Dane County Flood Mitigation Plan – Highlights

Public Participation

The Flood Mitigation Plan was developed through the involvement of Dane County citizens, local units of government, stakeholder groups, the Lakes and Watershed Commission, and various County departments. The County's Flood Mitigation Planning Committee, led by the Department of Emergency Management guided the planning process, collected and evaluated data, organized public outreach efforts, provided specialized knowledge, developed recommendations, and drafted the Plan.

The planning process sought public input at numerous stages of the plan development.

- To gain an understanding of the local flooding problems and impacts, planning team members interviewed leaders from all 34 Towns, 19 Villages, 8 Cities, and 22 Sanitary Districts in the County.
- Five public meetings were held throughout the County to develop and evaluate alternative solutions to address the identified problems.
- The draft plan was posted on the Lakes and Watershed Commission's website. County Board members, local officials, and stakeholder groups and individuals were notified of its availability and invited to review and comment on the Plan.
- A focus group of key stakeholder groups was conducted to evaluate and guide revision of the draft plan.

Plan Contents

The Plan is intended as a comprehensive assessment of existing conditions and problems as related to flooding in Dane County, with strategies for their resolution. The Plan and appendices contain the following elements:

- A description of Dane County including population trends, the physical setting, major drainage basins, environmentally sensitive areas, land use, and other natural hazards besides flooding.
- A summary of the County's existing flood management programs, including relevant zoning ordinances, land division regulations, and emergency response plans.
- A detailed description of the planning and public input processes.
- A detailed assessment of past flood events and impacts, including an assessment of cause and effect relationships.
- A description of alternative philosophies and strategies to mitigate flooding.
- Recommendations, including goals, policies, and objectives.
- An implementation strategy.

Influences Contributing to Flood Problems

An assessment of past flood events shows that there is a wide range of factors that contribute to flooding problems.

- There are areas of the County, such as low-lying areas, wetlands, or hydric soil types, that when developed, have an inherent risk of flooding and resulting flood damage.

- Changes in stream conditions and impediments to the flow of water have reduced the capacity of many rivers, streams, and ditches, reducing their capacity to convey water and increasing flood problems.
- Dane County has experienced a significant loss of wetlands over the past half century. Approximately two-thirds of the County's historic wetlands have been drained to produce farm fields or have been filled or paved to prepare for development.
- The effect of upstream development on downstream properties was widely recognized as significant contributing factor in Dane County's flood problems. In fact, development and other changes to the landscape in areas far outside the floodplain can have a profound impact on the magnitude and frequency of downstream flooding.
- The effect of urbanization has impacts in terms of its lasting effects on hydrology, due to the much higher percentages of impervious or paved areas covering the land. The main effects of urbanization on the hydrology of an area include increasing rainfall runoff and higher peak flows in local streams.
- Climate change is leading to increased seasonal variability in rainfall patterns, including more intense rainfall events as well as increased occurrence of drought conditions.

Impacts of Flooding

The impacts of flooding in Dane County are far ranging. Specific examples of how floods negatively impact Dane County are summarized below:

- Floods cause damage to private property that often creates financial hardship for individuals and families;
- Floods cause damage to public infrastructure resulting in increased public expenditures and demand for tax dollars;
- Floods cause loss of personal income for agricultural producers that experience flood damages;
- Floods cause loss of income to businesses relying on recreational uses of County waterways;
- Floods cause emotional distress on individuals and families; and
- Floods can cause injury and death.

Key Recommendations

There are five basic elements of the County's strategy to reduce flood losses: mitigation, response, prevention, coordination, and education. These elements fall into two broad categories, 1) mitigation and response are aimed at reducing the impact of flooding on existing structures and facilities and 2) prevention, coordination, and education are intended to avoid increasing problems or creating new flood hazards. Recommendations include:

Summary of Plan Objectives			
Objective		**Priority**	**Lead County Agency**
Goal 1: Mitigation			
1.	Implement a voluntary program of property acquisition and relocation for high-risk residences.	High	Emergency Management

