

# Natural Hazards Mitigation Plan

## Executive Summary

### 1. Introduction

Kane County Illinois is subject to natural hazards that threaten life and health and have caused extensive property damage. Floods struck the County in 1993, 1996, 2007, 2008, 2011 blizzards in 1999, 2000, and 2011, and tornadoes in 1990, 1991, 1993, 2003, 2004, 2009, and 2010. To better understand these hazards and their impacts on people and property, and to identify ways to reduce those impacts, the County's Department of Environmental Management and Office of Emergency Management jointly undertook this *Natural Hazards Mitigation Plan*.



**July 18, 1996, Blackberry Creek Flood**

Source: Chris Dagiantis,  
Kane County Development Department



**Kings Road and Amarillo in  
Carpentersville, August 23, 2007**

Source: Carpentersville Fire Department

Mitigation activities need funding. A mitigation plan is now a requirement for Federal mitigation funds. Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165) states that after November 1, 2003, local governments applying for *pre*-disaster mitigation funds must have an approved local mitigation plan. After November 1, 2004, a plan will also be needed for *post*-disaster mitigation funds under the Hazard Mitigation Grant Program. These requirements are spelled out in 44 CFR (Code of Federal Regulations) Part 201.

This *Plan* was prepared by the Natural Hazards Mitigation Planning Committee, created by a resolution of the Kane County Board. The Committee's members include representatives of County offices, interested municipalities, and public and private stakeholder organizations.

The *Plan* identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage caused by natural hazards. It focuses on the five major natural hazards facing Kane County: floods, tornadoes, earthquakes, thunderstorms and winter/ice storms. **The full *Natural Hazards Mitigation Plan* can be reviewed or downloaded at [www.kcoem.org](http://www.kcoem.org)**

## 2. Hazard Analysis

The Kane County Natural Hazards Mitigation Planning Committee performed an analysis of the five major natural hazards, severe storms, floods, severe winter storms, earthquake, and tornado to identify those natural hazards that have, in the past, and in all likelihood will continue to impact Kane County with various levels of severity and frequency in the future.

Kane County has received ten (10) federal disaster declarations since 1990; five (5) for flooding events, three (3) as a result of blizzards or severe winter storms, and two (2) resulting from tornadoes.

The 2013 Illinois Hazard Mitigation Plan gave Kane County the following hazard ratings:

County	Population	Severe Storms	Floods	Severe Winter Storms	Drought	Extreme Heat	Earthquake	Tornado
Kane	515,269	Severe	Elevated	High	Guarded	Guarded	Guarded	Elevated

## 3. Goals

Based on the hazard analysis, the Committee selected tornadoes, floods, thunderstorms and winter storms as the primary concerns. After a review of other plans and goals, the following goals and guidelines were set for the planning process:

- Goal 1. Protect the lives and health of the citizens of Kane County from the effects of natural hazards.
  - Goal 2. Encourage self-help and self-protection measures to mitigate the effects of natural hazards on private property.
  - Goal 3. Protect critical facilities and public infrastructure with public funds.
  - Goal 4. Identify specific projects to mitigate damage where cost-effective and affordable.
  - Goal 5. Reduce the number of repetitively damaged existing structures
- Guideline 1. Focus natural hazards mitigation efforts on tornadoes, floods, thunderstorms and winter storms.
  - Guideline 2. Encourage people to assume some responsibility for their own protection.
  - Guideline 3. New developments should not create new exposures to damage from natural hazards.
  - Guideline 4. Local initiatives should focus on protecting citizens and public property.
  - Guideline 5. Seek county, state, and federal support for special projects.
  - Guideline 6. Preserve open space in hazardous areas, especially where they are sensitive natural areas and agricultural land.
  - Guideline 7. Be consistent with existing plans.

#### **4. Preventive Measures**

The Committee reviewed a variety of mitigation measures to protect new construction from hazards and see that future development does not increase potential losses. It was found that building code standards and their enforcement were generally good, but could be improved. Land use plans, zoning ordinances and subdivision standards could better address natural hazards. Training would improve enforcement of mobile home installation and the County's stormwater management ordinance.

#### **5. Property Protection**

Property protection measures are used to modify buildings or property subject to damage. They include acquisition, barriers, retrofitting, and insurance. These measures are implemented by the property owners, so appropriate government activities include public information, technical assistance and financial support. Special attention is given to designated repetitively flooded areas. Government offices need to protect their own properties, including making sure they are adequately insured for all hazards.

