



Hazard Mitigation

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Lower Wisconsin River

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What is Mitigation?

“Mitigation is any sustained action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards”





Value of Mitigation



Gays Mills, WI

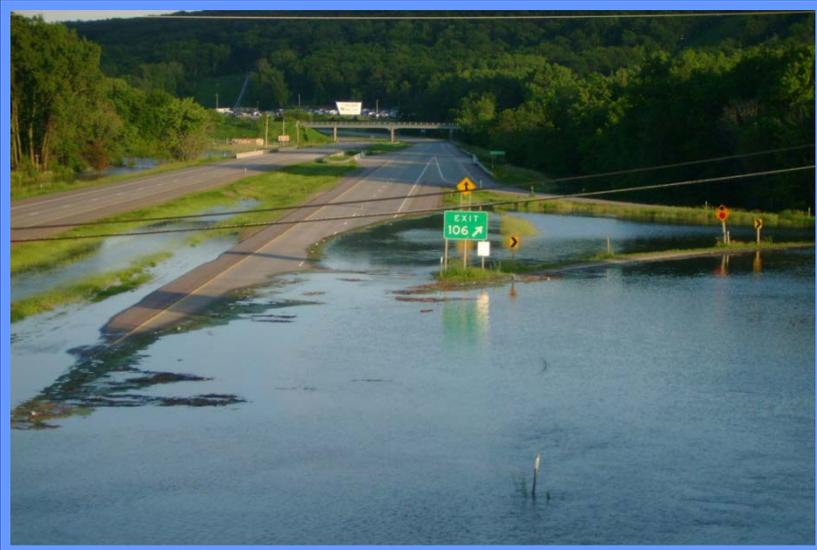
2012/ 6/12
SV max
W: 090° 50' 55.58"
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For every **\$1 spent** on mitigation,
\$4 is saved in future damages.

(Per the National Institute of Building Sciences -2005)



Why Do We Mitigate?



In Wisconsin

- \$3 billion in Disaster-related damages last 3 decades
- 12 Federal Disaster Declarations in the 90's compared to 6 in the 80's
- 2000, 2001, two in 2002, 2004, 2007, 2008, two in 2010, 2011, 2012, 2013
- 2 snow emergencies (2000 and 2008)



Examples of Mitigation





Acquisition/Demolition



Communities acquire land, demolish structures and keep the land in open space designation

Images from Darlington, WI



Elevation



Elevation raises a structure out of the floodplain. Wisconsin has specific regulations to follow with elevation projects. See DNR for more information.

Image from Soldiers Grove, WI



Floodwall



Floodwalls can prevent water from inundating structures that cannot be elevated, relocated, or demolished.

Image from Darlington, WI



Community Safe Room



Community Safe Rooms built to FEMA-361 standards can withstand winds up to 250 MPH

