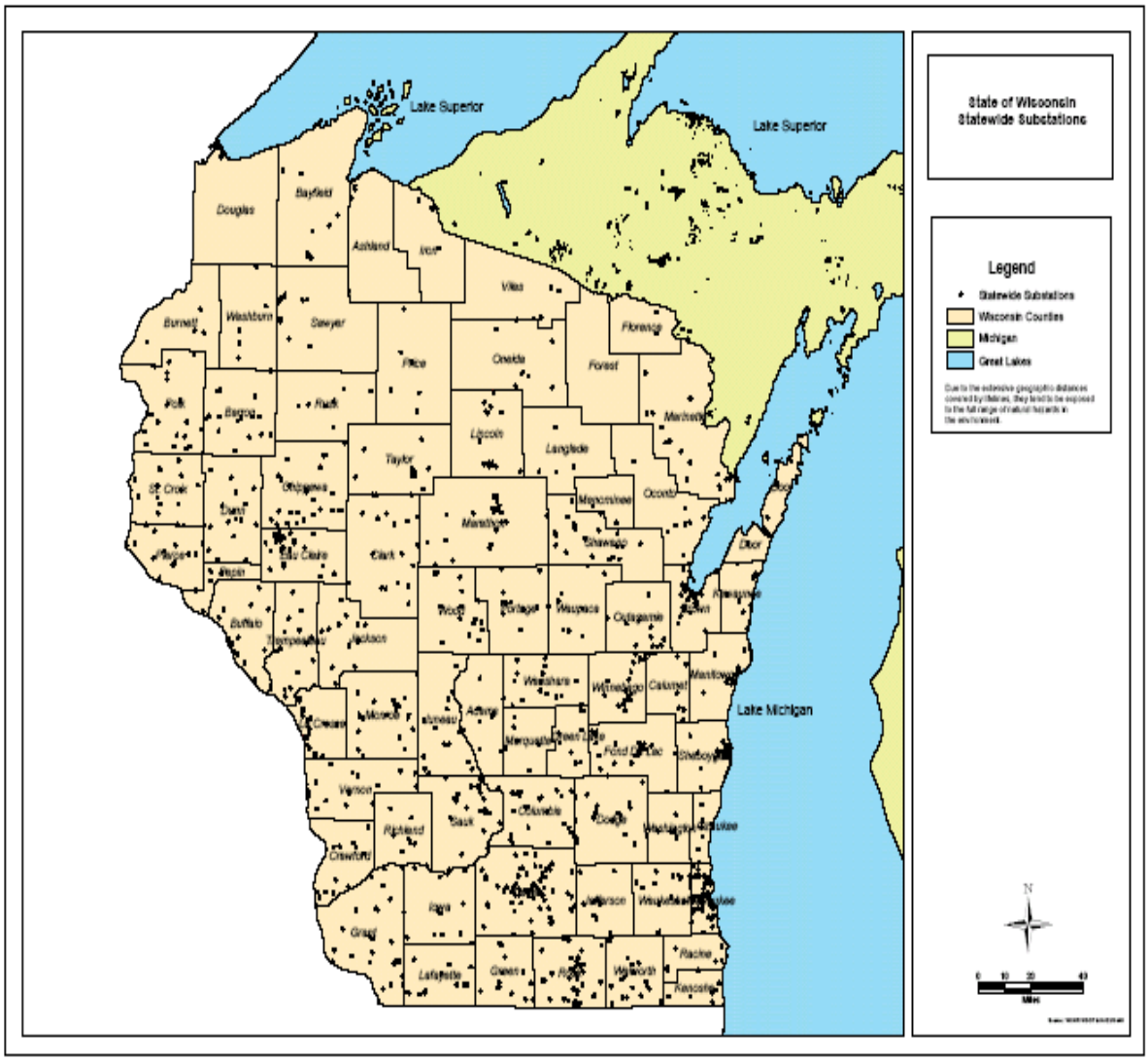


Electric Transmission Lines[156]



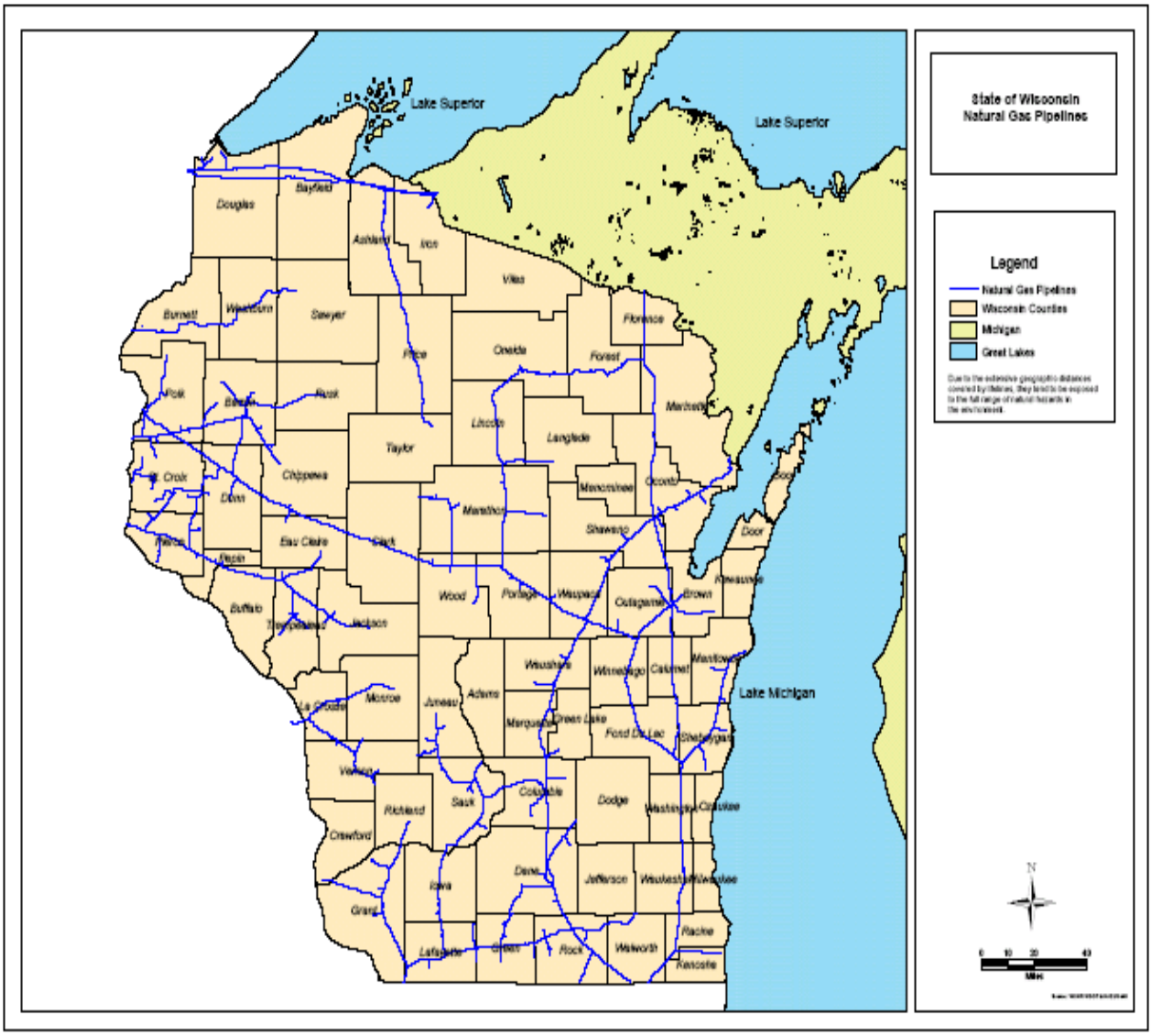
[156] Wisconsin Emergency Management, State Hazard Mitigation Plan

Electrical Substations[157]



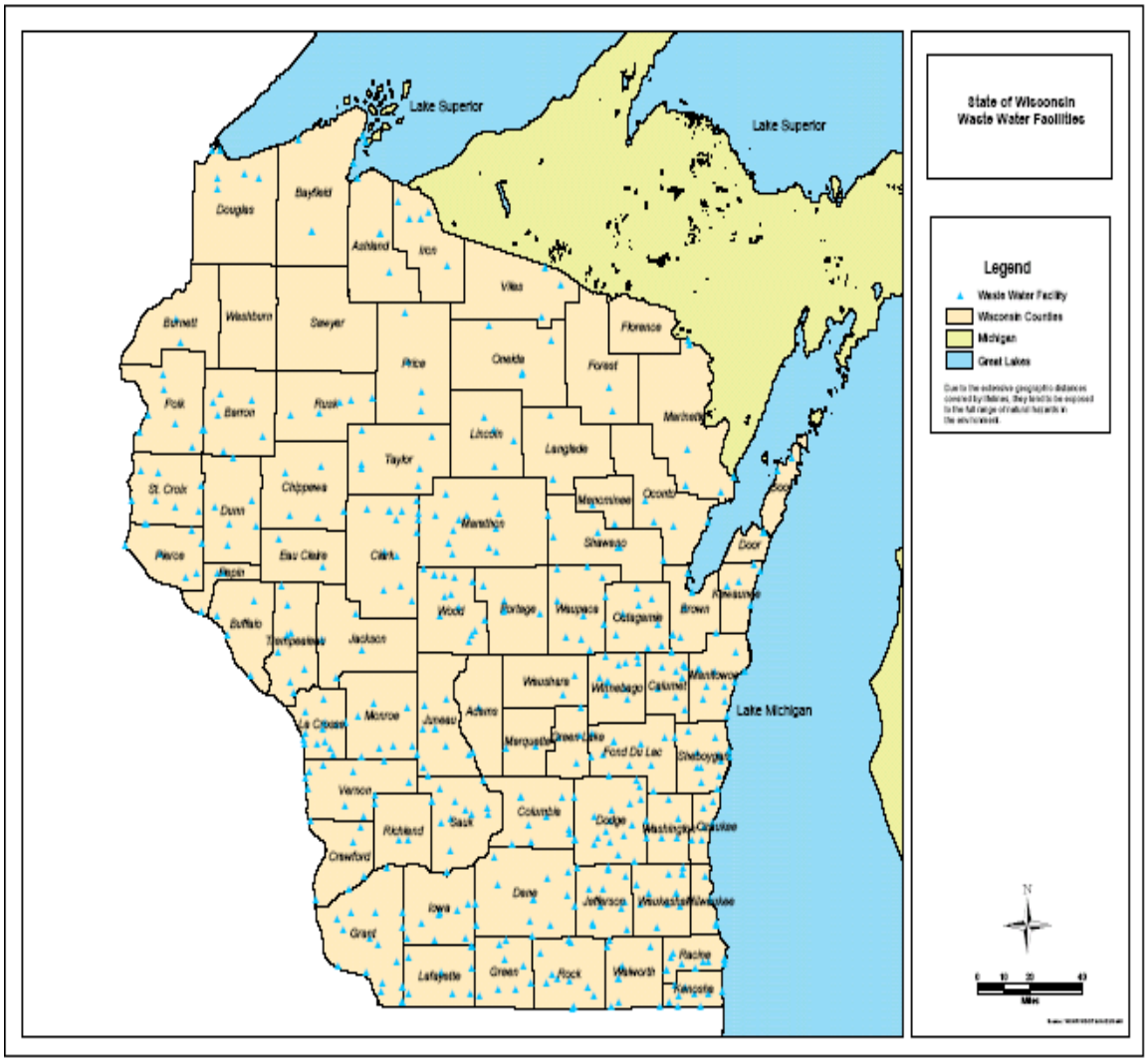
[157] Wisconsin Emergency Management, State Hazard Mitigation Plan

Natural Gas Pipelines[158]



[158] Wisconsin Emergency Management, State Hazard Mitigation Plan

Wastewater Facilities[159]



[159] Wisconsin Emergency Management, State Hazard Mitigation Plan

Appendix B: Frequency of Occurrence[160]

As noted earlier in this plan, the Dodge County Hazard Mitigation Plan Workgroup reviewed past events records and an internal workgroup consensus was reached on the anticipated probability of future events, as well as the severity of the effects of those events. The probabilities and severities were designated as "very high," "high," "medium," "low" or "very low" by the workgroup based on their evaluation and experience with the data. This is the main rating system used for this plan as it comes directly from those living in the area and reflects their current impressions, though they note that climate and weather systems are dynamic events.

The workgroup understands that historical weather data provided by the National Weather Service does not include events which may adversely affect their communities but fall below the reporting thresholds. Each weather event was analyzed for historic frequency and averages over the last 25 years (i.e., from 1 January 1994 through 1 January 2020) and is noted below with each hazard.

BLIZZARD

*There were **7** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	01/29/1996	0	0	0	0
DODGE COUNTY	01/16/1997	0	0	0	0
DODGE COUNTY	01/02/1999	0	0	$15,000	0
DODGE COUNTY	02/24/2007	0	0	0	0
DODGE COUNTY	12/11/2010	0	0	0	0
DODGE COUNTY	02/01/2011	0	0	0	0
DODGE COUNTY	12/20/2012	0	0	0	0

COLD/WIND CHILL

*There were **23** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	01/30/1996	0	0	0	0

[160] https://www.ncdc.noaa.gov/stormevents/

DODGE COUNTY	01/31/1996	0	0	0	0
DODGE COUNTY	02/01/1996	0	0	0	0
DODGE COUNTY	01/17/1997	0	0	$10,000	0
DODGE COUNTY	01/05/1999	0	0	0	0
DODGE COUNTY	12/18/2005	0	0	0	0
DODGE COUNTY	02/17/2006	0	0	0	0
DODGE COUNTY	02/18/2006	0	0	0	0
DODGE COUNTY	02/03/2007	0	0	$2,000	0
DODGE COUNTY	01/19/2008	0	0	0	0
DODGE COUNTY	12/15/2008	0	0	0	0
DODGE COUNTY	12/21/2008	0	0	0	0
DODGE COUNTY	01/14/2009	0	0	0	0
DODGE COUNTY	01/24/2009	0	0	0	0
DODGE COUNTY	01/21/2011	0	0	0	0
DODGE COUNTY	01/21/2013	0	0	0	0
DODGE COUNTY	01/21/2014	0	0	0	0
DODGE COUNTY	01/07/2015	0	0	0	0
DODGE COUNTY	01/09/2015	0	0	0	0
DODGE COUNTY	12/14/2016	0	0	0	0
DODGE COUNTY	12/18/2016	0	0	0	0
DODGE COUNTY	12/25/2017	0	0	0	0
DODGE COUNTY	01/01/2018	0	0	0	0

DENSE FOG

*There were **69** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	11/13/1999	0	0	0	0
DODGE COUNTY	12/03/1999	0	0	0	0
DODGE COUNTY	12/13/1999	0	0	0	0
DODGE COUNTY	01/09/2000	0	0	0	0
DODGE COUNTY	02/25/2000	0	0	0	0
DODGE COUNTY	03/21/2000	0	0	0	0
DODGE COUNTY	08/23/2000	0	0	0	0
DODGE COUNTY	08/24/2000	0	0	0	0
DODGE COUNTY	10/24/2000	0	0	0	0
DODGE COUNTY	10/24/2000	0	0	0	0
DODGE COUNTY	01/12/2001	0	0	0	0

DODGE COUNTY	01/14/2001	0	0	0	0
DODGE COUNTY	02/24/2001	0	0	0	0
DODGE COUNTY	03/22/2001	0	0	0	0
DODGE COUNTY	04/07/2001	0	0	0	0
DODGE COUNTY	05/25/2001	0	0	0	0
DODGE COUNTY	07/19/2001	0	0	0	0
DODGE COUNTY	07/30/2001	0	0	0	0
DODGE COUNTY	08/03/2001	0	0	0	0
DODGE COUNTY	08/22/2001	0	0	0	0
DODGE COUNTY	09/30/2001	0	0	0	0
DODGE COUNTY	10/22/2001	0	0	0	0
DODGE COUNTY	12/02/2001	0	0	0	0
DODGE COUNTY	12/16/2001	0	0	0	0
DODGE COUNTY	02/20/2002	0	0	0	0
DODGE COUNTY	04/13/2002	0	0	0	0
DODGE COUNTY	09/06/2002	0	0	0	0
DODGE COUNTY	03/20/2003	0	0	0	0
DODGE COUNTY	03/23/2003	0	0	0	0
DODGE COUNTY	02/26/2004	0	0	0	0
DODGE COUNTY	10/12/2004	0	0	0	0
DODGE COUNTY	12/29/2004	0	0	0	0
DODGE COUNTY	12/27/2005	0	0	0	0
DODGE COUNTY	03/09/2006	0	0	0	0
DODGE COUNTY	05/09/2006	0	0	0	0
DODGE COUNTY	09/14/2006	0	0	0	0
DODGE COUNTY	09/15/2006	0	0	0	0
DODGE COUNTY	09/23/2006	0	0	0	0
DODGE COUNTY	11/06/2006	0	0	0	0
DODGE COUNTY	12/11/2006	0	0	0	0
DODGE COUNTY	12/21/2006	0	0	0	0
DODGE COUNTY	03/23/2007	0	0	0	0
DODGE COUNTY	06/01/2007	0	0	0	0
DODGE COUNTY	10/01/2007	0	0	0	0
DODGE COUNTY	12/19/2007	0	0	0	0
DODGE COUNTY	12/21/2007	0	0	0	0
DODGE COUNTY	01/05/2008	0	0	0	0
DODGE COUNTY	01/07/2008	0	0	0	0
DODGE COUNTY	02/04/2008	0	0	0	0

DODGE COUNTY	12/26/2008	0	0	0	0
DODGE COUNTY	03/07/2009	0	0	0	0
DODGE COUNTY	09/04/2009	0	0	0	0
DODGE COUNTY	01/19/2010	0	0	0	0
DODGE COUNTY	03/10/2010	0	0	0	0
DODGE COUNTY	05/21/2010	0	0	0	0
DODGE COUNTY	08/22/2010	0	0	0	0
DODGE COUNTY	12/30/2010	0	0	0	0
DODGE COUNTY	02/02/2012	0	0	0	0
DODGE COUNTY	02/15/2012	0	0	0	0
DODGE COUNTY	03/24/2012	0	0	0	0
DODGE COUNTY	08/26/2012	0	0	0	0
DODGE COUNTY	10/03/2012	0	0	0	0
DODGE COUNTY	10/22/2012	0	0	0	0
DODGE COUNTY	10/23/2012	0	0	0	0
DODGE COUNTY	11/17/2012	0	0	0	0
DODGE COUNTY	11/20/2012	0	0	0	0
DODGE COUNTY	12/03/2012	0	0	0	0
DODGE COUNTY	12/16/2012	0	0	0	0
DODGE COUNTY	01/11/2013	0	0	0	0
DODGE COUNTY	12/03/2013	0	0	0	0

DROUGHT

*There were **18** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	08/01/2002	0	0	0	$200,000
DODGE COUNTY	08/01/2003	0	0	0	0
DODGE COUNTY	09/01/2003	0	0	0	0
DODGE COUNTY	10/01/2003	0	0	0	0
DODGE COUNTY	11/01/2003	0	0	0	0
DODGE COUNTY	12/01/2003	0	0	0	0
DODGE COUNTY	07/01/2005	0	0	0	0
DODGE COUNTY	08/01/2005	0	0	0	0
DODGE COUNTY	09/01/2005	0	0	0	0
DODGE COUNTY	10/01/2005	0	0	0	0
DODGE COUNTY	11/01/2005	0	0	0	0
DODGE COUNTY	07/01/2007	0	0	0	$100,000

DODGE COUNTY	08/01/2007	0	0	0	0
DODGE COUNTY	06/26/2012	0	0	0	0
DODGE COUNTY	07/01/2012	0	0	0	0
DODGE COUNTY	08/01/2012	0	0	0	0
DODGE COUNTY	09/01/2012	0	0	0	0
DODGE COUNTY	10/01/2012	0	0	0	0

EXCESSIVE HEAT

*There were **3** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	07/17/2011	0	0	0	0
DODGE COUNTY	07/03/2012	0	0	0	0
DODGE COUNTY	06/29/2018	0	0	0	0

EXTREME COLD/WINDCHILL

*There were **6** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	01/30/2008	0	0	0	0
DODGE COUNTY	02/10/2008	0	0	0	0
DODGE COUNTY	01/15/2009	0	0	0	0
DODGE COUNTY	01/06/2014	0	0	0	0
DODGE COUNTY	01/28/2014	0	0	0	0

FLASH FLOOD

*There were **17** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
ASTICO	06/17/1996	0	0	$30,000	0
REESEVILLE	06/17/1996	0	0	$100,000	$1M
NORTH PORTION	07/20/1999	0	0	$20,000	0
NORTH PORTION	07/21/1999	0	0	$30,000	0
DANVILLE	05/17/2000	0	0	$20,000	0

JUNEAU	05/17/2000	0	0	$50,000	0
RUBICON	06/01/2000	0	0	$15,000	0
RANDOLPH	06/09/2004	0	0	$2M	0
WATERTOWN	09/12/2006	0	0	$100,000	0
BEAVER DAM	07/26/2007	0	0	$25,000	0
BEAVER DAM	08/22/2007	0	0	$100,000	$200,000
WATERTOWN	08/22/2007	0	0	$200,000	$400,000
LEBANON	06/07/2008	0	0	$1.2M	$5M
WATERTOWN	06/07/2008	0	0	$6.57M	$8,000
REESEVILLE	06/08/2008	0	0	$1.9M	$8M
ALDERLEY	06/08/2008	0	0	$462,000	$8M
RANDOLPH	07/22/2010	0	0	$20,000	$5,000
DANVILLE	07/13/2015	0	0	$10,000	$1,000
PORTLAND	08/17/2018	0	0	$1,000	$1,000

FLOOD

*There were **10** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	06/17/1996	0	0	$100,000	$11M
RANDOLPH	07/20/1998	0	0	0	0
BEAVER DAM	06/10/1999	0	0	0	0
DODGE COUNTY	02/09/2001	0	0	$10,000	0
RANDOLPH	06/18/2001	0	0	0	0
JUNEAU	08/22/2001	0	0	0	0
DODGE COUNTY	06/01/2004	0	0	$2.8M	$20M
MAYVILLE	09/07/2016	0	0	$5,000	0
PORTLAND	08/17/2018	0	0	0	0

FUNNEL CLOUD

*There were **13** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
THERESA	03/08/2000	0	0	0	0
BEAVER DAM	05/30/2002	0	0	0	0
FOX LAKE	06/08/2003	0	0	0	0
REESEVILLE	05/23/2004	0	0	0	0

SOUTH BEAVER DAM	05/23/2004	0	0	0	0
IRON RIDGE	07/16/2004	0	0	0	0
RANDOLPH	03/30/2005	0	0	0	0
BEAVER DAM	03/30/2005	0	0	0	0
LOWELL	03/30/2005	0	0	0	0
HORICON	07/07/2005	0	0	0	0
WAUPUN	07/07/2005	0	0	0	0
KNOWLES	07/07/2005	0	0	0	0
BROWNSVILLE	07/07/2005	0	0	0	0
BEAVER DAM	07/21/2005	0	0	0	0
REESEVILLE	07/25/2005	0	0	0	0
HORICON	06/27/2006	0	0	0	0
JUNEAU	08/02/2006	0	0	0	0
IRON RIDGE	06/12/2008	0	0	0	0
NEOSHO	07/22/2010	0	0	0	0
LOWELL	07/22/2010	0	0	0	0

HAIL

*There were **74** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Diameter*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	03/13/1990	1.75 in.	0	0	0	0
DODGE COUNTY	03/27/1991	0.75 in.	0	0	0	0
DODGE COUNTY	06/14/1991	1.00 in.	0	0	0	0
DODGE COUNTY	06/14/1991	1.00 in.	0	0	0	0
LOWELL	06/25/1994	1.00 in.	0	0	0	0
DANVILLE	06/25/1994	1.00 in.	0	0	0	0
BEAVER DAM	07/07/1994	0.75 in.	0	0	0	0
JUNEAU	09/30/1994	0.75 in.	0	0	0	0
FOX LAKE	09/30/1994	1.75 in.	0	0	0	0
RANDOLPH	09/30/1994	1.75 in.	0	0	0	0
BEAVER DAM	09/30/1994	1.50 in.	0	0	$200,000	0
HORICON	09/30/1994	1.75 in.	0	0	0	0
JUNEAU	09/30/1994	1.75 in.	0	0	0	0
LEBANON	08/09/1995	0.75 in.	0	0	0	0
MAYVILLE	08/09/1995	1.00 in.	0	0	0	0
ALDERLEY	08/09/1995	1.75 in.	0	0	0	0
RANDOLPH	08/03/1997	1.75 in.	0	0	0	0

RANDOLPH	09/01/1998	1.00 in.	0	0	0	0
BEAVER DAM	09/01/1998	0.75 in.	0	0	0	0
JUNEAU	02/11/1999	0.75 in.	0	0	0	0
IRON RIDGE	04/03/1999	1.00 in.	0	0	0	0
WATERTOWN	06/06/1999	0.75 in.	0	0	0	0
WATERTOWN	06/06/1999	0.75 in.	0	0	0	0
LOWELL	06/08/1999	1.00 in.	0	0	$30,000	0
WATERTOWN	06/28/1999	1.00 in.	0	0	0	0
RICHWOOD	07/23/1999	0.75 in.	0	0	0	0
LEROY	03/08/2000	0.75 in.	0	0	0	0
DANVILLE	03/08/2000	0.75 in.	0	0	0	0
LOWELL	03/08/2000	1.75 in.	0	0	0	0
HORICON	03/08/2000	1.00 in.	0	0	0	0
REESEVILLE	05/11/2000	0.75 in.	0	0	0	0
RANDOLPH	05/17/2000	0.75 in.	0	0	0	0
FOX LAKE	06/01/2000	1.50 in.	0	0	$2,000	0
HORICON	06/01/2000	1.25 in.	0	0	$3,000	0
FOX LAKE	06/28/2000	0.75 in.	0	0	0	0
DANVILLE	07/02/2000	1.00 in.	0	0	0	0
RANDOLPH	05/14/2001	1.00 in.	0	0	0	0
BEAVER DAM	05/14/2001	0.88 in.	0	0	0	0
WATERTOWN	05/14/2001	2.50 in.	0	0	$150,000	0
ALDERLEY	05/14/2001	0.75 in.	0	0	0	0
DANVILLE	06/12/2001	1.75 in.	0	0	0	0
BEAVER DAM	06/18/2001	0.75 in.	0	0	0	0
BEAVER DAM	08/18/2001	1.00 in.	0	0	0	0
NEOSHO	05/06/2002	0.75 in.	0	0	0	0
FOX LAKE	06/21/2002	0.75 in.	0	0	0	0
RANDOLPH	08/02/2003	0.75 in.	0	0	0	0
BURNETT	08/03/2003	0.75 in.	0	0	0	0
WAUPUN	05/09/2004	0.75 in.	0	0	0	0
BEAVER DAM	05/23/2004	0.75 in.	0	0	0	0
KEKOSKEE	05/23/2004	1.00 in.	0	0	0	0
WAUPUN	06/23/2004	1.75 in.	0	0	$3,000	0
RANDOLPH	03/30/2005	1.00 in.	0	0	0	0
RANDOLPH	03/30/2005	1.25 in.	0	0	0	0
BEAVER DAM	05/06/2005	0.75 in.	0	0	0	0
LOWELL	05/06/2005	0.75 in.	0	0	$1,000	0
WATERTOWN	05/06/2005	0.75 in.	0	0	$1,000	0
RICHWOOD	05/09/2005	1.00 in.	0	0	0	0

