



Center for Land Use Education

THE LAND USE TRACKER

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On The Web...

Planning for a Disaster-Resistant Community - A one-day workshop for city and county planners, planning officials, and consultants offered by APA and FEMA.

www.planning.org/research/disaster.htm

MITIGATION PLANNING FOR NATURAL HAZARDS

By Roxanne Gray, State Hazard Mitigation Officer, Wisconsin Emergency Management

Almost weekly we hear and read news reports about the destruction and turmoil caused by tornados, floods, wildfires and other natural hazards across the nation. This country incurs \$6 billion in flood damages annually which does not include the damages from Hurricanes Katrina, Rita and Wilma. Disaster costs continue to grow, yet people keep building and living in high-risk areas. Disasters cause a tremendous impact emotionally and economically to government, businesses and individuals. Wisconsin is not immune to disasters. In the last three decades the state incurred \$3 billion in disaster-related damages. The 1993 Midwest Flood alone produced \$930 million in damages in the state, flooded 800,000 acres of land, damaged 4,700 homes, and resulted in the evacuation of 3,000 Wisconsin residents. In larger events, the state may receive a federal disaster declaration which provides disaster assistance. However, many disasters are not of the severity to warrant a federal disaster declaration, which means that local governments, the insurance industry, businesses, and citizens bear the cost of the disaster. In recovering from disasters, communities and individuals need not only repair the damages, but also take necessary steps to prevent the damages from repeating themselves in the next event.

Hazard mitigation is any action taken to eliminate or reduce the long-term risk to human life and property from hazards. In contrast to emergency preparedness, mitigation activities are designed to reduce property damage

as well as loss of life and injury. Hazard mitigation is the only phase of emergency management dedicated to breaking the cycle of damage, reconstruction, and repeated damage. The National Institute of Building Sciences estimates that for every \$1 we spend on mitigation we will save \$4 in future disaster damages.

Hazard mitigation is most effective when based on a comprehensive, long-term plan that is developed before a disaster. In post-disaster situations, communities generally do not have the time or resources to complete a plan. Developing a plan prior to a disaster positions a community to:

1. Actively involve and educate the public on the hazards and risks that face them;
2. Utilize the knowledge, skills and experience of a diverse range of individuals and groups;
3. Address a broad range of hazards rather than the specific hazard currently affecting the community;
4. Consider a range of mitigation actions and select the best alternatives;
5. Gain public and political support needed to implement mitigation strategies identified in the plan;
6. Identify potential funding sources and technical assistance necessary to implement the plan;
7. Reduce or prevent hazard-related damages thereby speeding up the response and recovery process; and
8. Prevent rebuilding in a manner that creates vulnerability to future events.

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CALENDAR OF EVENTS**WAPA SPRING WORKSHOP**

March 27, 2008 – Alliant Energy Center, Madison, WI
www.wisconsinplanners.org/

WCCA SPRING CONFERENCE

April 3-4, 2008 – Holiday Inn, Mosinee, WI
www.wccadm.com

LANDSCAPE PATTERNS AND ECOSYSTEM PROCESSES

April 6-10, 2008 – Monona Terrace Convention Center, Madison, WI
www.cof.orst.edu/org/usiale/madison2008/

DENSITY, FARMLAND, NATURAL AREAS, LEADERSHIP AND MORE

April 11, 2008 – Bus tour of Dakota County, Minnesota's Farmland and Natural Areas Program
www.uwsp.edu/cnr/landcenter/pdffiles/bro_4-11-08.pdf

WISCONSIN LAKES CONVENTION

April 17-19, 2008 – KI Convention Center, Green Bay, WI
www.uwsp.edu/cnr/uwexlakes/conventions

APA NATIONAL PLANNING CONFERENCE

April 27-May 1, 2008 – Las Vegas, NV
www.planning.org/2008conference

NATURAL RESOURCE EXTENSION PROFESSIONALS CONFERENCE

May 19-23, 2008 – Monona Terrace Convention Center, Madison, WI
<http://anrep.org/conferences/2008>

INTERNATIONAL MAKING CITIES LIVABLE CONFERENCE

June 1-5, 2008 – Santa Fe, NM
www.livablecities.org/Conferences.htm

RENEWABLE ENERGY AND SUSTAINABLE LIVING FAIR

June 20-22, 2008 – ReNew the Earth Institute, Custer, WI
www.the-mrea.org/

LOCAL GOVERNMENT CENTER PROGRAMS

UW-Extension's Local Government Center will be offering a variety of programs focused on land use law, shoreland zoning, and open government in the coming months.