Image from Town of Dunn, WI



Stormwater Detention

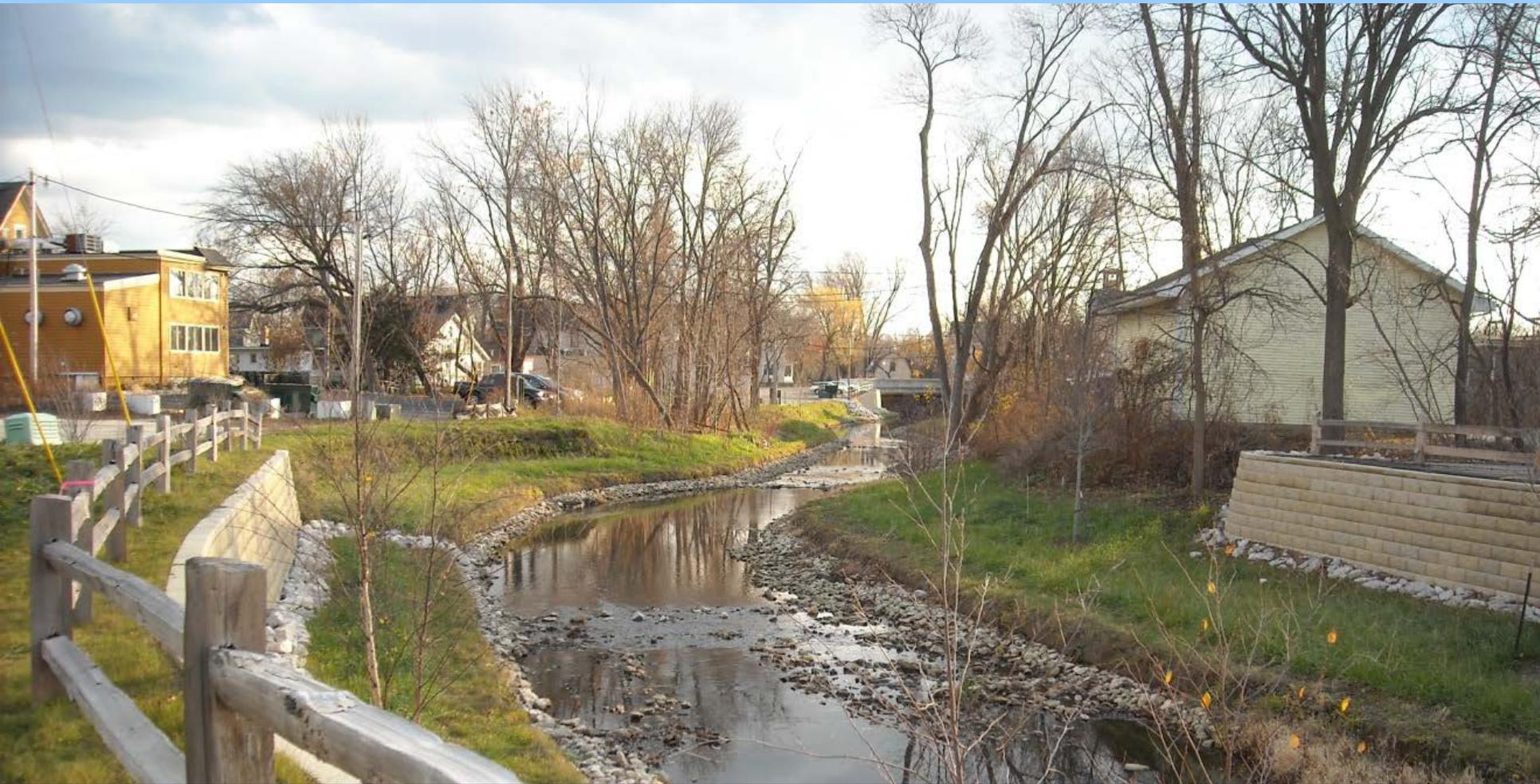


Detention ponds can store storm water runoff, decreasing flash flooding in urban areas.

Image from MMSD Stormwater Detention Project (Wauwatosa, WI)



Stormwater



Stream restoration allows watersheds to better manage flooding

Image from Thiensville, WI



River Warning Systems



River warning systems installed on conservation dams to warn county officials about expected dam breaching.

Images from Vernon County



Other Projects



NOAA Weather Radios

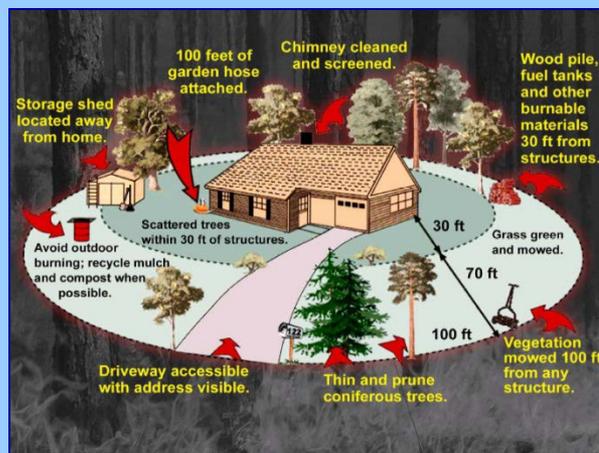


Mobile Home Tie-Downs



Wind Retrofit Guide for Residential Buildings

FEMA P-804 / December 2010



Proper Landscaping

- Raise appliances and utilities
- Install back-flow valves
- Retrofit for wind resistance
- Education and public awareness
- **INSURANCE** (flood and sewer)
- Land use planning



Benefits of Mitigation

- Protect the health/safety of citizens
- Preserve or expand tax base
- Attract or retain business/industry
- Revitalize a depressed area



