LYCOMING COUNTY 2026 HAZARD MITIGATION PLAN UPDATE

EXECUTIVE SUMMARY

The Lycoming County 2026 Hazard Mitigation Plan (HMP) Update is a blueprint for reducing property damage and saving lives from the impacts of future hazard events throughout the County. This plan analyzes hazard risk and identifies specific mitigation actions communities will take to address that risk and break the cycle of disaster damage and reconstruction.

This is a multi-jurisdictional plan that **covers Lycoming County and its 52 municipalities**. It was prepared to meet the requirements set forth by the Pennsylvania Emergency Management Agency (PEMA) and the Federal Emergency Management Agency (FEMA) **to maintain eligibility for mitigation funding and technical assistance** from state and federal programs. Eligibility and access to these programs require the County and its jurisdictions to participate in and adopt the plan.

This 2026 Plan Update is the fourth update to the Lycoming County HMP. Key components of this plan include:

- Summarizing the planning process and participation.
- Identifying hazards that could impact the County.
- Assessing hazard risk and vulnerability.
- Developing a mitigation strategy with goals and actions.
- Outlining the process for plan adoption and maintenance.

About Lycoming County

Situated in North-central Pennsylvania, Lycoming County boasts a scenic landscape characterized by steep slopes, deep river valleys, and abundant forestland. It is the largest of Pennsylvania's 67 counties and is comprised of 42 townships, 9 boroughs, and the City of Williamsport, the metropolitan center and County seat.

Lycoming County is mostly rural with the majority of its population located in the south-central area of the County, centered along the West Branch of the Susquehanna River and U.S. Route 15, Interstate 180, and U.S. Route 220. Figure 1 shows the current pattern of land use in the County in 2025.

The County's vision for the future is to keep growth centralized and protect its natural resource areas in the outer regions while steering development outside of flood-prone areas. To do so,

WHAT IS HAZARD MITIGATION?

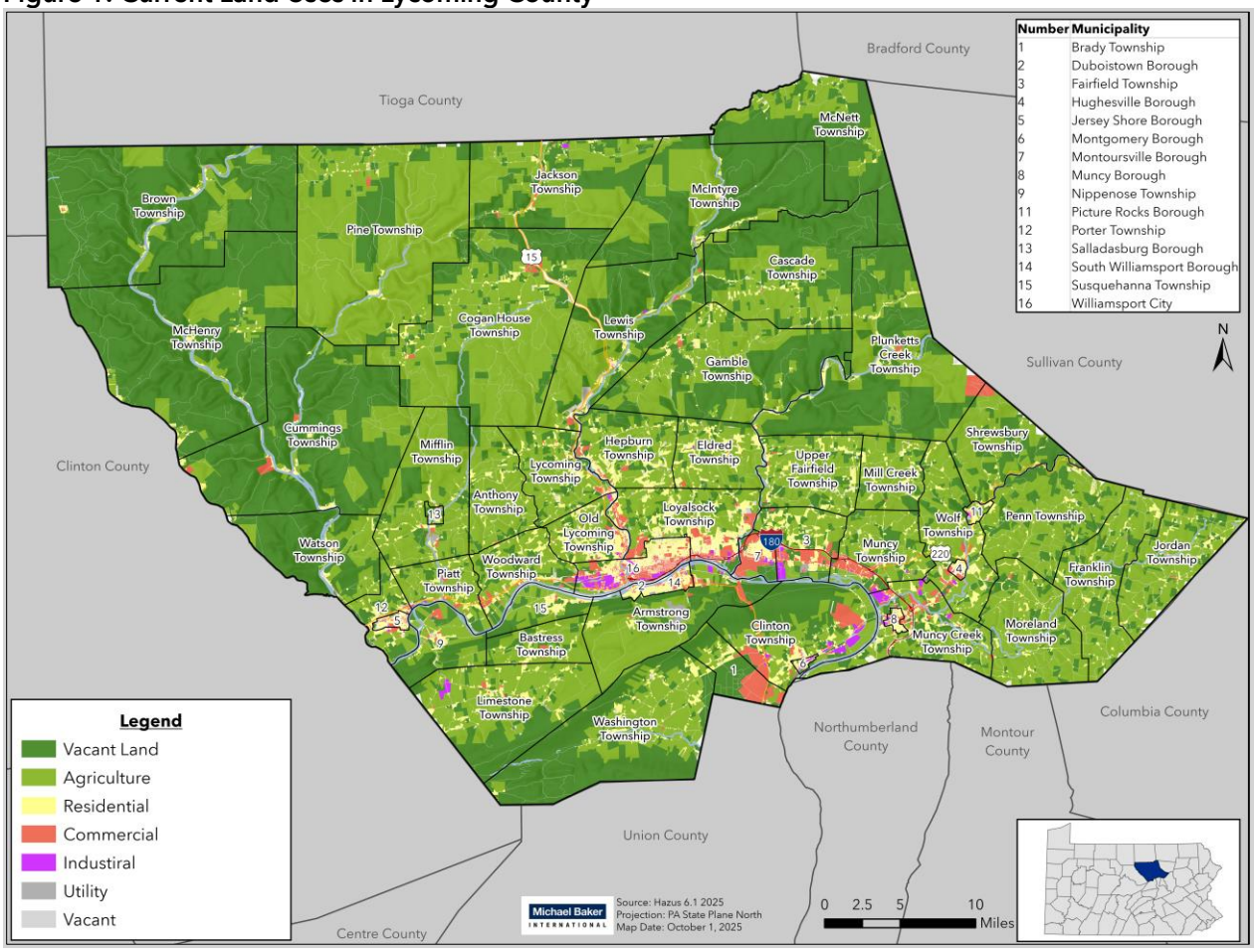
Hazard mitigation is considered one of the four phases in the emergency management cycle. Others include preparedness, response, and recovery.

