
Floodplain-Shoreland Management Notes

MAY 2001

BREAKING THE CYCLE – FLOOD MITIGATION IN WISCONSIN

By Roxanne Gray

Wisconsin Emergency Management

In the last three decades, Wisconsin's communities and citizens have borne the brunt of nearly \$3 billion in disaster damages. Flood damages alone totaled \$1.7 billion, \$1.36 billion just in the 1990's. As a result, local governments and individuals have received \$750 million in disaster relief. Twelve presidential disaster declarations were granted in the 1990's compared to only six in the 1980's. 67 Wisconsin counties have received disaster declarations, many multiple times. The 1993 Midwest Flood was the largest and most expensive natural disaster for the state. Flood damages were estimated at \$747 million with 47 counties declared a federal disaster area. \$300 million in disaster relief funds were provided to local governments and flood victims, while nearly \$450 million in damages was not covered by disaster assistance.

For years, Wisconsin communities have focused on doing a good job in responding to disasters. However, the disaster events of the past 10 years have emphasized the need to address disaster prevention and hazard mitigation. Now is the time to place equal emphasis on being proactive and on making communities disaster resistant.

The **Hazard Mitigation Grant Program (HMGP)** is a critical component of the state's mitigation efforts. The program, created in 1988, is administered by Wisconsin Emergency Management (WEM) and makes grants to state and local governments and other entities to implement long-term mitigation measures following a disaster declaration. Eligible projects must be environmentally sound, cost-effective, solve a problem, and prevent future

disaster damages. Projects can protect either public or private property. Prior to the 1993 Midwest Floods, there were very limited funds available for mitigation activities.

The turning point for the HMGP was in 1993, when significantly more funding became available. The federal share was raised from 50% to 75% and funding increased from 10% of Public Assistance Program funds to 15% of the Individual and Public Assistance Programs. This change raised the amount of funds available in Wisconsin for the 1993 Midwest Flood from \$2 million to \$14 million.

In addition, \$5.3 billion in supplemental disaster appropriations was provided to federal agencies to assist state and local governments recover from the widespread flooding. Eleven federal agencies received supplemental funds including FEMA, Department of Housing and Urban Development and the Economic Development Administration. These programs played an important role in the state's recovery from the devastating floods. These additional funds helped to rebuild homes, infrastructure, and businesses, as well as help implement community mitigation projects.

As a result of the additional funding that was made available, the Wisconsin Interagency Disaster Recovery Group (IDRG) was established. This multi-agency group met weekly to review and evaluate proposed long-term recovery projects. Although many types of projects were funded, acquisition, demolition, relocation or floodproofing of floodprone properties were the priorities.

The IDRG worked together to identify and fund as many mitigation projects as possible. Agencies also provided technical assistance such as relocation services, environmental contamination,

floodplain management compliance, historical consultation, reviewing and expediting building permits, and the Americans with Disabilities Act.

The IDRG has continued to meet to address long-term recovery issues. Since 1993, WEM and the IDRG have established acquisition, demolition, relocation, or floodproofing of floodprone properties as priorities. In addition, educational or public awareness projects are funded under the 5% HMGP set-aside when it is felt there will be a positive outcome from the project.

In April 1997, the regulations were changed to allow the use of HMGP funds statewide instead of limiting them to the designated disaster area.

In October, **The Disaster Mitigation Act of 2000** was enacted, requiring all applicants to have an approved mitigation plan. The Act authorizes 7% of HMGP funds to be used in helping states produce a plan and it increases HMGP funding from 15% to 20% for those states that have an approved State Hazard Mitigation Plan.

The National Flood Insurance Reform Act (NFIRA) of 1994 created a pre-disaster mitigation program called the **Flood Mitigation Assistance (FMA) Program**. FMA is administered through WEM and is a 75%/25% cost-share program through which states and communities can receive grants for flood mitigation planning, technical assistance, and mitigation projects. The goal of the FMA is to fund cost-effective measures that reduce or eliminate the long-term risk of flood damage to homes, businesses and other NFIP-insured structures.

Twenty million dollars is transferred each year into the FMA. Each state receives an allocation based on the number of flood insurance policies in force and the number of repetitive loss structures in the state. Repetitive loss structures are those structures that have had two or more flood insurance claims of at least \$1,000 each in the last ten years. Each state receives at least \$10,000 for mitigation planning grants and \$100,000 for project grants to implement mitigation activities identified in approved mitigation plans. Wisconsin has usually received \$11,000 to \$14,000 in planning grants and \$117,000 to \$155,000 in project grants.

