

Forest County is located in northwestern Pennsylvania. The County has the lowest population of any county in the Commonwealth. With the lowest population density in the State, natural events tend to cause major disruptions in the lives of residents living in the County. With only a few major roads crossing the County, rural dirt and gravel roads are important transportation routes for residents. Natural weather events tend to impact the ability of residents to travel freely and so preparation for extreme weather events or natural disaster remains the most logical reaction to hazard mitigation. Many areas of the County are remote and isolated so neighbors tend to watch out for each other. Self-reliance and self-dependency are ingrained characteristics of long time residents of Forest County.

Extreme weather events that have historically impacted Forest County include winter blizzard conditions, flood, tornado and extreme occurrences. The building of the Kinzua Dam and the East Branch Dam has greatly aided major river flood events on the Allegheny and Clarion Rivers. Flooding in recent history tends to be localized in nature, affecting single stream watersheds where geographic confinement of watercourses concentrates water flow within small valleys. Windshear and high wind also affects the County in rather confined and localized areas. High snowfall can affect major areas of the County during winter blizzard occurrences. Lightning strikes occur during thunderstorms but rarely cause forest fires of any size or consequence tending to affect single building structure or single trees only.

Spring in Forest County brings an event locally known as ice-out, when the ice in streams and rivers has softened sufficiently to begin moving downstream. At times dams can form from the ice flows causing localized flooding for short duration's of time.

Hazard Mitigation is realizing what condition or action is a hazard, how the hazard affects us, how we could prevent or minimize the potential impact and doing what we can to be healthy, safe, and prosper in the future. It is what we have done, individually or in concert as a community. Our risks change with time and our efforts to be safe and secure need to keep up.

The future of Forest County depends upon its ability to change as external forces propel those changes, and the essence of the County depends upon its ability to retain its character and maintain its rural lifestyle.

Forest County All Hazard Mitigation Plan

Chapter 1 – Introduction

I. Purpose of Plan

The purpose of this All Hazard Mitigation Plan is to fulfill local Hazard Mitigation Plan requirements. The All Hazard Mitigation Plan will identify hazards, institute community goals and objectives, and select mitigation strategies/opportunities that are appropriate for Forest County, Pennsylvania.

The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 requires that local governments (communities/counties), as a condition of receiving federal disaster mitigation funds, have a mitigation plan that describes the process for identifying hazards, creating a risk assessment and vulnerability analysis, identifying and prioritizing mitigation strategies, and developing an implementation schedule for the County and each of the municipalities.

Congress authorized the establishment of a Federal grant program to provide financial assistance to States and communities for flood mitigation planning and activities. The Federal Emergency Management Agency (FEMA) has designated this Flood Mitigation Assistance (FMA).

The main purpose of this All Hazard Mitigation Plan is to implement the mitigation strategies, which Forest County develops, to address the hazard and flood problems in the County.

The Forest County All Hazard Mitigation plan is an umbrella plan that encompasses the input of the local municipalities. Mitigation begins at the local level, in communities, boroughs, and cities where impacts of damaging events are first felt. Local mitigation planning will focus community attention on development issues prior to a disaster, ensuring participation in a more proactive sense. Through participation in the hazard mitigation planning process, local entities will possess the capability to identify, take advantage of, and implement mitigation strategies. Active hazard mitigation in a community also contributes to public safety and welfare, economic development, and environmental protection.

II. Methodology

The methodology used for the development and updating of the Forest County All Hazard Mitigation Plan, consisted of the following task:

1. Coordination with the Northwest Pennsylvania Regional Planning and Development Commission (Northwest Commission) and other agencies/organizations
2. Municipal/Public involvement
3. Creating a Hazard Mitigation Team
4. Hazard area inventory
5. Problem identification
6. Hazard Mitigation Team review and analysis of possible mitigation activities
7. Local adoption after public comment
8. Periodic review and update

This All Hazard Mitigation plan contains a list of potential hazard mitigation opportunities (projects) and it also give an explanation of how each opportunities relates to the overall mitigation strategy outlined in the plan.

This plan summarizes the activities outlined above to evaluate the effects of floods, severe snow events, windstorms (tornadoes, straight line, etc.) and other hazards in Forest County and proposes mitigation activities.

The All Hazard Mitigation Plan will be evaluated and updated every five years. ***The plan will also be updated when a disaster occurs that significantly affects Forest County whether or not it receives a Presidential Declaration (???)***. The update will be completed no later than 12 months after the date the disaster occurred.

Routine maintenance of the plan will include adding projects, as new funding sources become available or taking projects off the list when they are accomplished.

III. Organization of All Hazard Mitigation Plan

The plan is organized as follows:

Chapter 1

Chapter 1 includes sections on the purpose and goals of the plan, methodology used in creating the plan, organization of the plan and a general background on Forest County.

Chapter 2

Chapter 2 identifies known hazards in Forest County (flooding, windstorms (tornados, thunderstorms, etc.), severe winter storms, earthquake and landslide potential, manmade and technological hazards, etc. and the probability and vulnerability of each event. Chapter 2 also addressed historical hazard events that have occurred in Forest County.

Chapter 3

Chapter 3 identifies the capabilities that Forest County currently performs and what Forest County can do to reduce the risks its communities face from hazards.

Chapter 4

Chapter 4 lists the potential Hazard Mitigation Opportunities/Strategies that Forest County would like to implement to mitigate against their identified hazards.

