Steuben County

Multi-Hazard Mitigation Plan
September 2014

Steuben County Emergency Management Agency

2014 Steuben County
Multi-Hazard Mitigation Plan

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Acknowledgments

Steuben County's multi-hazard mitigation plan was developed in 2008 by Christopher B. Burke Engineering, Ltd (CBBEL) and updated in 2014 by The Polis Center at IUPUI. The Steuben County Emergency Management Agency would like to thank CBBEL and the planning team for their contributions and assistance in development of a plan that will help the county to continue to build its capacity to prevent, protect against, respond to, and recover from disasters.

Steuben County Emergency Management Agency would also like to recognize Maumee River Basin Commission (MRBC) as a partner in this multi-jurisdictional planning effort. MRBC provides regional leadership and promotion of flood control, soil and water conservation, and related resource management through a coordinated and comprehensive planning and implementation approach.

Acronyms

AAL – Average Annualized Loss
AEGL - Acute Exposure Guideline Levels
ALOHA - Areal Locations of Hazardous Atmospheres
BFE - Base Flood Elevation
CAMEO – Computer-Aided Management of Emergency Operations
CAPI – Community Action Potential Index
CEMA – County Emergency Management Agency
CEMP – Comprehensive Emergency Management Plan
CPRI – Calculated Priority Risk Index
CRS – Community Rating System
DEM – Digital Elevation Model
DFIRM – Digital Flood Insurance Rate Map
DHS – Department of Homeland Security
DMA – Disaster Mitigation Act
EAP – Emergency Action Plan
EMA – Emergency Management Agency
EPA – Environmental Protection Agency
FEMA – Federal Emergency Management Agency
FIRM – Flood Insurance Rate Maps
FIS – Flood Information Study
GIS – Geographic Information System
HAZUS-MH – Hazards USA Multi-Hazard
HUC – Hydrologic Unit Code
IDHS – Indiana Department of Homeland Security
IDOT – Indiana Department of Transportation
IDNR – Indiana Department of Natural Resources
IGS – Indiana Geological Survey
MHMP – Multi-Hazard Mitigation Plan
MRBC - Maumee River Basin Commission
NCDC – National Climatic Data Center
NEHRP – National Earthquake Hazards Reduction Program
NFIP – National Flood Insurance Program
NOAA – National Oceanic and Atmospheric Administration
NSW – National Weather Service
PPM – Parts Per Million
SPC – Storm Prediction Center
USDA – United States Department of Agriculture
USGS - United States Geological Survey

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Executive Summary

The Steuben County Multi-Hazard Mitigation Plan was developed to guide the county in a risk-based approach to preventing, protecting against, responding to, and recovering from disasters that may threaten the county's citizens, infrastructure, and economy. The plan is hazard- and community- specific. It documents historical disasters, assesses probabilistic disasters through Hazus-MH and GIS analyses, and addresses specific strategies to mitigate the potential impacts of these disasters.

This five-year update was a collaborative effort among the Steuben County planning team, The Polis Center of Indiana University Purdue University-Indianapolis, and Maumee River Basin Commission (MRBC)**.** Maumee River Basin Commission, a six-county regional flood-hazard mitigation organization, was established by the Indiana General Assembly to reduce the impact of floods on life and property through public education, watershed management, and working with local communities to improve floodplain mapping. Additionally, MRBC is partnering with local communities in the acquisition and removal of at-risk structures and other flood mitigation projects.

The team updated the following content in the plan:

- Historical hazards: Each hazard section within this plan documents NCDC-reported hazards within the past five years and provides trends and summaries over the past 50 years.
- Profile Hazards: The planning team revised the hazard priority rankings and plotted each hazard on a risk grid according to probability (y-axis) and potential impact (x-axis).
- Community profile: Demographics, social, and economic data, as well as existing and future land use descriptions were updated to reflect the current status of the county and its jurisdictions.
- NFIP: The plan includes the effective date of the DFIRM.
- Planning description: The new planning team and updated planning process were described and documented.
- Risk assessment: Hazus-MH and GIS analyses were run using site-specific data from the county. Updated loss estimation is provided for tornadoes, floods, earthquakes, and hazardous materials releases.
- Mitigation: The team reviewed and updated mitigation goals, objectives, and strategies.

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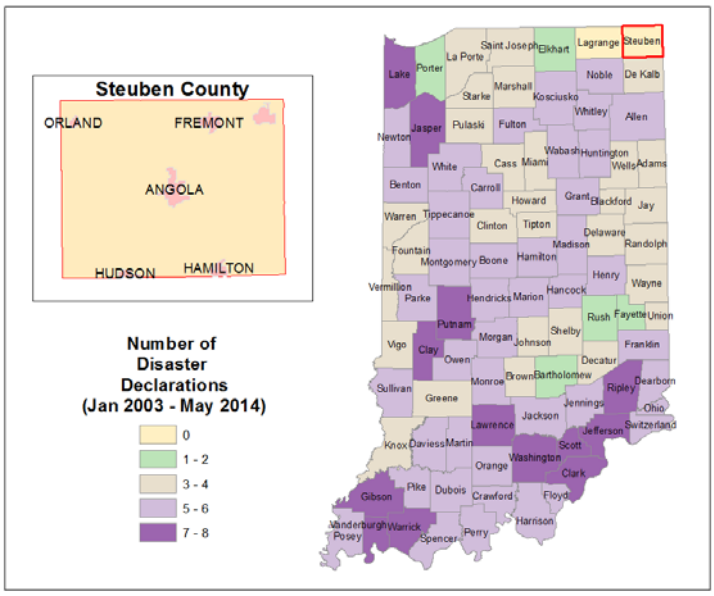
Section 1 Introduction

Hazard mitigation is defined as any sustained action to reduce or eliminate long-term risk to human life and property from hazards. The Federal Emergency Management Agency (FEMA) has made reducing hazards one of its primary goals. Hazard mitigation planning and the subsequent implementation of the projects, measures, and policies developed as part of this plan, is a primary mechanism in achieving FEMA's goal.

The federal Disaster Mitigation Act of 2000 requires jurisdictions to develop and maintain a multi-hazard mitigation plan (MHMP) to remain eligible for certain federal disaster assistance and hazard mitigation funding programs. Renewal of the plan every five years is required to encourage the continual awareness of mitigation strategies. In order for the National Flood Insurance Program (NFIP) communities to be eligible for future mitigation funds, they must adopt the MHMP.

In the past decade, FEMA has declared 18 emergencies and disasters for the State of Indiana. Counties impacted by these declarations are identified in Figure 1.

Figure 1: Disaster Declarations for Indiana[1]



[1] Source: Federal Emergency Management Agency (http://www.fema.gov/disasters/grid/state-tribal-government)

In the event of a federally declared disaster, individuals, families, and businesses may apply for financial assistance to help with critical expenses. Assistance may be categorized as Individual Assistance (IA), Public Assistance (PA), or Hazard Mitigation Assistance (HMA).

The following types of assistance may be available in the event of a disaster declaration.

Individuals & Household Program: Provides money and services to people in presidentially declared disaster areas.

Housing Assistance: Provides assistance for disaster-related housing needs.

Other Needs Assistance: Provides assistance for other disaster-related needs such as furnishings, transportation, and medical expenses.

Public Assistance: Disaster grant assistance available for communities to quickly respond to and recover from major disasters or emergencies declared by the president.

Emergency Work (Categories A-B): Work that must be performed to reduce or eliminate an immediate threat to life, to protect public health and safety, and to protect improved property that is significantly threatened due to disasters or emergencies declared by the president.

Permanent Work (Categories C-G): Work that is required to restore a damaged facility, through repair or restoration, to its pre-disaster design, function, and capacity in accordance with applicable codes and standards.

Hazard Mitigation Assistance: Provides assistance to states and local governments through the Hazard Mitigation Grant Program (HMGP) to implement long-term hazard mitigation measures after a major disaster declaration.

Steuben County has not received federal aid for any disaster declarations in the last ten years.

Section 2

Prerequisites

The 2014 Steuben County Multi-Hazard Mitigation Plan meets the requirements of the Disaster Mitigation Act of 2000, which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act to require state, local, and tribal entities to closely coordinate mitigation planning and implementation efforts. It also meets the requirements of the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) grant program, Pre-Disaster Mitigation (PDM) grant program, and other National Flood Insurance Program (NFIP) grants.

2.1 Multi-Jurisdictional Plan Adoption

This plan represents a comprehensive description of Steuben County's commitment to significantly reduce or eliminate the potential impacts of disasters through planning and mitigation. Adoption by the local governing bodies within the county legitimizes the plan and authorizes responsible agencies to implement mitigation responsibilities and activities.

To be eligible for federal mitigation funding, each participating jurisdiction must adopt the plan. After thorough review, the Steuben County Board of Commissioners adopted the plan on <date adopted>. Additional adoptions are included in Appendix D.

2.2 Jurisdiction Participation

Table 1 lists each incorporated jurisdiction and its participation status in 2008 and 2014.

Table 1: Participating Jurisdictions

Jurisdiction Name	Type	Participated 2008 Plan	Participated 2014 Plan
Steuben County	County	Yes	Yes
Angola	City	Yes	Yes
Hamilton	Town	Yes	Yes
Clear Lake	Town	No	No
Orland	Town	Yes	No
Hudson	Town	Yes	Yes
Ashley	Town	No	No
Fremont	Town	No	Yes

** The towns of Ashley and Hamilton border DeKalb and Steuben counties.*

The county also invited representatives from local businesses and organizations to participate in the plan. Table 2 lists additional team members with a description of their participation.

Table 2: Organizations Invited to Participate

Organization Name	Organization Type	Representative	Title	Attended Meetings
Steuben Co. Government	Emergency Management	Kristy Clawson Director	Director	Yes
City of Angola	Planning	Vivian Likes	Planner	No
Steuben Co. Government	Health Department	Kris Thomas	Chief Environmental Specialist	Yes
Town of Hamilton	Street Department	Mark Gerardot	Superintendent	No
Steuben Co. Government	Surveyor	Larry Gilbert	Surveyor	No
Town of Hamilton	Zoning Administration	Brent Shull	Town Manager	Yes
City of Angola	Mayor's Office	Richard Hickman	Mayor	Yes
Steuben Co. REMC	REMC Operations	Bill Stackhouse	Operations Coordinator	Yes
Steuben Co. Government	GIS	Chad Hoover	GIS Coordinator	Yes
Steuben Co. Government	Sheriff's Office	Tim Troyer	Sheriff	No
American Red Cross	American Red Cross	Kimberly Stout	Disaster Program Manager	Yes
City Of Angola	Fire Department	Michael Meek	Chief	Yes
City of Angola	Water Department	Tom Selman	Superintendent	No
Town of Hamilton	Town Marshal	Jeremy Warner	Marshal	No
Maumee River Basin Commission	Maumee River Basin Commission	Rodney Renkenberger	Executive Director	Yes
Steuben Co. Government	Plan Commission	Frank Charlton	Director	Yes
Town of Orland	Town Marshal	Brooke Norton	Marshal	No
Steuben Co. Government	Commissioners Office	Ron Smith	President of Commissioners	Yes
Steuben Co. Government	Highway Department	Jennifer Sharkey	Engineer	Yes
City of Angola	Building Department	Dean Twitchell	Building Commissioner	No
City of Angola	Wastewater Department	Craig Williams	Superintendent	Yes
Univertical	Manufacturing Facility	Rob Berger	Chemist	Yes
Steuben Co. Government	Emergency Management/HAM	Bill Cance	Volunteer/RACES Coordinator	Yes
Steuben Co. Government	Sheriff's Office	John Gonya	Chief Deputy	No
City of Angola	Police Department	Mike Lesiac	Police Officer	No
City of Angola	Fire Department	Kevin Mory	Fire Fighter	No
Town of Fremont	Town Manager	Chris Snyder	Manager	Yes
Herald Republican	Media	Any Oberlin	Reporter	Yes
Indiana Department Homeland Security	District 3 Coordinator	Rick Dolsen	Coordinator	Yes

Section

3

Planning Process

The Steuben County Emergency Management Agency (EMA), The Polis Center (Polis), and Maumee River Basin Commission (MRBC) have joined efforts to develop this five-year plan update. The planning process consisted of the following tasks:

Task 1: Organize Resources

The Steuben County EMA created a planning team to attend meetings, gather data and historical information, participate in mitigation brainstorming sessions, and review the plan.

Task 2: Risk Assessment

The planning team identified the natural and technological hazards to include in this plan, and Polis developed hazard event profiles to address the possible magnitudes and severities associated with each hazard. The team used local resources to inventory the county's assets and estimate losses.

Task 3: Public Involvement

The public was invited to attend a public meeting to review the risk assessment results and discuss mitigation strategies. The public meeting was advertised locally prior to the meetings. A copy of the newspaper announcement is available in Appendix B.

Task 4: Develop Mitigation Strategies

Polis and Maumee River Basin Commission met with representatives of each community to develop and prioritize mitigation strategies and action items that would reduce the costs of disaster response and recovery, protect people and infrastructure, and minimize overall disruption to the county in the event of a disaster.

Task 5: Complete the Plan

Polis compiled all of the planning team documentation and research with the risk assessment and mitigation strategies to produce a draft plan for review. The Steuben County planning team reviewed and revised the plan before submitting to the Indiana Department of Homeland Security and FEMA for approval.

Task 6: Plan Adoption

The Steuben County EMA coordinated the effort to collect adoptions from each participating jurisdiction.

3.1 Planning Team Information

The planning team is headed by Kristy Clawson, Steuben County EMA. Other members of the planning team include representatives from various county departments, cities and towns, and public and private utilities. All members of the planning committee were actively involved in attending the MHMP meetings, providing available Geographic Information Systems (GIS) data and historical hazard information, reviewing and providing comments on the draft plans, coordinating and participating in the public input process, and coordinating the county's formal adoption of the plan.

Table 3 identifies the planning team individuals and the organization that they represent.

Table 3: Multi-Hazard Mitigation Planning Team Members

Organization Name	Organization Type	Representative	Title
Steuben County Government	Emergency Management	Kristy Clawson Director	Director
Steuben County Government	Health Department	Kris Thomas	Chief Environmental Specialist
Town of Hamilton	Zoning Administration	Brent Shull	Town Manager
City of Angola	Mayor's Office	Richard Hickman	Mayor
Steuben County REMC	REMC Operations	Bill Stackhouse	Operations Coordinator
Steuben County Government	GIS	Chad Hoover	GIS Coordinator
American Red Cross	American Red Cross	Kimberly Stout	Disaster Program Manager
City Of Angola	Fire Department	Michael Meek	Chief
Maumee River Basin Commission	Maumee River Basin Commission	Rodney Renkenberger	Executive Director
Steuben County Government	Plan Commission	Frank Charlton	Director
Steuben County Government	Commissioners Office	Ron Smith	President of Commissioners
Steuben County Government	Highway Department	Jennifer Sharkey	Engineer
City of Angola	Wastewater Department	Craig Williams	Superintendent
Univertical	Manufacturing Facility	Rob Berger	Chemist
Steuben County Government	Emergency Management/HAM	Bill Cance	Volunteer/RACES Coordinator
Town of Fremont	Town Manager	Chris Snyder	Manager
Herald Republican	Media	Any Oberlin	Reporter
Indiana Department Homeland Security	District 3 Coordinator	Rick Dolsen	Coordinator

The planning team held a series of three meetings. The dates and goals of each meeting are listed as follows.

February 27, 2014

- Introduce project
- Add/modify hazard profiles
- Review and collect facility data
- Determine modeling scenarios

Meeting 2, April 17, 2014

- Review modeling scenarios
- Review past mitigation strategies
- Add/modify mitigation strategies

Meeting 3 (PUBLIC MEETING), June 30, 2014

- Review draft plan
- Add/modify mitigation strategies
- Elicit public input

3.2 Review of Existing Plans

Steuben County has worked closely with Maumee River Basin Commission on several previous planning efforts, e.g. land use plans, emergency response plans, municipal ordinances, and building codes, to direct community development. The planning team reviewed these plans and extracted existing hazard mitigation elements into this MHMP update. Much of the relevant content included components from the 2008 MHMP plan (developed by Christopher B. Burke Engineering, Ltd.) that remain intact. Table 4 on the following page lists the plans, studies, reports, and ordinances used in the development of this plan.

Table 4: Planning Documents Reviewed for 2014 MHMP Planning Process

Title	Year	Description	Where Used
Steuben County 2008 Mitigation Plan	2008	Federal Disaster Mitigation Act requirement	Throughout
Water Resource Availability in Maumee River Basin, Indiana	1996	Ground and surface water reports for the Maumee River Basin	Section 4: County Profile
Steuben County Economic Development Strategic Plan	2013	Economic development priorities	Section 4: County Profile
Risk MAP Resilience Report	2013	Risk MAP resilience report for Steuben County, Indiana including the communities of Angola, Ashley, Clear Lake, Fremont, Hamilton, Hudson and Orland	Section 6: Mitigation Strategies
Community Action Potential Index	2013	FEMA Region V Risk Analysis Branch of the Mitigation Division methodology for ranking communities for Risk MAP Actions	Section 5: Risk Assessment; Section 6: Mitigation Strategies
Steuben County Zoning Ordinance	2011	Description of zoning ordinance	Section 6.1 Plans and ordinances
Maumee River Basin Commission Flood Mitigation Master Plan	2013	Recommendations for flood mitigation activities in the Maumee River Basin	Section 5: Risk Assessment; Section 6: Mitigation Strategies

3.3 Review of Technical and Fiscal Resources

The MHMP planning team identified representatives from key agencies to assist in the planning process. Technical data, reports, and studies were obtained from these agencies. The organizations and their contributions are summarized in Table 5.

Table 5: Key Agency Resources Provided

Resources Provided	Source
Repetitive loss information	FEMA Region V
Digital flood maps, dam and levee information	FEMA Region V
GIS data, digital elevation models (DEM), earthquake modeling scenarios	Indiana Geological Survey
2008 Steuben County MHMP	Steuben County Emergency Management Agency
Critical Facility GIS data	Steuben County GIS Department
Community Action Potential Index (CAPI) data	FEMA Region V
Buyout information and planning data	Maumee River Basin Commission

3.4 Public Involvement

The planning team invited the public to a meeting on June 30, 2014 to encourage the community's active participation in the planning process. During the meeting, The Polis Center reiterated the purpose of the plan and the goals of the meeting; then walked the group through highlights of the draft plan. Following the presentation, the attendees participated in break-out discussion groups to review the mitigation strategies previously developed by the planning team and brainstorm additional ideas. The meeting culminated with a group discussion of what each break-out group discussed. Figures 2 and 3 are photographs captured at the public meeting.

The meeting was announced in *The Herald Republican* on Saturday, June 28 and Sunday, June 29. It was also announced on local radio station WLKI. Appendix A includes meeting minutes. Appendix B includes the published announcement of the meeting.

Figure 2: Steuben County Public Meeting Photograph

Figure 3: Steuben County Public Meeting Photograph

3.5 Neighboring Community Involvement

The Steuben County planning team invited neighboring counties to review the draft plan and provide input on content, including mitigation strategies. Details of neighboring stakeholders' involvement are summarized in Table 6.

Table 6: Neighboring Community Participation

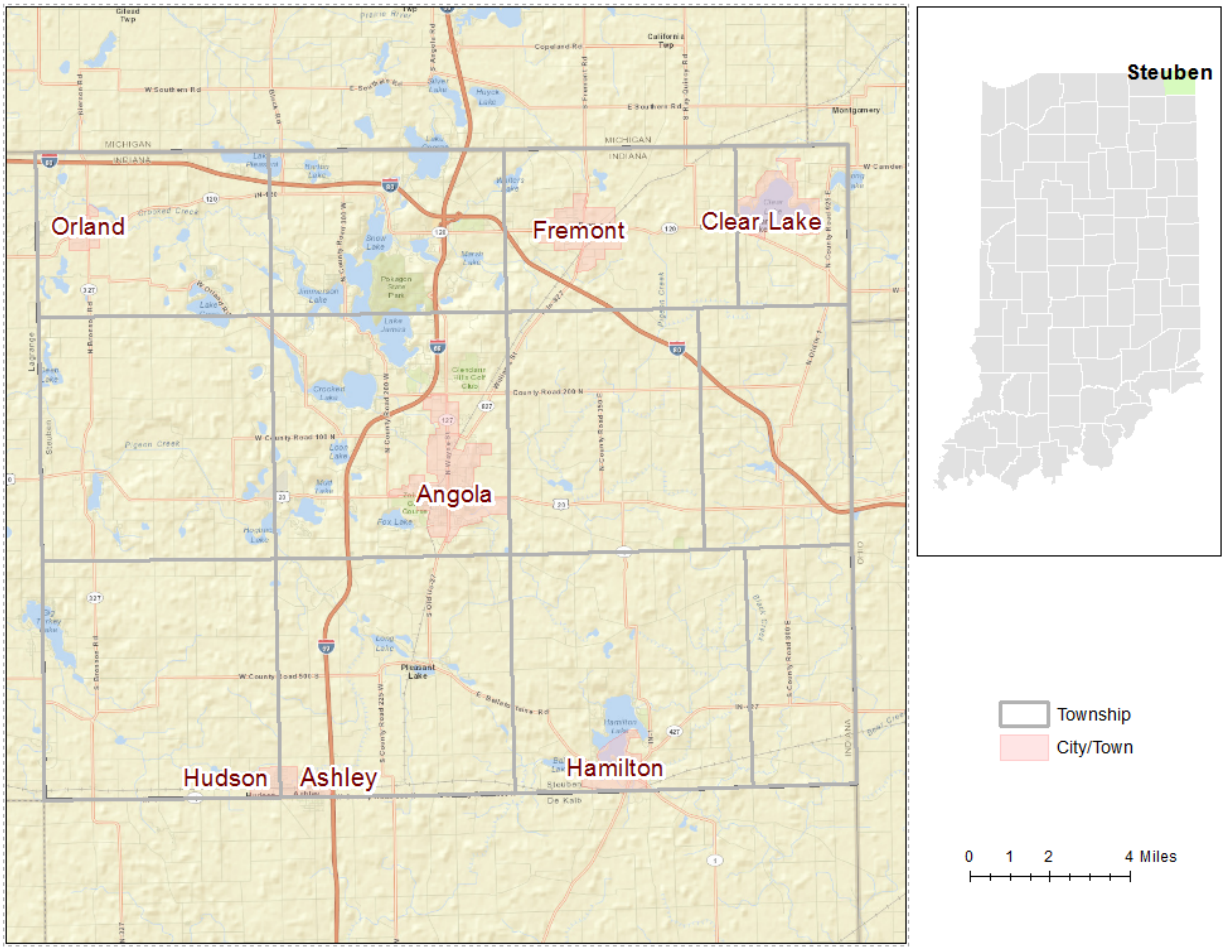
Person Participating	Neighboring Jurisdiction	Organization	Participation Description
Roger Powers	DeKalb County, IN	DeKalb County Dept of Homeland Security	Attended the public meeting; reviewed the draft plan
Michael Newton	Noble County, IN	Noble County Emergency Management Agency	Received copy of the draft plan
Stewart Bender	LaGrange County, IN	LaGrange County Emergency Management Agency	Received copy of the draft plan
Dawn Baldwin	Williams County, OH	Williams County Emergency Management Agency	Received copy of the draft plan; submitted revisions

Section

4 County Profile

Located in the northeastern corner of Indiana, Steuben County is ranked 46th in the state in terms of population. It is comprised of one city and six towns distributed across 12 townships.

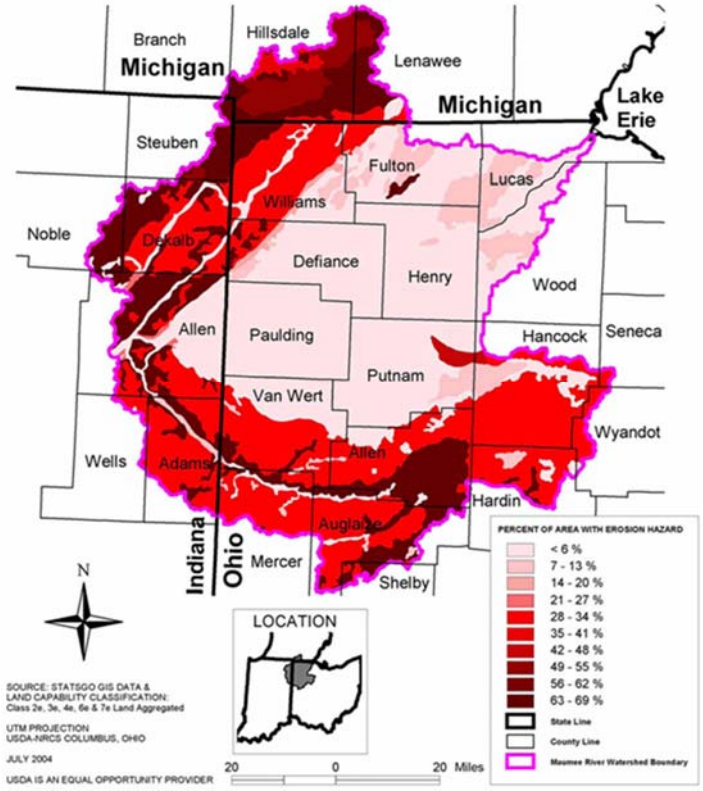
Figure 4: Steuben County Communities



4.1 Geography, Topography, and Climate

Steuben County is located in northeast Indiana. As of 2010, the total Steuben county population was 34,185, a 2.92% increase since 2000. The county has 308.94 square miles of land area and 13.53 square miles of water area. The Northern Moraine and Lake Region of northeastern Indiana is noted for its spectacular scenery. It is hilly with many features of relatively high relief throughout. The same glaciers that masked relief on the bedrock surface also produced the bold upland surfaces of Steuben County. Part of the topographic expression is the result of moraine formation by active ice and by the overspreading of the region with ablation or flow till that formed during times of glacial retreat. Large depressional areas, some of which contain lakes, form when large blocks of the melting glacial ice are buried beneath outwash sediments. With time, the buried ice blocks melt leaving behind a kettle hole or a kettle lake. In Steuben County there are 101 natural lakes. The southeastern portion of the county is located within the Maumee River basin. Figure 5 shows the generalized erosive soils of the Maumee River basin.

Figure 5: Generalized Erosive Soils of the Maumee River Watershed[2]



[2] Sources: US Department of Agriculture, Natural Resources Conservation Service

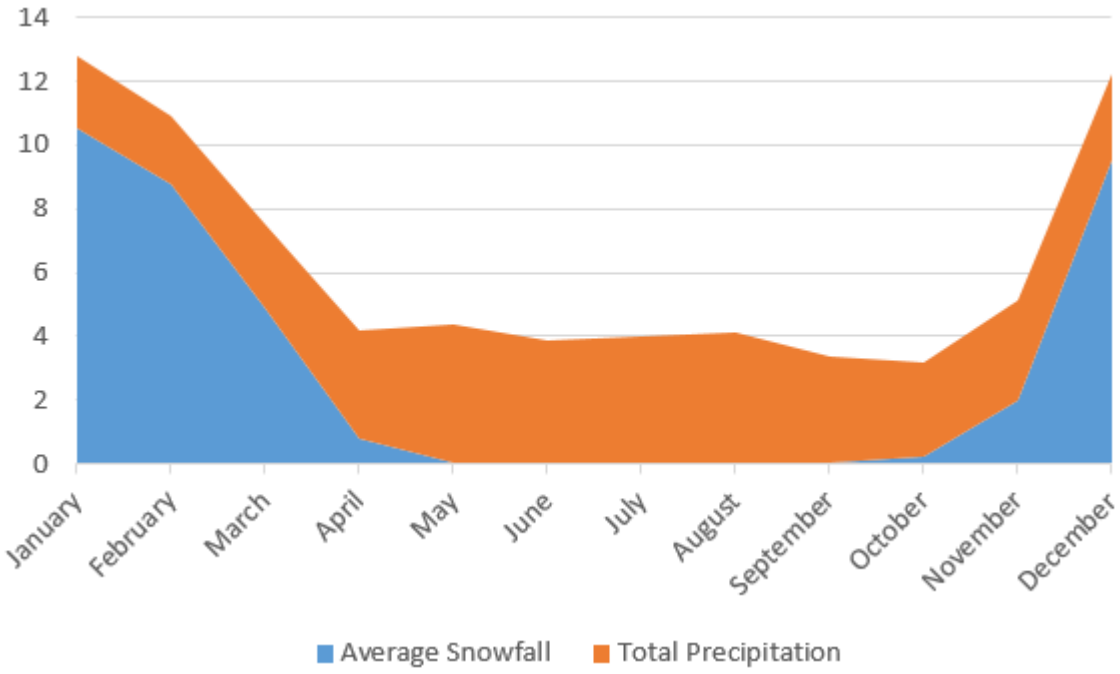
Steuben County's climate is classified as temperate continental, meaning the area experiences warm summers and cool winters without a pronounced dry season. Precipitation varies considerably on a daily, seasonal, and annual basis.

In recent years, average temperatures in Steuben County have ranged from a low of 14.9 °F in January to a high of 71.4 °F in July. Spring and autumn months have generally moderate temperatures, although brief periods of extreme temperatures may occur. Summer months are marked by warm, humid days with periods of oppressive heat. July is the warmest month and has an average temperature of 74.68°F. A record high of 106°F was recorded in 1936. Winter months may incur short periods of extreme cold interspersed with periods of milder temperatures. On average, January is the coldest month with an average temperature of 23.4°F. A record low of −27 °F was recorded in 1981. Table 7 lists the county's average temperatures over the period from 1981 to 2010 and Figure 6 shows average total precipitation by month.

Table 7: Steuben County Average Temperatures

Month	Average	Daily Max	Daily Min
January	22.5˚	30.2˚	14.9˚
February	25.3˚	33.9˚	16.7˚
March	34.7˚	44.7˚	24.8˚
April	46.9˚	57.9˚	35.9˚
May	57.9˚	69.0˚	46.9˚
June	67.7˚	78.4˚	57.1˚
July	71.4˚	81.9˚	60.8˚
August	69.4	80.1˚	58.8˚
September	61.8˚	73.3˚	50.3˚
October	49.9˚	60.7˚	39.0˚
November	38.9˚	47.6˚	30.2˚
December	27.2˚	34.3˚	20.1˚

Figure 6: Steuben County Average Precipitation[3]



4.2 Demography

Steuben County is the 46th most populous county in Indiana with a 2013 population of 34,358 people. The most populous city is Angola, which contains approximately one-quarter of the county's residents. The breakdown of population by incorporated communities is listed in Table 8.

Table 8: Population by Community[4]

Community	2012 Population	% of County
Town of Orland	432	1.3%
Town of Fremont	2,135	6.2%
Town of Clear Lake	339	1.0%
City of Angola	8,591	25.10%
Town of Hamilton	1,286	3.8%
Town of Hudson	516	1.5%
Town of Ashley	338	1%

** These jurisdictions cross county lines, so only the Steuben County population is listed.*

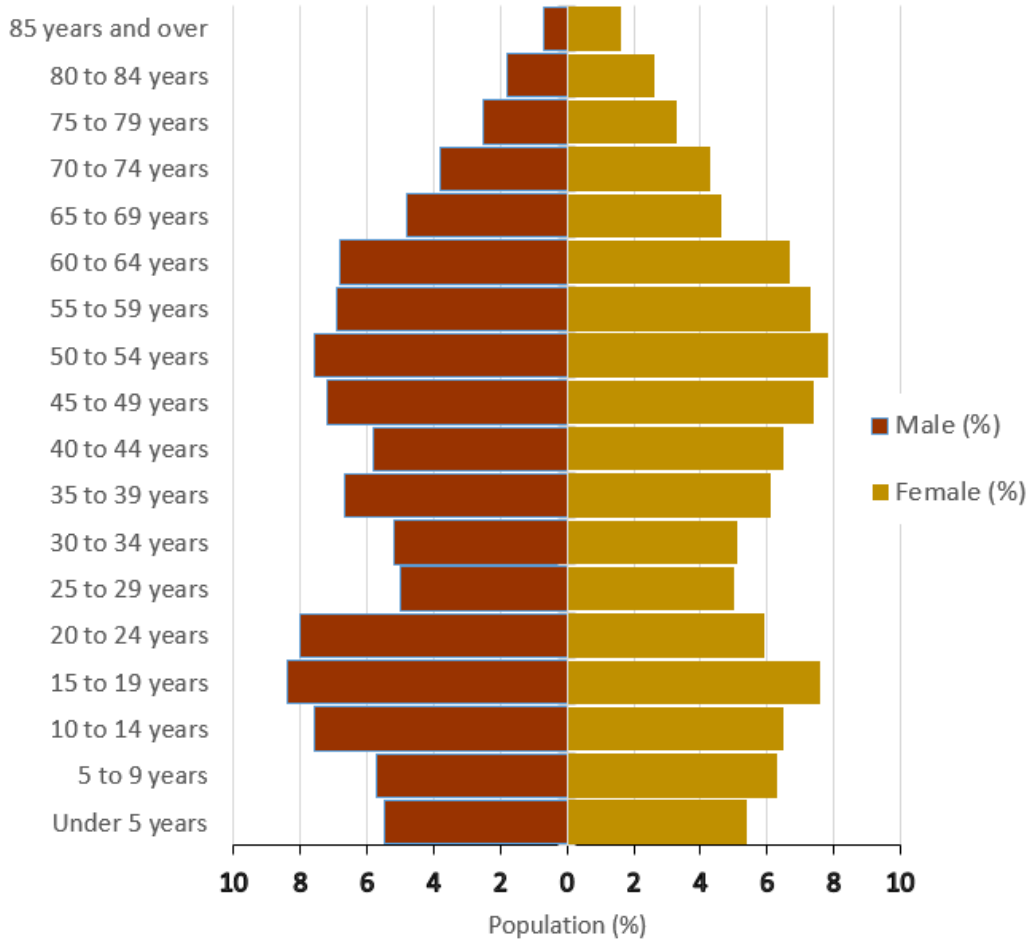
[3] Source: NOAA (http://www.ncdc.noaa.gov)

[4] Source: Stats Indiana 2014

Figure 7 shows Steuben County's population pyramid, which illustrates the distribution of the county's population in terms of age groups and gender. Population pyramids are used to analyze growth or decline of fertility, mortality, and migration within the specified area.

Steuben County's population pyramid is relatively stable indicating slow population growth, long life expectancy, and low infant mortality. It shows the same general shape as the population pyramid for both Indiana and the United States. The slight increase in population from 45 to 64 years represents the tail end of the baby boom generation, which is defined as the population cohort born between 1946 and 1964. This increase will continue to travel upward as that population ages.

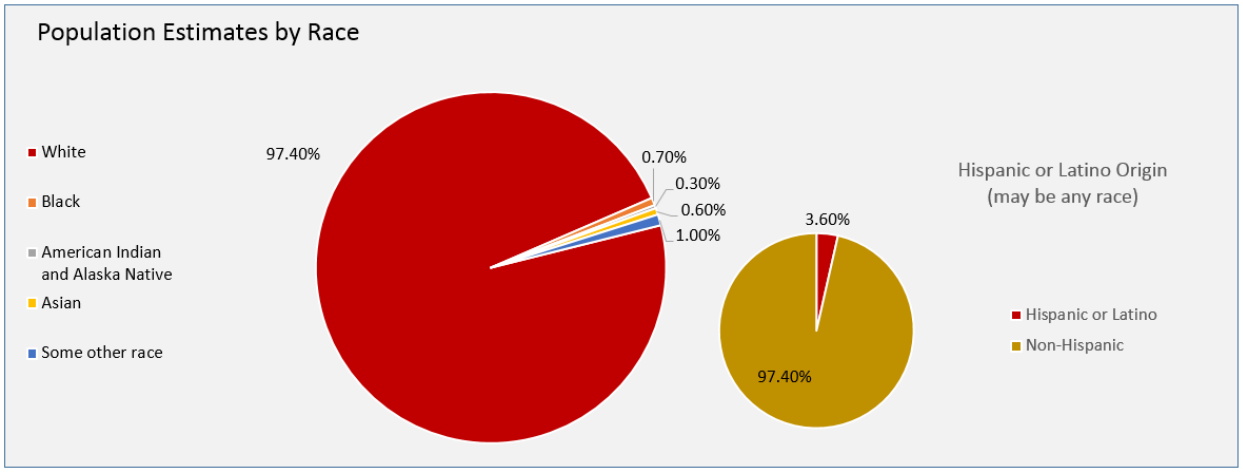
Figure 7: Steuben County Population Pyramid[5]



[5] Source: 2010-2012 American Community Survey 3-year estimate

Steuben County's population is predominately white but does have a small percentage of minority cultures and sub-cultures, which are important to consider in mitigation planning. Figure 8 shows its racial composition as estimated for 2012 (2010-2012 American Community Survey 3-year estimate).