Gays Mills, WI



Gays Mills, WI



Benefits of Mitigation

- Enhance recreation and tourism
 - Parks
 - Trails
- Increase community pride & improve quality of life
- Save tax dollars



Darlington, WI



Chaseburg, WI



Mitigation Successes

- Soldiers Grove: Acquisition/demolition, relocation, elevation
- Gays Mills: Acquisition/demolition, relocation, elevation
- Prairie du Chien: Acquisition/demolition, relocation
- Reedsburg: Acquisition/demolition
- Rock Springs: Acquisition/demolition
- Spring Green: Acquisition/demolition



Mitigation Success: Losses Avoided

- Crawford County Highway Department
 - 2001 Mitigation Project
 - Project Costs: \$663,780
 - Losses Avoided: \$3,929,449
- Return on Investment: 592%
- Looked at 2 flood events (2007 and 2008)
- ROI increases with subsequent events



Loss Avoidance Study

Wisconsin, Property Acquisition and
Structure Demolition

September 2009



Federal Emergency Management Agency
U.S. Department of Homeland Security
500 C Street, Southwest
Washington, DC 20472



Mitigation Planning





Disaster Mitigation Act of 2000

- Public Law 106-390 signed into law 10/30/00
- Establishes a national disaster hazard mitigation program
 - Section 203: Pre-Disaster Mitigation Program
 - Section 322: Mitigation Planning Requirement





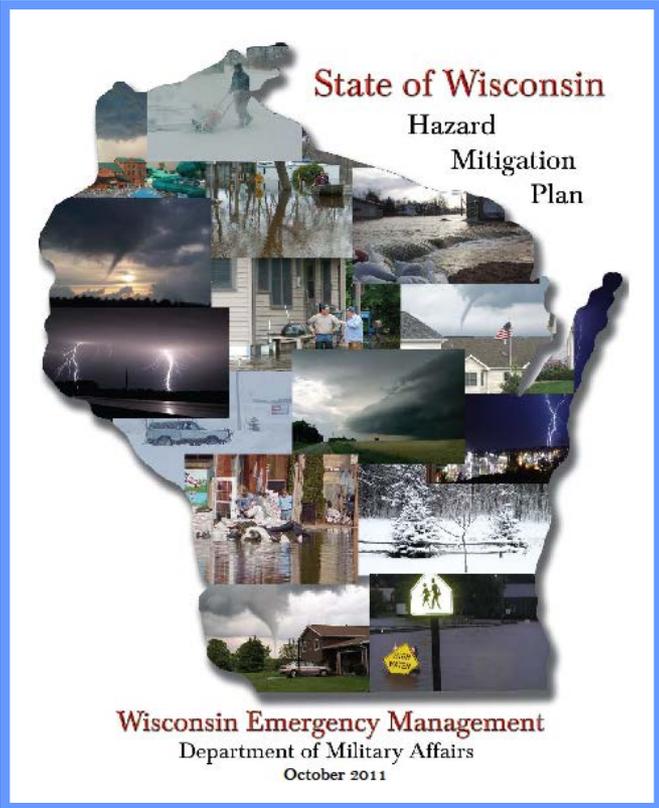
Vision of DMA 2000

- To reduce disaster losses thru pre-disaster mitigation planning by pre-identifying, cost-effective mitigation.
- Mitigation planning would then streamline and speed up the recovery process.





Mitigation Planning



tem that ranked each of
The ranking systems for
not intended to supersede
rather to allow time and
s.

| CRITERIA |
|--|
| le counties in each event ions |
| ill or isolated areas when it or is not applied across the |
| very five years on a large (sub-county level) is poorly established in |

| CRITERIA |
|------------------------------|
| le on measures |
| eriod of time, or are perma- |
| measures that may be ap- |

hazard

| | |
|-----|--|
| Low | <ul style="list-style-type: none"> Mitigation measures are cost-effective only in limited circumstances Mitigation measures are effective for a reasonably long period of time Methods for reducing risk from the hazard are not well-established, are not proven reliable, or are experimental The State or counties have little or no experience in implementing mitigation measures, and/or no technical knowledge of them Mitigation measures are ineligible under federal grant programs There is a very limited range of mitigation measures for the hazard, usually only one feasible alternative The mitigation measures have not been proven cost-effective and are likely to be expensive compared to the magnitude of the damages caused by the hazard The long-term effectiveness of the measure is not known, or is known to be relatively poor |
|-----|--|

- Describe actions to mitigate hazards, risks, and vulnerabilities
- Establish strategy to implement those actions
- Pre-identify projects to ensure comprehensive, integrated approach to hazard reduction



Mitigation Actions

Mitigation actions identified through RiskMAP process need to be coordinated with the county hazard mitigation planning process.