Chapter 5

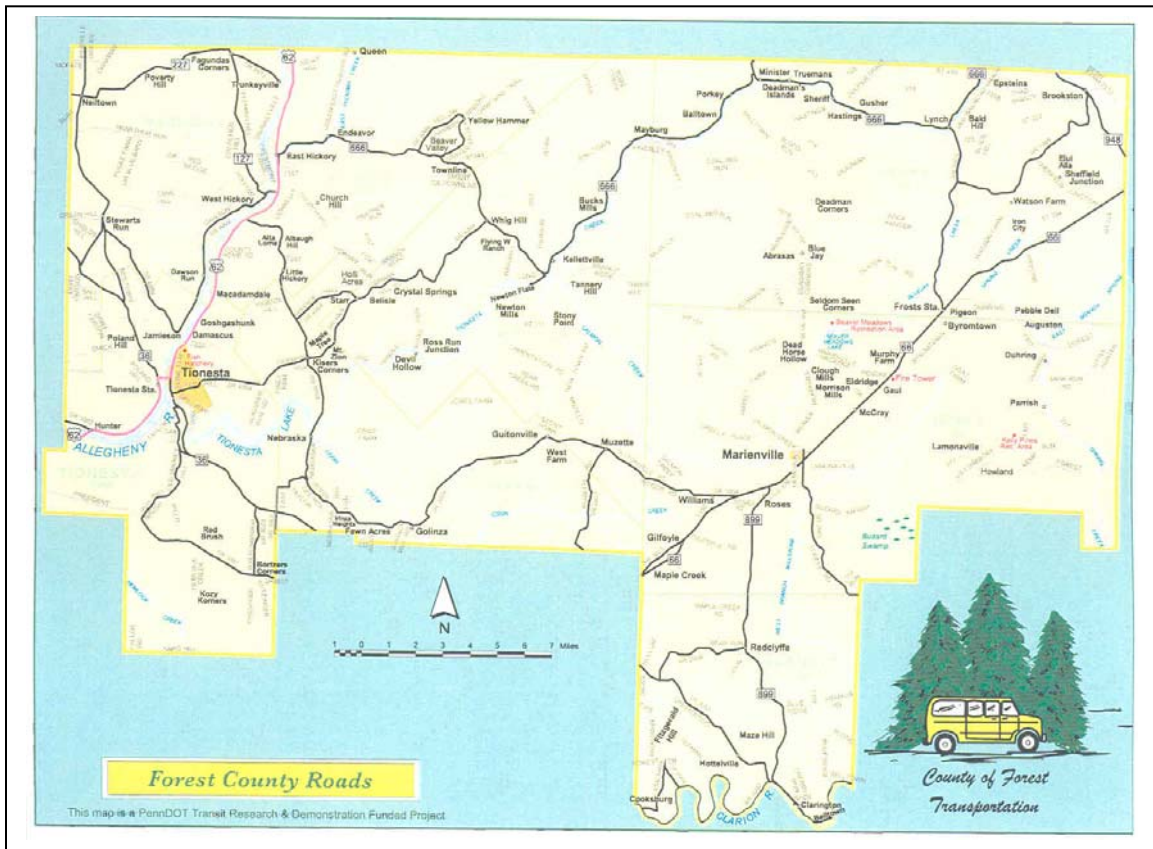
Chapter 5 outlines the municipal and public involvement in the plan. Chapter 5 will also document the planning process of the Hazard Mitigation Team (including the process for prioritizing hazard mitigation projects (opportunities/strategies) and how Forest County will update the plan in the future).

Chapter 6

Chapter 6 addresses implementation procedures and a process for updating the plan.

IV. Forest County - Background

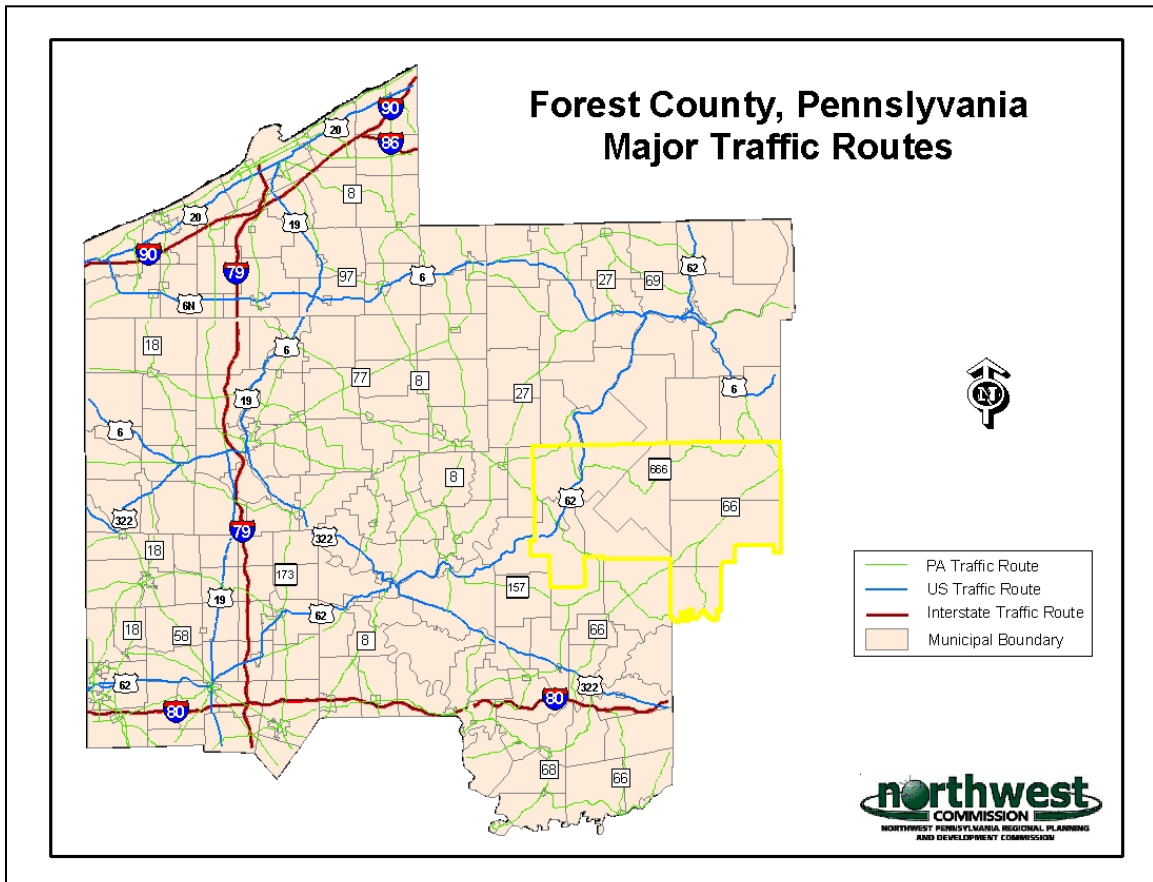
According to the Penn State Cooperative Extension Website (www.extension.psu.edu) Forest County consists geologically of a region of the Allegheny Plateau drained by the Allegheny and Clarion Rivers, Tionesta Creek and smaller tributaries (Maple Creek, Spring Creek, Salmon Creek, Little Tionesta Creek, East Hickory Creek, Otter Creek, West Hickory Creek, Minister Creek) of these rivers. Tionesta Dam impounds the largest reservoir lake in the county. The Tionesta Dam is an U.S. Army Corps of Engineers project created with a purpose of flood control. The Tionesta controls all but 2 square miles of a 478 square mile watershed. Where not cut by the narrow valleys of these rivers, the land is rolling. Forest County has public forestlands in various categories including portions of Allegheny National Forest, Cook Forest State Park, State Game Lands 24, and Cornplanter State Forest. Additional lands are owned by the U.S. Army Corps of Engineers. About 45% of the land area is publicly owned.



