

# Natural Hazards Mitigation Plan

## Kankakee County, Illinois

### Executive Summary

#### 1. Introduction

Kankakee County's first Natural Hazards Mitigation Plan was adopted by the Kankakee County Board on October 11, 2005 and approved by FEMA and IEMA on January 23, 2006. The following plan is an update to that plan and utilizes the same format and structure as the original.

Kankakee County is subject to natural hazards that threaten life, safety, health, and welfare and cause extensive property damage. To better understand these hazards and their impacts on people and property, and to identify ways to reduce those impacts, the Kankakee County Regional Planning Department undertook this *Natural Hazards Mitigation Plan*.

This *Plan* was developed under the guidance of a Mitigation Advisory Task Force. All municipalities within Kankakee County were invited to participate and interested municipalities were asked to pass a resolution stating their commitment to the plan's development. These are listed in the table to the right. It can be seen by the population information that both large and small communities participated. Kankakee Community College and three (3) fire protection districts also opted to participate as separate local governments.

This *Plan* fulfills the planning requirements for Federal mitigation funding programs, qualifies for Community Rating System credit, and provides the County and its municipalities with a blueprint for reducing the impacts of these natural hazards on people and property.

#### 2. Hazard Profile

The *Plan* addresses the eight major natural hazards facing Kankakee County:

- Overbank flooding
- Local drainage problems
- Tornadoes
- Earthquakes
- Winter storms
- Thunderstorms
- Drought/heat
- Wildfire

Chapter 2 reviews these hazards, historical events, the frequency or likelihood of future occurrences, and where they occur. Some can hit any area of the County, but flooding

| Municipal Participation |            |
|-------------------------|------------|
| Community               | Population |
| Aroma Park              | 743        |
| Bourbonnais             | 18,631     |
| Bradley                 | 15,895     |
| Kankakee                | 27,537     |
| Manteno                 | 9,204      |
| Momence                 | 3,310      |
| Sun River Terrace       | 528        |
| Uninc. County           | 28,698     |

| Fire District Participation |  |
|-----------------------------|--|
| Bourbonnais FPD             |  |
| Kankakee FPD                |  |
| Manteno FPD                 |  |

| Other Participants              |  |
|---------------------------------|--|
| Economic Alliance               |  |
| Kankakee Community College      |  |
| Kankakee County Health Dept.    |  |
| Kankakee County Highway Dept.   |  |
| Kankakee County Sheriff's Dept. |  |

and wildfires have been limited to floodplains and the southeast corner of the County, respectively.

### 3. Vulnerability Assessment

This chapter reviews how vulnerable Kankakee County is to property damage, adverse impact on the local economy, and threats to public health and safety. There are over 40,000 buildings in the planning area subject to some level of damage from the eight natural hazards.

Chapter 3 provides tables that show the estimated damage to these buildings from an occurrence of each hazard. These are shown by community. At the end of the chapter, the damage figures for one occurrence are multiplied times the annual chance of an occurrence.



Similar reviews are given for the impact of the eight hazards on the local economy, on safety, and on health. This assessment concluded:

1. The natural hazard that causes the most property damage is overbank flooding. Local drainage and thunderstorms come in second.
2. Tornadoes cause the most economic disruption. However, on a regular basis, winter storms are more disruptive and cost local governments more than the other hazards.
3. Tornadoes and drought/heat kill more people, but from an overall safety and health concern, more attention should be given to winter storms and thunderstorms.
4. Overbank flooding affects the County, Kankakee City, Bradley and Bourbonnais the most. Affected to a lesser extent are Aroma Park, Manteno, Momence, and Sun River Terrace. The other municipalities have no mapped overbank flood hazard.
5. Repetitive flood losses are almost all along the Kankakee River.

### 4. Goals

After a review of the goals and objectives statements of existing County and municipal plans and a Task Force exercise, five goals statements were adopted:

1. Protect the lives, health, safety, and welfare of the people of Kankakee County from the dangers of natural hazards.
2. Place a priority on protecting public services, including critical facilities, utilities, roads, and schools.
3. Educate people about the hazards they face and the ways they can protect themselves, their homes, and their businesses from those hazards.
4. Manage future development to minimize the potential for damage from natural hazards and adverse impacts on other properties.

