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Broome County Hazard Mitigation Plan – 2024 Update

Planning Partnership Meeting #2 – Review Preliminary Hazard Ranking
December 7, 2023

If you are joining through Teams, please enter your name and department/agency in the chat.


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Today's Agenda


1. Welcome
2. Progress Report
3. Public and Stakeholder Outreach
4. Risk Assessment Overview
5. Schedule
6. Questions/Next Steps/Wrap Up

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Project Schedule

- **Planning Process**
 - Ongoing
- **Update Risk Assessment**
 - Discuss risk assessment results – **TODAY!**
- **Public and Stakeholder Outreach**
 - Ongoing
- **Capability Assessment**
 - Ongoing
- **Mitigation Strategy**
 - Continue working with municipalities
 - Mitigation Strategy Workshop with FEMA and State – **February 1st**
- **Plan Maintenance**
 - Utilizing the BATool to review/update actions from 2019 HMP
 - Finalize plan maintenance procedures by **February 2024**
- **Develop Plan**
 - Draft Plan to Steering Committee by **March 2024**
 - Draft Plan Presentation in **April 2024**
 - Public Review Period – **April-May 2024**
 - Draft to NYS DHSES – **May 2024**
 - Draft to FEMA – **August/September 2024**
 - Adoption – **October/November 2024**



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In-Kind Tracking

Jurisdiction: _____

Name: _____ Title: _____


Date	Start Time	End Time	# hours	Task Description	Hourly Rate	Total # hours x rate	Comments describe task in more detail
					\$		

Scan the QR code for the online form to enter your time.



-or-


<https://www.surveymonkey.com/r/BroomelKind>




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Participation Status




Jurisdiction	Participating?	Status	Jurisdiction	Participating?	Status
Broome County	Yes	Annex updated; need status of several 2019 actions	Kirkwood (T)	Yes	Annex updated; need status of 2019 actions
Barker (T)	Yes	Annex updated; need status of 2019 actions	Lisle (T)	No	-
Binghamton (C)	Yes	Annex updated; need status of several 2019 actions	Lisle (V)	Yes	Annex updated; need status of 2019 actions
Binghamton (T)	Yes	Annex updated; need status of 2019 actions	Maine (T)	Yes	Annex updated; need status of 2019 actions
Chenango (T)	Yes	Annex updated; need status of 2019 actions	Nanticoke (T)	Yes	Annex updated; need status of 2019 actions
Colesville (T)	Yes	Annex updated; need status of 2019 actions	Port Dickinson (V)	Yes	Annex updated; need status of 2019 actions
Conklin (T)	Yes	Annex updated; need status of 2019 actions	Sanford (T)	Yes	Annex updated; need status of 2019 actions
Deposit (V)	No	-	Triangle (T)	Yes	Annex updated; need status of 2019 actions
Dickinson (T)	Yes	Annex updated; need status of 2019 actions	Union (T)	Yes	Annex updated; need status of 2019 actions
Endicott (V)	Yes	Annex updated; need status of 2019 actions	Vestal (T)	Yes	Annex updated; need status of 2019 actions
Fenton (T)	Yes	Annex updated; need status of 2019 actions	Whitney Point (V)	Yes	Annex updated; need status of 2019 actions
Johnson City (V)	Yes	Annex updated; need status of 2019 actions	Windsor (T)	Yes	Annex updated; need status of 2019 actions
			Windsor (V)	Yes	Annex updated, including status of 2019 actions



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Public and Stakeholder Outreach




- Public Outreach Toolkit –
 - Social media templates and posts
 - Printable materials
- Surveys
 - Stakeholders
 - Neighboring communities
 - Public
- HMP website – [2024 Broome County Multi-Jurisdictional Hazard Mitigation Plan Update | Broome County \(broomecountyny.gov\)](https://broomecountyny.gov/planning/hazardmitigation)
- StoryMap - <https://storymaps.arcgis.com/stories/6f5336592a674f548ff0bd2c360e849d>



Hazard Mitigation In Broome County

BROOME COUNTY
Hazard Mitigation Plan 2024 Update

Broome County and its jurisdictions are updating its Hazard Mitigation Plan to remain eligible for federal grant funding. Learn more about the plan and how you can help by visiting our website:
<https://broomecountyny.gov/planning/hazardmitigation>




BROOME COUNTY
HAZARD MITIGATION PLAN UPDATE

LIVE OR WORK IN THE COUNTY?
WE NEED YOUR HELP!