Planning Status

- Columbia County: Expired 9/29/13; updating
- Crawford County: Expires 7/26/2017
- Dane County: Expires 5/12/2015
- Grant County: Expires 5/9/2018
- Iowa County: Expires 10/17/2017
- Richland County: Expires 10/9/2014; updating
- Sauk County: Expires 10/3/2017



Mitigation Assistance

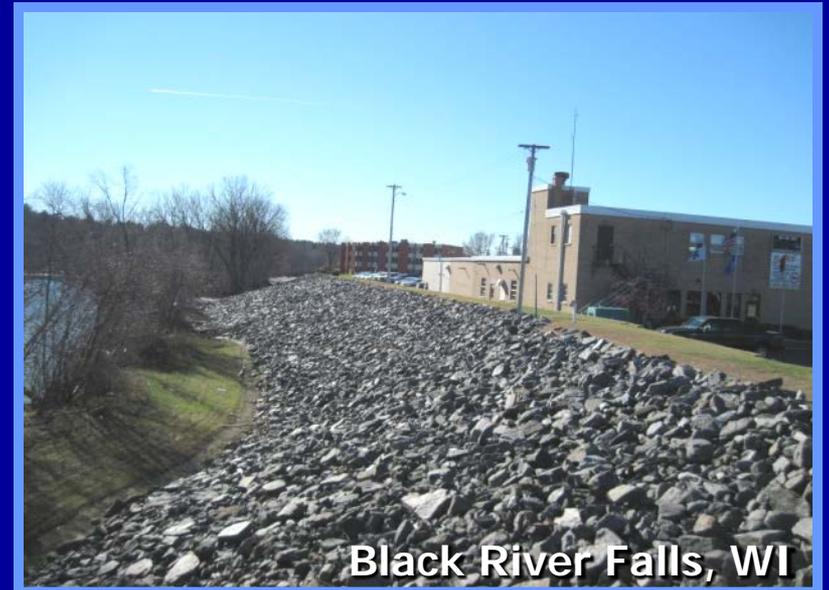




Public Assistance Program



Incorporate cost-effective mitigation measures when repairing damaged public facilities.



Black River Falls, WI



Unified Hazard Mitigation Assistance Program



Hazard Mitigation Grant Program

Pre-Disaster Mitigation Program

Flood Mitigation Assistance Program



Eligible Sub-Applicants

| Entity | Program Name | | |
|---|--|--|---|
| |  HMGP HAZARD MITIGATION GRANT PROGRAM |  PDM PRE-DISASTER MITIGATION |  FMA FLOOD MITIGATION ASSISTANCE |
| State Agencies | ✓ | ✓ | ✓ |
| Tribal Governments | ✓ | ✓ | ✓ |
| Local Governments | ✓ | ✓ | ✓ |
| Private Non-Profit Organizations (PNPs) | ✓ | | |



Cost Sharing

| Programs | Mitigation Activity Grant (Percent of Federal/Non-Federal Share) | Management Costs (Percent of Federal/Non-Federal Share) | |
|--|---|--|-------------|
| | | Grantee | Sub-Grantee |
| HMGP | 75/25 | 100/0 | -/- * |
| PDM | 75/25 | 75/25 | 75/25 |
| PDM – Sub-grantee is a small impoverished community | 90/10 | 75/25 | 90/10 |
| PDM – Tribal grantee is small impoverished community | 90/10 | 90/10 | 90/10 |
| FMA | 75/25 | 75/25 | 75/25 |
| FMA – repetitive loss property | 90/10 | 90/10 | 90/10 |
| FMA – severe repetitive loss property | 100/0 | 100/0 | 100/0 |



Funding Availability



Hazard Mitigation Grant Program

- Post-disaster
- 15% (20% with Enhanced Plan) of the total federal funds allocated for Public and Individual Assistance programs for each disaster
- Wisconsin is an "enhanced" state



Funding Availability (Continued)