For more information visit: <http://lgc.uwex.edu/WisLines/index.html>

For additional dates and information, visit the online calendar of events
www.uwsp.edu/cnr/landcenter/events.html

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Some of the benefits of developing a comprehensive hazard mitigation plan include:

1. Protecting the health and safety of citizens;
2. Enhancing community vitality (Some communities have pursued major projects such as relocating business and residential districts out of a floodplain and developing quality park, recreation and open space areas in their place);
3. Attracting and retaining business and industry (It is estimated that 20 to 40% of businesses do not reopen after a disaster and more will close within two years after an event);
4. Preserving and expanding the tax base; and
5. Saving taxpayer dollars (Hazard mitigation planning seeks to reduce public expenditures on hazard-related damages and provides eligibility for various disaster mitigation grants).

State Hazard Mitigation Planning

The Disaster Mitigation Act of 2000 (DMA2K) was enacted on October 30, 2000 and established a national disaster hazard mitigation program. Public Law 106-390 created the Pre-Disaster Mitigation Program. The vision of the program is to create a significant opportunity to reduce disaster losses through pre-disaster mitigation planning; streamline the recovery process through planned, pre-identified, cost-effective mitigation; and link pre- and post-disaster mitigation planning and initiatives with public/private interests for a comprehensive approach to loss reduction.

The legislation requires that states and tribal/local governments develop hazard mitigation plans in order to be eligible to receive certain federal disaster assistance. Specific planning criteria are contained in 44 CFR Part 106. Wisconsin Emergency Management (WEM) is responsible for the development and maintenance of the State of Wisconsin Hazard Mitigation Plan. The state's plan was

approved by the Federal Emergency Management Agency (FEMA) in December 2005 as an "enhanced" plan which means the state is eligible to receive additional mitigation funding during declared disasters. Only twelve states have this designation. The plan identifies the state's most prevalent hazards and sets forth a logical strategy for making Wisconsin a safe place to live, work and play. Approval of the plan ensures that the state continues to be eligible to receive mitigation grant funds as well as funds to reimburse state and local governments to repair permanent facilities and infrastructure during federally declared disasters. The plan must be updated and approved by FEMA every three years.

Local Hazard Mitigation Planning

Local governments and tribal organizations are also required to have a hazard mitigation plan approved by FEMA in order to be eligible for federal mitigation funds. Once a plan is approved, participating jurisdictions are eligible to apply for a variety of grant programs to implement the mitigation measures identified in the plan. The plan must be updated and approved by FEMA every five years.

A hazard mitigation plan has five parts:

Part 1 – Planning Process: Describes and documents the planning process used to develop the plan; how the planning process provided an opportunity for the public to comment on the plan; how the planning process allowed for neighboring communities, local and regional agencies, agencies that have the authority to regulate development, and business, academia and other private and nonprofit interests to participate in the process; and how the process reviewed and incorporated existing plans, studies, reports and technical information.

Part 2 – Planning Area: Describes the geographic location, size and names of the communities in the planning area; documents basic demographics such as changes in population, households

Recreational and residential uses near forest and wilderness areas increase the potential for wildland fires particularly when dry conditions are present.



Coastal hazards consist of bluff and bank erosion, coastal flooding, and damage to structures from storm waves. 15 Wisconsin counties are at risk to coastal hazards.



Winter storms can result in flooding, closed highways, blocked roads, downed power lines, traffic accidents and hypothermia.



Photos: Wisconsin Emergency Management



There have been 24 recorded earthquakes in Wisconsin. The nearest major active fault is the New Madrid Fault in the Mississippi River Valley.



Tornadoes can cause fatalities and devastate a neighborhood in seconds. Wisconsin tornadoes have caused 331 deaths since 1865.



Photos: Wisconsin Emergency Management

or housing units; and provides a general description of land uses and development trends in the planning area.