Grants & Funding Plan & Prepare Mitigate


CLICK HERE TO TAKE THE PUBLIC SURVEY











DRONES OVER BROOME COUNTY



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Hazards of Concern (2024 HMP)




 Dam and Levee Failure	 Flood
 Disease Outbreak	 Invasive Species
 Drought	 Severe Storm
 Earthquake	 Severe Winter Storm
 Extreme Temperature	 Wildfire



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Risk Assessment Overview

*How are the rankings calculated?
What is the preliminary ranking?*

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What is Risk?

- ✓ Hazard
 - *Something that has the potential to cause damage, injuries, and losses*
- ✓ Exposure
 - *People, property and infrastructure vulnerable to the hazard*
- ✓ Risk
 - *Probability and severity of damages to people, property, and infrastructure*

RISK = HAZARD x EXPOSURE

HAZARD vs RISK

HAZARD

A HAZARD is something that has the potential to harm you

RISK

RISK is the likelihood of a hazard causing harm

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Purpose of the Risk Assessment

- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- Local community input to adjust relative rankings

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What We Looked At



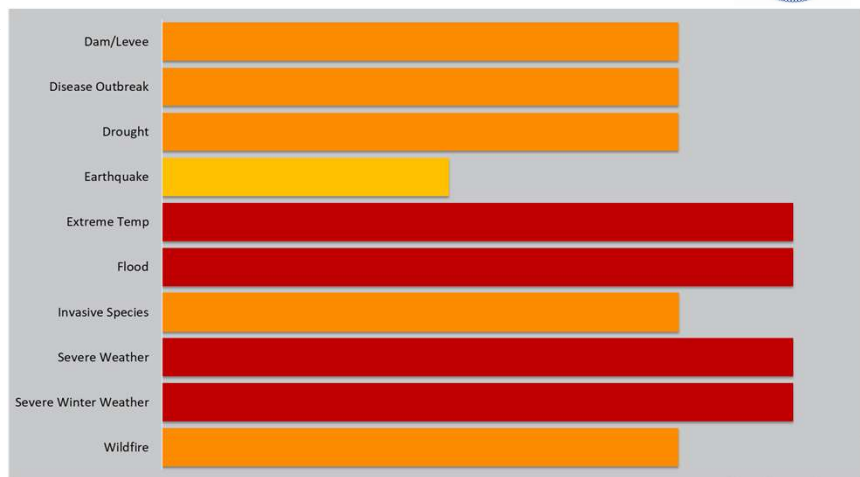
Hazard	Population	Property	Economy
Dam/Levee Failure	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Disease Outbreak	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Drought	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Earthquake	Population located areas with Class D & E soils	Buildings located in areas with Class D & E soils	Damage to buildings located in areas of Class D & E soils
Extreme Temperature	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Flood	Population located in 1% SFHA	Buildings located in 1% SFHA	Replacement costs of buildings in 1% SFHA
Invasive Species	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Severe Storm	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Severe Winter Storm	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Wildfire	Population located in Wildland/Urban Interface/Intermix Areas	Buildings located in Wildland/Urban Interface/Intermix Areas	Damage to buildings located in Wildland/Urban Interface/Intermix Areas

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Countywide Rankings



Hazard	Ranking
Dam/Levee Failure	Medium
Disease Outbreak	Medium
Drought	Medium
Earthquake	Low
Extreme Temperature	High
Flood	High
Invasive Species	Medium
Severe Storm	High
Severe Winter Storm	High
Wildfire	Medium



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Preliminary Municipal Rankings

