



FEMA

Moving People Out of Harm's Way

Kenosha County, Wisconsin –

“Residents are strongly urged to evacuate until river levels subside...Rapidly-rising swift currents will provide an extreme danger to residents and responders.” - This excerpt from a May 2000 emergency bulletin is a common occurrence for residents of Kenosha County, Wisconsin living along the Fox River between Highway 50 and Highway F to the south. Low-lying land in this region is plagued by frequent, dangerous floods that threaten the safety of the residents and cause severe damage to homes.

The Illinois Fox River rises near Menomonee Falls, Wisconsin, and flows through Waukesha, Racine and Kenosha Counties in Southeast Wisconsin for a total of 70 miles before entering Illinois. There are two rivers in Wisconsin called the Fox River. This one is designated as the



When the Illinois Fox River floods in Kenosha County, Wisconsin, roads close and houses flood. Sand bags are not always effective in keeping out damaging waters. Photo taken 6/16/08: Kenosha County Planning and Development



This small house, formerly a vacation cottage next to the Fox River, is one that's been purchased as part of the Fox River Flood Mitigation Project. It will be demolished and the land returned to nature. Photo taken 8/7/08: Barbara Ellis, FEMA

Illinois Fox River by local residents since it flows out of Wisconsin and into Illinois. Flooding is common on the Kenosha County, Wisconsin section of the river, especially near the towns of Wheatland and Salem and the Village of Silver Lake.

During the middle of the 20th Century, the riverside was valued as a vacation or weekend get-away spot and many people from nearby cities built rustic cabins on the banks of the river. Later, as the area population grew, some families built year-round residences and even more constructed weekend cabins. The waterfront properties were occasionally flooded, but the owners kept coming back to clean up and rebuild. The river area provided the scenic beauty and outdoor recreation they treasured.

The private property in this floodplain has created an “urban interface” problem similar to those in the forested lands of America’s western states. Having



Flood waters surround one house and a vacant lot in the foreground. Owners of the house that once stood on the vacant lot opted to sell and move to drier land. The “fountain” of water next to the house is the well head. Hydrologic pressure is pushing the groundwater out the top.

Photo taken 4/14/08: Kenosha County Planning and Development

a population adjacent to or in an area that frequently experiences natural disasters puts stress on local emergency management and law enforcement as well as public works.

When extensive, heavy rains pummel the watershed for the Illinois Fox River, Kenosha County emergency management personnel and law enforcement officers keep in steady contact with the National Weather Service to receive constant updates about rainfall and river level predictions. When the river rises to hazardous flood stage levels, the county executive issues an emergency declaration to set in motion safety procedures to protect citizens in the path of floodwaters. During emergency declarations, county law enforcement officers personally warn residents of the imminent danger of fast-moving floodwaters and are prepared to provide help to evacuate them to safety if the need arises. The officers may patrol the flooding areas in four-wheel drive vehicles carrying personal flotation devices in case people need assistance. During rescue efforts in the 1994 flooding, a rescue boat flipped over in a fast-running current. Luckily, no one was killed in the incident.

Since 1994 there have been many damaging floods in the Fox River floodplain in Kenosha County and more people to suffer loss from them. From 1994 to the summer of 2008 there have been eight federally declared disasters for the region. Monetary damages accrued by flood victims included hotel bills, lost wages, costs associated with cutting down trees and using power generators, repair of damaged foundations and siding, and mold and flood debris cleanup. In addition to the personal property damage endured by the residents, recovery efforts have cost the county hundreds of thousands of dollars.

In April 1969, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) issued its “Fox River Watershed Study,”

the culmination of a three-year study of the Fox River watershed in southeastern Wisconsin. The purpose of the study was to prepare a comprehensive plan for the physical development of the watershed designed not only to solve the problems of flooding, water pollution and changing land use existing within the watershed, but to most advantageously develop the total land and water resources of the watershed. Its goal was “to provide an environment for human life within the watershed which is attractive, as well as safe and healthful.”

At the time of the original study, land use and housing development ideas and regulations were drastically different from those of today. Wetlands are more highly valued and protected now than in the past. However, new zoning ordinances adopted in the early 1970s prohibit new building within the 100-year floodplain. The original study presents a summary of the factual findings of the many required inventories completed as a part of that study, as well as forecasts of future growth and development within the watershed. The inventories within the study provided a benchmark of historic data upon which future studies of the watershed can be built.