Pre-Disaster Mitigation Program

- Annual, national competition
- Subgrants projects capped at \$3 million federal share; Planning \$800,000 for new plan, \$300,000 plan update
- FFY13 \$23.7 million nationwide
- Program reauthorized through 9/30/13



Funding Availability (Continued)



Flood Mitigation Assistance Program

- FFY13 \$120 million
 - Repetitive Loss Properties
 - Severe Repetitive Loss Properties
 - NFIP insured properties
- Flood mitigation only
- Mitigation to NFIP insured structures



Funding Availability (Continued)



Flood Mitigation Assistance Program

- Planning
 - Only for flood hazard component of a plan
 - \$50,000 Applicant
 - \$25,000 Subapplicant



Funding Availability (Continued)

Repetitive Loss Properties

- 90/10 cost share
- Definition (significantly different):
 - Incurred flood-related damage on 2 occasions that equaled or exceeded 25% of the market value at the time of each event; and
 - At the time of second event of flood-related damage, the flood insurance policy includes ICC coverage



Repetitive Loss Properties

- Dane County: 1 property
- Muscoda: 1 property
- Gays Mills: 2 properties (1 acquired)
- Steuben: 1 property (part of pending project)



Funding Availability (Continued)

Severe Repetitive Loss Properties

- 100% funding
- Definition:
 - At least 4 NFIP claim payments over \$5,000 each, and cumulative exceeds \$20,000; or
 - 2 payments exceeds the market value of the structure
- None in the lower Wisconsin River watershed



Local Match

- Can be provided by any source as long as not federal dollars
- CDBG is pass through money and loses federal identity
- ICC (Increased Cost of Compliance) funds
- State programs (CDBG, DNR Municipal Flood)
- Property owners
- Volunteer and in-kind
- Will coordinate with agencies on the state hazard mitigation teams, councils, board, etc.



Eligible Projects

| Eligible Activities |  |  |  |
|--|---|---|---|
| Mitigation Projects | √ | √ | √ |
| Property Acquisition & Structure Demolition | √ | √ | √ |
| Property Acquisition & Structure Relocation | √ | √ | √ |
| Structure Elevation | √ | √ | √ |
| Mitigation Reconstruction | | | √ |
| Dry Floodproofing of Historic Residential Structures | √ | √ | √ |
| Dry Floodproofing of Non-Residential Structures | √ | √ | √ |
| Minor Localized Flood Reduction Projects | √ | √ | √ |
| Structural Retrofitting of Existing Buildings | √ | √ | |



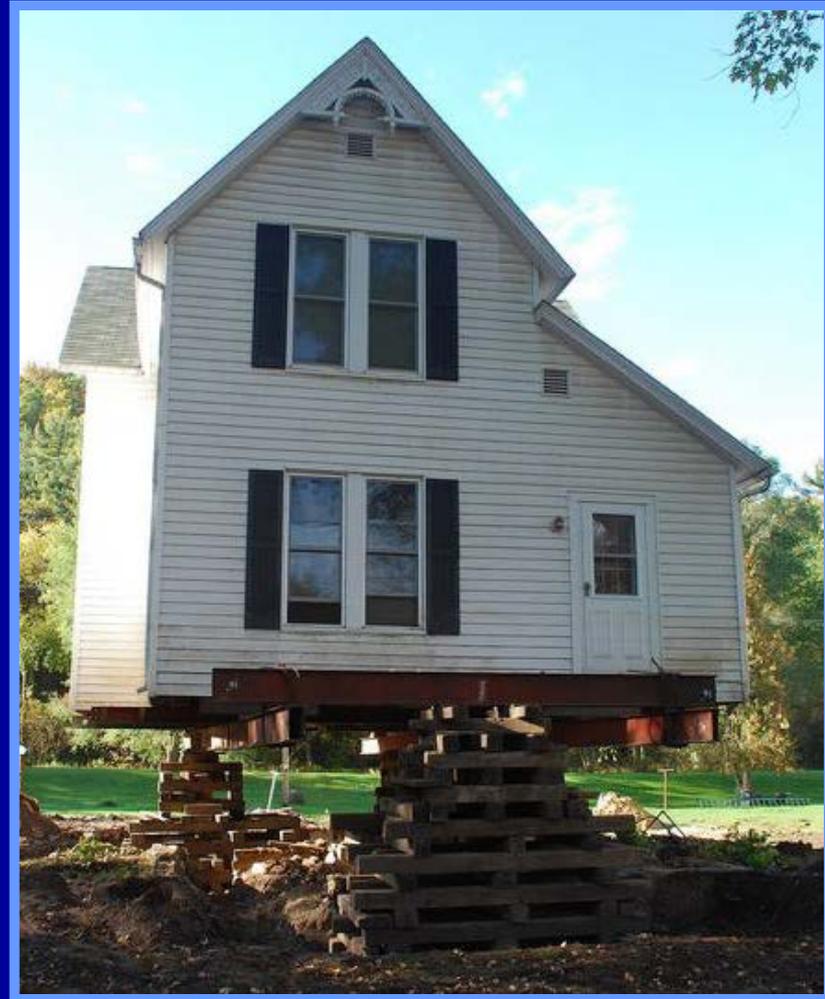
Eligible Projects (Continued)