Forest County is one of two Pennsylvania counties with no traffic lights (the other is Perry County). The County also has no hospital, no radio or television station, no local daily paper, no three- or four-lane highways and no commercial airports. However it does a weekly newspaper, and a large number of scenic highways and byways.

Other than the county seat in Tionesta, population centers include Marienville, East and West Hickory, Endeavor, Neilltown, Clarington, Mayburg, Lynch and Kelletville.

There are 206.5 miles of state highways, 74 state bridges and 13 locally owned bridges in Forest County. The major transportation routes in Forest County are Routes 62, 36, 66, 666, and 948.



Most of the public lands in the county, and much of the private lands, are in forested woodlands. Additional acreage is in abandoned or semi-managed farmlands. Commercial agriculture acreage comprises a relatively small part of the county. Most of the active farms are located in the southeastern part of the county, and concentrate on dairy and forage production.

The county was formed in 1848, and the seat of government is situated in Tionesta, the only borough in the County. There are eight townships, of which, five are comprised primarily of the Allegheny National Forest. The main industries are forest production and services, often related to tourism. Forest County is one of Pennsylvania's seven completely rural counties. Forest County has a land area of 428 square miles and the smallest population in the State, with estimates of 4,946 (2000 census). The 1990 census found more residences than residents. The 1990 census reported 1908 occupied housing units, and 6,537 "vacant" units. These are mainly seasonal residences (vacation cottages,

hunting and fishing camps) that are found in clusters in several parts of the county. Nearly all of these were "for seasonal, recreational, or occasional use."

Emergency services are provided by three fire departments and two ambulance services in the County. There are no full-time policemen in the County. Primarily the County sheriff's department and the Pennsylvania State Police provide Law enforcement.

Chapter 2 - County Hazard Identification & Vulnerability Analysis

The process of hazard identification is to identify each of the hazards that can occur in Forest County. The hazard identification process was based on historical data that was gathered from a variety of sources (County archives, historical societies, Internet sites, Pennsylvania Emergency Management Agency (PEMA) publications, and the National Weather Service). Forest County has prepared as part of their Emergency Operations Plan, a Hazard Vulnerability Analysis (HVA). The HVA and other documents were utilized to show what hazards are or are not a threat to Forest County and its municipalities. Forest County has prioritized the hazards that affect their county and has developed mitigation opportunities/strategies to deal with these hazards.

Gathering data on past natural disasters that affected Forest County will provide a more thorough understanding of what hazards Forest County is susceptible to. Paying attention to past occurrences of natural disasters proves very informative due to the fact that history has a tendency of repeating itself. By noting the hazards of the past, the communities in Forest County will be able to better understand and prepare for future natural disasters.

I. Hazard Identification & historical events

A. Natural Hazards

Floods

Flooding is normally the result of a larger event such as a thunderstorm, rapid snowmelt, and/or ice jam. Flooding is caused by excessive precipitation and can be generally considered in three categories: flash floods, ice jam floods, and general floods.