RICHWOOD	05/19/2005	1.00 in.	0	0	0	0
ASHIPPUN	04/13/2006	1.75 in.	0	0	$3.17M	0
RANDOLPH	05/17/2006	0.75 in.	0	0	0	0
WAUPUN	05/17/2006	0.75 in.	0	0	0	0
WATERTOWN	06/28/2006	0.75 in.	0	0	0	0
HORICON	08/23/2006	0.75 in.	0	0	0	0
LOMIRA	09/08/2006	1.00 in.	0	0	0	0
BEAVER DAM	10/01/2006	0.75 in.	0	0	0	0
MINNESOTA JCT	10/01/2006	0.75 in.	0	0	0	0
MINNESOTA JCT	10/01/2006	0.75 in.	0	0	0	0
MINNESOTA JCT	10/01/2006	0.75 in.	0	0	0	0
RANDOLPH	10/02/2006	0.88 in.	0	0	0	0
FOX LAKE	10/02/2006	0.88 in.	0	0	0	0
CLYMAN	10/02/2006	1.25 in.	0	0	0	0
CLYMAN	10/02/2006	0.75 in.	0	0	0	0
REESEVILLE	10/04/2006	0.75 in.	0	0	0	0
CLYMAN	03/21/2007	1.00 in.	0	0	0	0
HUSTISFORD	03/21/2007	0.75 in.	0	0	0	0
WATERTOWN	04/30/2007	0.88 in.	0	0	0	0
BEAVER DAM	04/30/2007	0.75 in.	0	0	0	0
THERESA	04/30/2007	0.75 in.	0	0	0	0
JUNEAU	10/18/2007	1.00 in.	0	0	0	0
IRON RIDGE	04/25/2008	1.00 in.	0	0	0	0
LOMIRA	04/25/2008	0.88 in.	0	0	0	0
WATERTOWN	04/25/2008	1.00 in.	0	0	0	0
BEAVER DAM	06/12/2008	1.75 in.	0	0	0	0
FOX LAKE	06/28/2008	1.75 in.	0	0	0	0
LOMIRA	06/28/2008	0.75 in.	0	0	0	0
REESEVILLE	04/06/2010	0.75 in.	0	0	0	0
LOWELL	04/06/2010	0.88 in.	0	0	0	0
BEAVER DAM	09/06/2010	1.25 in.	0	0	0	0
WAUPUN	09/06/2010	1.00 in.	0	0	0	0
BEAVER DAM	11/22/2010	0.75 in.	0	0	0	0
WAUPUN	03/20/2011	1.00 in.	0	0	0	0
BEAVER DAM	04/03/2011	0.75 in.	0	0	$12,000	0
WATERTOWN	04/03/2011	1.00 in.	0	0	0	0
CLYMAN	05/22/2011	1.00 in.	0	0	0	0
RUBICON	06/06/2011	1.75 in.	0	0	0	0
LEBANON	06/08/2011	0.75 in.	0	0	0	0

FOX LAKE	06/08/2011	0.88 in.	0	0	0	0
BEAVER DAM	07/23/2011	1.00 in.	0	0	0	0
JUNEAU	05/01/2012	1.25 in.	0	0	0	0
LEBANON	05/03/2012	1.00 in.	0	0	0	0
MAYVILLE	10/03/2013	0.88 in.	0	0	0	0
BEAVER DAM	04/12/2014	1.50 in.	0	0	0	0
SOUTH BEAVER DAM	04/12/2014	1.00 in.	0	0	0	0
BEAVER DAM	04/12/2014	1.00 in.	0	0	0	0
BEAVER DAM	04/12/2014	1.00 in.	0	0	0	0
RUBICON	04/12/2014	0.75 in.	0	0	0	0
WATERTOWN	04/13/2014	1.00 in.	0	0	0	0
LOWELL	05/07/2014	0.88 in.	0	0	0	0
PORTLAND	05/07/2014	1.00 in.	0	0	0	0
FOX LAKE	05/07/2014	1.00 in.	0	0	0	0
FOX LAKE	05/07/2014	0.88 in.	0	0	0	0
LOMIRA	05/12/2014	0.75 in.	0	0	0	0
HUSTISFORD	05/12/2014	1.00 in.	0	0	0	0
BURNETT	06/01/2014	1.00 in.	0	0	0	0
LOWELL	08/04/2014	0.25 in.	0	0	0	$1,000
IRON RIDGE	04/09/2015	0.75 in.	0	0	0	0
IRON RIDGE	04/09/2015	1.00 in.	0	0	0	0
JUNEAU	07/13/2015	1.00 in.	0	0	0	0
LOMIRA	08/02/2015	1.00 in.	0	0	0	0
THERESA	08/02/2015	1.00 in.	0	0	0	0
HORICON	02/28/2017	0.88 in.	0	0	0	0
BEAVER DAM ARPT	05/15/2017	1.00 in.	0	0	0	0
RICHWOOD	07/15/2017	0.75 in.	0	0	0	0
THERESA	08/10/2017	1.00 in.	0	0	0	0
FOX LAKE	08/10/2017	0.75 in.	0	0	0	0
WAUPUN ARPT	08/10/2017	1.00 in.	0	0	0	0
WAUPUN	08/10/2017	1.00 in.	0	0	0	0
MAYVILLE	04/13/2018	0.75 in.	0	0	0	0
HORICON	04/13/2018	1.00 in.	0	0	0	0
MINNESOTA JCT	04/13/2018	0.75 in.	0	0	0	0
MAYVILLE	04/13/2018	1.00 in.	0	0	0	0
ASHIPPUN	05/02/2018	1.00 in.	0	0	0	0

HEAT

*There were **28** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	11/28/1998	0	0	0	0
DODGE COUNTY	12/01/1998	0	0	0	0
DODGE COUNTY	07/04/1999	0	0	0	0
DODGE COUNTY	07/23/1999	0	0	0	0
DODGE COUNTY	07/29/1999	0	0	0	0
DODGE COUNTY	11/08/1999	0	0	0	0
DODGE COUNTY	11/13/1999	0	0	0	0
DODGE COUNTY	07/31/2001	0	0	0	0
DODGE COUNTY	08/06/2001	0	0	0	0
DODGE COUNTY	04/15/2002	0	0	0	0
DODGE COUNTY	06/30/2002	0	0	0	0
DODGE COUNTY	07/01/2002	0	0	0	0
DODGE COUNTY	07/08/2002	0	0	0	0
DODGE COUNTY	07/21/2002	0	0	0	0
DODGE COUNTY	07/30/2006	0	0	0	0
DODGE COUNTY	08/01/2006	0	0	0	0
DODGE COUNTY	06/23/2009	0	0	0	0
DODGE COUNTY	07/01/2011	0	0	0	0
DODGE COUNTY	06/28/2012	0	0	0	0
DODGE COUNTY	07/16/2012	0	0	0	0
DODGE COUNTY	07/23/2012	0	0	0	0
DODGE COUNTY	07/25/2012	0	0	0	0
DODGE COUNTY	07/16/2013	0	0	0	0
DODGE COUNTY	07/22/2014	0	0	0	0
DODGE COUNTY	07/21/2016	0	0	0	0
DODGE COUNTY	06/17/2018	0	0	0	0
DODGE COUNTY	07/04/2018	0	0	0	0

HEAVY RAIN

*There were **13** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
BEAVER DAM	11/01/2003	0	0	0	0
WAUPUN	05/20/2004	0	2	0	0
WATERTOWN	04/02/2007	0	0	0	0
BEAVER DAM	06/02/2014	0	0	0	0
HORICON	06/02/2014	0	0	0	0

HEAVY SNOW

*There were **7** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	01/26/1996	0	0	0	0
DODGE COUNTY	02/27/1997	0	0	0	0
DODGE COUNTY	03/12/1997	0	0	0	0
DODGE COUNTY	12/11/2000	0	0	0	0
DODGE COUNTY	12/18/2000	0	0	0	0
DODGE COUNTY	03/02/2002	0	0	0	0
DODGE COUNTY	01/21/2008	0	0	0	0

HIGH WIND

*There were **8** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*KTS*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	04/06/1997	71	0	0	$100,000	0
DODGE COUNTY	05/05/1997		0	0	$12,000	0
DODGE COUNTY	11/10/1998		0	0	$600,000	$100,000
DODGE COUNTY	04/07/2001	51	0	0	0	0
DODGE COUNTY	04/11/2001	52	0	0	0	0
DODGE COUNTY	10/26/2010	53	0	0	$50,000	0
DODGE COUNTY	03/16/2016	35	0	0	$5,000	0
DODGE COUNTY	03/08/2017	50	0	1	$15,000	0

ICE STORM

*There were **2** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	12/23/1996	0	0	0	0
DODGE COUNTY	02/04/1997	0	0	0	0

LIGHTNING

*There were **7** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
RANDOLPH	04/15/1998	0	0	$2,000	0
MAYVILLE	07/14/1999	0	0	$20,000	0
FARMERSVILLE	08/22/2001	0	0	$75,000	0
HORICON	04/18/2002	0	0	0	0
MAYVILLE	07/09/2007	0	0	$60,000	0
BEAVER DAM	05/09/2011	0	0	$50,000	0
HUSTISFORD	07/11/2011	0	0	$2,000	0

STRONG WIND

*There were **39** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*KTS*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	05/24/2000		0	0	0	0
DODGE COUNTY	06/16/2000		0	0	$5,000	0
DODGE COUNTY	09/19/2001		0	0	0	0
DODGE COUNTY	12/05/2001		0	0	$5,000	0
DODGE COUNTY	11/12/2003	40	0	0	$3,000	0
DODGE COUNTY	03/07/2004	38	0	0	$3,000	0
DODGE COUNTY	03/14/2004	39	0	0	$2,000	0
DODGE COUNTY	04/18/2004	42	0	0	$75,000	0
DODGE COUNTY	12/12/2004	42	0	0	$2,000	0
DODGE COUNTY	01/24/2006	39	0	0	$5,000	0
DODGE COUNTY	03/13/2006	39	0	0	$5,000	0

DODGE COUNTY	03/31/2006	39	0	0	$3,000	0
DODGE COUNTY	05/11/2006	41	0	0	$1,500	0
DODGE COUNTY	02/22/2007	39	0	0	$2,000	0
DODGE COUNTY	05/24/2007	39	0	0	$2,000	0
DODGE COUNTY	08/27/2007	39	0	0	$10,000	0
DODGE COUNTY	11/05/2007	39	0	0	$5,000	0
DODGE COUNTY	12/23/2007	39	0	0	$5,000	0
DODGE COUNTY	04/26/2008	41	0	0	$5,000	0
DODGE COUNTY	10/06/2009	42	0	0	$5,000	0
DODGE COUNTY	05/05/2010	45	0	0	$10,000	0
DODGE COUNTY	09/07/2010	39	0	0	$5,000	0
DODGE COUNTY	01/01/2011	30	0	0	$3,000	0
DODGE COUNTY	02/18/2011	26	0	0	$2,000	0
DODGE COUNTY	04/15/2011	40	0	0	$3,000	0
DODGE COUNTY	05/15/2011	40	0	0	$5,000	0
DODGE COUNTY	09/29/2011	39	0	0	$2,000	0
DODGE COUNTY	01/01/2012	39	0	0	$1,000	0
DODGE COUNTY	03/10/2012	28	0	0	$2,000	0
DODGE COUNTY	04/08/2012	41	0	0	$1,000	0
DODGE COUNTY	04/15/2012	42	0	0	$1,000	0
DODGE COUNTY	04/16/2012	26	0	0	$1,000	0
DODGE COUNTY	06/18/2012	39	0	0	$10,000	0
DODGE COUNTY	01/19/2013	40	0	0	$5,000	0
DODGE COUNTY	04/11/2013	44	0	0	$10,000	0
DODGE COUNTY	12/04/2017	41	0	0	$4,000	0

THUNDER-STORM WIND

*There were **111** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*KTS*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	03/13/1990		0	0	0	0
DODGE COUNTY	05/26/1991		0	0	0	0
DODGE COUNTY	06/01/1991		0	0	0	0
DODGE COUNTY	06/01/1991		0	0	0	0
DODGE COUNTY	06/14/1991	52	0	0	0	0
DODGE COUNTY	07/07/1991		0	0	0	0
DODGE COUNTY	07/07/1991		0	0	0	0
DODGE COUNTY	10/24/1991		0	0	0	0

DODGE COUNTY	06/17/1992		0	0	0	0
DODGE COUNTY	06/17/1992	50	0	0	0	0
DODGE COUNTY	06/17/1992		0	0	0	0
DODGE COUNTY	07/08/1992		0	0	0	0
KEKOSHEE	04/15/1994		0	0	$5,000	0
WAUPUN	06/18/1994		0	0	$5,000	$5,000
BEAVER DAM	07/07/1994	61	0	0	0	$5,000
JUNEAU	07/07/1994		0	0	0	$5,000
BRUNETT	07/11/1994		0	0	0	$5,000
BEAVER DAM	07/11/1994		0	0	0	$5,000
DODGE COUNTY	04/18/1995		0	0	0	0
BEAVER DAM	06/06/1995		0	0	$20,000	0
HORICON	06/02/1996		0	0	$20,000	0
BEAVER DAM	06/29/1996		0	0	$15,000	0
LOMIRA	06/29/1996		0	0	$4,000	0
RUBICON	07/18/1996		0	0	$1,000	0
RANDOLPH	08/05/1996	52	0	0	0	0
ASTICO	08/19/1996		0	0	$12,000	0
BEAVER DAM	04/05/1997	51	0	0	$35,000	0
LOWELL	06/15/1997		0	0	$1,000	0
RICHWOOD	06/24/1997		0	0	$100,000	0
WATERTOWN	06/24/1997		0	1	$10,000	0
IRON RIDGE	06/24/1997		0	0	$100,000	0
JUNEAU	06/24/1997	74	0	0	$150,000	0
WAUPUN	07/16/1997		0	0	$1,500	0
WATERTOWN	07/26/1997		0	0	$600	0
CLYMAN	08/03/1997		0	0	$20,000	$200,000
MAYVILLE	05/15/1998		0	0	$30,000	0
JUNEAU	05/15/1998		0	0	$1,000	0
RANDOLPH	05/28/1998	52	0	0	$2,000	0
WAUPUN	05/28/1998	56	0	0	0	0
COUNTYWIDE	05/31/1998	111	0	8	$3.71M	$24,000
THERESA	07/20/1998	54	0	0	$2,000	0
THERESA	08/22/1998	59	0	0	$1,000	0
BEAVER DAM	02/11/1999		0	0	$10,000	0
BEAVER DAM	06/06/1999		0	0	$1,000	0
HUSTISFORD	06/06/1999		0	0	$5,000	0
JUNEAU	06/06/1999		0	0	$1,000	0
THERESA	07/08/1999		0	0	$1,000	0

BEAVER DAM	07/20/1999		0	0	$20,000	0
BEAVER DAM	07/23/1999		0	0	$2,000	0
BEAVER DAM	07/02/2000		0	0	$10,000	0
IRON RIDGE	07/02/2000		0	0	$2,000	0
JUNEAU	08/01/2000	52	0	0	$2,000	0
REESEVILLE	05/10/2001	56	0	0	0	0
BEAVER DAM	06/11/2001	70	0	0	$200,000	0
WAUPUN	06/16/2001	56	0	0	0	0
BEAVER DAM	06/16/2001	52	0	0	0	0
RANDOLPH	06/17/2001	52	0	0	0	0
MAYVILLE	07/03/2001	56	0	0	0	0
JUNEAU	08/22/2001	52	0	0	0	0
BEAVER DAM	09/07/2001	52	0	0	0	0
BEAVER DAM	04/18/2002	53	0	0	0	0
WAUPUN	04/18/2002	52	0	0	0	0
WATERTOWN	04/18/2002	52	0	0	$55,000	0
FOX LAKE	06/21/2002	65	0	0	0	0
FOX LAKE	06/21/2002	56	0	0	0	0
NEOSHO	08/21/2002	52	0	0	0	0
JUNEAU	05/10/2003	56	0	0	0	0
RANDOLPH	06/18/2003	50	0	0	0	0
RANDOLPH	07/15/2003	56	0	0	$50,000	0
WAUPUN	08/03/2003	52	0	0	$5,000	0
ASHIPPUN	03/01/2004	52	0	0	$2,000	0
FOX LAKE	04/18/2004	62	0	0	$1,000	0
SOUTH BEAVER DAM	06/23/2004	52	0	0	0	0
FARMERSVILLE	06/23/2004	56	0	0	0	0
JUNEAU	06/23/2004	56	0	0	$3,000	0
WATERTOWN	08/03/2004	56	0	0	0	0
FOX LAKE	08/26/2004	56	0	0	$20,000	0
BROWNSVILLE	06/05/2005	65	0	0	$25,000	0
HORICON	06/10/2005	52	0	0	0	0
ASHIPPUN	06/26/2005	52	0	0	0	0
RANDOLPH	06/30/2005	56	0	0	0	0
FOX LAKE	07/23/2005	65	0	0	$5,000	0
WAUPUN	07/23/2005	65	0	0	$50,000	0
BEAVER DAM	07/23/2005	52	0	0	$2,000	0
ATWATER	07/23/2005	52	0	0	$1,000	0
RICHWOOD	07/23/2005	52	0	0	$1,000	0
FOX LAKE	09/13/2005	50	0	0	0	0

KEKOSKEE	09/13/2005	52	0	0	0	0
HORICON	10/02/2005	52	0	0	$10,000	0
HUSTISFORD	06/21/2006	50	0	0	0	0
BEAVER DAM	06/27/2006	52	0	0	0	0
LOMIRA	07/17/2006	56	0	0	$5,000	0
PORTLAND	07/20/2006	56	0	0	$5,000	0
THERESA	07/20/2006	52	0	0	0	0
BEAVER DAM	07/30/2006	52	0	0	$5,000	0
LOMIRA	07/30/2006	52	0	0	$5,000	0
BEAVER DAM	08/24/2006	56	0	0	0	0
THERESA	10/02/2006	56	0	0	0	0
WATERTOWN	06/01/2007	65	0	0	$20,000	0
RANDOLPH	07/03/2007	52	0	0	0	0
RUBICON	07/09/2007	52	0	0	0	0
RANDOLPH	08/11/2007	52	0	0	$2,000	0
ASHIPPUN	08/22/2007	56	0	0	$25,000	0
RANDOLPH	06/07/2008	56	0	0	$50,000	0
RANDOLPH	06/07/2008	52	0	0	0	0
JUNEAU	06/28/2008	71	0	0	$75,000	0
FOX LAKE	07/07/2008	56	0	0	$20,000	0
BEAVER DAM	07/10/2008	56	0	0	$10,000	0
FOX LAKE	07/12/2008	56	0	0	0	0
BEAVER DAM	07/16/2008	56	0	0	$20,000	0
FARMERSVILLE	05/13/2009	78	0	0	$165,000	0
IRON RIDGE	06/18/2009	56	0	0	0	0
BEAVER DAM	06/27/2009	56	0	0	0	0
WAUPUN	07/10/2010	50	0	0	0	0
FOX LAKE	07/14/2010	52	0	0	0	0
FOX LAKE	07/14/2010	65	0	0	$5,000	0
BEAVER DAM	07/14/2010	52	0	0	0	0
MAYVILLE	07/14/2010	65	0	0	$1,000	0
LOWELL	08/20/2010	50	0	0	0	0
HORICON	08/20/2010	50	0	0	0	0
IRON RIDGE	04/04/2011	70	0	0	0	0
HUSTISFORD	05/22/2011	60	0	0	$10,000	0
HUSTISFORD	05/22/2011	56	0	0	$500	0
FOX LAKE	07/11/2011	56	0	0	0	0
KEKOSKEE	07/11/2011	56	0	0	0	0
JUNEAU	07/11/2011	56	0	0	0	0

BROWNSVILLE	07/19/2011	52	0	0	0	0
BEAVER DAM	07/19/2011	52	0	0	0	0
BEAVER DAM	07/30/2011	35	0	5	0	0
IRON RIDGE	08/12/2011	50	0	0	0	0
PORTLAND	09/03/2011	65	0	0	$15,000	0
ALDERLEY	09/03/2011	56	0	0	0	0
FOX LAKE	07/25/2012	56	0	0	0	0
LOWELL	09/04/2012	52	0	0	$10,000	0
PORTLAND	05/14/2013	61	0	0	$10,000	0
RANDOLPH	05/30/2013	56	0	0	$12,000	0
RANDOLPH	05/30/2013	56	0	0	$12,000	0
BEAVER DAM ARPT	05/30/2013	61	0	0	$20,000	0
MAYVILLE	05/30/2013	61	0	0	$5,000	0
FOX LAKE	06/12/2013	61	0	0	$10,000	0
BEAVER DAM	10/03/2013	52	0	0	0	0
BEAVER DAM ARPT	10/03/2013	56	0	0	0	0
HUSTISFORD	11/17/2013	87	0	0	$75,600	$1,000
HORICON	06/02/2014	55	0	0	$1,000	0
DANVILLE	07/13/2015	87	0	0	$120,000	0
SOUTH BEAVER DAM	07/13/2015	56	0	0	0	0
BEAVER DAM	07/13/2015	52	0	0	0	0
JUNEAU	07/13/2015	60	0	0	$1,000	0
HUSTISFORD	07/13/2015	60	0	0	$4,000	0
HUSTISFORD	06/05/2016	61	0	0	$10,000	0
JUNEAU	07/05/2016	50	0	0	$6,000	0
WAUPUN	07/07/2016	61	0	0	$40,000	0
SOUTH BEAVER DAM	07/21/2016	52	0	0	$15,000	0
PORTLAND	07/21/2016	71	0	0	$10,000	0
REESEVILLE	07/21/2016	52	0	0	$5,000	0
RUBICON	03/07/2017	50	0	0	$1,000	0
WAUPUN	03/07/2017	50	0	0	$500	0
RANDOLPH	06/12/2017	52	0	0	$1,000	0
BEAVER DAM ARPT	06/12/2017	56	0	0	$3,000	0
KEKOSKEE	06/12/2017	56	0	0	$2,000	0
LEROY	06/12/2017	53	0	0	0	0
MAYVILLE	06/12/2017	70	0	0	$50,000	0
JUNEAU	06/12/2017	52	0	0	0	0
LOMIRA	06/12/2017	56	0	0	$3,000	0
LOMIRA	06/12/2017	70	0	0	$5,000	0
FOX LAKE	06/14/2017	56	0	0	$2,000	0

OAK GROVE	06/14/2017	56	0	0	$1,000	0
CLYMAN	06/14/2017	55	0	0	0	0
BEAVER DAM	06/19/2017	50	0	0	$1,000	0
WATERTOWN	06/28/2017	56	0	0	$10,000	0
BEAVER DAM	07/06/2017	50	0	0	$2,000	0
LEBANON	07/06/2017	55	0	0	$3,000	0
ALDERLEY	05/27/2018	50	0	0	$1,000	0
LOST LAKE	07/13/2018	50	0	0	$1,000	0

TORNADO

*There were **11** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Strength*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
REESVILLE	08/16/1995	F0	0	0	0	0
HORICON	06/01/2000	F2	0	0	$1.11M	$400,000
FOX LAKE	06/11/2001	F1	0	0	$700,000	0
RUBICON	06/11/2001	F0	0	0	$25,000	0
HORICON	07/06/2003	F0	0	0	0	0
KEKOSKEE	07/06/2003	F0	0	0	0	0
THERESA	07/06/2003	F0	0	0	0	0
WAUPUN	06/23/2004	F3	0	0	$8M	$500,000
RUBICON	06/18/2006	F0	0	0	0	0
LOST LAKE	06/07/2008	EF0	0	0	0	0
SOUTH RANDOLPH	06/07/2008	EF1	0	0	$200,000	$100,000
MAYVILLE	06/12/2008	EF0	0	0	0	0
WAUPUN ARPT	07/10/2008	EF1	0	0	$20,000	0
HERMAN CENTER	06/19/2011	EF0	0	0	0	0

WINTER STORM

*There were **45** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	04/11/1997	0	0	0	0
DODGE COUNTY	01/08/1998	0	0	0	0
DODGE COUNTY	03/08/1998	0	0	0	0
DODGE COUNTY	03/09/1999	0	0	0	0
DODGE COUNTY	01/03/2000	0	0	0	0

DODGE COUNTY	04/07/2000	0	0	0	0
DODGE COUNTY	04/04/2003	0	0	0	0
DODGE COUNTY	01/06/2005	0	0	0	0
DODGE COUNTY	01/22/2005	0	0	0	0
DODGE COUNTY	02/20/2005	0	0	0	0
DODGE COUNTY	02/16/2006	0	0	0	0
DODGE COUNTY	02/23/2007	0	0	0	0
DODGE COUNTY	02/25/2007	0	0	0	0
DODGE COUNTY	04/11/2007	0	0	$10,000	0
DODGE COUNTY	12/01/2007	0	0	0	0
DODGE COUNTY	12/11/2007	0	0	$150,000	0
DODGE COUNTY	01/29/2008	0	0	0	0
DODGE COUNTY	02/05/2008	0	0	0	0
DODGE COUNTY	02/17/2008	0	0	0	0
DODGE COUNTY	03/21/2008	0	0	0	0
DODGE COUNTY	11/30/2008	0	0	0	0
DODGE COUNTY	12/01/2008	0	0	0	0
DODGE COUNTY	12/08/2008	0	0	0	0
DODGE COUNTY	12/18/2008	0	0	0	0
DODGE COUNTY	12/21/2008	0	0	0	0
DODGE COUNTY	02/21/2009	0	0	0	0
DODGE COUNTY	03/08/2009	0	0	0	0
DODGE COUNTY	12/08/2009	0	0	0	0
DODGE COUNTY	12/23/2009	0	0	0	0
DODGE COUNTY	01/07/2010	0	0	0	0
DODGE COUNTY	02/09/2010	0	0	0	0
DODGE COUNTY	02/20/2011	0	0	0	0
DODGE COUNTY	03/02/2012	0	0	0	0
DODGE COUNTY	01/30/2013	0	0	0	0
DODGE COUNTY	12/22/2013	0	0	0	0
DODGE COUNTY	01/14/2014	0	0	0	0
DODGE COUNTY	12/28/2015	0	0	0	0
DODGE COUNTY	12/10/2016	0	0	0	0
DODGE COUNTY	12/16/2016	0	0	0	0
DODGE COUNTY	01/24/2017	0	0	0	0
DODGE COUNTY	04/14/2018	0	0	0	0
DODGE COUNTY	04/18/2018	0	0	0	0