#### **6. Resource Protection**

Resource protection activities are generally aimed at preserving (or in some cases restoring) natural areas. They include preserving wetlands and farmland, erosion and sedimentation control, preventing dumping in streams and urban forestry. Except for dumping, the County and the municipalities have very effective regulatory programs. Urban forestry programs are encouraged to protect utility lines during wind and ice storms.

#### **7. Emergency Services**

It was concluded that warning programs are good, although more could be done for rural areas and for flood warning on smaller streams. Most emergency response plans do not have hazard-specific procedures. As with the other measures, public education can help greatly. Informed people can find out what the threats are on their own and can take appropriate actions to protect themselves and their property.

#### **8. Structural Projects**

Most past projects, such as levees and reservoirs have been successful in controlling flooding, but at a cost. They are expensive and, without property precautions, they can be environmentally destructive. They only protect to a specified design level (a levee in Montgomery was overtopped by the July 1996 flood). The Committee identified the greatest need was to set criteria to ensure structural projects do not adversely affect other properties or natural functions. It also recommended a formal and regular program of drainage system maintenance.

## 9. Public Information

Almost every measure reviewed would benefit from a public information program. The Committee reviewed outreach projects, real estate disclosure, providing background information to libraries and on websites, and providing technical assistance. Top messages to convey were identified and the most effective media to convey those messages are listed.

## 10. Action Plan

Chapter 10 is the culmination of the Committee's work. It includes 10 programmatic action items, 2 public information action items, and 3 actions to administer and support a County-wide mitigation program to reach the four goals.

The original planning committee was replaced by a standing Mitigation Coordinating Committee to monitor execution of the *Plan* and act as a forum for hazard mitigation ideas and issues.

### 10.1. Program Action Items

- 1. Building Code Improvements:** Adopt the latest International series of codes, the new national standard that is being adopted throughout the country. Additional code revisions should be pursued to strengthen new buildings against damage by high winds, tornadoes and hail.
- 2. Improved Code Enforcement:** Develop and conduct training for building department staff on the natural hazards aspects of the International Codes, regulation of mobile home installation, and the new County stormwater ordinance and its flood and natural resource protection provisions.
- 3. Review of Plans and Development Regulations:** When they are up for revision, comprehensive plans, land use plans, and zoning and subdivision ordinances should incorporate mitigation provisions.
- 4. Retrofitting Incentives:** Establish a program of technical assistance and financial incentives to encourage property protection measures on private property.
- 5. Repetitive Loss Projects:** Protect buildings in the five priority repetitive loss areas through acquisition or elevation. Seek funding support.
- 6. Drainage Maintenance:** Implement a formal and regular drainage system maintenance program.
- 7. Urban Forestry:** Implement an urban forestry program that qualifies the municipality to become a Tree City, USA.

- 8. Flood Threat Recognition:** Determine whether it would be worthwhile to add rain and stream gages and develop a central gage monitoring capability for flood and flash flood predictions.
- 9. Improved Emergency Response:** Conduct a review of emergency response plans and programs to identify where additional activities are needed to respond to natural hazards.
- 10. Flood Control Projects:** Implement flood control projects, including farm drainage and bridges and culverts improvements, where they prove to be the most appropriate approach to reduce flood damage, but make sure they meet certain criteria.

## **10.2. Public Information Strategy Action Items**

- 11. Hazard Mitigation Materials:** Prepare background information, articles, and other explanations of hazard mitigation topics and provide them to County, municipal, and private offices for use in presentations, newsletter articles, webpages, brochures and other outreach projects.
- 12. Outreach Projects:** Prepare and disseminate outreach projects based on the materials provided under action item 12. Such projects should include articles in newsletters, news releases, directed mailings, handouts, websites, and displays.

## **10.3. Administrative Action Items**

- 13. Plan Adoption:** Adopt this *Natural Hazards Mitigation Plan* by passing a resolution. The County's resolution creates the Mitigation Coordinating Committee. The municipal resolutions adopt each action item that is pertinent to the community and assign a person responsible for it.
- 14. Mitigation Coordinating Committee:** Convert the Natural Hazards Mitigation Planning Committee to a permanent advisory body. It would act as a forum for hazard mitigation issues, monitor implementation of this *Plan*, and report on progress and recommended changes to the County Board and each municipality.
- 15. Community Rating System:** Following a workshop, each municipality and the County would review floodplain management activities currently undertaken and those recommended by this *Plan* and decide whether to apply for a Community Rating System flood insurance premium rate discount for its residents.

**10.4. Action Items Completed Since the 2009 Update:** list of all the action items jurisdictions have completed since the last update.

**10.5 Action Items Removed at the Jurisdictions Request:** list all action items that have been removed since the last update at the jurisdictions request.