Jurisdictions	Hazard Ranking									
	Dam/Levee	Disease Outbreak	Drought	Earthquake	Extreme Temp	Flood	Invasive Species	Severe Weather	Weather	Wildfire
Barker (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Binghamton (C)	Medium	Medium	Medium	Low	High	Medium	Medium	High	High	Medium
Binghamton (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Chenango (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Colesville (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Conklin (T)	Medium	Medium	Medium	Low	High	High	Medium	High	High	Medium
Dickinson (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Endicott (V)	Medium	Medium	Medium	Low	High	High	Medium	High	High	Medium
Fenton (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Johnson City (V)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Kirkwood (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Liste (V)	Medium	Medium	Medium	Low	High	High	Medium	High	High	Medium
Maine (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Nanicoke (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Port Dickinson (V)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Sanford (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Triangle (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Union (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Vestal (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Whitney Point (V)	Medium	Medium	Medium	Low	High	High	Medium	High	High	Medium
Windsor (T)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
Windsor (V)	Medium	Medium	Medium	Low	High	Low	Medium	High	High	Medium
County (Total)	High	Medium	Medium	Low	High	High	Medium	High	High	Medium

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Review Preliminary Rankings

Hazard Ranking Review

Please send all electronic Word versions of this worksheet to Maddie Lane (Tetra Tech) by January 2nd
Email: maddie.lane@tetratech.com

Jurisdiction: Broome County
Name/Title of Individual Completing Worksheet:

What is a Hazard Ranking?
Hazard Ranking is used to understand your community's vulnerabilities to hazards and to prioritize projects and activities for mitigation.

Hazard Ranking is determined by quantitative and qualitative factors including:

- The calculated probability of a hazard occurring based on historical data.
- Impacts to people, property, and the economy based on GIS data and analysis of exposure.
- The degree to which climate change will affect future occurrences based on best available data.
- Adaptive Capacity, which is the ability your community has to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.

What is my Hazard Ranking?
The following table represent the calculated rankings for the hazards of concern for your community. Please review the calculated rankings and indicate whether or not you want to adjust the ranking. If you are changing the ranking, please provide detail as to why you are changing the ranking. *MEMBER, for every hazard of concern you need at least one mitigation action.*

Table 1. 2023 HMP Municipal Hazard Rankings

Hazard	Draft 2024 Ranking Based on IA Results	Agree with draft hazard ranking (Y/N) If No, indicate preferred ranking.	What changes in mitigation or other conditions have resulted in the change in hazard ranking since 2019?
Dam/Levee	High		

Hazard Ranking Review

Hazard	Draft 2024 Ranking Based on IA Results	Agree with draft hazard ranking (Y/N) If No, indicate preferred ranking.	What changes in mitigation or other conditions have resulted in the change in hazard ranking since 2019?
Disease Outbreak	Medium		
Drought	Medium		
Earthquake	Low		
Extreme Temperature	High		
Flood	High		
Invasive Species	Medium		
Severe Storm	High		
Severe Winter Storm	High		
Wildfire	Medium		

What is Adaptive Capacity?
Adaptive capacity describes a jurisdiction's current ability to protect from or withstand a hazard event.

- Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.
- Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirement; deployable resources all of which decreases vulnerability.

Table 2. 2024 HMP Municipal Adaptive Capacity

Hazard	Preliminary Ranking	What should we indicate for your community's adaptive capacity for each hazard?
Dam/Levee	Moderate	
Disease Outbreak	Moderate	
Drought	Moderate	
Earthquake	Weak	
Extreme Temperature	Moderate	
Flood	Moderate	
Invasive Species	Moderate	
Severe Storm	Moderate	
Severe Winter Storm	Moderate	
Wildfire	Moderate	

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Review Preliminary Rankings



Hazard	Draft 2024 Ranking Based on RA Results	Agree with draft hazard ranking (Y/N)? If No, indicate preferred ranking.	What changes in mitigation or other conditions have resulted in the change in hazard ranking since 2019?
Dam/Levee	Medium	Yes	-
Disease Outbreak	Medium	Yes	-
Drought	Medium	Yes	-
Earthquake	Low	Yes	-
Extreme Temperature	High	Yes	-
Flood	Low	No – High	Stormwater flooding causes significant issues throughout the municipality; flood should be ranked as high
Invasive Species	Medium	Yes	-
Severe Storm	High	Yes	-
Severe Winter Storm	High	Yes	-
Wildfire	Medium	No – Low	The municipality does not have a history of wildfires and not located in an areas susceptible to wildfires; should be ranked as low