Hazard mitigation activities involve actions that reduce or eliminate the likelihood of an occurrence or reduce the impact of a disaster.

The goal of the mitigation phase is to make communities more resistant to disasters and thereby decrease the need for a response. Mitigation occurs long before a disaster.

the County has designated growth areas where the County will target economic development activity. These growth areas are focused on development around Interstate 180, U.S. Route 15, U.S. Route 220, the future development of Interstate 99, and the Greater Williamsport, Montoursville, Muncy, and Lower Lycoming Creek communities. Six multi-jurisdictional planning regions, along with the desired development within each region, have been identified to help guide this development.

Figure 1: Current Land Uses in Lycoming County



Critical Facilities and Community Assets

This plan **identifies critical facilities and community assets** and **describes the risk and vulnerability of these assets** to the identified hazards. Assets were looked at through two different lenses.

1. Critical Facilities

The plan takes a look at **individual assets** that are essential for the delivery of services to the community. The plan includes 14 critical facilities as shown in Table 1.

Table 1: Number of Critical Facilities in Lycoming County by Type and Data Source

Type	Number in County	Type	Number in County
Child Care Facilities	34	Police Stations	13
Congregate Care Facilities	16	Prisons	3
Emergency Operations Centers	77	Private Schools	20
Fire Stations	33	Public Schools	37
Hospitals	7	Pump Stations	5
Miscellaneous	33	Shelters	38
Municipal Buildings	54	Toxic Release Inventory (TRI) Facilities	18
Total	**388**		

2. Community Lifelines

The plan also looks at FEMA's seven community lifelines, which are the **integrated network of assets** that serve your community and the county. These are essential services that enable the continuous operation of critical government and business functions, which are crucial for human health, safety, and well-being.



Planning Process

The process for this plan update **focused on building partnerships** by bringing together a diverse group of stakeholders to reach consensus on how the community will prepare for and respond to hazards that are most likely to occur.

The Lycoming County Hazard Mitigation Steering Committee (HMSC), consisting of **Lycoming County Planning and Community Development** staff, led plan development. The Hazard Mitigation Planning Team (HMPT), consisting of representatives from the Lycoming County municipalities and other local and regional stakeholders, participated in plan development. Table 2 lists the municipalities and stakeholder organizations that participated in the planning process. **51 of the 52 municipalities fully participated**.

Table 2: Participants in the Planning Process

Municipalities		
Anthony Township	Jordan Township	Old Lycoming Township
Armstrong Township	Lewis Township	Penn Township
Bastress Township *(met one of two requirements)*	Limestone Township	Piatt Township
	Loyalsock Township	Picture Rocks Borough
Brady Township	Lycoming Township	Pine Township
Brown Township	McHenry Township	Plunketts Creek Township
Cascade Township	McIntyre Township	Porter Township
Clinton Township	McNett Township	Salladasburgh Borough
Cogan House Township	Mifflin Township	Shrewsbury Township
Cummings Township	Mill Creek Township	South Williamsport Borough
Duboistown Borough	Montgomery Borough	Susquehanna Township
Eldred Township	Montoursville Borough	Upper Fairfield Township
Fairfield Township	Moreland Township	Washington Township
Franklin Township	Muncy Borough	Watson Township
Gamble Township	Muncy Creek Township	Williamsport City
Hepburn Township	Muncy Township	Wolf Township
Hughesville Borough	Nippenose Township	Woodward Township
Jackson Township		
Jersey Shore Borough		
Stakeholders		
Camp Susque	Lycoming-Clinton Joinder Programs	Roads to Freedom Center for Independent Living
Commonwealth University - Bloomsburg	Montoursville School District	Red Run Mountain, Inc.
FEMA Region 3	Muncy School District	STEP Inc.
Hope Enterprises	Office of Representative Jamie Flick	Susquehanna River Basin Commission
Lycoming County	Office of State Senator Eugene Yaw	Tiadaghton Valley Municipal Authority
Lycoming County District Attorney's Office	PA DEP	Tioga County
Lycoming Creek Watershed Association	Penn State Extension	Williamsport Regional Airport
Lycoming Department of Public Safety	Pennsylvania College of Technology	Williamsport School District
Lycoming Valley Railroad	River Valley Transit Authority	Walls and Associate

Opportunities for participation were established in the Lycoming County Stakeholder Outreach and Engagement Strategy. These included HMPT meetings, smaller group and individual meetings, public meetings, municipal and stakeholder worksheets and forms, and a public survey. Additionally, a public webpage was launched to share up to date information. Key meetings in this process included:

March 2025	**Kick-off Meetings**	Discussed schedule, goals, planning process, and participation with the HMPT and stakeholders.
May 2025	**Risk Assessment Meetings**	Explored local hazard risk and vulnerability, as well as at critical facilities and assets with the HMPT and stakeholders.
July 2025	**Public Open House**	Gave opportunity for the public to review plan information, ask questions, and provide feedback. Provided resources on the current update and meeting schedule.
July 2025	**Mitigation Strategy and Capability Assessment Workshops**	Used as collaborative space for the HMPT and stakeholders to develop the mitigation strategy and local review capabilities.
November 2025	**Draft Plan Review Meetings**	Final meeting open to the HMPT, stakeholders, and the public to review the update process and general findings.