5. Preserve and protect the rivers and floodplains of the County.

## 5. Preventive Measures

The objective of preventive measures is to protect new construction from hazards and see that future development does not increase potential losses. One reason preventive measures are important is because Kankakee County is growing. Between the 2000 and 2010 Censuses, the County's population increased by 9%. In addition to new development, there has been a substantial amount of redevelopment. A prime concern in hazard mitigation has been conversion of riverfront summer cabins to year-round residences.



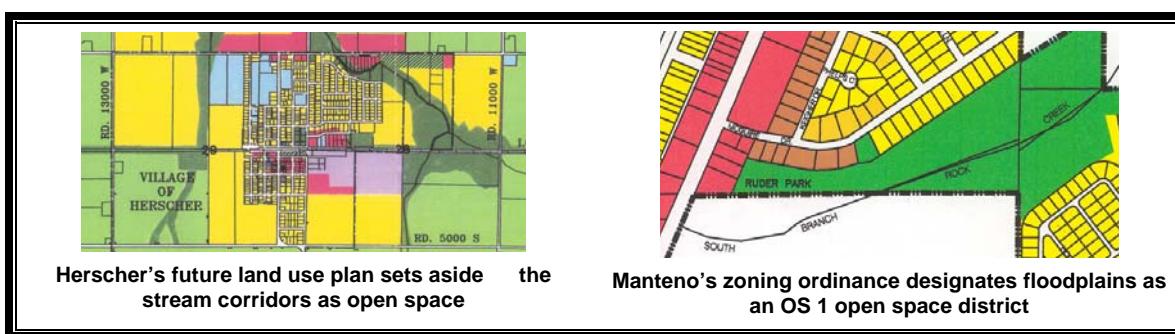
New subdivision in rural Kankakee County

Seven types of measures are reviewed in Chapter 5:

- Planning and zoning
- Subdivision regulations
- Building codes
- Manufactured housing regulations
- Floodplain management
- Stormwater management
- Water use management

The review of how these measures could be used and how they are currently being implemented concluded:

- Only a few of the land use plans and zoning ordinances address floodplains and the need to preserve hazardous areas from intensive development. Two good examples are shown below.
- Most communities have appropriate hazard protection provisions in their subdivision regulations and in their building codes (if they have the International Code series).
- Administration of building codes, manufactured home installation, and floodplain regulations by the County and several municipalities could be improved.
- A good stormwater management program will help prevent increased flooding and drainage problems caused by new development.



## 6. Property Protection

Property protection measures are used to modify buildings or property subject to damage. Chapter 6 covers the following approaches:

- Relocating the building out of harm's way,
- Erecting a barrier to keep the hazard from reaching the building,
- Modifying the building so it can withstand the impacts of the hazard,
- Modifying the sewer lines to prevent sewer backup,
- Taking care of nearby trees that may damage the building and utilities, and
- Insuring the property to provide financial relief after the damage occurs.



**This barrier in Otto Township protects the home from flooding from the stream to the left.**



**Elevated home on the Kankakee River**

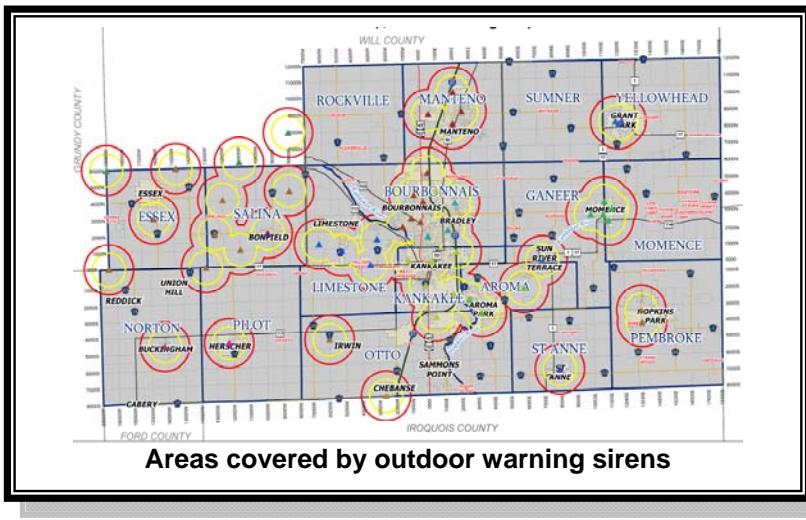
Chapter 6's review of property protection measures concluded:

- Property owners can implement some property protection measures at little cost, especially for sites in areas of low hazards (e.g., shallow flooding, sewer backup, earthquakes, thunderstorms and winter storms).
- For other measures, such as relocation, elevation and safe rooms, the owners may need financial assistance.
- An urban forestry program can help prevent damage caused by high winds, winter storms, and wildfires.
- Only 20% of the buildings in the floodplain are covered by flood insurance.
- Local government agencies can promote and support property protection measures.
- Property protection measures can protect the most damage-prone buildings in the County: repetitive loss properties.

## 7. Emergency Management

Emergency management measures protect people during and after a disaster. Chapter 7 reviews these measures, from identifying an oncoming problem (threat recognition), through warning, response procedures, and post-disaster activities. Chapter 7 concludes:

- The County's system does not take advantage of new technology to relate river levels to the areas affected, which would facilitate warning and response activities.
- The threat recognition system for severe weather hazards (tornadoes, winter storms, thunderstorms, and drought/heat) is as effective as the County can have for the cost.
- The procedures and media used to disseminate warnings are adequate for most urbanized areas, but there are gaps in the areas covered by outdoor sirens (see map, below).
- The County's plans have no specific guidance for responding to specific natural hazards, for post-disaster building safety inspections, or for capitalizing on post-disaster mitigation opportunities.
- Some critical facilities have their own emergency response plans.
- The fire protection for most communities is good.



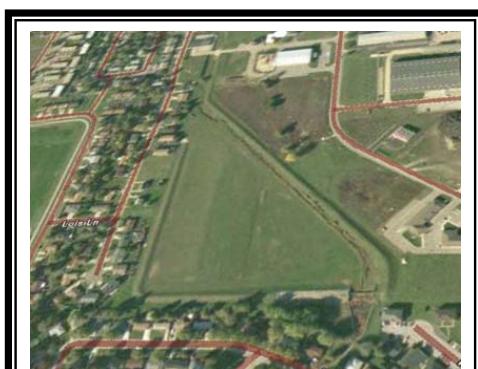
## 8. Flood Control

Six issues related to controlling floodwaters are reviewed in Chapter 8:

- Levees and floodwalls
- Dams and reservoirs
- Channel improvements
- Sedimentation
- Ice jam prevention
- Drainage system maintenance

Chapter 8's review found:

- Flood control projects can protect properties, but they can have adverse impacts on downstream properties and on the environment. They can also be very expensive. Therefore, a thorough study is needed before a larger project is constructed.



## Flood storage basin in Bourbonnais

- Two successful projects have been the reservoir on the North Branch of Soldier Creek (in photo) and the Kankakee River ice jam siphon. Except for retrofitting or replacing undersized bridges and culverts, there do not appear to be more sites where flood control projects would be applicable.
- Sedimentation of the Kankakee River will continue to be a problem, although there are Corps of Engineers restoration projects tackling two of the greatest problem areas and the River Roundtable is starting a pilot project to determine the feasibility of extracting sedimentation from the Six-Mile Pool.
- Flooding and local drainage problems would be reduced by periodic drainage system inspections and maintenance and stream dumping regulations.

## 9. Public Information

Public information activities advise property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. These activities can motivate people to take steps to protect themselves and others.

Chapter 9 reviews activities that reach out to people and tell them to be advised of the hazards and some of the things they can do. It then covers additional sources of information for those who want to learn more. At the end of this review, it concludes:

- Outreach projects, newsletters, libraries and websites can reach a lot of people, but most communities are not including much hazard or mitigation information in their current activities.
- Current practices that disclose hazards to buyers of property are either dependent on the seller or provide the information late in the process.
- Based on a public information strategy exercise, the most important topics to cover in public information activities and the preferred ways to get the messages out are listed.