Flash floods can occur within several seconds to several hours, with little warning. Flash floods can be deadly because they produce rapid rises in water levels and have devastating flow velocities. Several factors can contribute to flash flooding. Among these are rainfall intensity, rainfall duration, surface conditions, and topography and slope of the receiving basin. Urban areas are

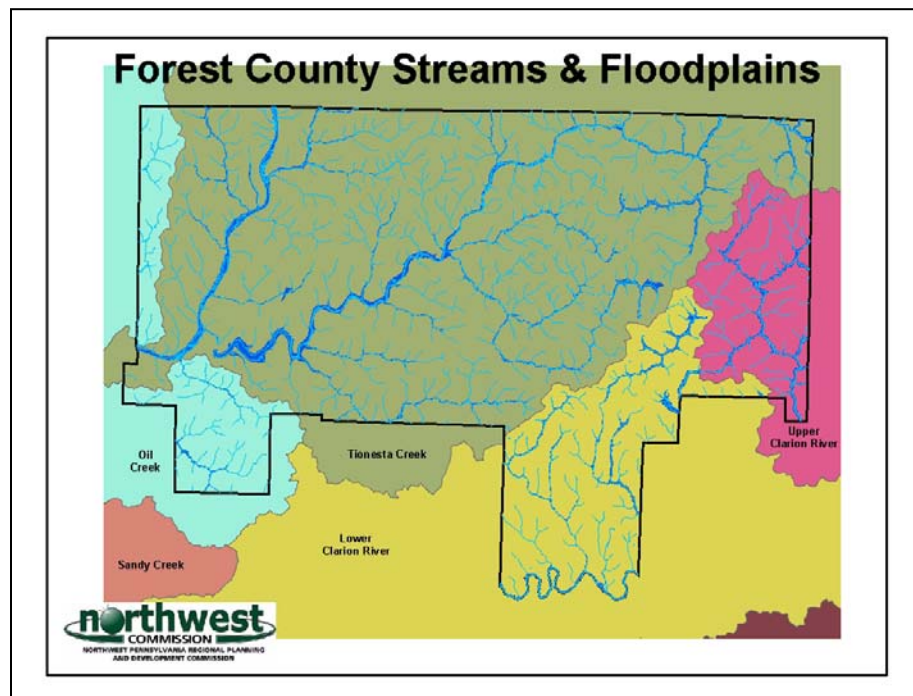
susceptible to flash floods because a high percentage of the surface area is composed of impervious streets, roofs, and parking lots where runoff occurs very rapidly.

Ice-jam floods occur on waterways that are totally or partially frozen. A rise in stream stage will break up a totally frozen river and create ice flows that can pile up on channel obstructions such as shallow riffles, log jams, or bridge piers. The jammed ice creates a dam across the channel over which the water and ice mixture continues to flow, allowing for more jamming to occur.

Backwater upstream from the ice dam can rise rapidly and overflow the channel banks. Flooding moves downstream when the ice dam fails, and the water stored behind the dam is released. At this time the flood takes on the characteristics of a flash flood, with the added danger of ice flows that, when driven by the energy of the flood wave, can inflict serious damage on structures. An added danger of being caught in an ice-jam flood is hypothermia, which can quickly kill.

General floods are caused by precipitation over a longer time period and over a given river/stream basin.

A combination of river basin physiography, local thunderstorm movements, soil moisture conditions, and the degree of vegetative clearing determine the severity of a flooding event.



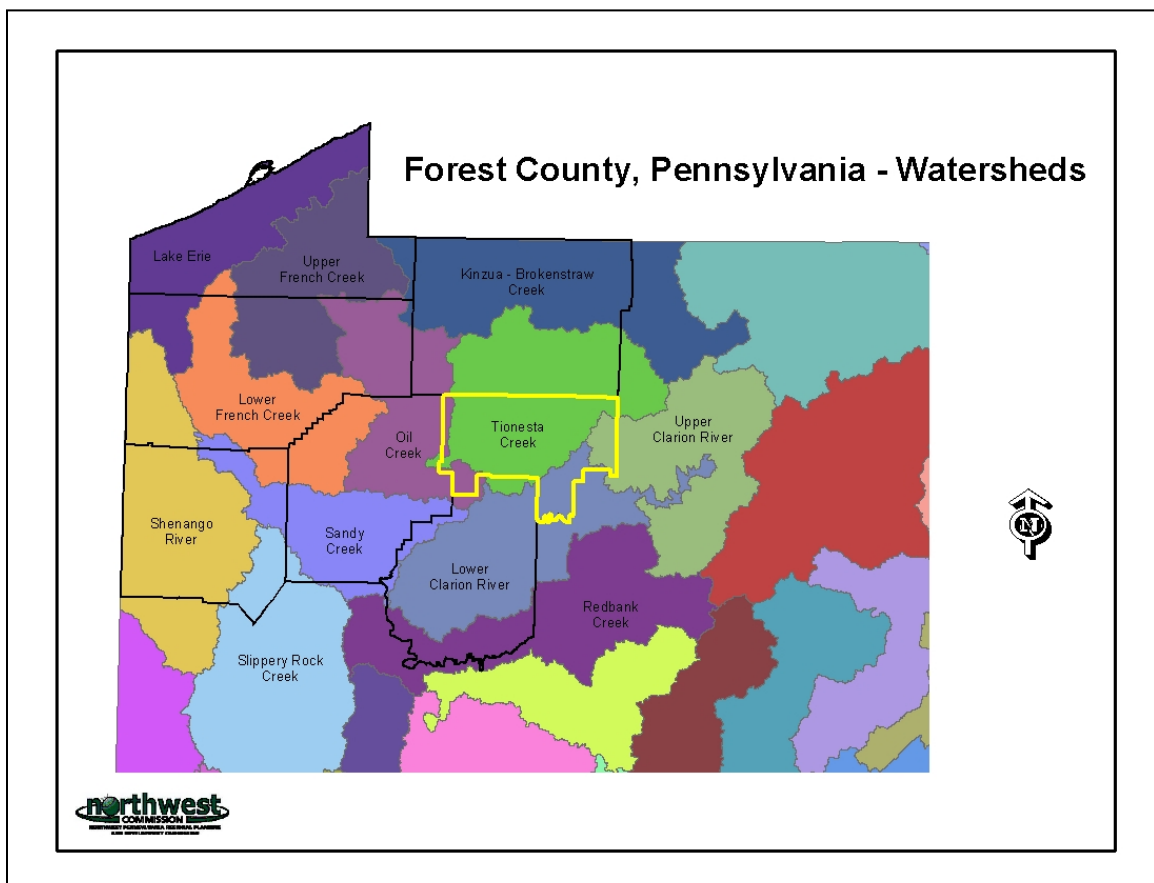
Flooding is typically most severe in areas of the floodplain immediately adjacent to major streams and rivers.