Risk Assessment

A key step towards risk reduction is identifying hazards that may affect Lycoming County. This risk assessment provides a factual basis for activities proposed in the mitigation strategy. It helps focus mitigation efforts on areas that may be most affected. The plan includes a hazard profile for each hazard identified. These profiles describe each hazard in terms of:

Location and Extent	Where can the hazard occur? If it occurs, what is geographic extent?
Range of Magnitude	What impacts can we expect if the hazard occurs?
Past Occurrence	When has it occurred before?
Future Occurrence	What is the likelihood it will occur again?
Vulnerability and Impact	If it occurs, who and what is at risk?

The 2026 Plan Update profiles and analyzes 24 hazards. These 24 hazards include all hazards profiled in the 2020 plan with the addition of four new hazards.

Table 3: Hazards Profiled in the 2026 Plan Update

Natural Hazards	Human-Made Hazards
Drought	Dam Failure
Earthquake	Disorientation
*Extreme Temperatures	Environmental Hazards: Conventional Oil and Gas Wells
Flood, Flash Flood, Ice Jam	Environmental Hazards: Unconventional Oil and Gas Wells
Hailstorm	*Environmental Hazards: Gas and Liquid Pipelines
*Invasive Species	*Environmental Hazards: Hazardous Materials Release
Landslide	Levee Failure
Pandemic and Infectious Disease	Nuclear Incident

Radon Exposure Subsidence, Sinkhole Tornado, Windstorm Wildfire Winter Storm	Terrorism Transportation Incidents Utility Interruption ** New hazard for 2026 Plan Update.*

Hazard Profile Summaries

Natural Hazards



- Areas with extensive agricultural land use can experience significant impacts of drought. These are concentrated in the central and southeastern parts of the County. In total, the County has 181,550 acres in 918 farms.
- Drought can also cause municipalities to enforce water rationing. This strains availability and can affect the operations of the five water authorities in the County.
- Residents that use private domestic wells are also more vulnerable to drought. Municipalities with the highest number of domestic wells include Brown, Cummings, Hepburn, McHenry, and Upper Fairfield Townships.
- Lycoming County spent 100 to 119 weeks in drought between 2000 and 2024, but the County has not had a severe drought since 2023. The potential for a drought to occur in the County is high and may increase through the 21st century.



- While geographically all structures and infrastructure in Lycoming County are at risk, older structures are potentially more vulnerable to damage.
- 46.5% of structures in Lycoming County were built before 1959, which could make them more susceptible to earthquake impacts. The City of Williamsport has the highest number of aging housing units in the County.
- However, earthquake epicenters in Lycoming County are rare. The only recorded earthquake with its epicenter in Lycoming County was in 1907. The probability of an earthquake occurring in Lycoming County is very low.



- All jurisdictions are considered vulnerable to extreme temperatures, but vulnerabilities can vary across populations. Those hardest hit include the elderly, disabled, and those who are socio-economically disadvantaged. Excessive heat exposure also affects people with pre-existing medical conditions
- Since 2015, there have been 10 reported extreme temperature events in the County. All were classified as Extreme Cold/Wind Chill. A heat advisory was issued for Lycoming County in late June 2024.
- Areas most susceptible to extreme heat include urban environments, as buildings and pavement absorb and retain heat. Areas most susceptible to extreme cold include higher elevations.



- Flooding can lead to property loss as well as to loss of life. To assess vulnerability, areas located in the 1% chance floodplain were the focus.
- There are 5,075 structures in the floodplain countywide (9% of all structures). Jersey Shore Borough has the highest proportion of structures in the floodplain (48%). Cummings, Lewis, Lycoming and McIntyre Townships and Muncy Borough have more than 30% of their structures in the floodplain.
- As of 2025, the County had 497 repetitive loss (RL) properties, the most of which are single-family homes. Old Lycoming Township had the most RL properties (75). There were 72 severe RL properties in Lycoming County. Lycoming Township (9) and Old Lycoming Township (15) had the most SRL properties.
- Flooding occurs commonly and during any season. Within the flood-susceptible areas, it is expected that the character of flooding will remain the same.



- All of Lycoming County is vulnerable to the effects of hail, but the area of damage is relatively small from a single storm.
- Large hail of more than two inches can cause significant crop damage and result in lost revenue, as well as property damage and injuries. Therefore, areas with extensive agricultural land use can experience more significant impacts.
- From 2000-2025, the County experienced 74 recorded hail events causing $350,000 in property and crop damage.
- Hailstorms can occur in all areas of the County, and neither the duration of the storm nor the extent can be predicted. However, approximately 96% of hailstorms occur between the months of April and September.



- Invasive species threats include lost revenue from diseased and damaged agriculture and losses in the form of illness or death of humans.
- While invasive species exist throughout the County, clusters occur along waterways and in open spaces, particularly along Pine Creek and by State Game Lands in the County's northwestern corner.
- The County's most prominent invasive species are aquatic and plant species. Spotted Lanternflies are also a concern, with populations growing since 2019.
- Since the early 1900s, there have been 26 acts and quarantines enacted to prevent the spread of invasive species. The probability of future threats is on the rise due to the growing volume of transported goods.



- Landslides can have devastating consequences in localized areas. They cause damage to transportation routes, utilities, and buildings and create travel delays and other side effects.
- While landslides can occur anywhere in the county, Landslides usually occur in areas with moderate to steep slopes and during high precipitation.
- About 43% of structures in the County are in landslide prone areas. Cummings and Watson Townships have the most land in landslide hazard areas. Penn Township also has landslide hazard areas throughout residential neighborhoods.
- Landslides causing varying levels of damage are likely to continue to occur in the absence of mitigation activities.



- The impacts of a pandemic or infectious disease ranges depending on the virus but include significant economic and social costs beyond the possibility of deaths. The County is primarily concerned with a pandemic flu outbreak.
- Certain population groups at higher risk of flu infection are people 65 years and older, children younger than 5 years, pregnant women, and people with certain chronic medical conditions. Therefore, schools, colleges, convalescent centers, and other institutions are locations conducive to faster transmission.