Hazard protection brochures prepared and distributed by private organizations.

## 10. Action Plan

The culmination of the Kankakee County *Natural Hazards Mitigation Plan* is the series of action items presented in Chapter 10. There are 26 action items that address the major hazards, are appropriate for those hazards, are cost-effective, are affordable, and have minimal impact on the human and natural environment. Each action item is assigned to an office with a deadline.

### Administrative Action Items

1. *Plan Adoption:* The County, each municipality, and Kankakee Community College will adopt this *Natural Hazards Mitigation Plan* by passing a resolution.

2. *Monitoring and Reporting:* The Kankakee County Regional Planning Commission will monitor the implementation of this *Plan*, report to the County Board and municipalities on its progress, and recommend revisions to this *Plan* as needed.
3. *Community Rating System:* The Planning Department will develop a County-specific application to the Community Rating System and will help communities apply.

## **Program Action Items**

4. *Development Regulations:* As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised by the County and the municipalities, specified hazard mitigation provisions should be incorporated into them.
5. *Building Code Improvements:* Communities need to adopt the latest International series of codes and take other steps to strengthen their code enforcement programs.
6. *Regulation Administration:* Improvements to administering regulatory programs are identified, including better coordination with manufactured home installation and having staff become Certified Floodplain Managers.
7. *Floodplain Mapping:* This item has been completed.
8. *Stormwater Management:* This item has been completed.
9. *Property Evaluations:* Each entity should assess its critical facilities and publicly owned buildings and identify appropriate protection measures.
10. *Repetitive Loss Evaluations:* The County will apply for funds to support an evaluation of all 124 properties in the 16 repetitive loss areas.
11. *Property Protection Assistance:* The County Planning Department will design a program of technical assistance and financial incentives (such as rebates or cost sharing) to encourage low cost property protection measures on private property.
12. *Tree City USA:* Each municipality will implement an urban forestry program that qualifies it to become a Tree City, USA. Kankakee and Momence are already Tree City USA, designees, so this action item is for them to maintain their eligibility.
13. *Flood Warning and Response:* The County EMA will review what is needed to improve the County's flood threat recognition system. It will also explore preparing a flood stage forecast map for one or more stretches of the County's major rivers.
14. *Outdoor Warning Systems:* The County will establish a program to install or upgrade outdoor warning systems.
15. *StormReady:* This item has been completed.
16. *Emergency Response Operations:* Each community will appoint an emergency management coordinator or liaison to who will participate in EMA training and

exercises. Municipal leaders and EMA will work to coordinate and improve local capabilities and response and recovery procedures.

17. *Fire Protection Operations:* The Essex, Salina, and Pembroke Fire Protection Districts will determine whether they have been accurately scored by the Insurance Services Offices' fire department classification system. If so, they will identify steps to take that will improve both their operations and their insurance classification.
18. *Small Flood Control Projects:* Guidelines are set for drainage improvement, flood control, or bridge and culvert repair projects.
19. *River Restoration Projects:* The US Army Corps of Engineers should implement its two planned projects to remove sediment and restore habitat at Six-Mile Pool and the State line.
20. *Drainage System Maintenance:* Each municipality, in coordination with appropriate active drainage districts, will implement a formal and regular drainage system maintenance program.
21. *Water Use Management:* Conduct a study on the potential of a water shortage.

### **Public Information Program Strategy**

22. *Messages and Templates:* The County Planning Department and EMA will prepare background information, articles, templates and other materials that can be used by anyone to communicate hazard mitigation topics.
23. *County-Wide Activities:* Public information activities will be implemented on a county-wide basis, including brochures or handouts, videos and short programs on the public access cable channel, the County's website, and references in libraries.
24. *Municipal Activities:* Each municipality will determine what public information activities it will implement, using the materials and templates provided under action item 23. These may include articles in their newsletters, annual mailings, handouts, references in the local public library, websites, and annual Arbor Day celebrations pursuant to being a Tree City USA community.
25. *Real Estate Disclosure:* The County Planning Department will meet with the Association of Realtors to review ways to inform people of the natural hazards that properties are exposed to.