Figure 8: Steuben County Racial Composition



4.3 Population Change

By the year 2020, it is projected that Steuben County's population will grow by 0.93% of the 2010 census number[6]. The current county population density is 111.2 persons per square mile, compared to the state's population density of 182.5 per square mile. Nearly 40% of Steuben County's population lives in an urban setting.

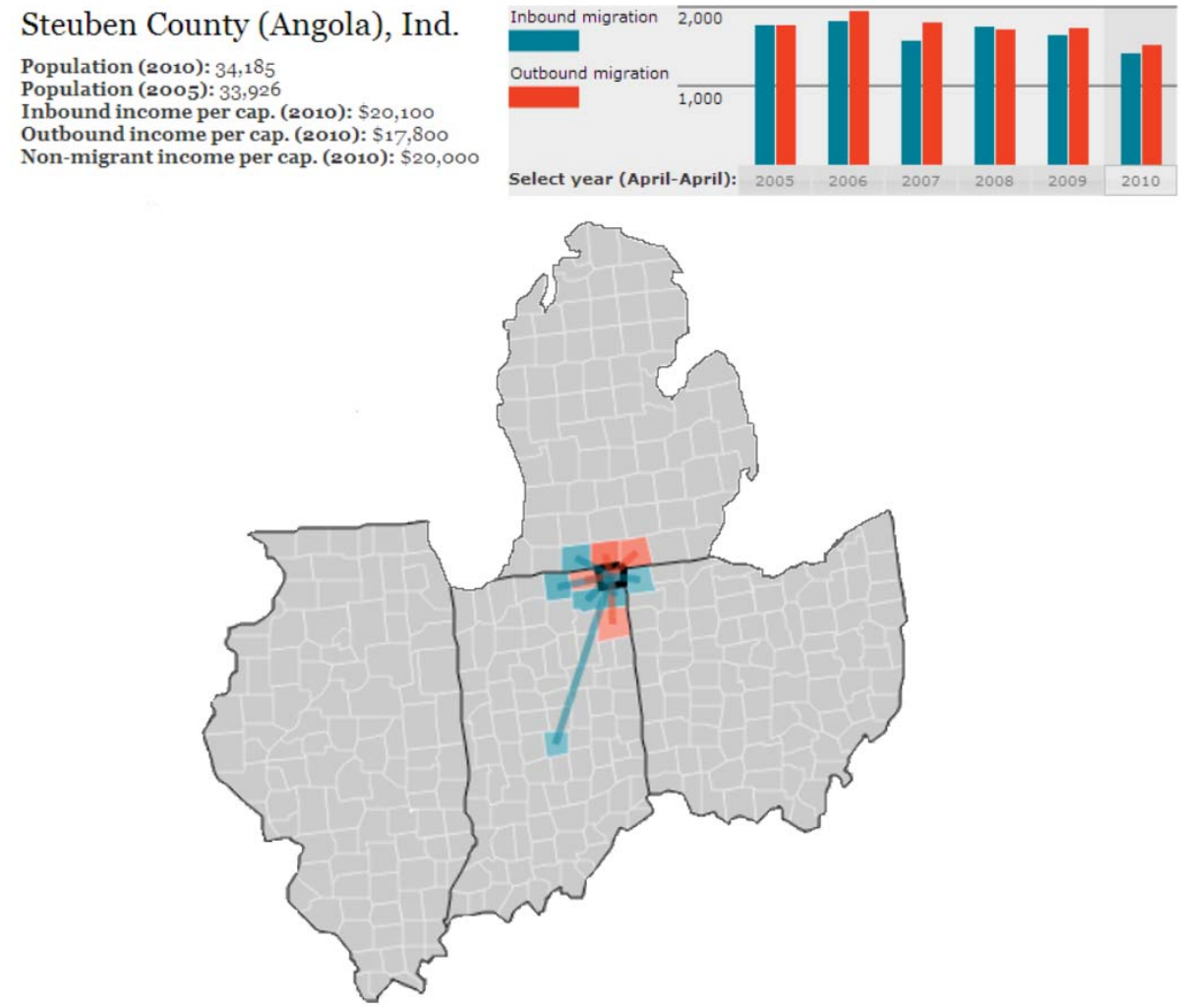
Populations grow or decline through migration and natural increase, and often these two components offset each other. Because international migration data was not as consistent as domestic migration data, this plan only references net domestic trends. In the most recent census year (2010), Steuben County registered a positive natural increase (meaning more people were born than died) as well as a positive net in-migration (meaning more people moved into the county than out of the county).

Migration trends inform hazard mitigation by highlighting areas of population growth and decline, revealing immigration and emigration patterns, and informing public officials of changes in net adjusted gross income (AGI) as a result of migration.

The following map, generated via Forbes American Migration Map, shows Steuben County's migration patterns between 2005 and 2010 in terms of inbound and outbound domestic migration.

[6] Source: US Census Bureau, Indiana Business Research Center

Figure 9: Steuben County Migration Patterns[7]



4.4 Economy and Industry

In recent years, Steuben County has improved its economy by successfully bringing new industry to local communities. Growing and expanding business include Illuminated Image, PakLab, Rieke Corporation and LaGrange Products.

The 2012 annual per capita personal income in Steuben County was $33,231, compared to an Indiana average of $38,119. Per capita income grew by 4.2% between 2002 and 2012 (adjusted for inflation). As

[7] *Source: http://www.forbes.com/special-report/2011/migration.html*

of March 2014, Steuben County reported an unemployment rate of 6.3%, the same as the State of Indiana overall. [8]

In 2012, manufacturing was the largest of 20 major sectors, with over 100 industrial firms located in the county. Manufacturing comprises just under 30% of the labor force. Other significant employment sectors are listed in Table 9. [9]

Table 9: Employment by Sector[10]

Employment Sector	% of County Workforce (2012)
Farm Proprietors	1.4
Farm	1.9
Construction	4.1
Manufacturing	33.5
Transportation, Warehousing	6.0
Information	0.9
Professional, Technical Services	4.2
Arts, Entertainment and Recreation	0.4
Accommodation and Food Services	3.5
Retail Trade	8.1
Other Private (not above)	12.8

**Employment statistics for the utility and health care/social assistance sectors was not available due to confidentiality concerns.*

Steuben County is fortunate to have a diverse local economy that enjoys a significant impact from education, health care, tourism, transportation/logistics, and manufacturing, with growing information technology and renewable energy industry sectors. A key education institution is Trine University, a private education institution that is well known for its business and engineering programs. Located in the City of Angola with a main campus enrollment of 1,950, this university also maintains administration, faculty and support services employment in the community.

The health care industry is well represented by Cameron Memorial Community Hospital, an independent private hospital that serves Steuben County. Steuben County has also seen a steady growth in the tourist trade as a result of its natural lakes. It is home to Pokagon State Park and the Potawatomi Inn, which sponsors events throughout the year including the annual seaplane fly-in that attracts planes from throughout the Great Lakes region. Over 21% of Steuben County residents are employed in tourism-related industries.

[8] *Source:* STATS Indiana, 2014

[9] Source: Steuben County Economic Development Corporation and Indiana Business Research Center.

[10] *Source: STATS Indiana, 2014*

4.5 Commuter Patterns

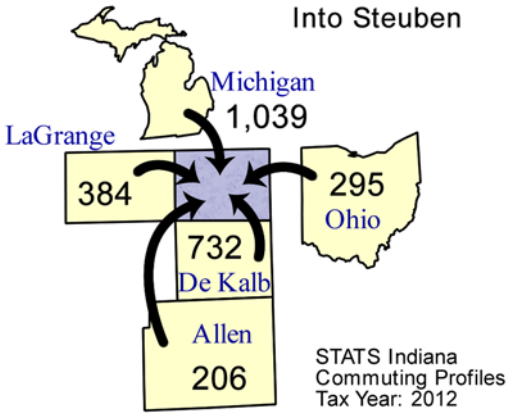
In 2012, there were 19,020 people who both lived and worked in Steuben County. The commuter patterns identified 2,970 people who lived in Steuben County, but worked outside of the county and 2,656 people lived in another county or state but worked in Steuben County. Figure 10 provides additional detail on Steuben County commuter patterns.

Figure 10: Steuben County Commuting Patterns[11]

Top five counties sending workers INTO Steuben County:

County Sending Workers	Workers
Michigan	1,039
Dekalb County	732
Lagrange County	384
Ohio (State)	295
Allen County	206
Total of above	2,656

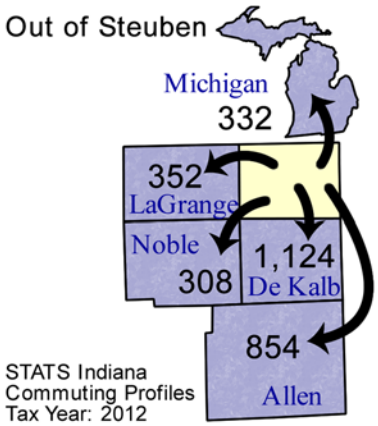
(12.0% of Steuben County workforce)



Top five counties sending workers FROM Steuben County:

County Receiving Workers	Workers
Dekalb County	1,124
Allen County	854
Lagrange County	352
Michigan	332
Noble County	308
Total of above	2,970

(13.1% of Steuben County labor force)



[11] Source: STATS Indiana (http://www.stats.indiana.edu/)

4.6 Transportation

The economic environment of Steuben County is enhanced by its comprehensive transportation system, which includes Interstate 69 running north-south through the heart of the county and Interstate 90 and U.S. Highway 20 running east-west across the county. The industrial rail service through Steuben County is provided by New York Central Railway and Norfolk and Western Railway.

Another major infrastructure component is the Tri-State Steuben County Airport. This general aviation airport is located west of Interstate 69 off of U.S. Highway 20 and is capable of handling corporate, charter and privately-owned aircrafts. For the 12-month period ending December 31, 2010, the airport had 19,475 aircraft operations, an average of 53 per day: 93% general aviation and 7% air taxi. At that time there were 40 aircraft based at this airport: 90% single-engine and 10% multi-engine.[12]

4.7 Major Waterways and Watersheds

According to the Steuben County Surveyor's Office, there are 63 waterways in Steuben County. Table 10 lists the waterways identified. The most prominent waterway in the County is Pigeon Creek.

Table 10: Waterways of Steuben County [13]

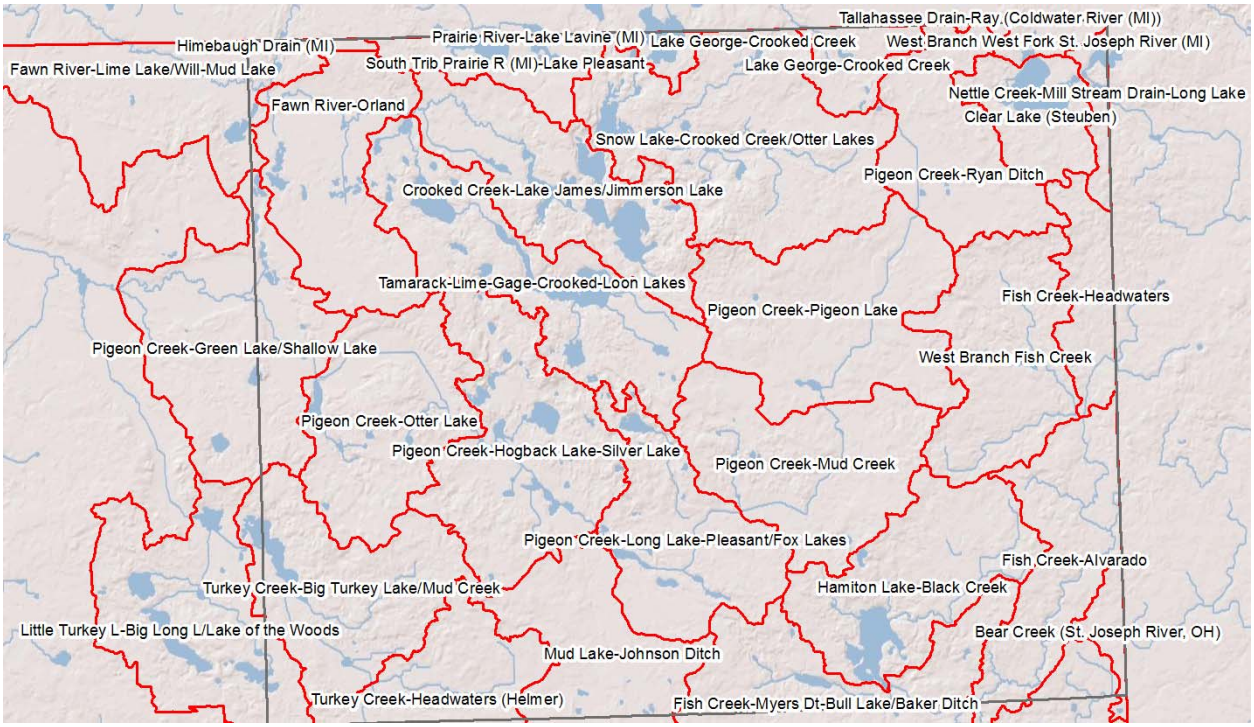
Allen Ditch	Crooked Creek	Goodale Ditch	Schaeffer Ditch
Baker Ditch	Davis Ditch	Greeno Ditch	Stoy Ditch
Bear Creek	De Gaugh Ditch	Gundrum Ditch	Stumpf Ditch
Berlien Ditch	De Witt Ditch	H Metz Ditch	Swiger Ditch
Black Creek	Deetz Ditch	Hammond Green Ditch	Teal Ditch
Brouse Ditch	Delancey Ditch	Hanselman Branch	Teegardin Ditch
Burch Ditch	Deller Ditch	ID Deller Ditch	Turkey Creek
Conrad Ditch	Eatinger Ditch	Johnson Ditch	Waller Ditch
Camp Ditch	Fawn River	Little Baker Ditch	Webb Ditch
Carver Ditch	Fellows Ditch	M Johnson Ditch	Weicht Ditch
Chard Ditch	Fish Creek	McKain Ditch	Weldin Ditch
Cheney Ditch	Follett Creek	Merrill Sanders Ditch	William Jack Ditch
Clay Deller Ditch	G Powers Ditch	Mud Creek	Wood Ditch
Cole Ditch	Garn Ditch	Pigeon Creek	Zabst Ditch
Covell Ditch	George Deller Ditch	Ryan Ditch	
Creel Ditch	Gleason Ditch	Saunders Ditch	

[12] Source: Federal Aviation Administration, 2010 (http://www.faa.gov/airports/airport_safety/airportdata_5010/menu/)

[13] Source: Steuben County 2008 Multi-Hazard Mitigation Plan

According to the US Geological Survey and Natural Resources Conservation Service there are 33 14-digit Hydrologic Unit Code (HUC) watersheds in Steuben County. The largest watershed is the Snow Lake-Crooked Creek/Otter Lake Watershed (16,523.0 acres) and the smallest is the Prairie River-Lake Lavine (MI) (8.1 acres). Figure 11 shows the 14-digit HUC watersheds in Steuben County.

Figure 11: Steuben County Sub-Watersheds [14]



4.8 Land-Use and Development Trends

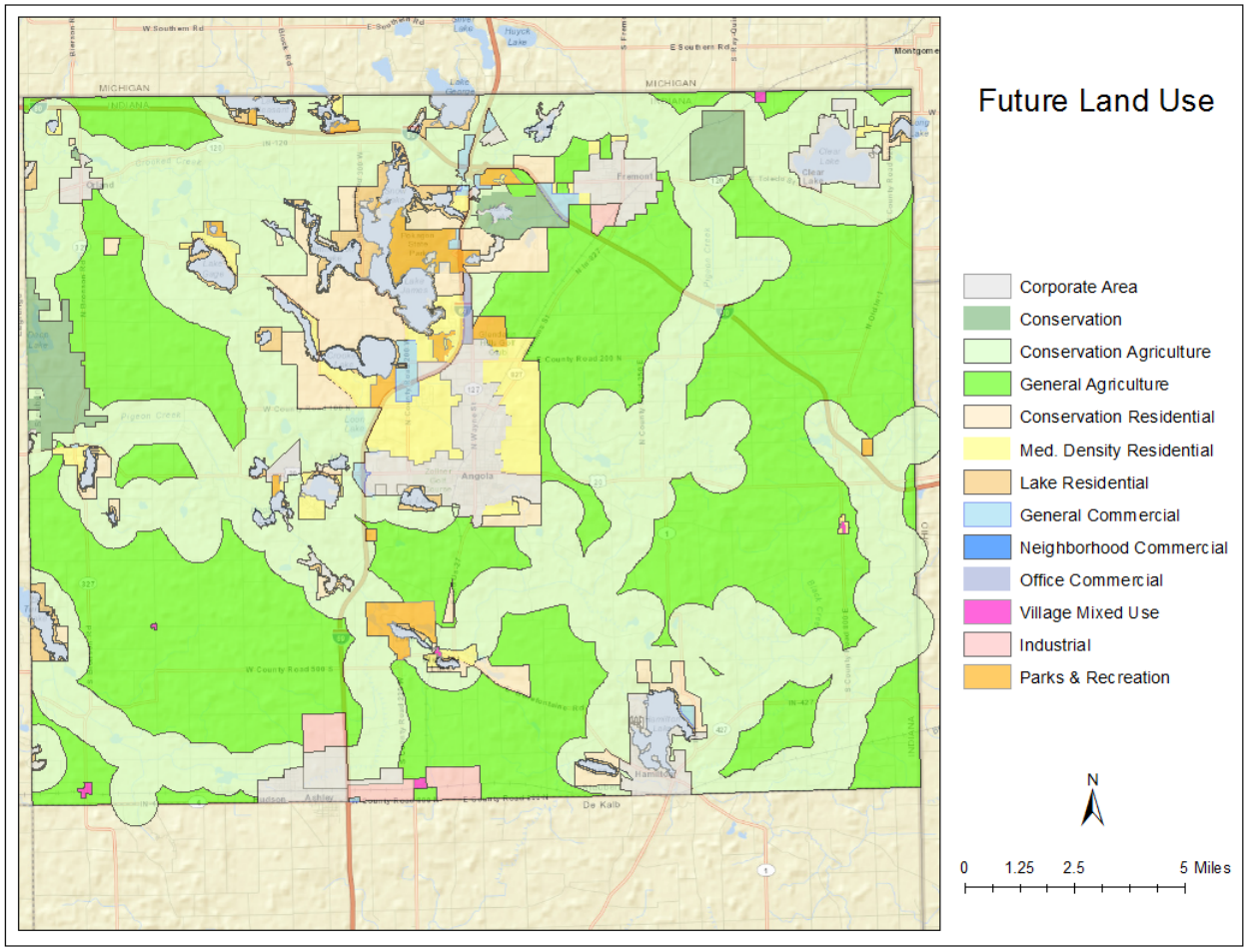
Although most of Steuben County's population resides in urban and suburban areas, the majority of land use is still primarily agricultural with corn and soybeans as the principal crops. Other significant land use includes pasture land for hogs and cattle.[15]

The Steuben County Plan Commission reviews new development for compliance with local zoning ordinances, and local GIS inventory is used to inform floodplain and land use zoning. Figure 12 on the following page shows Steuben County's future land use map.

[14] Source: 1991 HUC 14 watershed boundaries obtained from the IndianaMAP, May 2014.

[15] Source: http://www.agcensus.usda.gov

Figure 12: Steuben County Future Land Use Map [16]



4.9 Special Needs Populations

Certain populations require special attention in mitigation planning because they may suffer more severely from the impacts of disasters. It is important to identify these populations and develop mitigation strategies to help them become more disaster-resilient. Although there are numerous types of vulnerable populations, Steuben County has identified five significant groups, which include low-income citizens, older adults, people who don't speak English at home, people with disabilities, and people without high school diplomas.

We compared Steuben County to nearby counties as well as to Indiana, Ohio, and Michigan by averaging the percent population of each special needs category within the county/state (Figure 13). Of the eight geographies we compared (three states and five counties), Steuben County ranks eighth, meaning it has

[16] Source: Steuben County GIS Department, 2014

the lowest special needs population, comparatively, of the assessed area. Figure 14 shows how each county/state compares overall and per special needs indicator.

The purpose of the following figures is to highlight special needs populations for further analysis. It does not necessarily mean that those communities are the most vulnerable. For example, LaGrange County has the highest average of combined special needs indicators. This is due, however, to LaGrange County's significant Amish population (37.7% of total population), which may have special needs in terms of culture, but is not necessarily a concern in terms of safety for emergency managers and first responders. More than 38% of the LaGrange County's population speaks a language other than English at home. But while many Amish speak Pennsylvania Dutch or German at home, they are also fluent in English. Additionally, the high percentage of population without a high school diploma (37.8%) may be explained by the fact that many Amish children only attend school through grade eight.

The special needs indicator most significant in Steuben County is the percent population aged 65 or older (15.0% of the county's total population). In the event of a disaster, elderly citizens have particular challenges and concerns. They may require life-sustaining medication, electricity-operated medical equipment, and special mobility assistance. They may also require special temporary housing needs that can accommodate physical disabilities/limitations and varied levels of income. Steuben County emergency management and personnel can help to mitigate these vulnerabilities by participating in specialized training to deal effectively with elderly populations or offering resources to the public and elderly care facilities to empower them with knowledge and tools that could help them save their own lives.

Examples of activities to improve emergency mitigation and preparedness for the elderly population includes, but is not limited to, the following:

- Evacuation exercises for communities and elderly care facilities
- Public materials on when and how to shelter in place
- Training for emergency shelter staff
- Development of resource guide for seniors with available housing, medical, and basic needs services
- Development of accessible media announcements

Figure 13: Regional Comparison of Special Needs Populations

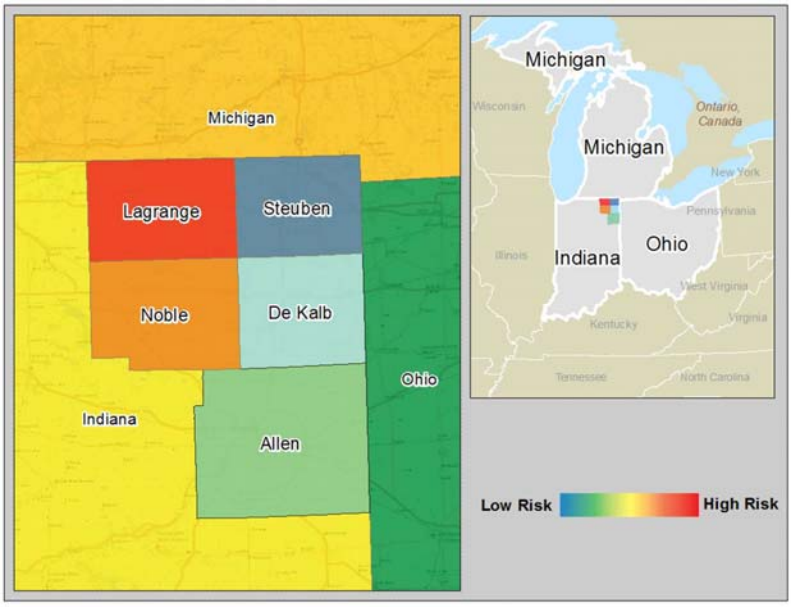
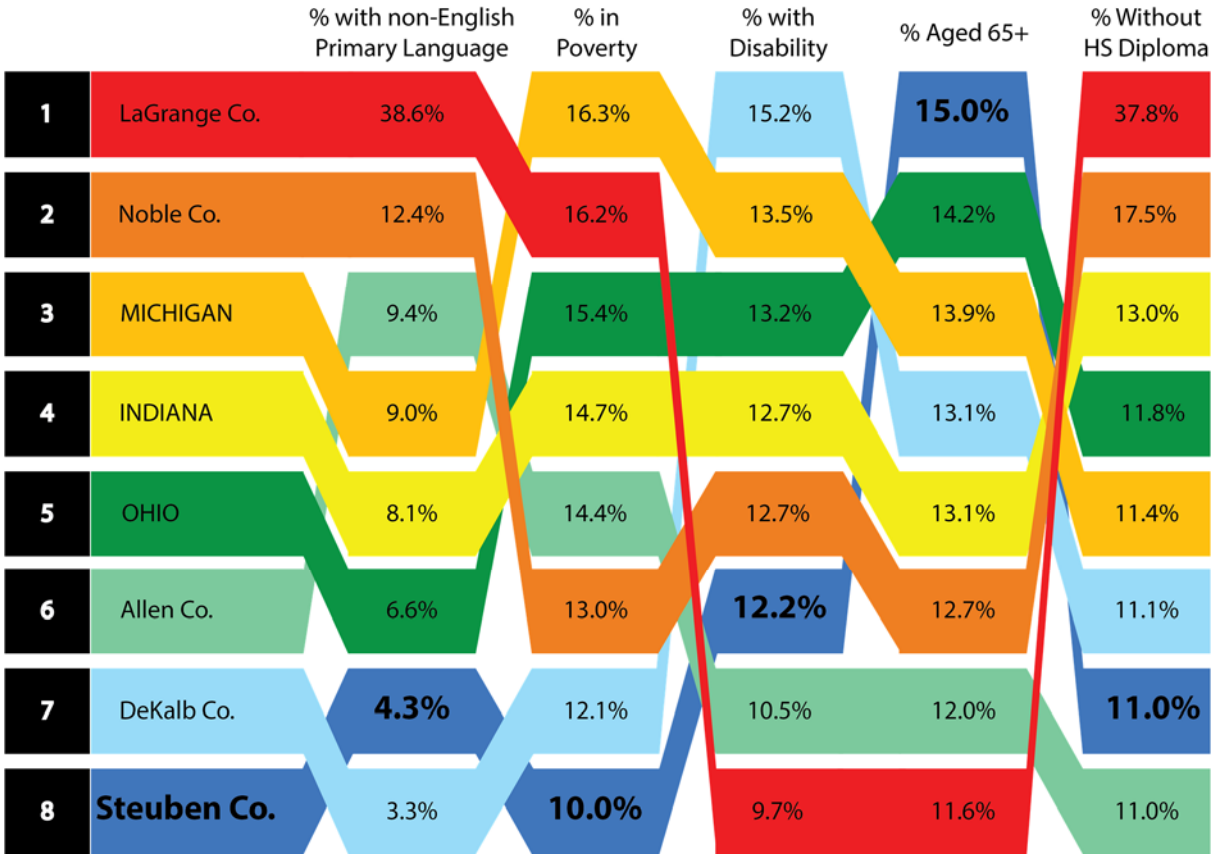


Figure 14: Special Needs Ranking Overall and by Indicator



Section 5

Risk Assessment

The goal of mitigation is to reduce a hazard's future impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on sound risk assessment. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure, and people.

This assessment identifies the characteristics and potential consequences of a disaster, how much of the community could be affected by a disaster, and the impact on community assets. A risk assessment consists of three components: 1) Hazard Identification, 2) Vulnerability Assessment, and 3) Risk Analysis and Hazard Profiling.

5.1 Identifying Hazards

5.1.1 Existing Plans

To facilitate the planning process, the planning team reviewed existing plans and data including the 2008 Steuben County Multi-Hazard Mitigation Plan and the current effective FEMA Flood Insurance Rate Maps (FIRMs). The 2008 Steuben County Multi-Hazard Mitigation Plan identified the following principal hazards ranked from most severe to least:

1. Hazardous materials release
2. Flooding
2. Hail/Thunder/Windstorm
3. Tornado
4. Severe winter storm
5. Dam failure
6. Earthquake

In 2014, the planning team updated the county's top hazards to:

1. Severe storm (hail/thunder/wind)
2. Winter storm
3. Flooding

5.1.2 Historical Hazards Records

To assist the planning team, historical storm-event data from the past five years was compiled from the National Climatic Data Center (NCDC). The NCDC Storm Events Database includes events related to tornadoes, severe storms, flooding, winter storms, droughts, and extreme temperatures. NCDC records are estimates of damage reported to the National Weather Service from various local, state, and federal sources. These estimates, however, are often preliminary in nature and may not match the final assessment of economic and property losses related to given weather events. For those events, the following table lists the property/crop damage as not available (NA). The NCDC data included 78 reported events (Table 11) in Steuben County between January 1, 2008 and December 31, 2013.

Table 11: Steuben County NCDC-Reported Events (2008-2013)[17]

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
REGIONAL	2/1/2011	Blizzard	0	0	NA	NA
ANGOLA	2/6/2008	Flood	0	0	NA	NA
CLEAR LAKE	3/10/2009	Flood	0	0	$500,000	NA
NEVADA MILLS	5/16/2009	Flood	0	0	$250,000	NA
CROOKED LAKE	6/15/2008	Hail	0	0	NA	NA
ORLAND	7/2/2008	Hail	0	0	NA	NA
HAMILTON	5/22/2011	Hail	0	0	NA	NA
ANGOLA	5/29/2011	Hail	0	0	NA	NA
HUDSON	8/9/2011	Hail	0	0	NA	NA
ELLIS	7/1/2012	Hail	0	0	NA	NA
REGIONAL	1/9/2009	Heavy Snow	0	0	NA	NA
REGIONAL	9/14/2008	High Wind	0	0	NA	NA
REGIONAL	2/11/2009	High Wind	0	0	NA	NA
REGIONAL	12/9/2009	High Wind	0	0	NA	NA
REGIONAL	12/18/2008	Ice Storm	0	0	NA	NA
REGIONAL	2/20/2011	Ice Storm	0	0	NA	NA
JAMESTOWN	6/19/2009	Lightning	0	0	$40,000	NA
ANGOLA	4/11/2011	Lightning	0	0	$55,000	NA
FLINT	6/15/2008	Thunderstorm Wind	0	0	NA	NA
SALEM CENTER	6/21/2008	Thunderstorm Wind	0	0	NA	NA
SALEM CENTER	6/21/2008	Thunderstorm Wind	0	0	$5,000	NA
FLINT	6/21/2008	Thunderstorm Wind	0	0	NA	NA
LAKE JAMES	7/2/2008	Thunderstorm Wind	0	0	$10,000	NA
CROOKED LAKE	8/19/2009	Thunderstorm Wind	0	0	$15,000	NA

[17] Source: National Climatic Data Center (NCDC).

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
ORLAND	6/5/2010	Thunderstorm Wind	0	0	NA	NA
ORLAND	6/6/2010	Thunderstorm Wind	0	0	NA	NA
FREMONT	6/6/2010	Thunderstorm Wind	0	0	NA	NA
HAMILTON	6/6/2010	Thunderstorm Wind	0	0	NA	NA
HAMILTON	6/18/2010	Thunderstorm Wind	0	0	NA	NA
PLEASANT LAKE	6/23/2010	Thunderstorm Wind	0	0	NA	NA
PLEASANT LAKE	6/23/2010	Thunderstorm Wind	0	0	NA	NA
NEVADA MILLS	5/29/2011	Thunderstorm Wind	0	0	NA	NA
FLINT	5/29/2011	Thunderstorm Wind	0	0	$10,000	NA
FLINT	5/29/2011	Thunderstorm Wind	0	0	NA	NA
FREMONT	5/29/2011	Thunderstorm Wind	0	0	NA	NA
ANGOLA	5/29/2011	Thunderstorm Wind	0	0	NA	NA
CLEAR LAKE	5/29/2011	Thunderstorm Wind	0	0	NA	NA
CLEAR LAKE	5/29/2011	Thunderstorm Wind	0	0	NA	NA
MOONLIGHT BAY	6/21/2011	Thunderstorm Wind	0	0	NA	NA
HUDSON	7/11/2011	Thunderstorm Wind	0	0	NA	NA
ANGOLA	7/11/2011	Thunderstorm Wind	0	0	NA	NA
FREMONT	7/11/2011	Thunderstorm Wind	0	0	NA	NA
ANGOLA	7/22/2011	Thunderstorm Wind	0	0	NA	NA
ANGOLA	7/22/2011	Thunderstorm Wind	0	0	NA	NA
FLINT	7/1/2012	Thunderstorm Wind	0	0	NA	NA
ANGOLA	7/1/2012	Thunderstorm Wind	0	0	NA	NA
FREMONT	7/1/2012	Thunderstorm Wind	0	0	NA	NA
METZ	7/1/2012	Thunderstorm Wind	0	0	NA	NA
ANGOLA	7/17/2012	Thunderstorm Wind	0	0	NA	NA
FREMONT	6/25/2013	Thunderstorm Wind	0	0	NA	NA
HUDSON	6/25/2013	Thunderstorm Wind	0	0	NA	NA
HUDSON	6/25/2013	Thunderstorm Wind	0	0	NA	NA
MOONLIGHT BAY	9/11/2013	Thunderstorm Wind	0	0	NA	NA
MOONLIGHT BAY	9/11/2013	Thunderstorm Wind	0	0	NA	NA
ANGOLA	11/17/2013	Thunderstorm Wind	0	0	NA	NA
REGIONAL	1/1/2008	Winter Storm	0	0	NA	NA
REGIONAL	1/1/2008	Winter Storm	0	0	NA	NA
REGIONAL	2/1/2008	Winter Storm	0	0	NA	NA
REGIONAL	2/25/2008	Winter Storm	0	0	NA	NA
REGIONAL	3/4/2008	Winter Storm	0	0	NA	NA
REGIONAL	3/21/2008	Winter Storm	0	0	NA	NA
REGIONAL	2/9/2010	Winter Storm	0	0	NA	NA
REGIONAL	12/12/2010	Winter Storm	0	0	NA	NA
REGIONAL	12/13/2013	Winter Storm	0	0	NA	NA

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
REGIONAL	12/26/2008	Winter Weather	0	0	NA	NA
REGIONAL	1/7/2010	Winter Weather	0	0	NA	NA
REGIONAL	12/5/2010	Winter Weather	0	0	NA	NA
REGIONAL	1/11/2011	Winter Weather	0	0	NA	NA
REGIONAL	2/5/2011	Winter Weather	0	0	NA	NA
REGIONAL	2/25/2011	Winter Weather	0	0	NA	NA
REGIONAL	1/1/2012	Winter Weather	0	0	NA	NA
REGIONAL	1/19/2012	Winter Weather	0	0	NA	NA
REGIONAL	1/20/2012	Winter Weather	0	0	NA	NA
REGIONAL	12/26/2012	Winter Weather	0	0	NA	NA
REGIONAL	1/27/2013	Winter Weather	0	0	NA	NA
REGIONAL	2/4/2013	Winter Weather	0	0	NA	NA
REGIONAL	2/21/2013	Winter Weather	0	0	NA	NA
REGIONAL	2/26/2013	Winter Weather	0	0	NA	NA

5.1.3 Hazard-Ranking Methodology

During Meeting #1, held on February 27, 2014, the planning team reviewed historical hazards information and participated in a risk analysis exercise to rank hazards by community and severity of risk. The initial step of the exercise was a review of the 2008 MHMP hazard rankings.

The team calculated the probability rating (low, medium, high) of each hazard, based on the number of events that have occurred in the county within the past five years. Throughout the planning process, the MHMP team had the opportunity to update the NCDC data with more accurate local information. For example, the NCDC records often list the locations of hazards, such as floods, under the county, not accounting for how the individual communities were affected. In such situations, the probability rating assigned to the county was applied to all jurisdictions within the county.

Team consensus also was important in determining the probability of hazards not recorded by NCDC, for example, dam and levee failure, earthquakes, and hazardous materials spills. The probabilities for these events were determined by the planning team's estimation, derived from local experience and records, of the number of historical events that have occurred within the past five years.

After improving the NCDC data with additional local data, the team rated each hazard's potential impact on the communities. The impact rating (minimal, moderate, or significant) was based on the guidelines described in Table 12.

Table 12: Guidelines for Determining Probability and Impact

PROBABILITY		IMPACT	
Low	0-5 events in 10 years	Minimal	>Incident results in only minor injuries and no fatalities >Damage contained to a single incident scene and immediate area >Up to 5% of community facilities are damaged, destroyed, or inaccessible >Community is able to effectively respond to incident with community resources and personnel >Complete shutdown of community facilities and loss of services for up to 3 days; community operations may be cancelled or relocated temporarily
Medium	6-10 events in 10 years	Moderate	>Incident results in a number of minor injuries, limited serious injuries, and few, if any, fatalities >Damage to critical infrastructure and property over a small area of community >Up to 25% of community facilities are damaged, destroyed, or inaccessible >Community is able to effectively respond to the incident with standard local mutual aid support >Complete shutdown of community facilities and loss of services for up to 1 week; some community operations must be cancelled or relocated temporarily
High	11+ events in 10 years	Significant	>Incident results in numerous serious injuries and multiple fatalities >Damage to critical infrastructure and property over a large area of community >Up to 50% of community facilities are damaged, destroyed, or inaccessible >Community has reached the limit of their response capabilities. Significant local mutual aid support required. >Complete shutdown of community facilities and loss of services for up to 2 weeks; community operations must be cancelled or relocated for an extended period of time.

The overall hazard risk is determined by multiplying probability and impact. It is important to consider both probability and impact when determining risk.