WINTER WEATHER

*There were **106** events reported over the 25-year period from 1/1/94-1/1/20.*

Location	*Date*	*Deaths*	*Injuries*	*Property Damage*	*Crop Damage*
DODGE COUNTY	01/23/1996	0	0	0	0
DODGE COUNTY	02/03/2003	0	0	0	0
DODGE COUNTY	12/10/2003	0	0	0	0
DODGE COUNTY	01/04/2004	0	0	0	0
DODGE COUNTY	01/16/2004	0	0	0	0
DODGE COUNTY	02/08/2004	0	0	0	0
DODGE COUNTY	12/18/2004	0	0	0	0
DODGE COUNTY	11/10/2006	0	0	0	0
DODGE COUNTY	01/12/2007	0	0	0	0
DODGE COUNTY	01/14/2007	0	0	0	0
DODGE COUNTY	01/21/2007	0	0	0	0
DODGE COUNTY	03/01/2007	0	0	0	0
DODGE COUNTY	03/02/2007	0	0	0	0
DODGE COUNTY	11/21/2007	0	0	0	0
DODGE COUNTY	12/04/2007	0	0	$15,000	0
DODGE COUNTY	12/15/2007	0	0	0	0
DODGE COUNTY	12/22/2007	0	0	0	0
DODGE COUNTY	12/28/2007	0	0	0	0
DODGE COUNTY	02/09/2008	0	0	0	0
DODGE COUNTY	02/11/2008	0	0	0	0
DODGE COUNTY	11/24/2008	0	0	0	0
DODGE COUNTY	12/03/2008	0	0	0	0
DODGE COUNTY	12/16/2008	0	0	0	0
DODGE COUNTY	12/23/2008	0	0	0	0
DODGE COUNTY	12/24/2008	0	0	0	0
DODGE COUNTY	12/25/2008	0	0	0	0
DODGE COUNTY	12/27/2008	0	0	0	0
DODGE COUNTY	01/03/2009	0	0	0	0
DODGE COUNTY	01/12/2009	0	0	0	0
DODGE COUNTY	01/13/2009	0	0	0	0
DODGE COUNTY	02/26/2009	0	0	0	0
DODGE COUNTY	03/28/2009	0	0	0	0

DODGE COUNTY	12/03/2010	0	0	0	0
DODGE COUNTY	12/09/2010	0	0	0	0
DODGE COUNTY	12/20/2010	0	0	0	0
DODGE COUNTY	01/17/2011	0	0	0	0
DODGE COUNTY	02/21/2011	0	0	0	0
DODGE COUNTY	03/09/2011	0	0	0	0
DODGE COUNTY	04/19/2011	0	0	0	0
DODGE COUNTY	12/29/2011	0	0	0	0
DODGE COUNTY	01/12/2012	0	0	0	0
DODGE COUNTY	01/17/2012	0	0	0	0
DODGE COUNTY	01/20/2012	0	0	0	0
DODGE COUNTY	01/22/2012	0	0	0	0
DODGE COUNTY	02/23/2012	0	0	0	0
DODGE COUNTY	12/09/2012	0	0	0	0
DODGE COUNTY	01/27/2013	0	0	0	0
DODGE COUNTY	02/07/2013	0	0	0	0
DODGE COUNTY	02/22/2013	0	0	0	0
DODGE COUNTY	02/26/2013	0	0	0	0
DODGE COUNTY	03/05/2013	0	0	0	0
DODGE COUNTY	03/15/2013	0	0	0	0
DODGE COUNTY	03/18/2013	0	0	0	0
DODGE COUNTY	04/10/2013	0	0	0	0
DODGE COUNTY	11/25/2013	0	0	0	0
DODGE COUNTY	12/08/2013	0	0	0	0
DODGE COUNTY	12/19/2013	0	0	0	0
DODGE COUNTY	01/10/2014	0	0	0	0
DODGE COUNTY	01/24/2014	0	0	0	0
DODGE COUNTY	01/26/2014	0	0	0	0
DODGE COUNTY	01/26/2014	0	0	0	0
DODGE COUNTY	02/13/2014	0	0	0	0
DODGE COUNTY	02/17/2014	0	0	0	0
DODGE COUNTY	11/24/2014	0	0	0	0
DODGE COUNTY	11/28/2014	0	0	0	0
DODGE COUNTY	12/08/2014	0	0	0	0
DODGE COUNTY	01/03/2015	0	0	0	0
DODGE COUNTY	01/08/2015	0	0	0	0
DODGE COUNTY	01/20/2015	0	0	0	0
DODGE COUNTY	02/01/2015	0	0	0	0
DODGE COUNTY	11/20/2015	0	0	0	0

DODGE COUNTY	01/25/2016	0	0	0	0
DODGE COUNTY	02/02/2016	0	0	0	0
DODGE COUNTY	03/01/2016	0	0	0	0
DODGE COUNTY	03/23/2016	0	0	0	0
DODGE COUNTY	04/02/2016	0	0	0	0
DODGE COUNTY	04/08/2016	0	0	0	0
DODGE COUNTY	12/04/2016	0	0	0	0
DODGE COUNTY	12/23/2016	0	0	0	0
DODGE COUNTY	01/03/2017	0	0	0	0
DODGE COUNTY	01/10/2017	0	0	0	0
DODGE COUNTY	01/11/2017	0	0	0	0
DODGE COUNTY	01/16/2017	0	0	0	0
DODGE COUNTY	02/24/2017	0	0	0	0
DODGE COUNTY	03/01/2017	0	0	0	0
DODGE COUNTY	03/02/2017	0	0	0	0
DODGE COUNTY	03/12/2017	0	0	0	0
DODGE COUNTY	12/13/2017	0	0	0	0
DODGE COUNTY	01/14/2018	0	0	0	0
DODGE COUNTY	02/03/2018	0	0	0	0
DODGE COUNTY	02/05/2018	0	0	0	0
DODGE COUNTY	02/08/2018	0	0	0	0
DODGE COUNTY	03/05/2018	0	0	0	0
DODGE COUNTY	04/03/2018	0	0	0	0

Appendix C: Plan Adoption

This plan has been adopted by Dodge County and its major municipal bodies including the Cities of Beaver Dam, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown, and Waupun; the Villages of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville, and Theresa; and the Towns of Ashippun, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton and Westford. The Towns of Beaver Dam and Fox Lake did not adopt the plan. The City of Columbus is predominantly in Columbus County and therefore did not adopt the Dodge County plan. Scanned copies of those municipalities that adopted this plan follow.

U.S. Department of Homeland Security
FEMA Region 5
536 S. Clark St. 6th Floor
Chicago, IL 60605

FEMA

February 8, 2021

Ms. Robyn Fennig
State Hazard Mitigation Officer
Wisconsin Emergency Management
2400 Wright Street, P.O. Box 7865
Madison, WI 53707-7865

Dear Ms. Fennig:

Thank you for submitting the adoption documentation for the Dodge County All Hazards Mitigation Plan. The plan was reviewed based on the local plan criteria contained in 44 CFR Part 201, as authorized by the Disaster Mitigation Act of 2000. The Dodge County plan met the required criteria for a multi-jurisdiction hazard mitigation plan and the plan is now approved for Dodge County; the cities of Beaver Dam, Fox Lake, Hartford, Horicon, Juneau, Watertown, and Waupun; the villages of Clyman, Hustisford, Iron Ridge, Howell, Randolph, Reeseville, and Theresa; and the towns of Ashippun, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Herman, Hubbard, Lebanon, Lomira, Lowell, Portland, Rubicon, Shields, Theresa, Trenton, and Westford. Please submit the adoption resolutions for any remaining jurisdictions who participated in the planning process.

The approval of this plan ensures continued availability of the full complement of Hazard Mitigation Assistance (HMA) Grants. All requests for funding, however, will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted.

We encourage Dodge County and the participating jurisdictions to follow the plan's schedule for monitoring and updating the plan, and to continue their efforts to implement the mitigation measures. The expiration date of the Dodge County plan is five years from the date of this letter. To continue project grant eligibility, the plan must be reviewed, revised as appropriate, resubmitted, and approved no later than the plan expiration date.

Please pass on our congratulations to the communities for completing this significant action. If you or the communities have any questions, please contact Cadence Peterson at cadence.peterson@fema.dhs.gov or at 312-408-5260.

Sincerely,

Julia McCarthy
Chief, Risk Analysis Branch
Mitigation Division

Appendix C: Plan Adoption

STATE OF WISCONSIN

DEPARTMENT OF MILITARY AFFAIRS

DIVISION OF EMERGENCY MANAGEMENT

Darrell L. Williams, Ph.D.
Administrator

Tony Evers
Governor

September 8, 2020

Ms. Amy Nehls, Director
Dodge County Emergency Management
124 West Street
Juneau, WI 53039

Dear Ms. Nehls:

Wisconsin Emergency Management (WEM) has reviewed the *Dodge County, WI, Hazard Mitigation Plan* update. The Federal Emergency Management Agency (FEMA) and WEM have signed a Program Administration by States operational agreement, dated October 29, 2018, allowing WEM to review local mitigation plans to ensure they meet the required criteria for a multi-jurisdiction hazard mitigation plan outlined in 44 CFR Part 201. Upon review, Dodge County has met the required criteria for a multi-jurisdictional hazard mitigation plan.

The county and participating jurisdictions *must now adopt* the plan in order to have a FEMA-approved hazard mitigation plan and be eligible for funding through the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities program, and the Flood Mitigation Assistance program.

I have emailed a copy of the WEM Mitigation Plan Review Tool for your records.

If you have any questions, please call me at (608) 242-3252 or Katie Sommers at (608) 242-3222.

Sincerely,

Cody Kamrowski
Disaster Response and Recovery Planner

Enclosure

Cc: Steve Fenske, EC Region Emergency Management Director, WEM

December 2020

RESOLUTION NO. 20-53

Resolution Adopting Updated All-Hazards Mitigation Plan

TO THE HONORABLE BOARD OF SUPERVISORS OF DODGE COUNTY, WISCONSIN

WHEREAS, Dodge County recognizes the threat that natural hazards pose to people and property; and,

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and,

WHEREAS, an updated, adopted *All-Hazards Mitigation Plan* is required by the Federal Disaster Mitigation Act of 2000 as a condition of future grant funding for mitigation projects; and,

WHEREAS, Dodge County participated jointly in the planning process with other local units of government within Dodge County to update the *All-Hazards Mitigation Plan*, which was made available for review and comment pursuant to Public Notice, and a copy of which will reside permanently in the Dodge County Emergency Management Office; and,

WHEREAS, the Dodge County Executive Committee recommends that the Dodge County Board of Supervisors adopt the updated *All-Hazards Mitigation Plan* as the official *All-Hazards Mitigation Plan* (plan update – August 2020) for Dodge County; and,

WHEREAS, after the updated *All-Hazards Mitigation Plan,* has been adopted by the Dodge County Board of Supervisors and local units of government, it will be submitted to the Division of Wisconsin Emergency Management and Federal Emergency Management Agency, and is subject to modification thereby as part of the review and approval process; and,

NOW, THEREFORE, BE IT RESOLVED, that the Dodge County Board of Supervisors hereby adopts the updated *All-Hazards Mitigation Plan* as may be modified by the Division of Wisconsin Emergency Management and Federal Emergency Management Agency, as the official *All-Hazards Mitigation Plan* for Dodge County; and,

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Director is hereby authorized and directed to submit, on behalf of the participating municipalities, and upon its adoption by all such municipalities, the adopted, updated *All-Hazards Mitigation Plan* to the Division of Wisconsin Emergency Management and Federal Emergency Management Agency for final review and approval; and,

BE IT FINALLY RESOLVED, that minor changes to be made to the adopted, updated *All-Hazards Mitigation Plan* upon advice from the Division of Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adoption of this Resolution.

December 2020

All of which is respectfully submitted this 15th day of December, 2020.

Dodge County Executive Committee:

Russell Kottke

David Frohling

Dan Hilbert

Jeffrey Schmitt

Kira Sheahan-Malloy

Thomas Schaefer

Joseph Marsik

FISCAL NOTE: There is no fiscal effect for the adoption other than de minimis expenditures such as postage. Finance Committee review date: December 7, 2020. Chair initials: KK.

Vote Required: Majority of members present
Resolution Summary: Resolution Adopting Updated All-Hazards Mitigation Plan.

ADOPTED
BY DODGE COUNTY BOARD

DEC 15 2020

AYES 31 NOES 0
ABSENT 2
ABSTAIN 0

Karen J. Gibson
County Clerk

RESOLUTION NO. 140-2020

A RESOLUTION ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the City of Beaver Dam recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Beaver Dam participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the City of Beaver Dam, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City of Beaver Dam, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Presented by the following Alderpersons, members of the Administrative Committee:

_____

_____

_____

_____

_____

_____

_____

Adopted: December 7, 2020

Zachary Bloom
City Clerk

Approved: December 7, 2020

Rebecca Glewen
Mayor

City of Beaver Dam
County of Dodge

This document is a full, true and correct copy of the original on file and of record in my office and has been compared by me.

Attest: December 14 20 20

By: _____

Title: City Clerk

(Subject to Committee Approval)

RESOLUTION # 1 - 2021

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the City of Fox Lake recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax-payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Fox Lake participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Common Council of the City of Fox Lake, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted by the Common Council of the City of Fox Lake, Wisconsin, this 6th day of January 2021.

APPROVED:

Tom Bednarek, Mayor

ATTEST:

Jenny Quirk, City Clerk

RESOLUTION NO. 3587

RESOLUTION TO ADOPT THE
DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: NONE

WHEREAS, the City of Hartford recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Hartford participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Hartford, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City of Hartford, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED this 8th day of Dec. 2020.

Timothy C. Michalak, Mayor

ATTEST:

Lori Hetzel, City Clerk

RESOLUTION NO. 2020-13

RESOLUTION ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the City of Horicon, Dodge County, Wisconsin recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Horicon participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office.

NOW, THEREFORE, BE IT RESOLVED, that the Common Council of the City of Horicon hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Introduced by Alderperson Richard Muesch this 22nd day of December 2020.

Adopted and approved this 22nd day of December 2020.

James R. Grigg

James R. Grigg, Mayor

ATTEST:

Kristen M. Jacobson, City Clerk-Treasurer

Resolution 58-2020

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the City of Juneau recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Juneau participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Common Council of the City of Juneau adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and,

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Passed by the Common Council of the City of Juneau this 8th, day of December, 2020.

Dan Wegener, Mayor

ATTEST:

Shawn Hart, Clerk/Treasurer

7.F.2

RESOLUTION

Resolution 5604-2021 (Adopting the Dodge County All Hazards Mitigation Plan)

FISCAL IMPACT: None

WHEREAS, the City of Mayville recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Mayville participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Mayville, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Passed by the Common Council of the City of Mayville this 8th day of February, 2021.

Rob Boelk
Mayor

Attest:

Sara Decker
City Clerk

Packet Pg. 24

RESOLUTION TO
ADOPT DODGE COUNTY
ALL HAZARDS MITIGATION PLAN

SPONSOR: MAYOR MCFARLAND
FROM: FINANCE COMMITTEE

FISCAL IMPACT: None

WHEREAS, the City of Watertown recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Watertown participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the City Council, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

This is to certify that I have compared the attached copy with the original record now on file in my office and that the same is a correct transcript thereof and of the whole thereof. In Testimony Whereof, I have hereunto subscribed my name and affixed the seal of the City of Watertown this 15th day of December, 2020.

City Clerk/Treasurer

ADOPTED December 15, 2020

CITY CLERK/TREASURER

APPROVED December 15, 2020

MAYOR

(December 15, 2020) EXHIBIT #9131

RESOLUTION # 12-15-20-01

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the City of Waupun recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the City of Waupun participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Waupun, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Julie J. Nickel, Mayor — Date 12/15/20

ATTEST:

Angela J. Hull, City Clerk — Date 12/15/20

RESOLUTION # 2020-08

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Brownsville, Dodge County, Wisconsin recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Brownsville participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Brownsville, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: December 9, 2020

Certifying Official

RESOLUTION # 2020 - 004

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Clyman recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village, of Clyman participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board, of the Village, of Clyman, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Village, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12-7-2020

Connie Kriegman

Certifying Official

VILLAGE OF HUSTISFORD

RESOLUTION # 20-03

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Hustisford recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Hustisford participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Hustisford, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Village, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12/7/2020

Michael Grant – Village President

RESOLUTION # 2020-11

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Iron Ridge recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Iron Ridge participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Iron Ridge hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 11-30-2020

Brian Esselman, Village President

RESOLUTION # 2020-13

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Kekoskee recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Kekoskee participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Kekoskee hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

ADOPTED this 22nd day of December, 2020.

Don Hilgendorf, President

Allen Schellinger, Trustee #1

Loris Geschke, Trustee #2

Attest – Mary Dessereau, Village Clerk

RESOLUTION # 996

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Lomira recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Lomira participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Lomira, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Motion by Tr. Ritger, seconded by Tr. Priesgen
To adopt Resolution #996.

Ayes: Doman, Kohlmann, Luedtke, More, Priesgen, Ritger, Scharschmidt

Nay: —

Absent: —

Dated this 9th day of December, 2020.

By: _____
Donald Luedtke, President Village of Lomira

Attest: _____
Jenna Rhein, Clerk-Treasurer

RESOLUTION # 2021-1

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the (City, Village, Town of Lowell) recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the (City, Village, Town of Lowell) participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the (City Council, Village Board, Town Board of the City, Village, Town of Lowell), hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: Jan 7, 2021

Jason L. Grasshoff

Certifying Official

RESOLUTION 0107-01-2021
Adopting the Dodge County All Hazards Mitigation Plan

WHEREAS, the Village of Neosho recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Neosho participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Neosho, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Passed by the Village Board this 7th day of January 7, 2021.

Signed:

Steven Gonzales
Village President

Attest:

Deanna Braunschweig
Village Clerk-Treasurer

RESOLUTION # 911

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Village of Randolph recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Randolph participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board, of the Village of Randolph, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12-7-2020

Kenneth Axelrod

Certifying Official

VILLAGE OF REESEVILLE

"RESOLUTION ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN"

RESOLUTION NO. 2020-12

The Village Board of the Village of Reeseville, Dodge County, Wisconsin do ordain as follows:

WHEREAS, the Village of Reeseville recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Reeseville participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Reeseville, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Village, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Dated this 10th day of December, 2020

VILLAGE OF REESEVILLE

By: Brian S. Miller, President

Attest: Christine M. Abell, Clerk-Treasurer

RESOLUTION 772-2021

ADOPTING THE DODGE COUNTY HAZARDS MITIGATION PLAN

WHEREAS, the Village of Theresa, Dodge County, Wisconsin (hereinafter known as the "Village") recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of Theresa participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

THEREFORE, BE IT RESOLVED, that the Village Board of the Village of Theresa hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Village, the adopted All Hazards Mitigation Plan to the Wisconsin Emergency Management Agency officials for final review and approval. Minor changes have been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this Resolution

PASSED BY THE VILLAGE BOARD, of the Village of Theresa this 4th day of January, 2021.

Signed:

Jody Steger

Jody Steger, Village President

Attest:

Becky Tellier

Becky Tellier, Clerk-Treasurer

RESOLUTION # 2020-008

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Ashippun recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Ashippun participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Ashippun hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12/9/20

Certifying Official

RESOLUTION # _____

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Burnett recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Burnett participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Burnett, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: Unan.

Kim Fletch

Certifying Official

RESOLUTION # 2020-02

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Calamus recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Calamus participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Calamus, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED ON 12/8/2020

Marjorie Beilke

Certifying Official
Marjorie Beilke, Clerk/Treasurer

RESOLUTION # 2 -2020

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Chester recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Chester participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the, Town of Chester, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: ✓

Ronald L Reed CHAIRMAN

Certifying Official

RESOLUTION # 2020-03

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Clyman recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Clyman participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Clyman, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted December 14, 2020

David C. Blank

Chairman, David C. Blank

Posted: December 17, 2020

Sandra Thoma

Sandra Thoma, Clerk

RESOLUTION #2020-12-01-2

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Elba recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Elba participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Elba, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted this 1st day of December, 2020.

Number of votes for the resolution 2.

Number of votes against the resolution 1.

Jerry Gaska, Chairman

Paul Walz, Supervisor I

Roger Parpart, Supervisor II

ATTEST:

Wendy Stoeckler, Town Clerk

RESOLUTION # 2020-001

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Emmet recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Emmet participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Emmet, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: December 9 ,2020

Debra L Carlson, Clerk

Certifying Official

RESOLUTION # 2020-06

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Herman, Dodge County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Herman, Dodge County participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Herman, Dodge County, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

DATE PASSED: 12-08-20

Signature of Town Chairperson _____
Benjamin Schellinger

Attested by Town Clerk _____
Alison Pecha

RESOLUTION # 20-5

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Hubbard recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Hubbard participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Hubbard, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12-8-20

Daniel Guenterberg

Certifying Official

TOWN OF HUSTISFORD

RESOLUTION #20-01

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Hustisford recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Hustisford participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which has made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Hustisford, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes have been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Passed: 12/3/2020

Certifying Official

Town of Lebanon – Dodge County

RESOLUTION # L-20-G

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the ~~(City, Village, Town of~~ Town of Lebanon ~~)~~ recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the ~~(City, Village, Town of~~ Town of Lebanon ~~)~~ participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the ~~(City Council, Village Board,~~ Town Board of the ~~City, Village~~, Town of Lebanon), hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12-3-2020 Approved

~~Certifying Official~~
Lohny Fredrick, Town Chairman

Deborah Behl

Deborah Behl, Town Clerk

Agenda Item D on December 14, 2020 Town Meeting

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Leroy recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Leroy participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Leroy, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 12/14/2020

Sandra Pothe - clerk

Certifying Official

TOWN OF LOMIRA
RESOLUTION # 20-07

DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Lomira recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Lomira participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Lomira, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted this 9th day of December, 2020

Certifying Official

RESOLUTION 2020-2

Adopting the Dodge County All Hazards Mitigation Plan

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FISCAL IMPACT: None

WHEREAS, the Town of Lowell, Dodge County, Wisconsin, recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax-payer dollars; and

WHEREAS, an adopted All Hazards Mitigation Plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Lowell, Dodge County, Wisconsin, participated jointly in the planning process with Dodge County and other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Lowell, Dodge County, Wisconsin, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER, RESOLVED, that the Dodge County Emergency Management Department will submit, on the behalf of the Town of Lowell, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted this 8th day of December, 2020.