Part 3 – Risk Assessment: Identifies the hazards that impact the community; evaluates each hazard in terms of frequency and probability; and assesses the planning area’s vulnerability to the hazard in terms of magnitude, severity, exposure and consequences.

Part 4 – Mitigation Strategy: Describes mitigation goals for each hazard identified in Part 3 to reduce or avoid long-term vulnerabilities to hazards; describes a comprehensive range of specific actions and projects that are consistent with the mitigation goals with particular emphasis on reducing impacts to buildings and infrastructure; and describes how the actions will be prioritized, implemented and administered.

Part 5 – Plan Maintenance Process and Formal Adoption: Describes the method and schedule for monitoring, evaluating and updating the mitigation plan every five years and how public participation will be sought in the process; describes the process by which the community will incorporate the requirements of the plan into other planning mechanisms such as comprehensive or capital improvement plans; provides documentation that the plan was formally adopted by each participating governing body. The hazard mitigation plan can be

a stand-alone document or it can be incorporated into other plans such as a regional, watershed or comprehensive plan, as long as all of the federal criteria are met. If a community is developing a comprehensive plan, much of the information and data collected for the plan will be useful in the development of the hazard mitigation plan. In a comprehensive plan, communities address a range of issues including land use, transportation, housing, economic development, utilities, and park and open spaces. In many cases, however, they fail to address the hazards that impact their community. A true “comprehensive” plan should address the hazards faced by a community and identify appropriate mitigation strategies to reduce those hazards. Figure 1 on page 5 describes hazard mitigation planning concepts and illustrates how to integrate these concepts into the elements of a comprehensive plan or hazard mitigation plan.

Status of Hazard Mitigation Plans
 Since 2002, over \$4.7 million has been provided through FEMA mitigation programs to assist Wisconsin local governments and tribal organizations in the development and maintenance of mitigation plans. Currently there are 44 plans that have been approved by FEMA (32 county-wide plans, 11 single-jurisdiction plans, and 1 tribal plan), 2 are pending approval, and 32 are under development (25 county-wide, 6 tribal, and 1 university). Upon approval, participating jurisdictions are eligible to apply for mitigation funds to implement eligible mitigation measures identified in the plan.

Wisconsin Emergency Management has administered \$50 million in grants to provide mitigation assistance to state and local governments. For more information regarding hazard mitigation planning and grant programs, contact Roxanne Gray at 608-242-3211, or Roxanne.gray@wisconsin.gov



For More Information Visit:
Wisconsin Emergency Management:
 Site includes the State of Wisconsin Hazard Mitigation Plan, local planning guidance, community success stories, as well as other information.
emergencymanagement.wi.gov (click on Hazard Mitigation).
Federal Emergency Management Agency:
 Planning Resources – www.fema.gov/plan/mitplanning/index.shtm
 Mitigation Grant Programs – www.fema.gov/government/grant/fs_mit_grant_prog.shtm

Figure 1: The Relationship between Comprehensive Plans and Hazard Mitigation Plans