- Exposure to radon is the second leading cause of lung cancer after smoking.
- The County is classified as having a high hazard potential for radon exposure.
- Houses in the County could be susceptible to high radon levels, especially in central areas. Older houses with crawl spaces or unfinished basements are also more vulnerable.
- Radon exposure is inevitable given soil, geological, and geomorphic factors in the County. Proper testing should be completed across the County.



- Subsidence and sinkhole events can cause severe damage in urban areas. Impacts include the disruption of utility services and damages to property including buildings, roads, and underground infrastructure.
- A portion of the southwestern corner of the County is in an area where limestone/ dolomite bedrock is present, making it more susceptible to natural sinkholes.
- There have been 70 sinkholes and 391 surface depressions recorded in the County, located in Brady, Bastress, Limestone, Porter and Washington Townships.
- Hughesville, Jersey Shore, Montoursville, Muncy, and South Williamsport Boroughs have 100% of their structures located in subsidence prone areas (carbonate rock areas).



- In Lycoming County, the impacts from tornado and wind-storm events have included torn roofs, destroyed mobile homes, downed power lines, uprooted trees, and damaged vehicles and homes.
- Mobile homes and campgrounds are especially susceptible to damage. The highest proportions of structures on mobile home parcels are in Muncy (23%), Woodward (22%), Fairfield (18%), Wolf (17%), and Mifflin Townships (17%).
- High wind or tornado events can affect the entire County. While the annual probability of a tornado is relatively low, the County frequently has strong winds.



- Wildfire events can occur at any time but are most likely to occur in the County during a drought. With dry conditions, wildfires could burn forests and croplands.
- The County is generally rural in nature, consisting of large tracts of agricultural, undeveloped, and forested land. Therefore, a wildfire could develop in any part of the County, but the most high-risk areas are in the wildland-urban interface.
- 13 municipalities have 100% of structures and critical facilities within 2 miles of state forests, parks, or game lands.
- Wildfires will continue to occur yearly in Lycoming County, but the likelihood of a fire attaining significant size and intensity is unpredictable.

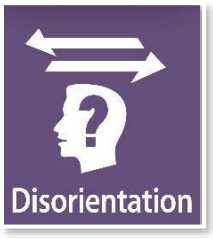


- Every municipality in Lycoming County is affected by winter storms. But higher snowfall typically occurs in the northwest portion of the county.
- All structures and infrastructure are exposed to heavy snow and ice. The most vulnerable are those that were poorly built or are dilapidated. Low-income or elderly households and mobile homes are also vulnerable.
- Municipalities with high proportions of housing units built before 1940 are Jersey Shore (66.1%), Montgomery (57.5%), Hughesville (53.8%), and Muncy (52.7%) Boroughs, and the City of Williamsport (51.6%).

Human-Made Hazards



- Lycoming County has 40 dams regulated by Pennsylvania Department of Environmental Protection; seven are identified as high hazard.
- The impact of a dam failure is dependent on the volume of water impounded by the dam and the amount and distance of population or assets located downstream.
- Environmental impacts of dam failures can include water contamination, destruction of trees and other vegetation, and severe erosion.



- Pennsylvania Wilds is partially located in Lycoming County. Known for the darkest skies, it attracts visitors at night. As a result, this attraction increases the risk of disorientation in the County.
- The County is also largely rural and heavily wooded with steep mountains; 77% of the County is forest. Disorientation is most likely to occur in areas of vast, open wilderness where cellular communication is challenging.
- Search and rescue may be required for those with medical issues or injuries and those who become disoriented. Children and the elderly are also more vulnerable to the exposure of elements.
- It is most dangerous to become lost outdoors during winter months.



- Private water supplies such as domestic drinking water wells near oil and gas wells are at risk of contamination from brine and other pollutants. The release and combustion of a large quantity of natural gas is also a concern.
- There is one active conventional well in Cogan House Township, and approximately 91 permits for wells that either have not yet been drilled or never materialized throughout the County.
- An emergency at well site is hard to predict, and there is little historical data for the County. However, the likelihood of an incident can increase as new well sites become active.



- Like conventional wells, unconventional wells put nearby water supplies and soil at risk of contamination. Some of which pose a fire hazard.
- This is particularly an issue in the southern and central areas of the County, where there are a higher number of reported domestic water wells.
- There are 1,424 active unconventional wells in the County and 787 permits for wells that either have not been drilled or never materialized. Unconventional wells are concentrated in the center of the County, primarily in Cogan House, Cummings, and Gamble Townships.
- Cascade, Cogan House, Upper Fairfield, and Gamble Townships have at least 40% of structures near unconventional wells.



- Pipeline failures can impact life and property from inhalation or ingestion of toxins, exposure to a fire or explosion, or exposure to contaminated soils or drinking water.
- There are two pipelines in Lycoming County, a natural gas pipeline (281 miles) runs horizontally across the center of the county and a refined product pipeline (39 miles) runs vertically.
- Jurisdictions with the most structures located within 0.25 miles of a liquid or gas are Loyalsock Township (870) and Old Lycoming Township (517). The jurisdictions that have the most critical facilities within the 0.25 miles are Loyalsock Township (8) and Picture Rocks Borough (6).



- Hazardous material releases can occur wherever hazardous materials are manufactured, used, stored, or transported. They can result in human and wildlife injury, property damage, and contamination of air, water, and soils.
- In 2023, there were 18 tracked facilities on EPA's Toxic Release Inventory (TRI) in Lycoming County; 7 are located in the City of Williamsport.
- 15 municipalities have structures within a 1.5-mile radius of a TRI facility. Every structure in Hughesville, Duboistown, and Muncy Boroughs are within this radius; Williamsport has the most structures within the radius.
- Major highways and railways can transport hazardous materials. From 2020 to 2025, there were 23 highway and railway related hazardous material incidents in the County.