PROBABILITY X IMPACT = RISK

The planning teams plotted each hazard on a risk grid according to probability (y-axis) and potential impact (x-axis). Figure 15 describes the methodology of plotting hazards by risk. In this example, a tornado has a high probability of occurring in a given year with a significant potential impact, while an earthquake has a medium-high probability of occurring but a fairly minimal potential impact.

Figure 15: Risk Grid Methodology

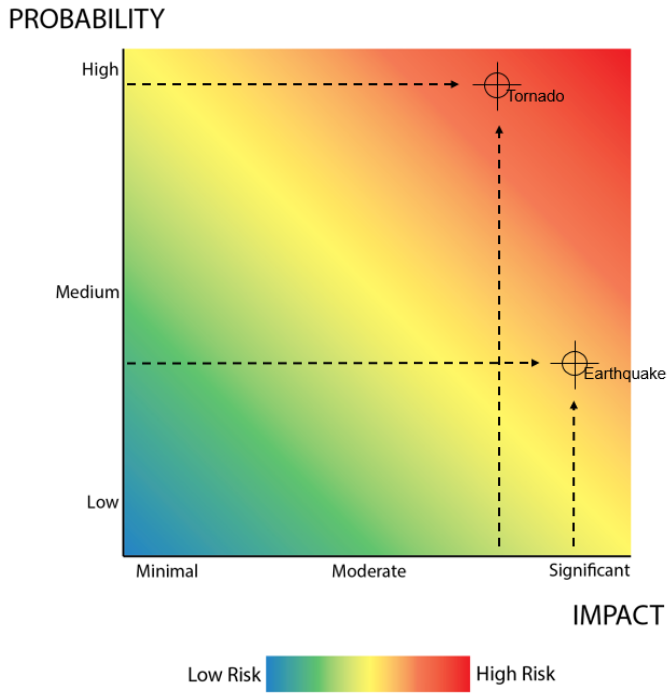
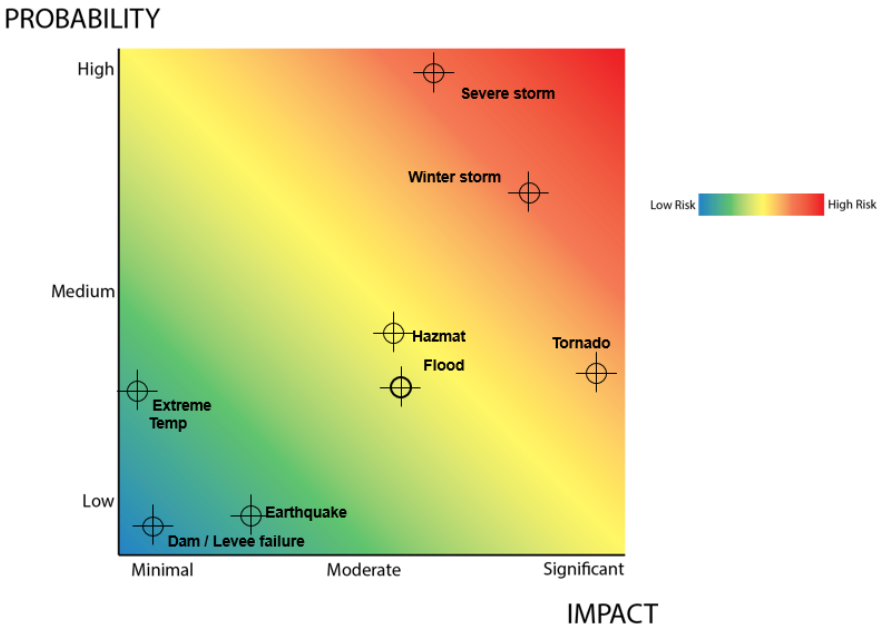


Figure 12 illustrates the risk grid methodology. In this example, a tornado has a high probability (y-axis) and a significant impact (x-axis), so overall, Indiana is at high risk for a tornado.

The Steuben County planning team identified severe storms and winter storms as the highest-risk disasters. Figure 16 illustrates the county's designated risk for each hazard.

Figure 16: Steuben County Risk Matrix



While some hazards are widespread and will impact communities similarly, e.g. winter storms, others are localized leaving certain communities at greater risk than others. The 2008 plan documented the differences across communities.

The City of Angola has the highest number of hazardous materials handlers and is the largest community with development in close proximity to the handlers and transportation routes; thus it has a higher risk for a spill or release.

The review of the Digital Flood Insurance Rate Maps (DFIRMs) for Steuben County identified over 100 lakes in the county; most of which are in the unincorporated area of the county. Therefore, the unincorporated area has a higher risk for a flood.

5.1.4 GIS and Hazus-MH Modeling

FEMA's Pre-Disaster Mitigation (PDM) program is designed to provide assistance to local communities to develop and implement their hazard mitigation plans, thereby reducing risk to property and lives. The initial multi-hazard mitigation plan (MHMP) for Steuben County was submitted to FEMA and approved in 2008. One of the mitigation projects identified in the 2008 plan was to use Hazus-MH to conduct a vulnerability analysis for earthquake risk. The 2014 update used Hazus-MH and GIS to model scenarios for an EF4 tornado, 1%-annual-chance flood (a/k/a 100-year flood), several earthquake scenarios, and a hazardous materials release. Each model used locally available parcel data to estimate losses as accurately as possible.

The flood and earthquake assessments are based on an enhanced (Level 2) Hazus analysis. Hazus-MH generated a combination of site-specific (flood) and aggregated loss (earthquake) estimates. Aggregate inventory loss estimates, which include building stock analysis, are based upon the assumption that building stock is evenly distributed across census blocks/tracts. With this in mind, total losses tend to be more reliable over larger geographic areas than for individual census blocks/tracts. Site-specific analysis is based upon loss estimations for individual structures. For flooding, analysis of site-specific structures considers the depth of water in relation to the structure. Hazus-MH also considers the actual dollar exposure to the structure for the costs of building reconstruction, content, and inventory. Damages, however, are based upon the assumption that each structure will fall into a structural class, and structures in each class will respond in a similar fashion to a specific depth of flooding. Site-specific analysis is also based on a point location rather than a polygon; therefore the model does not account for the percentage of a building that is inundated.

It is important to note that Hazus-MH is not intended to be a substitute for detailed engineering studies. Rather, it is intended to serve as a planning aid for communities interested in assessing their risk to flood, earthquake, and hurricane-related hazards. This documentation does not provide full details on the processes and procedures completed in the development of this project. It is only intended to highlight the major steps that were followed during the project.

5.2 Assessing Vulnerability

Steuben County, through IndianaMAP, provided parcel boundaries to The Polis Center, and the Indiana Department of Local Government and Finance provided the Steuben County assessor records. Polis revised the Hazus-MH default data tables to reflect these updates prior to performing the risk assessment in order to improve the accuracy of the model predictions.

The default Hazus-MH data were updated as follows:

- The General Building Stock was updated based on data obtained from the IndianaMap and the Indiana Department of Local Government and Finance provided the Steuben County assessor records.
- The Hazus-MH defaults, critical facilities, and essential facilities were updated based on the most recent available data sources. Critical and essential point facilities have been reviewed, revised, and approved by local subject matter experts.
- The essential facility updates (schools, medical care facilities, fire stations, police stations, and EOCs) were applied to the Hazus-MH model data. Hazus-MH reports of essential facility impacts reflect updated data.
- The building inventory was created with building rooftop accuracy and used for the flood, tornado and Hazmat analysis.

5.2.1 Identify Facilities

This plan includes three types of facilities: critical facilities, essential facilities, and community assets.

CRITICAL FACILITIES are buildings that are deemed economically or socially viable to the county. Steuben County has the following categories of critical facilities.

- **Governmental Facilities** - essential for the delivery of critical services and crisis management including data and communication centers and key government complexes.
- **Transportation Systems** – necessary for transport of people and resources including airports, highways, railways, and waterways.
- **Lifeline Utility Systems** – vital to public health and safety including potable water, wastewater, oil, natural gas, electric power, and communication systems.

- **High Potential Loss Facilities** – failure or misoperation may have significant physical, social, and/or economic impact to neighboring community including nuclear power plants, high hazard dams, and military installations.
- **Hazardous Material Facilities** – involved in the production, storage, and/or transport of corrosives, explosives, flammable materials, radioactive materials, and toxins.

Steuben County's critical facilities are listed and mapped in Appendix C.

ESSENTIAL FACILITIES are defined as those that are vital to the county in the event of a hazard. These include emergency operations centers, police departments, fire stations, schools, and care facilities (hospitals and clinics). Essential facilities are a subset of critical facilities.

Table 13 identifies the categories of essential facilities that were added or updated for the analysis. Steuben County's essential facilities are listed and mapped in Appendix C.

Table 13: Essential Facilities of Steuben County

Category	Number of Facilities
Care Facilities	31
Emergency Operations Centers	1
Fire Stations	9
Police Stations	4
Schools	16
Total	61

COMMUNITY ASSETS are facilities identified by the Steuben County Mitigation Planning team as being a significant resource to the county; for example, historic landmarks or significant tourist attractions. Steuben County's community assets are listed and mapped in Appendix C.

5.2.2. Facility Replacement Costs

Facility replacement costs and total building exposure, which reflect local data, are identified in Table 14 along with the estimated number of buildings within each occupancy class.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Table 14: Building Exposure

General Occupancy	Estimated Total Buildings	Total Building Exposure
Agricultural	1,718	$258,928,000
Commercial	800	$306,685,000
Education	20	$39,630,000
Government	38	$10,102,000
Industrial	154	$206,858,000
Religious/Non-Profit	154	$81,294,000
Residential	17,786	$1,915,010,000
Total	20,670	$2,818,507,000

5.3 Profiling Hazards

5.3.1 Tornadoes

Tornadoes can occur at any time during the day or night and within any month of the year. The unpredictability of tornadoes makes them one of Indiana's most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region's developed and populated areas. Current estimates place the maximum velocity of a tornado at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles an hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms to the ground. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado. Tornadoes are classified according to the Enhanced Fujita intensity scale shown in Table 15.

Table 15: Enhanced Fujita Tornado Rating[18]

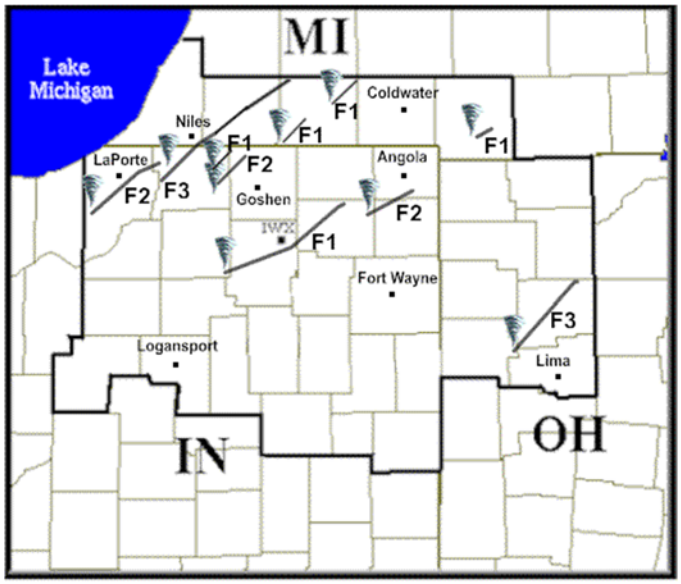
Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 *Gale*	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 *Moderate*	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 *Significant*	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 *Severe*	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 *Devastating*	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 *Incredible*	Over 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Previous Occurrences of Tornadoes

Although there have been no recent tornadoes reported in Steuben County, there have been reports in the past 20 years. The 2008 MHMP plan reported that Steuben County experienced 12 tornados since 1961. An F3 event occurred on March 27, 1991 that was responsible for 1 death and 6 injuries. That event also caused $25 million in property damage according to the NCDC. On May 18, 1997 another tornado touched down north of the Angola Airport that destroyed 21 aircraft and 3 hangers. Numerous farm buildings, homes, businesses and utility towers were also damaged by that event. The most recent tornado was an F2 event that ran for seven miles with a width of 440 yards from Corunna to Ashley and into Steuben County. Property damage was estimated to exceed $1 million and recovery lasted for two months. This track was part of an outbreak on October 24, 2001 that impacted much of northern Indiana. Figure 17 illustrates the tornado tracks as recorded by the National Weather Service Forecast Office.

[18] Source: NOAA Storm Prediction Center, http://www.srh.noaa.gov

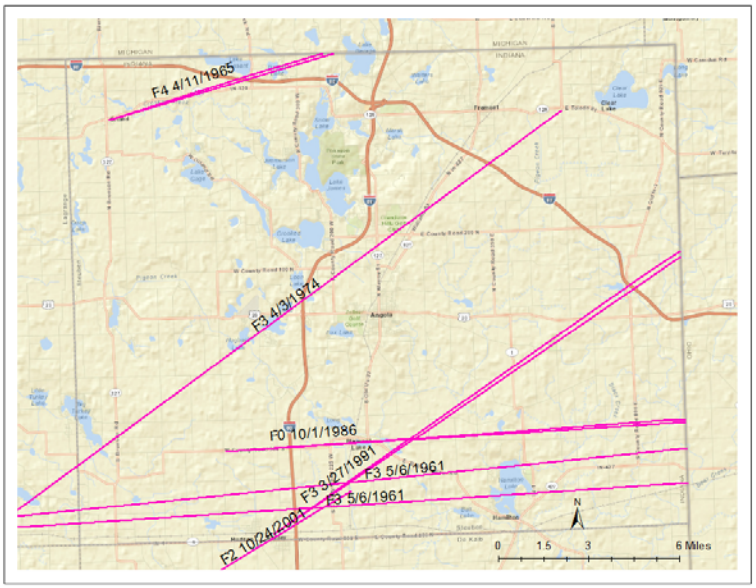
Figure 17: Tornado Tracks on October 24, 2001[19]



Geographic Location for Tornadoes

The entire county has the same risk for tornadoes because they can occur at any location. Figure 18 shows the NCDC recorded historical tornado paths.

Figure 18: Historical Tornado Paths[20]



[19] Source: National Weather Service, Northern Indiana Staff

[20] Source: National Climatic Data Center

Hazard Extent for Tornadoes

The historical tornadoes generally moved from southwest to northeast across the county. The extent of the hazard varies in terms of the extent of the path and the wind speed. Tornadoes can occur at any location within the county.

Risk Identification for Tornadoes

Based on historical information, the probability of a tornado is low, and the potential impact of a tornado is significant; therefore the overall risk of a tornado in Steuben County is moderate.

Vulnerability Analysis for Tornadoes

Tornadoes can occur within any area in the county; therefore the entire county population and all buildings are vulnerable to tornadoes. To accommodate this risk, this plan will consider all buildings within the county as vulnerable.

Essential Facilities

All essential facilities are vulnerable to tornadoes. An essential facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts will vary based on the magnitude of the tornado, but can include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of facility functionality (e.g., a damaged police station will no longer be able to serve the community).

Building Inventory

The same impacts to buildings within the county can be expected. The impacts are similar to those discussed for critical facilities and include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of building function (e.g., damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a tornado, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Because the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these structures could become damaged during a tornado. The impacts to these structures include broken, failed, or impassable roadways, broken or failed utility lines (e.g., loss of power or gas to community), and railway failure from broken or impassable railways. Bridges could fail or become impassable, causing risk to traffic.

GIS Tornado Analysis

The following analysis is an example scenario to gauge the anticipated impacts of a tornado in Steuben County in terms of numbers and types of buildings and infrastructure.

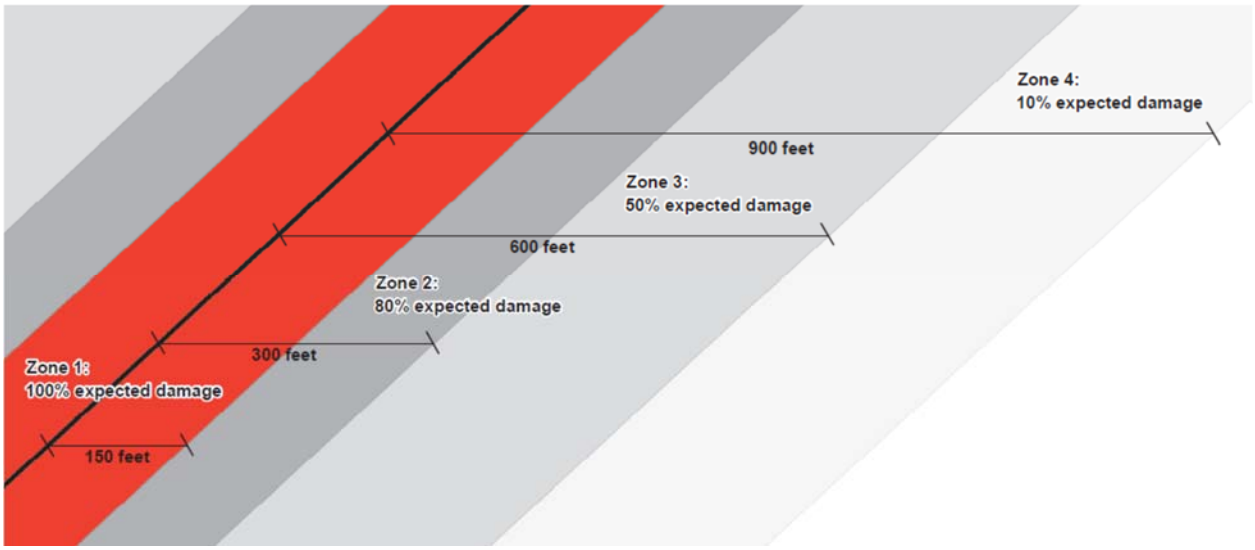
GIS overlay modeling was used to determine the potential impacts of an F4 tornado. The analysis used a hypothetical path based upon the F4 tornado event that ran for 18 miles from the southwest corner to the northeast corner across the entire county. The selected widths were modeled after a recreation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these six categories. Table 16 depicts path widths and maximum expected damage associated with tornados based on their Fujita Scale category.

Table 16: Tornado Path Widths and Damage Curves

Fujita Scale	Path Width (feet)	Maximum Expected Damage
F-5	3000	100%
F-4	2400	100%
F-3	1800	80%
F-2	1200	50%
F-1	600	10%
F-0	300	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path with a decreasing amount of damage away from the center of the path. This natural process was modeled in GIS by adding damage zones around the tornado path. Figure 19 and Table 17 describe the zone analysis.

Figure 19: GIS Analysis Using Tornado Buffers



Once the hypothetical route is digitized on a map, several buffers are created to model the damage functions within each zone.

An F4 tornado has four damage zones. Total devastation is likely to occur within 150 feet of the tornado path (the darker-colored Zone 1). The outer buffer is 900 feet from the tornado path (the lightest colored Zone 4), within buildings will be damaged by approximately 10%.

Table 17: Tornado Zones and Damage Curves

Fujita Scale	Zone	Buffer (feet)	Damage Curve
F-4	4	600-900	10%
F-4	3	300-600	50%
F-4	2	150-300	80%
F-4	1	0-150	100%

The hypothetical tornado path modeled for Steuben County is depicted in Figure 20 and the damage curve buffers with damaged buildings in the tornado path are illustrated in Figure 21.

Figure 20: Hypothetical F4 Tornado Path in Steuben County

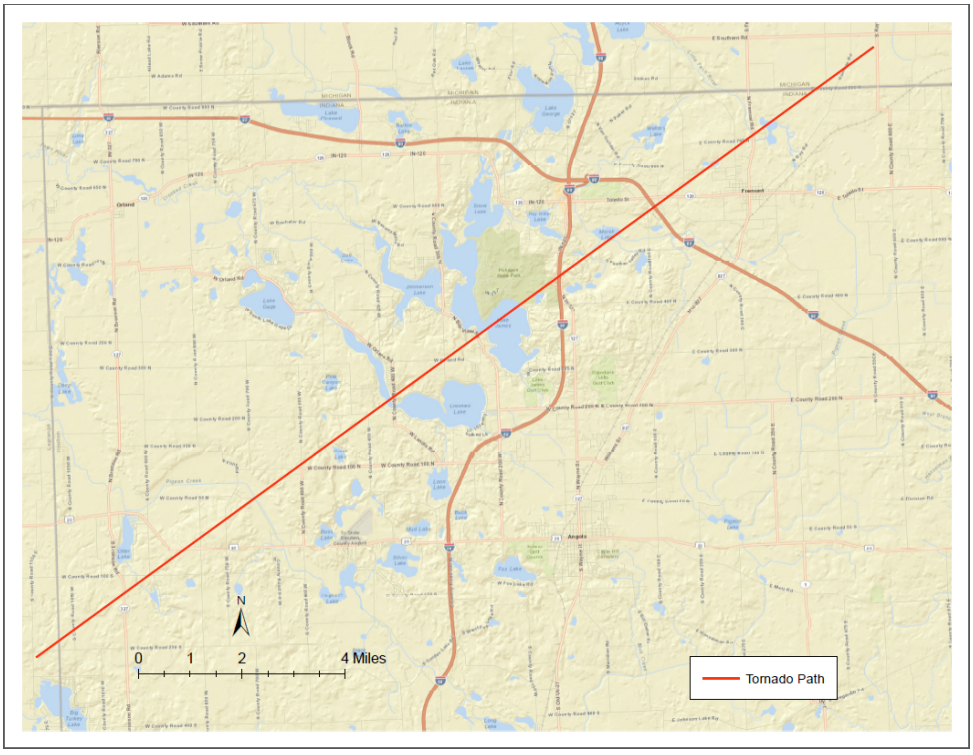
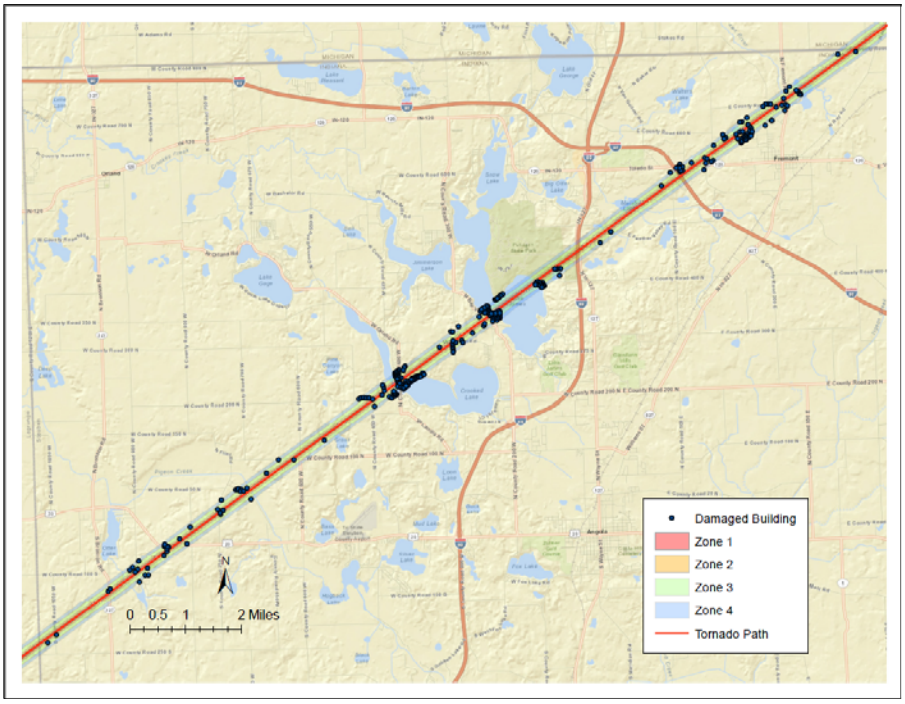


Figure 21: Modeled F4 Tornado Damage Buffers and Damaged Buildings in Steuben County



The results of the analysis are depicted in Table 18. The GIS analysis estimates that 409 buildings will be damaged. The estimated building losses were $20,285,106. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Steuben County that were joined with Assessor records showing property replacement value.

The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable. For purposes of analysis, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Table 18: Estimated Numbers of Buildings Damaged by Occupancy Type

Occupancy	Damaged Buildings	Building Losses
Residential	367	$16,069,913
Commercial	15	$837,945
Industrial	1	$61,699
Agriculture	23	$2,592,967
Religious	2	$668,639
Government	1	$53,943
Education	0	$0
Total	409	$20,285,106

Essential and Critical Facility Damage

There were no essential facilities located within 900 feet of the hypothetical tornado path.

Table 19 lists the other types of critical facilities and community assets that are located within the path of the modeled tornado hazard.

Table 19: Exposed Facilities

Critical Facilities in Tornado Path
INDOT- Toll RD WWTP (Waste Water Facility)
Communication Facility
Unnamed dam
Lake Charles West Dam
INDOT – Booth Tarkington Plaza Hazmat Facility
Ryder Transportation Services Hazmat Facility
Toll Rd James. W Riley SRV Plaza Hazmat Facility
Community Assets in Tornado Path
Presbyterian Chapel of the Lakes
Fish Lake Family Resort
Fremont Moose Lodge #2387

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Tornado Hazard

Due to the unpredictability of this hazard, all buildings and infrastructure in Steuben County are at risk of damage, including temporary or permanent loss of function. For tornadoes, it is not possible to isolate specific essential or non-essential facilities that would be more or less vulnerable to damages.

5.3.2 Flood Hazard

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area along with the rate at which precipitation infiltrates the ground, the geometry of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of two types: Flash floods or riverine floods. Both types of floods are common in Indiana.

Flash floods generally occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, flash floods cause damage over relatively localized areas, but they can be quite severe in the areas in which they occur. Urban flooding is a type of flash flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Flash floods can occur at any time of the year in Indiana, but they are most common in the spring and summer months.

Riverine floods refer to floods on large rivers at locations with large upstream catchments. Riverine floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for riverine floods than for flash floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage. Riverine flooding on the large rivers of Indiana generally occurs during either the spring or summer.

Previous Occurrences for Flooding

Flooding is a relatively common event in Steuben County. The 2008 MHMP reported that according to the National Climatic Data Center (NCDC) there were 7 significant flood events in the county between January 1993 and December 2006. Estimated damage from reported events in this timeframe included $5 million in property damage and $10,000 in crop damage. The 2008 MHMP also indicated that the low lying and floodplain areas within the county experience flooding on an annual basis.

The NCDC database reported three flood events in Steuben County since 2008. In the spring of 2009 the City of Clear Lake sustained more than $500,000 and Nevada Mills experienced $250,000 in damage.

Geographic Location for Flooding

Most riverine flooding occurs in the spring and is the result of excessive rainfall and/or the combination of rainfall and snowmelt. Severe thunderstorms may cause flooding during the summer or fall, but tend to be localized.

Flash floods, brief heavy flows in small streams of normally dry creek beds, also occur within the county. Flash flooding is typically characterized by high-velocity water, often carrying large amounts of debris. Urban flooding involves the overflow of storm drain systems and is typically the result of inadequate drainage following heavy rainfall or rapid snowmelt.

The primary sources of flooding in Steuben County are the Fawn River, Fish Creek, Pigeon Creek, and various tributaries. Many of the county's flat lakeshore areas are also prone to flooding. Steuben County, the City of Angola, and Towns of Clear Lake, Hamilton, and Orland have a combined 31 structures in the 1%-annual-chance flood risk area (a/k/a 100-year Special Flood Hazard Area). The Towns of Ashley, Fremont, and Hudson have no structures within the 1%-annual-chance flood risk area. The majority of the 790 buildings within the 1%-annual-chance flood risk area are outside of corporate boundaries (unincorporated area of Steuben County).

Hazard Extent for Flooding

The Federal Emergency Management Agency (FEMA) provided the Digital Flood Insurance Rate Maps (DFIRMs) that identify studied streams. The Special Flood Hazard Area (SFHA), which represents the modeling of the 1% flood probability, was to identify areas for analysis.

Flood hazard scenarios were modeled using GIS analysis and Hazus-MH. Planning team input and a review of historical information provided additional information on specific flood events.

Risk Identification for Flooding

Based on historical information, the probability of a flood is medium, and the potential impact of a flood is moderate; therefore the overall risk of a flood in Steuben County is moderate.

Vulnerability Analysis

The planning team analyzed vulnerability to flooding with a Hazus-MH Level 2 analysis and an analysis of community participation in the National Flood Insurance Program (NFIP). It is important to note that the losses to buildings, particularly essential facilities, extends beyond physical damage. The economic and social impacts associated with loss of governmental, public safety, and health care infrastructure are far more significant for a community. When assessing the cost of building construction, it is important for government agencies to consider these impacts.

Hazus-MH Analysis

Hazus-MH was used to generate a flood depth grid based on the 1%-annual-chance flood hazard boundary and a 1/3 ArcSecond digital elevation model. Hazus-MH was then used to conduct a point level analysis of buildings within the 1%-annual-chance flood hazard boundary.

Based on the Steuben County parcel data, 790 buildings are located within the 1% flood probability boundary. Of these buildings, 404 would be damaged at a building replacement cost (not including contents) of $8,050,285. The total estimated numbers and cost of damaged buildings by community are given in Tables 20 and 21. Figure 22 depicts the buildings that fall within the 1%-annual-chance flood hazard boundary. Figures 23 through 26 highlight damaged buildings within the floodplain areas in each flood-prone jurisdiction.

Table 20: Number of Buildings Damaged by Community and Occupancy

Community	Total Buildings Damaged	Building Occupancy Class						
		Agriculture	Commercial	Education	Government	Industrial	Religious	Residential
Steuben County Unincorporated	376	11	3	0	0	0	0	362
Town of Ashley	0	0	0	0	0	0	0	0
Town of Clear Lake	2	0	0	0	0	0	0	2
Town of Fremont	0	0	0	0	0	0	0	0
City of Angola	11	0	0	0	0	0	1	10
Town of Hamilton	12	1	3	0	0	0	0	8
Town of Hudson	0	0	0	0	0	0	0	0
Town of Orland	3	0	0	0	0	0	0	3

Table 21: Cost of Buildings Damaged by Community and Occupancy

Community	Total $ Losses	Building Occupancy Class						
		Agriculture	Commercial	Education	Government	Industrial	Religious	Residential
Steuben County Unincorporated	$7,247,513	$106,745	$221,939	0	0	0	0	$6,918,828
Town of Ashley	0	0	0	0	0	0	0	0
Town of Clear Lake	$102	0	0	0	0	0	0	$102
Town of Fremont	0	0	0	0	0	0	0	0
City of Angola	$470,879	0	0	0	0		$170,941	$299,938
Town of Hamilton	$301,062	$1,286	$72,495	0	0	0	0	$227,281
Town of Hudson	0	0	0	0	0	0	0	0
Town of Orland	$30,729	0	0	0	0	0	0	$30,729

Figure 22: Steuben County Buildings in Floodplain (1%-Annual-Chance Flood Risk Area)

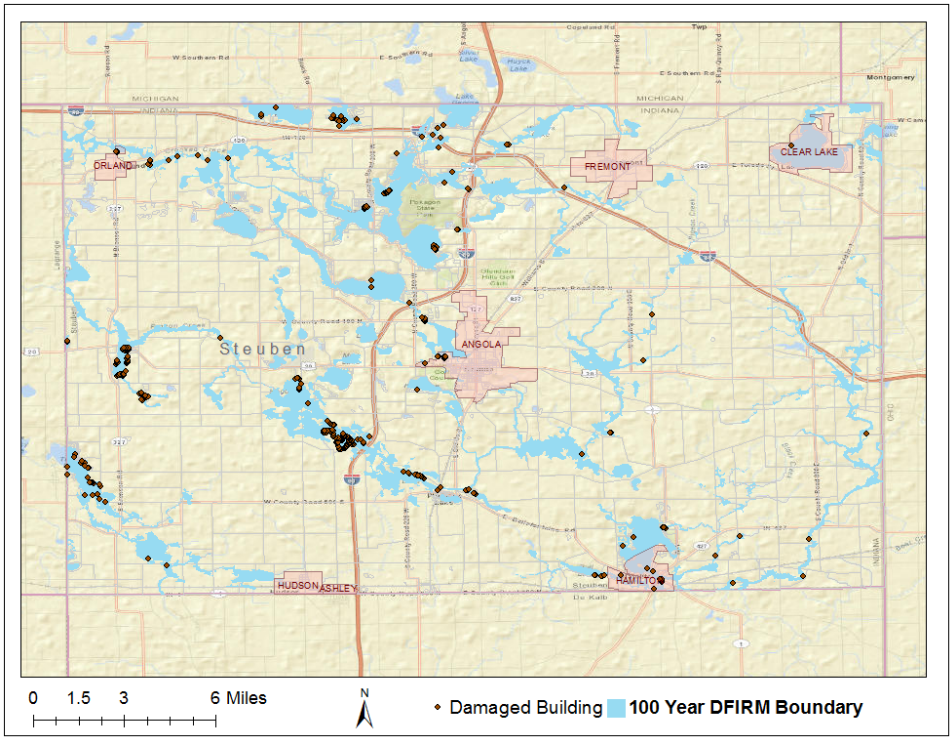


Figure 23: Clear Lake Flood-Prone Areas (1%-Annual-Chance Flood Risk Area)

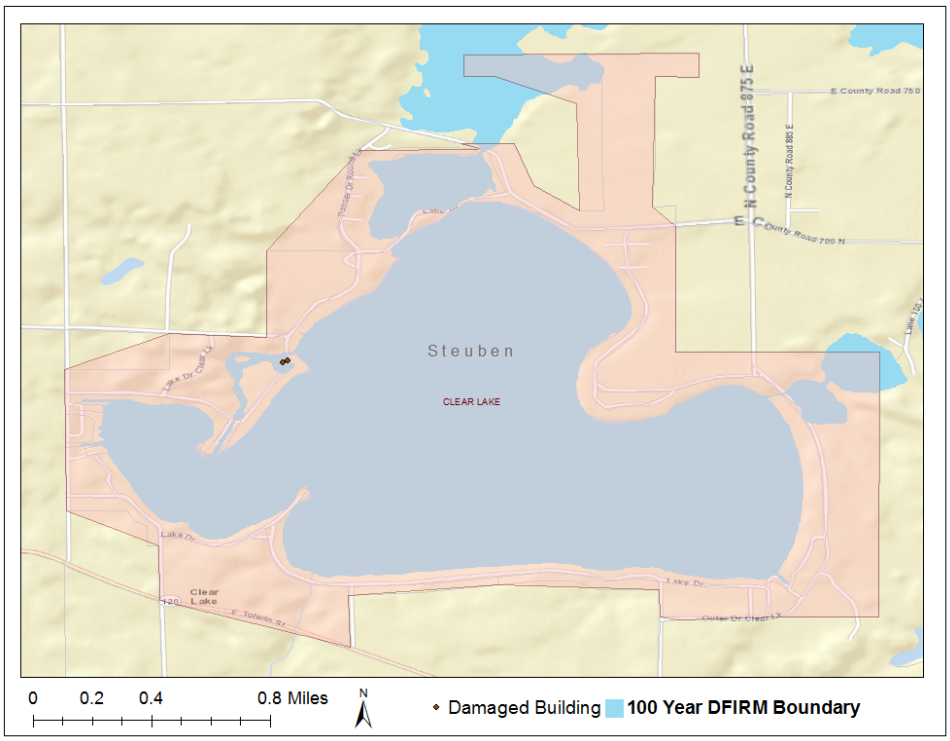


Figure 24: Angola Flood-Prone Areas (1%-Annual-Chance Flood Risk Area)

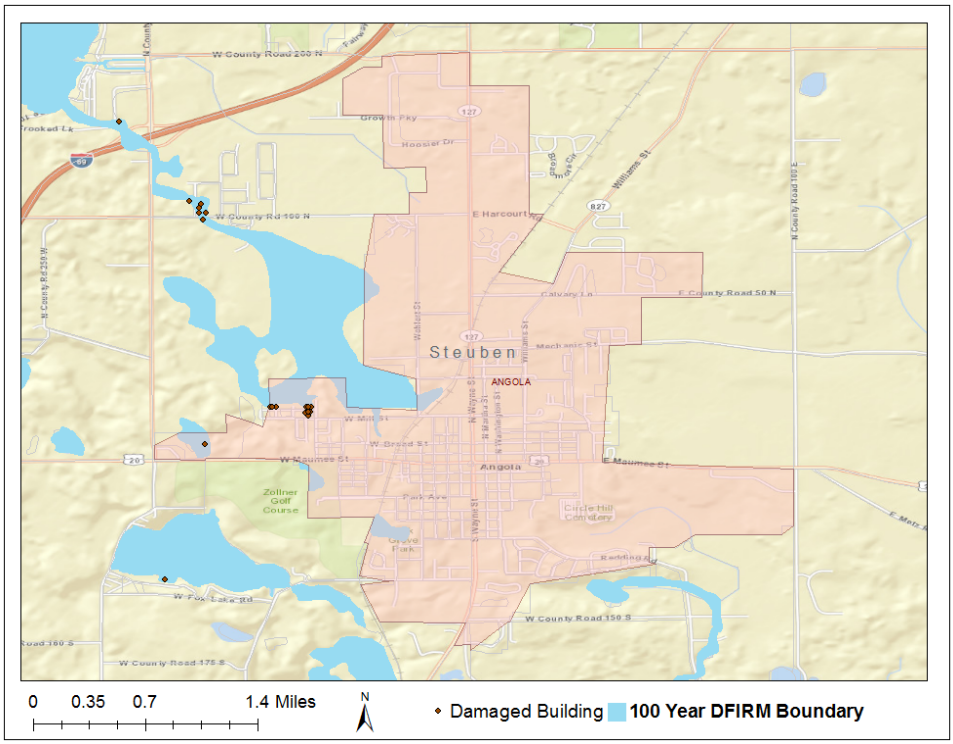


Figure 25: Hamilton Flood-Prone Areas (1%-Annual-Chance Flood Risk Area)