Flooding can be as frequent as the occurrence of a spring rain or summer thunderstorm. The amount of precipitation produced by storm events determines the type of flooding. Flash floods, which typically occur more frequently than general floods, occur along small streams and creeks of the type that are widely present throughout northwest Pennsylvania.

The undermining or washing out of roads is typically associated with flash floods. River flooding occurs less frequently and as the result of much larger storm events such as hurricanes. These larger storm events occur in northwest Pennsylvania most often in the late spring and summer.

Both flash flooding and longer-term general flooding can cause massive damage and destruction to the structures located in these floodplains. Many individuals throughout northwestern Pennsylvania could potentially be left homeless and many businesses, located primarily within the incorporated municipalities, could be destroyed resulting in a reduction in economic activity, an increase in unemployment, and lower personal incomes.

All the municipalities in Forest County have flood prone areas. The streams prone to flooding include: East Hickory Creek, Prather Run, Tionesta Creek, and the Allegheny River. The main flood season is usually December through April.



The Northwest Commission created a set of aerial photos showing the structures (residential, commercial, industrial, etc.) in the 100-year floodplain for the Forest County Hazard Mitigation Team. This list is a theoretical list of structures that

could be damaged by a flooding event. The Forest County Hazard Mitigation Team knows that this list is broad in nature and could derive a potential dollar value if the County had a developed GIS system. The Forest County Hazard Mitigation Team realizes that analyzing this list is important and will strive to have a more developed GIS system and list of structure (searchable by type, i.e. residential, commercial, etc.) by the time the next update occurs.

(Doug, check the above paragraph!!!)

For further information on flooding in Forest County and its impacts, reference the *Flood Plain Information Allegheny River* (which was prepared by the U.S. Army Corps of Engineers, Pittsburgh District, December, 1974).

Historic Flooding – Forest County

- March 26&27, 1913: Flooding in Tionesta
- February 23, 1945: Ice Gorge at East Hickory cause flood stage at West Hickory to be 17.5 feet.
- April 6, 1947: Flood stage at West Hickory at 16.0 feet.
- March 22, 1948: East Hickory flooding; traffic was halted along Route 666 due to high water covering the roadway. Route 36 in Tionesta was subject to one-way traffic due to partial road flooding.
- March 8, 1956: Flooding in East Hickory cause flood stage at 17.2 feet. No accidents or injuries. Nebraska bridge on Tionesta Creek was under 39 feet of water.
- January 22, 1959: Flood stage at West Hickory at 15.5 feet.
- January 25, 1964: Flood stage 17.8 feet at West Hickory
- August, 1972: major flooding in Forest County



February 1945 flooding as result of ice gorge at East Hickory. (Photo from *Flood Plain Information Allegheny River*)

Tornados

Many times severe storms, such as thunderstorms, can produce smaller, more localized storms. Tornadoes, typically, the by-product of a larger storm, are violently rotating columns of air that come in contact with the ground. Tornadoes have a more localized impact and generally produce a narrow path of concentrated destruction from 0.01 mile wide to greater than 1 mile wide. Tornadoes may also produce paths of destruction from less than 1 mile in length to greater than 100 miles in length.

The destruction caused by tornadoes may range from light to severe depending on the path of travel. Typically, structures of light construction, such as residential homes, suffer the greatest damage from tornadoes.

Tornadoes are generally rated according to the Fujita-Pearson Scale (F0-F5 – Light (40-72 mph) to Incredible (261-318 mph) wind speeds)

Because tornadoes are typically a by-product of thunderstorms, they have a higher likelihood of occurrence. Tornadoes and thunderstorms are most likely to occur during the spring months of May and June. Tornadoes during these months have also been the strongest, resulting in the greatest amount of harm or damage.

Tornados are considered a countywide hazard because their path is unpredictable and can affect everyone in the county. One of the worst tornados that hit Forest County was the ones on May 31, 1985. The tornado caused

catastrophic damage, injuring over 125 people and killing 7 people in Forest County.

The quantitative assessment of damage was described in the report *Forest County Tornado Disaster Economic Recovery Plan – June 1987*: “Unfortunately, the damage done by the Tornado could not be measured by dollars and cents alone. The personal costs were high. Families were beset by the loss of loved ones, injuries and anxiety. To lose, in a few short minutes, a loved one, a home, maybe a way of life is devastating. Certainly in the first hours and days following the event these feelings of anxiety were high. Often just not knowing was the problem, but it was a heavy one.”

Thunderstorms

Severe thunderstorms most frequently occur in the summer in northwestern Pennsylvania. These usually occur in the late afternoon or during the evening or night hours. Summer thunderstorms involve lightning, strong winds and heavy rains that can result in wildfires or localized wind damage and flash flooding. The impact of thunderstorms could be expected to be low due to the localized nature of the storms.

Forest County experiences thunderstorms every year and over the years people have learned how to prepare when thunderstorms are predicted. Localized strong winds knock down trees that block roadways, damage property, and interrupt electrical supplies. Excessive rains can cause flooding.

In July 2003, Forest County experienced a series of severe thunderstorms that resulted in numerous reports of down trees, property damage, and loss of electrical supply for 2 ½ days. Most County residents prepare by obtaining battery-operated radios, a non-electric phone, an emergency supply of water and non-perishable food, etc.