- There are five major levee systems in Lycoming County; four in the greater Williamsport and one in the community of Ralston.
- If a levee breaks, many properties may be quickly submerged by floodwater and residents may become trapped by rapidly rising water. Environmental impacts of levee failure include significant water quality and debris disposal issues.
- A large share of structures are at risk to levee failure in the event of a 1%-annual-chance flood in the greater Williamsport area, including thousands of commercial and residential structures and 200 industrial structures.



- The eastern half of Lycoming County is at risk to the impacts of a nuclear incident at the Susquehanna Steam Electric Station (SSES), which is located in Luzerne County.
- The primary concern after a nuclear incident is the extent of radiation, inhalation and ingestion of radioactivity isotopes that can cause acute health effects, chronic health effects, and psychological effects.
- Food, soil, and water contamination is also a vulnerability. Lycoming County has 181,550 acres in 918 farms. The market value of all agricultural products sold exceeded $66 million in 2022.



- The types of terrorist activity most relevant to the County include agriterrorism, intentional hazardous materials releases, and bomb threats.
- The majority of terrorist events experienced in the County are bomb threats. Since 2018, several bomb threats reported to PEMA.
- The County has many notable local landmarks and one major landmark of national significance: the site of the Little League World Series.
- The Marcellus Shale natural gas drilling industry includes many gas well sites in the County. These sites are potential targets for terrorism.
- Intentional hazardous material releases are also possible at TRI facilities and along the major transportation routes that traverse the County.



- Lycoming County is at high risk for traffic, rail, and aviation traffic incidents.
- Traffic and rail incidents can occur anywhere along their respective corridors. Aviation incidents typically occur within 5 miles of the airport. Most of this infrastructure is centrally concentrated in the County.
- Vehicle, air, and rail transportation incidents can result in a range of outcomes from damage to property to serious injury or death. Severe incidents are more likely along highways like Interstate 180, U.S. Route 15, and U.S. Route 220, which experience heavy traffic volumes.
- The City of Williamsport overall is the most vulnerable to transportation incidents of all kind due to its density and proximity to major infrastructure.



- Utility interruptions in the County occur regularly but are usually small-scale, localized incidents. It is possible anywhere there is utility service.
- The severity of a utility interruption can be compounded with extreme weather events. Aging infrastructure also brings risk.
- Interruptions can also be more severe for special needs populations that are dependent on electronic medical equipment. Interruptions can also hamper first responders, especially with losses of telecommunications.
- While all jurisdictions are vulnerable to utility interruptions, jurisdictions that are identified as more vulnerable to winter storms, windstorms, tornado, flooding, and other natural hazard events may also be more vulnerable to utility interruption.

Hazard Risk Ranking

Ranking hazards **helps communities set goals and priorities for mitigation** based on their vulnerabilities. Lycoming County **used risk factor values** to measure the degree of risk for the identified hazards. Risk factor values were calculated based on the below equation.

Risk Factor Value = [(Probability x .30) + (Impact x .30) + (Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

Table 4 shows the risk factor and ranking results. Since 2020, four hazards saw an increase in risk factor values, while one decreased.

Table 4: Ranking of Hazard Types by Risk Factor

Hazard Risk	Hazard: Natural (N) or Human-Made (M)	Risk Factor	Change Since 2020 Plan Update
HIGH	Flood, Flash Flood, Ice Jam (N)	3.2	No Change
	Transportation Incident (M)	2.8	Increase
	Winter Storm (N)	2.7	Decrease
	Wildfire (N)	2.7	Increase
	Utility Interruption (M)	2.6	No Change
MODERATE	Tornado, Windstorm (N)	2.4	Increase
	Drought (N)	2.3	No Change
	Extreme Temperatures (N)	2.3	N/A
	EH: Hazardous Materials Release	2.3	Increase
	Nuclear Incident (M)	2.1	No Change
	Pandemic (N)	2.1	No Change
	EH: Conventional Oil and Gas Wells (M)	2.0	No Change
	EH: Gas and Oil Pipeline (M)	2.0	No Change
	EH: Unconventional Oil and Gas Wells (M)	2.0	No Change
	Dam Failure (M)	2.0	No Change
LOW	Terrorism	1.8	Increase
	Radon (N)	1.8	No Change
	Landslide (N)	1.8	No Change
	Earthquake (N)	1.7	No Change
	Hailstorm (N)	1.7	No Change
	Invasive Species (N)	1.7	N/A
	Disorientation (M)	1.7	No Change
	Levee Failure (M)	1.6	No Change
	Subsidence, Sinkhole (N)	1.3	No Change

Capability Assessment

The capability assessment **identifies strengths and weaknesses** that can affect how the County and municipalities carry out mitigation actions. It informs a comprehensive and implementable mitigation strategy.

Lycoming County has a number of resources it can access to implement hazard mitigation initiatives. These resources are divided into four categories.

1. Planning and Regulatory Capability

Planning and regulatory tools provide opportunities to support the goals of hazard mitigation planning. A review of key relevant plans and regulations is summarized in Table 5.