Comprehensive Plan	Hazard Mitigation Plan	Natural Hazard Planning Concepts
Issues and Opportunities	Parts 1 and 2	<ul style="list-style-type: none"> Summarize the major hazards the community is most vulnerable to Include proposals to mitigate future losses from hazards
Housing	Parts 1, 2, 3 and 4	<ul style="list-style-type: none"> Inventory and map residential properties in the floodplain including repetitive loss structures and surveyed elevation points to assist in preparing flood damage assessments Map the location of mobile home courts due to their vulnerability to high winds Determine the percentage of low and moderate income residences that are subject to flooding or other hazards Provide residential design recommendations to reduce hazard risks Determine short-term housing-shelter opportunities for disaster victims Identify homeowners located in floodplains or other hazard areas that may be interested in a voluntary buyout
Transportation	Parts 1, 2 and 3	<ul style="list-style-type: none"> Identify transportation routes or facilities that are more at risk during various hazard events (such as winter storms, fog, high winds, flooding, etc.) and make recommendations to mitigate these risks Identify transportation system improvements that are necessary to accommodate disaster response Describe and map existing or proposed evacuation routes and signage
Utilities and Community Facilities	Parts 1, 2, 3 and 4	<ul style="list-style-type: none"> Identify and map critical facilities such as shelters, hospitals, police stations Identify utilities that are more at risk during various hazard events and make recommendations to mitigate these risks Identify key contacts for critical facilities and services
Agricultural, Natural and Cultural Resources	Parts 1, 2, 3 and 4	<ul style="list-style-type: none"> Identify and map the floodway and flood fringe of the floodplain Identify and map any agricultural, natural, and cultural resource areas that are more at risk to various hazards (such as flooding, high winds, forest fires, etc.) and make recommendations to mitigate losses from these hazards
Economic Development	Parts 2, 3 and 4	<ul style="list-style-type: none"> Describe the economic impact of past disasters and what is being done to mitigate the effects Identify existing business or industry centers subject to hazards Identify locations for new and expanding businesses free from hazards Identify grant programs that can assist in the clean-up and reuse of sites
Intergovernmental Cooperation	Parts 1, 3, 4 and 5	<ul style="list-style-type: none"> Identify any intergovernmental police, fire and rescue service sharing agreements that are in effect or merit investigation Identify intergovernmental hazard warning and communication systems that are in effect or merit investigation Utilize the detailed inventory research and mapping requirements in the hazards mitigation plan to broker intergovernmental agreements on cost-sharing and resource pooling on government services and facilities
Land Use	Parts 1, 2, 3 and 4	<ul style="list-style-type: none"> Describe how past hazards have impacted land use and what is being done or recommended to mitigate negative land use impacts from hazards Include as much elevation information as practical on land use and floodplain maps to assist in flood damage assessment Encourage the mapping and identification of hazard areas such as floodplains, fire-prone areas, hazardous material sites, steep slopes, and soils with limitations for building site development
Implementation	Parts 1 and 4	<ul style="list-style-type: none"> Identify and prioritize hazard mitigation programs, policies and actions identified in the comprehensive plan and previous hazard mitigation plans

THE TRANSPORTATION ASPECT OF DISASTER PLANNING

By Barbara Feeney, AICP

Stalled cars clog Texas highways



Photo: Ralph Lauer / Associated Press

Motorists flee prior to Hurricane Rita



Photo: Brett Coomer / Houston Chronicle

Evacuees wait in line for gas



Photo: Mark M. Hancock / The Beaumont Enterprise

With the multitude of responsibilities pulling at community planners and administrators, it is no surprise that there is a temptation to postpone planning for a catastrophic event that may never come. Yet, events that occurred in the aftermath of Hurricanes Katrina and Rita provide convincing evidence for the need to do so. Every community in a zone that could be affected by a natural disaster has the obligation to develop a plan that can be implemented when catastrophe strikes. Local historians and a variety of experts can assist in evaluating the likelihood of a natural disaster. Communities also need to evaluate the extent to which they should prepare for the unnatural disaster—such as an accidental chemical release, or a terrorist release of deadly chemical or nuclear materials.

The experiences of 9/11 and the hurricanes of 2005 demonstrate what are perhaps the most critical elements of disaster planning—an effective chain of command and a communications system involving all entities that have a response role, at all levels of government.

Planning for Transportation

A key element in responding to a disaster requiring evacuation is that of transportation. According to Todd Litman of the Victoria Transport Policy Institute, Hurricanes Katrina and Rita exposed two opposite weaknesses in disaster response. In New Orleans, there was a devastating failure to have a plan to evacuate those who had no vehicle—some of these individuals also had other barriers, such as disability or limited mobility due to age. In Texas, the weakness appeared to be the failure to plan for too many private vehicles flooding onto evacuation routes.

No simple, one-size-fits-all formula is obvious. An evaluation of each community's needs and points of

vulnerability is needed. For starters, some rough-sketch estimates are needed of:

- the number of households to be evacuated
- the number of those households with a vehicle
- the number of households without a vehicle needing another form of transport
- the number of individuals in care facilities needing transport
- the number, size and location of bus fleets that could be used
- the capacity of available evacuation routes

Transit has a critical role in efficiently moving large numbers of people quickly out of a disaster zone. Giving priority to transit vehicles on the evacuation route is efficient and would encourage the use of transit.