Severe Winter Weather

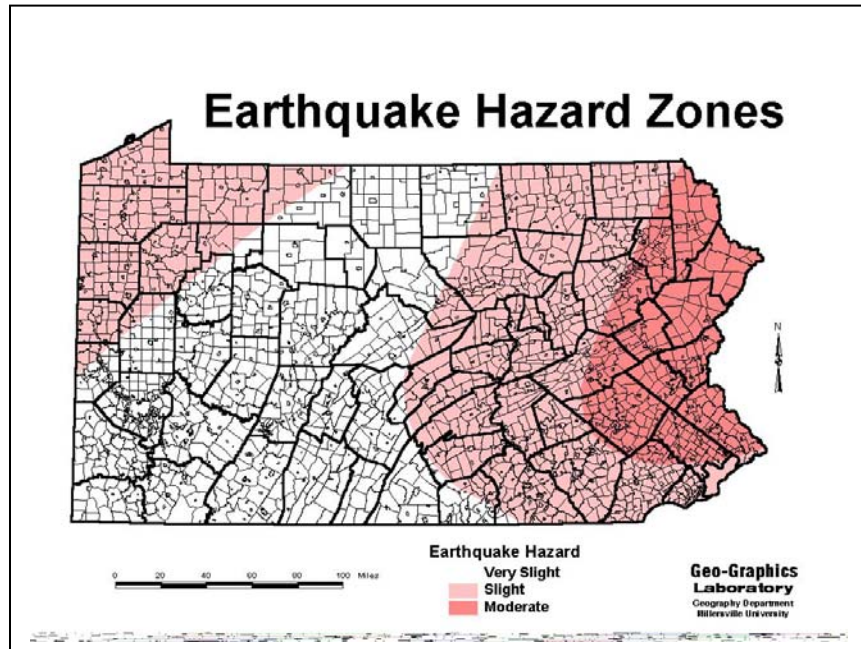
Severe winter weather most frequently occurs during the winter month (November-March) and can be caused by lake-effect conditions, warm air masses associated with the Gulf Stream, etc. The impact of a winter storm in Forest County are not as devastating as some other hazards can be. Winter storms are a frequent event in Forest County and are mitigated through the plowing, salting, ashing, and spraying efforts of PennDOT and local municipalities. During the rare occurrence of such a major event, severe winter storms could potentially produce an accumulation of snow and ice on trees and utility lines resulting in loss of electricity and blocked transportation routes. Frequently, especially in rural areas, loss of electric power means loss of heat for residential customers, which poses an immediate threat to human life.

Earthquakes

Earthquakes are geological events that involve movement or shaking of the crust of the earth. Earthquakes are measured in terms of their magnitude and intensity (instrumental – Catastrophic). Earthquakes can cause devastating destruction to the manmade environment.

Earthquakes are relatively infrequent and uncommon in Forest County but there is existing data to indicate that earthquake activity have occurred in Forest County but causing minimal damage, if any.

Northwestern Pennsylvania's vulnerability to earthquakes decreases from west to east. The effects of earthquake (if the hazard exists) could potentially be anything from detected only on seismographs to ground water wells collapsing to total destruction; trees falling,; ground rises and falls in waves.



According to Millersville University's seismic risk study, Forest County has a slight to very slight risk of earthquakes.

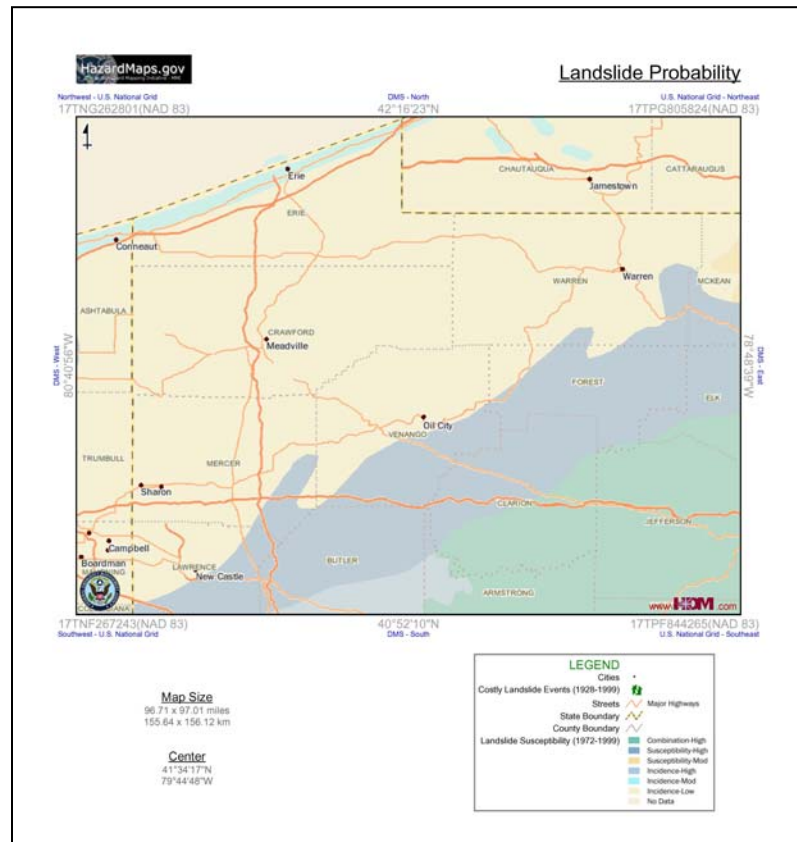
Landslides

According to the United States Geological Survey (USGS), landslides are major geologic hazards that occur in all 50 states, cause \$1-2 billion in damages and result in an average of more than 25 fatalities each year. (USGS, 1997)

Landslides often occur with other natural hazards such as earthquakes and floods.