Table 5: Planning and Regulatory Capabilities

Plan or Regulation	Description and Relationship to Hazard Mitigation
2023 PA State All-Hazard Mitigation Plan	This plan includes goals and objectives that are applicable to this Lycoming County Plan Update.
Uniform Construction Code (UCC)	UCC is mandated by the State for all municipalities in Pennsylvania and establishes minimum regulations for most new construction.
Pennsylvania Governor's Executive Order 1999-1	This order provides the basis for the requirement to integrate hazard mitigation into comprehensive land use planning.
2018 County Comprehensive Plan Update	This plan identifies priority issues; most relate to hazard mitigation. The County uses this plan guide development, restore floodplains, preserve open space and natural resources, and coordinate land use. It also has the process to acquire properties in the floodplain.
Multi-municipal Regional Comprehensive Plans	There are six regional plans that address priority issues from the County plan. They cover 26 municipalities. Hazards such as flooding and steep slopes were critical issues in all plans.
Williamsport Area Transportation Study (WATS) Long Range Transportation Plan	This plan includes information on transportation system resiliency to flooding, landslides, and subsidence. It discusses transportation programming and projects.
WATS Transportation Improvement Program (TIP)	The TIP is a prioritized list of transportation projects to be undertaken during the next four fiscal years. These partners work together to identify funding sources for a range projects.
2001 Lycoming County Pennsylvania Water Supply Plan	This plan looks at existing water system capabilities, projects future needs, and recommends coordination between County and municipal planning efforts. There is opportunity to update this plan.
2008 Recreation, Parks, and Open Space/Greenway Plan	This plan explores how the County can protect the natural environment. It is recommended for the County to update this plan to align with the 2018 Comprehensive Plan.

Plan or Regulation	Description and Relationship to Hazard Mitigation
2020 Countywide Action Plan (CAP)	The plan includes initiatives the county and its partners should take to achieve clean water goals and address flooding issues. It is not a regulatory plan; it is voluntary.
2010 Lycoming County Stormwater Management Plan	This plan focuses on best practices to enforce environmentally sensitive development and encourage development that will limit runoff. All municipalities have adopted this plan.
2020 Lycoming County's Emergency Operations Plan (EOP)	This all-hazards EOP is the basis for coordinated and effective response to any disaster. It references the County's vulnerabilities to hazard identified in the 2015 HMP. All municipalities have local EOPs or are covered by the County's.
Zoning Ordinance	All municipalities have zoning regulations. For municipalities that do not have an ordinance, the County has adopted the County Partnership Zoning Ordinance. It covers floodplain management, steep slopes, and woodland protection (wildfire prevention).
Subdivision and Land Development Ordinance	All municipalities have subdivision regulations. These regulate development as land is subdivided for future development. For municipality that do not have an ordinance, the County regulates.
Floodplain Management Ordinance	All municipalities participate in the NFIP and have floodplain management ordinances. Through administration, municipalities regulate construction in floodplains. The County's ordinance exceeds federal requirements.
Community Rating System through the NFIP	This program provides discounts on flood insurance premiums in communities that go beyond NFIP minimum requirements. Jersey Shore Borough (Class 8) is the only municipality that participates.
Capital Improvement Plan	This is a multiyear is used to coordinate the financing and timing of public improvements. It includes a capital budget. A few select municipalities reported having a capital improvement plan.

The plans and regulations in the table above provided key information for this 2026 HMP Update. Likewise, as these plans and policies are updated, data, priorities, and actions from this HMP should be considered. **The County and each participating municipality are responsible for plan integration.**

Plan integration recognizes that hazard mitigation is most effective when it works in concert with other plans, regulations, and programs. This means regularly considering hazard risks in a community's existing planning framework. It is a two-way exchange of information and incorporation of ideas and concepts between the HMP and other community plans.



2. Administrative and Technical Capability

These capabilities refer to staff and their skills and tools that can help carry out mitigation actions. In Lycoming County, this type of capability varies between

municipalities, primarily due to population size. More rural municipalities often have limited staffing and tools to support mitigation.

Table 6: Administrative and Technical Capabilities

Capability	Description and Relationship to Hazard Mitigation
Emergency Management Coordinators (EMCs)	EMCs create effective partnerships before a disaster through planning, training, and exercise programs. All municipalities in the County have an EMC. It is not uncommon for one EMC to cover multiple jurisdictions.
Building Code Enforcement	All municipalities enforce codes locally, except for Cummings, Gable and McHenry. All municipalities have a contractor enforce building codes, except for the City of Williamsport and Loyalsock Township.
Municipal Engineers	A few select municipalities reported having local municipal engineers. When engineers are familiar with hazards impacts, they can design communities and structures with those impacts in mind.
Floodplain Administrators (FPAs)	FPAs are experts in the regulations of development in a floodplain. All 52 municipalities participate in the NFIP and have a designated FPA. Municipalities under the County Zoning Ordinance use the County FPA.
Grant Writing and Management	Most municipalities rely on grants to implement mitigation projects. A few select municipalities reported having this capability locally.
GIS Capabilities	The County has an accessible ESRI-based interactive web map with land use, assessment, and floodplain layers/data. No municipality reported having the capability for GIS analysis or creating customized web maps.
WATS Metropolitan Planning Organization	The MPO is responsible for transportation planning and programming for Lycoming County. The primary goal is to ensure that transportation planning and expenditures are coordinated and forward-looking.
Scientific Experts	Having access to experts who can describe technical aspects of hazards in lay terms is important. While no municipalities reported having this capability, the County has a hazard reduction planner who can support.



3. Financial Capability

Funding is essential to implementing action. While every jurisdiction works with the constraints of limited financial resources, fiscal capabilities in Lycoming County vary greatly from community-to-community. Table 7 highlights resources that may be available to fund mitigation activities.