While the use of private vehicles can be questioned in a time of disaster, they allow households to go to homes of family or friends outside the disaster area—thus not burdening whatever emergency shelter system is devised for those who are evacuated by other means. Disaster planners may wish to consider prohibiting single-occupant vehicles from entering evacuation routes and prohibiting the towing of trailers, boats and campers which consume valuable road capacity. Evaluating the appropriate role of private vehicles requires some initial road capacity estimation. Restricting the use of private vehicles will be unacceptable to the public unless some analysis has been done as part of a thorough planning effort that demonstrates the need.

The use of inbound lanes for outbound travelers is an obvious means to quickly increase evacuation route capacity. Nonetheless, experiences in Texas demonstrate the need to reserve some inbound lanes for moving resources into the disaster zone. Inbound lanes are also needed



to deploy transit vehicles back into the affected areas to pick up additional passengers.

Planning for the evacuation of individuals with limited mobility (the elderly and/or disabled) is a complicated venture. One obvious target is the concentration of individuals in care facilities. Any evacuation plan should consider how to quickly deploy transit vehicles and personnel that are able to accommodate special needs such as wheelchairs, oxygen devices and other critical medical devices.

Existing social and service organizations have a role to play in evacuating limited mobility individuals that are dispersed throughout a community. A community-wide disaster planning effort should encourage churches, social clubs, senior centers and other similar organizations to develop a “buddy system” where individuals without mobility are paired with someone who has the means to assist them. These networks can lighten the burden on the public sector, yet do not eliminate the need for public sector planning. The fall-back for those without other assistance could be a phone-in system to request transportation out of the disaster area. Planning for adequate telephone line and dispatcher capacity is critical to making this system work. Such a system needs to accommodate non-English speakers and persons with auditory and vocal disabilities.

For individuals who have personal mobility but no vehicle, pre-identified transit pick-up locations could be used. Here again, the command structure must be ready to deploy transit vehicles, and the public must know ahead of time where the stops are located. These locations could also be used by individuals who are able to accommodate additional passengers in their private vehicles.

One easily overlooked issue is personnel. Disaster planning should designate critical personnel

that are expected to participate in evacuation activities. Bus drivers, health care workers, care facility administrators and workers, and telephone dispatchers are among those that would be essential in times of disaster. To ensure that these workers are comfortable staying on the job, an evacuation plan for their families is needed.

Another issue is how the evacuation of school children will be handled if a disaster strikes while school is in session. Parents would be unwilling to leave without their children unless there is a widely-known plan for transporting children to safety. Without such a plan, the nightmare scenario to unfold is hundreds of vehicles clogging streets near schools and delaying the evacuation of all. The plan must include a systematic approach for evacuating children and re-uniting them with their parents.

Getting Started

The effort to develop a disaster response plan is significant, and every community must evaluate the level of risk it faces and the degree of planning effort that the risk requires. An effective plan requires a truly collaborative approach. Technical analysis and internal government planning alone will not be sufficient because there are challenging issues related to how individuals react at times of crisis. Addressing the needs of the most at-risk individuals requires a flexible and community-based approach. Community buy-in will be essential because successful results depend upon citizen cooperation. Community education must be early and on-going because a time of crisis is no time to start the conversation.

For those communities looking to start a disaster planning process, the U.S. Department of Transportation, Office of Civil Rights is a source of good information, particularly related to special needs of individuals with limited mobility. The DOT/OCR website is a useful starting point (www.dotcr.ost.dot.gov/default.asp). In Wisconsin,

School buses are used to evacuate citizens



Photo: Tim Johnson / Reuters

Elderly and disabled receive special assistance



Photo: Tim Johnson / Reuters

Evacuees gather at overpass to await rescue



Photo: Marty Bahamonde / FEMA



Flooded roadways and neighborhoods



Photo: FEMA / illinoisphoto.com

Destroyed Mississippi gulf highway



Photo: FEMA / illinoisphoto.com

FEMA search and rescue teams



Photo: Jocelyn Augustino / FEMA

the Department of Emergency Management is an additional resource (emergencymanagement.wi.gov/). Metropolitan planning organizations (MPOs) can be key partners in the planning process and could be tapped for assistance with matters such as estimating evacuation route capacity. They are already an established forum for communities in metropolitan areas to collaborate on transportation planning issues and may be able lead the planning effort. Their potential role is discussed in a paper by Michael D. Meyer, referenced below.