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Review Preliminary Adaptive Capacity

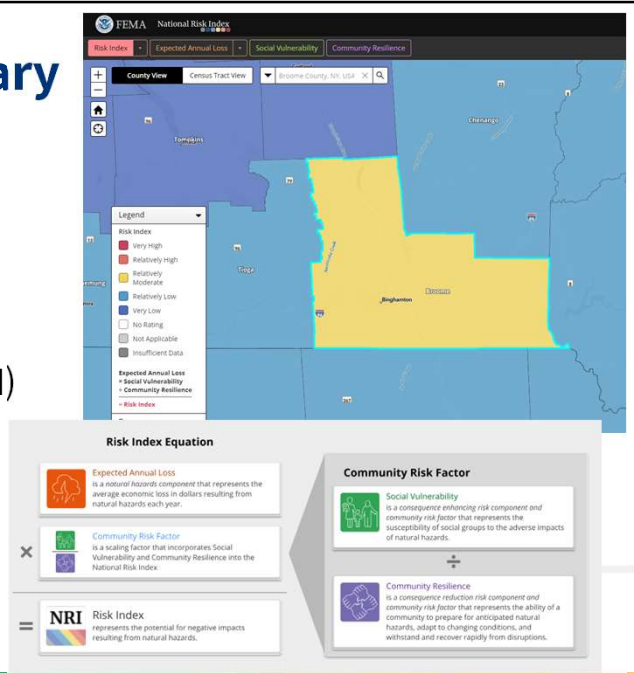


Hazard	Preliminary Ranking	What should we indicate for your community's adaptive capacity for each hazard?
Dam/Levee	Moderate	
Disease Outbreak	Moderate	
Drought	Moderate	Weak – many residents rely on surface water and we do not have backup water sources in the event of a severe drought
Earthquake	Weak	Moderate – buildings codes include requirements to withstand earthquakes
Extreme Temperature	Moderate	
Flood	Moderate	
Invasive Species	Moderate	
Severe Storm	Moderate	Strong – the municipality experiences severe storms every year and we have programs and resources to decrease our vulnerability
Severe Winter Storm	Moderate	Strong – the municipality experiences winter weather every year and we have programs and resources to decrease our vulnerability
Wildfire	Moderate	

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Risk Assessment Summary

- Each slide will include:
 - Types of hazards included (e.g., severe storm includes hail, lightning, etc.)
 - Summary of events
 - FEMA National Risk Index (NRI) Rating
 - Online tool to help understand risk for 18 hazards
 - Risk assessment results
 - Preliminary hazard ranking



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Dam/Levee Failure

- Number of dams
 - 61 dams (USACE) – 23 identified as high hazard
- Number of levees
 - 13 levee systems (USACE); all used for flood risk reduction
- No reported failures or incidents
 - Any events we should include?
- Inundation areas – not available for the risk assessment; if available, we can incorporate into the HMP



Preliminary Hazard
Ranking

Medium

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Disease Outbreak



- Included – Lyme, West Nile, Flu, and Covid-19
- History of occurrence throughout the County
- Impacts
 - Vulnerable populations at risk (age, disability, and poverty)
 - Property impacts
 - Economic impacts – depends on extent of outbreak

Preliminary Hazard
Ranking
MEDIUM



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Drought



- Event history -
 - Drought Impact Reporter identifies 14 drought events since 1950; majority of impacts related to agriculture
- FEMA NRI Rating = No Rating
- Impacts
 - Entire population at risk; however, more vulnerable populations at higher risk
 - Property impacts – low
 - Economic impacts – medium

