SECTION 3:
STATE MITIGATION STRATEGY

3.1 STATE HAZARD MITIGATION GOALS, OBJECTIVES, & ACTIONS

OVERVIEW

Due to the abundance of natural hazards / disasters, Ohio has been active in the hazard mitigation arena for several years. In some ways, Ohio has been a national leader in hazard mitigation for a very long time. Consider the following:

- After the devastating 1913 flood, widely noted as being the largest statewide flood to occur in recorded history, the Ohio Conservancy Act was passed. The law permitted citizens of an area with flood concern to work together to plan, finance and manage a flood control project. As a result, two conservancy districts were created – the Miami Conservancy District in 1915 and Muskingum Watershed Conservancy District in 1933. Both have extensive systems of flood control measures and have resulted in millions of dollars in flood loss reduction.

  The Miami Conservancy District (MCD) is perhaps one of the most comprehensive flood management authorities in the nation. Using a combination of planning, structural and non-structural flood mitigation measures, the MCD has helped reduce flood losses for over 1,500 events. MCD Flood control structures are designed to contain runoff that is 40% more than the 1913 flood, which is well over a 1,000 year flood level. Arthur Morgan, the engineer who designed and built the MCD projects went on to be the first Director of the Tennessee Valley Authority in the 1930s.

- In 1971, a report entitled *The Development of Floodplain Management in Ohio* by Battelle Columbus Laboratories, suggested several unique and innovative non-structural approaches to floodplain management. State officials followed-up this report with the first edition of *Ohio Floodplain Regulation Criteria*, which recommended several standards to promote effective floodplain management through land-use codes.

- The State of Ohio has nearly always provided some amount of matching funds for the Hazard Mitigation Grant Program – sometimes matching Federal funds dollar for dollar. State matching contributions to HMGP to date exceed $34 million dollars.

- The State of Ohio produced an all hazards mitigation planning guide that was the one of the first in the nation in 2002 and preceded FEMA planning guidance by more than one year.

- The State of Ohio was the only recipient in FEMA Region V of 2007 Repetitive Flood Claims funds for two projects.

- Ohio has one of the highest rates of compliance with FEMA's local mitigation planning requirements in the nation.

- Ohio has achieved a 97% NFIP participation rate among Ohio communities with identified flood hazard areas and prioritized compliance with flood protection criteria following disasters.

According to the planning requirements under DMA 2000, a SHMP will contain a mitigation strategy that is the state's blueprint for reducing losses identified in the risk assessment.

During the update of hazard mitigation goals, objectives, and actions, the Ohio EMA Mitigation Branch:

- Identified applicable mitigation goals, objective, and actions of the stakeholders that participated in the updating of the plan. This includes direct feedback from the SHMT and other participating entities.
- Identified and reviewed the goals, objectives and actions of the 82 all hazard county mitigation plans that have been developed and approved by FEMA, the handful of community specific mitigation plans that have been developed and approved and any FMA plans that have been developed and approved. These local goals, objectives and action items were compared to those found in the state plan and gave the Ohio EMA Mitigation Branch a clearer vision of what the locals felt was important.
- Identified and reviewed the goals, objectives, and actions of the currently existing State of Ohio Enhanced Hazard Mitigation Plan.
- Reviewed the state's priority hazards which include flooding, tornado/wind, severe summer storms and severe winter storms.

The State of Ohio mitigation strategy in this section of the plan utilizes the following terminology based on FEMA's *State and Local Mitigation Planning How-To Guide*:

- G*oals* – General guidelines that explain what is desired to be achieved. They are usually broad policy-type statements, long term, and represent global visions.
- *Objectives* – Define strategies or implementation steps to attain identified goals. Unlike goals, objectives are specific and measurable.
- *Mitigation Actions* – Specific actions to achieve goals and objectives. The mitigation actions are listed again in Section 3.2, where a Mitigation Action Plan table has been developed that prioritizes such actions and identifies a lead agency for implementation.