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References

Cahalan, Clare and John Renne. "Emergency Evacuation of the Elderly and Disabled." *Intransition*. Spring 2007. www.intransitionmag.org

Litman, Todd. "Lessons from Katrina and Rita: What Major Disasters Can Teach Transportation Planners." Victoria Transport Policy Institute. 2006. www.vtpi.org/katrina.pdf

Meyer, Michael D. "The Role of the Metropolitan Planning Organization (MPO) in Preparing for Security Incidents and Transportation System Response." Georgia Institute of Technology. www.planning.dot.gov/Documents/Securitypaper.htm

DISASTER PLANNING AND RECOVERY RESOURCES

APA Planning Advisory Service Reports

Planning for the Unexpected: Land-Use Development and Risk (PAS 531)

Planning for Wildfires (PAS 529/530)

Planning for Post-Disaster Recovery and Reconstruction (PAS 483/484)

Subdivision Design in Flood-Hazard Areas (PAS 473)

Planning for Hillside Development (PAS 466)

www.planning.org/pas/reports.htm

Addressing Your Community's Flood Problems: A Guide for Elected Officials

A publication of the Association of State Floodplain Managers and the Federal Interagency Floodplain Management Task Force to help officials take action and ward off problems from future flooding.

www.floods.org/PDF/Addressing_Communitys_Flood_Problems.pdf

Smart Communities Network – Disaster Planning

This website includes links to publications, case studies, codes and ordinances, and other materials to assist communities with sustainable disaster planning.

www.smartcommunities.ncat.org/disaster/disintro.shtml

UW-Extension Disaster Handbook

This handbook helps county agents provide immediate assistance and information for natural disaster planning and mitigation.

www.uwex.edu/ces/news/handbook.html

Disaster Assistance: A Guide to Recovery Programs

This guidebook contains brief descriptions and contact information for Federal programs that may be able to provide disaster recovery assistance to eligible applicants.

www.fema.gov/pdf/rebuild/ltrc/recoveryprograms229.pdf



WITH GROWING HOPE: A STUDY OF THE AUGUST 2007 KICKAPOO FLOOD IN THE VILLAGE OF GAYS MILLS

By Laura Brown, Crawford County Community Development Educator

In rural areas as bucolic as the farming communities of southwest Wisconsin, planning for a disaster is often the furthest thing from anyone's mind. It certainly was for me when in June 2007 I moved into an old quaint farmhouse on an apple orchard just above the village of Gays Mills. The "driftless" region, as this area of southwest Wisconsin is known, is characterized by unique rolling hills, coulees (valleys), and streambeds that were left untouched during the last glaciers. Crawford County is in the heart of the driftless region bounded by the Wisconsin and Mississippi Rivers and divided by the Kickapoo River. The village of Gays Mills, population 625, sits in a coulee along the Kickapoo River and is known for its ridge-top apple orchards and ample opportunities for outdoor exploration. While residents of the area are accustomed to dealing with floods, (according to one resident this typically meant "sandbagging and drinking coffee together") no one anticipated that in August 2007 Gays Mills would be engulfed by over four feet of rushing river water resulting in the most destructive flood in the village's recorded history.

From Saturday, August 18 through Sunday, August 19, 2007, southwestern Wisconsin received over twelve inches of rain causing extreme overland and river flooding along the Kickapoo River. The villages of Gays Mills and Soldiers Grove and nearby rural areas were most affected; at its peak the Kickapoo River at Gays Mills reached a crest of 19.79 feet or 6.79 feet above flood stage. According to County Sheriff Jerry Moran (as printed in the Crawford County Independent on August 23, 2007) "It's the worst flooding we've ever seen...worse than the 1978 flood for sure." The previous river peak record was set at 19.8 feet in 1978 and serious flooding had occurred in the area, on average, every 20 years or so. In a report of the

August flooding event, the La Crosse National Oceanographic Atmospheric Administration writes "When asked to provide a recurrence interval estimate for this event, an investigator should note the enormous gap between the 100-year 24-hour threshold (six inches), and the fifteen or more inches that fell during a 24-hour period on that ill-fated weekend." The report places the probability of the flood "considerably below" one percent and closer to a 1,000 year flood.