Table 7: Financial Capabilities

Funding Source	Description and Relationship to Hazard Mitigation
Municipal Bonds	Municipalities can use general bonds or similar financing like revenue bonds and special tax bonds to implement hazard mitigation projects. No municipalities indicated they use these mechanisms for mitigation.
Community Development Block Grants (CDBG)	CDBG assists vulnerable populations. All municipalities in the County have access, but none have used the program for mitigation. However, the County is partnering with Success Through Engagement

Funding Source	Description and Relationship to Hazard Mitigation
	Partnerships (STEP) to pursue CDBG-Disaster Recovery funding to rehabilitate owner-occupied homes affected by tropical storm Lee.
Unconventional Gas Drilling Impact Fees	Local governments can adopt these fees and use a portion to address infrastructure improvements, emergency preparedness, environmental programs, training, or planning. To date, 10 projects have been funded in the County, more than $1.7 million in investment.
Development Impact Fees	Impact fee programs can be established for capital improvements associated with transportation infrastructure. This program allows for investments in highway infrastructure to reduce hazard risks.
Gas and Electric Utilities Fees	Communities can dedicate a portion of homeowners' gas and electric utility fees to upgrade and maintain related utility infrastructure.
Water and Sewer Authority Fees	User fees for water and sewer utilities can help fund system capital costs. There are nine water and four sewer authorities in the County.



4. Education and Outreach

Education and outreach programs are used to implement mitigation activities and communicate hazard-related information. The following highlights key initiatives and programs in the County.

Table 7: Education and Outreach Capabilities

Program	Description and Relationship to Hazard Mitigation
StormReady®	This program arms communities with communication and safety skills that save lives and property before, during, and after an event. The County was certified in 2000 and renewed in 2009. Cogan House Township is also certified; the City of Williamsport is a supporter.
Flood Ready	Flood Ready is a page on the County's website that has real-time data on precipitation and stream heights. The timely information can inform and protect first responders, residents, and businesses from hazards.
NOAA Weather-Ready Nation Ambassador	The County is an Ambassador in recognition of efforts to improve resilience against extreme weather events. Partners help unify efforts across government, non-profits, academia, and private industry.
Agricultural Land Preservation Program	The County has an active program administered by the County Conservation District. Preserved farms protect soil from erosion and prevent the contamination of local surface water.
Map Viewers	The County Parcel Viewer allows users to map parcels, floodplain, soil, zoning, etc. The County Flood Map Viewer is a tool with more in-depth data related to flooding. It helps residents assess their flood risk.
Gas Well/Energy Development Information Webpage	Lycoming County Public Safety maintains this page that includes vehicle identification, response guidance, and industry terms and definitions.
Firewise USA®	This program provides resources to help homeowners adapt to living with wildfire. No municipalities participate, but the County has resources for training through the Bureau of Forestry and community colleges.

Mitigation Strategy

The mitigation strategy serves as the long-term road map to reduce the potential losses, vulnerabilities, and shortcomings identified in the risk assessment and capability assessment.

Mitigation Goals

The 2026 Hazard Mitigation Plan identifies seven mitigation goals for Lycoming County and its municipalities. There are also several objectives that support each goal.

Table 9: 2026 Mitigation Goals and Objectives

Goal	Objectives
Goal 1 – Prevent hazards from impacting the community by focusing on providing technical assistance and building more capacity at the municipal level.	• Work with the municipalities to create and/or update land use regulations (e.g., zoning, subdivision, and land development). • Complete and/or update stormwater management plans for all the watersheds in the County. • Promote municipal participation in the NFIP and CRS. • Evaluate hazard impacts and potential preventive measures. • Maintain permit tracking
Goal 2 – Protect the people, property, and environment in hazard areas.	• Acquire properties within hazard areas. • Retrofit structures to withstand hazard impacts. • Relocate structures to outside of hazard areas. • Ensure future public facilities can withstand hazard impacts. • Reduce the risk of natural hazards for socially vulnerable populations and underserved communities.
Goal 3 – Maintain and enhance emergency services capabilities in the community.	• Conduct and enhance emergency planning activities. • Improve alert and warning systems.
Goal 4 – Protect natural resources within the hazard areas.	• Protect natural functions of waterways. • Protect watersheds in the County. • Protect forestry resources and prevent wildfires.
Goal 5 – Ensure that stakeholder groups have the necessary information to mitigate against hazard impacts.	• Promote personal mitigation measures to the general public. • Promote public awareness of previous hazard impacts. • Conduct community outreach regarding hazard mitigation. • Develop and understanding of increased risk from climate change impacts to natural hazards and promote education on potential impacts from increased risk.
Goal 6 – Implement structural projects to reduce the impacts of hazards.	• Maintain infrastructure. • Design and implement flood control projects.
Goal 7 – Protect people and assets from the potential impacts of high hazard potential dams (HHPDs).	• Coordinate with high hazard potential dam owners and affected officials on dam rehabilitation and funding. • Ensure high hazard potential dam are mediated to decrease potential hazard risks.

Mitigation Successes

Prior to creating the 2026 Mitigation Action Plan, the HMPT reviewed actions in the 2020 Plan Update. While many actions are carried over into the 2026 Plan, a great deal of mitigation progress was made in the past five years. Key successes include:

- In July 2025, work began to rehabilitate a Williamsport levee system to improve stormwater drainage and flood mitigation. It is in response to the County's 2018 comprehensive plan, which identified potential levee deterioration as a major threat.
- $1.4 million in federal grants were awarded for water and sewer projects in the County. These projects will help replace aging infrastructure and meet new demand. Projects are with the Hughesville-Wolf Authority and the Muncy Borough Municipal Authority.
- In 2023, County staff completed the final site restoration of six acquired properties through Hazard Mitigation Grant Program funding. Four additional properties were acquired in Muncy Borough and Loyalsock and Old Lycoming Townships. These sites were demolished and restored to natural floodplain.
- Lycoming County was awarded $100,000 to update the County's Comprehensive Recreation, Parks, Open Space and Greenway Plan. The plan will identify and prioritize recreation projects and greenways. Work started in 2024 and is ongoing.
- In 2023, Countywide Action Plan funding supported multiple projects, totaling nearly $500,000, including five stream restoration and fish habitat projects.