PROGRESS ON 2005 GOALS/OBJECTIVES/ACTIONS; CHANGES IN 2008 UPDATE

This section of the state plan has been substantially revised from the 2005 plan, which was previously referenced as Section 4.1. Specifically, the format for goals, objectives and actions are all consistent in this update. For example, the 2005 plan identified goals by hazard and sometimes by agency. This update

generally identifies goals that are all hazard in nature, with specific objectives related to one or more hazards (with the exception of the goal of mitigating repetitive flood loss structures). A 2005 Mitigation Action Plan Update Summary Table is in the appendices (Appendix E); which provides commentary on if the action items identified in the 2005 plan were completed and a brief discussion of action. Finally, the goals/objectives/actions items in this update incorporate priority goals and actions identified in local plans that have been submitted and approved by Ohio EMA and FEMA; incorporate any changes/updates in the strategic plans of agencies that have a role in hazard mitigation; and reflect current trends, issues and priorities.

Overall, over half of the mitigation actions identified in 2005 were completed. Non-completion of several goals was a result of: 1) large ongoing workload due to disaster declarations, 2) reductions / changes in key staff, 3) state budget issues, and 4) old goals not relevant based on current information or goals not at appropriate level.

Several actions had relevance to updating the HIRA portion of the SHMP. In addition to Ohio EMA Mitigation Branch staff resources to develop new data for several hazards, Ohio EMA was fortunate to utilize a non-traditional funding source / partner to assist. The USACE's Planning Assistance to States program was used to provide $40,000 in funding for HAZUS runs. Also, FEMA DAE's were used to help refine the state's inventory of buildings. For projects where ODNR–DOW, Floodplain Management Program was the lead, Community Assistance Program and state matching funds were utilized.

Goal #1: Reducing Life Loss and Injury from Hazard Events.

Goal discussion. Ohio is a populous state with over 11 million people. Furthermore, population centers in Ohio are often concentrated in hazard areas – especially floodplains. This is due to their natural progression from communities whose economies were largely water dependent (steel mills needed water for cooling, water was needed for transportation). Events that historically caused loss of life were epidemiological – specifically outbreaks of cholera and influenza killed thousands of Ohioans in the 19th and early 20th centuries. More recently, hazards that have resulted in significant losses of life include: flooding (467 in Great 1913 flood, 26 in 1990 Shadyside flash flood); fires (322 in 1950 Columbus Penitentiary, 95 in 1963 Marietta nursing home); blizzards/winter storms (51 in 1978 blizzard); and tornadoes (35 in 1974 Xenia tornado).

Less known, but more widespread are injuries from hazard events. In addition to minor or major physical injuries, mental injury (trauma, etc.) is an issue after any type of major hazard event. In addition, both injuries and loss of life are possible not only for direct victims of a hazard event, but also for those responding to / assisting those victims.

If the flood of 1913 were repeated today, it is doubtful that there would be as many casualties. This is due to *building and other safety codes*. For example, over 600 communities in Ohio have adopted flood loss reduction regulations to participate in the National Flood Insurance Program, which makes buildings more resilient in flood events, which, in turn, have a reduced chance for resulting in loss of life or injury. Similarly, building codes today contain standards for wind and fire resistance, and dam/levee construction and rehabilitation standards help prevent catastrophic failures of these structures.

Monitoring and warning systems today are far more sophisticated and effective than their predecessors. The Ohio STORMS (State of Ohio Rain/Snow Monitoring System) effectively monitors precipitation during hazardous weather events. Integrated warning systems (not just a siren on a pole) are effective in flash flood and tornado prone areas; which can also be very effective in reducing potential loss of life and injury.

New or continuation? This goal is a new goal in the 2008 update.

Objective 1: Continue to map hazard areas, refine existing hazard mapping data, and develop/refine loss estimation and vulnerability analysis data

Action: For the 2011 State Mitigation Plan update, complete HAZUS runs for all Ohio counties for 100-year and 25-year scenario floods.

Objective 2: Promote the use of effective early alert / warning systems.

Action: Develop guidance on warning system (including NOAA weather radios) funding under the Hazard Mitigation Grant Program 5% initiative.

Action: Develop success story(ies) based on USGS assisted flood warning systems.

Objective 3: Prioritize acquisition of properties, including those in high risk areas (floodways) or those in imminent danger (e.g.,landslide) for available funds from FEMA mitigation programs.

Action: Reduce the number of pre-FIRM, floodprone properties each year by assisting such owners with successful funding of mitigation projects through FEMA mitigation programs.

Action: Review and update scoring/ranking criteria for mitigation projects to ensure such mitigation projects that propose acquisition of hazard prone structures are recognized.