The Initial Response

At 2:30 am on Sunday morning the county emergency manager, Roger Martin, was contacted in response to flooding in Soldiers Grove, just northeast of Gays Mills along the Kickapoo River. The river rose quickly and by 7:00 am on August 19, downtown Gays Mills was being evacuated and a state of emergency had been declared. Residents of the more than 75 flooded homes in the village were evacuated by boat and offered shelter at the fire station and a Red Cross shelter that had been established at a local school. Many county roads were blocked by floodwaters or mudslides.

In a recent conversation with Martin about the response effort I learned that the emergency management system is set up as a chain of command such that each level of command contacts the higher level only when capacity is overwhelmed; the local emergency manager contacts Wisconsin Emergency Management or the state patrol, and the state then contacts federal officials and the National Guard. By 5:00 pm on Sunday evening the National Guard was on call for deployment. The Federal Emergency Management Agency (FEMA) did not open a facility in the village until August 11, 2007, eleven days after the disaster. Fortunately, local officials, public works staff and first responders had all been recently

Driftless area farm



Kickapoo River bluff



View of ridge tops



Photos: Jerry Quebe



*Entrance to Gays Mills
from Route 171*



*Main Street Gays Mills
during the flood*



*Another view of Main
Street Gays Mills*



Photos: Crawford County Independent

trained in NIMS, the National Incident Management System, a standardized response system that allows local agencies to coordinate through daily briefings and shared action plans. Thanks to a successful initial response, there were no injuries or fatalities.

While the full extent of the damage would not be known for weeks or months, Wisconsin Emergency Management released an estimate that in Crawford County alone about 225 homes were affected resulting in \$4.8 million in damage to households and \$3.6 million in damage to public infrastructure. Rural areas surrounding the Kickapoo suffered the loss of hundreds of thousands of dollars in crops, machinery, and livestock. Approximately 25 homes were completely destroyed and 50 were designated “substantially damaged,” meaning the cost to repair the structure exceeded its fair market value by 50 percent or more. Upon repair or reconstruction, these structures would have to be elevated or otherwise flood-proofed to meet the minimum requirements of the National Flood Insurance Program.

Putting A Village Back Together

The initial emergency effort after the flood was largely coordinated by Wisconsin Emergency Management. Emergency managers and FEMA maintained a local office for several weeks encouraging residents to register for federal flood compensation. Once these organizations closed shop, village residents became suddenly responsible for coordinating the efforts of hundreds of remaining volunteers, managing truckloads of donated goods, and figuring out how to handle thousands of dollars of monetary donations to households. Within several weeks of the flood the Village Board designated a group of volunteers as an official “Flood Planning Committee” with the charge of making planning recommendations. Without much direction, the group struggled to handle the basic needs of residents dealing with “buy-out” and “mitigation” program deadlines, and

the desire of many residents to start moving forward with a new vision for the village. A local non profit community development organization that had handled a large housing relocation project in Prairie du Chien in the 1970’s stepped in to provide technical assistance with buy-out and flood mitigation applications.

Apart from the official reports from Wisconsin Emergency Management, little documentation is available from the days and weeks after the flood. The local newspaper, the Crawford County Independent, continued to publish from an office outside the county but local libraries did not save paper issues and electronic copies of articles were saved inconsistently. In the early planning meetings, minutes were not taken since no one was given any clear mandate to lead and most local officials were taxed from the time and efforts of the initial response.

The seeming lack of coordination in those early weeks was understandable given that many volunteers were dealing with their own damaged homes and emotional trauma. But the flood also occurred at a difficult time for the village. The clerk had been out with a long term illness and the librarian had agreed to fill in with little time for training. When the flood occurred, the village office (and the interim clerk) became a hub of communication for information-hungry residents. Literally hundreds of individuals, as well as local, state and federal organizations such as the National Guard, Red Cross, Salvation Army, Department of Health and Family Services, Department of Natural Resources, the State Patrol, Americorps, Catholic Charities, Department of Corrections and, of course, FEMA, held meetings, assessed damages, and provided donations and services to local residents. This sometimes led to confusion and frustration. At one point, the interim clerk describes, “FEMA was giving out money so folks could make their homes ‘safe, sanitary, and secure’ but the DNR was telling people in substantially



damaged structures that they could not occupy their homes.” Another local official added “...there were too many agencies involved and people were confused about what they could and could not do. Homes would get ‘red tagged’ as uninhabitable and no one would know who was issuing the tags or why. People became overwhelmed by the amount of information they were getting from these agencies and subsequently shut down to all of it.”