John H Schmitt Chrm.
Chairman, John H. Schmitt

Greg Caine
Supervisor, Greg Caine

Dave W Huebner
Supervisor, David W. Huebner

ATTEST: Susan L. Caine, Clerk
Clerk, Susan L. Caine
~~~~~~

Resolution # 51-B

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Oak Grove recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition pf future grant funding for mitigation projects; and

WHEREAS, the Town of Oak Grove participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, Be IT RESOLVED, that the Town Board of the Town of Oak Grove, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: December 14th 2020

Town of Oak Grove Chairman

RESOLUTION # 2020 AHM

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Portland recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Portland participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Portland hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 3-0 on December 17, 2020

Nancy L. Thompson
Town of Portland Clerk

RESOLUTION # 2021-1

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the [redacted] recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the [redacted] participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the [redacted], hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: 1-12-21

Thomas J Schaefer
Certifying Official

161

[161] This adoption was submitted by the Town of Rubicon.

RESOLUTION # 2020-03

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Shields recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Shields participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Shields hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: ✓

Certifying Official

Town of Theresa

Resolution to Adopt the Dodge County All Hazards Mitigation Plan

WHEREAS, the Town of Theresa recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Theresa participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED that the Town of Theresa, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IF FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Adopted on the 7th day of December, 2020

Town Chairman _____

Attest: Clerk _____

RESOLUTION # 2020-2

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the (City, Village, Town of Trenton) recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the (City, Village, Town of Trenton) participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the (City Council, Village Board, Town Board of the City, Village, Town of Trenton), hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

PASSED: yes

Russell Kottke
Certifying Official

RESOLUTION # 02-2020

ADOPTING THE DODGE COUNTY ALL HAZARDS MITIGATION PLAN

FISCAL IMPACT: None

WHEREAS, the Town of Westford recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required by FEMA as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Westford participated jointly in the planning process with Dodge County and the other local units of government within the County to update the All Hazards Mitigation Plan, which was made available for review via a Legal Notice and a copy of which will reside permanently in the Dodge County Emergency Management Office;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Westford, hereby adopts the updated Dodge County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Dodge County Emergency Management Department will submit, on behalf of the City, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval. Minor changes been made upon advice from Wisconsin Emergency Management and Federal Emergency Management Agency will not require re-adopting this resolution.

Attested by:

Signed this 7th day of December, 2020 by Town of Westford Board

Vicky Orth, Clerk

Dannel Banes, Chairperson

Corey Welch, Supervisor

Dale Macheel, Supervisor

Appendix D: Report on Previous Mitigation Strategies

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
All Hazards	Smart Growth Plan Implementation.	Covered by Dept. annual budget	EM Dept.	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Plan is current, but needs to be continually reviewed and consulted as development continues. *CI Watertown is completing its 10-year plan update, due 2019.* *CI Waupun completed in Fall 2018.* *CI Horicon updated in 2018 to incorporate new industrial park west.* *Will carry forward.*

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	Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	Covered by Dept. annual budget	EM Dept. CIs of Watertown and Waupun	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa. CIs of Watertown and Waupun	POW – media outreach every spring, annual radio appearance, spotter training and community fairs. *CI Horicon – weather radios in emergency plan.* *Dodge Co EM – highlighted radios in community comment interview on AM radio. Done annually.* *Will carry forward.* Included in the spring newsletter and annually with the tornado section. *Done and will carry forward.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue to add/update Emergency Management Department links on the existing web site (e.g., ARC, FEMA, WEM) especially focusing on preparedness bulletins.	Covered by Dept. annual budget	EM Dept. / IT Consultant	Ongoing	Low	Dodge CO; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Website being redesigned March, 2013 *and 2017*. *Update with links as needed. Will carry forward.*
			CI of Juneau		Low	CI of Juneau	Linking to the County EM site.
			TN of Clyman		Low	TN of Clyman	Linking to the County EM site.
			VI of Iron Ridge		High	VI of Iron Ridge	VI of Iron Ridge building new website. Planning to link CI and TN of Fox Lake and VI of Lomira.

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	Upgrade area early warning sirens as needed.	As funding available	EM Dept. / Sheriff's Office / Responders	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Most municipalities have upgraded and updated their sirens due to narrow-banding requirements in 2011-2012. *Will be removed.*
	Address coverage concerns which arose since FCC narrow-banding.	As funding allows		Ongoing	High		Continue to address concerns as funding allows. *Completed and will be removed.*
	Install Ashippun Tower.	$750K		2012	High		Complete project total $2.5M. *Completed and will be removed.*
	Upgrade tower for simulcasting.	$700K, Assistance to Firefighter Grant		2012	High		*Completed and will be removed.*
	CI Waupun upgraded siren and added a site in Dodge Co.	*$70K*		*2018*	*High*		*Completed and will be removed.*
	TN Lebanon replaced a siren.	*~$3K*		*2017*	*High*		*Completed and will be removed.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Conduct a hazardous materials transportation study.	As grants available	EM Dept.	2015	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• In the VI of Lomira, the Village Hall and FD are nearby railroad tracks. The prison in the CI of Waupun is also near tracks. A derailment could result in a hazardous material concern. • Railroad study completed in 2012. • Road and highway study to be completed in 2013. *Completed and will be removed.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue to develop Community Organizations Active in Disaster (COAD) volunteers.	Covered by Dept. annual budget	EM Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Did activities over the past 5 years but interest is declining and group is disbanding. Will be removed.*
	Explore the feasibility of the use of Beaver Dam Family Center as a mass fatality center.	Covered by Dept. annual budget	CI of Beaver Dam EM	2015	Medium	CI of Beaver Dam	*Not feasible and will be removed.*
	Explore improvements for public notification system.	As funding allows	CI of Juneau EM	2025	Low	CI of Juneau	• Three sirens need replacing to bring in compliance with narrow-banding requirements. • Potential increase in NOAA weather radio usage. *Not fully funded. These projects will be brought forward as funding is sought*.

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue community evaluations of hardened structures as appropriate.	Covered by Dept. annual budget	CI of Waupun	Ongoing	Low	CI of Waupun	Last evaluation 2002. *Have projects for tornado shelters written for upcoming hazmit grants. Will carry forward.*
	Establish and equip a permanent EOC.	As grants available	VI of Iron Ridge	2017	High	VI of Iron Ridge	*No funding to date. This project will be carried forward as funding is sought.*
Drought and Dust Storms	The county and its municipalities should be prepared to provide information to farmers and citizens (e.g., crop irrigation, crop insurance) during times of drought.	Covered by Dept. annual budget	UW-Ext. / LCD Dept. / FSA	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Information provided as requested. • Irrigation should follow Wisconsin Irrigation Scheduling Program (WISP). *No events required. Will carry forward with the addition of "and citizens" to the strategy.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Flooding and Dam Failure	*Incorporate floodplain management into Comprehensive Plan *and floodplain ordinances.*	Covered by Dept. annual budget	LRP	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Done regularly with bi-annual reviews of the Comprehensive Plan. • Will update with new information as received. • New county floodplain maps based on floodplain studies and LIDAR elevation data as of 4/15/10. • Floodplain management code maps and shoreland set-back ordinances adopted 4/19/10. *Code maps will be changed to Zoning ordinance; and noted that they are updated as needed.* *Add that Dam failure analysis maps are adopted as new information is received.* *Maps updated in 2016. Ordinances updated in 2015.* *Will carry forward.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	*Review and adopt shoreland ordinance (NR115) mandated by the State of Wisconsin.	Covered by Dept. annual budget	LRP	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Minimum standards must be adopted but may be adjusted to include mitigation options for property owners. *Will be changed to "have been" adopted; remove "but may be adjusted to" and replaced with "and."* • Went into effect 2/1/12. • Will be updated as standards come in from state (to stay compliant). *Ongoing updates done in 2016, 2018 and 2019 to stay compliant with minimum standards.* *Completed in 2012 and will be removed.*

	*Maintain topographic maps for purpose of current information inclusive of updated aerial photography.	Unknown	LRP	As funding available	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Useful tool in determining the level of damage and mitigating areas of concern. • Will update with new information as received. • Participating partner with National Aerial Imagery Program (one meter/pixel) *Last update was in 2018.*
	Update orthophotos (aerial photography).	$150,000		2012	Very High		• High resolution (6”/pixel). State had done in 2010 at no cost to the county (18”/pixel) but the county paid for better resolution. *Will remove second sentence. Flight was done in 2017. Will change cost to $73K and timetable to 2020*. • Updated ortho will aide in the identification of flood-risk areas, determining damage and for mitigating areas of concern. • Will update with new information as received. • Participating partner with National Aerial Imagery Program (one meter/pixel)
	Complete new LIDAR flight for updated elevations.	$300,000		2016	High		Last flyover in 2012. *Last flyover was in 2017. Provided updated LIDAR*

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							data for topography was available in 2018. Will change cost to $200K and timetable to 2025.

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	*Look for acceptable (environmentally, socially, cost-benefit, politically, etc.), permanent solutions for removing water and/or improvements/structures from flood-prone areas. Seek out funding sources (grants) to execute solutions.	Covered by Dept. annual budget	Elected officials	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Some of the potential solutions may include acquisitions, demolitions, floodproofing, moving water to surface streams, retention ponds, etc. *Done as needed. Will carry forward.*
	Review and update stormwater ordinances	DNR non-point source pollution grant	Elected officials	2016	Very High	CI Watertown	*Completed since last plan update and will be removed.*
	Shoreline improvements	$300K, completed with grand aid	Elected officials	2019	Medium	CI Horicon	*Completed since last plan update and will be removed. Done in conjunction with park planning.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	*Advise the public of available governmental programs and information, including the NFIP, as it relates to flood issues	Covered by Dept. annual budget – CDBG EAP funding	LID	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Done as needed and will carry forward.* *March 2019, Dodge Co EM put NFIP on webpage and Facebook. CI Watertown has NFIP in city newsletter and link on website.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Develop, review and update dam break analysis and Emergency Action Plans as needed or required by DNR.	Unknown	Land Owners and/or LCD	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• There is one high risk dam and two significant risk dams in the county. • CIs of Horicon and Mayville Plans completed. • Complete third dam break analysis and Emergency Action Plan. *DNR plans are complete and will be updated as needed. Will carry forward.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Conduct a pipe inventory to identify undersized pipes.	$10M	HWY Dept.	2017	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*2014-CI Watertown completed stormwater pollution prevention plan with inventory of all pipes, culverts, etc. Will carry forward.*
	Incorporate floodwater management into comprehensive plan.	Covered by Dept. annual budget	CI of Beaver Dam	2017	Low	CI of Beaver Dam	*Updated comprehensive plan in 2019 and included information on water management.* *Drop going forward*
	Explore options for properly mitigating flood-prone properties in the CI of Beaver Dam.	Unknown	CI of Beaver Dam and property owners	2017	Low	CI of Beaver Dam	• Ten properties have removed floodwall. • One property remains with floodwall. *Considered as opportunities arose. This will continue as community/property owners' interest and funding are available.*

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	Replace undersized culverts on Cooper St.	Applied for PDM grant	CI of Beaver Dam	2017	High	CI of Beaver Dam	• Money originally budgeted for this replacement was redirected for lift station repair. • PDM grant has been applied for. *Done and will be removed.*
	Conduct dam break analysis and EAP for City Dam.	Applied for DNR grant	CI of Beaver Dam	2014	Medium	CI of Beaver Dam	• Last completed in 1970's. • Applied for a DNR improvement grant for funds to replace. • Floodgates were replaced earlier. *Will be considered as funds available. Carry forward.*
	Address flooding concerns during repair of S Mills St and Lincoln Ave.	Unknown	CI of Juneau	2015	High	CI of Juneau	• Floods regularly affecting 3 homes and a community center. • Sewage and storm water back up into the lower levels. • Old pipes and drains will be replaced. *Will be considered as funds available. Carry forward.*

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	Explore options concerning flooding issues involving a ditch along Wild Goose Trail in the CI of Juneau.	Unknown	CI of Juneau	2017	Medium	CI of Juneau	• The ditch has culverts that have risen up. They are undersized and overgrown. • The city has the right-of-way. The county maintains the region and the land is "state owned." *Will be considered as funds available. Carry forward.*
	Obtain engineering study of Shaler Dam and repair per study recommendations.	$50,000	CI of Waupun	2017	Medium	CI of Waupun	• Overtopped in 2004 and 2008. • DNR requires it to be re-inspected anytime overtopped. • Dam is in adequate condition, but undersized. Classified as a small dam. • Downstream are a school, residential areas and parks. *Fond du Lac County – will be removed.*

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Address flooding concerns for Harris Mill Creek. Obtain hydrology/flow study to determine where water is originating.	$50,000	CI of Waupun	2017	High	CI of Waupun	• Snow melt or heavy rains result in flooding of residential and business areas. • Harris Mill Creek flows to Rock River. • May have to buy land and put in stormwater retention pond. *Will be considered as funds available. Carry forward.*
	Install a stormwater drainage pipe to Harris Creek (Hazel and Pattee).	Unknown	CI of Waupun	2017	Medium	CI of Waupun	Engineering complete and ponds designed. *Done and will be removed.*
	Explore possibility of diverting water to Department of Corrections land from Beaver Dam St to ease flooding concerns.	$15,000	CI of Waupun	2017	Medium	CI of Waupun	*Will discuss in next period. Carry forward.*
	Obtain engineering/hydrology study of Gateway Dr. near the Rock River.	$50,000	CI of Waupun	2017	High	CI of Waupun	• Floods in spring and with heavy rains. • May need to slow or divert water upstream. *Fond du Lac County – will be removed.*
	Discuss flood mitigation measures with adjacent towns prior to reconstruction of Main St.	Unknown	CI of Waupun	2016	Medium	CI of Waupun and adjacent towns	Main Street being totally reconstructed in 2016. *Done and will be removed.*
	Explore options to resolve spring flooding issues to15-20 properties on North side of Fox Lake.	Unknown	TN of Fox Lake	2017	High	TN of Fox Lake	*Will be considered as community/property owners are interested and funds are available. Carry forward.*

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	Explore options to address road flooding issues.	Unknown	TN of Herman	2017	Medium	TN of Herman	*Will discuss in next period. Carry forward.*
	Explore and resolve stormwater management problem at 600 block of E Ave.	Covered by annual budget	TN of Lomira	2017	High	TN of Lomira	High waters flood hotel, gas station and businesses. *Will discuss in next period. Carry forward.*
	Reline sewers in town.	Unknown	VI of Clyman	2017	Medium	VI of Clyman	*Will be considered as funds available. Carry forward.*
	Review dam break analysis and Emergency Action Plan. Revise if needed	Unknown	VI of Hustisford	Ongoing	High	VI of Hustisford	Last dam break analysis and EAP completed in 2010. *Will be considered as funds available. Carry forward.*
	Evaluate and complete drainage and erosion mitigation projects outlined in the Hustisford Lake District Project.	Unknown	VI President	2011-2013	Medium	VI of Hustisford	*Will be considered as funds available. Carry forward.*
	Reline sewer system for Main St and adjoining streets.	Grant funds applied for	VI of Iron Ridge	2017	Medium	VI of Iron Ridge	Grant application completed. *Will be considered as funds available. Carry forward.*

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	Explore options to alleviate multiple concerns stemming from 101-year-old train trestle.	Unknown	VI of Iron Ridge	2017	High	VI of Iron Ridge	• The train tracks divide the village in half, cutting the Fire Department off from the majority of the village. • The trestle can't manage the necessary water capacity during heavy rains causing flooding issues. • The tracks are on private property. • Trains are parked on it, presenting additional possible hazards. *Will be discussed in the next plan period. Carry forward.*
	Explore options (ex. dam break analysis) for Lechner's Dam, a private dam in the VI of Kekoskee.	Unknown	VI of Kekoskee	2017	Low	VI of Kekoskee	• Dam is maintained but has flooded in the past. • A dam break would affect a couple of homes and a park. *Not completed, as private owners are not on board yet. No gate on dam. Will carry forward with timetable changed to 2024 and priority changed to medium.*

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	Continue to regularly inspect Neosho Dam. Revisiting and revising EAP when needed.	Unknown	VI of Neosho	Ongoing	Low	VI of Neosho	• No properties downstream. • If the dam breaches, it will impact STH 67. • Plan last completed in 2010. *Done as needed. Keep going forward.*
Fires (Grassfires and Wildfires)	Continue to provide outreach efforts to homeowners (widespread public and to individual homeowners) on protecting homes and structures from wildfires and on obtaining the proper burn permits	Covered by Dept. annual budget	EM Dept. / Local Fire Departments	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Provide info on County EM website. • Completed as requested by local fire departments. • *Dry season – each fire department puts out PSAs on burnings and how to permit.* • *Co. Fire Chiefs will put out PSAs as fire danger and the number of fires increase.* • *Co. Dispatch will help citizens who call in about burning* *Will carry forward.*

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	Release PSAs during fire season to ask people not to burn combustibles.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Rolled into the previous strategy and will be dropped going forward.*

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	Provide ample training for volunteer fire fighters for larger wildfires.	Covered by Dept. annual budget / DNR grants	Local Fire Departments / EM Dept. / DNR	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Completed as requested by local fire departments. • DNR complies annually and has 50/50 grants for training and equipment. • HazMat related trainings may be funded through Wisconsin Emergency Management. • VI and TN of Clyman conducted wildfire training exercise, 2012. Received DNR grant. *Will be removed going forward.* • *Fire departments have been working with DNR to get more training (in-house or with state). Most departments do annually or every other year.* • *Waupun has an exercise* • *Watertown applies for grants annually.* *All previous items will be carried forward unless otherwise noted.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Severe Temperatures	Continue public informational campaigns about severe weather on the website and during Winter and Heat Awareness Weeks.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Done in annual campaigns in Fall and Spring. • PSAs in Fall and Spring. *Done annually whenever severe weather strikes. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue to provide sheltering services to citizens in need during severe temperatures.	Costs vary	PH / ME / Human Services / EM Dept. assistance	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• PSAs, including: extreme heat preparedness, safety in extreme cold, car kits available and CO poisoning information. • A protocol exists and is used during severe temperature outbreaks to open community shelters. • Beaver Dam opened its library and senior center as shelters for cooling in extreme heat. *Beaver Dam does have a homeless shelter now – overnight – male and female.* • *Most communities will open public buildings during business hours for sheltering. Most residents are rural so there is not as big of a need.* • *Watertown Library as cooling & warming shelters and puts out in the paper. Also vouchers for homes to stay in hotel (with funding from Salvation Army).* *All items will be carried forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Sinkhole and Radon	Explore concerns surrounding the possibility of future water table issues.	Covered by Dept. annual budget	LCD	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	County has Niagara Karst in the eastern section of the county and a high-water table. *Will be done as concerns arise. Keep going forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Explore potential radon mitigation strategies to include educating the public about the risks and providing radon test kits.	Covered by Dept. annual budget, State testing	PH	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Free radon test kits available through Public Health Department. *Radon Week is in January; PH did PSAs and gave out kits. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Hail	Place hail storm safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*On website and featured during Spring Awareness Week. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Provide information regarding the purchase of crop insurance	Covered by Dept. annual budget	UW Ext.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Done regularly by UW-Extension. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Lightning	Place lightning safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Conduct annual radio interview (AM1430, WBEV) *Done annually during Spring Awareness Week. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Thunderstorm	Place thunderstorm safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Done annually during Spring Awareness Week. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Work with local fair/festival boards, as requested, to create emergency plans in case of bad weather.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	EM regularly works with the county fair board and other large events. *NWS has listserve for submitting event dates to be forecast & watches/warnings.* *Have annually worked with county fair and some municipal events with fire departments.* *Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue training for Law Enforcement, Fire, EMS, First Responder and the public in the identification of dangerous weather formations.	Covered by the National Weather Service	EM Dept.	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• National Weather Service Storm Spotter Class. • Tornado/Weather spotter class annually, each spring. *Done annually in March or April. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Tornadoes and High Winds	Explore options for tornado shelters, including: identification of buildings that could be used, feasibility of constructing tornado shelters in areas where deficient especially in mobile home parks & possible funding sources.	Costs vary, CDBG, Hazard mitigation funding	EM Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Done as concerns or community interests arise.* *Keep going forward.*