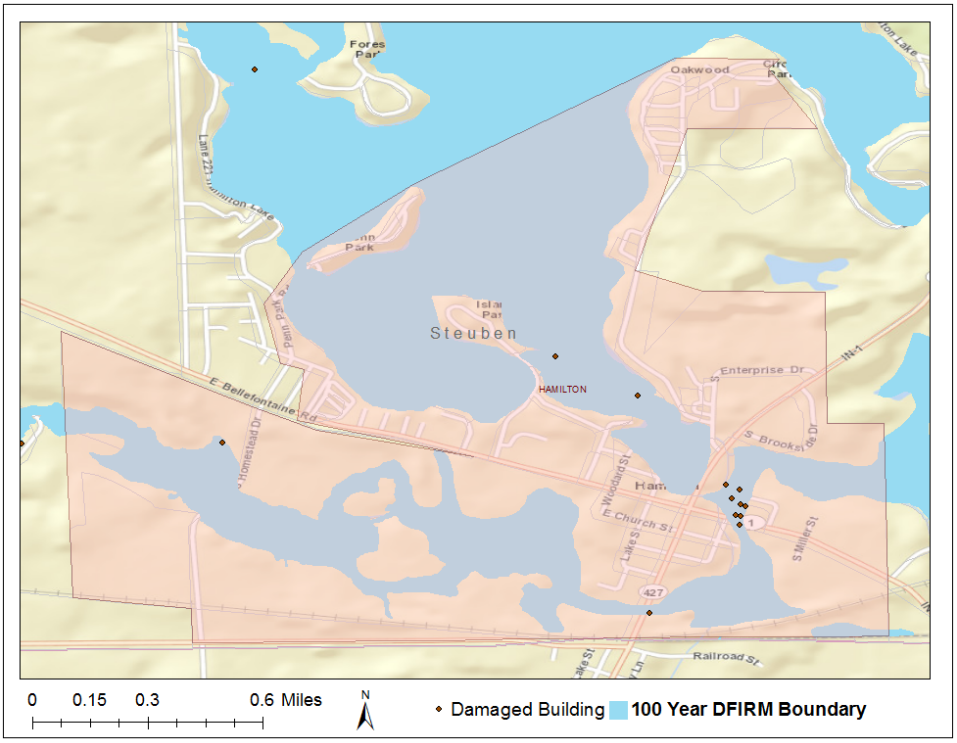
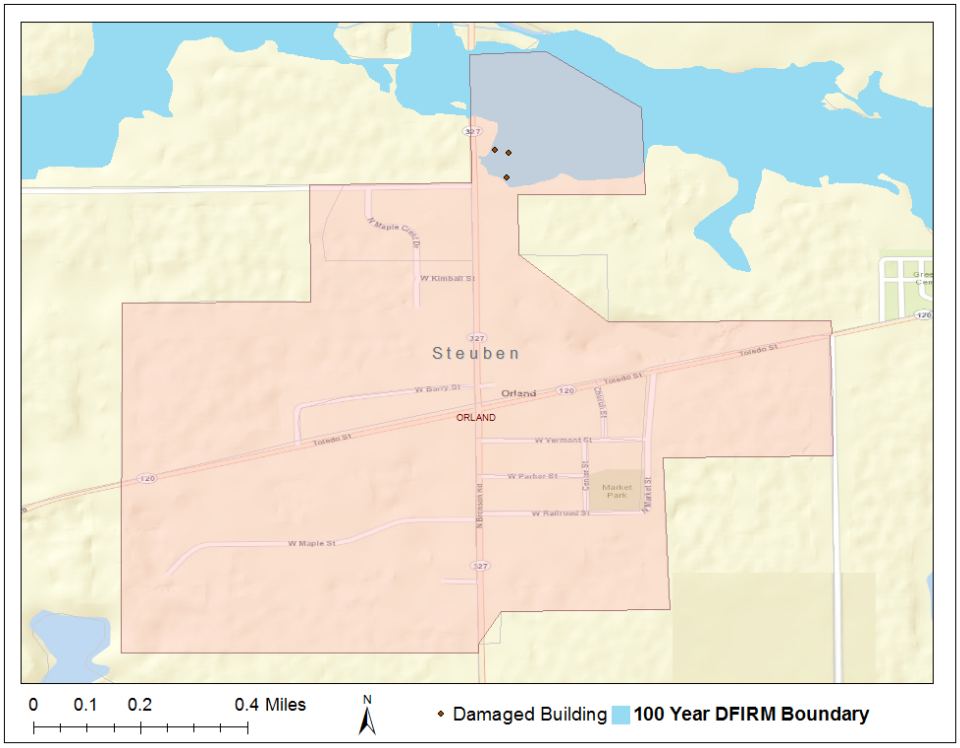


Figure 26: Orland Flood-Prone Areas (1%-Annual-Chance Flood Risk Area)



Hazus Analysis of Essential Facilities

An essential facility will encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community).

Hazus estimates that no essential facilities in Steuben County are located within the 1%-annual-chance flood risk area.

Table 22 lists the other types of critical facilities and community assets that are located within the 1%-annual-chance flood risk area.

Table 22: Exposed Critical Facilities and Community Assets (1%-Annual-Chance Flood Risk Area)

Critical Facilities
Crooked Lake Airport
Lake James Airport
Lake Pleasant Airport
Pigeon Airport
Clear Lake Airport
2 communication facilities
Casey's Cove Marina Hazmat Facility
Clarks Landing Marina Hazmat Facility
Community Assets
Blakeley MH/Camp
A-OK West Otter Lake Campground
Waggoner's Mobile Home Park
Fishing Hole Campground

NFIP Analysis

FEMA provides annual funding through the National Flood Insurance Fund (NFIF) to reduce the risk of flood damage to existing buildings and infrastructure. These grants include Flood Mitigation Assistance (FMA), Repetitive Flood Claims (RFC), and the Severe Repetitive Loss (SRC) program. The long-term goal is to significantly reduce or eliminate claims under the NFIP through mitigation activities.

FEMA defines a repetitive loss structure as a structure covered by a contract of flood insurance issued under the National Flood Insurance Program (NFIP), which has suffered flood loss damage on two occasions during a 10-year period that ends on the date of the second loss, in which the cost to repair the flood damage is 25% of the market value of the structure at the time of each flood loss. As of May 2014, FEMA reports that there are two repetitive loss structures in Steuben County.

As of April 2014, Steuben County, the City of Angola, the Town of Hamilton, and the Town of Hudson are part of the NFIP. The Town of Hamilton purchased a single-family residential home and 12 mobile homes following the May 1996 flood.

The Town of Orland and the Town of Clear Lake have a small number of exposed structures but are currently not part of the NFIP. The towns of Ashely and Fremont have no structures within the 1% flood

probability boundary, and they choose not to participate in the program. Table 23 documents the Steuben County NFIP claims data as of April 11, 2014.

Table 23: NFIP Claims Data

Community	% of Community in SFHA	Value of Insurance Claims/Payments since 1978	Number of Insurance Claims/Losses since 1978
Unincorporated areas of Steuben County	10.26	$205,005	52
City of Angola	2.55	$11,684	6
Town of Clear Lake	59.22	0	0
Town of Hamilton	36.47	$8,197	3
Town of Hudson	2.69	$3,425	1
Town of Orland	7.18	0	0
Total	n/a	$228,311	62

The county and incorporated areas do not participate in the NFIP'S Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions, meeting the three goals of the CRS: 1) reduce flood losses; 2) facilitate accurate insurance rating; and 3) promote the awareness of flood insurance.

Table 24 identifies each community and the date each joined the NFIP. The effective date is the official date of the latest map revision.

Table 24: Additional Information on Communities Participating in the NFIP

Community	Participation Date	Effective Date
City of Angola	8/23/74	12/17/13
Town of Clear Lake	12/6/74	12/17/13
Town of Hamilton	9/6/74	12/17/13
Town of Hudson	7/19/74	12/17/13

Table 25 provides a comparison of buildings in the 1% flood probability boundary to the number of policies and the percent of insured structures represented by those policies. The last column in the table provides an estimate of the exposure that is insured.

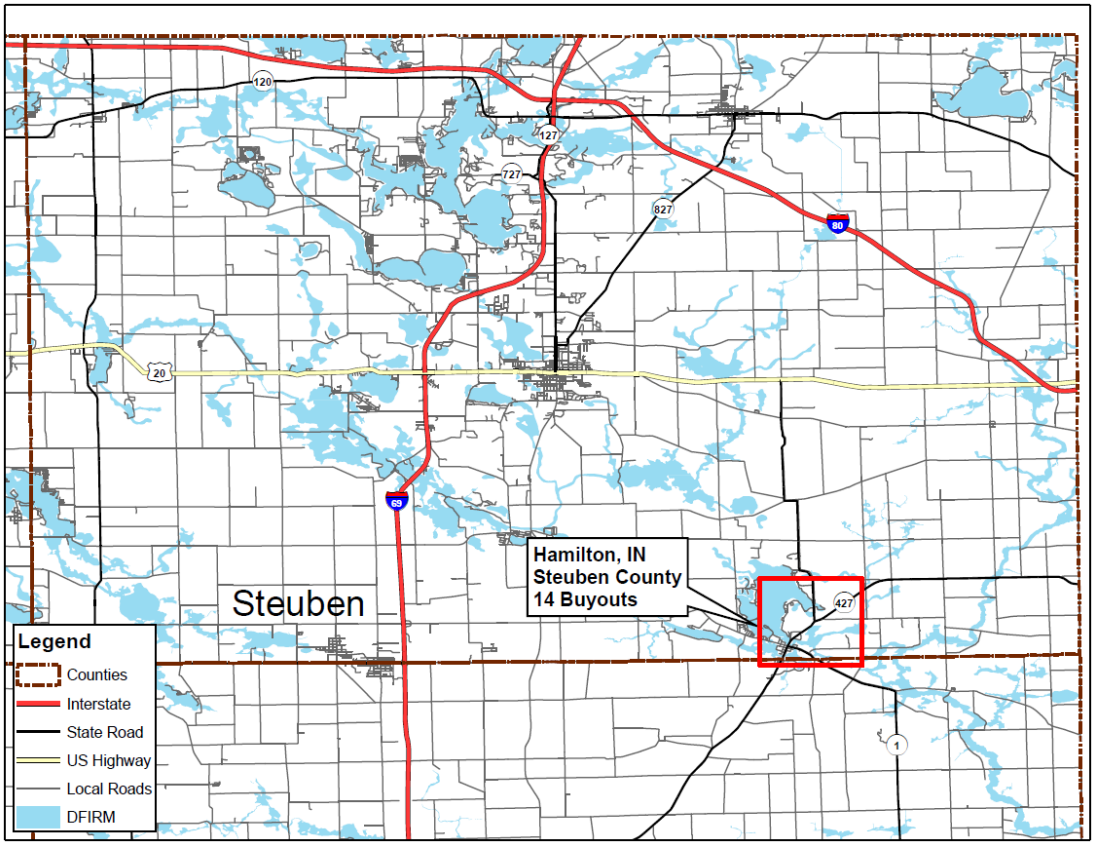
Table 25: Comparison of Building Exposure to Insured Buildings

Community	Buildings in 100 Year Floodplain[21]	Exposure of Buildings in Floodplain	Number of Policies	Insured Value of Policies	Approximate Percent of Buildings Insured	Percent of Exposure at Risk
Unincorporated Steuben County	759	$58,934,995	240	$35,362,700	31%	60%
City of Angola	11	$1,210,887	4	$682,800	36%	56%
Town of Clear Lake	5	$58,119	0	0	0%	100%
Town of Hamilton	12	$1,283,313	2	$151,000	17%	12%
Town of Hudson	0	0	2	$269,300	100%	0%
Town of Orland	3	231,161	0	0	0	100%
TOTAL	790	$61,718,475	248	$36,465,800	31%	59%

In an effort to mitigate losses, Maumee River Basin Commission targets repetitive loss and severe repetitive loss structures for acquisition so that the land can be converted to wetlands or other green space. Figure 27 on the following page maps the buy-outs since 2008.

[21] The count and exposure of buildings in the floodplain reported in this table is based on an account of all structures in the floodplain that were represented in the county property assessment data.

Figure 27: Maumee River Basin Buy-outs



Future Development Trends and Vulnerability to Future Assets/Infrastructure for Flooding

The Steuben County Comprehensive Plan defines how and where a community should plan for development. The goals and objectives identified in the plan become the foundation for development of community ordinances. Planning authorities in Steuben County NFIP communities review new development for compliance with their local zoning and flood hazard mitigation ordinances as one way to mitigate each development's vulnerability to floods.

In July 2008, Steuben County adopted a number of zoning ordinances that require new construction and substantial improvements to 1) be anchored, 2) be constructed with materials and utility equipment resistant to flood damage below the flood protection grade (FPG), and 3) be constructed by methods and practices that minimize flood damage. Additionally, manufactured homes must be anchored to prevent flotation, new and replacement water supply systems and sanitary sewage system must be designed to minimize or eliminate infiltration of flood waters into the system, and all structures to be located in the SFHA must be protected from flood damage below the FPG. Maumee River Basin Commission will continue to identify opportunities for flood proofing and removal of structures in flood-prone areas.

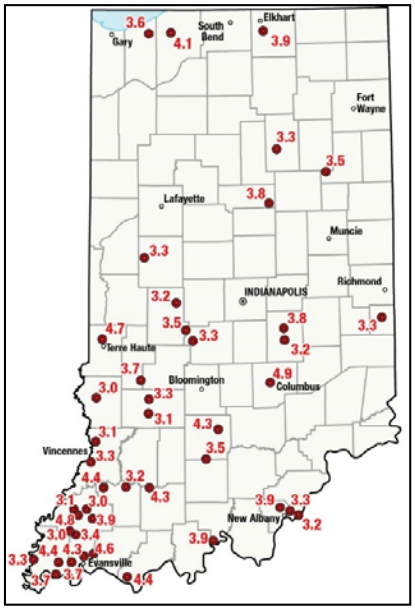
5.3.3 Earthquake Hazard

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped Earth as the huge plates that form the Earth's crust collide, move away from, and slide past each other. This movement is extremely slow; however, when sections of the plates are locked together, stored energy accumulates. When the accumulated energy grows strong enough, the portions of the plate break free, causing the earthquake.

Ninety-five percent of earthquakes occur at the plate boundaries; however, some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern US. The most seismically active area in the Central US is referred to as the New Madrid Seismic Zone. Scientists have learned that the New Madrid fault system may not be the only fault system in the Midwest capable of producing damaging earthquakes. The Wabash Valley Fault System in Indiana shows evidence of large earthquakes in its geologic history, and there may be other currently unidentified faults that could produce strong earthquakes. Figure 28 depicts Indiana's historical earthquake epicenters.

Ground shaking from strong earthquakes can collapse buildings and bridges; disrupt gas, electric, and phone service; and sometimes trigger landslides, flash floods, and fires. Buildings with foundations resting on unconsolidated landfill and other unstable soil, and trailers or homes not tied to their foundations are at risk because they can be shaken off their mountings during an earthquake. When an earthquake occurs in a populated area, it may cause deaths, injuries, and extensive property damage.

Figure 28: Indiana Historical Earthquake Epicenters[22]



[22] Source: Indiana Geological Survey

Table 26: Abbreviated Modified Mercalli Intensity Scale

Modified Mercalli Intensity	Description
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Table 27: Earthquake Magnitude vs. Modified Mercalli Intensity Scale

Earthquake Magnitude	Typical Maximum Modified Mercalli Intensity
1.0-3.0	I
3.0-3.9	II-III
4.0-4.9	IV-V
5.0-5.9	VI-VII
6.0-6.9	VII-IX
7.0 and higher	VIII or higher

Previous Occurrences for Earthquake Hazard

At least 43 earthquakes, M3.0 or greater, have occurred in Indiana since 1817. The last such event was a M3.1 centered just north of Vincennes on May 10, 2010. A M3.8 earthquake occurred near Kokomo in December later that same year with approximately 10,390 individuals submitting felt reports to the USGS.

Geographic Location for Earthquake Hazard

The majority of seismic activity in Indiana occurs in the southwestern region of the state. Earthquakes originate just across the boundary in Illinois and can be felt in Indiana. The M5.2 Mt. Carmel event on April 19, 2008 was felt by residents in Indiana, Kentucky, and many more states across the central US.

Hazard Extent for Earthquake Hazard

The extent of an earthquake is regional. One of the most critical sources of information that is required for accurate assessment of earthquake risk is soils data. Soils along rivers and other bodies of water have higher water tables and higher sand content. As a result, these areas are more susceptible to liquefaction and land shaking. Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking as a result of water filling the space between individual soil particles. This can cause buildings to tilt or sink into the ground, slope failures, lateral spreading, surface subsidence, ground cracking, and sand blows.

Risk Identification for Earthquake Hazard

Based on historical information, the probability of an earthquake is low, and the potential impact of an earthquake is minimal to moderate; therefore the overall risk of an earthquake in Steuben County is low.

Vulnerability Analysis for Earthquake Hazard

While earthquakes in northern Indiana do not pose as significant a risk to the built environment as they might in southern and central Indiana, there are other direct and indirect impacts that Steuben County should prepare for. There may, for example, be damage to utilities. Additionally, the county should be prepared to provide mutual aid and accommodate migratory populations from harder hit southern areas of the state.

This hazard could impact the entire jurisdiction equally; therefore the entire county's population and all buildings are vulnerable to an earthquake and can expect the same impacts within the affected area. To accommodate this risk, this plan will consider all buildings within the county as vulnerable.

Facilities

All essential and critical facilities are vulnerable to earthquakes. These facilities would encounter many of the same impacts as any other building within the county. These impacts include structural failure and

loss of facility functionality (e.g., a damaged police station will no longer be able to serve the community). Names and locations of essential and critical facilities, as well as community assets, are in Appendix C.

Building Inventory

Impacts similar to those discussed for essential and critical facilities can be expected for all other buildings within the county. These impacts include structural failure and loss of building function that could result in indirect impacts (e.g., damaged homes will no longer be habitable, causing residents to seek shelter).

Infrastructure

During an earthquake, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. It is important to emphasize that any number of these structures could become damaged in the event of an earthquake. The impacts to these structures include broken, failed, or impassable roadways; broken or failed utility lines (e.g., loss of power or gas to community); and railway failure from broken or impassable railways. Bridges also could fail or become impassable, causing traffic risks. Typical scenarios are described to gauge the anticipated impacts of earthquakes in the county in terms of numbers and types of buildings and infrastructure.

Hazus-MH Earthquake Analysis

The Polis team reviewed existing geological information and recommendations for earthquake scenarios and ran four modeling scenarios—two deterministic, one probabilistic, and an annualized loss.

The deterministic scenarios included a 7.7-magnitude epicenter along the New Madrid fault zone and a 6.8-magnitude epicenter in Mount Carmel, Illinois.

Modeling a deterministic scenario requires user input for a variety of parameters. One of the most critical sources of information required for accurate assessment of earthquake risk is soils data. Fortunately, a National Earthquake Hazards Reduction Program (NEHRP) soil classification map exists for Indiana. NEHRP soil classifications portray the degree of shear-wave amplification that can occur during ground shaking. The Indiana State Geological Survey supplied the soils map used for the analysis. FEMA provided a map for liquefaction potential that was used by Hazus-MH.

An earthquake depth of 10.0 kilometers was selected based on input from the Indiana Geological Survey. Hazus-MH also requires the user to define an attenuation function unless ground motion maps are supplied. The Central and Eastern United States (CEUS) attenuation function was applied to this study.

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

The probabilistic scenario was based on ground-shaking parameters derived from US Geological Survey probabilistic seismic hazard curves. The probabilistic scenario was a 500-year return period scenario. This analysis evaluates the average impacts of a multitude of possible earthquake epicenters with a magnitude that would be typical of that expected for a 500-year return period. These analysis options were chosen because they are useful for prioritization of seismic reduction measures and for simulating mitigation strategies.

Results for 7.7 Magnitude- New Madrid, Kentucky Earthquake Scenario

Hazus estimates that no losses in Steuben County would be incurred from the 7.7 magnitude New Madrid earthquake scenario.

Results for 6.8 Magnitude- Mt. Carmel, Illinois Earthquake Scenario

Hazus estimates that no losses in Steuben County would be incurred from the 6.8 magnitude Mt. Carmel, Illinois earthquake scenario.

Results for Probabilistic 500-Year Earthquake Scenario

The probabilistic 500-year impacts estimated by Hazus-MH are depicted in Tables 28 and 29 and Figure 29. Hazus-MH estimates that approximately 79 buildings will be at least moderately damaged. This is less than 1% of the total number of buildings in the region. It is estimated that no buildings will be damaged beyond repair.

The aggregate building related losses totaled $3.37 million; 43% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up more than 52% of the total loss.

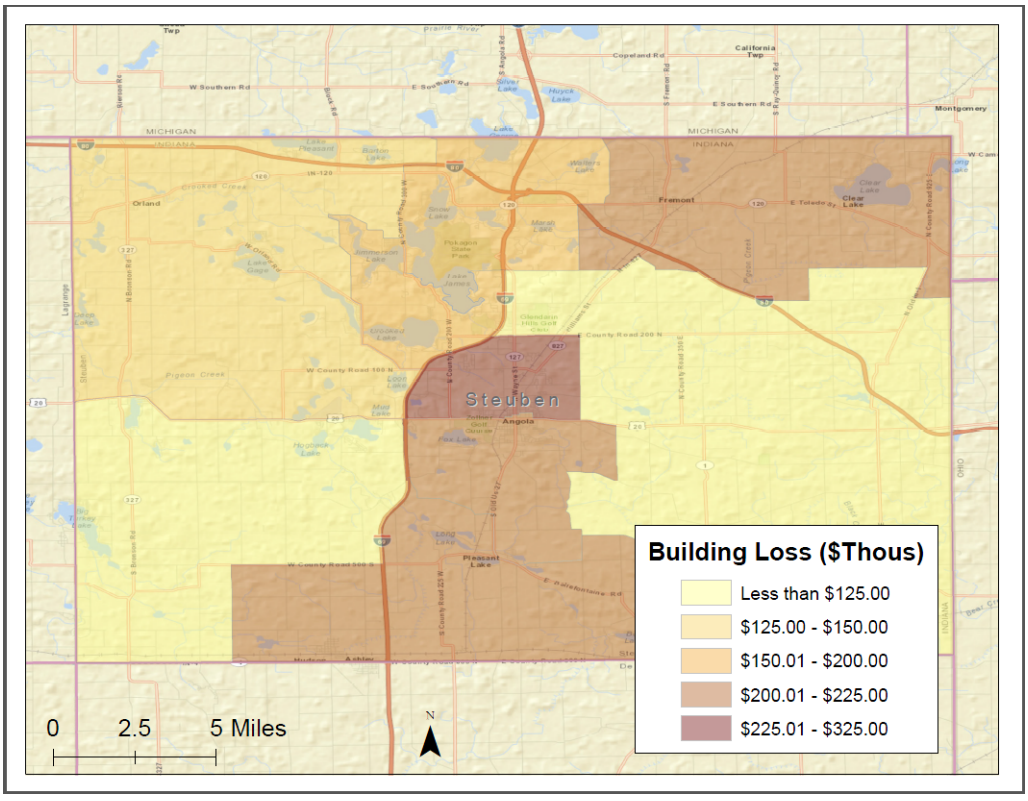
Table 28: Probabilistic 500-Year Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	1,687	8.34	28	7.66	3	4.27	0	3.97	0	4.33
Commercial	775	3.83	19	5.27	6	7.76	1	9.19	0	6.18
Education	19	0.10	0	0.12	0	0.14	0	0.15	0	0.15
Government	37	0.18	1	0.19	0	0.19	0	0.19	0	0.21
Industrial	148	0.73	4	1.13	1	1.91	0	2.15	0	0.95
Other Residential	2,041	10.09	32	9.04	4	5.67	0	4.96	0	5.37
Religion	150	0.74	3	0.92	1	1.23	0	1.40	0	1.38
Single Family	15,373	75.99	272	75.69	56	78.84	6	77.97	0	81.43
Total	20,231		359		71		8		1	

Table 29: Probabilistic 500-Year Scenario-Building Losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses							
	Wage	0.00	0.02	0.16	0.04	0.02	0.24
	Capital-Related	0.00	0.01	0.11	0.02	0.01	0.15
	Rental	0.10	0.03	0.14	0.03	0.01	0.31
	Relocation	0.35	0.02	0.18	0.11	0.10	0.76
	Subtotal	**0.45**	**0.08**	**0.59**	**0.19**	**0.14**	**1.45**
Capital Stock Losses							
	Structural	0.37	0.03	0.12	0.08	0.10	0.70
	Non_Structural	0.66	0.08	0.11	0.07	0.08	1.01
	Content	0.07	0.01	0.03	0.03	0.03	0.18
	Inventory	0.00	0.00	0.00	0.02	0.01	0.03
	Subtotal	**1.11**	**0.12**	**0.27**	**0.19**	**0.22**	**1.92**
	Total	**1.56**	**0.20**	**0.86**	**0.39**	**0.37**	**3.37**

Figure 29: Probabilistic 500-Year Scenario-Building Losses in Thousands of Dollars



Probabilistic 500-Year Scenario: Essential Facility Losses

Before the earthquake, the Hazus-MH estimated that Steuben County would have 3,685 care facility beds available for uses. On the day of the earthquake, the model estimates that 3,478 care facility beds (94.00%) would be available for use by patients already in medical care facilities along with those injured by the earthquake. After one week, 98.00% of the beds would be back in service. By day 30, 100.00% would be operational.

Annualized Loss Earthquake Scenario

The annualized loss earthquake scenario produced negligible losses.

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Earthquake Hazard

Due to the unpredictability of this hazard, all buildings and infrastructure in Steuben County are at risk of damage including temporary or permanent loss of function. Unreinforced structures are more vulnerable to damages. Vulnerability to new development will be minimal due to current construction codes coupled with the low earthquake probability.

5.3.4 Severe Thunderstorm Hazard

Severe thunderstorms are defined as thunderstorms with one or more of the following characteristics: strong winds, large damaging hail, or frequent lightning. Severe thunderstorms most frequently occur in Indiana during the spring and summer but can occur any month of the year at any time of day. A severe thunderstorm's impacts can be localized or can be widespread in nature. A thunderstorm is classified as severe when it meets one or more of the following criteria.

- Hail of diameter 0.75 inches or higher
- Frequent and dangerous lightning
- Wind speeds equal to or greater than 58 miles an hour

Hail

Hail is a product of a strong thunderstorm. Hail usually falls near the center of a storm; however, strong winds occurring at high altitudes in the thunderstorm can blow the hailstones away from the storm center, resulting in damage in other areas near the storm. Hailstones range from pea-sized to baseball-sized, but hailstones larger than softballs have been reported on rare occasions.

Lightning

Lightning is a discharge of atmospheric electricity from a thunderstorm. It can travel at speed up to 140,000 mph and reach temperatures approaching 54,000 degrees. Lightning often is perceived as a minor

hazard; in reality, lightning causes damage to many structures and kills, or severely injures, numerous people in the United States. It is estimated that there are 16 million lightning storms worldwide every year.

Severe Winds (Straight-Line Winds)

Straight-line winds from thunderstorms are a fairly common occurrence across Indiana. Straight-line winds can cause damage to homes, businesses, power lines, and agricultural areas, and may require temporary sheltering of individuals who are without power for extended periods of time.

Previous Occurrences for Thunderstorm Hazards – 5 Year

According to the 2008 MHMP the National Climatic Data Center (NCDC) reported 41 hailstorms, 31 thunderstorms, and 32 windstorms from August 1960 through October 2006.

The 2008 MHMP documented the impacts of a number of notable thunderstorm related events. For example, on November 27, 1994 an intense low pressure area and cold front swept across the state of Indiana. The cold front triggered a squall line that produced $120K in damages. A July 1998 thunderstorm/windstorm event is recorded as having caused $250K in damages and 4 injuries when lightning struck the 4-H building in Angola. The roof of that building was also damaged by winds that exceeded 57 MPH. Another event occurred in Fremont in September of 2005 which uprooted a tree that was 2 feet in diameter. That same event caused a 12 inch tree to be uprooted that landed on a police cruiser and an additional tree damaged a fence and storage shed on Snow Lake, resulting in damages of approximately $40K. The largest reported hailstone was 1.75 inches in diameter. This size of hail was present in storms on several occasions throughout the reported period.

Since 2008 The NCDC database reported six hailstorms, 3 high wind events, two lightening events and 37 thunderstorm wind events. These events are detailed in Table 30. None of the reported events since 2008 resulted in death or injury but they did have notable impacts to the community. For example, in May 2011 local media reported that strong storms blew through northern Indiana that cut a swath from South Bend to Toledo. The worst damage was reported in Steuben County where high winds blew down numerous trees across the county, many of them around the City of Angola. Power lines were also downed that left thousands without power. Two barns were also destroyed outside of Fremont. A November 2013 storm also caused significant damage as can be seen in Figure 30.

Figure 30: Storm Damage from November 2013 Storm in Angola, Indiana

Table 30: Steuben County Storms Events Reported to NCDC

Location	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
CROOKED LAKE	6/15/2008	Hail	0.88 inch	0	0	$0	0
ORLAND	7/2/2008	Hail	0.75 inch	0	0	$0	0
HAMILTON	5/22/2011	Hail	1 inch	0	0	$0	0
ANGOLA	5/29/2011	Hail	1 inch	0	0	$0	0
HUDSON	8/9/2011	Hail	1 inch	0	0	$0	0
ELLIS	7/1/2012	Hail	0.75 inch	0	0	$0	0
REGIONAL	9/14/2008	High Wind	50 MPH	0	0	$0	0
REGIONAL	2/11/2009	High Wind	50 MPH	0	0	$0	0
REGIONAL	12/9/2009	High Wind	50 MPH	0	0	$0	0
JAMESTOWN	6/19/2009	Lightning		0	0	$40,000	0
ANGOLA	4/11/2011	Lightning		0	0	$55,000	0
FLINT	6/15/2008	Thunderstorm Wind	55 MPH	0	0	$0	0
SALEM CENTER	6/21/2008	Thunderstorm Wind	60 MPH	0	0	$0	0
SALEM CENTER	6/21/2008	Thunderstorm Wind	55 MPH	0	0	$5,000	0
FLINT	6/21/2008	Thunderstorm Wind	51 MPH	0	0	$0	0
LAKE JAMES	7/2/2008	Thunderstorm Wind	55 MPH	0	0	$10,000	0
CROOKED LAKE	8/19/2009	Thunderstorm Wind	55 MPH	0	0	$15,000	0
ORLAND	6/5/2010	Thunderstorm Wind	60MPH	0	0	$0	0
ORLAND	6/6/2010	Thunderstorm Wind	60 MPH	0	0	$0	0
FREMONT	6/6/2010	Thunderstorm Wind	60 MPH	0	0	$0	0

Location	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
HAMILTON	6/6/2010	Thunderstorm Wind	55 MPH	0	0	$0	0
HAMILTON	6/18/2010	Thunderstorm Wind	52 MPH	0	0	$0	0
PLEASANT LAKE	6/23/2010	Thunderstorm Wind	50 MPH	0	0	$0	0
PLEASANT LAKE	6/23/2010	Thunderstorm Wind	55 MPH	0	0	$0	0
NEVADA MILLS	5/29/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
FLINT	5/29/2011	Thunderstorm Wind	55 MPH	0	0	$10,000	0
FLINT	5/29/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
FREMONT	5/29/2011	Thunderstorm Wind	60 MPH	0	0	$0	0
ANGOLA	5/29/2011	Thunderstorm Wind	60 MPH	0	0	$0	0
CLEAR LAKE	5/29/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
CLEAR LAKE	5/29/2011	Thunderstorm Wind	60 MPH	0	0	$0	0
MOONLIGHT BAY	6/21/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
HUDSON	7/11/2011	Thunderstorm Wind	65 MPH	0	0	$0	0
ANGOLA	7/11/2011	Thunderstorm Wind	60 MPH	0	0	$0	0
FREMONT	7/11/2011	Thunderstorm Wind	50 MPH	0	0	$0	0
ANGOLA	7/22/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
ANGOLA	7/22/2011	Thunderstorm Wind	55 MPH	0	0	$0	0
FLINT	7/1/2012	Thunderstorm Wind	50 MPH	0	0	$0	0
ANGOLA	7/1/2012	Thunderstorm Wind	50 MPH	0	0	$0	0
FREMONT	7/1/2012	Thunderstorm Wind	55 MPH	0	0	$0	0
METZ	7/1/2012	Thunderstorm Wind	61 MPH	0	0	$0	0
ANGOLA	7/17/2012	Thunderstorm Wind	50 MPH	0	0	$0	0
FREMONT	6/25/2013	Thunderstorm Wind	55 MPH	0	0	$0	0
HUDSON	6/25/2013	Thunderstorm Wind	60 MPH	0	0	$0	0
HUDSON	6/25/2013	Thunderstorm Wind	60 MPH	0	0	$0	0
MOONLIGHT BAY	9/11/2013	Thunderstorm Wind	60 MPH	0	0	$0	0
MOONLIGHT BAY	9/11/2013	Thunderstorm Wind	55 MPH	0	0	$0	0
ANGOLA	11/17/2013	Thunderstorm Wind	56 MPH	0	0	$0	0

NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. These estimates, however, are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

Geographic Location for Thunderstorm Hazard

The entire county has the same risk for occurrence of thunderstorms. They can occur at any location within the county.

Hazard Extent for Thunderstorm Hazard

The extent of the historical thunderstorms varies in terms of the extent of the storm, the wind speed, and the size of hail stones. Thunderstorms can occur at any location within the county.

Risk Identification for Thunderstorm Hazard

Based on historical information, the probability of severe storm is high, and the potential impact is significant; therefore the overall risk of a severe storm in Steuben County is high.

Vulnerability Analysis for Thunderstorm Hazard

Severe thunderstorms are an equally distributed threat across the entire jurisdiction; therefore the entire county's population and all buildings are vulnerable to a severe thunderstorm, and the same impacts can be expected within the affected area. This plan will therefore consider all buildings within the county as vulnerable.

Facilities

All facilities are vulnerable to severe thunderstorms. An essential or critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g., a damaged police station will no longer be able to serve the community). Names and locations of critical and essential facilities, as well as community assets, are in Appendix C.

Building Inventory

Impacts similar to those discussed for critical facilities can be expected for the buildings within the county. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g., a damaged home will no longer be habitable, causing residents to seek shelter).

Infrastructure

During a severe thunderstorm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Because the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these structures could become damaged during a severe

thunderstorm. The impacts to these structures include broken, failed, or impassable roadways; broken or failed utility lines (e.g., loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could fail or become impassable, causing risk to traffic.

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Thunderstorm Hazard

Due to the unpredictability of this hazard, all new buildings and infrastructure in Steuben County are at risk of damage including temporary or permanent loss of function. For hailstorms, thunderstorms, and windstorms, it is not possible to isolate specific essential or non-essential facilities that would be more or less vulnerable to damages. However, based on the information obtained from the assessment in the 2008 plan regarding previous events of this nature, future storms are likely to cause monetary damages to structures. NCDC data over the past five years reports property damage in excess of $135,000 or an average of $27,000 property damage per year. It should also be noted that property owners often do not report damages caused by the events recorded by the NCDC. Therefore, damages to property should be expected to be significantly higher than the stated range.

5.3.5 Winter Storm Hazard

Severe winter weather consists of various forms of precipitation and strong weather conditions. This may include one or more of the following: freezing rain, sleet, heavy snow, blizzards, icy roadways, extreme low temperatures, and strong winds. These conditions can cause human-health risks such as frostbite, hypothermia, and death.