As with the HMGP, the community must be participating and in good standing with the NFIP to receive FMA funds. Eligible projects and criteria

are basically the same as for the HMGP. The biggest difference is that the projects must reduce the risk of flood damage to structures insured under the NFIP.

A community must have a FEMA -approved Flood Mitigation Plan in order to receive project grant funds. Presently two communities, the City of Darlington and Eau Claire County, have FEMA approved Flood Mitigation Plans, with another nine plans under development. Project grant funds have been awarded to the City of Darlington, and to Jefferson and Kenosha Counties contingent on completion of their plans. Because the state requires HMGP subgrantees to develop and complete a mitigation plan, there are another eight plans under development.

To date, HMGP/FMA funds have been used to acquire 272 structures and floodproof another 45.

In addition to acquisitions and floodproofing, other types of mitigation projects have been implemented in Wisconsin. In response to the flooding in 1997 and 1998, Milwaukee County received a grant to develop a flood mitigation video and brochure targeted towards property owners and what they can do to protect themselves from flooding. The video was distributed to all public libraries within the county and over 10,000 brochures have been printed and distributed.

Between HMGP and FMA, a total of \$34,558,870 has been provided to communities for mitigation. It is estimated that for every \$1 spent on mitigation, \$2 to \$3 will be saved in future disaster losses. One of the state's goals is to demonstrate this by documenting the success and economic benefits of the mitigation measures implemented through HMGP, FMA and other mitigation programs. With the imminent passage of NR 199, Wisconsin's Municipal Flood Control grant program, communities will have another funding tool to use in mitigating flood hazard areas (see related story in this issue).

As shoreland and floodplain areas continue to develop and flood losses grow, the importance of mitigation and its role in floodplain management will become more apparent. With new programs and a renewed commitment to protecting Wisconsin's citizens from the devastating effects of flooding, the future of flood mitigation never looked brighter.

WISCONSIN'S FLOODPLAIN PROPERTIES: A REPETITIVE LOSS STRATEGY FOR MITIGATING DAMAGES

By Roxanne Gray
Wisconsin Emergency Management

Wisconsin residents living in communities participating in the National Flood Insurance Program (NFIP) have been able to purchase subsidized flood insurance since 1968. As the NFIP policy base grows, premium rate increases have become more contentious. Unlike most insurance lines, the number of losses does not increase flood insurance premiums. Property owners who have taken steps to floodproof their structure are understandably concerned that they are paying the same rates as unprotected structures that repeatedly flood.

Historically, insured properties with two or more losses represent about 1% of the NFIP policy base, but they sustain 30% of total losses, about \$200 million in damages. Less than 25% of this number (one-fourth of 1% - about 10,000 properties) accounts for 10% of all flood losses annually. This "1/4%" of properties meet one of the following criteria based on losses since 1978:

1. Four or more losses of \$1,000 or more, regardless of ownership
2. Two or more losses in a 10-year period that, in the aggregate, equal or exceed the current value of the insured property
3. Three or more losses that, in the aggregate, equal or exceed the current value of the insured property.

The Federal Emergency Management Agency (FEMA) has developed a Repetitive Loss Property (RLP) Strategy to address the burden that these structures place on other policyholders. A RLP is a property that has incurred two or more claims amounting to at least \$1,000 each. There were initially 362 RLP properties in 54 Wisconsin communities, but acquisition and relocation projects has brought it down to 318. Another 12 properties are in the process of being mitigated. Most of the communities with RLP have only one or two properties, but Milwaukee has 205.

Twelve of the Wisconsin properties in nine communities are part of the smaller subset which have suffered the most extensive damages. Their

combined estimated value exceeds \$3.3 million. They have received over \$815,000 in claims payments, an average of almost \$65,000 per year. An ongoing mitigation project will bring the number down to 11 properties.

FEMA's Repetitive Loss Strategy has both insurance and mitigation elements. The insurance approach will place these properties into a Special Direct Facility (SDF). This will provide consistent control of losses, facilitate data collection, and improve monitoring of mitigation actions.

The mitigation approach will target the most severely damaged properties for grants through the Flood Mitigation Assistance Program, Hazard Mitigation Grant Program, and Project Impact funds. These programs are administered through Wisconsin Emergency Management.

The primary objective of the Repetitive Loss Strategy is two-fold: 1) to eliminate or reduce the flood risk to RL structures, and 2) to reduce claims against the NFIP. Communities will also see the benefits with more hazard resistant neighborhoods and less effort spent on disaster response.