Landslides are not a serious risk in Forest County due to the relatively flat topography of the area (or they do occur due to the hill and valley areas of Forest County). Limited areas of steep slopes associated with the banks of major watercourses in the County could collapse under heavy rainfall to produce a localized landslide. The potential of damage to lives or property from this type of natural hazard is low.

Although landslides may occur anywhere in Pennsylvania, only 15 to 18 percent of the commonwealth's land area is naturally prone to landslides. Landslides incidences in Forest County should remain low.



According to HazardMaps.gov, 80% of Forest County has a high susceptibility to landslides.

Drought

Although a severe drought could have a devastating impact on the entire community it was determined to be the least likely to generate significant impact. However, communities in Forest County could potentially experience problems associated with drought conditions. Drought affects both agriculture and water supplies. The biggest concern in these communities is the high demand on the water supply and below average rainfall for recharge of aquifers and reservoirs.

The main type of drought that could be included in this all-hazard mitigation plan is a hydrological drought. A hydrological drought occurs when surface and subsurface water levels drop, such as in streams, rivers, lakes, and reservoirs.

Some preliminary discussion of the impact of drought and potential solutions can be found in the Comprehensive planning document titled the State Water Plan. This document was published over twenty years ago and is dated. The State has been authorized by the legislature to rewrite this plan and it is expected to inventory existing and potential drought mitigation strategies and options that may avoid or lessen the consequences of prolonged hydrologic drought.

B. Non-natural Hazards

Dam Failure

The Forest County Hazard Mitigation team identified dam failures as a man made/non-natural hazard. Forest County has one dam that has an Emergency Action Plan and a map of the inundation area along with the potentially affected population.

Environmental Hazard(s)

Oil & Gas Well Leakage:

The Forest County Hazard Mitigation team identified that leakage from abandoned gas and oil wells should be noted as a hazard in the County. Abandoned gas and oil well from years ago can contaminate water supplies in the County and its local communities. The Department of Environmental Protection (DEP) has a well plugging program as part of the mitigation effort to reduce the risk of pollutants.

Water Pollution:

Testing of water supplies is available through the County Cooperative Extension Office.

Recreational Hazards

Due to the rural landscape of Forest County, it attracts visitors from outside the county that are not familiar with..... Types of recreational hazards include: Hunting accidents, motorized recreational accidents (atv's, dirt bikes, boats, snowmobiles, jet skis), hiking accidents, snake bites.

Health Related Hazards

Types of health related hazards include: west nile, lyme disease, giardia, rabies

(Doug, regulations require a prioritization of hazards. Warren County used the following text to meet the requirements. Change to make appropriate with your county)

- Based on the consensus of the Forest County Hazard Mitigation Team, it was determined that the hazards that the communities face the most, are the most severe, cause the most damage, affect the most people, affect the largest area, and are the most costly to business and local community are flooding, tornadoes/windstorms and severe winter storms.

Chapter 3 - Resources and Capabilities

In this section Forest County has identified the resources and capabilities that are currently in place to reduce the risk from their identified hazards. A capability assessment put simply, means looking at what you are doing or what you can potentially do to reduce your communities' risks from hazards. Capability assessment looks at government programs and policies, regulations and ordinances, existing emergency plans, public outreach information, personnel and equipment, and the like. Capability assessment also looks at the resources available to local communities to reduce disaster risks. Resources can be divided into five categories:

1. Human Resources – local police, fire, ambulance, emergency management, utility providers, medical assistance personnel, teachers, clergy, social workers, etc.
2. Physical Resources – equipment, vehicles, public lands, facilities and buildings, etc.
3. Technological Resources – Early warning systems, weather alert radios, stream-level monitoring, etc. Use of Geographic Information Systems (GIS) can produce sophisticated map images. When coupled with other information databases, GIS provides a wealth of visual and factual information for disaster planning, response and recovery. The Internet is home to hundred of web pages and home sites related to all types of disaster, emergency management and hazard mitigation as well as PEMA (www.pema.state.pa.us) and FEMA (www.fema.gov).
4. Informational Resources – Public awareness and education efforts
 - NWS – Storm ready program
 - ARC – Disaster Education
 - Salvation Army - ?
 - Other VOAD groups

- Business groups e.g. Hardware
 - Existing public outreach of EMA's
 - LEPC'S
 - Regional Groups
 - School District Plans
 - Brochures on hazards
5. Financial Resources – “Where will we get the money for hazard mitigation in our community?” Federal and state sources of funding:
- Hazard Mitigation Grant Program (FEMA/PEMA)
 - Pre-Disaster Mitigation Program (FEMA)
 - Flood Mitigation Assistance Program (FEMA/PEMA)
 - Flood Mitigation Assistance Planning Grant (PEMA)
 - USACE Water Resources Development Act, Section 22
 - Community Development Block Grant
 - Small Business Administration Loan Program
 - DCED (Floodplain Land Use Assistance Program, LUPTAP)
 - DOT (Transportation Enhancement Program)
 - DEP (Growing Greener Grant Program, Stormwater Management Program, PennVEST)
 - DCNR (Pennsylvania Greenways Initiative, Community Conservation Partnerships Programs)
 - Dept. of Agriculture

I. Forest County's Capabilities

Disaster Preparedness Guide

Forest County provided a disaster preparedness guide in their local newspaper to make citizens aware of what to do to prepare for a disaster. Forest County has published articles related to hazard preparedness in their local newspaper.

Public Outreach

Forest County provides numerous brochures, dealing with a variety of hazards, available for the public. The brochures cover a host of topic including: West Nile Virus, Tree Hazards, Lyme Disease, etc. These brochures are available at the County's Cooperative Extension Office. Forest will develop a emergency preparedness guide and supply it to all their residents.