| Eligible Activities |  HMGP HAZARD MITIGATION GRANT PROGRAM |  PDM PRE-DISASTER MITIGATION |  FMA FLOOD MITIGATION ASSISTANCE |
|---|--|--|---|
| Mitigation Projects (Continued) | ✓ | ✓ | ✓ |
| Non-Structural Retrofitting of Existing Bld. & Facilities | ✓ | ✓ | |
| Safe Room Construction | ✓ | ✓ | |
| Infrastructure Retrofit | ✓ | ✓ | ✓ |
| Soil Stabilization | ✓ | ✓ | ✓ |
| Wildfire Mitigation | ✓ | ✓ | |
| Generators | ✓ | ✓ | |
| Post-Disaster Code Enforcement | ✓ | | |
| 5% Initiative Projects | ✓ | | |
| Advance Assistance | ✓ | | |
| Hazard Mitigation Planning | ✓ | ✓ | ✓ |
| Management Costs | ✓ | ✓ | ✓ |



Requirements

- Participating in the NFIP and in good standing
- Cost-beneficial
- Environmentally sound
- Considered other alternatives
- Best alternative
- Solves the problem
- Plan requirement





Cost Effectiveness

- Project benefits must be greater than the project costs of at least 1 to 1 ratio
- Can aggregate properties in a project
- If determined substantially damaged by local floodplain coordinator, BCA is waived; automatically cost-effective
- Lowest finished floor critical information to the benefit-cost analysis
- If BCA is .75, can look at counting environmental benefits (economic value for green open space and riparian area)



Recent BCA Changes

- For acquisition, if the property is located in the FEMA 100-year floodplain and the total cost is \$276,000 or less it is cost-effective.
- For elevation, if the property is located in the FEMA 100-year floodplain and the total cost is \$175,000 or less it is cost-effective.
- For projects containing multiple structures, the average cost of all structures must meet the criterion.



Requirements

- HMA applications (PDM and FMA) have to be submitted via FEMA's eGrants system

FEMA eServices Application System

https://portal.fema.gov/famsVUWeb/home

FEMA - DHS Integrated Security and Access Control System
Version: 3.00.08.00 Server: mwdzua84

FEMA Home

OUR MISSION
To reduce loss of life and property and protect our nation's critical infrastructure from all types of hazards through a comprehensive, risk-based, emergency management program of mitigation, preparedness, response and recovery

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FEMA 500 C Street SW, Washington, D.C. 20472 Phone: (202) 566-1600



Wisconsin Mitigation Priorities

- Acquisition/Demolition
 - Substantially damaged properties
 - Severe Repetitive Loss and Repetitive Loss Properties
 - Flood damaged
 - Floodway
 - Flood Fringe
 - Non-floodplain
- Elevation in flood fringe
 - Substantially damaged
 - Less than 50% damaged





Wisconsin Mitigation Priorities

- Floodproofing or retrofitting
- Structural projects that protect improved property
- Development or update of all hazard mitigation plans





Mitigation Funding

- Columbia County: \$85,393
 - Crawford County: \$3,741,178
 - Dane County: \$2,123,049
 - Grant County: \$1,246,794
 - Iowa County: \$76,920
 - Richland County: \$250,493
 - Sauk County: \$9,080,739
- TOTAL: \$16,604,566



Questions?



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WEM Hazard Mitigation:

<http://emergencymanagement.wi.gov/mitigation>

FEMA Hazard Mitigation Assistance:

<http://www.fema.gov/hazard-mitigation-assistance>