For more information regarding the FMA and HMGP programs as well as Project Impact, visit www.badger.state.wi.us/agencies/dma/wem. For these programs as well as information on the NFIP you can also visit www.fema.gov.

WATERSHED PLACEMATS A HIT

The Rhode Island Department of Environmental Management has scored a big public relations coup with its first printing of watershed placemats for all 26 watersheds in the state.

The placemats, which are available at no charge to restaurants, schools, watershed organizations and other non-profit groups, are double-sided and feature a diagram of the watershed, steps to protect watersheds, and kids games and coloring activities.

The state sponsored the first printing and now sponsors are being sought who can have the placemats customized to fit their needs.

Contact Gregg Cassidy (gcassidy@dem.state.ri.us) for further information.

GUIDANCE ON AGRICULTURAL STRUCTURES EXPLAINED

by Toni Herkert

Shoreland Management Team Leader

Several recent structural nonpoint control projects have highlighted the need to better coordinate the nonpoint and shoreland zoning programs.

In both cases, structures were properly designed to improve barnyard runoff problems but the designs could not meet shoreland setback requirements. The applicants requested setback variances that the Department opposed because the statutory variance criteria could not be met.

Wisconsin Administrative Code NR 115 provides minimum standards for lot size, plant management, setback requirements, etc. Counties administer the program using state minimum standards or more protective measures such as lake classification.

When designing nonpoint source projects in lake or riverine areas, it is important to contact your county zoning administrator to determine regulations that may affect the proposed project. The department suggests looking at alternative site locations as opposed to requesting a variance for a location within the setback area.

The statutes and case law have clearly identified that variances are to be granted sparingly. To grant a variance, a Board of Adjustment must find that 1) an unnecessary hardship exists and that without a variance *no reasonable use* can be made of the property, 2) that unique physical limitations of the property cause the hardship, and 3) that no harm to the public interests will result from granting the variance. These are not easy criteria to meet given that there are usually alternative solutions available that do not require a variance.

If you would like to learn about shoreland and floodplain zoning you can always check with your county zoning administrator or you can visit our new shoreland and floodplain web pages. Simply go to the DNR's home page at www.dnr.state.wi.us, scroll down and under "Go to some topics", click on either shoreland or floodplain zoning.

Protecting the riparian areas adjacent to lakes and streams is very important to improving and protecting the quality of our waters. The department

is working with several counties who have or are in the process of changing their ordinances to reflect differences between waterbodies, establishing different setback standards, lot sizes, frontage width, based on the sensitivity of the waterbody.

Some counties are revising their ordinances to better manage shoreland buffers, recognizing that shoreland and floodplain zoning requirements apply to agricultural as well as developed areas. This is an area we hope to put more emphasis on in the future. We have recently established a statewide Shoreland Management Team and we are coordinating efforts to develop a new floodplain and riparian zone restoration grant program. The department is also reviewing NR 115, the shoreland management rules, for possible revisions and updates.

We would appreciate your feedback on any of these issues. Please contact Toni Herkert, Shoreland Management Team Leader at (608) 266-0161, herket@dnr.state.wi.us. In addition, please let us know how we can better share information and what key issues we need to address and focus our work efforts on, as we work together to further protect and better manage our shorelands.

PENNSYLVANIA LAUNCHES RIVER SOJOURNS

A two-month campaign to raise awareness of the ecological and historical importance of state waterways has been launched by the Pennsylvania Department of Conservation.

The Rivers Sojourn Program, funded through a \$60,000 "Growing Greener" grant, will sponsor multi-day journeys along a river or stream to bring attention to its environmental, economic and recreational importance to residents and visitors.

Kayakers, canoers, rafters - even bicyclists riding along the water - are encouraged to share in the festivities, learn more about river awareness sojourns, and discuss their trips and share ideas on how to make the new program a success.

The 12 sojourns will pass through 300 cities, towns and boroughs. Sojourners will also learn more about the culture, history and heritage of the area. Go to www.dcnr.state.pa.us/rivers for details.

DAM SAFETY/SHORELAND/FLOODPLAIN PROGRAM SPINS A (BIGGER) WEB!

By John Hagengruber
Webmaster To The Stars

Amazon, Napster, Ebay, move over. Here come the dam safety, floodplain, and shoreland program websites!

During the past several months, our web sites have gone through some changes. Joining an expanded shoreland management website is the floodplain management program page. A dam safety program page is nearing completion as well.