Water Elevation Gauges

Two water elevation gauges on the Allegheny River, one in West Hickory and the other in Tionesta, monitor water levels.

Zoning, Subdivision, and Floodplain Ordinances

According to the 2000 Forest County Comprehensive Plan, to encourage the pattern of land use in the municipalities requires an innovative application of land use controls and ordinances. The most familiar procedures of controlling land use development include the Zoning Ordinance and Subdivision and Land Development Ordinance.

A Zoning Ordinance, based on the County's Land Use Plan, could specifically designate the land use of all the parcels throughout a municipality. Only through cooperation between local government and private citizens can such an ordinance hope to be successfully enforced over time.

1 out of 9 municipalities in Forest County have a zoning ordinance.

The Subdivision Ordinance operates on a smaller scale than a Zoning Ordinance, but can be effective in achieving well planned new residential and commercial developments so as to insure the provision of adequate community facilities, public utilities, and streets plus an acceptable level of subdivision layout and design.

1 out of 9 municipalities in Forest County have a municipal subdivision ordinance. The other 8 are covered by the county subdivision ordinance.

All 9 municipalities in Forest County have a floodplain ordinance and are included in the National Flood Insurance Program (NFIP).

Comprehensive Plan

Forest County has a Comprehensive Plan that was created for a pathway to implementation. The real purpose of the Comprehensive Plan is to assist communities in making decisions, which can help them achieve beneficial change, maintain aspects of the community they cherish, and avoid harmful changes. Thus, the measure of the planning process, the Plan itself, and the community is the ability to use planning as a tool to this end. The Comprehensive Plan was last updated in 1998. Besides the County Comprehensive Plan, there are 2 other municipal Comprehensive Plans.

Volunteer Organizations

The county currently has three volunteer fire departments that assist during and after a disaster. The Red Cross is available after a disaster and the religious organizations in Forest County will also assist after a disaster.

Individualism and Cooperation

The people of Forest County rely heavily on one another during hazardous events. Residents share generators, share supplies, and join together during these times of crisis.

(There may be more Capabilities that you may want to add)

Chapter 4 - County Hazard Mitigation Opportunities/Strategies

From the Forest County Comprehensive Plan, which was derived from extensive public meetings and meetings with elected officials, two primary value statements were developed:

Because Forest County and its constituent communities govern themselves, the desires of the citizenry are paramount in any decision-making.

Forest Countians will not sacrifice high environmental quality, small town/rural quality of life, low crime, and their countryside jobs.

In this section Forest County is developing and prioritizing hazard mitigation opportunities/strategies. These opportunities/strategies are Forest County's way to mitigate their identified hazards. Mitigation is any cost-effective action taken to eliminate or reduce the long-term risk to life and property from natural and technological hazards. There are six general approaches to reducing (mitigate) hazard risks and they are as follows:

1. **Preventive Measures** keep problems from getting started or getting worse. The use of known hazard areas, like floodplains for example, can be limited through planning, land acquisition, or regulation. These activities are usually administered by building, zoning, planning, and/or code enforcement officials:
 - * Planning and zoning
 - * Open space preservation
 - * Building codes and enforcement
 - * Storm water management
 - * Drainage system maintenance

2. **Property Protection** measures are those actions, which go directly to permanently getting people, property, and businesses out of unsafe areas. Property Protection measures include:
 - Property acquisition is the act of purchasing and removing homes/businesses from hazard prone areas.
 - Relocation of at risk structures
 - Elevation of structures, construction techniques to improve structural resistance to high wind or heavy snow can be incorporated into new homes or retrofitted into existing structures.
 - Home and business insurance policies and participation in the National Flood Insurance Program.

3. **Emergency Service Measures** are taken during a disaster to minimize its impact. These measures are the responsibility of the County emergency management staff, operators of major critical facilities, and other local emergency service organizations. Emergency Service measures include:
 - Alert warning systems
 - Monitoring systems
 - Emergency response planning
 - Evacuation
 - Critical facilities protection
 - Preservation of health and safety

4. **Structural Projects** are usually designed by engineers and managed and maintained by public works staff. They are designed to reduce or redirect the impact of natural disasters (especially floods) away from at risk population areas. Structural Projects include:
 - Reservoirs
 - Levees, floodwalls
 - Diversions
 - Channel modification
 - Storm sewers

5. **Natural Resource Protection** preserves and restores natural areas or their natural functions. Park and recreation organizations, conservation agencies or wildlife groups usually implement such measures. Natural Resource Protection measures include:
 - Wetland protection
 - Best management practices
 - Erosion and sediment control
 - Riverine protection

6. **Public Information Programs** advise property owners, potential property owners, and others of hazards and ways to protect people and property from them. A public information office usually implements them. Public information activities can include:
- Flood map data
 - Library resources
 - Outreach projects
 - Technical assistance
 - Real estate disclosure information
 - Environmental education programs

Forest County Mitigation Opportunities:

The hazard mitigation team determined some of Forest County's hazard mitigation opportunities by using the questionnaires that the municipalities have filled out.

Chapter 5 – Municipal and Public Involvement

The Forest County Hazard Mitigation Team (with assistance from the Northwest Pennsylvania Regional Planning and Development Commission) developed and sent out questionnaires to each of the 9 municipalities that make up Forest County. Each municipality was to describe where the hazards occur that affect their governing area.

Describe the planning process that took place to develop this plan. (i.e. meeting dates, committee meetings, research, etc.)

Chapter 6 – Implementation of Plan

(Consult the Nome, Alaska plan for ideas on how to implement the plan and mitigation strategies).