Ice (Glazing) and Sleet Storms

Ice or sleet, even in the smallest quantities, can result in hazardous driving conditions and can be a significant cause of property damage. Sleet can be easily identified as frozen raindrops. Sleet does not stick to trees and wires. The most damaging winter storms in Indiana have been ice storms. Ice storms are the result of cold rain that freezes on contact with objects having a temperature below freezing. Ice storms occur when moisture-laden gulf air converges with the northern jet stream, causing strong winds and heavy precipitation. This precipitation takes the form of freezing rain, coating power lines, communication lines, and trees with heavy ice. The winds then will cause the overburdened limbs and cables to snap, leaving large sectors of the population without power, heat, or communication. Falling trees and limbs also can cause building damage during an ice storm. In the past few decades, numerous ice-storm events have occurred in Indiana.

Snowstorms

Significant snowstorms are characterized by the rapid accumulation of snow, often accompanied by high winds, cold temperatures, and low visibility. A blizzard is categorized as a snowstorm with winds of 35 miles an hour or greater and/or visibility of less than one-quarter mile for three or more hours. The strong

winds during a blizzard blow about falling and already existing snow, creating poor visibility and impassable roadways. Blizzards have the potential to result in property damage.

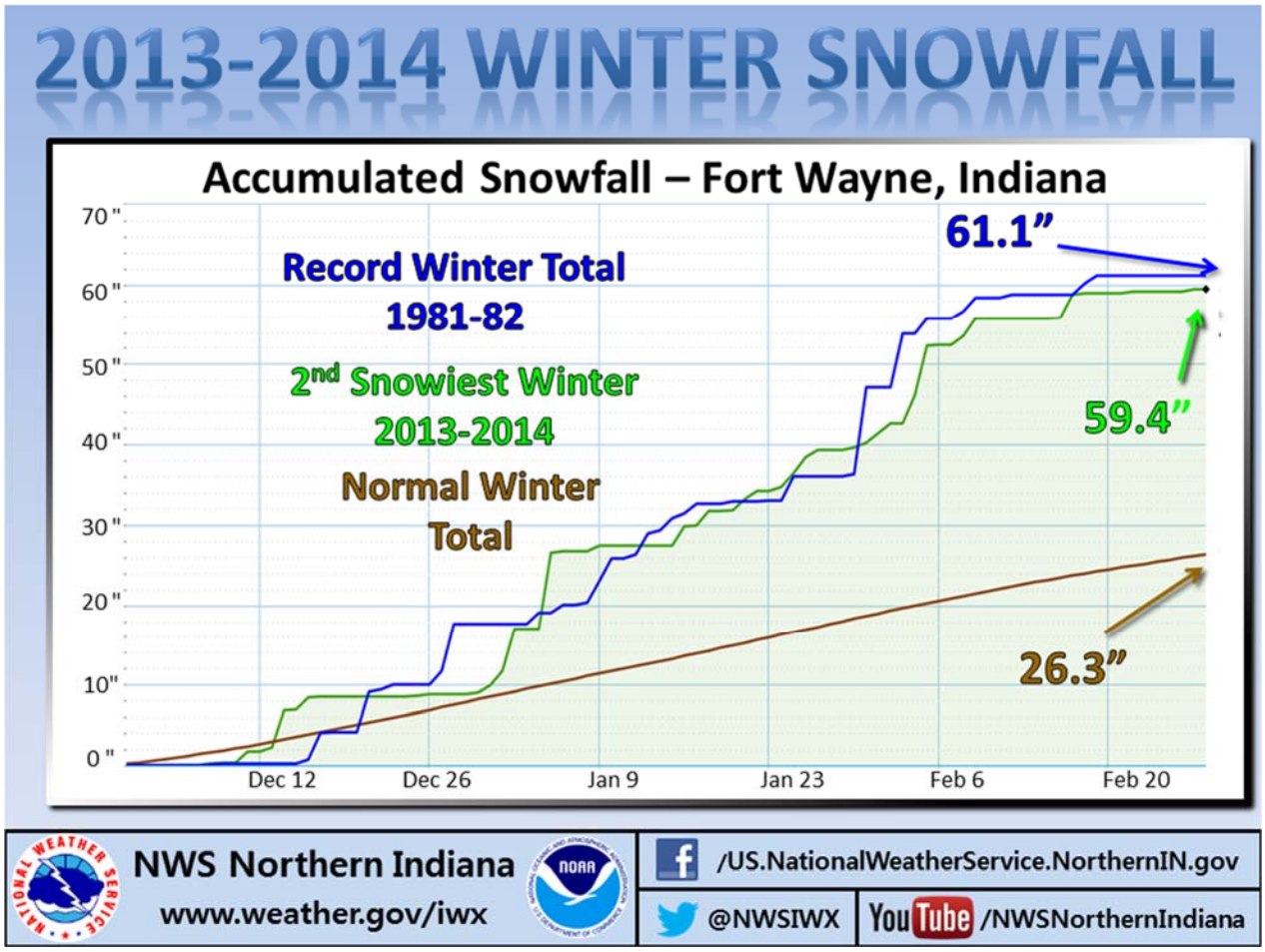
Indiana has been struck repeatedly by blizzards. Blizzard conditions cannot only cause power outages and loss of communication but also make transportation difficult. The blowing of snow can reduce visibility to less than one-quarter mile, and the resulting disorientation makes even travel by foot dangerous if not deadly.

Previous Occurrences for Winter-Storm Hazard – 5 Year

Winter weather hazards are prevalent natural events that can be expected to occur every winter in northeastern Indiana. According to the 2008 MHMP the NCDC recorded 12 heavy snow, 5 severe winter storm and 3 ice events in Steuben County since 1934. While the January Blizzard of 1978 was not recorded in the NCDC, it was the worst event on record as of the 2008 MHMP according to the National Weather Service. This event produced blizzard conditions and between 20 and 40 inches of snow throughout Indiana. Wind gusts during that storm exceeded 55 MPH and the wind chill dropped to -50˚F. 9 deaths were attributed to that disaster. Another severe storm occurred in 1993 that impacted 10 counties in the far north central and northeast part of Indiana. This event produced approximately $100K of damages. It generated between 7 and 11 inches of snow, some falling at the rate of 1 to 2 inches per hour. In December of 1998 another storm produced between 12 and 16 inches of snow in Steuben County along with sub-zero temperatures.

The winter of 2013-2014 ranked among the coldest on record throughout the Midwest. The National Weather Service reported this season as “one of the coldest and snowiest winter seasons on record and certainly one of the most extreme winter seasons in several decades.” NOAA’s National Climatic Data Center stated that the period from December 2013 through February 2014 was the 34th coldest for the contiguous 48 states since 1895. The recent winter seasonal average for the Fort Wayne area was 6.7 degrees colder than the average of 27.4 degrees, making it the sixth coldest winter on record. This area also recorded an average February temperature of 17.6, almost 11 degrees below the normal February. The area also saw a record amount of snow (trace or more) 63 out of 90 days this winter.

Figure 31: Winter Snowfall Amounts[23]



Geographic Location for Winter-Storm Hazard

Severe winter storms are regional in nature. Most of the NCDC data are calculated regionally or in some cases statewide. NCDC data for Fort Wayne is the closest recorded local snowfall observations.

Hazard Extent for Winter-Storm Hazard

The extent of the historical winter storms varies in terms of storm location, temperature, and ice or snowfall. A severe winter storm can occur anywhere in the jurisdiction.

[23] Source: NOAA

Risk Identification for Winter-Storm Hazard

Based on historical information, the probability of a winter storm is high, and the potential impact may be moderate or significant; therefore the overall risk of a winter storm in Steuben County is fairly high.

Vulnerability Analysis for Winter-Storm Hazard

Winter-storm impacts are distributed equally across the entire jurisdiction; therefore the entire county is vulnerable to a winter storm and can expect the same impacts within the affected area.

Facilities

All facilities are vulnerable to a winter storm. A critical facility will encounter many of the same impacts as other buildings within the jurisdiction. These impacts include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow. Names and locations of critical and essential facilities, as well as community assets are in Appendix C.

Building Inventory

The impacts to the general buildings within the county are similar to the damages expected to the critical facilities. These include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow.

Infrastructure

During a winter storm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads and bridges. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these structures could become damaged during a winter storm. Potential impacts include broken gas and/or electricity lines or damaged utility lines, damaged or impassable roads and railways, and broken water pipes.

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Winter Storm Hazard

Because the winter-storm events are regional in nature, future development will be impacted equally across the county. Any new development within the county will remain vulnerable to these events.

5.3.6 Hazardous Materials Hazard

The state of Indiana has numerous active transportation lines that run through many of its counties. Active railways transport harmful and volatile substances between our borders every day. The transportation of chemicals and substances along interstate routes is commonplace in Indiana. The rural areas of Indiana have considerable agricultural commerce, creating a demand for fertilizers, herbicides, and pesticides to be transported along rural roads. Finally, Indiana is bordered by two major rivers and Lake Michigan. Barges transport chemicals and substances along these waterways daily. These factors increase the chance of hazardous material releases and spills throughout the State of Indiana.

The release or spill of certain substances can cause an explosion. Explosions result from the ignition of volatile products such as petroleum products, natural and other flammable gases, hazardous materials/chemicals, dust, and bombs. An explosion potentially can cause death, injury, and property damage. In addition, a fire routinely follows an explosion, which may cause further damage and inhibit emergency response. Emergency response may require fire, safety/law enforcement, search and rescue, and hazardous materials units.

Previous Occurrences for Hazardous Materials Hazard

According to the Steuben County Comprehensive Hazard Analysis and the 2008 MHMP, Steuben County has experienced few moderately-scaled hazardous materials releases from fixed locations or during transportation without injuries or loss of life. There have, however, been many minor releases, which have activated first responders to stabilize the area to prevent further harm or damages. Although none of these previous occurrences caused serious injuries or death, hazmat releases always have the potential for a serious situation. The county and communities conduct planning and preparedness exercises at the county level.

The 2008 plan did indicate that several events occurred in the early 1990's that impacted Steuben County. The Fremont Wire facility experienced a roof fire resulting in oil being released into the storm sewer and eventually into local drainage ditches. A professional remediation company was utilized to clean the impacted areas. A separate oil spill into Fish Creek occurred as a pipeline ruptured in DeKalb County. While clean-up was the responsibility of DeKalb County, assistance was also provided by the Hamilton Township Fire Department in Steuben County. Near the intersection of US 20 and County Road 750W, gasoline was spilled from a semi-truck involved in a vehicle crash. No injuries were reported and the spill was contained by local responders. Mud Lake was the site where barrels of hazardous materials were discovered. This event required a professional remediation company to clean up and dispose of the materials. No monetary damages or response expenses were provided for any of the above incidents.

Geographic Location for Hazardous Materials Hazard

The hazardous material hazards are countywide and primarily are associated with the transport of materials by highway and/or railroad. The major transportation corridors have not changed since the 2008 plan. Interstate 69 traverses Steuben County in a north/south direction, nearing the northwestern

boundary of the City of Angola and the eastern border of the Town of Ashley on the Steuben/DeKalb County border. Additionally, Interstate 80 travels from the east central portion of Steuben County to the extreme northwestern area as it enters LaGrange County. Multiple state routes also travel through Steuben County including US 20, SR 1, SR 4, SR 120, SR 127, SR 327, SR 427, and SR 827. In addition, rail lines travel through the City of Angola, Town of Fremont, Town of Hamilton, Town of Ashley, and the Town of Hudson which provides an increased risk of derailment as well as train-vehicle collisions within these municipalities.

Hazard Extent for Hazardous Materials Hazard

The extent of the hazardous material (referred to as hazmat) hazard varies in terms of the quantity of material being transported as well as the specific content of the container.

The Planning Committee made no changes to 2008 MHMP hazard probability findings. The probability of a hazardous materials release or event ranges from highly likely within the unincorporated areas of Steuben County and the City of Angola, to likely within the Town of Hamilton and the Town of Hudson. If this type of event were to occur within the County it would be consider limited due to unpredictable factors such as type of substance, time of day, location and weather conditions. The warning time for hazardous materials can be significantly less than 6 hours while containment can take multiple days.

Risk Identification for Hazardous Materials Release

Based on historical information, the probability of a hazmat release is medium, and the potential overall county impact is moderate; therefore the overall risk of a hazmat release in Steuben County is moderate.

Vulnerability Analysis for Hazardous Materials

Hazardous material impacts are an equally distributed threat across the entire jurisdiction; therefore the entire county is vulnerable to a hazardous material release and can expect the same impacts within the affected area. The main concern during a release or spill is the population affected. This plan will therefore consider all buildings located within the county as vulnerable.

Facilities

All facilities and communities within the county are at risk. A critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts include structural failure due to fire or explosion and loss of function of the facility (e.g., a damaged police station will no longer be able to serve the community). Names and locations of critical and essential facilities, as well as community assets, are in Appendix C.

Building Inventory

During a hazardous material release, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads and bridges. The impacts to these structures include contamination and/or impassable roadways.

GIS Hazardous Materials Analysis

The US EPA's ALOHA (Areal Locations of Hazardous Atmospheres) model was utilized to assess the area of impact for an Ammonia release just west of the City of Angola.

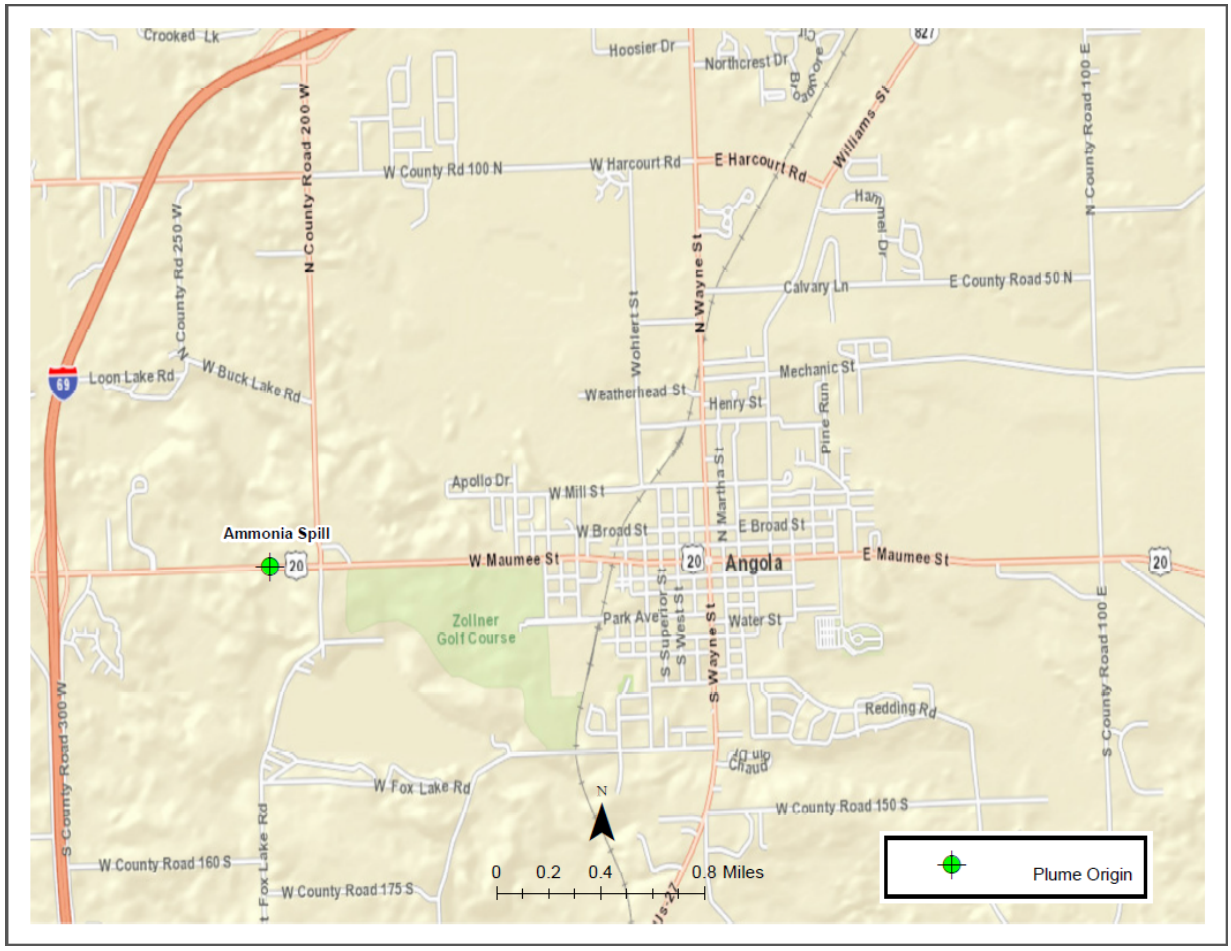
Ammonia is a clear colorless gas with a strong odor. Contact with the unconfined liquid can cause frostbite. Though the gas is generally regarded as nonflammable, it can burn within certain vapor concentration limits with strong ignition. The fire hazard increases in the presence of oil or other combustible materials. Vapors from an anhydrous ammonia leak initially hug the ground, and prolonged exposure of containers to fire or heat may cause violent rupturing and rocketing. Long-term inhalation of low concentrations of the vapors or short-term inhalation of high concentrations has adverse health effects. Anhydrous ammonia is generally used as a fertilizer, a refrigerant, and in the manufacture of other chemicals[24].

ALOHA is a computer program designed especially for use by people responding to chemical accidents, as well as for emergency planning and training. Chlorine is a common chemical used in industrial operations and can be found in either liquid or gas form. Rail and truck tankers commonly haul Chlorine to and from facilities.

For this scenario, moderate atmospheric and climatic conditions with a slight breeze from the west were assumed. The target area was chosen due to its proximity to the City of Angola. The geographic area covered in this analysis is depicted in Figure 32 on the following page.

[24] Source: CAMEO Chemicals, NOAA

Figure 32: Location of Chemical Release



Analysis

The ALOHA atmospheric modeling parameters, depicted in Figure 33, were based upon a west wind speed of 20. The temperature was 2°F with 50% humidity and partly cloudy skies.

The source of the chemical spill is a horizontal, cylindrical-shaped tank. The diameter of the tank was set to 10.6 feet and the length set to 53 feet (35,000 gallons). At the time of its release, it was estimated that the tank was 85% full. The ammonia in this tank is in its liquid state.

This release was based on a leak from a 2.5 inches diameter hole, 12 inches above the bottom of the tank.

Figure 33: ALOHA Plume Modeling Parameters

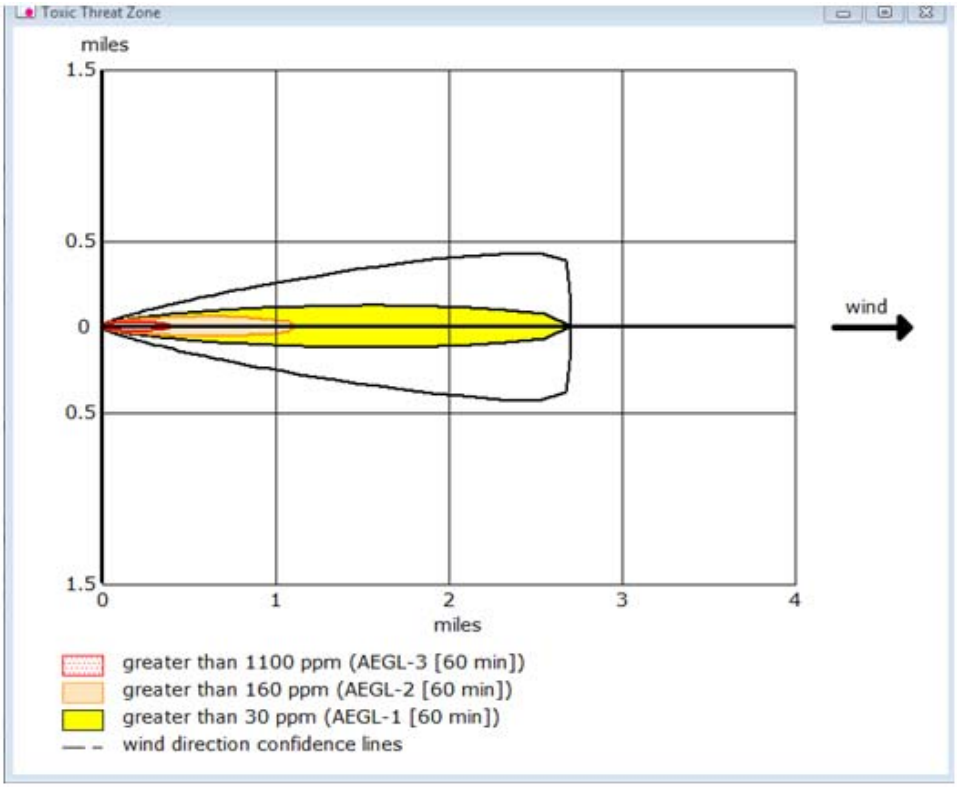
```
SITE DATA:
  Location: ANGOLA, INDIANA
  Building Air Exchanges Per Hour: 1.45 (sheltered single storied)
  Time: March 26, 2014  1323 hours EST (using computer's clock)

CHEMICAL DATA:
  Chemical Name: AMMONIA                  Molecular Weight: 17.03 g/mol
  AEGL-1 (60 min): 30 ppm   AEGL-2 (60 min): 160 ppm   AEGL-3 (60 min): 1100 ppm
  IDLH: 300 ppm      LEL: 150000 ppm      UEL: 280000 ppm
  Ambient Boiling Point: -29.5° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 20 miles/hour from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 2° F                   Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Leak from hole in horizontal cylindrical tank
  Flammable chemical escaping from tank (not burning)
  Tank Diameter: 10.6 feet                Tank Length: 53 feet
  Tank Volume: 35,000 gallons
  Tank contains liquid                    Internal Temperature: 2° F
  Chemical Mass in Tank: 82.0 tons        Tank is 85% full
  Circular Opening Diameter: 2.5 inches
  Opening is 12 inches from tank bottom
  Release Duration: 59 minutes
  Max Average Sustained Release Rate: 3,390 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 156,347 pounds
  Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

THREAT ZONE:
  Model Run: Heavy Gas
  Red    : 694 yards --- (1100 ppm = AEGL-3 [60 min])
  Orange: 1.1 miles --- (160 ppm = AEGL-2 [60 min])
  Yellow: 2.7 miles --- (30 ppm = AEGL-1 [60 min])
```

Acute Exposure Guideline Levels (AEGLs) are intended to describe the health effects on humans due to once-in-a-lifetime or rare exposure to airborne chemicals. The National Advisory Committee for AEGLs is developing these guidelines to help both national and local authorities, as well as private companies, deal with emergencies involving spills or other catastrophic exposures.

- AEGL 1: Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
- AEGL 2: Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
- AEGL 3: Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

According to the ALOHA parameters, approximately 3,390 pounds of material would be released per minute. Figure 34 depicts the plume footprint generated by ALOHA.

Figure 34: Plume Footprint Generated by ALOHA



As the substance moves away from the source, the level of substance concentration decreases. Each color-coded area depicts a level of concentration measured in parts per million (ppm). For the purpose of clarification, this report will designate each level of concentration as a specific zone. The zones are as follows:

- **Zone 1** (AEGL-3): The red buffer (>=30 ppm) extends no more than 4.8 miles from the point of release after one hour.
- **Zone 2** (AEGL-2): The orange buffer (>=160 ppm) extends no more than six miles from the point of release after one hour.
- **Zone 3** (AEGL-1): The yellow buffer (>=1,100 ppm) extends more than six miles from the point of release after one hour.
- **Confidence Lines:** The dashed lines depict the level of confidence in which the exposure zones will be contained. The ALOHA model is 95% confident that the release will stay within this boundary.

The image in Figure 35 depicts the plume footprint generated by ALOHA overlaid on a map of the area to provide context. The Steuben County Building Inventory was intersected with each of the footprint areas to classify each point based upon the plume footprint in which it is located. Figure 36 depicts the Steuben Building Inventory after the intersect process.

Figure 35: ALOHA Plume Footprint Overlaid in ArcGIS

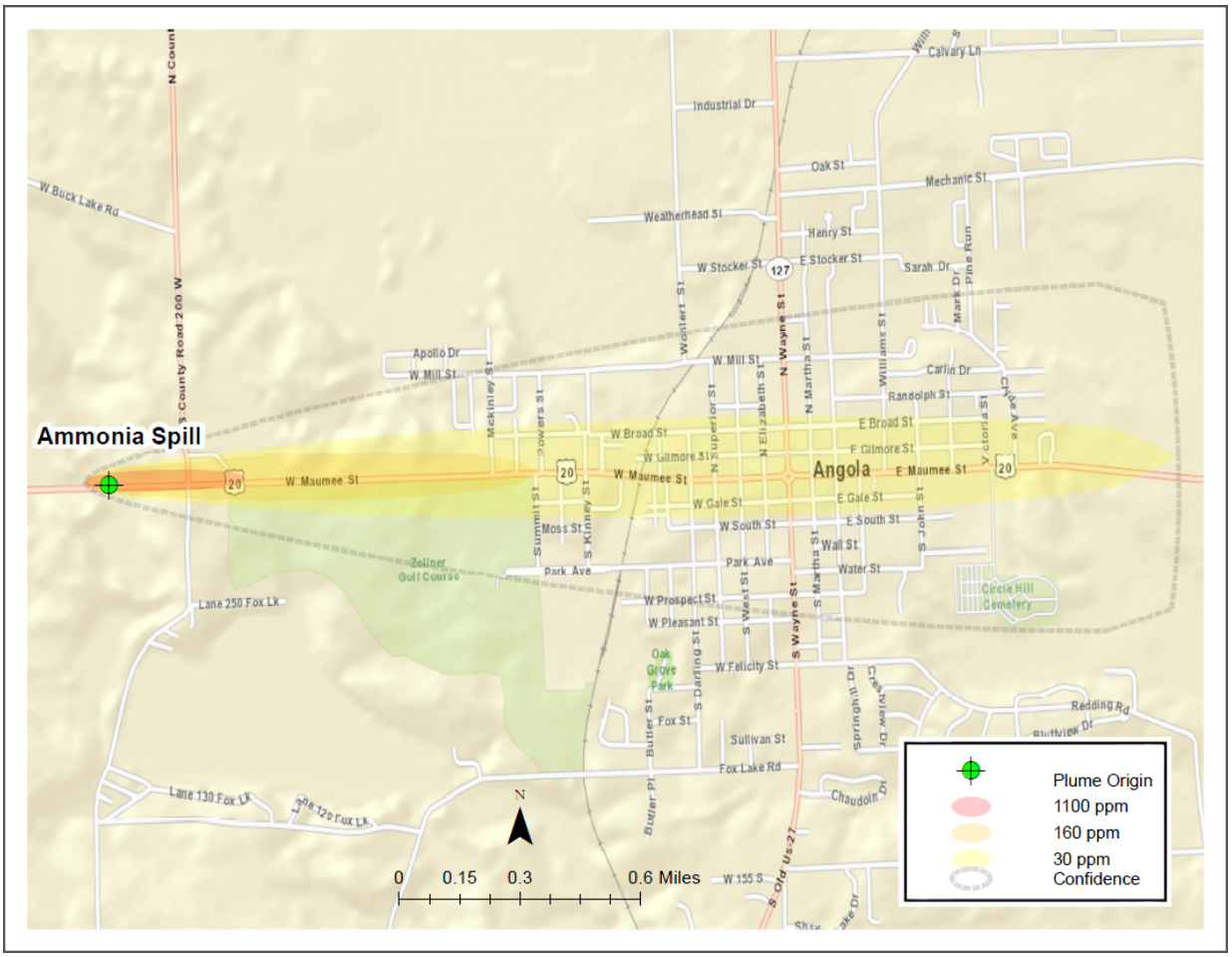
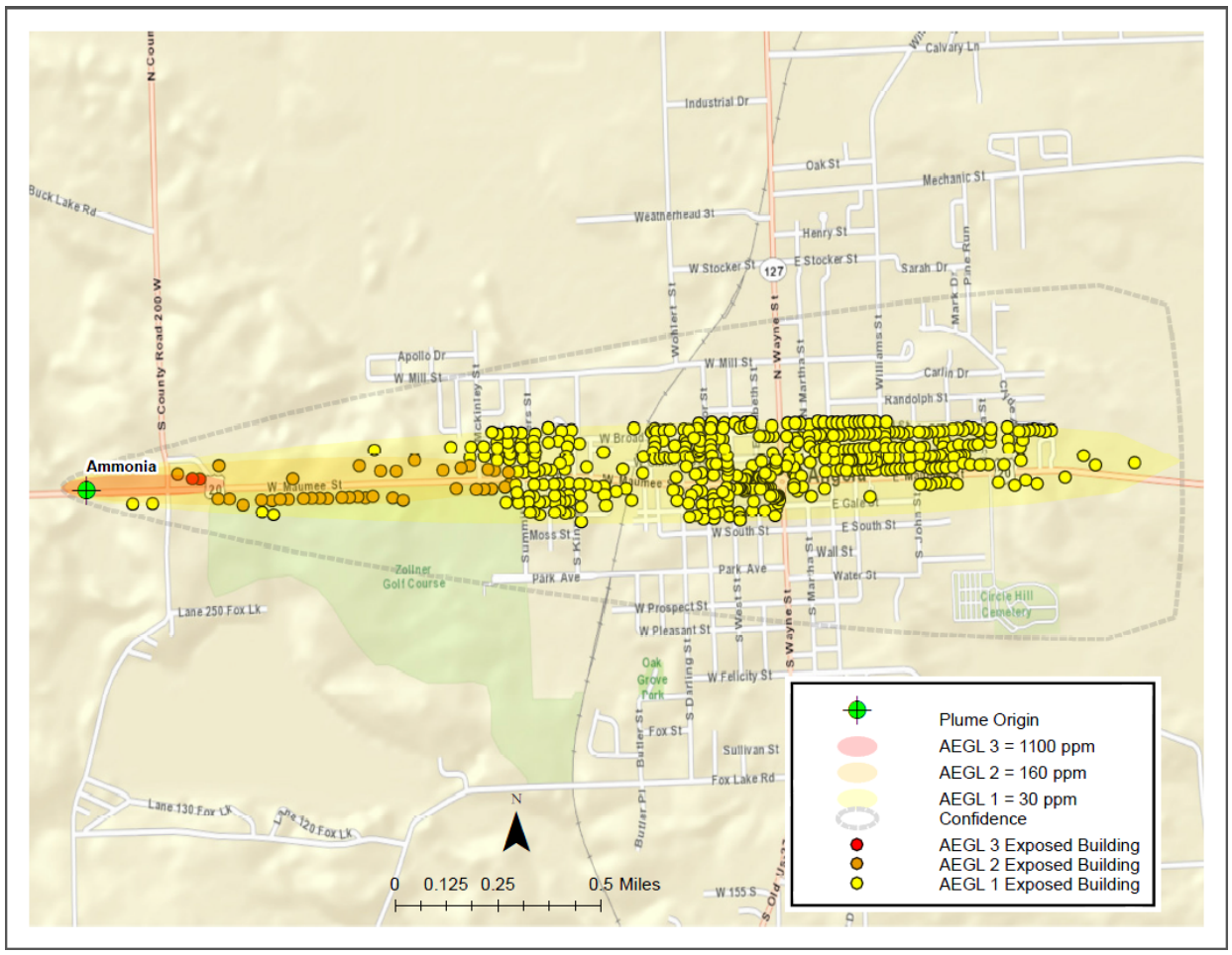


Figure 36: Steuben County Building Inventory Classified By Plume Footprint



Results

By summing the building inventory within all AEGL zones (Zone 1: 30 ppm, Zone 2: 160 ppm, and Zone 3: 1,100 ppm), the GIS overlay analysis predicts that as many as 475 buildings could be exposed at a replacement cost of $116,872,617. If this event were to occur, approximately 803 people would be affected (based on the assumption that there are 2.5 people per household).

Building Inventory Exposure

The results of the analysis against the building inventory points are depicted in Tables 31 through 34. Table 31 summarizes the results of the chemical spill by combining all AEGL zones.

Table 31: Estimated Exposure for all Zones including Confidence area (all ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	803	321	$54,384,572
Commercial	n/a	130	$47,242,508
Industrial	n/a	3	$1,779,342
Agriculture	n/a	1	$190,210
Religious	n/a	16	$9,882,376
Government	n/a	1	$1,200,526
Education	n/a	3	$2,193,083
Total	**803**	**475**	**$116,872,617**

Tables 32 through 34 summarize the results of the chemical spill for each zone separately. Values represent only those portions of each zone that are not occupied by other zones.

Table 32: Estimated Exposure for Zone 3 (1,100 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	n/a	0	$0.00
Commercial	n/a	2	$308,496
Industrial	n/a	0	$0.00
Agriculture	n/a	0	$0.00
Religious	n/a	0	$0.00
Government	n/a	0	$0.00
Education	n/a	0	$0.00
Total	n/a	2	$308,496

Table 33: Estimated Exposure for Zone 2 (160 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	48	19	$2,225,637
Commercial	n/a	15	$5,102,595
Industrial	n/a	3	$1,779,342
Agriculture	n/a	0	$0.00
Religious	n/a	0	$0.00
Government	n/a	0	$0.00
Education	n/a	0	$0.00
Total	**48**	**37**	**$9,107,574**

Table 34: Estimated Exposure for Zone 1 (30 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	755	302	$52,158,935
Commercial	n/a	113	$41,831,417
Industrial	n/a	0	$0.00
Agriculture	n/a	1	$190,210
Religious	n/a	16	$9,882,376
Government	n/a	1	$1,200,526
Education	n/a	3	$2,193,083
Total	**755**	**436**	**$107,456,547**

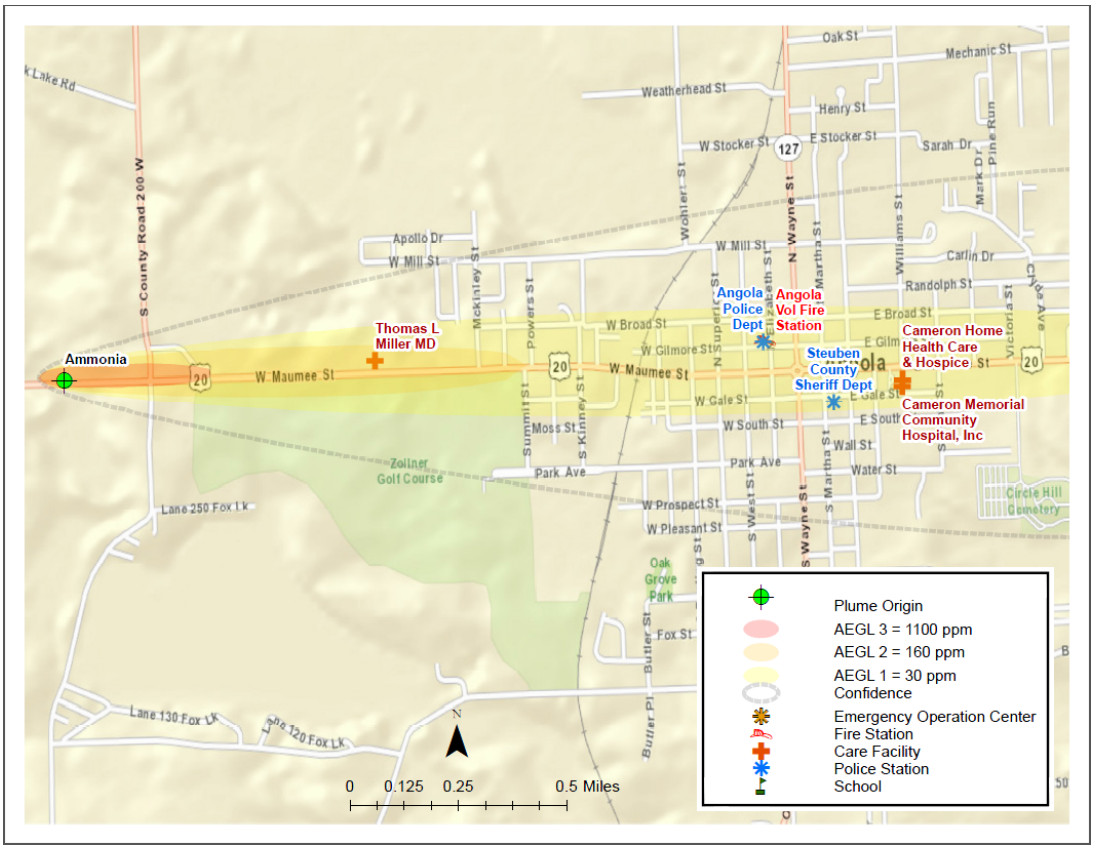
Essential and Critical Facility Exposure

There are 13 essential facilities within the limits of the chemical spill plume. The affected facilities are identified in Table 35. Their geographic locations are depicted in Figure 37.