	Seek grants to build a tornado shelter at the Playfull Goose Campground	~$3,000 (PDM, CDBG grants)	CI of Horicon	2019	Low	City of Horicon	Not funded. Will continue to explore as funding is available. Keep going forward.
	Apply for a grant to fund a tornado shelter at the Flyway Meadows mobile home park.	*$2,000,000*	*CI Waupun Admin*	*Fall 2018*	*Medium*	*CI Waupun*	There are currently 54 units and they own an additional 15 acres with plans to eventually expand by another 50 units. *Applied for grant, which was denied. Will be carried forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Continue to require and promote construction standards and techniques.	Covered by Dept. annual budget	LID	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• County is required to meet or exceed state minimum requirements. • Inspections broken into municipalities. All towns have their own building inspectors. *Done as required by state. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Promote the planting of windbreaks to protect farmsteads, buildings and open fields from high winds.	Costs vary	LCD and NRCS	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Utilize a number of different sources for cost-sharing. • Given as citizens have requested information. • Annual tree sale to citizens each spring. *Public information provided as people expressed interest. Keep going forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Review local building codes to improve structure's ability to withstand greater wind velocities.	Covered by Dept. annual budget	P&D Dept.	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Updated as state codes are edited. • CO Zoning covers several (~ 9) towns with the others (~14) managing their own. Most use WI codes. *Will combine with "Continue to require and promote construction standards and techniques." Strategy and carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Encourage builders and owners of manufactured and mobile homes to use tie-downs with ground anchors.	Covered by Dept. annual budget	LIO	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Place a link on websites to FEMA information and provide public information as able. *Done regularly as opportunities arise. Keep going forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Promote tornado awareness, including safety measures.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Done during tornado awareness week in April. Information will be included on the website for homes, schools and business safety measures. *Done annually during Spring Awareness Week. Will carry forward with addition of statewide tornado drill in April.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Winter	Promote winter hazards awareness, including home and travel safety measures (including website.)	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	POW in November - Done during winter weather awareness week and on a regularly-scheduled (annual) radio interview/PSA *Done annually during the Fall. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Encourage the use of snow fences and living snow fences.	Covered by Dept. annual budget	HWY Dept. / LCD	Ongoing	High	Dodge CO; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Web link to detailed information. • PSAs annually. *Not much on county roads – not much luck with farmers. Doing a plan on Hwy. 41. Will carry forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Utility Failure	Evaluate the utility systems' preparedness in cases of disaster in order to create mitigation strategies for likely scenarios.	Unknown	EM Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Done informally in exercises, meetings and in conversation, as opportunities arise.* *Keep going forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Explore available locations for mass clinic sites.	Unknown	EM Dept.	2015	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford, Williamstown; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	*Plans in place – will drop moving forward.*
	Explore options for upgrading the external electric panel on the Law Enforcement building.	$12,000 / Co. Budget	Co Maintenance w/SO and EM	2017	Med	Dodge County	The existing panel is natural gas fed and should have back-up. *Done in 2017-2018 – generator with a plug. Will drop moving forward.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Retrofit pre-identified shelters to accept electric panels for external generators, including: • VI of Theresa – add a stand-by generator to the elementary school • Install generator for the Dodgeland (K-12) School.	Unknown ~$5,000 $20,000	Elected Officials	2017	Med	CIs of Beaver Dam, Fox, & Waupun; VIs of Iron Ridge, Lomira, Neosho, Randolph VI of Theresa CI of Juneau	Primarily looking at school shelters. Dodgeland (K-12) School is listed as a shelter but has no existing back-up electrical supply.

	Evaluate and add generating capabilities to critical community infrastructure: • CI of Fox Lake – add standby generator for the fire dept./city hall building and add a generator hook-up to the Sages School building • CI of Mayville – evaluate the back-up power needs of the critical infrastructure of the community (e.g., public buildings, shelters). • VI of Brownsville – add generator back-up to the Brownsville Community Center and generator hook-ups to the library and Lutheran school • VI of Lomira - add standby generator for Lomira Village Hall • VI of Reeseville – upgrade the fire station generator to run the entire building and add a generator hook-up to the Reeseville Community Center • VI of Randolph – add stand-by generator to the city hall/community center building and add a generator hook-up to the library	~$7,000 ~$1,000 Covered by Dept. annual budget ~$9,000 ~$5,000 ~$7,000 ~$7,000	Municipal Admin/EM	2019	Med	CI of Fox Lake CI of Mayville VI of Brownsville VI of Lomira VI of Reeseville VI of Randolph	Capabilities may include installing a stand-alone generator or installing an external electrical panel that can be serviced by a mobile generator. The Fire Chief has reported that they Mayville FD needs back-up power. *Not done – no money. Will carry forward.* *Will carry forward with amount changed to $15K, priority changed to High. Generator Is there (donated) but is too old. FD needs one also* *Will carry forward with amount changed to $20K; add to strategy: and lift station at NE corner of town (2 phase –Village Hall is in Columbia Co).* *Unless otherwise noted (above), funding was not available. Will keep these projects going forward over the next 5 years.*

Report on Previous Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Evaluate the feasibility of burying power lines as community improvement projects are designed.	As grants available	Adams Columbia Electric	Ongoing	Low	CIs of Columbus & Juneau; VI & TN of Hustisford	*Done as funding available but there were more projects than funds. Keep going forward.*

* Designates an element that supports the NFIP.

Items in italics are strategies not originally listed in the plan but that were added and completed over the plan's five-year life-span.

Note: The Town of Williamstown merged with the Village of Kekoskee in 2018. The Town of Williamstown is still notated in this table but will be changed to the Village of Kekoskee in Appendix E, Summary of Mitigation Strategies

Appendix E: Summary of Mitigation Strategies

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
All Hazards	Smart Growth Plan Implementation.	Covered by Dept. annual budget	EM Dept.	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Plan is current, but needs to be continually reviewed and consulted as development continues. CI Watertown completed in 2019. CI Waupun completed in Fall 2018. CI Horicon updated in 2018 to incorporate new industrial park west.
	Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge,	POW – media outreach every spring, annual radio appearance, spotter training and community fairs. CI Horicon – weather radios in emergency plan. Dodge Co EM – highlighted radios in community comment interview on AM radio. Done annually.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
			CIs of Watertown and Waupun			Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa. CIs of Watertown and Waupun	Included in the spring newsletter and annually with the tornado section. *Done and will carry forward.*
	Continue to add/update Emergency Management Department links on the existing web site (e.g., ARC, FEMA, WEM) especially focusing on preparedness bulletins.	Covered by Dept. annual budget	EM Dept. / IT Consultant	Ongoing	Low	Dodge CO; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Links updated as needed.
			CI of Juneau		Low	CI of Juneau	Linked to Co EM site.
			TN of Clyman		Low	TN of Clyman	Linked to Co EM site.
			VI of Iron Ridge		High	VI of Iron Ridge	VI of Iron Ridge building new website. Planning to link CI and TN of Fox Lake and VI of Lomira.
	Explore improvements for public notification system.	As funding allows	CI of Juneau EM	2025	Low	CI of Juneau	• Three sirens need replacing to bring in compliance with

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
							narrow-banding requirements. • Potential increase in NOAA weather radio usage. Not fully funded. These projects will be brought forward as funding is sought.
	Continue community evaluations of hardened structures as appropriate.	Covered by Dept. annual budget	CI of Waupun	Ongoing	Low	CI of Waupun	Last evaluation 2002. Have projects for tornado shelters written for upcoming hazmit grants.
	Explore sites for new fire department.	$3M ~$3M	CI Admin & FD CI Admin & FD	2024 2024	Very High Very High	CI Watertown CI Beaver Dam	Co EM and area EMS are doing a study on how to best meet needs going forward.
	Complete study on how to best meet needs going forward.	$25,000	Co EM & area EMS	2021	Very High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Upgrade early warning sirens as needed	$16K Unknown	CI Mayville TN Burnett	2019 2025	High High	CI Mayville TN Burnett	Replace siren that has not worked in years. Exploring new siren project.
	Establish and equip a permanent EOC.	As grants available	VI of Iron Ridge	Ongoing	High	VI of Iron Ridge	No funding to date. This project will be carried forward as funding is sought.
Drought and Dust Storms	The county and its municipalities should be prepared to provide information to farmers and citizens (e.g., crop irrigation, crop insurance) during times of drought.	Covered by Dept. annual budget	UW-Ext. / LCD Dept. / FSA	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Information provided as requested. • Irrigation should follow Wisconsin Irrigation Scheduling Program (WISP).
Flooding and Dam Failure	*Incorporate floodplain management into Comprehensive Plan *and floodplain ordinances.*	Covered by Dept. annual budget	LRP	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove,	• Done regularly with bi-annual reviews of the Comprehensive Plan. • Will update with new information as received. • New county floodplain maps based on floodplain studies and

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	LIDAR elevation data as of 4/15/10. • Floodplain management code maps and shoreland set-back ordinances adopted 4/19/10. *Code maps will be changed to Zoning ordinance; and noted that they are updated as needed.* Dam failure analysis maps are adopted as new information is received. Maps updated in 2016. Ordinances updated in 2015.
	*Maintain topographic maps for purpose of current information inclusive of updated aerial photography. *Update orthophotos (aerial photography).	Unknown $73,000 $200,000	LRP	As funding available 2020 2025	Medium Very High High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Useful tool in determining the level of damage and mitigating areas of concern. • Will update with new information as received. • Participating partner with National Aerial Imagery Program (one meter/pixel) Last update was in 2018. • High resolution (6”/pixel).

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	*Complete new LIDAR flight for updated elevations.						• Updated ortho will aide in the identification of flood-risk areas, determining damage and for mitigating areas of concern. • Will update with new information as received. • Participating partner with National Aerial Imagery Program (one meter/pixel) Last flyover in 2017. Provided updated LIDAR data for topography was available in 2018.
	*Look for acceptable (environmentally, socially, cost-benefit, politically, etc.), permanent solutions for removing water and/or improvements/structures from flood-prone areas. Seek out funding sources (grants) to execute solutions.	Covered by Dept. annual budget	Elected officials	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Some of the potential solutions may include acquisitions, demolitions, floodproofing, moving water to surface streams, retention ponds, etc.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	*Advise the public of available governmental programs and information, including the NFIP, as it relates to flood issues	Covered by Dept. annual budget – CDBG EAP funding	LID	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Develop, review and update dam break analysis and Emergency Action Plans as needed or required by DNR.	Unknown	Land Owners and/or LCD	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• There is one high risk dam and two significant risk dams in the county. • CIs of Horicon and Mayville Plans completed. • Complete third dam break analysis and Emergency Action Plan. • DNR plans are complete and will be updated as needed.
	Conduct a pipe inventory to identify undersized pipes.	$10M	HWY Dept.	2025	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford,	2014-CI Watertown completed stormwater

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	pollution prevention plan with inventory of all pipes, culverts, etc.
	Explore options for properly mitigating flood-prone properties in the CI of Beaver Dam.	Unknown	CI of Beaver Dam and property owners	Ongoing	Low	CI of Beaver Dam	• Ten properties have removed floodwall. • One property remains with floodwall. Will continue as community/property owners' interest and funding are available.
	Conduct dam break analysis and EAP for City Dam.	Applied for DNR grant	CI of Beaver Dam	2025	Medium	CI of Beaver Dam	• Last completed in 1970's. • Applied for a DNR improvement grant for funds to replace. • Floodgates were replaced earlier.
	Address flooding concerns during repair of S Mills St and Lincoln Ave.	Unknown	CI of Juneau	2025	High	CI of Juneau	• Floods regularly affecting 3 homes and a community center.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
							• Sewage and storm water back up into the lower levels. • Old pipes and drains will be replaced.
	Explore options concerning flooding issues involving a ditch along Wild Goose Trail in the CI of Juneau.	Unknown	CI of Juneau	2025	Medium	CI of Juneau	• The ditch has culverts that have risen up. They are undersized and overgrown. • The city has the right-of-way. The county maintains the region and the land is “state owned.”
	Address flooding concerns for Harris Mill Creek. Obtain hydrology/flow study to determine where water is originating.	$50,000	CI of Waupun	2025	High	CI of Waupun	• Snow melt or heavy rains result in flooding of residential and business areas. • Harris Mill Creek flows to Rock River. • May have to buy land and put in stormwater retention pond.
	Explore possibility of diverting water to Department of Corrections land from Beaver Dam St to ease flooding concerns.	$15,000	CI of Waupun	2025	Medium	CI of Waupun	
	Explore options for completing proposed roadway improvement projects.						**See table that follows this table for list of projects.**
	Explore options to resolve spring flooding issues to15-20	Unknown	TN of Fox Lake	2025	High	TN of Fox Lake	Will be considered as community/property owners

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	properties on North side of Fox Lake.						are interested and funds are available.
	Explore options to address road flooding issues.	Unknown	TN of Herman	2025	Medium	TN of Herman	
	Explore and resolve stormwater management problem at 600 block of E Ave.	Covered by annual budget	TN of Lomira	2025	High	TN of Lomira	High waters flood hotel, gas station and businesses.
	Reline sewers in town.	Unknown	VI of Clyman	2025	Medium	VI of Clyman	Will be considered as funds available.
	Review dam break analysis and Emergency Action Plan. Revise if needed	Unknown	VI of Hustisford	Ongoing	High	VI of Hustisford	Last dam break analysis and EAP completed in 2010. Will be considered as funds available.
	Evaluate and complete drainage and erosion mitigation projects outlined in the Hustisford Lake District Project.	Unknown	VI President	2025	Medium	VI of Hustisford	Will be considered as funds available.
	Reline sewer system for Main St and adjoining streets.	Grant funds applied for	VI of Iron Ridge	2025	Medium	VI of Iron Ridge	Grant application completed. Will be considered as funds available.
	Explore options to alleviate multiple concerns stemming from 101-year-old train trestle.	Unknown	VI of Iron Ridge	2025	High	VI of Iron Ridge	• The train tracks divide the village in half, cutting the Fire Department off from the majority of the village. • The trestle can't manage the necessary water capacity during heavy rains causing flooding issues. • The tracks are on private property. • Trains are parked on it, presenting additional possible hazards.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Explore options (ex. dam break analysis) for Lechner's Dam, a private dam in the VI of Kekoskee.	Unknown	VI of Kekoskee	2024	Medium	VI of Kekoskee	• Dam is maintained but has flooded in the past. • A dam break would affect a couple of homes and a park. Private owners are not on board yet. No gate on dam.
	Continue to regularly inspect Neosho Dam. Revisiting and revising EAP when needed.	Unknown	VI of Neosho	Ongoing	Low	VI of Neosho	• No properties downstream. • If the dam breaches, it will impact STH 67. • Plan last completed in 2010.
	Seek opportunities to discuss repeated road flooding.	Unknown	Tn Lebanon, DNR, Co EM	2024	Medium	Tn Lebanon	Have several large pipes to move Rock River but DNR doesn't want it to increase flooding elsewhere so still working on solutions.
Fires (Grassfires and Wildfires)	Continue to provide outreach efforts to homeowners (widespread public and to individual homeowners) on protecting homes and structures from wildfires and on obtaining the proper burn permits; and asking people not to burn combustibles.	Covered by Dept. annual budget	EM Dept. / Local Fire Departments	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Provide info on County EM website. • Completed as requested by local fire departments. • Dry season – each fire department puts out PSAs on burnings and how to permit. • Co. Fire Chiefs will put out PSAs as fire danger and the number of fires increase. • Co. Dispatch will help citizens who call in about burning

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	Provide ample training for volunteer fire fighters for larger wildfires.	Covered by Dept. annual budget / DNR grants	Local Fire Departments / EM Dept. / DNR	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Completed as requested by local fire departments. • DNR complies annually and has 50/50 grants for training and equipment. • HazMat related trainings may be funded through Wisconsin Emergency Management. • Fire departments have been working with DNR to get more training (in-house or with state). Most departments do annually or every other year. • Waupun has an exercise • Watertown applies for grants annually.
Severe Temperatures	Continue public informational campaigns about severe weather on the website and during Winter and Heat Awareness Weeks.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford;	• Done in annual campaigns in Fall and Spring. • PSAs in Fall and Spring.

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Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Continue to provide sheltering services to citizens in need during severe temperatures.	Costs vary	PH / ME / Human Services / EM Dept. assistance	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• PSAs, including: extreme heat preparedness, safety in extreme cold, car kits available and CO poisoning information. • A protocol exists and is used during severe temperature outbreaks to open community shelters. • Beaver Dam opened its library and senior center as shelters for cooling in extreme heat. Beaver Dam does have a homeless shelter now – overnight – male and female. • Most communities will open public buildings during business hours for sheltering. Most residents are rural so there is not as big of a need. • Watertown Library as cooling & warming shelters and puts out in the paper. Also vouchers for homes to

Summary of Mitigation Strategies							
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							stay in hotel (with funding from Salvation Army).
Sinkhole and Radon	Explore concerns surrounding the possibility of future water table issues.	Covered by Dept. annual budget	LCD	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	County has Niagara Karst in the eastern section of the county and a high-water table.
	Explore potential radon mitigation strategies to include educating the public about the risks and providing radon test kits.	Covered by Dept. annual budget, State testing	PH	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell,	Free radon test kits available through Public Health Department. Radon Week is in January.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Neosho, Randolph, Reeseville & Theresa.	
Storms: Hail	Place hail storm safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Provide information regarding the purchase of crop insurance	Covered by Dept. annual budget	UW Ext.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman,	

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
Storms: Lightning	Place lightning safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Conduct annual radio interview (AM1430, WBEV)
Storms: Thunderstorm	Place thunderstorm safety materials on the county website and during severe weather week.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell,	

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Neosho, Randolph, Reeseville & Theresa.	
	Work with local fair/festival boards, as requested, to create emergency plans in case of bad weather.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	EM regularly works with the county fair board and other large events.
	Continue training for Law Enforcement, Fire, EMS, First Responder and the public in the identification of dangerous weather formations.	Covered by the National Weather Service	EM Dept.	Ongoing	High	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• National Weather Service Storm Spotter Class. • Tornado/Weather spotter class annually, each spring.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
