

**BUCKS COUNTY HAZARD
MITIGATION PLAN UPDATE 2026**
EXECUTIVE SUMMARY

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Overview

Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life, property, and the environment resulting from natural and human-made hazards. The Bucks County Hazard Mitigation Plan (HMP) was developed to identify the vulnerabilities and risks associated with hazards and to define a mitigation strategy to reduce these vulnerabilities. Once approved by Pennsylvania Emergency Management Agency (PEMA) and Federal Emergency Management Agency (FEMA), communities that adopt the 2026 Bucks County Hazard Mitigation Plan (HMP) Update will be eligible for FEMA disaster grants. CRS communities may also be able to gain points for decreased insurance costs. This HMP could improve a community's bond rating when considering future conditions.

Hazard Mitigation Planning Process

Bucks County HMP was originally developed in 2004 and then updated in 2011, 2016, 2021, and now, 2026. The 2004, 2011, 2016, 2021, and 2026 Bucks County HMPs represent the work of government officials, business leaders, community members and non-profit organizations in developing a blueprint for protecting community assets, preserving the economic viability of the community, and saving lives.

The input required to guide the HMP update process was collected through a variety of virtual coordination with stakeholders. Through a collaborative approach to integrate mitigation planning efforts across local agencies, the 2026 HMP update is able to address a diverse set of hazards. After extensive outreach, 53 of 54 municipalities participated in the planning process by attending meetings or providing feedback on local hazards, capabilities, and mitigation efforts.

Over the past several months Bucks County representatives formed a Steering Committee and Hazard Mitigation Planning Team – inviting each community and many partner agencies including County departments and agencies, regional transportation agencies, school district officials, and more. The members of the steering committee are listed below.

Table 1. Steering Committee Members

Participant	Title
Evan J. Stone, PLA	Executive Director, Bucks County Planning Commission
Matthew M. Walters	Senior Planner, Bucks County Planning Commission
Deanna M. Miller	Planner/Recycling Coordinator, Bucks County Planning Commission
Andrew G. Heimark, GISP	Director of GIS Services, Bucks County Planning Commission
George E. Wilson IV	Director, Bucks County Emergency Management
Evan Kelbaugh	Operations and Training Officer, Bucks County Emergency Management

Risk Assessment

Assessing and ranking hazards helps communities set goals and priorities for mitigation based on their vulnerabilities. As population increases, industry shifts, technology advances, and climate changes, the list of

hazards to which the County is at risk is evolving. Bucks County has taken an all-hazards approach to hazard mitigation planning.

Based on previous plan updates, stakeholder input, research, data collection, and information from the Pennsylvania Hazard Mitigation Plan, 23 hazards were profiled in the 2026 HMP. Hazard profiles include information on location, magnitude, past and future occurrence, and vulnerability of each hazard, including potential loss estimates. All hazards identified in the 2021 HMP were expanded on in the 2026 HMP. One new hazard profile was added to the 2026 HMP: Cyber Terrorism. Of the 23 hazards profiled, five hazards were classified as high risk based on the Risk Factor Methodology in 4.6.1. These hazards are flooding, transportation incident, winter storm, wildfire, and utility interruption.

Hazard profiles in the 2026 HMP include the following Natural and Human-Made Hazards:

- Drought
- Earthquake
- Extreme Temperature
- Flood, Flash Flood, Ice Jam
- Hailstorm
- Hurricane, Tropical Storm, Nor'easter
- Landslide
- Lightning Strike
- Pandemic and Infectious Disease
- Radon Exposure
- Subsidence and Sinkholes
- Tornado and Windstorm
- Wildfire
- Winter Storm
- Structural Collapse (Infrastructure)
- Dam Failure
- Environmental Hazards (Hazardous Materials Releases)
- Terrorism
- Transportation Accidents
- Gas and Liquid Pipelines
- Cyber Terrorism
- Urban Fire and Explosion
- Utility Interruption



July 2021 Flood Event
Source: NBC Philadelphia

Capability Assessment

The HMP includes a review of hazards and the self-reported capabilities and resources communities possess to address those risks. Assessing community capabilities helps to determine the ability of the County and its municipalities to implement a comprehensive mitigation strategy, and to identify potential opportunities for establishing or enhancing specific mitigation policies, programs, and projects.

The assessment has two primary components:

1. An inventory of relevant plans, laws, regulations, policies and programs already in place, and
2. An analysis of capacity to carry them out.

These mitigation capabilities include laws and regulations; funding and technical assistance; development and construction management; and planning and programmatic support. Some capabilities established for Bucks County include:

- Bucks County has over 15 existing planning mechanisms including the recently updated Debris Management Plan, Emergency Operations Plan, and the Municipal Waste Management Plan.
- Many communities are clear on what plans and procedures are in place locally.

Between 2021 and this 2026 HMP Update, NFIP participation in Bucks County declined, with fewer municipalities reporting policies, claims, or total coverage under NFIP.

Mitigation Strategy

In order to develop the Mitigation Strategy, the planning team identified their goals and objectives for reducing risk in Bucks County, and then identified mitigation actions to implement between plan updates to meet these goals and objectives.