Table 35: Essential Facilities within Plume Footprint

Care
Cameron Home Health Care & Hospice
Cameron Med. Office. Bld. Specialty Clinic
Cameron Memorial Community Hospital, Inc
Lutheran Medical (D. Mattox MD)
Parkview Physicians (L. Watkins)
Parkview Physicians (D. Watkins)
T L Miller MD
Fire
Steuben County EMS
Angola Volunteer Fire Station
Police
Steuben County Sheriff Dept.
Angola Police Dept.
School
102 Lakes Academy and Farm School

Figure 37: Essential Facilities at Greatest Risk



There are 12 critical facilities within the limits of the chemical spill plume. The affected facilities are identified in Table 36.

Table 36: Critical Facilities within Plume Footprint

Hazmat
Verizon(Angola)
Aggregate Industries
GasAmericam#205
North Central Co-Op-Fremont Energy
WilTel Communication
Fast Break
Communication Facility
3 facilities
Airport Facility
Cameron Hospital
Electric Power Facility
1 facility
Potable Water Facility
Angola Water Tower Jackson

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Hazardous Material Hazard

Due to the unpredictability of this hazard, all buildings and infrastructure in Steuben County are at risk of damage including temporary or permanent loss of function.

5.3.7 Dam/Levee Failure Hazard

Dams are structures that retain or detain water behind a large barrier. When full, or partially full, the difference in elevation between the water above the dam and below creates large amounts of potential energy, creating the potential for failure. The same potential exists for levees when they serve their purpose, which is to confine flood waters within the channel area of a river and exclude that water from land or communities land-ward of the levee. Dams and levees can fail due to either 1) water heights or flows above the capacity for which the structure was designed; or 2) deficiencies in the structure such that it cannot hold back the potential energy of the water. If a dam or levee fails, issues of primary concern include loss of human life/injury, downstream property damage, lifeline disruption (of concern would be transportation routes and utility lines required to maintain or protect life), and environmental damage.

Many communities view both dams and levees as permanent and infinitely safe structures. This sense of security may well be false, leading to significantly increased risks. Both downstream of dams and on floodplains protected by levees, security leads to new construction, added infrastructure, and increased population over time. Levees in particular are built to hold back flood waters only up to some maximum

level, often the 100-year (1% annual probability) flood event. When that maximum is exceeded by more than the design safety margin, the levee will be overtopped or otherwise fail, inundating communities in the land previously protected by that levee.

In addition to failure that results from extreme floods above the design capacity, levees and dams can fail due to structural deficiencies. Both dams and levees require constant monitoring and regular maintenance to assure their integrity. Many structures across the US have been under-funded or otherwise neglected, leading to an eventual day of reckoning in the form either of realization that the structure is unsafe or, sometimes, an actual failure. The threat of dam or levee failure may require substantial commitment of time, personnel, and resources. Since dams and levees deteriorate with age, minor issues become larger compounding problems, and the risk of failure increases.

Geographic Location of Dams

Steuben County has a total of 25 dams according to 2013 data obtained from the Indiana Department of Natural Resources. These dams are listed in Table 37 which also indicates which are state-regulated and which pose a high, significant or low hazard. The county has no certified levees.

Table 37: Steuben County Dams

Name	Dam Hazard	State Regulated	EAP
SWAGGERS PLUG CONTROL STRUCTURE	High	No	No
LAKE GEORGE DAM	High	Yes	No
HAMILTON LAKE-SOUTH DAM	High	Yes	No
HAMILTON LAKE-NORTH DAM	High	Yes	No
JIMMERSON LAKE DAM	Significant	Yes	No
LONG LAKE (NR. RAY) CONTROL STRUCTURE	Low	No	No
MUD LAKE CONTROL STRUCTURE	Low	No	No
OTTER LAKE (WEST) CONTROL STRUCTURE	Low	No	No
FISH LAKE CONTROL STRUCTURE	Low	No	No
OBERLIN LAKE DAM	Significant	No	No
BORROR LAKE DAM	Low	Yes	No
LAKE OF THE WOODS CONTROL STRUCTURE	Low	No	No
FAWN RIVER FISHERY DAM	Low	Yes	No
SILVER LAKE CONTROL STRUCTURE	Low	No	No
GORDON T. ANDERSON DAM	Low	Yes	No
OBERLIN-FORD	Significant	No	No
MINIFENOKEE LAKE DAM	Low	Yes	No
THOMAS PAPAIK LAKE DAM	Low	Yes	No
JONLEY LAKE DAM	Low	No	No
LONG BEACH LAKE DAM	Low	Yes	No
BALL LAKE CONTROL STRUCTURE	Low	No	No
CLEAR LAKE CONTROL STRUCTURE	Low	No	No

Name	Dam Hazard	State Regulated	EAP
CROOKED LAKE CONTROL STRUCTURE	Low	No	No
FOX LAKE CONTROL STRUCTURE	Low	No	No
LAKE GAGE CONTROL STRUCTURE	Low	No	No

Hazard Extent for Dam and Levee Failure

When dams are assigned the low (L) hazard potential classification, it means that failure or incorrect operation of the dam will result in no human life losses and no economic or environmental losses. Losses are principally limited to the owner's property. Dams assigned the significant (S) hazard classification are those dams in which failure or incorrect operation results in no probable loss of human life; however it can cause economic loss, environment damage, and disruption of lifeline facilities. Dams classified as significant hazard potential dams are often located in predominantly rural or agricultural areas, but could be located in populated areas with a significant amount of infrastructure. Dams assigned the high (H) hazard potential classification are those dams in which failure or incorrect operation has the highest risk to cause loss of human life and significant damage to buildings and infrastructure.

According to the IDNR and the National Inventory of Dams, three dams are classified as significant hazard. The Hamilton Lake North Dam), the Hamilton Lake South Dam have an Emergency Action Plan (EAP). The Lake George Dam does not have an EAP. An EAP is not required by the State of Indiana but is strongly recommended in the 2003 Indiana Dam Safety & Inspection Manual.

The probability of a dam failure on either the Hamilton Lake or St George dams is unlikely but possible. If a dam failure were to occur within the unincorporated areas of Steuben County or the Town of Hamilton the magnitude of impact would be limited but warning times would likely be less than 6 hours. The 2008 MHMP reported that in May of 1996 approximately 10 inches of rain fell over a two-day period, which caused the Hamilton Lake Dam spillway to overflow and destroy a mobile home park, substantially damage a residential structure, and severely impact the structural integrity of the embankment of SR 1/SR 427. One death was attributed to this event. No monetary damages were reported.

Steuben County does not have any FEMA certified levees.

Risk Identification for Dam/Levee Failure

Based on historical information and the location of the dams, the probability of a dam/levee failure is low and the potential impact is minimal. The 2008 MHMP also identified the probability of a dam failure on the Hamilton Lake dam as unlikely due to routine inspections and the magnitude of the damage negligible; therefore the overall risk of a dam/levee failure in Steuben County is low.

Vulnerability Analysis for Dam and Levee Failure

In order to be considered creditable flood protection structures on FEMA's flood maps, dam and levee owners must provide documentation to prove the levee meets design, operation, and maintenance standards for protection against the "one-percent-annual chance" flood.

Future Development Trends and Vulnerability to Future Assets/Infrastructure for Dam and Levee Failure

No new high hazard dams are planned for the county and thus overall risk with future development will remain low.

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Section 6

Mitigation Strategies

The goal of mitigation is to reduce the future impacts of a hazard, including property damage, disruption to local and regional economies, and the amount of public and private funds spent to assist with recovery. The goal of mitigation is to build disaster-resistant communities. Mitigation actions and projects should be based on a well-constructed risk assessment, provided in Section 5 of this plan. Mitigation should be an ongoing process, adapting over time to accommodate a community's needs.

6.1 Community Action Potential Index (CAPI)

FEMA Region V mitigation planners developed the Community Action Potential Index (CAPI) in 2013 as a tool to prioritize communities for Risk MAP initiatives and mitigation activities. CAPI includes a number of indicators that, when weighted, sum to a total score for each community in the state. This helps federal and state planners determine which communities would be most likely to advance mitigation strategies through the Risk MAP program.

CAPI currently includes index scores for every Indiana community, a total of 661. Of those communities, slightly more than half (325) have been deployed, which means that Risk MAP activities have occurred or are in the process of occurring. None of Steuben County's communities are currently deployed.

Table 38 lists the Indiana communities with the highest CAPI scores (highest possible score is 131). The higher the score, the higher the potential risk the community faces in the event of a disaster.

Table 38: Indiana Communities with Highest CAPI Scores

County Name	Community	Deployed?	CAPI Score
Marion	City of Indianapolis	Yes	92.24
Vanderburgh	Vanderburgh County	No	85.14
Allen	City of Fort Wayne	No	83.62
Bartholomew	City of Columbus	Yes	83.20
Hamilton	City of Noblesville	Yes	79.43

Table 39 lists Steuben County communities' high risk factors as well as their composite CAPI scores.

Table 39: Steuben County Communities' CAPI Scores

Community Name	Total CAPI Score	% Community within SFHA	Insurance claims $	Insurance claims #	Repetitive loss $	Repetitive loss #	Individual Assistance $ per Capita
Steuben County	51.30	10.26	$205,005.00	52	$36,316.00	3	0
Hamilton	29.00	36.47	$8,197.00	3	0	0	0
Clear Lake	12.75	59.22	0	0	0	0	0
Angola	11.29	2.55	$11,684.00	6	0	0	0
Orland	8.64	7.18	0	0	0	0	0
Hudson	6.95	2.69	$3,425.00	1	0	0	$1.17
Ashley	2.01	0.00	0	0	0	0	$0.97
Fremont	0.21	0.00	0	0	0	0	0

6.2 Plans and Ordinances

Steuben County has enacted ordinances that guide development in the county. This includes the Steuben County Zoning Ordinance (last update September 1, 2011) and the Subdivision Control Ordinance (Effective April 5, 2011).

6.3 Mitigation Goals

The MHMP planning team members understand that although hazards cannot be eliminated altogether, Steuben County can work toward building disaster-resistant communities. Following are a list of goals, objectives, and actions. The goals represent long-term, broad visions of the overall vision the county would like to achieve for mitigation. The objectives are strategies and steps that will assist the communities in attaining the listed goals.

Goal 1: **Lessen the impacts of hazards to new and existing infrastructure, residents, and responders**

Objective A: Retrofit critical facilities and structures with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.

Objective B: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.

Objective C: Minimize the amount of infrastructure exposed to hazards.

Objective D: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the community.

Objective E: Improve emergency sheltering in the community.

Goal 2: Create new or revise existing plans/maps for the community

Objective A: Support compliance with the NFIP.

Objective B: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.

Objective C: Conduct new studies/research to profile hazards and follow up with mitigation strategies.

Goal 3: Develop long-term strategies to educate community residents on the hazards affecting their county

Objective A: Raise public awareness on hazard mitigation.

Objective B: Improve education and training of emergency personnel and public officials.

6.4 Mitigation Actions and Projects

Upon completion of the risk assessment and development of the goals and objectives, the planning committee was provided a list of the six mitigation measure categories from the *FEMA State and Local Mitigation Planning How to Guides*. The measures are listed as follows:

- **Prevention:** Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or removal from the hazard area. Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass.
- **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.
- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

MHMP members were presented with the task of individually listing potential mitigation activities using the FEMA evaluation criteria. The MHMP members presented their mitigation ideas to the team. The evaluation criteria (STAPLE+E) involved the following categories and questions.

Social:

- Will the proposed action adversely affect one segment of the population?
- Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Technical:

- How effective is the action in avoiding or reducing future losses?
- Will it create more problems than it solves?
- Does it solve the problem or only a symptom?
- Does the mitigation strategy address continued compliance with the NFIP?

Administrative:

- Does the jurisdiction have the capability (staff, technical experts, and/or funding) to implement the action, or can it be readily obtained?
- Can the community provide the necessary maintenance?
- Can it be accomplished in a timely manner?

Political:

- Is there political support to implement and maintain this action?
- Is there a local champion willing to help see the action to completion?
- Is there enough public support to ensure the success of the action?
- How can the mitigation objectives be accomplished at the lowest cost to the public?

Legal:

- Does the community have the authority to implement the proposed action?
- Are the proper laws, ordinances, and resolution in place to implement the action?
- Are there any potential legal consequences?
- Is there any potential community liability?
- Is the action likely to be challenged by those who may be negatively affected?
- Does the mitigation strategy address continued compliance with the NFIP?

Economic:

- Are there currently sources of funds that can be used to implement the action?
- What benefits will the action provide?
- Does the cost seem reasonable for the size of the problem and likely benefits?
- What burden will be placed on the tax base or local economy to implement this action?
- Does the action contribute to other community economic goals such as capital improvements or economic development?
- What proposed actions should be considered but be “tabled” for implementation until outside sources of funding are available?

Environmental:

- How will this action affect the environment (land, water, endangered species)?
- Will this action comply with local, state, and federal environmental laws and regulations?
- Is the action consistent with community environmental goals?

Implementation of the mitigation plan is critical to the overall success of the mitigation planning process. The first step is to decide, based upon many factors, which action will be undertaken first. In order to pursue the top priority first, an analysis and prioritization of the actions is important. Some actions may occur before the top priority due to financial, engineering, environmental, permitting, and site control issues. Public awareness and input of these mitigation actions can increase knowledge to capitalize on funding opportunities and monitoring the progress of an action.

The planning team prioritized mitigation actions based on a number of factors. A rating of high, medium, or low was assessed for each mitigation item and is listed next to each item in Table 41. The factors were the STAPLE+E (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria listed in Table 40.

Table 40: STAPLE+E Planning Factors

S – Social	Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.
T – Technical	Mitigation actions are technically most effective if they provide a long-term reduction of losses and have minimal secondary adverse impacts.
A – Administrative	Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.
P – Political	Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.
L – Legal	It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.
E – Economic	Budget constraints can significantly deter the implementation of mitigation actions. It is important to evaluate whether an action is cost-effective, as determined by a cost benefit review, and possible to fund.
E – Environmental	Sustainable mitigation actions that do not have an adverse effect on the environment, comply with federal, state, and local environmental regulations, and are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

The 2014 Steuben County planning team used the 2008 Steuben County Multi-Hazard Mitigation Plan to initiate the discussion and prioritization of mitigation strategies for the 2014 plan. MHMP members were presented with the task of reviewing the 2008 mitigation strategies and documenting the status of each activity for their jurisdiction. Priorities were also reviewed using the same criteria as the 2008 plan. Assuming funding is available, high priority strategies will be implemented within one year, medium priority strategies within three years, and low priority strategies within five years. The public was encouraged to actively participate in this discussion.

Table 41 describes the status of existing and new mitigation projects developed by community representatives and categorized by jurisdiction for the 2014 MHMP update.

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Table 41: Mitigation Strategies and Projects

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Emergency Operations Center Establish dedicated EOC Establish a mobile EOC	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☒ Structural Control ☐ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Complete-** An EOC for Steuben County has been established in Angola. The Steuben County Sheriff Department now has a mobile EOC.	Completed	High	The City of Auburn in neighboring DeKalb County also has a mobile EOC that is accessible to Steuben County	EMA LEPC	Existing Budget FEMA IDHS
Safe Rooms & Community Shelters Require safe rooms in critical facilities and areas where large populations congregate (baseball fields, seasonal lake communities, etc) Require safe rooms in mobile home parks, public parks, apartment complexes, and communities without basements	☒ Prevention ☐ Property Protection ☐ Nat. Res. Protection ☐ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Complete-** **Ongoing –** **Proposed –** County park is being designed with a safe room to accommodate up to 3000 inhabitants	High	Low	48 mobile home parks, 13 campgrounds, public buildings, and areas of gathering in Steuben County Establish safe rooms and/or shelters in mobile home parks	Planning Departments: *Steuben County* *Angola* *Hamilton* *Hudson*	Developers FEMA

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Management of High Hazard Dam Encourage dam owners to develop an EAP/ERP for Hamilton Lake Dam and the Lake George Dam	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☒ Structural Control ☒ Public Information	☒ Dam Failure ☐ Earthquake ☒ Flooding ☐ Hail/Thunder/Wind ☐ HazMat Incident ☐ Severe Winter Storm ☐ Tornado	**Complete-** **Ongoing –** **Proposed** – Complete EAP/ERP for Hamilton Lake and Lake George Dams	Medium	High	Lake George Dam, Hamilton Lake Dam, and dam failure inundation areas	Dam Owner	Operational Costs
Building Protection Prohibit development of critical facilities in known hazard areas Ensure mobile homes are anchored to meet industry standards. Promote power back-up generators or transfer switches to all critical facilities Develop voluntary structure buyout/retrofit program to include all structures within 100-year floodplain Protect existing critical facilities structures within known hazard areas Promote areas of residential re-development to bury service power lines	☒ Prevention ☒ Property Protection ☐ Nat. Res. Protection ☐ Emergency Services ☒ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Complete**– **Ongoing** – Prohibit construction of future critical facilities and protect existing structures in known hazard areas **Proposed** – Complete a study to determine where to install backup generators and transfer switches Improved power outage preparation (additional generators, fuel, switches)	**High** *(critical facilities, mobile homes)* **Moderate** *(generators, buyout/ retrofit, areas, burial of utility lines)* Low *(exisiting facilities in floodplain)*	Medium	Throughout Steuben County and the municipalities within, the construction of critical facilities within known hazard areas should continue to be prohibited. Require generators in Steuben County's 48 mobile home communities Back-up generators in all critical facilities especially medical, police, fire, and community shelters. Target repetitive loss properties, areas prone to flooding, and properties within the dam failure inundation areas for buyout/retrofit program.	Planning Departments*: Steuben County Angola Hamilton Hudson* Building Departments: *Steuben County Angola Hamilton Hudson* MRBC EMA Floodplain Administrators *Steuben County Angola Hamilton Hudson*	FEMA MRBC

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Public Education & Outreach Continue participation in community events and outreach opportunities. Certified StormReady Community (County) Provide information related to dam failure to property owners within dam failure inundation areas.	☒ Prevention ☐ Property Protection ☐ Nat. Res. Protection ☐ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Complete** – MRBC participates in Flood Safety Awareness Week each year. **Ongoing** – Advisories via literature, school programs, community programs, newspapers. County became certified StormReady in 2010 and has maintained that status since that time. **Proposed** – Snow routes to be mapped, documented, and publicized Develop a list of special needs residents	**High** *(community events, StormReady)* **Moderate** *(dam failure information)*	High	Maintain hazard preparedness literature at municipal offices, community events, and outreach activities	EMA Red Cross Floodplain Administrators: *Steuben County* *Angola* *Hamilton* *Hudson* Local Media Dam owners MRBC	Existing Budget FEMA IDEM IDNR NWS MRBC
Hazardous Materials Response Teams Continued training and realistic exercises for emergency personnel Increase number of personnel certified OSHA Level III-Technician Pursue funding for full-time paid positions and equipment for emergency responders	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☒ Structural Control ☐ Public Information	☐ Dam Failure ☐ Earthquake ☐ Flooding ☐ Hail/Thunder/Wind ☒ HazMat Incident ☐ Severe Winter Storm ☐ Tornado	**Ongoing** – Research funding opportunities to increase number of paid, full-time responders; **Proposed** – Add responders; continued training. Conduct a commodity flow study through Angola and on the highways and toll road through Steuben County	**High** *(training and exercises)* **Moderate** *(OSHA Level III, full-time positions, response equipment)*	Medium	Countywide throughout fire departments, EMS, and other response agencies	EMA LEPC Fire Department *Steuben County* *Angola* *Hamilton* *Hudson*	Existing budget Operational cost

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Flooding/Floodplain Management Prioritize and conduct detailed studies of "Approximate Study" (A-Zone) streams Update FIRMs Provide the opportunity for staff members to become CFM Encourage City of Angola to adopt the optional provisions of the State of Indiana Model Floodplain Ordinance language or a more restrictive standard Continue to maintain waterways and regulated drains to prevent localized flooding. Participate in the CRS program Develop a voluntary structure buyout/ retrofitting program to include all structures within the 100-year floodplain	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☐ Emergency Services ☐ Structural Control ☐ Public Information	☐ Dam Failure ☐ Earthquake ☒ Flooding ☐ Hail/Thunder/Wind ☐ HazMat Incident ☐ Severe Winter Storm ☐ Tornado	**Complete-** FIRMS have been updated **Ongoing** – Continual waterway maintenance **Proposed –** MRBC will study all remaining (unstudied) streams in Steuben County	**High** *(buyouts, waterway maintenance, detailed studies)* **Moderate** *(CRS, flood ordinance language)* **Low** *(CFM)*	High	CFM certification for Angola, Hamilton and Hudson.	Surveyor MRBC Planning *Steuben County* *Angola* *Hamilton* *Hudson* Floodplain Administrators *Steuben County* *Angola* *Hamilton*	Existing budget IDNR FEMA MRBC

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Emergency Warning Systems Install outdoor warning sirens where pockets of development are not covered. Assure consistent tiered level of snow emergencies/advisories are adopted within the County and IDHS District 3. Designate and enforce snow routes to allow for snow removal activities Encourage placement of weather radios in all critical facilities Maintain and increase flood forecasting capabilities Acquire reverse 911 warning system	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☐ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☐ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Completed –** Some warning sirens have been installed. Snow emergency advisories have been coordinated and tested Weather radios have been distributed Nixle is currently in use **Ongoing** – Additional warning sirens will continue to be installed on a yearly schedule. Continued distribution of weather radios County is in the process of acquiring reverse 911 **Proposed Enhancement** – Equip snow plows with two way radios Develop alternate evacuation routes and/or improve signage Prioritize snow removal routes	**High** *(warning sirens consistent levels, radios)* **Moderate** *(Snow routes, radios)* **Low** *(forecasting)*	High	Throughout Steuben County, snow advisory levels should be consistent to avoid confusion NOAA weather radios in all critical facilities	DHS Surveyor Highway/Street *Steuben County* Committee	Existing budget FEMA

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
Geographic Information Systems Increase GIS usage between municipal agencies/offices and create one centralized system. Update HAZUS-MH Earthquake model to include local soils data, structure values, etc. to accurately predict damages and losses to Steuben County.	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Complete** – Critical Facilities Updated by Steuben GIS and made available for planning. Use HAZUS-MH Flood and Earthquake to model "what if" scenarios **Ongoing** – Update with new information as it is obtained or developed	**Moderate** *(GIS usage)* **Low** *(Earthquake model)*	Low	Countywide	Planning GIS *Steuben County*	Existing budget FEMA
2014 New Mitigation Practice Communication improvements	☐ Prevention ☐ Property Protection ☐ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☐ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Proposed Enhancement –** Conduct a table top exercise to prepare key agencies for disasters Develop a central point of contact for transportation emergencies Establish regularly scheduled reassessments, e.g. conference calls, by elected officials and first responders to review policies and procedures and revise if necessary	**Moderate**	Moderate	Countywide	Steuben County EMA	Existing budget FEMA

MITIGATION PRACTICE	MITIGATION STRATEGY	HAZARD ADDRESSED	2013 STATUS ACTIVITIES SINCE 2008	PRIORITY	BENEFIT - COST RATIO	PROJECT LOCATION	RESPONSIBLE ENTITY	FUNDING SOURCE
2014 New Mitigation Practice Explore different methods of communication for disseminating information to the public	☒ Prevention ☒ Property Protection ☐ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Proposed Enhancement –** Radio is a very effective mode of communication in Steuben County. Explore additional modes such as Emergency Alert System (EAS), and social media to reach an even wider audience	**Moderate**	Moderate	Countywide	Steuben County EMA	Existing budget FEMA
2014 New Mitigation Practice Educate public as to the consequences of their behavior during a disaster, e.g. not heeding evacuation warnings or driving during a travel warning or advisory	☒ Prevention ☐ Property Protection ☐ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Proposed Enhancement –** Develop education materials and messages to distribute at public events or via public service announcements	**Low**	Low	Countywide	Steuben County EMA	FEMA
2014 New Mitigation Practice Develop new plans	☒ Prevention ☒ Property Protection ☒ Nat. Res. Protection ☒ Emergency Services ☐ Structural Control ☒ Public Information	☒ Dam Failure ☒ Earthquake ☒ Flooding ☒ Hail/Thunder/Wind ☒ HazMat Incident ☒ Severe Winter Storm ☒ Tornado	**Proposed Enhancement –** Create preparedness plan for secondary issues related to disasters, e.g. protection against looting, and encouraging public to have 72-hour food/water plan Assemble a database of special needs citizens to be better prepared to respond to elderly/disabled/medical needs	**Low**	Low	Countywide	Steuben County EMA	Existing budget FEMA

The Steuben County Emergency Management Agency will be the local champion for the mitigation actions. The County Commissioners and the city and town councils will be an integral part of the implementation process. Federal and state assistance will be necessary for a number of the identified actions.

6.5 Multi-Jurisdictional Mitigation Strategy

As a part of the multi-hazard mitigation planning requirements, at least two identifiable mitigation action items have been addressed for each hazard listed in the risk assessment and for each jurisdiction covered under this plan.

Each of the seven incorporated communities, within and including Steuben County, was invited to participate in a brainstorming session in which goals, objectives, and strategies were discussed and prioritized. Each participant in this session was armed with possible mitigation goals and strategies provided by FEMA, as well as information about mitigation projects discussed in neighboring communities. All potential strategies and goals that arose through this process are included in this plan. The county planning team used FEMA's evaluation criteria to gauge the priority of all items. A final draft of the disaster mitigation plan was presented to all members to allow for final edits and approval of the priorities and strategies.

As a result of the planning process, the data, information, maps, and tables will be integrated as appropriate into other planning efforts to include zoning, floodplain management, and land use planning. Many of the planning team members, representing the county as well as participating jurisdictions, will integrate these data as part of their roles as floodplain enforcers, zoning officers, and community administrators.

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Section 7

Plan Maintenance

7.1 Monitoring, Evaluating, and Updating the Plan

Throughout the past five-year planning cycle, Steuben County Emergency Management Agency and the MHMP planning committee continued to monitor, evaluate, and update the plan.

Additionally, a meeting will be held during June of 2018 to address the next five-year update of this plan. Members of the planning committee are readily available to engage in email correspondence between annual meetings. If the need for a special meeting, due to new developments or a declared disaster occurs in the county, the team will meet to update mitigation strategies. Depending on grant opportunities and fiscal resources, mitigation projects may be implemented independently by individual communities or through local partnerships.

The committee will then review the county goals and objectives to determine their relevance to changing situations in the county. In addition, state and federal policies will be reviewed to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects, and will include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies should be revised.

Updates or modifications to the MHMP during the five-year planning process will require a public notice and a meeting prior to submitting revisions to the individual jurisdictions for approval. The plan will be updated via written changes, submissions as the committee deems appropriate and necessary, and as approved by the county commissioners.

The GIS data used to prepare the plan was obtained from existing county GIS data as well as data collected as part of the planning process. This updated Hazus-MH GIS data has been returned to the county for use and maintenance in the county's system. As newer data becomes available, this updated data will be used for future risk assessments and vulnerability analyses.

7.2 Implementation through Existing Programs

The results of this plan will be incorporated into ongoing planning efforts since many of the mitigation projects identified as part of this planning process are ongoing. Steuben County and its incorporated jurisdictions will update the zoning plans and ordinances listed in section 6-2 as necessary and as part of regularly scheduled updates. Each community will be responsible for updating its own plans and ordinances.

7.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the MHMP. Comments from the public on the MHMP will be received by the EMA director and forwarded to the MHMP planning committee for discussion. Education efforts for hazard mitigation will be ongoing through the EMA. The public will be notified of periodic planning meetings through notices in the local newspaper. Once adopted, a copy of this plan will be available on the Steuben County website, maintained in each jurisdiction and in the Steuben County EMA Office.

APPENDICES

Appendix A: Meeting Minutes

Appendix B: Newspaper Articles

Appendix C: List and Locations of Steuben County Facilities

Appendix D: Adopting Resolutions

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Appendix A: Meeting Minutes

Steuben County Multi-Hazard Mitigation Plan

Meeting 1

February 27, 2014, 1:30-2:30 pm
Steuben County Annex Training Room
Agenda:

1. Review expectations
2. Prioritize hazards
3. Review critical facilities map
4. Determine modeling scenarios

Attendees:

Name	Organization
Kris Thomas	Health Dept
Katie Knisely	Health Dept
Kimberly Stout	Red Cross
Brent Shull	Town of Hamilton
Raymond Michael Meek	Angola Fire Dept
Bill Stackhouse	Steuben County REMC
Kristy Clawson	Steuben County EMA
Rod Renkenberger	Maumee River Basin Comm
Ron Smith	Steuben Co Gov
Dick Hickman	City of Angola
Rick Dolsen	IDHS
Craig Williams	City of Angola
Bill Cance	EMA
Frank Charlton	Plan/Bldg
Jennifer Sharkey	Steuben County Highway Department
Amy Oberlin	Herald Republican
Rob Berger	Univertical
John Buechler	The Polis Center
Melissa Gona	The Polis Center

Meeting Summary:

John Buechler presented slides and led discussions about project objectives, prioritizing hazards, critical facilities and modeling scenarios.

Discussion items:

- The hazmat risk ranking that was used in the last study may need to be reevaluated to take into account that a severe storm/tornado has the potential for a longer lasting impact to infrastructure (e.g. if a school is destroyed it would impact a community for more than a year).
- There may also be a need to consider the impact of hazards on the transmission grid, including substation vandalism.
- The storm rating system used where a low number value = higher risk is opposite of other warning systems in use where higher numbers indicate higher risk.
- Because some roads are cleared of snow quickly while others are still impassible, the question was raised whether the city has the ability to issue separate travel warnings from the county. It was determined that a new county ordinance would be required.
- Tornado scenario - A tornado path was chosen for the F4 tornado that will be modeled by Polis.
- Hazmat scenario - the hazmat event chosen is anhydrous ammonia on US20 just west of the city limits.

Action Items

- Everyone will be emailed a copy of the community assets list for review and is asked to return changes to Kristy in one week in order to be incorporated in the analysis.
- Everyone was asked to bring 5 mitigation ideas to the next meeting and a list of mitigation strategies implemented since the previous plan was written.
- Everyone was asked to track time worked on the plan so it can be applied to the grant match requirements.

The next meeting was scheduled for April 17, 2014 at 1pm.

Steuben County Multi-Hazard Mitigation Plan

Meeting 2

April 17, 2014, 1:00-2:30 pm
Steuben County Annex, Training Room 200

Agenda

1. Introductions
   Project overview for new attendees
   Handout risk assessment
2. Presentation of risk assessment highlights
3. Discuss mitigation strategies
4. Meeting #3 date, location, requirements

Attendees:

Name	**Organization**
Kris Thomas	Steuben County Health Dept
Bill Cance	EMA
Brent Shull	Town of Hamilton
Dick Hickman	City of Angola
Raymond Michael Meek	Angola Fire Dept
Rick Dolsen	IDHS
Bill Stackhouse	Steuben County REMC
Chad Hoover	Steuben County GIS
Craig Williams	City of Angola
Kristy Clawson	Steuben County EMA
Rod Renkenberger	Maumee River Basin Commission
Ron Smith	Steuben County Government
Rob Berger	Univertical
Jennifer Sharkey	Steuben County Highway Department
Chris Snyder	Town of Fremont
Amy Oberlin	Herald Republican
Dave Coats	The Polis Center
Kevin Mickey	The Polis Center
Chris Schmitz	The Polis Center

Meeting Summary:

Dave Coats opened the meeting with introductions and an overview of the PDM process. After crediting Christopher Burke Engineering with the 2008 Steuben County Multi-Hazard Mitigation Plan, Dave explained the process for development of mitigation strategies.

Participants were provided with a copy of the 2014 risk analysis performed by the Polis Center. Kevin Mickey explained the science of the risk analysis and described the results for each hazard.

- Due to the nature of assessor data, some properties may not be represented in the Hazus modeling.
- The risk analysis for flooding determined no Steuben County essential facilities are located in the flood plain.
- Exposure dollars were explained.
- Earthquake analysis showed minimal vulnerability to building structures however, participants were reminded of the secondary effects of earthquakes (major utility lines disrupted, transportation compromised….)

Participants were then provided with a copy of the 2008 Steuben County mitigation strategies and given the opportunity to review past mitigation ideas and consider new strategies. After the break the following mitigation updates were discussed:

- IDHS District 3 has purchased a mobile command unit that is currently being housed at the DeKalb County EMA office in Auburn.
- Safe rooms are still need in most if the county's mobile home parks.
- Sirens are being installed each year.
- Shelters throughout the county still need generators for backup power.
- The County is in the process of acquiring reverse 9-1-1 warning system. Steuben County is currently using NIXEL, but this is a voluntary program.
- 93 weather radios have been distributed, primarily to the elderly and fire stations.
- Per Commissioner Smith, a large safe room is being designed for the county park.

New mitigation ideas included:

- The waste water treatment plant in Angola needs to be hardened.
- Complete a study to determine where backup generators would be most beneficial.
- Support for an ongoing education program, including community advisories for power outage preparations.
- Countywide power outage preparation should include increased generators, transfer switches, available generator fuel, and safe rooms.
- Snow routes need to be mapped, documented and publicized.
- The county needs a comprehensive list of the special needs population.
- Snow removal vehicles should be equipped with two way radios.
- The county would like to have countywide briefing that would include all impacted agencies and develop comprehensive preparations for disasters.

- A commodity flow study should be considered since hazmat transportation is predominant throughout the county, including towns, highways, and the toll road.

Other discussions included:

- Should power lines be buried or are overhead lines easier to maintain? Per Bill Stackhouse of the Steuben County REMC, residential lines will continue to be installed underground, while the major service lines remain overhead.
- Rod Renkenberger reminded team members that grant money is still available for the construction of safe rooms.
- The use of transfer switches vs generators was discussed.
- Maumee River Basin Commission sponsors a six county-wide flood safety awareness week each year.
- The new DFIRMs for Steuben County became effective on December 17, 2013.
- MRBC plans to study all remaining unstudied streams in Steuben County.

Any additional mitigation ideas or plan modifications should be forwarded to Rod Renkenberger or Kristy Clawson by the end of April. Everyone was asked to track time worked on the plan so it can be applied to the grant match requirements. Time sheets should be forwarded to Kristy ASAP.

The next meeting will be a public meeting. This meeting will be scheduled by Kristy Clawson as soon as she can coordinate a time and location.

Steuben County Multi-Hazard Mitigation Plan

Meeting 3: PUBLIC MEETING

June 30, 2014
Steuben County Annex, Multi-Purpose Room

Agenda

- Project overview for new attendees
- Handout draft plan
- Presentation of plan highlights
- Breakout sessions to discuss mitigation
- Report back to the full group

Meeting Summary:

Kevin Mickey and Laura Danielson of The Polis Center provided an overview of the project and the work completed by the planning team to date. They walked the group through some of the key points of the plan and asked for questions and comments throughout.

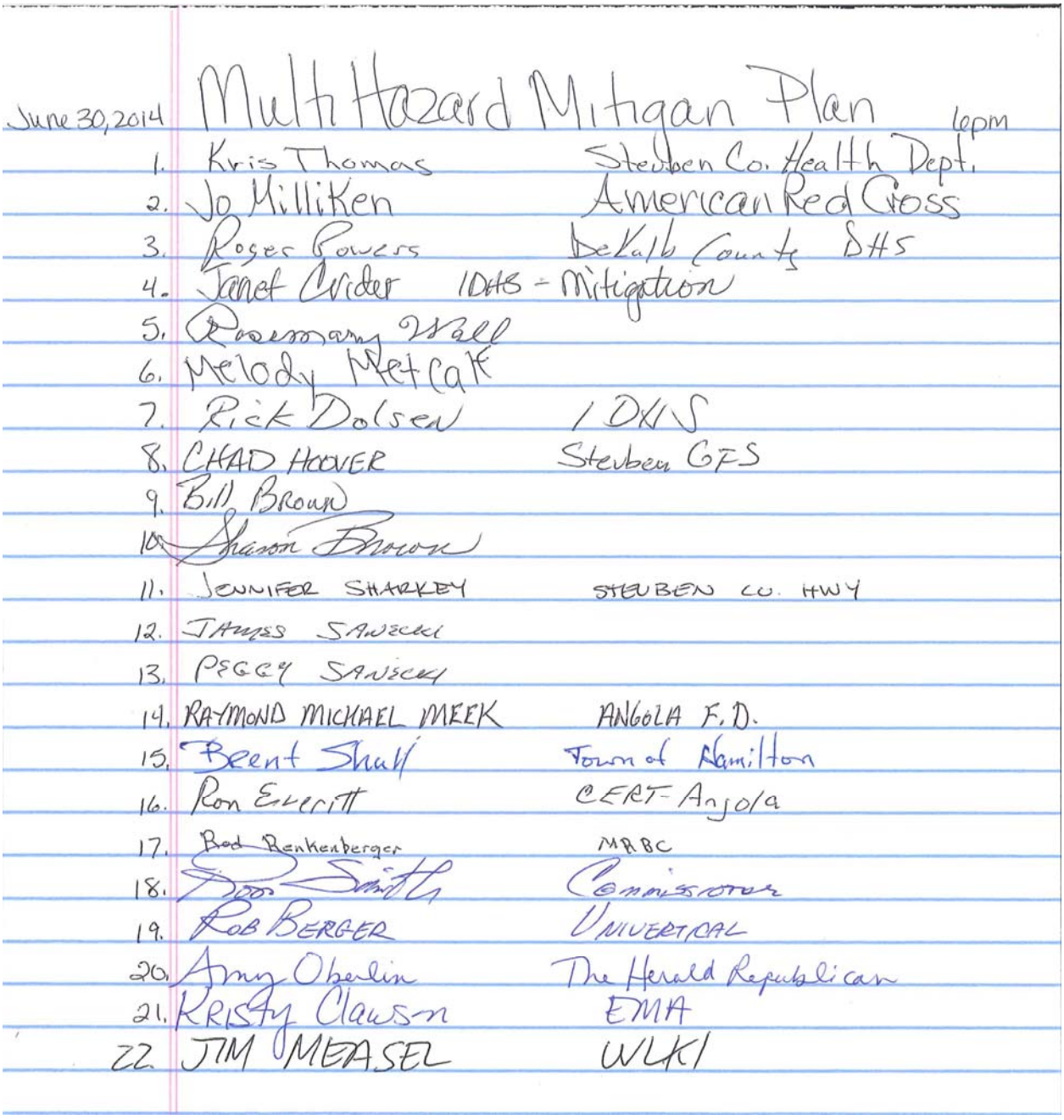
Participants then broke into four groups where the planning team members described the mitigation strategies they'd come up with at the previous meeting. Member of the public had the opportunity to ask questions and provide thoughts on the strategies developed by the planning team. The group also brainstormed to see if there were any additional strategies missed.