The Long Road to Recovery

I attended many of the early meetings of the flood planning committee in Gays Mills but given my lack of expertise with their specific questions about housing relocation and flood mitigation, and with no clear request for leadership or specific information, Extension’s role was not immediately clear. Knowing that many of the businesses in town were damaged and would not get much response from FEMA I coordinated business counseling sessions with about 15 businesses and our local Small Business Development Center counselor. Since those early meetings the flood planning committee has divided itself into research groups on the topics of economic development, utilities, flood mitigation, alternative energy, and housing, and I have continued to provide the groups with educational resources on an as-needed basis.

Prior to the August 2007 flood, Gays Mills had adopted the County’s

Hazard Mitigation Plan. (Adoption of a plan is a requirement for the National Flood Insurance Program that allows residents in flood prone areas to purchase insurance.) The plan contains only four sentences regarding “Flood Warning and Evacuation Plans for the Kickapoo River” all pertaining to the possibility of a dam breach on a creek north of Gays Mills with no mention of the downtown. The county is currently in the process of updating the plan.

In October, the community development agency working with the flood committee hired a professional facilitator to initiate a visioning process; what they hope will be the first step toward a comprehensive community plan. It was clear from the first visioning session, held February 23rd, that Gays Mills still has a very long road to tread in a process of recovery. Fortunately, the community is beginning to come to terms with the scope of the effort ahead. While the residents continue to sort through disagreement, confusion, uncertainty, and economic concerns, resident Kay Smiley expressed the hope for cooperation and healing: “As we plan to gather for a community visioning event, I hope we can also see beyond demographics and economic development to include healing and improved relationships, to a future where ‘the fathers hearts will be turned to the children and the children to their fathers,’ where anger and fear will not have a place...”

Residents begin the cleanup effort



Residents gather in the community building for an information meeting



Photos: Crawford County Independent

Flooding Prompts Village Relocation

A massive flood event in 1978 resulted in a federally funded main street relocation and redevelopment effort in the Village of Soldiers Grove. Over four years, from 1978 to 1983, downtown Soldiers Grove was moved and transformed into “Solar Town” the nation’s first solar business district comprised of over twenty energy efficient, solar-panel powered businesses and public buildings. Many believe that this downtown redevelopment project spared Soldiers Grove residents and businesses from significant damage in the recent flood.

For more information visit:

www.soldiersgrove.com/Floods.htm
www.smartcommunities.ncat.org/articles/RFTF1.shtml

Aerial of downtown Soldiers Grove during a 1951 flood.

Photo: Betty France



Soldiers Grove in its new location along US Hwy 61, relocated to avoid flooding.

Photo: Jerry Quebe



Submit Articles!

Please submit an article to our newsletter.

It should be:

- 1,000 words or less,
- Informative,
- Of statewide concern,
- And address a land use issue.

The managing editor will review your submission and get back to you if any changes are necessary.

Managing Editor
Rebecca Roberts

CLUE WORKSHOPS

PLAN COMMISSION BASICS

March 19, 2008, Ives Grove Office Complex, Sturtevant, WI

UNDERSTANDING ZONING AND ITS USES AND IMPLICATIONS

March 26, 2008, Local Government Center, Balsam Lake, WI

ZONING BOARD OF APPEALS AND ADJUSTMENT

March 27, 2008, Sauk County West Square Building, Baraboo, WI

WISCONSIN COMPREHENSIVE PLANNING LAW AND THE PLAN COMMISSION

April 16, 2008, Crawford County Highway Building, Seneca, WI

PUBLIC PARTICIPATION IN THE PLANNING PROCESS

May 6, 2008, Crawford County Highway Building, Seneca, WI

ZONING BOARD OF ADJUSTMENT AND APPEALS

May 7, 2008, Waukesha County Courthouse, Waukesha, WI

IMPLEMENTING THE PLAN

May 22, 2008, Crawford County Highway Building, Seneca, WI

For additional information and registration details, visit:
www.uwsp.edu/cnr/landcenter/workshops.html

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