Objective 4: Ensure the continuation of an effective dam/levee safety program.

Action: Inspect all high hazard dams once every 5 years.

Action: Take enforcement actions on violations of state dam/levee safety laws for severely deficient and or structurally unsound high hazard dams.

Action: Prepare emergency preparedness plans for all state owned high hazard dams by next plan update.

Goal #2: Minimizing Damages to Property and Societal Disruptions from Hazard Events.

Goal discussion. Property damage from hazard events is significant in Ohio. Between 1978 and February, 2008, there have been over $223,000,000 in paid claims from the NFIP. Although this data is a good indicator – it does not account for all of the property losses due to flood. Only about 30% of flood prone structures have flood insurance, the data doesn't include flood claims available through private insurers (for large facilities like factories – private insurance through a secondary insurer is significant), and the data doesn't include crop losses due to flooding.

Similarly, tornadoes and straight-line winds have high loss potential as well. The 1974 Xenia tornado event resulted in over $1 billion in damages in a multi-state region (including Ohio). According to the Insurance Information Institute, New Jersey tops the list of states with the highest average expected losses from tornadoes, followed by Connecticut, Massachusetts, Ohio and Rhode Island, based on A.M. Best's analysis of Risk Management Solutions modeling data.

In addition to property losses, societal disruptions occur after a hazard event: Consider the following impacts:

- Infrastructure disruption can result in the cutoff or evacuation routes, pollution due to sanitary facilities not working, lack of clean drinking water, and isolation of populated areas (such as in a road or bridge collapse). Loss of medical facilities, and or public safety facilities, can result in vulnerable populations should a subsequent disaster event occur.
- Direct loss of facilities used by employers, or indirect loss due to infrastructure disruption, can lead to lost wages and lost tax revenues for all levels of government.
- Research has shown that mental health problems, divorce rates, and physical/emotional abuse increase after a significant hazard event.
- Local "gathering places" that are destroyed in a hazard event result in disruption of the social fabric of a community.

Strengthening of laws, regulations, and ordinances for new and existing facilities is not only critical to the protection of property and life but, also, the reduction of massive physical, social, and economic disruption that accompanies disasters. Regulations and ordinances help communities design and construct new facilities or alter existing facilities in a manner that resists the forces of nature and ensures safety. Local land use laws can support this effort by keeping buildings and development out of the most hazardous areas through local land use planning. It is essential that mitigation planning be incorporated into all land use planning activities at the local and state levels.

New or continuation? This goal is a continuation from the 2005 plan.

Objective 1: Evaluate and improve safety & loss reduction codes/standards for hazards that affect Ohio.

Action: Promote the adoption of standards beyond NFIP minimums for flood loss reduction.

Action: Incorporate code and land use related provisions identified in local mitigation plans into local codes and land use plans.

Objective 2: Develop mitigation resource information for the business community.

Action: Develop webpages and information focusing on mitigation for businesses.

Objective 3: Identify funding sources and obtain funds from a variety of Federal, state, regional and local entities to implement mitigation activities

Objective 4: Promote sustainable communities and development.

Action: Pursue state Executive Order that would parallel Federal Executive Order #11988 on development in flood prone areas.

Goal #3: Integrate Hazard Mitigation Policies and Programs

Goal discussion. Hazard mitigation, which includes loss reduction, had historically occurred in piecemeal fashion – where a need existed or an opportunity made available, mitigation happened. However, with the requirements to do mitigation planning at the state and local level, mitigation programs have the potential to be more robust and have a need to be integrated. Policies and programs at all levels of government tend to be stove-piped, and it is often up to communities to understand how the programs fit together – many times with little help.

As indicated in the previous goal, incorporating actions identified in local mitigation plans such as suggested code and/or land use changes by actually updating local codes and land use plans is one significant way hazard mitigation policies and programs can be integrated. Another is to promote interagency coordination at the state and national level.

New or continuation? This goal is a new goal in the 2008 update.

Objective 1: Expand the SHMT to include other federal, state and other entities.

Action: Invite at least two additional entities each year to participate on the SHMT.

Objective 2: Ohio EMA Mitigation Branch work with non-traditional partners to better align programs and policies.

Action: Work with USACE to develop information and policies in situations where communities desire mitigation through the USACE and FEMA.