Storms: Tornadoes and High Winds	Explore options for tornado shelters, including: identification of buildings that could be used, feasibility of constructing tornado shelters in areas where deficient especially in mobile home parks & possible funding sources.	Costs vary, CDBG, Hazard mitigation funding	EM Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Seek grants to build a tornado shelter at the Playfull Goose Campground	~$3,000 (PDM, CDBG grants)	CI of Horicon	2025	Low	City of Horicon	Will continue to explore as funding is available.
	Apply for a grant to fund a tornado shelter at the Flyway Meadows mobile home park.	$2,000,000	CI Waupun Admin	2025	Medium	CI Waupun	There are currently 54 units and they own an additional 15 acres with plans to eventually expand by another 50 units. Applied for grant, which was denied.
	Continue to require and promote construction standards and techniques and review local building codes to improve structure's ability to withstand greater wind velocities.	Covered by Dept. annual budget	LID, P&D Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox	• County is required to meet or exceed state minimum requirements. • Inspections broken into municipalities. All towns have their own building inspectors.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• CO Zoning covers several (~ 9) towns with the others (~14) managing their own. Most use WI codes.
	Promote the planting of windbreaks to protect farmsteads, buildings and open fields from high winds.	Costs vary	LCD and NRCS	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Utilize a number of different sources for cost-sharing. • Given as citizens have requested information. • Annual tree sale to citizens each spring.
	Encourage builders and owners of manufactured and mobile homes to use tie-downs with ground anchors.	Covered by Dept. annual budget	LIO	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam,	Place a link on websites to FEMA information and provide public information as able.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
						Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Promote tornado awareness, including safety measures.	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	Done during tornado awareness week in April. Information will be included on the website for homes, schools and business safety measures.
Storms: Winter	Promote winter hazards awareness, including home and	Covered by Dept. annual budget	EM Dept.	Ongoing	Medium	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville,	POW in November - Done during winter weather awareness week and on a

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	travel safety measures (including website.)					Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	regularly-scheduled (annual) radio interview/PSA
	Encourage the use of snow fences and living snow fences.	Covered by Dept. annual budget	HWY Dept. / LCD	Ongoing	High	Dodge CO; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	• Web link to detailed information. • PSAs annually. • Not much on county roads – not much luck with farmers. Doing a plan on Hwy. 41.
Utility Failure	Evaluate the utility systems' preparedness in cases of disaster in order to create	Unknown	EM Dept.	Ongoing	Low	Dodge Co; CIs of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown & Waupun; TNs of	

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	mitigation strategies for likely scenarios.					Ashippun, Beaver Dam, Burnett, Calamus, Chester, Clyman, Elba, Emmet, Fox Lake, Herman, Hubbard, Hustisford, Lebanon, Leroy, Lomira, Lowell, Oak Grove, Portland, Rubicon, Shields, Theresa, Trenton, Westford; VIs of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville & Theresa.	
	Retrofit pre-identified shelters to accept electric panels for external generators, including: • VI of Theresa – add a stand-by generator to the elementary school • Install generator for the Dodgeland (K-12) School.	Unknown ~$5,000 $20,000	Elected Officials	2025	Med	CIs of Beaver Dam, Fox, & Waupun; VIs of Iron Ridge, Lomira, Neosho, Randolph VI of Theresa CI of Juneau	Primarily looking at school shelters. Dodgeland (K-12) School is listed as a shelter but has no existing back-up electrical supply.
	Evaluate and add generating capabilities to critical community infrastructure: • CI of Fox Lake – add standby generator for the fire dept./city hall building and add a	~$7,000	Municipal Admin/EM	2025	Med (unless noted)	CI of Fox Lake	Capabilities may include installing a stand-alone generator or installing an external electrical panel that can be serviced by a mobile generator.

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	generator hook-up to the Sages School building	~$1,000				CI of Mayville	The Fire Chief has reported that they Mayville FD needs back-up power.
	• CI of Mayville – evaluate the back-up power needs of the critical infrastructure of the community (e.g., public buildings, shelters).	Covered by Dept. annual budget					
	• VI of Brownsville – add generator back-up to the Brownsville Community Center and generator hook-ups to the library and Lutheran school	~$9,000				VI of Brownsville	
	• VI of Lomira - add standby generator for Lomira Village Hall	~$15,000				VI of Lomira	Generator Is there (donated) but is too old. FD needs one also.
	• VI of Reeseville – upgrade the fire station generator to run the entire building and add a generator hook-up to the Reeseville Community Center	~$7,000			High	VI of Reeseville	
	• VI of Randolph – add stand-by generator to the city hall/community center building; add a generator hook-up to the library; lift station at NEC of town	~$20,000				VI of Randolph	
	• Tn of Lomira – need generator at town hall.	$9,000	Town DPW		High	Tn Lomira	Opens doors for trucks
	• CI of Waupun – city hall (shelter, voting, COG)	$73,000	City EM		High	CI Waupun	
		$15,000	Town Board		High	Tn Burnett	

Summary of Mitigation Strategies							
Hazard Type	**Mitigation Measures**	**Costs of Project**	**Responsible Management**	**Project Timetable**	**Project Priority**	**Community(ies) Benefitting**	**Comments**
	• Tn of Burnett – town hall has plows, fire department, high-capacity wells for fire protection • Tn of Calamus – Need back-up system. Town hall has town shop attached; also have South Beaver Dam Elementary next door and building is their designated unification site.	Unknown	Town Board		High	Tn Calamus	Have two mobile home parks located in town. If there is ever something major, would affect those parts as the town hall is used for a shelter /gathering point.
	Evaluate the feasibility of burying power lines as community improvement projects are designed.	As grants available	Adams Columbia Electric	Ongoing	Low	CIs of Columbus & Juneau; VI & TN of Hustisford	

* Designates an element that supports the NFIP

Note: The Town of Williamstown merged with the Village of Kekoskee in 2018.

Appendix F: HAZUS Vulnerability Assessment

Dodge County Vulnerability Report

Identify Hazards[162]

Dodge County covers 882 square miles and contains 3,397 census blocks. There are over 31,000 households with a population of 85,897. Dodge County consists of 13 cites, 11 villages, and 25 towns. There are an estimated 27,873 buildings in the region with a total building replacement value (excluding contents) of 6,827 million dollars. Approximately 99% of the buildings (and 71% of the building value) are associated with residential housing (2000 Census Bureau Data).

Detailed Flood Insurance Studies were prepared for 10 communities in Dodge County. Runoff from a combination of snowmelt and rainfall on frozen ground and intense thunderstorms are significant factors affecting flooding. The majority of flooding occurs from the Rock River and the Crawfish River.

[162] WI/Dodge County Flood Insurance Studies as part of the Federal Insurance Administration flood insurance program

HAZUS-MH Hazard Analysis

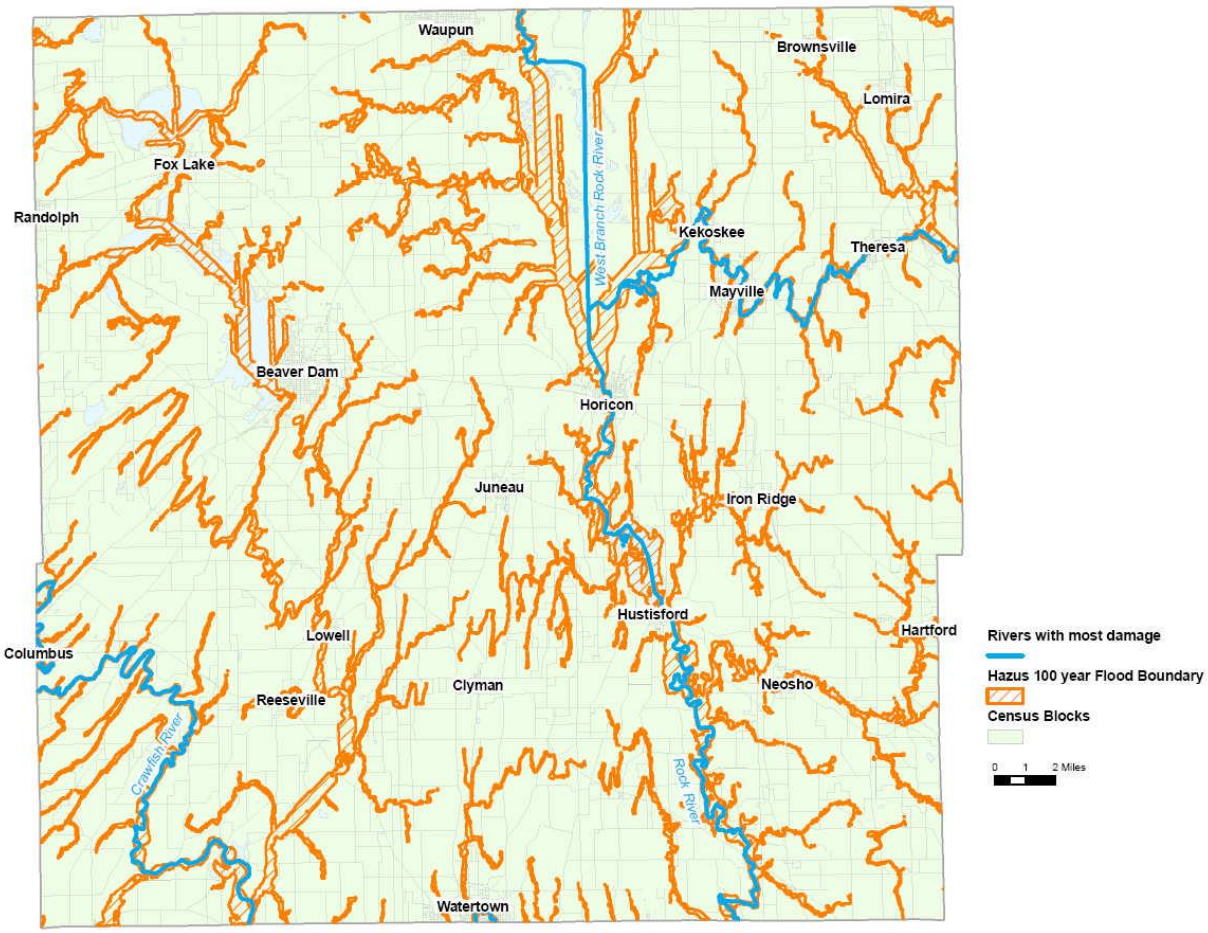
Flood analysis for Dodge County was performed using HAZUS-MH MR3 released in July 2007. The bundled aggregated general building stock was updated to Dun & Bradstreet 2006. Building valuations were updated to R.S. Means 2006. Building counts based on census housing unit counts are available for RES1 (single-family dwellings) and RES2 (manufactured housing) instead of calculated building counts.

The site-specific inventory (specifically Schools, Hospitals, Fire Stations, Emergency Operation Centers and Police Stations) was updated using the best available statewide information.

HAZUS-MH was used to generate the flood depth grid for a 100-year return period calculated for 1 square mile drainage areas. The riverine model was determined from a user provided USGS 30m DEM and peak discharge values obtained for 12 reaches tabulated in 10 Flood Insurance Studies published between 1980 and 1996 for Dodge County.

Figure 1 depicts the flood boundary from the HAZUS-MH analysis. The majority of flooding in Dodge County occurs along the Rock River and the Crawfish River.

Figure 1: Dodge County HAZUS-MH Analysis (100-Year Flood)



HAZUS-MH Aggregate Loss Analysis

HAZUS-MH was used to estimate the damages for a 100-year flood event in Dodge County. An estimated 108 buildings will be damaged totaling in $38 million in building losses and $97 million in total economic losses. The total estimated number of damaged buildings, total building losses, and estimated total economic losses are shown in Table 1.

HAZUS-MH estimates 16 census blocks with losses exceeding $1 million. The distribution of losses is shown in Figure 2.

HAZUS-MH aggregate loss analysis is evenly distributed across a census block. Census blocks of concern should be reviewed in more detail to determine the actual percentage of facilities that fall within the flood hazard areas. The aggregate losses reported in this study may be under or overstated. Examples are provided in Figure 3.

Table 1: Dodge Total Economic Loss - 100-Year Flood

General Occupancy	Estimated Total Buildings	Total Damaged Buildings	Total Building Exposure X 1000	Total Economic Loss X 1000	Building Loss X 1000
Agricultural	4	0	$114,893	$3,030	$618
Commercial	179	0	$887,449	$17,996	$4,696
Education	0	0	$83,449	$482	$65
Government	15	0	$50,763	$3,207	$395
Industrial	77	1	$779,293	$29,455	$7,024
Religious/Non-Profit	4	0	$87,996	$4,110	$512
Residential	27,594	107	$4,823,604	$39,047	$24,939
Total	**27,873**	**108**	**$6,827,447**	**$97,327**	**$38,249**

The reported building counts should be interpreted as degrees of loss rather than as exact numbers of buildings exposed to flooding. These numbers were derived from aggregate building inventories which are assumed to be dispersed evenly across census blocks. HAZUS-MH requires that a predetermined amount of square footage of a typical building sustain damage in order to produce a damaged building count. If only a minimal amount of damage to buildings is predicted, it is possible to see zero damaged building counts while also seeing economic losses.

Figure 2: Dodge Total Economic Loss - 100-Year Flood

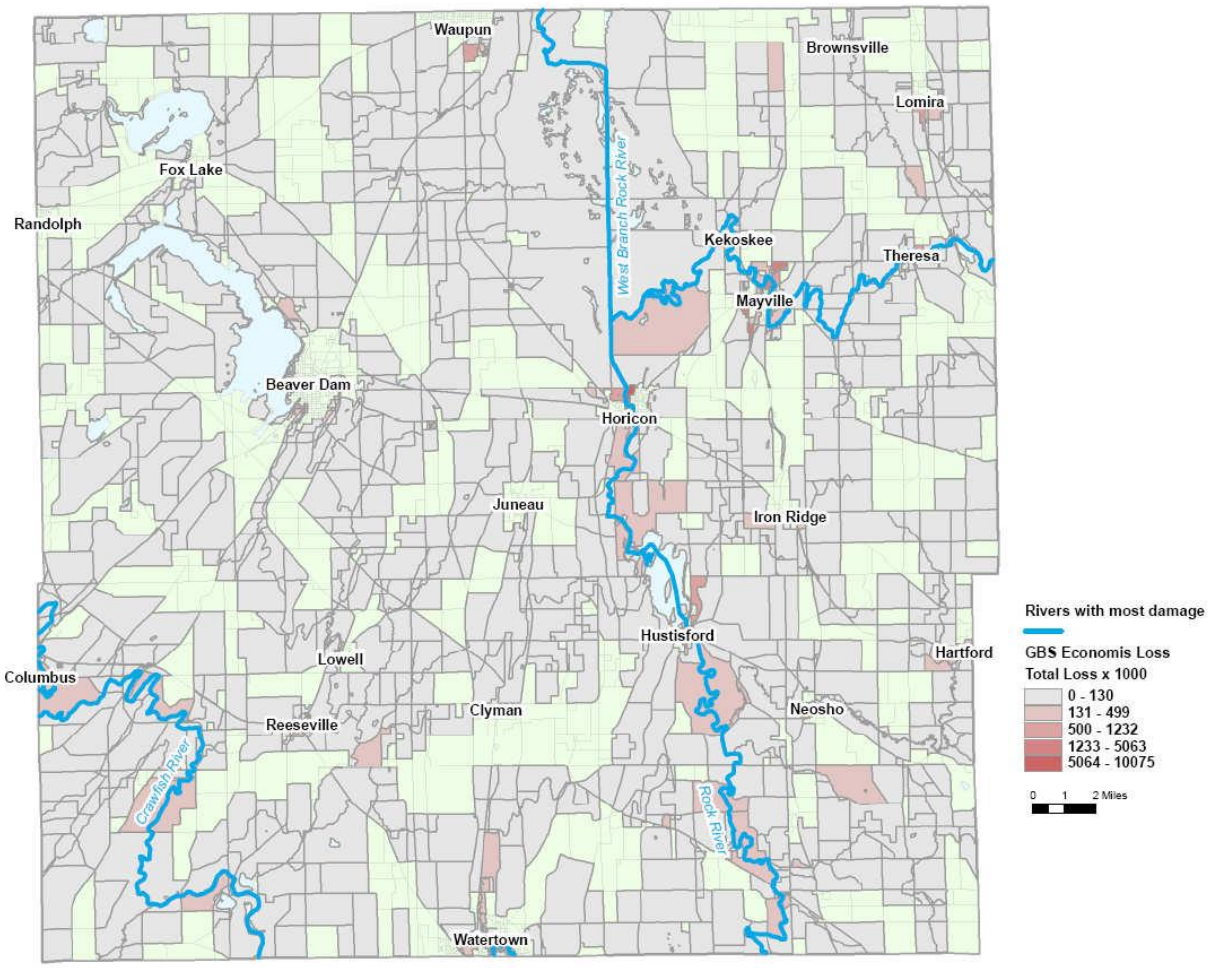


Figure 3a: Flood Damage Exposure in Horicon

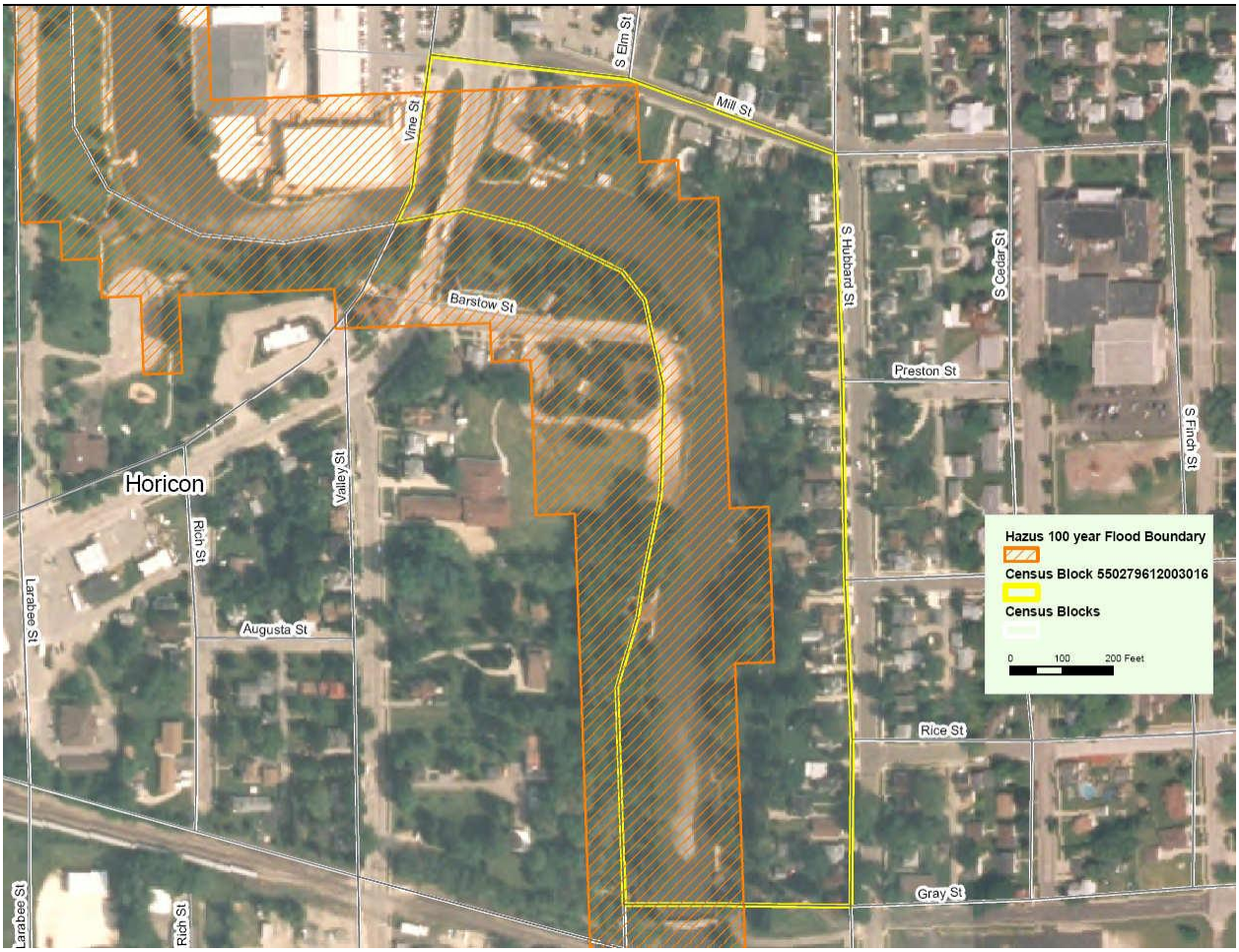


Figure 3a shows census blocks overlaid with the flood boundary and orthophoto of Horicon. Census block 550279612003016 has an estimated building loss of $1 million with a combined replacement cost of $1.9 million. HAZUS-MH estimates that 10 residential buildings are within the calculated flood boundary for this block. The overlay of the flood boundary with the aerial photo shows that very few buildings are within the calculated flood boundary for this block.

Figure 3b: Flood Damage Exposure in Lomira

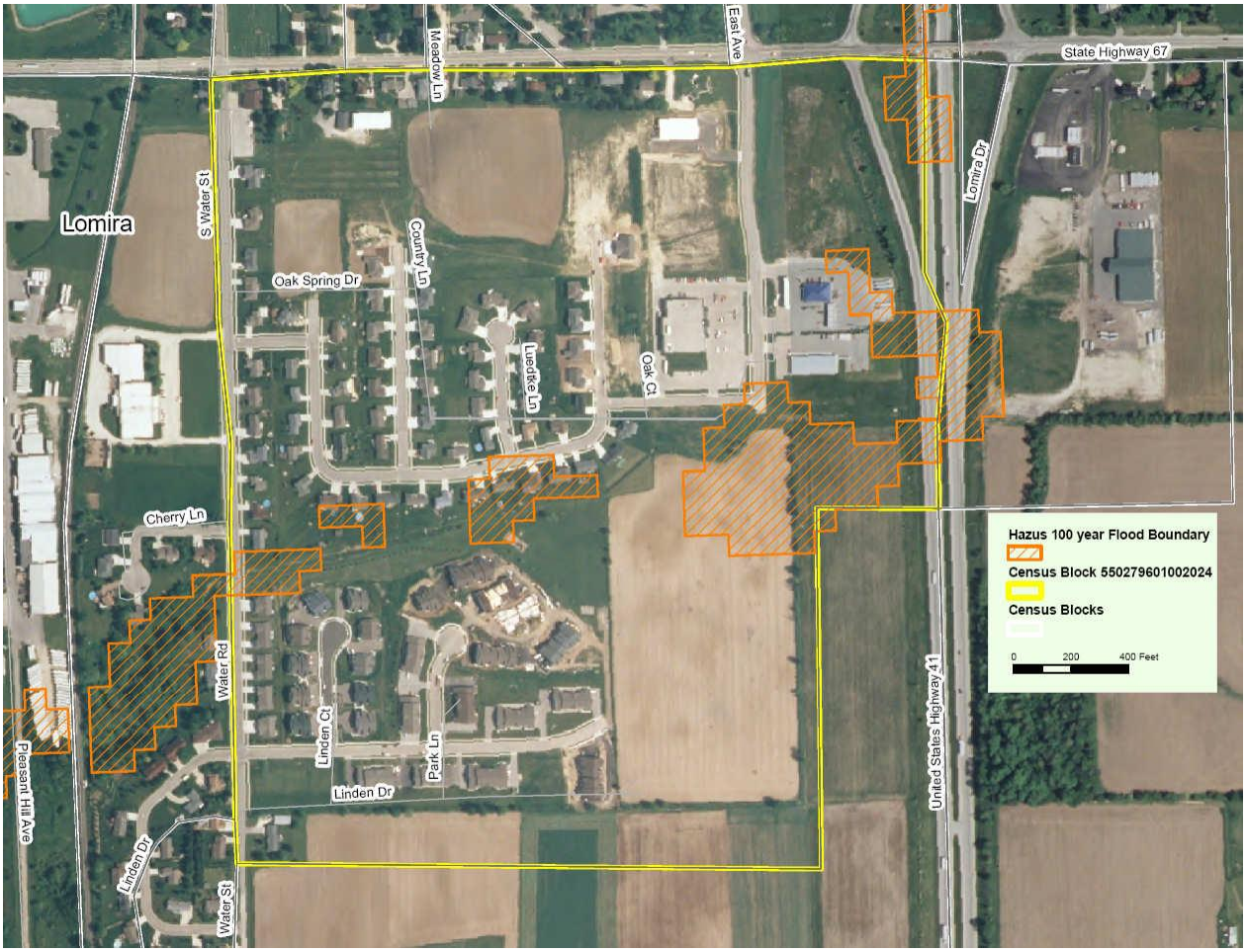


Figure 3b shows census blocks overlaid with the flood boundary and orthophoto of Lomira. Census block 550279601002024 has an estimated building loss of $122 thousand and with a combined replacement cost of $291 thousand. HAZUS-MH estimates that 5 residential buildings are within the calculated flood boundary out of a total of 86 residential buildings within the census block. The overlay of the flood boundary with the aerial photo shows that this is a reasonable estimation of damage for this block.

HAZUS-MH Essential Facility Loss Analysis

Essential facilities encounter the same impacts as other buildings within the flood boundary: structural failure, extensive water damage to the facility, and loss of facility functionality (i.e., a damaged police station will no longer be able to serve the community).

The HAZUS-MH analysis identified 1 Fire Station, and 2 Schools that may be subject to flooding. A list of the essential facilities within Dodge County is included in Tables 2 and 3. Maps of essential facilities potentially at risk of flooding are shown in Figures 4a and 4b.

Table 2: Dodge Essential Facility Loss - 100-Year Flood

Class	Building Count	At Least Moderate Damage	At Least Substantial Damage	Loss of Use
Care Facilities	12	0	0	0
EOC	1	0	0	0
Fire Stations	21	1	0	0
Police Stations	25	0	0	0
Schools	61	2	0	0
Total	**120**	**3**	**0**	**0**

Table 3: Dodge Damaged Essential Facilities

Facility Name
Hustisford Volunteer Fire Department
St Peters Lutheran School*
Immanuel Lutheran School*

* Essential Facilities that may be outside of the 100-year flood boundary according to orthophoto interpretation or address verification.

Figure 4a: 100-Year Flood Boundary Overlaid with Essential Facilities

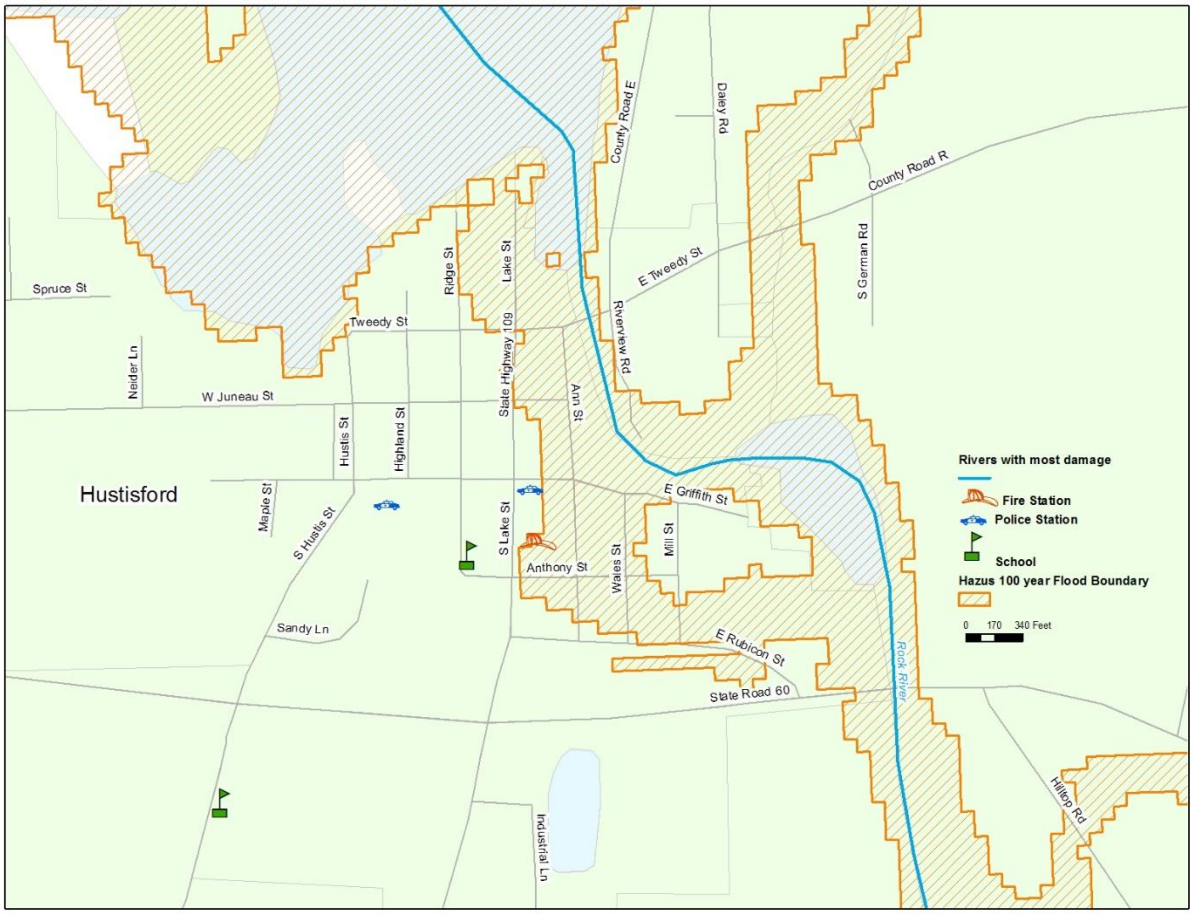
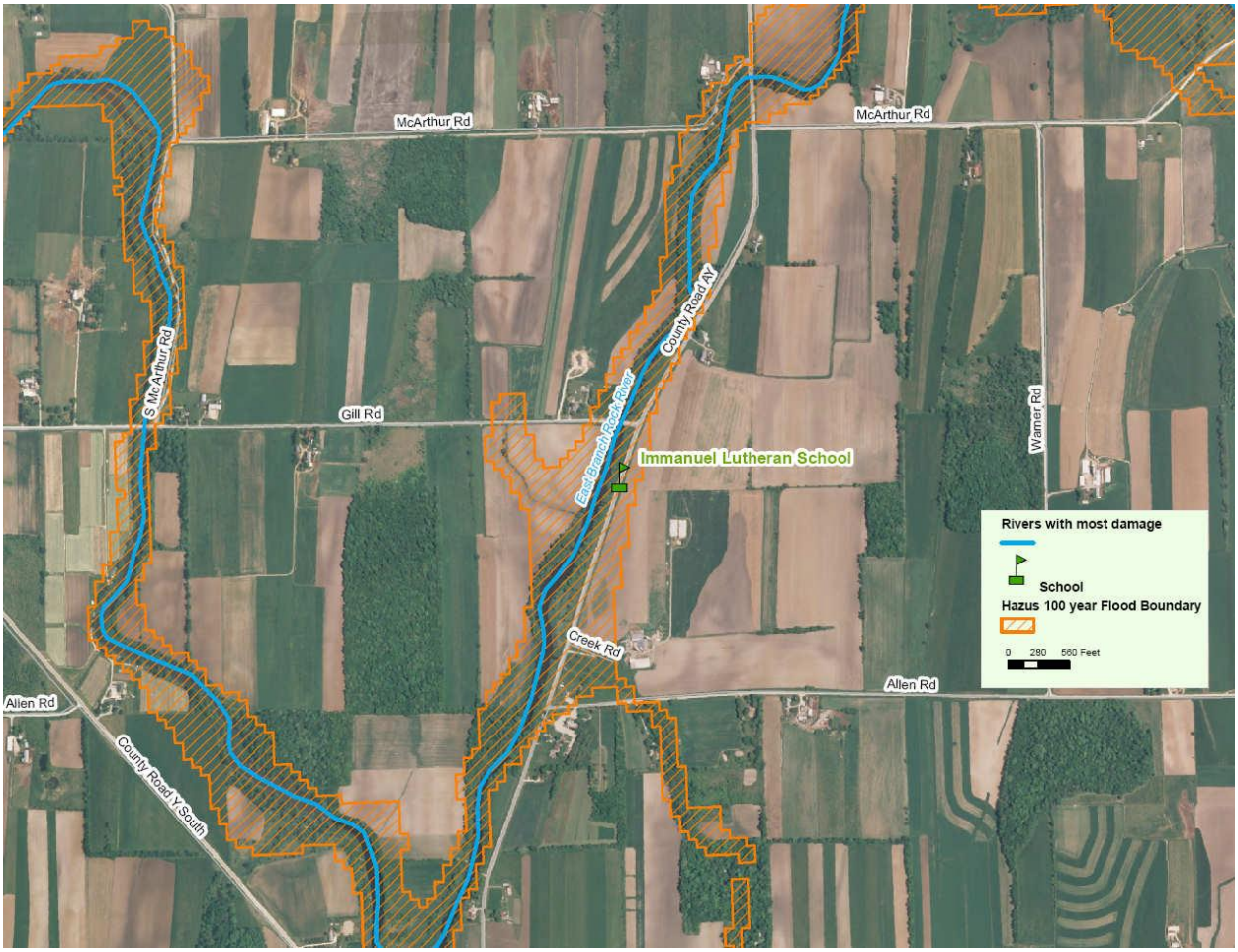


Figure 4b: 100-Year Flood Boundary Overlaid with Essential Facilities



Essential facility locations were imported from the best available statewide sources. Some instances have been observed where HAZUS-MH reports a site within the flood plain that cannot be confirmed by the corresponding orthophoto as in Figure 4b. The essential facility damages reported by HAZUS-MH may be overstated

HAZUS-MH Shelter Requirement Analysis

HAZUS-MH estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. HAZUS-MH also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates 1,297 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 1,307 people (out of a total population of 85,897) will seek temporary shelter in public shelters.

HAZUS-MH State Property Loss Analysis

The flood boundaries were overlaid with State of Wisconsin property boundaries as provided by the Department of Natural Resources within Dodge County. Table 4 provides the names of state properties that overlay with the HAZUS-MH flood boundary. Figures 5a and 5b show examples of the inundated areas.

Table 4: Dodge State Property Flood Inundation

State Property	Percent Inundated	Acres Inundated
Horicon Wildlife Area	38%	4286
Mud Lake Wildlife Area-Dodge	33%	1603
Theresa Wildlife Area	34%	882
Waterloo Wildlife Area	33%	547
Glacial Habitat Restoration	12%	228
Scattered Wildlife	25%	226
Shaw Marsh Wildlife Area	22%	205
Statewide Habitat Areas	39%	184
Extensive Wl Habitat	19%	81
Rem-beaver Dam Lake	18%	27
Stream Bank Easement Program	68%	19
Wild Goose State Trail	6%	13
Statewide Non-point Easement Program	16%	8
Gift Lands	2%	1

Figure 5a: Boundary of 100-Year Flood Overlaid with State of Wisconsin Properties

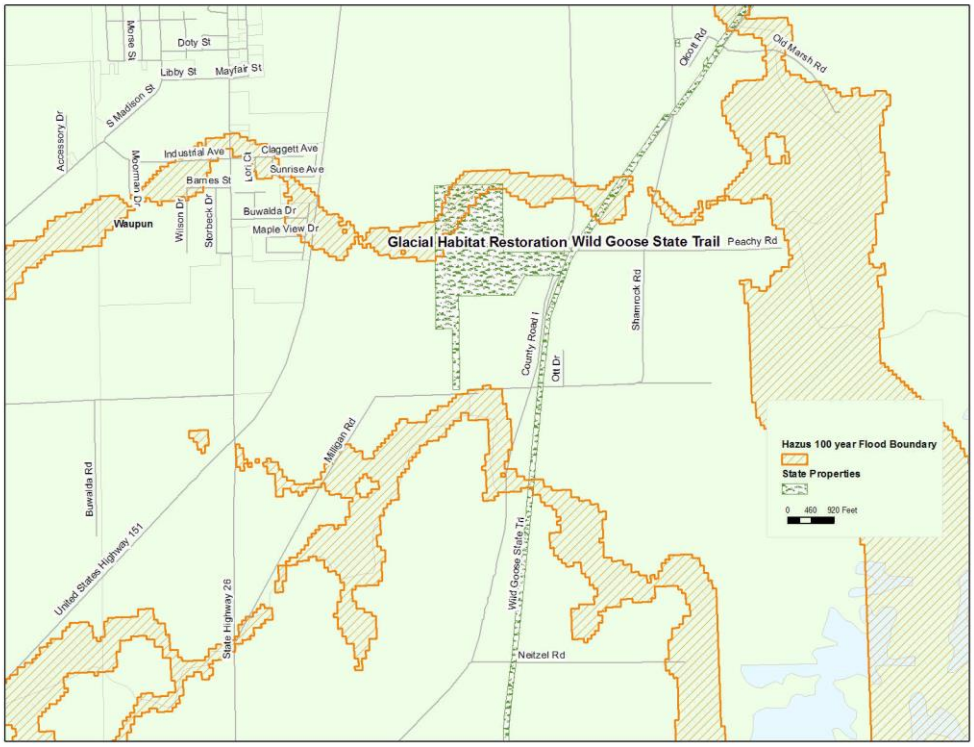
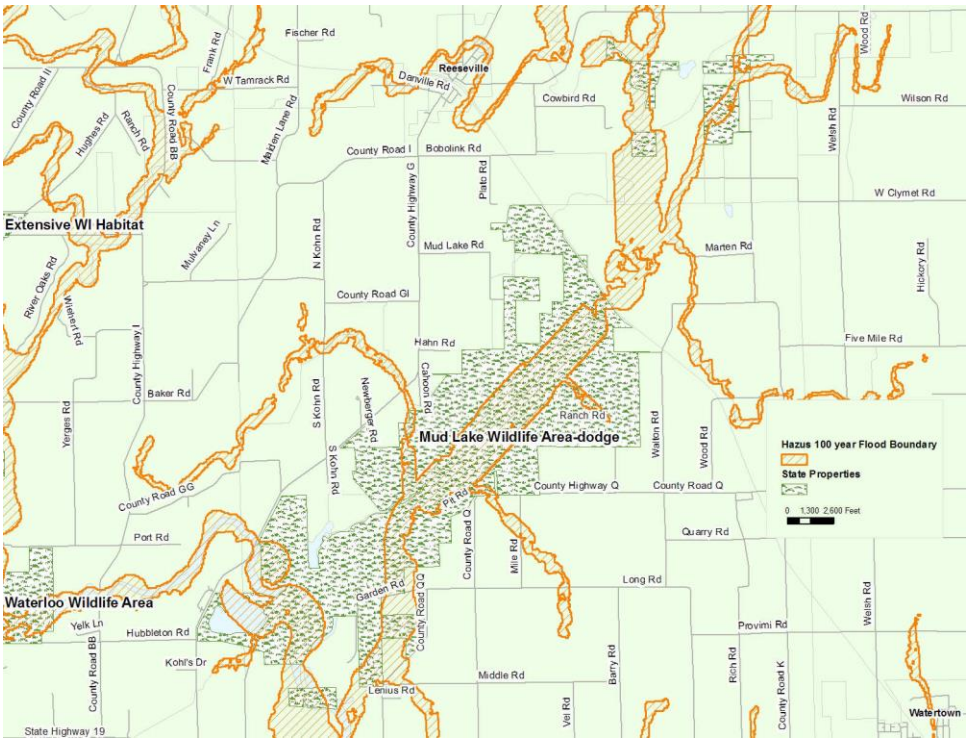


Figure 5b: Boundary of 100-Year Flood Overlaid with State of Wisconsin Properties



Appendix G: Community Input

Dodge County believes in the importance of gathering public input from interested parties in the community. To achieve this goal, the Emergency Management Office took every opportunity available to utilize various methods to publicize the opportunity for people to participate in the planning process and to gather input from interested parties. The table that follows outlines the major opportunities that were created to discuss the plan. The table includes dates of workgroup meetings, meetings with public officials and media opportunities for the all-hazards pre-disaster mitigation plan.

DATE	SUMMARY OF OPPORTUNITY
Sept. 2018	Dodge Co. PDM informational brochure (attached) was distributed throughout the community at public locations. The public was invited to participate but none chose to.
9/12/2018	Press release given to all media in Dodge County. The releases invited public participation in the planning process but none chose to.
10/17/2018	Dodge County Towns' Association Meeting to introduce the hazmit planning update process to municipal elected officials and to invite them to participate in the planning process. This meeting was publicly posted (per WI open meeting law requirements) and open to the public.
1/10/2019	Letter to municipalities outlining planning efforts and inviting to workgroup meeting
2/13/2019	First workgroup meeting (two times) to review/rank the vulnerabilities, review the planning process, the previous plan and to discuss the plan update, including new hazmit strategies.
2/19/2019	All municipalities received the PDM survey and cover letter (attached). Municipalities were encouraged to complete the survey at open meetings and most did, receiving public comment as the survey was completed.
5/17/2019	The second workgroup meeting was held to review and report out on the previous hazmit strategies and to select new hazmit strategies. This meeting was open to the public.
8/17/2020	Plan sent to the county emergency management directors from contiguous counties requesting review, comments and edits.
Nov 2020 – May 2021	Each municipality posted the plan to review, discuss and adopt the updated hazmit plan on their public meeting agenda, per WI state law. Plan was discussed and adopted in a public meeting.
11/3/2020	Legal Public Notice printed notifying the public of the public review and comment period.

11/20/2020	Press release repoting that the draft was available for public review and comment was sent to area media. It was published in the Beaver Dam Daily Citizen newspaper (following).

One of the main ways people were made aware of the plan was the publication of a brochure (following) that was widely distributed in the public buildings around the community including the City/County Courthouse and the library. The purpose of this brochure was to provide a general overview of the mitigation planning process, the impetus for planning and the scope of the final result.

Initial Press Release – September 12, 2018

12 September 2018

For More Information, Contact Amy Nehls (920-386-3999)
For Immediate Release

Dodge County Receives A Hazard Mitigation Planning Update Grant

(Juneau, WI) Dodge County, like the rest of the State of Wisconsin, is vulnerable to a variety of disasters. According to the National Oceanographic and Atmospheric Administration (NOAA), 2017 was the costliest year ever for weather and climate disasters in the United States, totaling $215 billion in disasters or, to look at it another way, $5.9 million dollars every week! Closer to home, Wisconsin has also incurred billions of dollars of disaster-related damages in the last couple of decades. These losses can be reduced through mitigation activities. A 2017 study has estimated that mitigation saves society an average of $6 for every $1 spent through federal agency grant programs by breaking the cycle of damage and repair.

Mitigation actions reduce or eliminate the long-term risk to human life and property from hazards. These preventative actions can be simple such as elevating a furnace in a basement that sometimes has water on the floor. Mitigation can also have a comprehensive approach such as relocating buildings out of the floodplain or strengthening critical facilities to prevent wind damage and provide stronger shelter.

In an effort to better prepare Dodge County to manage its vulnerability to disaster, Amy Nehls, Dodge County Emergency Management Director, applied for and received a hazard mitigation planning update grant. The goal of this grant is to update an approvable plan, which will serve as a roadmap that outlines potential cost-effective hazard mitigation activities, some of which might be available for future grant funding.

The plan is designed to look at the risks and vulnerabilities that the county faces from natural disaster and to highlight mitigation strategies that might reduce future losses. As part of this planning process, Nehls is assembling a workgroup to review and guide the planning activities. The workgroup is reviewing initial background information about Dodge County and has begun identifying strategies that might help.

Nehls stated, “I am very excited about this part of the planning process. The input from the workgroup can have long-lasting impacts, making Dodge County safer and more disaster resistant.”

FEMA has recognized the importance of having members of the community involved in the process and Nehls would like to ensure that all interested members of the community have an opportunity to provide input into the plan. If you are interested in more information about the plan or would like to provide input into the plan, please contact Amy Nehls at 920-386-3999.

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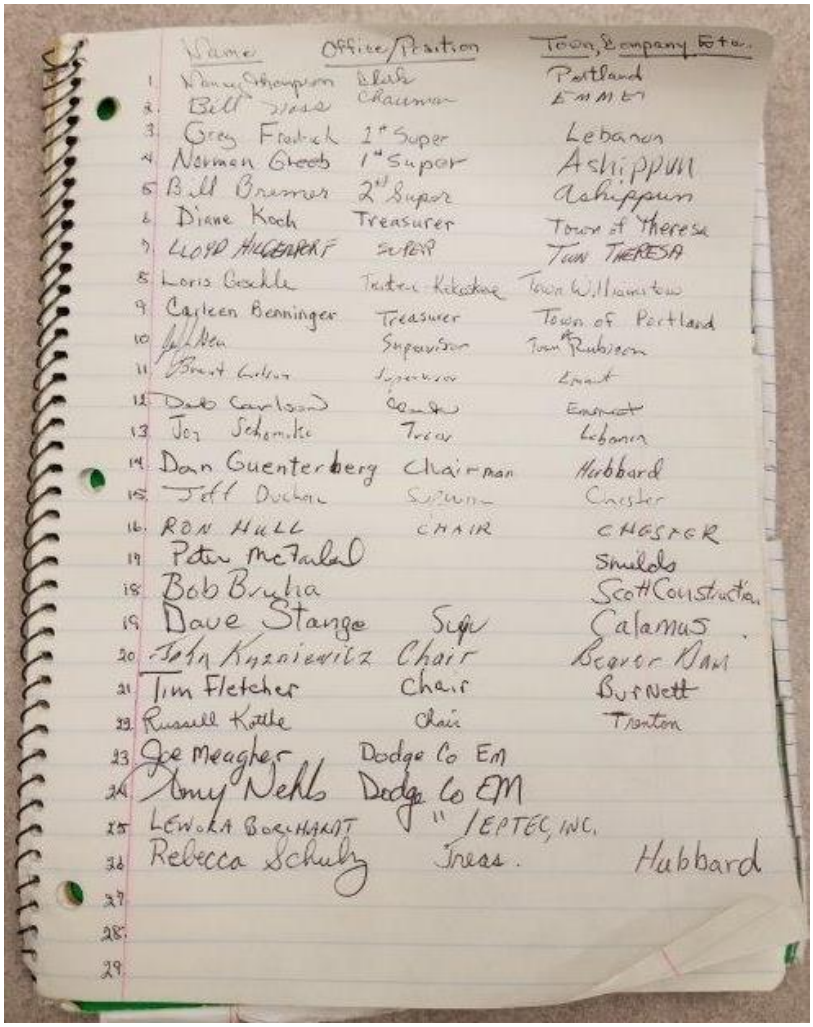
Town Association Meeting – October, 2018



	Name	Office/Position	Town, Company, Etc.
1	[illegible]	Clerk	Portland
2	Bill [illegible]	Chairman	EMMET
3	Greg Fratzke	1st Supervisor	Lebanon
4	Norman Steeb	1st Supervisor	Ashippun
5	Bill Bremer	2nd Supervisor	Ashippun
6	Diane Koch	Treasurer	Town of Theresa
7	LLOYD HILGENDORF	SUPERV	TOWN THERESA
8	Loris Gockle	Trustee Kekoskee	Town Williamstown
9	Carleen Benninger	Treasurer	Town of Portland
10	[illegible]	Supervisor	Town Rubicon
11	Brent Cotton	Supervisor	Emmet
12	Dale Carlson	County	Emmet
13	Jeff Schmitz	Treas	Lebanon
14	Dan Guenterberg	Chairman	Hubbard
15	Jeff Ducker	Supervisor	Chester
16	RON HULL	CHAIR	CHESTER
17	Peter McFarland		Smiledge
18	Bob Brutia		Scott Construction
19	Dave Stange	Supv	Calamus
20	John Kyzniewicz	Chair	Beaver Dam
21	Tim Fletcher	Chair	Burnett
22	Russell Kottke	Chair	Trenton
23	Joe Meagher	Dodge Co Em	
24	Amy Nehls	Dodge Co EM	
25	LEWORA BORCHARDT	"	/EPTEC, INC.
26	Rebecca Schultz	Treas.	Hubbard
27			
28			
29			

Town Association Meeting – October 17, 2018

HMEP SIGN-IN SHEET
WEDNESDAY, 10/17/2018

Name	Affiliation	E-Mail Address
Richard Walter	Supervisor Town of Emmet	
Howard W. Zubke	Supervisor Town of Hustisford	Howard zubki@Yahoo.com
Brent Carlson	Supervisor Emmet	
Deb Carlson	Clerk - Town of Emmet	clerk@emmettownship.com
Joy Schaak	Treas Town of Lebanon	lebanon town treas@gmail.com
Dan Guenterberg	Chairman, Hubbard	guenterbergd@gmail.com
Jeff Neu	Supervisor, Rubicon	
RON HULL	CHAIRMAN CHESTER	RONALDHULL@HOTMAIL.COM
Jeff Duchac	Supervisor CHESTER	jeffduchac@gmail.com
Peter McFarland	Supervisor Shields	p.mcfarland@hotmail.com
Dene Lange	supv calamus	ddfunnyfarm@gmail.com
John Kuzniewicz	Chair Beaver Dam	Johnkuzniewicz@yahoo.com
Tina Fletcher	chair Burnett	tfletcher3699@gmail.com
Russell Kottke	Chair Trenton	rkottke@bugnet.net

Letter to Municipalities – January 10, 2019

1/10/2019

Dear Municipal Official

The Dodge County Emergency Management Office has received a grant from the Federal Emergency Management Agency (FEMA) and Wisconsin Emergency Management to complete an update of the Hazard Mitigation Plan for Dodge County because as with any plan, it needs to be evaluated and updated on a regular basis to outline progress and to set a roadmap for future mitigation efforts.

The plan reviews the risks for various natural disasters within Dodge County and creates a plan for addressing these risks in a cost-effective way. As I am sure you are aware, Dodge County has received several federal disaster declarations in recent history and we are at continued risk for future events such as flooding, high winds and tornados; this planning is intended to help reduce potential future losses. Also, the federal government requires that communities have a current hazard mitigation plan as one criterion for eligibility for some types of grants so it is critical that this plan is completed and kept updated on schedule.

This requires significant input from stakeholder agencies and the public during the planning process. In order for your agency to be eligible for **future FEMA mitigation funding your agency must participate in these planning sessions**. I have contracted with Lenora Borchardt, EPTEC, INC., to assist me with completing this update. In order to be eligible for FEMA mitigation funding your **municipality must send at least one representative** to be a member of our planning team. Team members will be asked to be available to assist the contractor answering questions needed to complete the plan and to attend these occasional meetings.