Preliminary Hazard
Ranking
MEDIUM



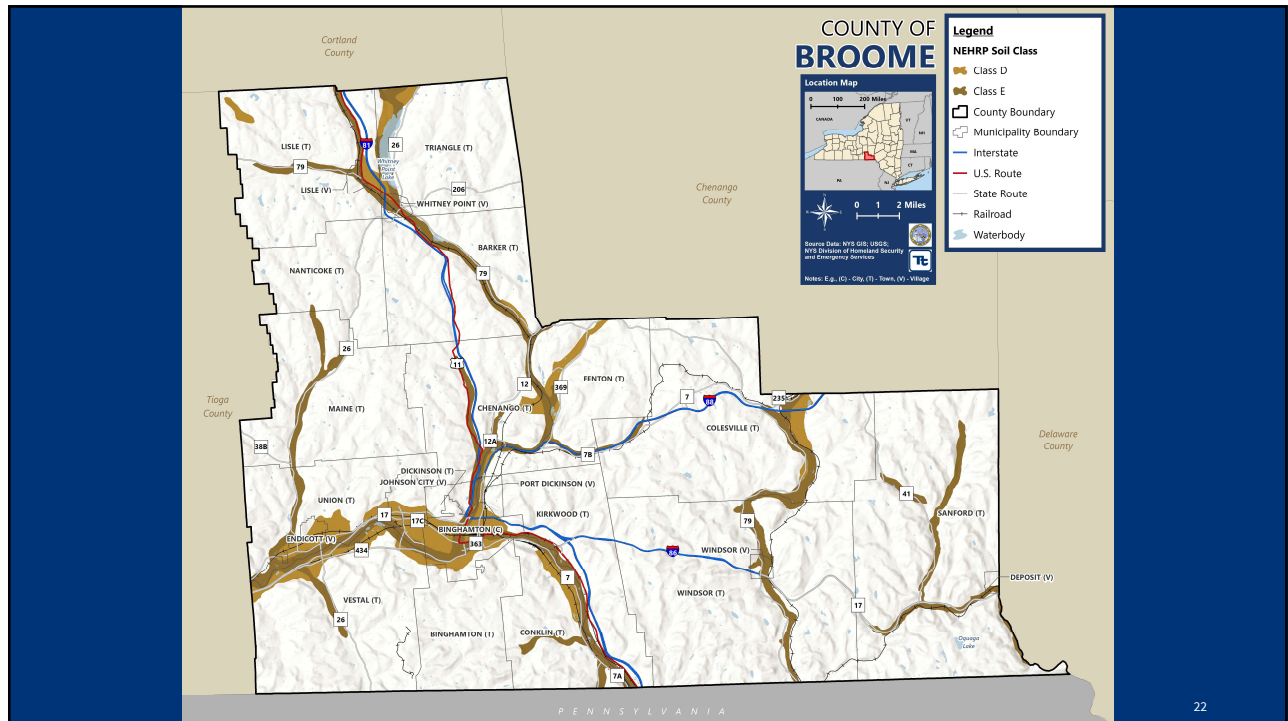
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Earthquake

- Event history is minimal
 - No earthquakes in the County since 1950
- FEMA NRI Rating = Very Low
- Impacts
 - Population - low
 - Property impacts – low
 - Economic impacts – low

Preliminary Hazard Ranking
LOW



Extreme Temperature (hot/cold)



- Extreme Heat - >90°F
 - Over 200 days since 1950 with a recorded high of >90
- Extreme Cold - <20°F
 - Over 1,000 days with a recorded low of <20
- FEMA NRI Rating –
 - Cold = Relatively Moderate
 - Heat = Relatively Low
- Impacts
 - Vulnerable populations most at risk – age, disability, and poverty
 - Property impacts – low
 - Economic impacts – medium