Floodplain Program website

Swamped with questions about the floodplain program? Look here: <http://www.dnr.state.wi.us/org/water/wm/dsfm/flood/title.htm>. This website has a wealth of information on the specifics of the floodplain regulations, floodplain mitigation, history of Wisconsin's floods, flood insurance and the National Flood Insurance Program, and links to county zoning offices as well as their floodplain zoning ordinances (if available).

Shoreland Page Improvements

The most recent addition to the shoreland page is the new publication "Creating An Effective Shoreland Zoning Ordinance." This publication, compiled by Carmen Wagner of the DNR shoreland program, contains summaries of each county shoreland ordinance as well as information on each of the primary components of a shoreland zoning ordinance (setbacks, nonconforming structures, etc.) and how counties address them in their zoning ordinances. This publication is now available on the shoreland program's website at: <http://www.dnr.state.wi.us/org/water/wm/dsfm/shore/creating.htm>.

Also added to the shoreland page is information on the Shoreland Friends project - an educational outreach program for new shoreland property owners sponsored by WCCA, WDNR, UW-Extension and the Wisconsin Association of Lakes. At this site you'll find a downloadable version of the Shoreland Friends Guidebook as well as a variety of supporting information that can help pass along the importance of shoreland stewardship to new shoreland property owners.

What's Next?

Other major additions to our web pages are under construction, including:

- A Dam safety web page, chock full of information on dam safety regulations, dam grants, dam removal, emergency response, resources for dam owners and consultants, and much more!
- Mapping tools that will allow you to locate information on many water related issues across Wisconsin, including dams, floodplains and flood studies, shore restoration projects, and even Chapter 30 permits.

Please visit these websites and give them a test drive. There's a lot of information but we're always looking to add more. If there's anything you'd like to see on these web pages that isn't currently there, please call or e-mail John Hagengruber (608-267-7571, hagenj@dnr.state.wi.us).

After all, we recognize that questions about dams, floodplain and shoreland issues pop up at all hours of the day, not just when your DNR office is open!

COURT AWARDS COMPENSATION FOR FEDERAL TAKINGS IN WATER CASE

A federal claims court, attempting to balance water rights and the federal Endangered Species Act, has ruled that redirecting water supplies to protect endangered fish is a taking of property and the affected users must be compensated. The ruling affects California State Water Project customers who lost water supplies during a drought between 1992 and 1994.

The U.S. Court of Federal Claims in Washington D.C. ruled on April 30 that the affected users had a contractual right to receive water that could not be taken without compensation. "The federal government is certainly free to preserve the fish, it must simply pay for the water it takes to do so," according to the judge who rendered the decision.

Plaintiffs were pleased with the ruling, hailing it as a major milestone in establishing government accountability in regulating water resources and balancing environmental and economic concerns.

DEVELOPER'S LAWSUIT ATTACKS CALIFORNIA SMART GROWTH BILL

Environmental and smart growth groups joined the defense of California's Save Agriculture and Open Space Lands Initiative (Measure D) last week against a legal attack by development interests who had opposed the measure.

Measure D was placed on the ballot by citizen's groups and supported by a majority of voters because it will preserve vanishing agricultural lands and protect open space, watersheds and wildlife habitat. The measure limits sprawl by setting a county urban growth boundary and preventing subdivisions on certain farms and ranches.

Having lost at the ballot box, developers Shea Homes Limited Partnership and Trafalgar, Inc. filed suit against Alameda County and its Board of Supervisors earlier this year claiming Measure D violates the California Constitution and other laws.

"This really is a blatant attempt to silence the will of the voters for the financial gain of a few developers," said Dick Schneider, coordinator of the "Yes on Measure D" campaign for the Sierra Club. "A majority of voters supported Measure D because what makes Alameda County such a special place is the beauty of its natural environment - being able to take kids out into natural areas and open space so close to our urban neighborhoods."

Groups granted intervenor status include the Sierra Club, Golden Gate Audubon Society, Preserve Area Ridgeland Committee and the Greenbelt Alliance. The cities of Berkeley and Oakland are expected to file briefs supporting Alameda County's and the citizen groups' defense of Measure D.

PARK SERVICE BANS JET SKIS AT LAKE POWELL, LAKE MEAD

The whine of jet skis will be a thing of the past at all federal park units by the fall of 2002. A recent settlement agreement in federal district court will ban the controversial personal watercraft from many popular waterways, including Lake Mead near Las Vegas and Lake Powell near Page, Arizona. Under the terms of the settlement between environmental groups and the National

Park Service (NPS), the only exception would be in cases where the agency could prove that the machines do not cause harm to the environment on a given reservoir.