Action: Continue inter-agency participation on the USACE Silver Jackets Initiative.

Objective 3: Ensure better coordination of state and local mitigation planning activities.

Action: Complete web portal project to better utilize LHMPs and data therein and to make it easier to link LHMP data to the state plan.

Goal #4: Eliminate Vulnerable Repetitive Loss Flood Prone Structures in the State of Ohio.

Goal discussion. Ohio ranks in the top twenty states in the nation in having FEMA identified repetitive loss floodprone structures. Furthermore, flooding is Ohio's most costly natural hazard. Although there are various definitions of repetitive loss, these structures represent the most vulnerable and floodprone building stock in Ohio. For such structures, the best and preferred mitigation option is acquisition/demolition. However, it may be possible to use other mitigation techniques (i.e., floodproofing) especially when the structure is considered non-residential.

The Ohio EMA Mitigation Branch and ODNR–DOW, Floodplain Management Program have been and are active in this area. The Mitigation Branch utilizes repetitive loss lists published by FEMA to identify repetitive loss structures and target them for outreach regarding FEMA mitigation grant programs that may be available. Between 2006 and 2008 – these lists were utilized for projects under the HMGP, FMA, RFC and SRL programs. For example, there are active, pending or developing FEMA mitigation projects addressing approximately 13 of 45 structures on the FEMA severe repetitive loss list, where net benefits have been identified. Two properties funded under RFC in 2007 and two proposed in 2008 are on the SRL list. In addition, an SRL project to be submitted in 2008 will propose to mitigate one of the most serious of these properties

The ODNR-DOW, Floodplain Management Program addresses this issue through education and training of local floodplain administrators. This ensures that the local floodplain administrators are aware of the requirements to conduct "substantial damage" determinations, which not only requires local codes to be triggered to ensure that during repair, such vulnerable buildings are made stronger and more flood resistant, but also triggers access to additional funds available through the property owner's flood insurance policy to make such changes. During the year, substantial damage training is provided in workshops statewide. After significant flood events, the Floodplain Management Program conducts NFIP responsibility briefings that focus on substantial damage determinations. Finally, the Floodplain Management Program works with the Ohio Building Official's Association to train a volunteer cadre of building officials in substantial damage determinations.

New or continuation? This goal is a new goal in the 2008 update.

Objective 1: Continue to educate Ohio Floodplain Administrators and volunteer cadres such as the Ohio Building Officials Association on the post-event "substantial damage" process.

Action: Conduct training and/or post-disaster briefings for appropriate audiences on substantial damage assessments.

Action: Pursue reimbursement policy to support community floodplain administrators in conducting substantial damage determinations following flood events under the FEMA Public Assistance program.

Objective 2: Educate owners of repetitive loss properties on mitigation techniques and programs that are available.

Action: Develop and implement an outreach strategy targeting repetitive loss property owners on mitigation techniques and funding programs.

Objective 3: Prioritize repetitive loss properties for available funds from FEMA mitigation programs.

Action: Reduce the number of severe repetitive loss properties by 5% each year by assisting such owners with successful funding of mitigation projects through FEMA mitigation programs.

Action: Review and update scoring/ranking criteria for mitigation projects to ensure such mitigation projects that propose mitigating repetitive loss structures are recognized.

Goal #5: Promote Research, Education, and Outreach Activities to Create a Culture of Mitigation in Ohio.

Goal discussion. To take effective mitigation actions, individuals, communities, and the state must have data upon which to make decisions. This data must be based on the best and latest scientific research (ranging from data on the hazard itself to the mitigation actions taken) and must be disseminated in an effective way. Also, data on mitigation grant programs and policies must be disseminated effectively.

New or continuation? This goal is a new goal in the 2008 update.

Objective 1: Research non-traditional mitigation techniques and develop mitigation success stories on different mitigation techniques, focusing on those where success stories haven't been yet completed.

Action: Develop success stories in wind resistant construction codes and mitigation techniques.

Action: Develop information on severe winter storm / blizzard / ice mitigation techniques and identify success stories.

Objective 2: Utilize the web to promote hazard mitigation and be a rich source of information.

Action: Enhance the current Ohio EMA Mitigation Branch webpage(s) to provide much more information than currently exists. Ensure links to other hazard mitigation programs are included.