Our first team meeting is scheduled for February 13, 2019. We are holding meetings at two times to allow options for attendance. They will be in the Dodge County Administration Building Auditorium at 127 East Oak St, Juneau with **the first at 1:00pm and the second at 6:00pm**; please attend only one. I anxiously await notification of your decision; please RSVP with which time you will attend by **February 11th** or contact me with any questions or concerns at (920) 386-3993.

Sincerely,

Joe Meagher, Deputy Director
Dodge County Emergency Management

February Meeting Notice – January 15, 2019

From: Meagher, Joseph

To: City of Beaver Dam (tsomers@cityofbeaverdam.com); City of Beaver Dam (tferron@cityofbeaverdam.com); City of Fox Lake Clerk (cityclerk@cityoffoxlake.net); City of Hartford Clerk (lorihetzel@ci.hartford.wi.us); City of Horicon Clerk (kjacobson@cityhoriconwi.us); City of Juneau Clerk (janefude@cityofjuneau.net); City of Juneau Clerk (vknetzger@cityofjuneau.net); City of Mayville Clerk (sdecker@mayvillecity.com); City of Watertown Clerk (elissam@cityofwatertown.org); City of Watertown Clerk (kimc@cityofwatertown.org); City of Watertown Clerk (lisat@cityofwatertown.org); City of Waupun Clerk (angie@cityofwaupun.org); Town of Ashippun Clerk (townclerk@townofashippun.org); Town of Beaver Dam Clerk (townclerkofbd@gmail.com); Town of Burnett Clerk (clerk@townofburnett.net); Town of Calamus Clerk (marj.bellke@gmail.com); Town of Chester Clerk (townofchester@hotmail.com); Town of Chester Clerk (townofchestertreasurer@gmail.com); Town of Clyman Clerk (townofclyman@hotmail.com); Town of Elba Clerk (townofelbaclerk@hotmail.com); Town of Emmet Clerk (clerk@emmettownship.com); Town of Fox Lake Clerk (townoffoxlake@centurytel.net); Town of Fox Lake Deputy Clerk; Town of Herman Clerk (townherman@inconnect.net); Town of Hubbard Clerk (townofhubbard@gmail.com); Town of Hustisford Clerk (townofhustisford@gmail.com); Town of Lebanon Clerk (lebanon@netwurx.net); Town of LeRoy Clerk (ermafranke@gmail.com); Town of Lomira Clerk (clerk@townoflomira.com); Town of Lowell Clerk (townoflowell@tds.net); Town of Oak Grove Clerk (m.maertz@sbcglobal.net); Town of Portland Clerk (nlthomps22@gmail.com); Town of Rubicon Clerk (townofrubicon@live.com); Town of Shields Clerk (clerk.townofshields@yahoo.com); Town of Theresa Clerk (townoftheresa@yahoo.com); Town of Trenton Clerk (skperry75@gmail.com); Town of Westford Clerk (vicky.orth@townofwestford.org); Village of Brownsville Clerk (volbclerk@olbb.us); Village of Clyman Clerk (conniek@vyclyman.com); Village of Hustisford Clerk (khoefinger@hustisford.com); Village of Iron Ridge Clerk (villagein@yahoo.com); Village of Kekoskee Clerk (tnwille@gmail.com); Village of Lomira Clerk (irhein@villageoflomira.com); Village of Lowell Clerk (lowellclerk@gmail.com); Village of Neosho Clerk (neoshovillage@frontier.com); Village of Randolph Clerk (randolphvill@centurytel.net); Village of Reeseville Clerk (reesevilleclerk@gmail.com); Village of Theresa Clerk (pkoll@inconnect.net)

Cc: Nehls, Amy; Lenora Borchardt

Subject: Meeting to update the Dodge County Hazard Mitigation Plan

Date: Tuesday, January 15, 2019 10:16:00 AM

Attachments: .ti

Good Morning Clerks,

Please share this with your local officials that may have interest in assisting us with updating the Countywide Hazard Mitigation Plan, particularly Department of public works/ Highway folks AND Planning Departments. Participation is important when it comes to future disaster funding and grants for mitigation. At a minimum we will require every municipality to adopt the final plan update to ensure future funding opportunities. Please feel free to contact me with any questions. The two sessions will be held on February 13th you only need to attend one of the sessions.

Thank you in advance!

Joe Meagher
Deputy Director
Dodge County Office of Emergency Management
124 West St
Juneau WI 53039
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Kick-Off Meeting – February 13, 2019

Hazard Mitigation Plan Update Kick Off Meeting
2/13/19
Dodge County Administration Building

	MUNICIPALITY	JURISDICTION	NAME	TITLE	E-MAIL ADDRESS	CELL #	SIGNATURE
1	Town	Ashippun					
2	Town	Ashippun					
3	Town	Ashippun	Michelle Liesener	Clerk/Treasurer	townclerk@townofashippun.org	920-474-4711	Michelle Liesener
4	Town	Beaver Dam	Brian Drumm	Police Chief/ local EM	bdrumm@co.dodge.wi.us	920-385-8553	
5	City	Beaver Dam	Jeremy Klug	Foreman, Beaver Dam Utilities	jklug@cityofbeaverdam.com	920-763-7019	
6	City	Beaver Dam	Dan Mulhern	Pub Works Supervisor	dmulhern@cityofbeaverdam.com	920-383-9412	
7	Village	Brownsville	Adam Lechner	DPW Supt.	vobclerk@plbb.us		
8	Town	Burnett	Doug Ninmann	Supervisor	clerk@townofburnett.net	920-210-1716	
9	Town	Burnett	Tim Fletcher	Tim Fletcher	tfletcher3699@gmail.com	920-382-3846	
10	Village	Clyman	Tim Dornfeld	DPW/ Water	clymanutilities@voclyman.com	920-342-0579	
11	Village	Clyman	Connie	Clerk	Connie@voclyman.com		Connie Kreitzman
12	County	Dodge	Pete Thompson	Asst Highway Commissioner	pthompson@co.dodge.wi.us	920 296 2350	Peter Thompson
13	City	Hartford	Paul Stephans	Fire Chief/ Local EM	pstephans@ci.hartford.wi.us		
14	City	Horicon	David Noe	Local EM	deviidog359@charter.net	920-219-4958	
15	Town	Hustisford	Dave Margelofsky	Chairman Chairman	davemargo8@gmail.com	920-210-3257	
16	Town	Lebanon	Brent Blyd	DPW Hwy Supt.	bkboyd199@gmail.com	9202856031	
17	Town	Lebanon	Johnathan Frederick	Chair	johnpatfrederick@aol.com	920-918-3564	
18	Town	LeRoy	Linda Schraufnagel	Chairperson	townofleroylschraufnagel.chair@gmail.com	920.948-4744	
19	Town	LeRoy	?	?			
20	Town	Lomira	Todd Ringle	Supervisor	clerk@townoflomira.com	920-960-3345	
21	Village	Lomira	Chris Mireski	Police Chief/ local EM	cmieski@villageoflomira.com	920-204-5418	
22	City	Mayville	Chief Ketchem	Police Chief/ local EM	jketchem@mayvillecity.com	920-387-1550	
23	City	Mayville	Nathan Kempke	Planning	nkempke@mayvillecity.com		
24	City	Mayville		DPW			
25	Town	Rubicon	Tom Schaefer	TW CHAIRMAN	tschaefer@co.dodge.wi.us		Thomas J Schaefer
26	Town	Theresa	Lloyd Hilgendorf	TOWN SUPERVISER-THERESA	lhilgendorf@gmail.com	920-210-0294	
27	Village	Theresa	Mike Elack	Village EM	mike.theresaems@outlook.com		
28	City	Watertown	Kraig Biefeld	Fire Chief/ Local EM	kbiefeld@cityofwatertown.org	920-30-4903	
29	City	Watertown	Jacob Maas	Zoning and flood plan Admin	jacobm@cityofwatertown.org	920-342-6058	
30	City	Watertown	Jaynellen Holloway	City Engineer	jaynellenh@CityofWatertown.org		
31	City	Watertown	Andrew Beyer	Asst. City Engineer	AndrewB@CityofWatertown.org		
32	City	Waupun	BJ Demaa	Fire Chief/ Local EM	bjdemaa@waupunpd.org	920-948-9824	
33	Town	Williamstown	Don Hilgendorf	Town Chair	dhilgendorf@sbcglobal.net	920-210-2622	

Survey Sent to Municipalities – February 19, 2019

DODGE COUNTY – STATE OF WISCONSIN
OFFICE OF EMERGENCY MANAGEMENT

DODGE COUNTY LAW ENFORCEMENT CENTER
124 West Street • Juneau, Wisconsin 53039
Phone: (920) 386-3999 • Fax: (920) 386-3994

AMY B. NEHLS
Director

Joseph M. Meagher
Deputy Director

Date: February 19, 2019
To: Town, Village or City Leader
County Department Manager
From: Amy Nehls, EM Director
Re: Hazard Mitigation Plan Update

Dodge County, like the rest of the State of Wisconsin, is vulnerable to a variety of disasters. According to the National Oceanographic and Atmospheric Administration (NOAA), 2017 was the costliest year ever for weather and climate disasters in the United States, totaling $215 billion in disasters or, to look at it another way, $5.9 million dollars every week! Closer to home, Wisconsin has also incurred billions of dollars of disaster-related damages in the last couple of decades. These losses can be reduced through mitigation activities. A 2017 study has estimated that mitigation saves society an average of $6 for every $1 spent through federal agency grant programs. Hazard mitigation breaks the cycle of damage and repair.

Mitigation actions reduce or eliminate the long-term risk to human life and property from hazards. These preventative actions can be simple such as elevating a furnace in a basement that sometimes has water on the floor. Mitigation can also have a comprehensive approach such as relocating buildings out of the floodplain or strengthening critical facilities to prevent wind damage and provide stronger shelter.

In an effort to better prepare Dodge County to manage its vulnerability to disaster Dodge County Emergency Management applied for and received a hazard mitigation planning update grant. This goal of this grant is to complete an approvable updated plan, which will serve as a roadmap that outlines potential cost-effective hazard mitigation activities, some of which might be available for future grant funding.

The plan is designed to look at the risks and vulnerabilities that the county faces from natural disaster and to highlight mitigation strategies that might reduce future losses to life and property. As part of this planning process, I need your help.

The first step is asking that you please place an item on your **next** municipal meeting agenda to complete the attached survey. This very short survey will help us to identify the concerns that you have in your municipality and to capture ideas that you have for making your community safer and more disaster resistant. Please return your completed surveys to me **by March 30, 2019**.

After receiving your surveys, the information will be incorporated into the draft plan, which is being guided by a workgroup of interested agencies and public members. I would like to extend an offer for anyone from your leadership council, your municipal staff or your general community to contact me if they would like to join the workgroup.

Finally, after the workgroup has a final draft, we will be sending copies of the plan to each of you for final review and adoption. It is important to note two things:

- Adoption of this plan will not cost your community anything. You will not be committing to completing any of the projects listed; instead it is a list of triaged ideas that can be accomplished should the funding and will to complete them become available.
- If you do not adopt this plan, your community will not be eligible to apply for and receive mitigation project funding in the future.

Let me thank you in advance for the assistance that you are providing. This small investment of your time will help make our community a safer, healthier and more disaster-resistant community for years to come.

If you are interested in more information about the plan or would like to provide input into the plan, please feel free to contact me at (920) 386-3999 or by email at anehls@co.dodge.wi.us.

DODGE COUNTY, WISCONSIN
NATURAL HAZARDS PREPAREDNESS & MITIGATION QUESTIONNAIRE

1. In the past five years, has your community experienced a natural disaster such as a severe windstorm, flood, wildfire, earthquake, etc.?

- ○ **NO……. (If NO, skip to Question 2)**
- ○ **YES…….(If YES, please check all that apply below)**

Event	When event last occurred:				
	Within past year	1-5 years ago	5-15 years ago	More than 15 years ago	Never
Drought		C Watertown	Tn Elba Tn Emmet	C Waupun Tn Calamus Tn Chester Tn Emmet Tn Hustisford Tn Lebanon V Brownsville	C Hartford Tn Ashippun Tn LeRoy V Iron Ridge V Randolph V Reeseville
Dust Storm					C Hartford C Watertown C Waupun Tn Ashippun Tn Calamus Tn Elba Tn Emmet Tn Hustisford Tn Lebanon Tn LeRoy V Brownsville V Iron Ridge V Randolph V Reeseville
Earthquake				C Watertown	C Hartford C Waupun Tn Ashippun Tn Calamus Tn Elba Tn Emmet Tn Hustisford Tn Lebanon Tn LeRoy V Brownsville V Iron Ridge V Randolph V Reeseville
Flood	C Juneau C Watertown C Waupun Tn Elba Tn Emmet Tn Hubbard Tn Lebanon Tn Lowell Tn Trenton V Brownsville V & Tn Theresa	C Juneau C Mayville Tn Beaver Dam Tn Calamus Tn Herman Tn Hustisford Tn Lebanon Tn LeRoy Tn Lomira V Iron Ridge V & Tn Theresa	C Hartford C Juneau Tn Ashippun Tn Beaver Dam Tn Calamus Tn Clyman Tn Emmet Tn Hubbard Tn Lebanon Tn Lowell Tn Portland Tn Rubicon Tn Trenton V Reeseville V & Tn Theresa	Tn Chester Tn Emmet Tn Hubbard Tn Lebanon V & Tn Theresa	V Randolph

Lakeshore Erosion	Tn Beaver Dam	C Watertown Tn Hustisford			C Hartford C Waupun Tn Ashippun Tn Elba Tn Emmet Tn Lebanon Tn LeRoy V Brownsville V Iron Ridge V Randolph V Reeseville
Landslide/ Debris Flow					C Hartford C Waupun Tn. Ashippun Tn Calamus Tn Elba Tn Emmet Tn Hustisford Tn Lebanon Tn LeRoy V Brownsville V Iron Ridge V Randolph V Reeseville
Wildfire				Tn Lebanon Tn Lowell	C Hartford C Waupun Tn Ashippun Tn Calamus Tn Elba Tn Emmet Tn Hustisford Tn LeRoy V Brownsville V Iron Ridge V Randolph V Reeseville
Windstorm/ Tornado	C Hartford C Watertown C Waupun Tn Emmet Tn Lomira Tn Lowell Tn Trenton V Brownsville V & Tn Theresa	C Hartford C Juneau Tn Chester Tn Elba Tn Emmet Tn Hustisford Tn LeRoy Tn Oak Grove V Reeseville V & Tn Theresa	C Hartford Tn Emmet V Randolph V & Tn Theresa	C Hartford Tn Ashippun Tn Calamus Tn Emmet Tn Hubbard Tn Lebanon V Iron Ridge V & Tn Theresa	
Severe Winter Storm	C Watertown Tn Hubbard Tn Portland V & Tn Theresa	C Mayville C Waupun Tn Clyman Tn Elba Tn Emmet Tn Hubbard Tn Hustisford Tn LeRoy Tn Lowell V Brownsville	C Hartford Tn Ashippun Tn Chester Tn Hubbard Tn Lebanon Tn Lowell Tn Rubicon V Iron Ridge V Randolph V & Tn Theresa	C Hartford Tn Emmet Tn Hubbard V & Tn Theresa	V Reeseville
River Erosion	C Watertown				
Water Event	V Kekoskee				
Stream Bank Erosion	Tn Elba				

2. For which of the following natural disasters do you think your community is at risk? (Check the appropriate box for each hazard.)

Event	Extremely Concerned	Very Concerned	Concerned	Somewhat Concerned	Not Concerned
Drought		C Waupun	C Watertown Tn Calamus Tn Clyman Tn Emmet Tn Hustisford	Tn Beaver Dam Tn Chester Tn Elba Tn Fox Lake Tn Hubbard Tn LeRoy Tn Lowell V Clyman 1 V Iron Ridge	C Hartford C Horicon C Mayville Tn Ashippun Tn Herman Tn Hustisford Tn Lebanon Tn Oak Grove Tn Portland Tn Westford V Brownsville V Clyman 2 V Kekoskee V Randolph V Reeseville V & Tn Theresa
Dust Storm				Tn Chester Tn Fox Lake	C Hartford C Horicon C Mayville C Watertown C Waupun Tn Ashippun Tn Beaver Dam Tn Calamus Tn Elba Tn Emmet Tn Herman Tn Hubbard Tn Hustisford Tn Lebanon Tn LeRoy Tn Lowell Tn Portland Tn Oak Grove Tn Westford V Brownsville V Clyman 1 & 2 V Iron Ridge V Kekoskee V Randolph V Reeseville V & Tn Theresa
Earthquake				Tn Fox Lake	C Hartford C Horicon C Mayville C Watertown C Waupun Tn Ashippun Tn Beaver Dam Tn Calamus Tn Elba Tn Emmet Tn Herman Tn Hubbard Tn Hustisford Tn Lebanon Tn LeRoy

					Tn Lowell Tn Oak Grove Tn Portland Tn Westford V Brownsville V Clyman 1 & 2 V Iron Ridge V Kekoskee V Randolph V Reeseville V & Tn Theresa
Flood	C Watertown C Waupun Tn Elba Tn Herman Tn Lebanon V & Tn Theresa	Tn Beaver Dam Tn Clyman Tn Emmet Tn LeRoy Tn Portland Tn Shields Tn Trenton V Clyman 1 V Reeseville	C Hartford C Horicon C Juneau C Mayville Tn Calamus Tn Fox Lake Tn Hustisford Tn Lomira Tn Lowell V Brownsville V Clyman 2 V Iron Ridge	Tn Ashippun Tn Chester Tn Hubbard Tn Hustisford Tn Oak Grove Tn Rubicon V Kekoskee	Tn Westford V Randolph
Erosion	C Watertown Tn Lebanon	Tn Elba	Tn Beaver Dam Tn Calamus Tn Hustisford	C Hartford C Horicon Tn Emmet Tn Fox Lake Tn Herman Tn Hustisford Tn LeRoy Tn Oak Grove V Clyman 1 & 2 V Iron Ridge V Kekoskee V & Tn Theresa	C Mayville C Waupun Tn Ashippun Tn Hubbard Tn Lowell Tn Portland Tn Westford V Brownsville V Randolph
Landslide/ Debris Flow		C Horicon	C Watertown	Tn Elba Tn Fox Lake Tn Westford V & Tn Theresa	C Hartford C Mayville C Waupun Tn Ashippun Tn Beaver Dam Tn Calamus Tn Emmet Tn Herman Tn Hubbard Tn Hustisford Tn Lebanon Tn LeRoy Tn Lowell Tn Oak Grove Tn Portland V Brownsville V Clyman 1 & 2 V Iron Ridge V Kekoskee V Randolph
Wildfire		Tn Clyman	C Waupun Tn Chester Tn Hustisford Tn Lowell Tn Portland	C Watertown Tn Calamus Tn Emmet Tn LeRoy V Brownsville V Kekoskee V & Tn Theresa	C Hartford C Horicon C Mayville Tn Ashippun Tn Beaver Dam Tn Elba Tn Fox Lake Tn Herman Tn Hubbard Tn Hustisford Tn Lebanon Tn Westford Tn Oak Grove V Clyman 1 & 2

					V Iron Ridge V Randolph
Windstorm/ Tornado	Tn Clyman Tn Elba Tn Trenton V Reeseville	C Hartford C Horicon C Watertown C Waupun Tn Herman Tn Hustisford Tn LeRoy Tn Lowell V Clyman 1 V & Tn Theresa	C Juneau C Mayville Tn Beaver Dam Tn Chester Tn Emmet Tn Fox Lake Tn Hustisford Tn Lebanon Tn Lomira V Brownsville V Clyman 2 V Iron Ridge V Kekoskee	Tn Ashippun Tn Calamus Tn Hubbard Tn Westford Tn Oak Grove Tn Portland V Randolph Tn Rubicon	
Severe Winter Storm/ Ice Storm	Tn Clyman Tn Elba V Clyman 1 V Reeseville	C Hartford C Watertown Tn Emmet Tn Herman Tn Hustisford Tn Lebanon Tn LeRoy Tn Lowell V Brownsville V Clyman 2 V & Tn Theresa	C Mayville C Waupun Tn Beaver Dam Tn Chester Tn Fox Lake Tn Hustisford Tn Lomira Tn Trenton Tn Westford Tn Oak Grove Tn Portland V Iron Ridge	C Horicon C Juneau Tn Ashippun Tn Calamus Tn Hubbard Tn Rubicon V Kekoskee V Randolph	
River Erosion		C Watertown			
Stream Bank Erosion	Tn Elba				

3. Has your community had damage to facilities or infrastructure? If yes, please describe the damage. (e.g., roads, public buildings, utilities)

- C Hartford: During the 2008 flood there was damage to many roads/streets and the main sanitary sewer segment along the river was threatened. The 2006 tornado and significant wind storms damaged electric utility distribution lines. The 1976 ice storm and other significant winter storms have also damaged electric distribution systems and buildings.
- C Horicon: Nothing significant in recent years.
- C Juneau: Had several underground transformers under water, causing outages during the flooding of 2018-2019. During the 2017 wind storm, many trees fell and caused electrical outages to approximately one-eighth of the city. Whenever there is an extreme amount of rain, the wastewater treatment plan gets more volume than it can handle, causing the treatment system to be by-passed (which is always reported to the DNR).
- C Mayville: No
- C Watertown: Road and culvert damage during flooding events. Road damage due to mass wasting events (mostly creep).
- C Waupun: The City of Waupun has experienced damage as a result of flooding, high winds and tornado events over the past 10-15 years. Damage includes downed trees that impacted utility infrastructure, damage to buildings, damage to roadways.

- Tn Beaver Dam: We have had property damage along the Beaver Dam Lakeshore and roadway damage due to flooding, including Parker Road that crosses the Shaw Hill Marsh which floods over and erodes away every Spring. Not aware of any recent tornadoes in our municipality.
- Tn Calamus: Road infrastructure damage
- Tn Chester: Trees on roadway
- Tn Clyman: We have had culvert erosion on some of our roads.
- Tn Elba: Had damage to 1.9 miles of road in 2019 and many other roads, culverts and residential homes.
- Tn Emmet: Roads - erosion, washout, water damage; culverts - erosion, washout.
- Tn Herman: Culverts have been failing with heavy rain fall; washing out roads.
- Tn Lebanon: Roads – shoulder erosion, blacktop deterioration, culvert washouts/undermining, ditches undermining roads, sinkholes in roads from animals that have been encouraged to move in and populate areas of standing water; bridges – huge 90-foot trees have washed down the river and lodged against our bridges.
- Tn Lomira: Tree falling on building; washing out of shoulders
- Tn Lowell: Roads and culverts have washed out. The Boblink railroad bridge was taken out due to a derailment about 50 years ago. Tree damage from windstorms.
- Tn Rubicon: Could be town hall with equipment (trucks).
- V Brownsville: Library basement flooded due to power failure and lack of generator for pumps.
- V Kekoskee: 20 years ago, roads washed out.
- V Reeseville: Community Center had a large tree fall on the roof causing damage during a windstorm. During that same storm, all the trees in the cemetery fell, causing excessive damage to gravestones and extensive clean up. Recent excess rain storms caused flooding in our pumps at both the sewer plant and water wells.
- V & Tn Theresa: Minor flooding issues at the wastewater treatment plan. In the past five years, several lightning strikes to the water tower and warning siren, which twice has damaged electronics to both systems and had to be repaired or replaced.

4. What facilities or infrastructure in your community do you think are especially vulnerable to damage during a natural disaster?

- C Hartford: The city's recreation center may be more vulnerable to a flood due to its proximity to the Rubicon River. The building itself is high enough to be out of the floodplain area; however, it does have a below-grade equipment room for the indoor pool with a sump pump. If that pump were to fail during a flood there would be significant equipment damage. Electrical distribution systems. Water and wastewater systems. Hospitals and nursing homes.
- C Horicon: John Deere Horicon Works (along the Rock River) is vulnerable to flooding; dam on south end of city is vulnerable to flooding and debris.
- C Juneau: Electric lines and equipment (transformers, capacitors, pedestals, etc.).
- C Mayville: Wastewater treatment facility, residential homes and schools.
- C Watertown: Culverts, roads, dams, bridges, communication tower, wastewater treatment plant and storm water infrastructure.

- C Waupun: The Dodge County portion of our city contains our industrial park; three Department of Corrections (DOC) facilities housing over 3,000 inmates and over 1,000 workers; both DOC water towers; our hospital; our utilities office; both of the city's water towers; our city administration building; two of our long-term care facilities; three schools; a hotel; a propane facility; and numerous churches.
- Tn Ashippun: Roads
- Tn Beaver Dam: Our biggest risk is from roadway flooding/damage due to the close proximity to Beaver Dam Lake and all the feeder creeks that go into the lake; and the Beaver Dam River that goes out of the lake and through the south end of the Town of Beaver Dam. Of course, there is always a risk of tornadoes, as well.
- Tn Calamus: Roads and residential properties
- Tn Clyman: Buildings from wind or tornadoes; damage to roads from flooding, erosion and heavy traffic from machinery and trucks.
- Tn Elba: Roads, culverts and residential homes.
- Tn Emmet: Roads, power lines, buildings
- Tn Fox Lake: Roads, town hall, salt shed, dams and bridges
- Tn Herman: Low-lying roads and culverts
- Tn Hubbard: Road and culverts; ditch banks
- Tn Hustisford: Roads, power lines, private property
- Tn Lebanon: Roads, ditches, culverts, bridges
- Tn LeRoy: Town hall
- Tn Lomira: Roads from flooding; building from wind/tree/hail damage; roads from frost and winter conditions.
- Tn Lowell: It depends on the disaster.
- Tn Shields: Communication and roads.
- Tn Trenton: Roads
- Tn Westford: Building (town hall)
- V Brownsville: Library
- V Clyman 1: Water tower, wastewater treatment plant, village hall, pump houses (4), fire department, Seneca.
- V Clyman 2: Water tower, fire department, water works, village hall
- V Iron Ridge: Buildings, sewer plant, water tower, roads.
- V Kekoskee: Power lines, roads, building damage.
- V Reeseville: The village is low-lying and all of our facilities are vulnerable to damage during a natural disaster, especially due to flooding.
- V & Tn Theresa: Wastewater treatment plan, warning sirens.

5. How important do you think each of the following projects are in mitigating (i.e., lessening the impacts of) a natural disaster in your community?

Project	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	C Waupun Tn Beaver Dam Tn Elba Tn Hustisford Tn Oak Grove	C Horicon C Mayville C Watertown Tn Calamus Tn Chester	C Hartford Tn Ashippun Tn Lomira Tn Rubicon V Clyman 2	Tn Hubbard V Kekoskee	

	Tn Portland Tn Shields Tn Westford V Clyman 1 V Iron Ridge V Reeseville V & Tn Theresa	Tn Clyman Tn Emmet Tn Fox Lake Tn Herman Tn Lebanon Tn LeRoy Tn Lowell V Brownsville	V Randolph		
Protecting critical facilities (hospitals, fire stations, etc.)	C Hartford C Mayville C Watertown C Waupun Tn Calamus Tn Clyman Tn Fox Lake Tn Hustisford Tn Lebanon Tn LeRoy Tn Lomira Tn Portland Tn Shields Tn Trenton V Brownsville V Clyman 1 & 2 V Iron Ridge V Reeseville V & Tn Theresa	C Juneau Tn Ashippun Tn Lowell V Randolph	Tn Beaver Dam Tn Elba Tn Herman Tn Hubbard Tn Oak Grove Tn Westford V Kekoskee	Tn Emmet	C Horicon Tn Rubicon
Preventing development in hazard areas	C Hartford C Mayville C Watertown C Waupun Tn Beaver Dam Tn Calamus Tn Elba Tn Hustisford Tn Lebanon Tn Shields V Iron Ridge V Reeseville	Tn Ashippun Tn Clyman Tn Emmet Tn Fox Lake Tn Hubbard Tn Lowell Tn Portland V Clyman 1 & 2 V Randolph	Tn LeRoy Tn Lomira Tn Oak Grove Tn Westford V Brownsville V & Tn Theresa	C Horicon Tn Rubicon V Kekoskee	Tn Herman