The ban should lead to a reduction in water pollution and unsafe recreational activities on the reservoirs. Concerns about public safety and environmental impacts of personal watercraft have increased with the proliferation of the machines.

Personal watercraft are recognized by the U.S. Environmental Protection Agency as responsible for dumping large amounts of petroleum and other chemicals into waterbodies. Lakes Powell and Mead are part of the Colorado River system that provides drinking water for over 20 million people.



NORTH CAROLINA LAUNCHES HAZARD MITIGATION PLANNING INITIATIVE

The University of North Carolina is working with the state Division of Emergency Management (DEM) to promote local mitigation planning. The University's Hazard Mitigation Planning Clinic is offering the following tools to foster stronger mitigation plans:

Demonstration mitigation plans and watershed mitigation plans have been developed for use by community and regional planning agencies.

Training programs focused on writing mitigation plans, using GIS techniques, and emergency management planning have been developed.

Publications and videos focused on plan writing, risk communication, development policies, flood protection techniques and other topics are available from the DEM.

For further information, contact the North Carolina Division of Emergency Management at 4713 Mail Service Center, Raleigh, N.C. 27699-4713, or on the web at www.dem.dcc.state.nc.us.

FEMA EYES NEW APPROACHES TO RATING FLOOD INSURANCE POLICIES

The National Flood Insurance Program (NFIP) provides coverage against flood damages to property owners in communities that agree to adopt and enforce regulations designed to ensure safer construction of building in high-risk flood zones.

This subsidized flood insurance coverage is required for most property loans made in the 100-year floodplain. Providing insurance, regulating the floodplain standards, and enforcing the mandatory purchase requirements depends on three things:

- *Flood risk information* or certain key information about the nature and extent of the flood risk;
- *Elevation* of the structure; and
- *Structural characteristics* such as the number of floors and occupancy type.

Flood risk information: The Federal Emergency Management Agency (FEMA) provides flood zone information through Flood Insurance Rate Maps (FIRM). The FIRM delineates the floodplain boundaries and regional floodplain elevation (RFE), allowing local officials, lenders and insurance agents to make informed decisions on permits, loans and insurance rates.

Elevation of the structure: Property owners hire licensed surveyors and engineers to determine the building elevation information needed to guide floodplain construction and to rate insurance applications. This information is on the elevation certificate, which shows a structure's lowest floor elevation. Local officials must ensure that this elevation is at least two feet above the RFE and maintain this information in their permit files. Insurance agents then calculate the difference between a structure's lowest floor and the RFE to figure the proper insurance coverage rate.

Structural characteristics: To finish rating the structure, the agent must determine how many floors the structure has, the type of use (residential, commercial, etc.), the date of construction, etc.

A number of problems have become evident in making this system work. Insurance agents are often poorly trained in reading FIRMS and find it difficult to keep their map library updated. Even if they have the maps, the poor detail and

inaccuracies make it impossible in some cases to accurately determine a structure's location. Once the location is settled, many property owners balk at paying hundreds of dollars for the elevation certificate needed to properly rate a structure.

Most insurance agents won't pay for a flood zone determination because, unlike the lenders, they are not required to under federal law. Lenders just pass the fee along to the customer, but insurance agents fear pricing themselves out of the market.

These problems with poor data sources and their usability has prompted the feds to look at other methods of providing the mapping and elevation information needed for most real estate deals. The goal is to develop a desktop system that supports the actuarial rating of a flood insurance policy and the NFIP floodplain management requirements.

In working towards a solution, FEMA is asking a number of questions:

- How accurate are current building elevations?
- What databases can be used in rating?
- How can ground elevation data be more effectively tied in with lowest floor elevations?
- What new technologies will provide the most useful data for enforcing the NFIP regulations?
- What about technologies for distributing data?
- Are there alternatives to a desktop system?

If you have questions or comments about this issue, you may e-mail edward.pasterick@fema.gov or call him at 202-646-3443.

"HAIL, HAIL TO SNAIL MAIL," OR "NO SIRREE, MAKE MINE E"

Well, after a short hiatus for R & R at the local newsletter massage spa, we will be debuting our new look in the next issue, likely to hit your favorite news stand sometime this summer.

Along with new graphics, features, columns and pop quizzes, we are unveiling our high-octane, nitro-fueled e-mail delivery service for the smart set. If you wish to join us in the 21st century, please e-mail hagenj@dnr.state.wi.us and tell him that you want electronic delivery, please. If you don't, do nothing. Our high-gloss printed copy will continue to appear in your mail slot.

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