2.	Implement a voluntary program of flood protection for high-risk residences.	High	Emergency Management
3.	Determine the feasibility of reducing the flow of floodwaters over roads by evaluating road elevation and culvert sizing standards for construction and upgrade for all County roads, but especially for roads in low lying or flood prone areas.	Moderate-Low	Highway and Transportation
4.	Develop road shoulder, ditch, and bridge maintenance and upgrade standards to prevent floodwater and stormwater from damaging or washing-out roads and making them impassible.	Moderate-Low	Highway and Transportation
5.	Formalize a process for considering water flow along and under roadways as one component of the overall water conveyance system.	Moderate	Highway and Transportation
Goal 2: Response			
6.	Assist local units of government in developing local flood response action plans.	High	Emergency Management
7.	Improve the flood warning system for areas of the County where floodwaters rise rapidly or impact large numbers of people.	High	Emergency Management
8.	Improve the communication system between the County and local units of government when floods occur or are likely to occur.	Moderate	Emergency Management
Goal 3: Prevention			
9.	Develop comprehensive water management policies for Dane County, considering the connections between land-use, urban growth, and surface water, and ground water issues.	High	Planning and Development
10.	Discuss formation of a policy that guides or further restricts development around flood prone areas and areas of high flood mitigation value; support policy consistencies between the comprehensive plan and the flood mitigation plan. Lands of potential flood mitigation value are wetlands, floodplain corridors, upland storage, closed depressional basins, and areas of high infiltration potential.	High	Planning and Development
11.	Discuss urban development around small closed depressional basins that addresses special flooding and stormwater related issues that are unique to these areas.	High	Planning and Development

12.	Assist in the development of watershed-scale stormwater management plans that make possible coordinated management of locally-derived runoff.	Moderate	Land Conservation
13.	Evaluate the County's and other units of governments' erosion control and stormwater management, floodplain zoning, and shoreland zoning ordinances, and NFIP status to determine regulatory deficiencies, necessary improvements, enforcement shortcomings in order to bring governments into compliance and to strengthen and maximize the benefits of current regulations.	High	Planning and Development
14.	Identify and map areas in the County that have potential flood mitigation value.	High	Land Conservation
15.	Establish flood mitigation as a criterion for land acquisition and environmental restoration where it would aid in the achievement of flood-reduction goals and conserve and restore land that meets the criteria.	High	Parks
16.	Ensure that the Department of Natural Resources affords flood risk as high priority when evaluating the public interest in the lake level orders for the Yahara chain of lakes.	Not Assigned	County Executive/ County Board
17.	Maintain the levels of the Yahara lakes at the lower limit of the DNR's set operating range as part of a comprehensive strategy that addresses flood risk and the needs of fisheries, recreational interests, agricultural interests and lakeshore property owners.	Not Assigned	County Executive/ County Board
18.	Develop a coordinated management strategy and a unified plan of operation and maintenance for all control structures on the Yahara River from Tenney Dam to the Stebbinsville Dam. Assure that the responsible agency has the technical expertise and resources to operate and maintain the control structures within the parameters of the plan.	Not Assigned	County Executive/ County Board
19.	Improve monitoring and modeling of the Yahara River and chain of lakes to develop a better understanding of how the system can be more effectively managed. Include a study of the likelihood and potential impact of a significant weather event to cause Lake Mendota to rise over the top of Tenney Dam.	Not Assigned	County Executive/ County Board

20.	Evaluate methods such as modification of bridge constrictions, aquatic plant removal, dredging, and channel modifications to increase flow conveyance, while respecting in-stream natural and cultural resources.	Moderate	Land Conservation
Goal 4: Coordination			
21.	Identify hot spots or high priority projects involving multiple jurisdictions where watershed level solutions could be applied.	High	Flood Mitigation Planning Team
22.	Coordinate funding opportunities to carry out the objectives of the flood mitigation plan including, but not limited to mitigation, land acquisition, regional projects, and flood response activities.	High	Emergency Management
Goal 5: Education			
23.	Launch and update when necessary, and educational program to provide local units of government with important flood-fighting information.	Moderate	Emergency Management
24.	Improve citizen and local elected officials understanding of floodplain maps and floodplain regulations, floodproofing options, development and stormwater management considerations, and other information to assist in good decision-making.	Moderate	Emergency Management
25.	Develop and use a flood risk map based on hydric soils, wetlands, and areas of past damage. Consider incorporating a buffer area of 1 foot in elevation above the mapped 100-year floodplain on FIRM maps as an advisory tool. Use the map as an educational tool, and also share with real estate agents and local units of government.	Moderate	Land Information Office