Goals and Objectives

The table below includes the goals and objectives identified in the HMP.

Table 2. Mitigation Goals and Objectives

Goals	Objectives
Reduce potential injury, death, and damage due to natural and human-made hazards.	Implement mitigation activities to reduce risk to existing properties, community lifelines, infrastructure, and other public facilities.
	Leverage data and science to consider future conditions in land use planning, infrastructure management, and mitigation projects.
	Prioritize high-risk assets such as transportation systems, high-hazard dams, and areas vulnerable to hazardous material releases or repetitive flooding.
	Encourage and facilitate disaster-resistant future development through comprehensive plans, zoning/land-use ordinances, and building codes.
	Evaluate and prioritize communities that require warning systems and storm shelters.
Promote hazard mitigation as a public value in recognition of its importance to the health, safety, and welfare of the population.	Increase awareness of hazards and opportunities for mitigation through public education campaigns.
	Increase public outreach/education for property owners and tenants regarding hazard risks and potential mitigation opportunities.
	Partner with leaders in the business community to increase disaster awareness and resilience.
	Encourage and support employers, employees, and residents to increase remote work capabilities.
	Partner with other agencies and organizations to understand and address socially vulnerable and underserved communities within the county.

Goals	Objectives
Enhance county mitigation programs and support efforts to increase municipal and authority mitigation capabilities and planning.	Leverage and expand GIS data and capabilities for improved hazard planning and outreach.
	Promote partnerships between the municipalities and the County to continue to develop a County-wide approach to identifying and implementing mitigation actions.
	Provide adequate and consistent enforcement of ordinances and codes within and between jurisdictions.
	Integrate hazard mitigation planning and risk considerations into other long-term and county planning initiatives such as the county's comprehensive plan, sustainability plan, and Act 167 Stormwater Management Plan.
	Work across state, federal, and local agencies to identify and pursue mitigation funding opportunities.
Protect natural resources within hazard areas and use them to reduce risk and losses	Identify natural resource areas providing risk reduction benefits that remain vulnerable to future development.
	Partner with organizations to restore natural resource areas that could provide increased risk reduction benefits.
	Identify opportunities to use green infrastructure and nature-based solutions for stormwater management and flood attenuation. Create buffers between flood-prone areas and development.
Protect people and assets from the potential impacts of high hazard potential dams.	Coordinate with High Hazard Potential Dam owners and affected officials on dam rehabilitation and funding.
	Address the risks posed by the potential failure of High Hazard Potential Dams within the county.

Mitigation Progress

A great deal of mitigation has been accomplished since the last HMP Update in 2021. Some highlights include:

Structure and Infrastructure:

- Perkasio Borough is working with home and business owners located in the floodplain who may be interested in selling properties to FEMA through their buy-back program. This coordination and collaboration has allowed those at risk to weigh their options.
- Doylestown Township reviews all development applications for flood risk using GIS.
- Lower Makefield Township has obtained information for structures with the highest relative vulnerability to determine the best property protection methods.

Local Plans and Regulations:

- Perkasio Borough completed a flood study to evaluate the condition of waterways and identify flood mitigation strategies.
- Perkasio Borough is participating in the Perkiomen Watershed study of the entire waterway, and is supporting mitigation efforts there.
- Doylestown Township has achieved CRS participation. They are Class 3.
- Doylestown Township has updated their emergency management plan to list agencies that can provide support post-disaster.
- Warwick Township has achieved CRS participation.

Education and Awareness:

- Bucks County held annual reviews with local officials and stakeholders to continue ongoing efforts to work towards achieving the county's hazard mitigation planning goals.
- The Bucks County Planning Commission created a Hazard Mitigation Project Tracker, which is a tool to track hazard mitigation projects and funding throughout the county.

- Yardley Borough has secured flood specific signage that warns travelers that barricades are present to prevent them from traveling into floodwater.

Mitigation Techniques

Each community, the County, and partner agencies were asked to submit actions intended to decrease the communities' risk to the identified hazards. Each mitigation action was assessed and prioritized. The table below outlines the types of actions that were identified and the hazards they address.

Table 3. Mitigation Techniques Used for All Hazards in Bucks County

Hazard	Mitigation Technique			
	Local Plans and Regulations	Structure and Infrastructure	Natural Systems Protection	Education and Awareness
Drought	X	X		X
Earthquake	X	X		X
Extreme Temperature	X	X		X
Flood, Flash Flood, Ice Jam	X	X	X	X
Hailstorm	X	X		X
Hurricane, Tropical Storm, Nor'easter	X	X	X	X
Landslide	X	X		X
Lightning Strike	X	X		X
Pandemic and Infectious Disease	X	X		X
Radon Exposure	X	X		X
Subsidence, Sinkhole	X	X		X
Tornado, Windstorm	X	X		X
Wildfire	X	X		X
Winter Storm	X	X		X
Structure Collapse	X	X		X
Dam Failure	X	X		X
Environmental Hazards	X	X		X
Terrorism	X	X		X
Transportation Accident	X	X		X
Urban Fire and Explosion	X	X		X
Utility Interruption	X	X		X
Cyber Terrorism	X	X		X
Gas and Liquid Pipelines	X	X		X