After the breakout session, the full group re-formed and discussed the breakout discussions. Discussion included the following points:

- Mandate storm shelters at mobile home park (county has done this for all new development); local jurisdictions should consider adopting the same language
- Ensure mobile homes anchored to meet industry standards (not just state)
- Public education – explore different methods to disseminate information and inform
    - Radio is good (WLKI)
    - Nixel? Social media? Reverse 911?
    - University notifies students
    - Emergency Alert System
- Alternate evacuation routes
- Signage
- Educate public as to consequences of behavior during disaster, e.g. not heeding warnings and advisories
- Disaster declaration at the district level
- Regularly scheduled reassessments by elected officials, e.g. conf call

- Preparedness plan for secondary issues related to disasters, e.g. protect against looting
    - Education to encourage people to have a 72-hour food/water plan
- Special needs database to be prepared to respond to elderly/disabled/medical needs
- Map Your Neighborhood

Attendees:



June 30, 2014 Multi Hazard Mitigan Plan 1 6pm

1.	Kris Thomas	Steuben Co. Health Dept.
2.	Jo Milliken	American Red Cross
3.	Roger Powers	DeKalb County SHS
4.	Janet Crider	IDHS - Mitigation
5.	Rosemary Wall	
6.	Melody Metcalf	
7.	Rick Dolsen	IDNS
8.	CHAD HOOVER	Steuben GFS
9.	Bill Brown	
10.	Sharon Brown	
11.	JENNIFER SHARKEY	STEUBEN CO. HWY
12.	JAMES SAWICKI	
13.	PEGGY SAWICKI	
14.	RAYMOND MICHAEL MEEK	ANGOLA F.D.
15.	Brent Shull	Town of Hamilton
16.	Ron Everitt	CERT-Angola
17.	Rod Benkenberger	MRBC
18.	Don Smith	Commissioner
19.	ROB BERGER	UNIVERTICAL
20.	Amy Oberlin	The Herald Republican
21.	KRISTY Clawson	EMA
22.	JIM MEASEL	WLKI

Appendix B: Newspaper Articles

Serving the Steuben County 101 lakes area since 1857

THE HERALD REPUBLICAN

Angola, Indiana FRIDAY, FEBRUARY 28, 2014 kpcnews.com 75 cents

Weather Cloudy today with a high in the 20s. Low tonight around 11. **Page A10**

Hamilton students inducted into National Honor Society **Page A2**

Hazard plan being updated

BY AMY OBERLIN
aoberlin@kpcmedia.com

ANGOLA — Steuben County Emergency Management's Local Emergency Planning Committee is in the process of updating the Steuben County Multihazard Mitigation Plan.

It will provide local emergency services with up-to-date procedures, and will make the county eligible for federal mitigation grants and funding assistance.

The original plan was created in 2008 and has expired. The hope is to have a new plan submitted to the Federal Emergency Management Agency in June 2014.

"You have a very large planning team," said John Buechler of The Polis Center, which is preparing the updated plan. "You should be applauded for that."

More than 25 people attended the initial meeting on Thursday afternoon in the Steuben County Courthouse Annex, organized by Steuben County Emergency Management Director Kristy Clawson. Participants included a cross-section of the community and region.

The Polis Center is an extension of Indiana University-Purdue University Indianapolis which has done similar plans for 75 out of Indiana's 92 counties. The total cost of the project is $25,000 with a state grant covering 75 percent and the Maumee River Basin Commission donating $5,000. The remainder can potentially be made up with in-kind contributions, such as time and labor by committee members.

A second meeting is planned in April, and Buechler encouraged representatives from the county's

SEE **PLAN**, PAGE **A10**

PLAN: *Thunderstorms more prevalent disaster*

FROM PAGE A1

municipalities to attend. At this time, for example, the travel advisory is a county-wide system. Commissioner Ron Smith suggested that the towns and city of Angola be given the ability to enact their own travel advisories, as often the drifting county roads cause significantly different conditions than those experienced by in-town travelers. Smith noted that county officials have been criticized for extreme travel warnings, but that this year school buses have been stuck, damaged and slid off the road due to the ice and snow.

A public meeting and adoption of the plan will be the final phase of the project.

The 2008 plan lists hazardous materials spills as the highest priority, though Angola Fire Chief Mike Meek said storms seem to be more frequent and devastating. Bill Stackhouse of Steuben County Rural Electric Membership Corp. noted that terrorism could be considered a threat when intentional damage to the power grid could cause widespread chaos.

National Climactic Data Center statistics document 15 severe occurrences in the past five years in Steuben County. Thunderstorms were by far of the highest incidence, followed by winter storms.

At the next meeting, The Polis Center will do a specific tornado scenario as well as a desktop re-enactment of a toxic spill. Committee members are expected to review a list of critical facilities in the county and provide five suggestions for ways to better prepare for potential emergencies.

Public Meetings

Monday, June 30

• Carnegie Public Library of Steuben County, library, 322 S. Wayne St., Angola, 4 p.m. Special meeting.

• Steuben County Commissioners, Steuben Community Center, 317 S. Wayne St., Angola, 4 p.m. Executive session.

• Steuben County Local Emergency Planning Committee, multipurpose room, Steuben Community Center, 317 S. Wayne St., Angola, 6 p.m. Public hearing on multihazard mitigation plan.

Tuesday, July 1

• Angola Historic Preservation Commission, canceled.

• Fremont Plan Commission, town hall, 205 N. Tolford St., Fremont, 7 p.m.

Wednesday, July 2

• Angola Parks and Recreation Board, parks office, 299 S. John St., Angola, 10 a.m.

• Hamilton Park Board, Gnagy Park, Bellefontaine Road, Hamilton, 7 p.m.

• Steuben County Plan Commission, Steuben Community Center, 317 S. Wayne St., Angola, 7 p.m.

Thursday, July 3

• Drug Free Steuben Committee, Carnegie L of Steuben County, 322 S. Wayne St., Angola,

• Ashley Park Board, Ashley Community C Gonser Ave., Ashley, 4 p.m.

• Maumee River Basin Commission, USDA Center, 3718 New Vision Drive, Fort Wayne,

Saturday, July 5

• Steuben County Lakes Council, First Congr

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Public Meetings

Monday, June 30

• Carnegie Public Library of Steuben County, library, 322 S. Wayne St., Angola, 4 p.m. Special meeting.

• Steuben County Commissioners, Steuben Community Center, 317 S. Wayne St., Angola, 4 p.m. Executive session.

• Steuben County Local Emergency Planning Committee, multipurpose room, Steuben Community Center, 317 S. Wayne St., Angola, 6 p.m. Public hearing on multihazard mitigation plan.

Tuesday, July 1

• Angola Historic Preservation Commission, canceled.

• Fremont Plan Commission, town hall, 205 N. Tolford St., Fremont, 7 p.m.

Wednesday, July 2

• Angola Parks and Recreation Board, parks office, 299 S. John St., Angola, 10 a.m.

Public urged to attend disaster planning meeting

BY AMY OBERLIN
aoberlin@kpcmedia.com

ANGOLA — Steuben County residents are encouraged to get involved in natural disaster planning.

A meeting will be held on Monday at 6 p.m. at the Steuben Community Center, 317 S. Wayne St., Angola, on the Steuben County Multihazard Mitigation Plan. The meeting is in the multipurpose room, with entry from the east doors.

A team assembled by Steuben County Emergency Management's Local Emergency Planning Committee has worked throughout the year on updating the plan, written in 2008. It will provide local emergency services with up-to-date procedures, and will make the county eligible for federal mitigation grants and funding assistance.

Dave Coats of the Polis Center encouraged people to take the opportunity have input on how to mitigate the effects of a potential natural disaster in Steuben County. He said those with ideas or strategies to "make the community a safer one" should speak up, "and have it built into the plan."

The updated plan proposal will be unveiled Monday.

"We're going to have copies of the plan to hand out to people," said Coats.

Emergency Management Director Kristy Clawson said local people should attend and learn more about the efforts being made to keep people safe.

"We want their feedback," Clawson said.

A final draft will be submitted to the Federal Emergency Management Agency.

The Polis Center, an extension of Indiana University-Purdue University Indianapolis, is assisting with the planning. Polis Center reprensentatives will do a PowerPoint presentation and explain the plan.

The 2008 plan lists hazardous materials spills as the highest priority. Because of the local hazardous materials teams and other safeguards in place, that threat was moved down the Steuben County priority list, and storms were moved up. National Climactic Data Center statistics document 15 severe occurrences in the past five years in Steuben County. Thunderstorms were by far of the highest incidence, followed by winter storms.

The Polis Center has done similar plans for 75 out of Indiana's 92 counties. The total cost of the project is $25,000 with a state grant covering 75 percent and the Maumee River Basin Commission donating $5,000.

Appendix C: List and Locations of Steuben County Facilities

ESSENTIAL FACILITIES OF STEUBEN COUNTY

Name	Location	Facility Type
Angola Obtetrics & Gynecology	714 Cameron Woods Crossing, Angola, IN 46703	Care Facility
Steuben County WIC Program	317 S Wayne Street Suite 3C, Angola, IN 46703	Care Facility
Cameron Memorial Community Hospital, Inc.	416 E Maumee Street, Angola, IN 46703	Care Facility
Cameron Home Health Care & Hospice.	416 E Maumee Street, Angola, IN 46703	Care Facility
Northern Lakes Nursing And Rehab.	516 Williams Street, Angola, IN 46703	Care Facility
Lakeland Nursing Center.	500 Williams Street, Angola, IN 46703	Care Facility
Thomas L Miller Md.	1500 W Maumee Street, Angola, IN 46703	Care Facility
Crossrodas Home Care Inc.	100 Growth Parkway, Angola, IN 46703	Care Facility
Steuben County Council On Again, Inc.	317 S. Wayne Street, Angola, IN 46703	Care Facility
Professional Clinic.	424 Williams Street, Angola, IN 46703	Care Facility
Cameron Med. Ofc. Bld. Specialty Clinic.	306 E Maumee Street, Angola, IN 46703	Care Facility
Mameron Memorial Hospital/ Urgent Care.	1381 N Wayne Street, Angola, IN 46703	Care Facility
Cameron Woods Retirement Community.	701 W Harcourt Road, Angola, IN 46703	Care Facility
Dean Mattox Md.	1109 W Maumee Street, Angola, IN 46703	Care Facility
Elmhurst Clinic.	909 W Maumee Street, Angola, IN 46703	Care Facility
Fremont Medical Center.	401 S Broad Street, Angola, IN 46703	Care Facility
Indiana Physical Therapy/Fwo.	3270 Intertech Drive, Angola, IN 46703	Care Facility
Indiana Surgical Specialists.	150 Growth Parkway., Angola, IN 46703	Care Facility
Mattox Family Physicians.	3250 Intertech Drive, Angola, IN 46703	Care Facility
Northeastern Center.	3265 Intertech Drive, Angola, IN 46703	Care Facility
Teresa Smith.	2500 E Bellefontaine Road, Hamilton, IN 46703	Care Facility
Turning Point Shelter Of Steuben County.	600 Williams Street, Angola, IN 46703	Care Facility
Cameron Counseling Center.	617 N Washington Street, Angola, IN 46703	Care Facility
Bowmen Center.	200 Hoosier Drive, Angola, IN 46703	Care Facility
Northeastern Center.	356 Intertech Parkway, Angola, IN 46703	Care Facility
David P. Watkins.	301 E Maumee Street, Angola, IN 46703	Care Facility

Name	Location	Facility Type
Larry E. Watkins.	301 E Maumee Street, Angola, IN 46703	Care Facility
Todd D. Brandon.	150 Growth Parkway, Angola, IN 46703	Care Facility
Christopher J. Bretz.	3270 Intertech Drive Suite B, Angola, IN 46703	Care Facility
Tri-State Medical Imaging.	103 S. Intertech Parkway, Angola, IN 46703	Care Facility
Parkview Angola Imaging.	3250 Intertech Drive Suite D, Angola, IN 46703	Care Facility
Steuben County EMS	205 S Martha Street, Suite # 100, Angola, IN 46703	Emergency Operation Center
Hudson Fire Dept	313 N Main Street, Hudson, IN 46747	Fire Station
Angola Vol Fire Station	202 W Gilmore Street, Angola, IN 46703	Fire Station
Fremont Vol Fire Dept	100 E Spring Street, Fremont, IN 46737	Fire Station
Hamilton Fire Dept	7760 S Wayne Street, Hamilton, IN 46742	Fire Station
Helmer Vol Fire Dept	9640 W 772 Road, Helmer, IN 46747	Fire Station
Metz Vol Fire Dept	2105 S 800 E, Angola, IN 46703	Fire Station
Orland Comm. Fire Dept	6035 N Indiana 327, Orland, IN 46776	Fire Station
Steuben Twp Vol. Fire Dept.	1445 W Main St, Pleasant Lake, IN 46779	Fire Station
Salem Center Vol Fire Dept	8404 W 500 S, Hudson, IN 46747	Fire Station
Clear Lake Police Dept	111 Gecowets Drive, Fremont, IN 46737	Police Station
Angola Police Dept	204 W Gilmore Street, Angola, IN 46703	Police Station
Steuben County Sheriff Dept	206 E Gale, Angola, IN 46703	Police Station
Fremont Police Dept	205 N Tolford Street, Fremont, IN 46737	Police Station
Fremont High School	701 W Toledo Street, Fremont, IN 46737	School
Fremont Elementary School	501 W Toledo Street, Fremont, IN 46737	School
Fremont Middle School	811 W Renee Drive, Fremont, IN 46737	School
Angola Middle School	1350 E Maumee Street, Angola, IN 46703-9207	School
Carlin Park Elementary School	800 N Williams Street, Angola, IN 46703	School
Hendry Park Elementary School	805 S Washington Street, Angola, IN 46703	School
Pleasant Lake Elem Sch	1205 W Main Street, Pleasant Lake, IN 46779	School
Angola High School	350 S John McBride Avenue, Angola, IN 46703	School
Ryan Park Elementary Sch	1000 S John McBride Avenue, Angola, IN 46703	School
Amish School	6495 500 S, Hamilton, IN 46742	School
Alvarado Amish School	5005 S 800 E, Hamilton, IN 46742	School
Steuben County Ed. Opp Center	403 S Martha Street, Angola, IN 46703	School

Name	Location	Facility Type
Trine University	1 University Ave , Angola, IN 46703	School
Vistula Headstart & Preschool	1100 Toledo Street, Fremont, IN 46737	School
101 Lakes Academy and Farm Schl	1775 W Maumee Street, Angola, IN 46703	School
Freedom Academy	306 W Mill Street, Angola, IN 46703	School

CRITICAL FACILITIES OF STEUBEN COUNTY

Name	Location	Facility Type
Tri-State Steuben County Airport	Angola	Airport
Cameron Hospital Heliport	Angola	Airport
Crooked Lake Seaplane Base	Angola	Airport
Lake James Seaplane Base	Angola	Airport
Lake Pleasant Seaplane Base	Angola	Airport
Pigeon Airport	Angola	Airport
Clear Lake Heliport	Clear Lake	Airport
Clear Lake Seaplane Base	Clear Lake	Airport
East Clear Heliport	Clear Lake	Airport
Tower	1490 W Maumee Street, Angola IN	Communication Facility
Tower	W 700 S, Ashley, IN	Communication Facility
Tower	1708 W 700 N, Fremont, IN	Communication Facility
Tower	7260 S. State Road, Hudson, IN	Communication Facility
Tower	911 Wohlert Street, Angola, IN	Communication Facility
Tower	9855 W 100 S, Angola, IN	Communication Facility
Tower	4180 N 0006 E, Angola, IN	Communication Facility
Tower	9855 W 100 S, Angola, IN	Communication Facility
Tower	4660 E 275 N, Angola, IN	Communication Facility
Tower	5710 W State Road 120, Angola IN	Communication Facility
Siren	McBride Avenue Siren at US 20	Communication Facility
Siren	300 North Siren at State Road 127	Communication Facility
Siren	Hoosier Drive Siren at State Road 127	Communication Facility
Siren	Safety Building Siren (204 W Gilmore)	Communication Facility
Siren	1303 South Wayne Street	Communication Facility
Siren	S Gerald Lett Ave Siren at US 20	Communication Facility
Siren	Clear Lake Public Beach	Communication Facility
Siren	291 Prospect St Clear Lake	Communication Facility
Siren	Fremont Fire Dept. 100 E Spring St.	Communication Facility
Siren	Steuben Township Fire Dept. (1445 W. Main Street)	Communication Facility
Siren	Metz Volunteer Fire Dept. (2105 S 800 E)	Communication Facility
Siren	Orland Community Volunteer Fire Dept. (6305 N State Road 327)	Communication Facility

Name	Location	Facility Type
Siren	Hamilton Volunteer Fire Department (7760 S Wayne Street)	Communication Facility
Siren	Helmer Volunteer Fire Department (9640 W 772 S)	Communication Facility
Siren	Pokagon State Park near CCC Shelter	Communication Facility
Siren	Ashley Fire Department	Communication Facility
Siren	Int Coldwater St & Hope Drive	Communication Facility
Siren	117 W Parsonage Street	Communication Facility
Siren	Easton Place Retention Pond	Communication Facility
Siren	Grace Baptist Church & School	Communication Facility
Siren	NE of drive at 875 LN 150 Hamilton Lk	Communication Facility
Siren	Cul de Sac at LN 101 Ball Lk	Communication Facility
Siren	Ln 340 Jimmerson LK & Collins Wood MH Park	Communication Facility
Siren	3498 W 600 N	Communication Facility
Siren	Fremont Industrial Park	Communication Facility
Siren	Stroh Fire Department	Communication Facility
Siren	W State Rd 120 & 700 N (2085 W 700 N)	Communication Facility
Siren	N of Sycamore Beach Rd @ Orland Rd (2341 W Orland RD)	Communication Facility
Siren	Int of LN 150A & LN 150 Jimmerson Lk (210 LN 150 Jimmerson Lk)	Communication Facility
Siren	6125 n 700 e	Communication Facility
Siren	483 LN 301 Barton Lk	Communication Facility
Siren	777 S 500 W	Communication Facility
Siren	6631 W Orland Road	Communication Facility
Siren	3488 W US Highway 20	Communication Facility
Lake George		Dam
Oberlin-Ford		Dam
Gordon T. Anderson Earthen Dam		Dam
Oberlin Lake Dam		Dam
Jimmerson Lake Dam		Dam
Hamilton Lake-North		Dam
Hamilton Lake-South		Dam
Borror Lake Dam		Dam
Thomas Papaik Lake Dam		Dam
Long Beach Lake Dam		Dam
Lake Minifenokee Dam		Dam
Allen Pond		Dam
Graber Pond		Dam
Neff Pond		Dam
Willibey Pond		Dam
Lucas Pond		Dam
Lake Charles West Dam		Dam
Nipsco	750 S & S State Road 327, Helmer IN	Electric Power Facility
NIFLO	5295 S State RD 327, IN	Electric Power Facility
NIFLO		Electric Power Facility
NIFLO		Electric Power Facility
NIPSCO	700 S & 225 W, IN	Electric Power Facility
NIFLO		Electric Power Facility
NIPSCO		Electric Power Facility
NIPSCO		Electric Power Facility

Name	Location	Facility Type
NIPSCO		Electric Power Facility
NIPSCO		Electric Power Facility
NIPSCO		Electric Power Facility
NIFLO		Electric Power Facility
FRONTIER		Electric Power Facility
Wabash Valley Power		Electric Power Facility
Wabash Valley Power	350 W & 600 N, IN	Electric Power Facility
Wabash Valley Power	200 N & Pokagon Trail, IN	Electric Power Facility
Wabash Valley Power	1190 E 300 N, Angola IN	Electric Power Facility
Steuben County REMC	967, IN	Electric Power Facility
NIPSCO	3135 N Wayne Street, Angola IN	Electric Power Facility
Ventra Angola LLC	3000 Woodhull, Angola, IN 46703	Hazardous Material Facility
Moore Wallace & RR Donnelley Company	611 W Mill Street, Angola, IN 46703	Hazardous Material Facility
ITW Automotive Finishing	1910 N Wayne Street, Angola, IN 46703	Hazardous Material Facility
Tenneco Automotive	503 Weatherhead Street, Angola, IN 46703	Hazardous Material Facility
Univertical Corporation	203 Weatherhead Street, Angola, IN 46703	Hazardous Material Facility
Key Plastics	7540 S Homestead, Hamilton, IN	Hazardous Material Facility
Verizon	3745 N 300 W, Angola, IN	Hazardous Material Facility
Verizon (Angola)	112 W Broad Street, Angola, IN	Hazardous Material Facility
Verizon - Pleasant Lake	4745 South 150, Pleasant Lake, IN	Hazardous Material Facility
Sprint/United Telephone	225 West State Street, Ashley, IN	Hazardous Material Facility
INDOT - Toll RD Angola Toll Plaza	280 W State Rd 120, Fremont, IN	Hazardous Material Facility
Aggregate Industries	1310 West Maumee Street, Angola, IN 46703	Hazardous Material Facility
North Central Co-OP - Fremont Energy	707 South Wayne Street, Fremont, IN	Hazardous Material Facility
Cardinal IG Company	301 East McSwain, Fremont, IN	Hazardous Material Facility
INDOT - Toll Road - Eastpoint Barrier	1550 North 700 East, Angola, IN	Hazardous Material Facility
Autoform Tool & Manufacturing	1501 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Fremont Wire	600 W Swager Drive, Fremont, IN 46737	Hazardous Material Facility
AAA Galvanizing	7825 S Homestead Drive, Hamilton, IN 46742	Hazardous Material Facility
Allegheny Coatings	302 E McSwain Drive, Fremont, IN 46737	Hazardous Material Facility
Amcast Automotive	706 E Depot Street, Fremont, IN 46737	Hazardous Material Facility
Con-way Central Express	6755 N Old State Road 27, Fremont, IN 46737	Hazardous Material Facility
INDOT -Booth Tarkington Plaza	1235 E State Road 120, Fremont, IN	Hazardous Material Facility
INDOT - Steuben Maint. Facility	7565 N 650 West, Orland, IN	Hazardous Material Facility
Amerigas Propane LP, Inc.	1870 South Old US Hwy 27, Angola, IN	Hazardous Material Facility
Star Gas Propane LP	5890 N State Road 327, Orland, IN 46776	Hazardous Material Facility
Dexter Axle/Philips Industries	301 W Pearl Street, Fremont, IN	Hazardous Material Facility
GasAmerica #205	809 Maumee Street, Angola, IN	Hazardous Material Facility

Name	Location	Facility Type
North Central Co-Op - Fremont Energy	610 West Broad Street, Angola, IN	Hazardous Material Facility
CVS #6494	700 N Wayne Street, Angola, IN 46703	Hazardous Material Facility
IMP Acquisition	409 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
H&S Auto Machine Service	610 W 155 S, Angola, IN 46703	Hazardous Material Facility
Hoosier Propane	3825 E US Highway 20, Angola, IN	Hazardous Material Facility
Landfill		Hazardous Material Facility
Tyden Brooks	409 Hoosier Drive, Angola, IN	Hazardous Material Facility
WilTel Communication	832 East US 20, Angola, IN	Hazardous Material Facility
Klink Trucking	3320 West 800 South, Ashley, IN	Hazardous Material Facility
Noll Brothers Oil	W Parsonage Street, Hudson, IN	Hazardous Material Facility
Quadland Corp	7265 N Baker Road, Fremont, IN	Hazardous Material Facility
Amerigas-Bruce Moody	3285 N 650 E, Fremont, IN 46737	Hazardous Material Facility
Angola LP Gas	4145 E 450 S, Angola, IN 46703	Hazardous Material Facility
Angola Food Shop	2795 W US Highway 20, Angola, IN 46703	Hazardous Material Facility
Meijer #190 Gas Station	2750 North Wayne Street, Angola, IN	Hazardous Material Facility
Speedway #8336	2820 West US 20, Angola, IN	Hazardous Material Facility
Pilot Travel Center #029	6900 North Old 27, Fremont, IN	Hazardous Material Facility
Vestil Manufacturing	2999 North Wayne Street, Angola, IN	Hazardous Material Facility
Irving Gravel Co, Inc	225 S 600 W, Angola, IN 46703	Hazardous Material Facility
Ryder Transportation Services	1182 East State Road, Fremont, IN	Hazardous Material Facility
Metaldyne	307 S. Tillotson Street, Fremont, IN	Hazardous Material Facility
HIlsdale Tool -Hamilton Plant	7790 South Homestead Drive, Hamilton, IN 46742	Hazardous Material Facility
Angola Marathon Express	2860 W US Highway 20, Angola, IN 46703	Hazardous Material Facility
B & F Grain	5820 N State Road 327, Orland, IN 46776	Hazardous Material Facility
Bills Orland Marathon	6065 N State Road 327, Orland, IN 46776	Hazardous Material Facility
Camshaft Machine Co.	9670 Maple Street, Orland, IN 46776	Hazardous Material Facility
Carper Farm Supply	300 N Grand Avenue, Ashley, IN 46705	Hazardous Material Facility
E & B Paving	260 E 300 N, Angola, IN 46703	Hazardous Material Facility
S & S Oil Company	3955 E Bellefontaine Rd, Hamilton, IN 46742	Hazardous Material Facility
Hudson Industries	105 W State Road 4, Hudson, IN 46747	Hazardous Material Facility
Toll Rd James W. Riley SRV Plaza	5800 N 100 E, Fremont, IN 46737	Hazardous Material Facility
INDOT Toll RD Service Maintenance Storage	1025 S 935 E, Angola, IN 46703	Hazardous Material Facility
Verizon	655 W State Road 120, Fremont, IN 46737	Hazardous Material Facility
Lagrange Products	607 S Wayne Street, Fremont, IN 46737	Hazardous Material Facility
Gas America Services	2865 W US Highway 20, Angola, IN 46703	Hazardous Material Facility

Name	Location	Facility Type
Reike Packaging Systems	2855 E Bellefontaine , Hamilton, IN 46742	Hazardous Material Facility
Miller Poultry	9622 W 350 N, Orland, IN 46776	Hazardous Material Facility
New Horizons Baking Company	700 W Water Street, Fremont, IN 46737	Hazardous Material Facility
Patty's Pantry	2040 N 200 W, Angola, IN 46703	Hazardous Material Facility
Rittal Electromate	301 W Water Street, Fremont, IN 46737	Hazardous Material Facility
Shell Spee-D-Mart #202	1811 N Wayne Street, Angola, IN 46703	Hazardous Material Facility
Hanson Aggregates Mideast Inc	260 E 300 N, Angola, IN 46703	Hazardous Material Facility
Clear Lake Marina	1210 Lake Dive Clear Lake, Fremont, IN 46737	Hazardous Material Facility
FedEx Am. Freightways	7306 N Baker Road, Fremont, IN	Hazardous Material Facility
Verizon		Hazardous Material Facility
S & S Gas Station	4840 S Old 27, Pleasant Lake, IN 46779	Hazardous Material Facility
Four Corners Phillips 66	7305 S Wayne Street, Hamilton, IN	Hazardous Material Facility
Murphy Oil (Wal-Mart Gas Station)	2018 N Wayne Street, Angola, IN 46703	Hazardous Material Facility
2001 76 Inc (Citgo Gas Station)	2001 N Wayne St, Angola, IN 46703	Hazardous Material Facility
BP Gas Station	620 N Wayne St, Angola, IN 46703	Hazardous Material Facility
Fast Break	616 W Maumee, Angola, IN 46703	Hazardous Material Facility
Prime Outlet Gas Station	5915 N SR 127, Fremont, IN 46737	Hazardous Material Facility
Clarks Landing Marina	80 Lane 101 B Hamilton LK, Hamilton, IN 46742	Hazardous Material Facility
North West Landing	515 LN 510 Lake James, Fremont, IN	Hazardous Material Facility
Corner Landing Bait & Tackle	3935 N 300 W, Angola, IN 46703	Hazardous Material Facility
Casey's Cove Marina	35 LN 345 Crooked LK, Angola, IN 46703	Hazardous Material Facility
NIPSCO	700 W Broad St, Angola, IN 46703	Hazardous Material Facility
Lake George Marina	15 LN 130 B LK George, Fremont, IN 46737	Hazardous Material Facility
Hamilton Lake Marin	7580 S Wayne Street, Hamilton, IN	Hazardous Material Facility
Highland Computer Forms	1510 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Quality Trailer Products	1304 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Steffy Wood Products	701 W Mill Street, Angola, IN 46703	Hazardous Material Facility
Rise Inc.	1600 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Steuben Fabricating & Engineering	2797 Woodhull Drive, Angola, IN 46703	Hazardous Material Facility
Kirk Enterprise Solutions	333 Hoosier Drive, Angola, IN 46703	Hazardous Material Facility
Mital Spinners	914 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Metal Spinners	800 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
Titan Metal Spinning	301 Growth Parkway, Angola, IN 46703	Hazardous Material Facility

Name	Location	Facility Type
Angola Wire Products	803 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Hudson Aquatics Sysytems	1100 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Panterra Coach & RV	101 Industrial Drive, Angola, IN 46703	Hazardous Material Facility
Top Speed Fabrication	400 Industrial Drive, Angola, IN 46703	Hazardous Material Facility
A.W. Manufacturing	1300 Wohlert Street, Angola, IN 46703-1059	Hazardous Material Facility
Special Cutting Tools	1305 Wohlert Street, Angola, IN 46703-1060	Hazardous Material Facility
General Products Corp.	1411 Wohlert Street, Angola, IN 46703	Hazardous Material Facility
Electri-Tec	509 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
Baril Coating USA	401 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
Innovation In Motion by Vestil	201 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
Vestil Manufacturing Corp. Plant 2	900 Growth Parkway, Angola, IN 46703	Hazardous Material Facility
National Guard Armory	904 Williams Street, Angola, IN 46703	Military Facility
Angola North Satellite Water Plant	550 Pokagon Trail, Angola, IN 46703	Potable Water Facility
Angola Water Plant	300 W. Mill Street, Angola, IN 46703	Potable Water Facility
Angola Water Tower 300 N	430 W. CR. 300 N, Angola, IN 46703	Potable Water Facility
Angola Water Tower Calvary Ln	306 Calvary Lane, Angola, IN 46703	Potable Water Facility
Angola Water Tower Jackson	109 Jackson Street, Angola, IN 46703	Potable Water Facility
Angola Water Tower W. Maumee	2963 W. Maumee Street, Angola, IN 46703	Potable Water Facility
Ashley Water Works	409 W. Lincoln Street, Ashley, IN 46705	Potable Water Facility
Fremont Water Tower	401 W. Albion Street, Fremont, IN 46737	Potable Water Facility
Fremont Water Tower #2	705 E. Swager Drive, Fremont, IN 46737	Potable Water Facility
Hamilton Water Tower #2	Hamilton, IN	Potable Water Facility
Hamilton Water Tower #3	Hamilton, IN	Potable Water Facility
Orland Water Tower	Orland, IN	Potable Water Facility
Angola Wastewater Treatment Plan	270 East Redding Road, Angola, IN 46703	Wastewater Facility
Ashley Municipal Wastewater Treatment Plant	Grand St N & Railroad Tracks, Ashley, IN 46705	Wastewater Facility
Fremont Wastewater Treatment Plant	SR 120 & SR 427, Fremont, IN 46737	Wastewater Facility
Hamilton Lake Conservancy District	4810 E 775 S, Hamilton, IN 46742	Wastewater Facility
Ashley Municipal Wastewater Treatment Plant	500 N Grand Street, Ashley, IN 46705	Wastewater Facility
Fremont Wastewater Treatment Plant	1715 State Road 120, Fremont, IN 46737	Wastewater Facility
Steuben Lakes Regional Wastewater Treatment Plant	8119 W 150 N, Angola, IN 46703	Wastewater Facility

Name	Location	Facility Type
Pokagon State Park Wastewater Treatment Plant	450 Ln 100 Lake James, Angola, IN 46703-9501	Wastewater Facility
Silver Lakes Mobile Homes	4305 W US Highway 20, Angola, IN 46703	Wastewater Facility
Pigeon Creek Rest Area I-69 SB	4345 Interstate 69, Pleasant Lake, IN 46703	Wastewater Facility
Quadland	7200 N Baker RD, Fremont, IN 46737	Wastewater Facility
INDOT-Toll Road Wastewater Treatment Plant	1235 E State RD 120, Fremont, IN 46737	Wastewater Facility
Helmer Regional Sewer District	P.O. Box 43, Helmer, IN	Wastewater Facility
Ramada Inn Package Plant	3855 N State Road 127, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #1 Kings	625 Wohlert Sr. Building Life Station # 1, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #2 Metal Spinners	913 Wohlert Sr. Building Lift Station # 2, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #4 Mill Street	1110 W Mill Street Building Lift Station # 4, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #5 Fox Lake Road	200 Fox Lake Road Building Lift Station # 5, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #6 Fox Street	600 Fox Street Building Lift Station # 6, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #7 Hires	1903 N Wayne Street Building Lift Station # 7, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #8 ReMax	2641 N. Wayne Street Building Lift Station # 8, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #10 Woodhull	2800 Woodhull Drive Building Lift Station # 10, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #11 Growth Parkway	300 Growth Parkway Building Lift Station # 11, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #12 Hoosier Drive	100 Hoosier Drive Building Lift Station # 12, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #14 Campbell Fetter	1448 N. Wayne Street Building Lift Station # 14, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #15 Pizza Hut	1411 N. Wayne Street Building Lift Station # 15, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #16 Hulbert Hills	904 Steven Lee Drive Building Lift Station # 16, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #17 Buke Lake	500 S. 290. W. Building Lift Station # 17, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #19 Northcrest	239 Broadmore Circle Building Lift Station # 19, Angola, IN 46703	Wastewater Facility
Angola Wastewater Treatment Plant L/S #3 Tri State	1101 Thunder Drive Building Lift Station # 3, Angola, IN 46703	Wastewater Facility