Enhancing the function of natural features (streams, wetlands)	C Mayville C Watertown Tn Beaver Dam Tn Herman Tn Hustisford Tn Shields Tn Trenton V Iron Ridge V Reeseville	C Hartford C Horicon C Waupun Tn Ashippun Tn Elba Tn Emmet Tn Fox Lake Tn Hustisford Tn Lomira Tn Lowell Tn Portland V Brownsville V Clyman 1 & 2 V & Tn Theresa	Tn Calamus Tn Chester Tn Clyman Tn Hubbard Tn Lebanon Tn Oak Grove Tn Rubicon Tn Westford	Tn LeRoy V Kekoskee	V Randolph
Protecting historical and cultural landmarks	Tn Beaver Dam Tn Calamus Tn Hustisford Tn Shields V Iron Ridge V & Tn Theresa	C Hartford C Mayville C Watertown C Waupun Tn Ashippun Tn Chester Tn Fox Lake Tn LeRoy Tn Lomira Tn Lowell V Brownsville	Tn Clyman Tn Elba Tn Herman Tn Hubbard Tn Lebanon Tn Lomira Tn Oak Grove Tn Portland Tn Westford V Clyman 1 & 2 V Kekoskee V Reeseville	C Horicon Tn Emmet Tn Rubicon V Randolph	

Promoting cooperation among public agencies, citizens, non-profit organizations and businesses	C Hartford C Mayville C Watertown Tn Beaver Dam Tn Calamus Tn Elba Tn Hustisford Tn Shields Tn Trenton V Brownsville V Iron Ridge V Randolph V Reeseville V & Tn Theresa	C Horicon C Juneau C Waupun Tn Ashippun Tn Chester Tn Clyman Tn Emmet Tn Fox Lake Tn Herman Tn Lebanon Tn LeRoy Tn Lomira Tn Lowell Tn Oak Grove Tn Rubicon V Clyman 1 & 2	Tn Hubbard Tn Portland Tn Westford V Kekoskee		
Protecting and reducing damage to utilities	C Hartford C Juneau C Mayville C Watertown C Waupun Tn Beaver Dam Tn Calamus Tn Elba Tn Emmet Tn Fox Lake Tn Herman Tn Hustisford Tn Lebanon Tn LeRoy Tn Lomira Tn Shields Tn Trenton V Brownsville V Clyman 1 & 2 V Iron Ridge V Reeseville V & Tn Theresa	Tn Ashippun Tn Lowell Tn Oak Grove Tn Portland Tn Rubicon Tn Westford V Randolph	Tn Chester Tn Hubbard V Kekoskee	C Horicon	
Strengthening emergency services	C Hartford C Horicon C Mayville C Watertown C Waupun Tn Calamus Tn Elba Tn Emmet Tn Fox Lake Tn Hustisford Tn Lebanon Tn LeRoy Tn Lomira Tn Lowell Tn Oak Grove Tn Shields V Clyman 2 V Iron Ridge V Randolph V Reeseville V & Tn Theresa	C Juneau Tn Ashippun Tn Beaver Dam Tn Clyman Tn Herman Tn Hubbard Tn Rubicon Tn Westford V Clyman 1	Tn Chester Tn Portland V Brownsville V Kekoskee		

6. Do you have any community building projects (e.g., subdivisions, office/industrial parks, roads) slated to be built in the near future? If so, please describe it (e.g., project name, location, type, size)?

- C Hartford: HADC Industrial Park expansion – the project will include developing approximately 70 acres of land for industrial park use. The project will include new roads, storm sewer, sanitary sewer, water main and other utilities. The project is

south of CTH N, north of the Wisconsin Southern Railroad, between Innovation Way on the west and Western Drive on the east. Centennial Park redevelopment – the project will include the new playground equipment, upgrades to the existing open-air shelter, a new multipurpose pavilion, bike path upgrades, possible boat launch and fishing platforms. The project is located along the north side of the Mill Pond in downtown Hartford. The City of Hartford continues to grow with new residential, commercial and industrial developments.

- C Horicon: 140 acres on Highway 33 west of the city as a new industrial park.
- C Juneau: Will be reconstructing water and sewer mains when the city does street projects. These mains are not subject to damage during natural disasters.
- C Mayville: Looking to add a new multi-family apartment complex and storage facility on 10 acres in the area of CTH TW and Bird Road.
- C Watertown: In fill development of Mary Knoll subdivision (N. 4th Street).
- C Waupun: We have been working on a PDM project for a tornado shelter in one of our mobile home parks. We also continue to develop and market land in our industrial park on an 80-acre parcel of land.
- Tn Beaver Dam: As of 3/5/2020, not aware of any major planned expansion projects in the town. The City of Beaver Dam has annexed the area north of County Highway B that used to be in the town and the city is now building in that annexed area.
- Tn Calamus: None to my knowledge at this time
- Tn Clyman: We are widening Langer Road this summer; we will be doing seal coating on roads in the town.
- Tn Lowell: The Bobolink railroad bridge will be replaced in 2020-2021.
- V Kekoskee: Not really.
- V Randolph: Complete Dickinson Street road/infrastructure project; contain storm water.
- V Reeseville: All roads within the village are overdue for resurfacing; this will be dependent on future grants and funding availability from outside resources. However, no new projects are slated to be built in the near future.

7. What ideas do you have for your community to mitigate natural disasters?

- C Hartford: Upgrades to the recreation center dewatering system to help protect against damage during flooding/high water events. Continue with pre-incident planning using private-public partnerships focusing on preventing, responding to and recovering from disasters.
- C Horicon: Preparedness drills/exercises for schools, employers and first responders.
- C Juneau: Preventative pumping during the flood seasons to prevent outages from occurring in areas where the municipality has witnessed issues in the past.
- C Mayville: Attempting to mitigate flooding and have been reviewing run-off and infiltration of the sanitary sewer system.
- C Watertown: Extensive hydrologic and hydraulic studies of all streams, ditches, etc. not identified in FIRM.
- C Waupun: The City of Waupun has been working to put together a couple of projects that would be part of a PDM project. One of these projects would be a tornado shelter for one of our mobile home parks on the southeast side of the city. This shelter would be sized to accommodate future developments that the

landowner has for the area. We have also installed another outdoor warning siren in this area to ensure better warning notification.

- Tn Beaver Dam: I believe that community awareness and preparedness, as well as prediction and warning system that can be put in place and utilized to reduce the impacts of unforeseen and unpredictable weather disasters, is a big help. We have already adopted zoning and land-use practices, as well as building codes to prevent or reduce actual damage from these hazards. However, we could certainly do a better job of enforcing these to protect our citizens.
- Tn Calamus: Being proactive and working along with local officials in implementing safeguards wherever possible to keep damage minimal when a situation arises.
- Tn Chester: County and City of Waupun are great partners – planning is good.
- Tn Clyman: None in place at this time.
- Tn Elba: Reviewing of operation and maintenance of dams on the Crawfish River.
- Tn Lebanon: Better communication and coordination between dam operators north and south of Lebanon.
- Tn Lomira: Keeping ditches and streams clear to allow water to move freely to avoid flooding.
- Tn Hubbard: Road signs; identify roads that flood; offer sandbags; we have generation facility at town hall; utilize workers and equipment to neutralize disaster or flood.
- Tn Lowell: Cooperation between all communities.
- Tn Rubicon: Working with fire department and part-time police to plan for a disaster.
- V Brownsville: Remove trees and branches near power lines. Remove blockages in creek. Dredge creek to remove excess sediment. Provide alternative power sources for important municipal facilities.
- V Kekoskee: Work together with EMS services.
- V Randolph: 3-phase generator by lift station – Columbus and Cambria; generator at village hall.
- V Reeseville: We currently rely on county, state or federal assistance to mitigate natural disasters.

May Meeting Notice – April 18, 2019

From: Meagher, Joseph
To: lsmith@cityofbeaverdam.com; cappy2@charter.net; columbusem@columbuswi.us; chiefrohn@live.com; copshop@cfoxlakepd.com; jadamson@ci.horicon.wi.us; dbeal@cityofjuneau.net; mayvilleems@mayvillecity.com; Churchill, Christine; Kbiefeld@cityofwatertown.org; bjdemaa@waupunpd.org; marshal@brownsvillewi.com; clymanfire@yahoo.com; bnekich@hustisford.com; ironridgefire@gmail.com; Boeck, Jason; kfd@bertramwireless.com; richard.gerth25@gmail.com; mireski@villageoflomira.com; moose326@charter.net; mweyrand@frontier.com; reesevillepd@netwurx.net; mike.theresaems@outlook.com; michael.elack@gmail.com; deske@wi.rr.com; dpd@bdtown.org; Drumm, Brian; rdschwark@live.com; krausgrainfarms@hotmail.com; bjdemaa@waupunpd.org; nasswm@aol.com; foxlakechair@gmail.com; townherman@nconnect.com; guenterbergd@gmail.com; lohnpatfredrick@aol.com; rmlschraufnagel@nconnect.com; townofleroylschraufnagel.chair@gmail.com; jdfaber@frontier.com; schmittjohn48@gmail.com; jaspoke@hotmail.com; district10@co.dodge.wi.us; nealeinrichwood@yahoo.com; clerk.townofshields@yahoo.com; mike.theresaems@outlook.com; michael.elack@gmail.com; rkottke@bugnet.net; Kottke, Russell; ddbanes@gmail.com; dhilgendorf@sbcglobal.net
Cc: Nehls, Amy; Lenora Borchardt
Subject: Second of two meetings (May 17th) to update the Dodge County Hazard Mitigation Plan
Date: Thursday, April 18, 2019 10:36:00 AM
Attachments: @

Good Morning Local Emergency Managers,

Thank you everyone that attended the first of the two meetings, in February, to update the county Hazard Mitigation Plan. This second of two meetings will focus largely on flooding and mitigation surrounding floods. Please share this with your local officials that may have interest in assisting us with updating the Countywide Hazard Mitigation Plan update, our target audience is Department of Public Works/ Highway folks, Planning Departments and Local Emergency Managers. Participation is important when it comes to future disaster funding and grants for mitigation. If you are a Township representative your participation in this meeting not required, but you are certainly welcome to attend and provide input. At the completion of our plan we will require every municipality to adopt the final plan update to ensure future funding opportunities. Please feel free to contact me with any questions.

The session will be held on May 17th at 1pm In the

Planning Meeting – May 17, 2019

HAZARD MITIGATION PLAN UPDATE MEETING #2 SIGN-IN SHEET
FRIDAY, MAY 17, 2019

Name	Affiliation	E-Mail Address
Linda Schraufnagel	Town of LeRoy - Chair	townofleroylschraufnagel.chair@gmail.com
Bill NASS	TOWN OF EMMET CHAIR	NASSWM@AOL.COM
Brent Boyd	Town of Lebanon	bkboyd1991@Gmail.com
Don Hilgendorf	Village of Kekoskee	dhilgendorf@sbcglobal.net
Dan Mulhern	Beaver Dam DPW	dmulhern@CityofbeaverdamCom
BJ DeMaa	City of Waupun	bjdemaa@waupunpd.org
Joe ADAMSON	HORICON E.G.	JADAMSON@CI.HORICON.WI.US
Jacob Maas	City of Watertown	jacobm@CityofwatertownOrg
Jim Ketchem	City of Mayville	jketchem@mayvillecity.com
Tony B Kehl	Dodge Cty EM	—

RE: Dodge Co PDM update - draft plan review

Janda, David <Janda@countyofdane.com>
Wed 8/19/2020 9:34 AM
To: 'Lenora Borchardt' <LenoraBorchardt@hotmail.com>

Hi Lenora,
I was wondering what you've been up to, now I know.

The plan looks pretty straightforward – no questions or concerns from our point of view. Thanks for the preview.
Dave

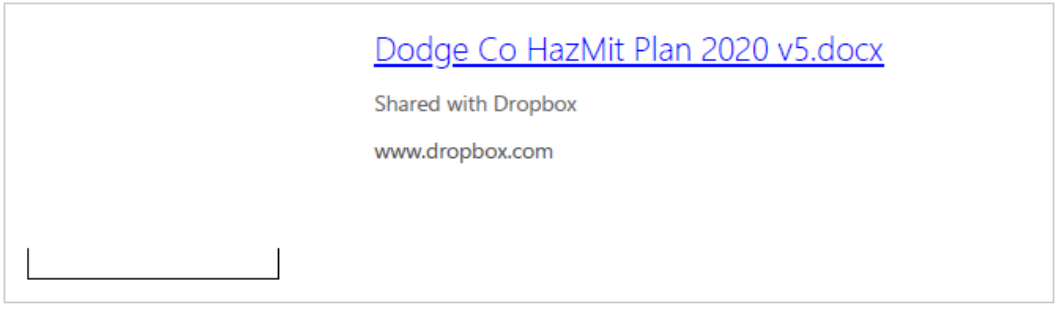
From: Lenora Borchardt <LenoraBorchardt@hotmail.com>
Sent: Monday, August 17, 2020 2:38 PM
To: Gary V. Podoll <gpodoll@cityofberlin.net>; Donna Haugom <donnah@jeffersoncountywi.gov>; Kathy.Johnson@co.columbia.wi.us; kschwei@waukeshacounty.gov; Janda, David <Janda@countyofdane.com>; Hicken, Bobbi <Bobbi.Hicken@fdlco.wi.gov>; Rob Schmid <rob.schmid@co.washington.wi.us>
Cc: Amy Nehls <anehls@co.dodge.wi.us>; Joe Meagher <jmeagher@co.dodge.wi.us>
Subject: Dodge Co PDM update - draft plan review

Hello! As a contiguous county to Dodge, you are being provided a draft copy of their county PDM plan update for review and comment. Please let Joe or me know by September 1st if you have any comments or questions.

To get to the plan, please follow the link below to its Dropbox location…

Thanks and have a great day! Lenora Borchardt

https://www.dropbox.com/scl/fi/ex3e6m4hbl96emmks7o9m/Dodge-Co-HazMit-Plan-2020-v5.docx?dl=0&rlkey=0ofhhwgdk2xz12wng1e09xw9c



November 2020

Dear Town, Village, City, and County Community Leader:

The State of Wisconsin has endured billions of dollars in damages over the past three decades as a result of various disasters including severe weather and flooding events, major snowstorms, and powerful tornadoes. While the costs of each disaster may vary greatly, the impact is always the hardest at the local level, impacting our communities the most.

Hazard mitigation breaks the cycle of damage and repair by reducing or eliminating the long-term risk to human life and property caused by the potential hazards. In fact, for every dollar spent on mitigation activities, approximately $6.00 in future damages is avoided. These preventative actions may be as simple as elevating a furnace in a basement in an effort to prevent flood damage. Mitigation efforts may also take a more comprehensive approach such as relocating buildings out of the floodplain or strengthening critical facilities to prevent wind damage and provide stronger shelter.

In an effort to better mitigate Dodge County's vulnerability to disaster, Dodge County Emergency Management, applied for, received, and has now updated the Dodge County Hazard Mitigation Plan through a Pre-Disaster Mitigation (PDM) planning grant. The updated plan serves as a roadmap that outlines potential cost-effective hazard mitigation activities, some of which might be available for future grant funding. The plan highlights the risks and vulnerabilities that Dodge County faces from natural disasters and highlights mitigation strategies, selected by a local workgroup, that may reduce future losses.

As this project nears completion, we are sending copies of the final updated plan and a draft resolution template for you to use for the re-adoption of the Dodge County Hazard Mitigation Plan. Please note:

1. **Adoption of this plan will <u>not</u> cost your community anything**. You will not be committing to completing any of the projects listed; instead it is a list of triaged ideas that could be accomplished should the funding and will to complete them become available.
2. **If you do not adopt this plan, <u>your community will not be eligible to apply for and receive mitigation project funding</u> in the future**.

Please include adoption of this resolution on your next meeting agenda and provide a copy of the final resolution, as soon as it is passed, to me at the email address below. If you have any questions or comments regarding this plan update, please feel free to contact me at (920) 386-3993 or by email at jmeagher@co.dodge.wi.us.

Thank you for your assistance with completing the Dodge County Hazard Mitigation Plan. This small investment of your time will help make our community a safer, healthier, and more disaster-resistant community for years to come.

Respectfully,

Joe Meagher, Deputy Director
Dodge County Emergency Management

*** Proof of Publication ***

Capital Newspapers Proof of Publication Affidavit

Retain this portion for your records.
Please do not remit payment until you receive your advertising invoice.

Mail to:

Dodge County Emergency Management

Attn: Amy Nehls 124 West St
Juneau, WI 53039

ORDER NUMBER 24432

Public Notice
Dodge County has completed the draft of a Hazard Mitigation Plan Update, prepared in accordance with the Disaster Mitigation Act of 2000 (Public Law 106-390; DMA2K). The draft is available for public review and comment during business hours at the Emergency Management Office, 124 West St, Juneau, for review and public comment until 16, November 2020.
If you have questions related to this notice or its application in Dodge County, call the Dodge County Emergency Management office at (920) 386-3993.
BDC: November 3, 2020-24432 WNAXLP

STATE OF WISCONSIN
} ss.
Dodge County

Michael Miles
being duly sworn, doth depose and say that he (she) is an authorized representative of Capital Newspapers, publishers of

PDAC Daily Citizen

a newspaper, in the city of Beaver Dam, in said County and State, and that an advertisement of which the annexed is a true copy, taken from said paper, was published therein on the dates listed below.

Sworn to and subscribed before me this 3 day of November 2020

(Signed) _____
(Title) Principal Clerk

_____
Notary Public, Wisconsin

My Commission expires Jan 8, 2023

Section: Legals
Category: 0100 LEGAL NOTICE
PUBLISHED ON: 11/03/2020

TOTAL AD COST: 12.61
FILED ON: 11/3/2020

LISA ANN CHRISTENSEN
Notary Public
State of Wisconsin

Article – Beaver Dam *Daily Citizen* Newspaper – 20 November 2020

Dodge County draft hazard mitigation plan up for review

JUNEAU — Dodge County, like the rest of the State of Wisconsin, is vulnerable to a variety of disasters. Wisconsin has incurred disaster-related damages totaling $3 billion in the last three decades but future losses can be reduced through mitigation activities.

A recent study by the Multi-hazard Mitigation Council shows that each average dollar spent on mitigation saves society in excess of $6. Since 1993 more than 400 disasters have occurred in the United States, affecting communities in all 50 states, costing the country over $500 million per week and killing over 24,000 people.

Mitigation actions reduce or eliminate the long-term risk to human life and property from hazards. These preventative actions can be as simple as elevating a furnace in a basement that sometimes has water on the floor. Mitigation can also have a comprehensive approach such as relocating buildings out of the floodplain or strengthening critical facilities to prevent wind damage and provide stronger shelter.

In an effort to better prepare Dodge County to manage its vulnerability to disasters, Dodge County Emergency Management applied for, received, and has completed a Pre Disaster Mitigation update planning grant.

This plan update will serve as a roadmap that outlines potential cost-effective hazard mitigation activities, some of which might be available for future grant funding.

The updated plan outlines the risks and vulnerabilities that the county faces from natural disaster and highlights mitigation strategies that might reduce future losses.

The completed draft hazard mitigation plan update is available during business hours at the Dodge County Office of Emergency Management, 124 West St., Juneau, for review and public comment until Nov. 16.

Governmental & Public Input

Planning creates a way to solicit and consider input from diverse interests. Successful community mitigation begins with a commitment from government officials throughout the county.

Involving stakeholders is essential to building community-wide support for the plan. In addition to emergency managers, the planning process involves other government agencies (e.g., zoning, floodplain management, public works, community and economic development), businesses, civic groups, environmental groups and schools. Vital information provided by these groups helps insure that the plan is workable within the framework of the community's priorities.

Adoption of the Plan

Local units of government participating in a multi-jurisdictional planning process must adopt the final plan for the municipality to be eligible for future mitigation funds including grants available through FEMA. **Local units (i.e., towns, villages, cities) that do not participate would be ineligible to receive such funds** until such time that they meet these requirements and adopt a plan.

History

Floods and storms have killed over 2,000 people in the U.S. in the last decade. Hundreds of disasters have occurred in the past 25 years, costing the country millions of dollars every week.

MITIGATION PLANNING FACTS

► A 2017 study has shown that mitigation saves society an average of $6 for every $1 spent through federal agency grant programs.

► The rigorous building standards adopted by 20,000 communities across the country are saving the nation more than $1.1 billion a year in prevented flood damages.

► Hazard mitigation plans and projects reduce overall risks to the population and structures while also reducing reliance on funding from actual disaster declarations.

► According to the National Oceanographic and Atmospheric Administration, 2017 was the costliest year ever for weather and climate disasters in the United States, totaling $215 billion in disasters. That's $5.9 million dollars every week!

NOTES:_____

_____

_____

For further information please contact:

Dodge County
Emergency Management
141 N. Main Street
Juneau, WI 53039
(920) 386-3999

Pre-Disaster Mitigation Planning

Creating Safe,

Sustainable

Communities

Prepared by:
Dodge County Emergency Management
141 N. Main Street
Juneau, WI 53039
(920) 386-3999

What is Hazard Mitigation?

Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.

Floods, ice storms, tornadoes and forest/wild fires – these are all functions of the natural environment and only become hazardous when they threaten our "built" environment with destruction. These hazards will occur one day. When this happens, the results can be appreciably different from past outcomes if our community takes action today.

Risk Reduction

The goal of risk reduction is to reduce the risk to life and property, which includes existing structures and future construction, in the pre- and post-disaster environments. This is achieved through regulations, local ordinances, land use and building practices and mitigation projects that reduce or eliminate long-term risk from hazards and their effects.

Why Develop A Plan?

Mitigation plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction and repeated damage. The planning process is as important as the plan itself. It creates a framework for risk-based decision-making to reduce damages to lives, property and the economy from future disasters.

State, tribal and local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000, provides the legal basis for state, local and tribal governments to undertake a risk-based approach to reducing risks from natural hazards through mitigation planning.

Like many other people, the residents of Merkel, Texas didn't think much about flooding. Besides, it had not flooded in Merkel for 45 years. It wasn't until the heavy summer rains came that residents realized flooding can hit anyone, at any time. After the flooding finally subsided, officials knew they had to do something: mitigate.

Required Information

- Flood maps
- Identification of potential hazards
- History of occurrences
- Hazard impact projections
- Location of critical facilities
- Identification of high-risk facilities (schools, fire station, nursing homes, etc.)
- Location of repetitive loss structures
- Development & prioritization of mitigation projects
- Other materials as identified

Hazard Mitigation Planning Process

1. **Organize Resources-** From the start, communities should focus the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community, particularly those with the technical expertise required during the planning process.

2. **Assess Risks-** Communities next need to identify the characteristics and potential consequences of natural hazards. It is important to understand how much of the community can be affected by specific hazards and what the likely impacts would be for important community assets.

3. **Develop a Mitigation Plan-** Armed with an understanding of the risks posed by natural hazards, communities need to determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a natural hazard mitigation plan and strategy for implementation.

4. **Implement the Plan & Monitor Progress-** Communities can bring the plan to life in a variety of ways ranging from implementing specific mitigation projects to changes in the day-to-day operation of the local government. To ensure the success of an on-going program, it is critical that the plan remains effective. Thus, it is important to conduct periodic evaluations and make revisions as needed.

Appendix H: Inter-Revision Updates

This plan will undergo major revisions every five years per the FEMA requirements. Dodge County has recognized that there may be information that should be added to the plan between the five-year updates but that the costs of continuous updates, printing and distribution can be excessive. This section is designed to hold that information that is gathered between the five-year updates. It is felt that only having to reproduce and distribute one section between updates will lessen the costs to the county.

Potential Areas of Concern Identified:

- No additional concerns have been identified to date