Water from the Fox River sheets over Riverside Drive and into houses along the river.

Photo taken 4/14/08: Kenosha County Planning and Development

In 1994 Kenosha County officials initiated a plan to help people move out of the flood-prone area that was mapped as the 100-year floodplain of the Illinois Fox River. By May 2004, when yet another major flood instigated another disaster declaration, many fewer homes and residents were at risk because over that ten-year period 56 property owners had participated in the Fox River Flood Mitigation Program. The Kenosha County Housing Authority administers the program, with staff support provided by SEWRPC. Through this program homes are bought and demolished and the land cleared and seeded to be left as undeveloped open space.

The 2007 Wisconsin floods hit Kenosha County hard again. While the disaster of 2004 had water four feet above flood stage, the 2007 deluge topped out at 14.98 feet, 4.9 feet over

In addition to structural damage from floods, mold and mildew are part of flooding's aftermath that needs to be addressed. Mold is a serious health threat that must be removed and treated before residents move back into the house. Photos taken 10/3/07: Kenosha County Planning and Development



flood stage. Even though the water was higher than before, fewer homes and residents were in danger because more property owners had opted for the buyout program and had moved to higher ground. Those who hadn't been bought out suffered more than they had in the 2004 flood. One home, still occupied, on 71st Street just a few yards from the river, caught fire during the height of the flood and burned to the water line because fire fighters could not reach the house. Some homes were damaged when water came into the crawl spaces beneath them; although the water didn't reach the living areas, it was wicked up through the wooden framing. With the summer warmth, mold and mildew quickly developed inside. Additionally, some homes were constructed with utilities in the basements or crawl spaces.

The flooding that may not have reached the interior of the homes ruined furnaces, well pumps and water heaters.

While the 2007 floods made some people think they had seen the worst of it, June 2008 brought even greater devastation. Flood gauges measured the maximum heights at 15, 16 and 18 feet – five to eight feet above flood stage. By the time the 2008 floods hit, 72 property owners had already participated in the Fox River Flood Mitigation Program, sold their homes for the estimated fair market value and moved to safer quarters.

John Meland, Chief Economic Development Planner for SEWRPC, has watched with compassion as homeown-





The house was removed and the ground seeded with grass on this newly acquired property. Floods will not be an issue here in the future. Photo: Barbara Ellis, FEMA

Natural Resources, and Community Development Block Grant’s Emergency Assistance Program (CDBG-EAP) from the Wisconsin Department of Commerce.

The Fox River Flood Mitigation Program has provided multiple benefits, from saving the county money that it would have spent on road repairs and overtime for first responders to the residents’ piece of mind for their safety and the security of not worrying about living in a house that could be repeatedly flooded.

ers struggle with the idea of selling their flood-prone properties. He also has seen the positive results of the buyout program as floodwater sweeps harmlessly over vacant land where houses used to sit soaking in the stinking mire. Meland looks at a recent acquisition, house demolished and hauled away, the newly seeded ground covered with mulch, and exclaims, “72 down, 104 to go,” referring to the properties still in the 100-year floodplain. “Homeowners are not being pushed out or forced to sell their properties,” Meland said, “It’s a voluntary program.” The only forceful urging is coming from the river itself, taking back more and more of the land next to it with each flood.

Although Kenosha County and many other upper Midwest communities have a long history of flood damage, the catastrophic Mississippi River flood of 1993 freed up money to begin major mitigation projects. As of August 2008, this program has totaled approximately \$7.4 million from combined sources including the Federal Emergency Management Agency’s (FEMA’s) Hazard Mitigation Grant Program (HMGP), Wisconsin Emergency Management, the Wisconsin Department of

Fox River Flood Mitigation Program Acquisition Statistics			
year of acquisition	# of properties acquired	cost of properties acquired	actions/costs avoided
1995	6	\$507,387	emergency evacuations
1996	5	\$309,726	
1997	1	\$91,712	road repairs
1998	3	\$257,068	
1999	7	\$588,731	sand bagging
2000	12	\$1,062,253	
2001	9	\$606,667	private property repairs
2002	11	\$912,956	
2003	5	\$425,705	debris clearing
2004	1	\$93,890	
2005	4	\$388,922	hotel bills - while evacuated
2006	6	\$576,727	
2007	3	\$401,435	lost wages
2008 (thru July)	2	\$271,545	
14 years	75 properties	\$6,494,723	TOTALS