COMMUNITY ASSETS OF STEUBEN COUNTY

Name	Location	Facility Type
Calvary Temple Pentecostal Church of God	400 Henry Street, Angola, IN 46703	Church
Church Of The Nazarene	255 N Gerald Lett Avenue, Angola, IN 46703	Church
Angola Christian Church	1297 N 200 W, Angola, IN 46703	Church
Fremont Community Church	601 N Coldwater, Fremont, IN 46737	Church
Pleasant View Church Of Christ	200 W Fox Lake Road, Angola, IN 46703	Church
St Anthony of Padua Catholic Church & Friary	700 W Maumee Street, Angola, IN 46703	Church
The Assembly of God	1405 Williams Street, Angola, IN 46703	Church
Clear Lake Baptist Church	9050 E 700 N, Fremont, IN 46737	Church
Faith Baptist Church	560 W 400 N, Angola, IN 46703	Church
Grace Baptist Church	925 N 200 W, Angola, IN 46703	Church
Hillcrest Baptist Church	1380 S Wayne Street, Angola, IN 46703	Church
Pleasant Lake Baptist Church	1380 W State Street, Pleasant Lake, IN 46779	Church
Fairview Missionary Church	525 E 200 N, Angola, IN 46703	Church
St Paul Catholic Chapel	8780 E 700 N, Fremont, IN 46737	Church
Metz Christian Church	1945 S 800 E, Angola, IN 46073	Church
Steuben County Church of Christ	613 N Williams Street, Angola, IN 46703	Church
First Congregational United Church of Christ	314 W Maumee, Angola, IN 46703	Church
Hamilton Church Of Christ	4040 E Church Street, Hamilton, IN 46742	Church
Orland United Methodist Church	6150 N State Road 327, Orland, IN 46776	Church
Alvarado United Methodist Church	8045 E 500 S, Hamilton , IN 46742	Church
Hamilton United Methodist Church	7780 S Wayne Street, Hamilton, IN 46742	Church
Church of Jesus Christ of Latter Day Saints	1508 Williams Street, Angola, IN 46703	Church
Lake Gage Congregational Church	5540 W Orland Road, Angola, IN 46703	Church
Holy Family Episcopal Church	909 S Darling, Angola, IN 46703	Church
Sonlight Community Church	455 N Gerald Lett Avenue, Angola , IN 46703	Church
Lake Area Christian Church	4670 N State RD 827, Fremont, IN 46737	Church
Jehovah's Witness of Fremont	2725 Williams Street, Angola, IN 46703	Church
Calvery Lutheran Church	1301 Williams Street, Angola, IN 46703	Church
Clear Lake Lutheran Church	270 Outer Drive, Fremont, IN 46737	Church
Lake George Lutheran Chapel	1540 W 800 N, Fremont, IN 46737	Church
Peace Lutheran Church	355 E State Road 120, Fremont, IN 46737	Church
Pleasant Lake Mennonite Church	5142 S Old 27, Pleasant Lake, IN 46779	Church

Name	Location	Facility Type
Angola United Methodist Church	220 W Maumee, Angola, IN 46703	Church
Fremont United Methodist Church	105 N Tolford Street, Fremont, IN 46737	Church
Mt Zion Methodist Church	3365 S Golden Lake Road, Pleasant Lake, IN 46779	Church
Nevada Mills United Methodist Church	4710 W Bachelor Road, Angola, IN 46703	Church
Pleasant Lake United Methodist Church	1160 W Main Street, Pleasant Lake, IN 46779	Church
Orland Church of Nazarene	6015 N State Road 327, Orland, IN 46776	Church
Lakeview Community Church	3130 E Bellefontaine, Hamilton, IN 46742	Church
The Olde York Church	8470 E 300 N, Fremont, IN 46737	Church
Orland Congregational Church	9315 W State Road 120, Orland, IN 46776	Church
North Scott Church	1605 N 550 E, Angola, IN 46703	Church
South Scott Church	3505 E Metz Road, Angola, IN 46703	Church
Lake Missionary Church	9030W US Highway 20, Angola, IN 46703	Church
Zion Missionary Church	205 N Ray Road, Fremont, IN 46737	Church
ChristLife Tabernacle	1455 S Old 27, Angola, IN 46703	Church
Prebysterian Chapel of the Lakes	2955 W Orland Road, Angola, IN 46703	Church
Angola Seventh Day Adventist	314 Williams Street, Angola, IN 46703	Church
Lake James Christian Assembly	1880 W 275 N, Angola, IN 46703	Church
Lake Luther Bible Camp	5215 N 450 W, Angola, IN 46703	Church
Salem Center Presbyterian	3935 S 800 W, Hudson, IN 46747	Church
Christian Campus House Fellowship	400 College Street, Angola, IN 46703	Church
Stroh Church of Christ	4540 S 1100 W, Hudson, IN 46747	Church
Ashley Church of God	101 Gonser Avenue, Ashley, IN 46705	Church
Hudson United Brethern Church	516 N Main Street, Hudson, IN 46747	Church
Helmer United Methodist Church	7530 S Street Rd 327, Helmer, IN 46747	Church
Faith Harvest Christian Church	200, Angola, IN 46703	Church
Hampton Inn	271 W State Road 120 , Fremont, IN	Evacuation Facilities
Comfort Inn	251 W State Road 120 , Fremont, IN	Evacuation Facilities
Holiday Inn Express	6245 N Old 27, Fremont, IN	Evacuation Facilities
Ramada Inn	3855 N State Road 127, Angola, IN	Evacuation Facilities
Budgeteer Motor Inn	3980 N State Road 127, Angola, IN	Evacuation Facilities
University Inn	1210 W Maumee Street, Angola, IN	Evacuation Facilities
Sycamore Hill B & B	1245 S Golden Lake Road, Angola, IN	Evacuation Facilities
Redwood Inn	6675 N Old 27, Fremont, IN	Evacuation Facilities

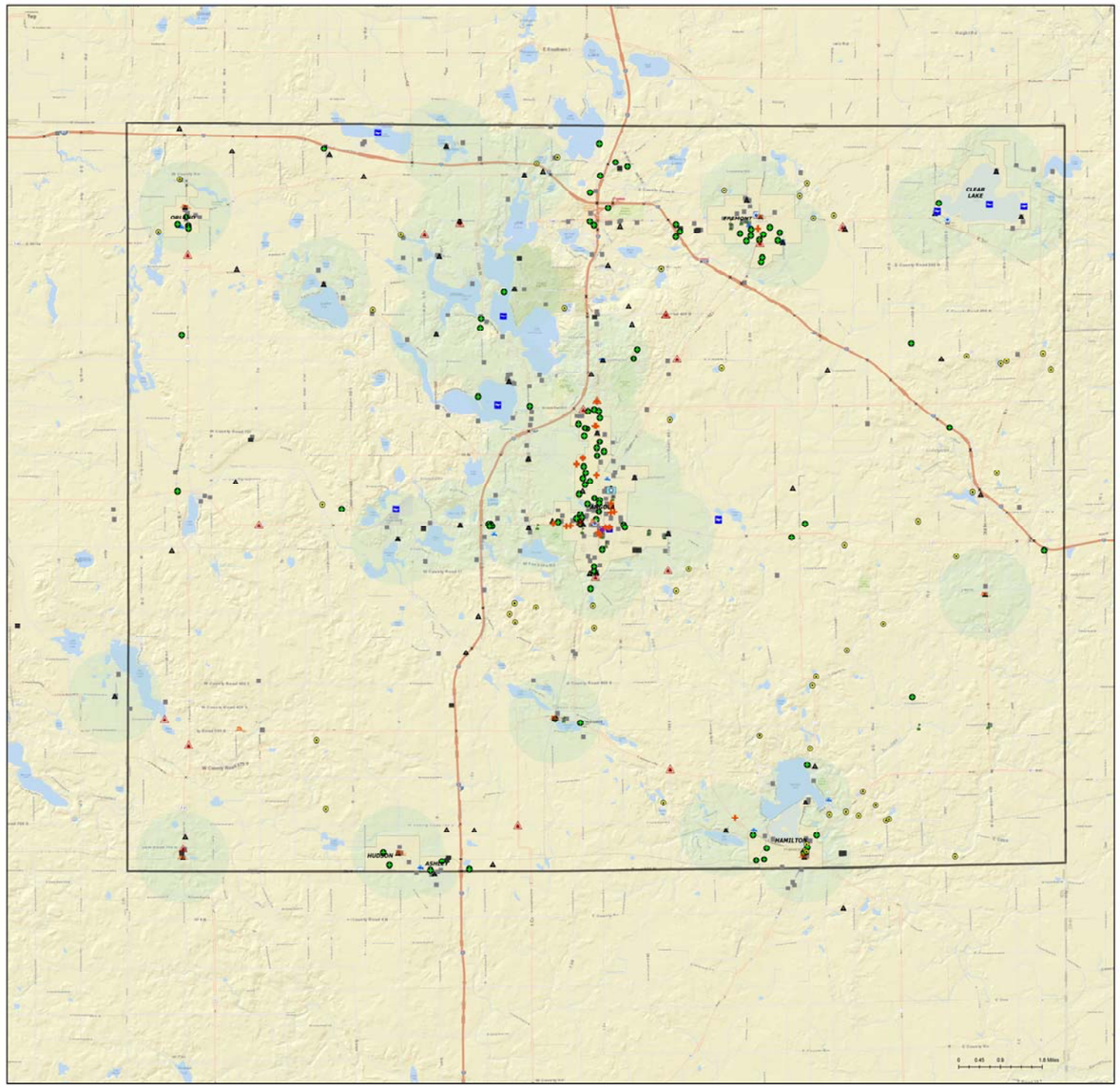
Name	Location	Facility Type
Travelers Inn	35 W State Road 120, Fremont, IN	Evacuation Facilities
Potawatomi Inn	1035 W State Road 127, Angola, IN	Evacuation Facilities
Wild Wings Buffalo Pres.	6975 N Ray Road, Fremont, IN	Evacuation Facilities
Fox Lake Apartments	1045 S W Fox LK Rd, Angola, IN	Evacuation Facilities
Crosswait Estates Apartments	199 Northcrest Drive, Angola, IN	Evacuation Facilities
Lakeland Apartments	201 W Fox Lake Road, Angola, IN	Evacuation Facilities
Northcrest Apartments	810 Regency Court, Angola, IN	Evacuation Facilities
Village Green Apartments	1700 N Wayne Street, Angola, IN	Evacuation Facilities
Cold Springs Resort	260 LN 120 Hamilton , Hamilton Lake, IN	Evacuation Facilities
Fremont Housing Authority	200 W Spring Street, Fremont, IN	Evacuation Facilities
Orland Manor Apartments	6060 N Market Street, Orland, IN	Evacuation Facilities
St Charles Apartments	717 W North Street, Fremont, IN	Evacuation Facilities
Terrace Ridge Apartments	300 N Terrace Boulevard, Angola, IN	Evacuation Facilities
Williams Street Apartments	520 Williams Street, Angola, IN	Evacuation Facilities
Elliott Manor Apartments	617 Williams Street, Angola, IN	Evacuation Facilities
Washington Street Apartments	408 Washington Street, Angola, IN	Evacuation Facilities
North Lake Manor	300 Bittersweet Court, Angola, IN	Evacuation Facilities
Top of the Hill Apartments	600-632 Cross Street, Angola, IN	Evacuation Facilities
Park Place Apartments	606 N Washington Street, Angola, IN	Evacuation Facilities
Rise Apartments	615 N Washington Street, Angola, IN	Evacuation Facilities
Ingledue Villa Apartments	701 Thunder Drive, Angola, IN	Evacuation Facilities
Ingledue Hns. Villa Apartments	408 Oakwood Street, Angola, IN	Evacuation Facilities
Trine Villa North Apts.	418 Oakwood Street, Angola, IN	Evacuation Facilities
Trine Villa South Apartments	422 Oakwood Street, Angola, IN	Evacuation Facilities
Moyer Apartments	1011 Carl Elliott Drive, Angola, IN	Evacuation Facilities
Wilson Apartments	1022 Carl Elliott Drive, Angola, IN	Evacuation Facilities
Seculoff Apartments	1002 Carl Elliott Drive, Angola, IN	Evacuation Facilities
Bukoff Apartments.	1114 Carl Elliott Drive, Angola, IN	Evacuation Facilities
Moss Street Apartments	810 Moss Street, Angola, IN	Evacuation Facilities
University Center Apartments	713 Saginaw Street, Angola, IN	Evacuation Facilities
Meadow View Apartments	1689 E Maumee Street, Angola, IN	Evacuation Facilities
Fabiani Hall	800 Thunder Drive, Angola, IN	Evacuation Facilities
Platt Hall	900 Thunder Drive, Angola, IN	Evacuation Facilities
Cameron Hall	902 Thunder Drive, Angola, IN	Evacuation Facilities
Conrad Hall	315 Summit Street, Angola, IN	Evacuation Facilities
Alwood Hall	317 Summit Street, Angola, IN	Evacuation Facilities
Widman Hall	800 Thunder Drive, Angola, IN	Evacuation Facilities
Steuben County Offices	317 S Wayne Street, Angola, IN 46703	Government Office
Hudson Clerk-Treasurer	115 W Parsonage, Hudson, IN 46747	Government Office
Angola City Offices	210 N Public Square, Angola, IN 46703	Government Office
Pokagon State Park	450 Lane 100 Lake James, Angola, IN 46703	Government Office

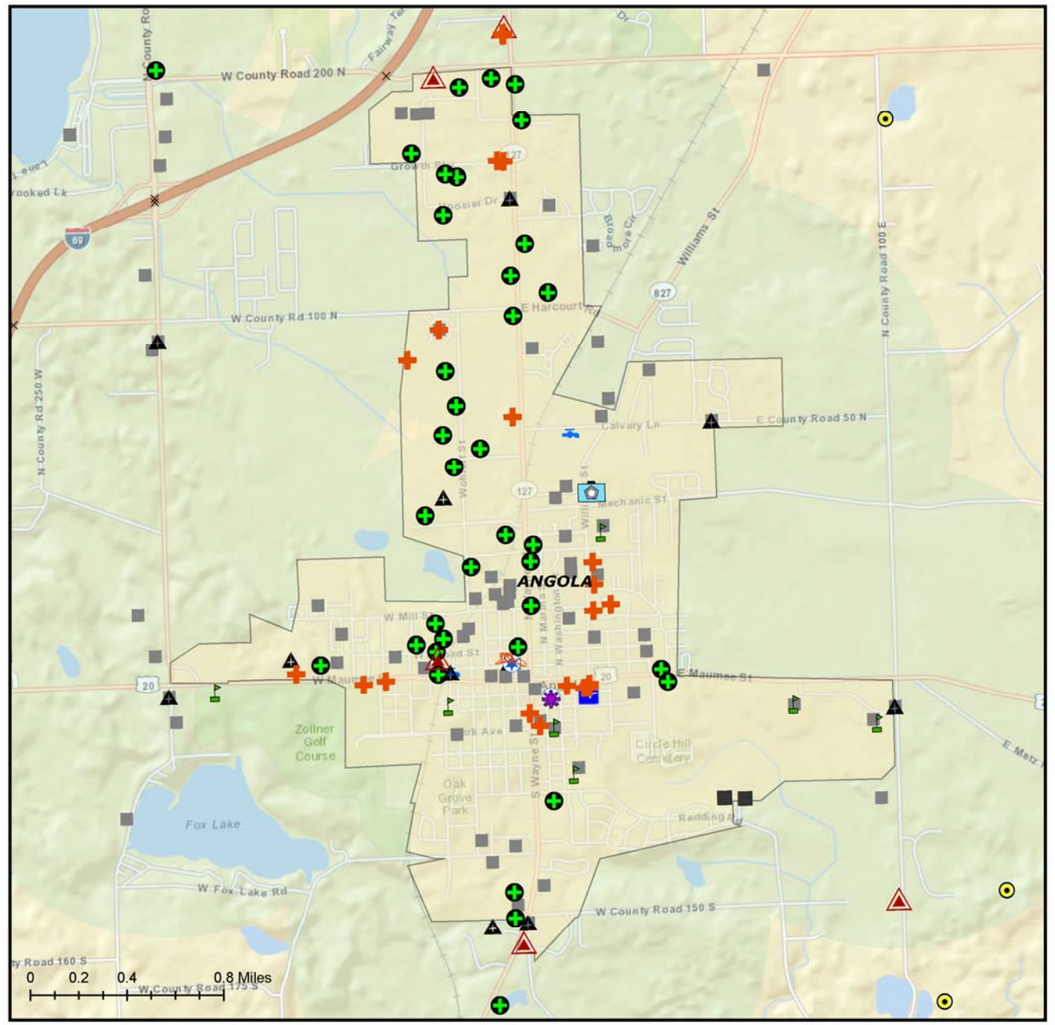
Name	Location	Facility Type
Fremont Town Office & Court	205 N Tollford Street, Fremont, IN 46737	Government Office
Joyce Public Library	9490 W State Road 120, Orland, IN 46776	Government Office
State Fish Hatchery	Orland, IN	Government Office
Steuben County Highway Barn	Angola, IN	Government Office
Angola Parks Department	299 S John Street, Angola, IN 46703	Government Office
Angola Water Department	300 W Mill Street, Angola, IN 46703	Government Office
Angola Street Department	210 W Mill Street, Angola, IN 46703	Government Office
Steuben County EMS North Building	20 E State Roa 120, Fremont, IN 46737	Government Office
INDOT Service Building	625 N State Road 327, Orland, IN 46776	Government Office
Steuben County Court House	55 S Public Square, Angola, IN 46703	Government Office
Orland Community Building	9535 W State Road 120, Orland, IN 46776	Government Office
INDOT Office	315 S Gerald Lett Ave, Angola, IN 46703	Government Office
Steuben County Park Office	100 LN 101 Crooked Lake, Angola, IN 46703	Government Office
Fremont Street Department	401 W Albion Street, Fremont, IN 46737	Government Office
Hamilton Town Offices	900 S Wayne Street, Hamilton, IN 46742	Government Office
Hamilton Street Department	3500 E Railroad Street, Hamilton, IN 46742	Government Office
Steuben County Humane Shelter	1700 N 200 W, Angola, IN 46703	Government Office
Steuben County Work Release (VACANT)	1600 N 200 W, Angola, IN 46703	Government Office
Clear Lake Office	111 Gecowets Drive, Fremont, IN 46737	Government Office
Orland Town Office	6305 N State Road 327, Orland, IN 46776	Government Office
Fremont Public Library	1004 W Toledo Street, Fremont, IN 46737	Government Office
Fremont Sewer Plant	1960 W Swager Drive, FREMONT, IN 46737	Government Office
Hamilton Lake Conservancy District	4810 E 775 S, Hamilton, IN 46742	Government Office
Hamilton Lake Conservancy Office	7405 S Wayne Street, Hamilton, IN 46742	Government Office
Town of Hamilton Water Department	100 E Railroad Street, Hamilton, IN 46742	Government Office
INDOT Toll Road Maintenance	7565 N 650 W, Orland, IN 46776	Government Office
Steuben Lakes Regional Waste District	8119 W 150 N, Angola, IN 46703	Government Office
Lime-O-Sol	Ashley, IN	Hazmat Non Steuben Facility
		Hazmat Non Steuben Facility
Big Turkey Lake Marina	3805 S 1175 E, Lagrange, IN	Hazmat Non Steuben Facility
		Livestock
Leisure Lakes M.H. Park	Angola , IN	Mobile Home and Campground
Golden Acres M.H. Park	Angola, IN	Mobile Home and Campground
Cap's Mobile Home Park	Angola, IN	Mobile Home and Campground
Breeze Wood M.H. Park	Angola, IN	Mobile Home and Campground
Oak Street M.H. Park	Angola, IN	Mobile Home and Campground
Mobile Homes	Angola, IN	Mobile Home and Campground

Name	Location	Facility Type
Mobile Homes	Angola, IN	Mobile Home and Campground
Mobile Homes	Angola, IN	Mobile Home and Campground
Shady Acres M.H. Park	Angola, IN	Mobile Home and Campground
Ju-Le-An Estates M.H. Park	Angola, IN	Mobile Home and Campground
Ju-Le-An Estates Sub. M.H.'s	Angola, IN	Mobile Home and Campground
Mobile Homes	Angola, IN	Mobile Home and Campground
Angola Gardens M.H. Park	Angola, IN	Mobile Home and Campground
Clarks Landing M. H. Park	Hamilton, IN	Mobile Home and Campground
Circle Park M.H. Park	Hamilton, IN	Mobile Home and Campground
Russel's Point M.H. Park	Hamilton, IN	Mobile Home and Campground
Hamilton Shores M. H. Park	Hamilton, IN	Mobile Home and Campground
Sheehan's M.H. Park	Hamilton, IN	Mobile Home and Campground
Tritch's (Or-An) Park West	Pleasant Lake, IN	Mobile Home and Campground
Tritch's (Or-An) Park East	Pleasant Lake, IN	Mobile Home and Campground
Hudson Estates	Hudson, IN	Mobile Home and Campground
Blakeley Mobile Home /Camp	Hudson, IN	Mobile Home and Campground
Mobile Homes	Angola, IN	Mobile Home and Campground
Circle B Campground	Angola, IN	Mobile Home and Campground
A-OK West Otter Lake Campground	Angola, IN	Mobile Home and Campground
Yogi Bears Jellystone Park	Orland, IN	Mobile Home and Campground
EZ Camp	Fremont, IN	Mobile Home and Campground
Manapogo Park	Orland, IN	Mobile Home and Campground
Hi-Vue Campground	Angola, IN	Mobile Home and Campground
Circle Park	Hamilton, IN	Mobile Home and Campground
Lake James Family Resort	Angola, IN	Mobile Home and Campground
Green Hills Campground	Angola, IN	Mobile Home and Campground
Happy Acres Campground	Angola, IN	Mobile Home and Campground
Camp Sack-IN	Angola, IN	Mobile Home and Campground
Buck Lake Ranch Inc	Angola, IN	Mobile Home and Campground
Fish Lake Family Resort	Fremont , IN	Mobile Home and Campground
Walden Woods Community Association	Orland, IN	Mobile Home and Campground
Silver Lake Mobile Home Park	Angola, IN	Mobile Home and Campground
Steuben County Park	Angola, IN	Mobile Home and Campground
Long Lake, Clear Lake Mobile Home Park	Fremont, IN	Mobile Home and Campground
Barrys Mobile Home Park	Fremont, IN	Mobile Home and Campground
Sabin Acres Mobile Home Park	Fremont, IN	Mobile Home and Campground
Lakewood Mobile Home Park	Fremont, IN	Mobile Home and Campground
Pleasant View Mobile Home Court	Fremont, IN	Mobile Home and Campground
Snow Lake Park	Fremont, IN	Mobile Home and Campground
Mobile-Rama Mobile Home Park	Fremont, IN	Mobile Home and Campground
Cal-Village Park	Fremont, IN	Mobile Home and Campground
Jimmerson Shores Cooperative	Angola, IN	Mobile Home and Campground
Bledsoe's Trailer Park	Angola, IN	Mobile Home and Campground
Waggoner's Mobile Home Park	Fremont, IN	Mobile Home and Campground
Hill Top Mobile Home Park	Angola, IN	Mobile Home and Campground
Gill Crest Mobile Home Park	Orland, IN	Mobile Home and Campground
West Otter Court	Angola, IN	Mobile Home and Campground
Golden Cove Mobile Home Park	Angola, IN	Mobile Home and Campground
Sandy Hill Mobile Home Park	Angola, IN	Mobile Home and Campground
Coachlight Mobile Home Park	Angola, IN	Mobile Home and Campground
Linda Ann Mobile Home Court	Angola, IN	Mobile Home and Campground
Hollywood Landing	Angola, IN	Mobile Home and Campground
Frog Heaven Mobile Home Court	Angola, IN	Mobile Home and Campground
Linda Ann No 1 Subdivision	Angola, IN	Mobile Home and Campground
North Side Estates	Fremont, IN	Mobile Home and Campground

Name	Location	Facility Type
Holiday Woods Subdivision	Angola, IN	Mobile Home and Campground
Fishing Hole Campground	Fremont, IN	Mobile Home and Campground
Orland American Legion	6215 N State Road 327, Orland, IN	Polling Place
Potawatomi Inn	1035 W State Road 727, Angola, IN	Polling Place
Peace Lutheran Church	355 E State Road 120, Fremont, IN	Polling Place
Fremont Town Hall	205 N Tolford, Fremont, IN	Polling Place
Clear Lake Town Hall	5950 Gecowets Drive, Fremont, IN	Polling Place
Metz Church of Christ	1945 S 800 E, Angola, IN	Polling Place
Ryan Park Elementary	1111 S 100 E, Angola, IN	Polling Place
St. Anthony Catholic Church	700 W Maumee, Angola, IN	Polling Place
Pleasant View Church of Christ	200 W Fox Lake Road, Angola, IN	Polling Place
Lake James Christian Assembly	1880 W 275 N, Angola, IN	Polling Place
Presb. Chapel of the Lakes	2955 W Orland Road, Angola, IN	Polling Place
Lake Missionary Church	9030 W US Highway 20, Angola, IN	Polling Place
Salem Twp. Fire Dept.	8408 W 500 S, Hudson, IN	Polling Place
Pleasant LK Mennonite Church	5142 S Old 27, Pleasant Lake, IN	Polling Place
Hamilton United Methodist	7780 S Wayne Street, Hamilton, IN	Polling Place
Hendry Park Elementary	805 S Washington Street, Angola, IN	Emergency Shelter
Angola United Methodist Church	220 W Maumee Street, Angola, IN	Emergency Shelter
Hendry Park Elementary	805 S Washington Street, Angola, IN	Emergency Shelter
The Assembly of God	1405 Williams Street, Angola, IN	Emergency Shelter
YMCA of Steuben County	500 E Harcourt Road, Angola, IN	Emergency Shelter
First Congregational United Church of Christ	314 W Maumee, Angola, IN	Emergency Shelter
Prebysterian Chapel of the Lakes	2955 W Orland Road, Angola, IN	Emergency Shelter
St Anthony of Padua Catholic Church & Friary	700 W Maumee Street, Angola, IN	Emergency Shelter
Angola High School	350 S John McBride Avenue, Angola, IN	Emergency Shelter
Angola Middle School	1350 E Maumee Street, Angola, IN	Emergency Shelter
Ryan Park Elementary	1000 S John McBride Avenue, Angola, IN	Emergency Shelter
Carlin Park Elementary	800 Williams Street, Angola, IN	Emergency Shelter
Educational Opportunity Center	403 S Martha Street, Angola, IN	Emergency Shelter
Ashley Community Center	500 S Gonser, Ashley, IN	Emergency Shelter
Clear Lake Lutheran Church	270 Outer Drive Clear Lake, Fremont, IN	Emergency Shelter
Fremont Moose Lodge #2387	1665 E State Rd 120, Angola, IN	Emergency Shelter
Peace Lutheran Church	355 E State Rd 120, Fremont, IN	Emergency Shelter
Fremont Elementary School	501 W Toledo Street, Fremont, IN	Emergency Shelter
Fremont High School	701 W Toledo Street, Fremont, IN	Emergency Shelter
Fremont Middle School	811 W Renee Drive, Fremont, IN	Emergency Shelter
Prairie Heights Middle & Elementary School	395 S 1150 E, Lagrange, IN	Emergency Shelter
Prairie Heights High School	245 S 1150 E, Lagrange, IN	Emergency Shelter

Name	Location	Facility Type
Hamilton United Methodist Church	7780 S Wayne Street, Hamilton, IN	Emergency Shelter
Hamilton Elementary School	903 S Wayne Street, Hamilton, IN	Emergency Shelter
United Brethern Church	516 N Main Street, Hudson, IN	Emergency Shelter
Orland American Legion Post # 423	6215 N State Road 327, Orland, IN	Emergency Shelter
Orland United Methodist Church	6150 N State Road 327, Orland, IN	Emergency Shelter
Anthony Wayne Scout Reservation, Larson Lodge	2282 W 500 S, Pleasant Lake, IN	Emergency Shelter
Pleasant Lake Elementary	1205 W Main Street, Pleasant Lake, IN	Emergency Shelter
Stroh Church of Christ	4540 S 1100 W, Stroh, IN	Emergency Shelter
	Hamilton, IN	Water Tower Non Steuben
	Ashley, IN	Water Tower Non Steuben
Lagrange Sewer District (Turkey Lake)	9650 E 275 S , Lagrange, IN	Waste Water Treatment Plant Non Steuben



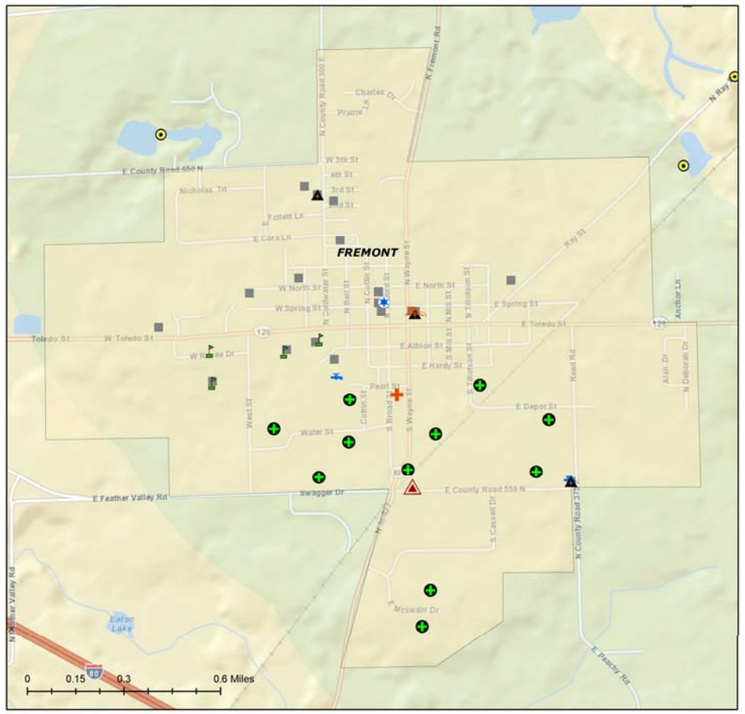


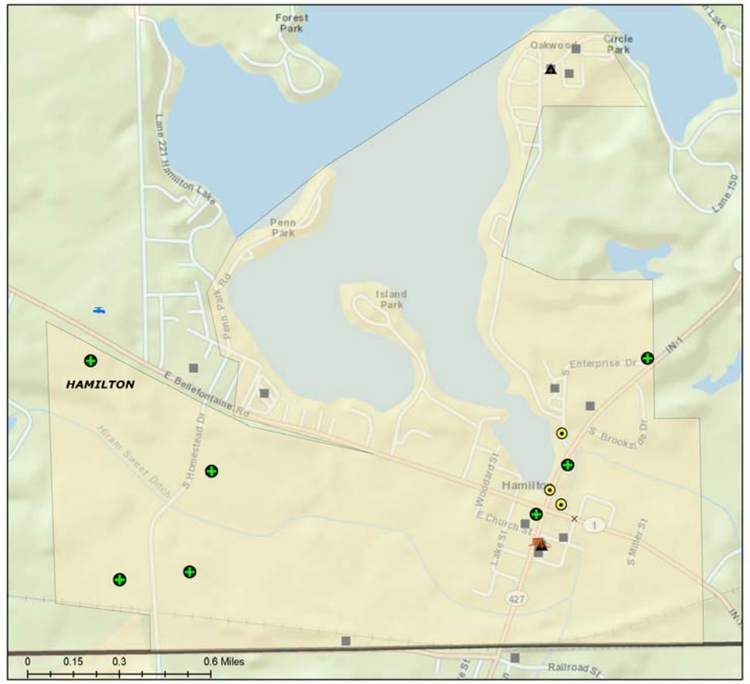
Legend

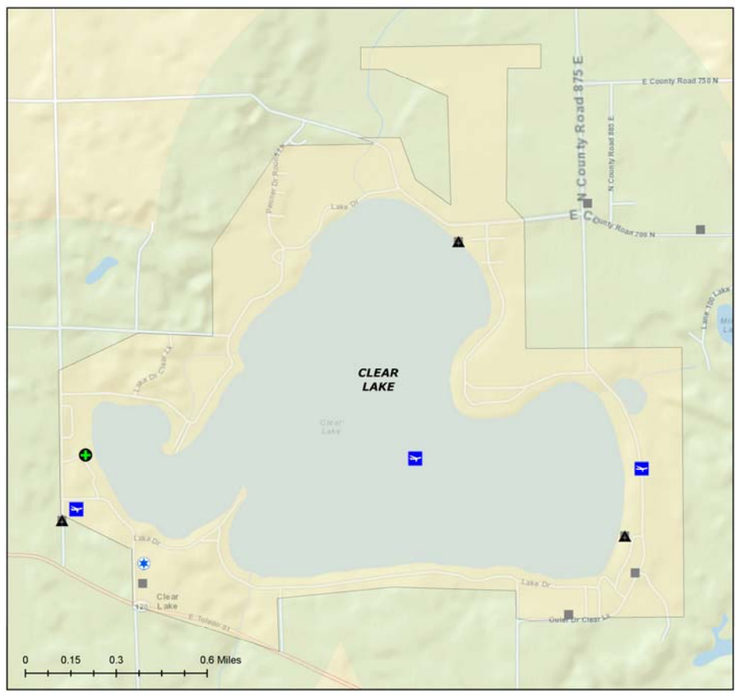
- Care Facility
- Emergency Operation Center
- Fire Station
- Police Station
- School
- Military Facility
- Airport
- Highway Bridge
- Communication Facility
- Dams
- Electric Power Facility
- Hazardous Material
- Wastewater Facility
- Potable Water Facility
- Community Assets
- Siren Coverage
- City
- County

N W E S

Data Sources: NOAA; IndianaMap; Esri


FREMONT
E County Road 650 N
E Feather Valley Rd
E County Road 550 N
N Fremont Rd
N Ray
Ray St
W Toledo St
E Toledo St
E Depot St
Water St
Swagger Dr
E Mcswain Dr
E Peachey Rd
Eaton Lake
0 0.15 0.3 0.6 Miles


HAMILTON
Forest Park
Oakwood
Circle Park
Penn Park
Island Park
E Bellefontaine Rd
Enterprise Dr
S Brookside Dr
S Homestead Dr
E Church St
S Miller St
Railroad St
IN-1
0 0.15 0.3 0.6 Miles


CLEAR LAKE
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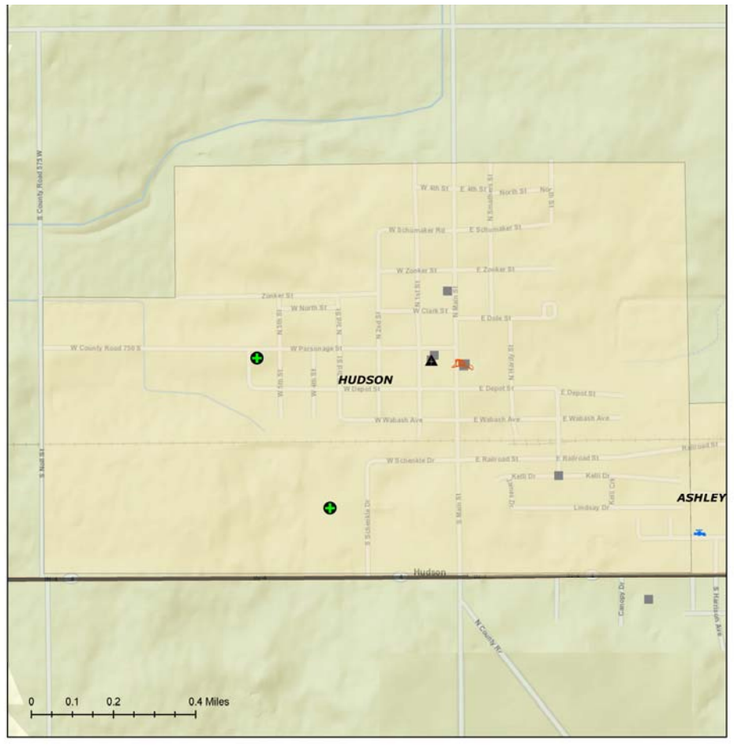
E County Road 750 N
E County Road 700 N
Lake Dr
Clear Lake
E Tolleston St
0 0.15 0.3 0.6 Miles


HUDSON
ASHLEY
W County Road 750 S
N County Road 575 W
W Schlumaker Rd
E Schlumaker St
W Zooker St
E Zooker St
W Clark St
E Dole St
W Parsonage St
E Depot St
W Wabash Ave
E Wabash Ave
E Railroad St
W Schenkle Dr
S Schenkle Dr
S Main St
Hudson
0 0.1 0.2 0.4 Miles

Appendix D: Adopting Resolutions

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, Steuben County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Steuben County participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Steuben County Commissioners hereby adopt the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____

County Commissioner Chairman

_____

County Commissioner

_____

County Commissioner

_____

Attested by: County Clerk

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Angola recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, City of Angola participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Angola hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____
City Mayor

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
Attested by: City Clerk

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Hamilton recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Hamilton participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Hamilton hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____
Town Council President

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Attested by: Town Clerk-Treasurer

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Clear Lake recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Clear Lake participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Clear Lake hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____
Town Council President

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Attested by: Town Clerk-Treasurer

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Orland recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Orland participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Orland hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____
Town Council President

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Town Council Member

_____
Attested by: Town Clerk-Treasurer

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Hudson recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Hudson participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Hudson hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

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Town Council President

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Town Council Member

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Town Council Member

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Town Council Member

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Town Council Member

_____
Attested by: Town Clerk-Treasurer

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Ashley recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Ashley participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Ashley hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

_____
Town Council President

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Town Council Member

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Town Council Member

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Town Council Member

_____
Town Council Member

_____
Attested by: Town Clerk-Treasurer

Resolution #_____

ADOPTING THE STEUBEN COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Town of Fremont recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Town of Fremont participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Fremont hereby adopts the Steuben County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Steuben County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Indiana Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2015.

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Town Council President

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Town Council Member

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Town Council Member

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Town Council Member

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Town Council Member

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Attested by: Town Clerk-Treasurer