Mitigation Action Plan

The mitigation actions included in this plan are based on issues identified in the risk assessment, gaps identified in the capability analysis, and input from the HMPT and other stakeholders. A comprehensive range of mitigation techniques were considered including:

			
Local Plans and Regulations	**Structure and Infrastructure Projects**	**Natural Systems Protection**	**Education And Awareness Programs**
Government authorities, policies, or codes that influence the way land and buildings are developed and built.	Modifying existing structures and infrastructure or constructing new structures to reduce hazard vulnerability.	Actions that minimize damage and losses and preserve or restore the functions of natural systems.	Actions to inform and educate citizens and elected officials about hazards and ways to mitigate.

Table 9: Mitigation Techniques for All Hazards in Lycoming County

Hazard	Mitigation Technique			
	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs
Flood, Flash Flood, Ice Jam (N)	X	X	X	X
Transportation Incident (M)	X	X		
Winter Storm (N)	X	X	X	X
Wildfire (N)	X	X	X	X
Utility Interruption (M)	X	X		X
Tornado, Windstorm (N)	X	X	X	X
Drought (N)				X
Extreme Temperatures (N)				X
EH: Hazardous Materials Release	X	X		X
Nuclear Incident (M)	X	X		X
Pandemic (N)		X		
EH: Conventional Oil and Gas Wells (M)	X	X	X	X
EH: Gas and Oil Pipeline (M)	X	X	X	X
EH: Unconventional Oil and Gas Wells (M)	X	X	X	X
Dam Failure (M)	X	X		X
Terrorism	X			X
Radon (N)	X			X
Landslide (N)		X		
Earthquake (N)		X		X
Hailstorm (N)	X	X		X
Invasive Species (N)	X			X
Disorientation (M)		X		X
Levee Failure (M)		X		
Subsidence, Sinkhole (N)	X	X		X

Additionally, the 2026 Mitigation Action Plan includes actions that have been deferred or ongoing have been carried over from the 2020 Plan Update. For each action, the plan identifies;

- An agency or job title that will be responsible for the work.
- Potential sources of funding.
- Estimated timeframe for when the action will happen.

While all activities are to be pursued over the next five years, the reality of limited time and resources requires prioritization of efforts. Each action was evaluated and prioritized based on effectiveness, efficiency and cost, type of hazard addressed, and vulnerabilities addressed. Table 10 highlights all high priority actions.

Table 10: 2026 High Priority Actions

#	Action	Community/ Organization	Lead Agency/ Department	Schedule	Funding Source
1.2	Develop language for potential inclusion in subdivision regulations requiring new power and communications (telephone, cable television) lines to be buried.	Lycoming County	Lycoming County Planning & Community Development	3–5 years depending on outcome of meetings with developers and electric companies	Borough, Township, Lycoming County Annual Budgets
1.9	Meet with Lycoming County Water and Sewer Authority to review the Integrated Contingency Plan to facilitate integration into hazard mitigation planning, emergency response, and other planning mechanisms in the County.	Lycoming County	Lycoming County Water and Sewer Authority; Lycoming County Planning & Community Development	6 months	Staff Time
2.4	Identify, acquire, demolish, and potentially reconstruct structures with the highest relative vulnerabilities.	All Municipalities	Lycoming County Planning & Community Development; Municipalities	Ongoing	HMGP
2.5	Retrofit public buildings and Critical Facilities to reduce future wind and earthquake damage.	All Municipalities	Local Planning Departments	5 Years	HMGP; Pre-disaster funding programs
5.1	Disseminate pertinent information to municipal officials and residents as needed regarding local contingency planning for water and wastewater facilities once Lycoming County Water and Sewer Authority complete the Integrated Contingency Plan which includes information on more than 35 facilities.	Armstrong, Fairfield, Limestone, Muncy Creek, Muncy, Penn, Wolf Townships; Duboistown, Montoursville Boroughs	Lycoming County Planning & Community Development; Municipalities, as needed	1 year	HMGP, General Fund
6.8	Obtain Levee accreditation (PAL) as part of Risk MAP.	Loyalsock, McIntyre, Old Lycoming Townships; South Williamsport Borough; City of Williamsport	Municipalities	Ongoing	General Fund

Plan Adoption, Implementation, and Maintenance

Plan adoption is a critical step for all participating jurisdictions. It allows the County and its municipalities to remain eligible for certain federal grant funding programs, including FEMA pre- and post-disaster mitigation funds. Once the plan is reviewed by PEMA and FEMA and receives an "approvable pending adoption" status, participating jurisdictions should be ready to adopt the plan and receive full approval from FEMA. All adoption resolutions will be submitted to PEMA and FEMA through the County.

Plan adoption, though important, is not the final step in the planning process but rather a first step to implementation. Each participating jurisdiction is responsible for advancing the mitigation actions they identified in the plan. The findings and actions included in this plan should also be used carried over into other planning mechanisms in each jurisdiction. This will help strengthen mitigation as a community priority. The information in this plan can also directly support applications for mitigation grant funding.

This HMP is intended to be a 'living document' and there is continual plan maintenance that involves periodic review, adjustments, and improvement. The maintenance process helps monitor and evaluate progress towards implementation. The HMSC and each participating municipality will review the plan and implementation progress at least annually, but also as deemed necessary based on the occurrence of a disaster or another occasion that necessitates the review of the HMP