Preliminary Hazard
Ranking

HIGH



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Flood



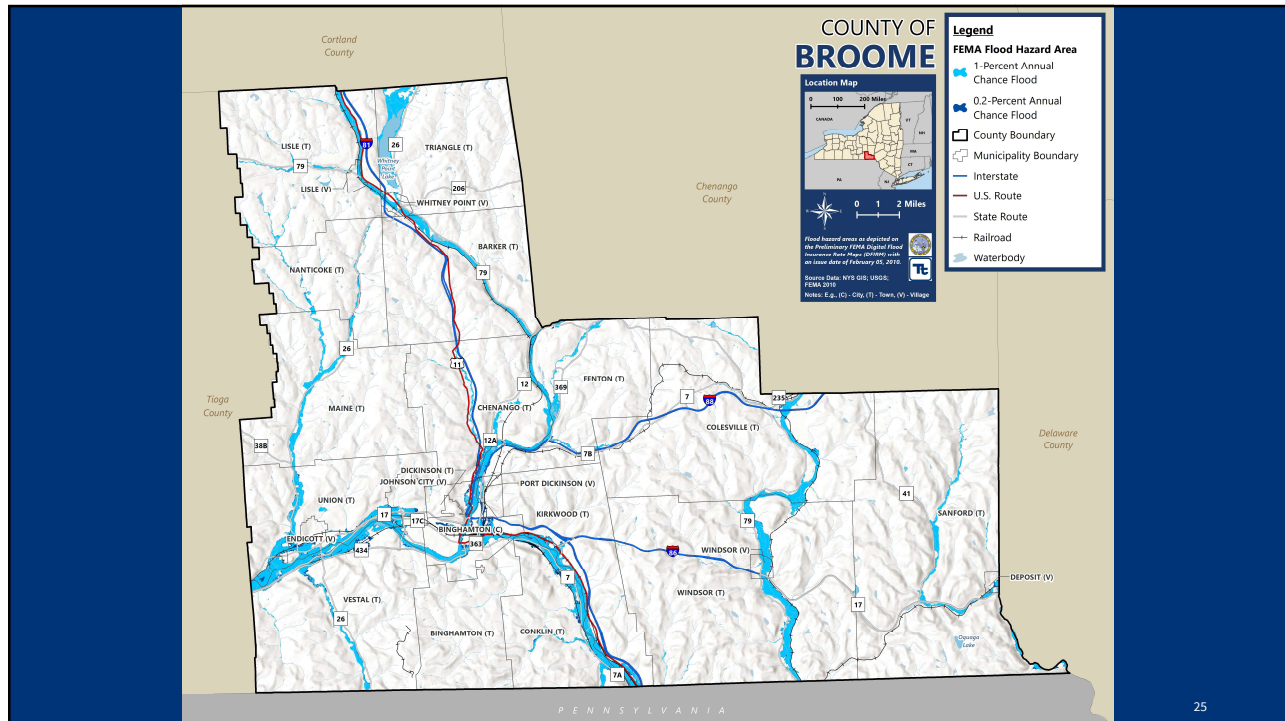
- History of occurrence throughout the County
 - 201 recorded flood events since 1996 (NOAA-NCEI)
 - 8 FEMA declarations (identified as flood events)
- FEMA NRI Rating = Relatively High
- Impacts
 - Population and property located in the 1% SFHA
 - Economic impacts – replacement cost values of buildings in the 1% SFHA
 - Considered stormwater impacts as well

Preliminary Hazard
Ranking

HIGH




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Invasive and Nuisance Species




- Included – Phragmites, Dutch Elm Disease, Giant Hogweed, Hydrilla, Japanese Knotweed, Tree of Heaven, Wild Parsnip, Elm Zigzag Sawfly, Emerald Ash Borer, Hemlock Woolly Adelgid, Spotted Lanternfly, True Armyworm, Stinkbug, and Ticks
- Impacts
 - Entire population at risk
 - Property impacts – medium
 - Economic impacts – medium

Preliminary Hazard Ranking

MEDIUM





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Severe Storm



- Included – hail, lightning, wind, hurricanes/tropical storms, tornadoes
- Over 500 events since 1950 (NOAA-NCEI)
- 12 FEMA declarations (severe storm, hurricane)
- FEMA NRI Rating –
 - Hail = Relatively Low
 - Lightning = Relatively Low
 - Strong Wind = Relatively Low
 - Tornado = Relatively Moderate
- Impacts
 - Entire population at risk
 - Property impacts – medium
 - Economic impacts – medium

Preliminary Hazard
Ranking

HIGH



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Severe Winter Weather



- Included – snow, ice, blizzards
- Event history -
 - Over 90 events since 1996 (NOAA-NCEI)
 - 4 FEMA declarations
- FEMA NRI Ratings –
 - Ice Storm = Relatively Moderate
 - Winter Weather = Very Low
- Impacts
 - Vulnerable populations most at risk – age, disability, and poverty
 - Property impacts – high
 - Economic impacts – low

Preliminary Hazard
Ranking

HIGH



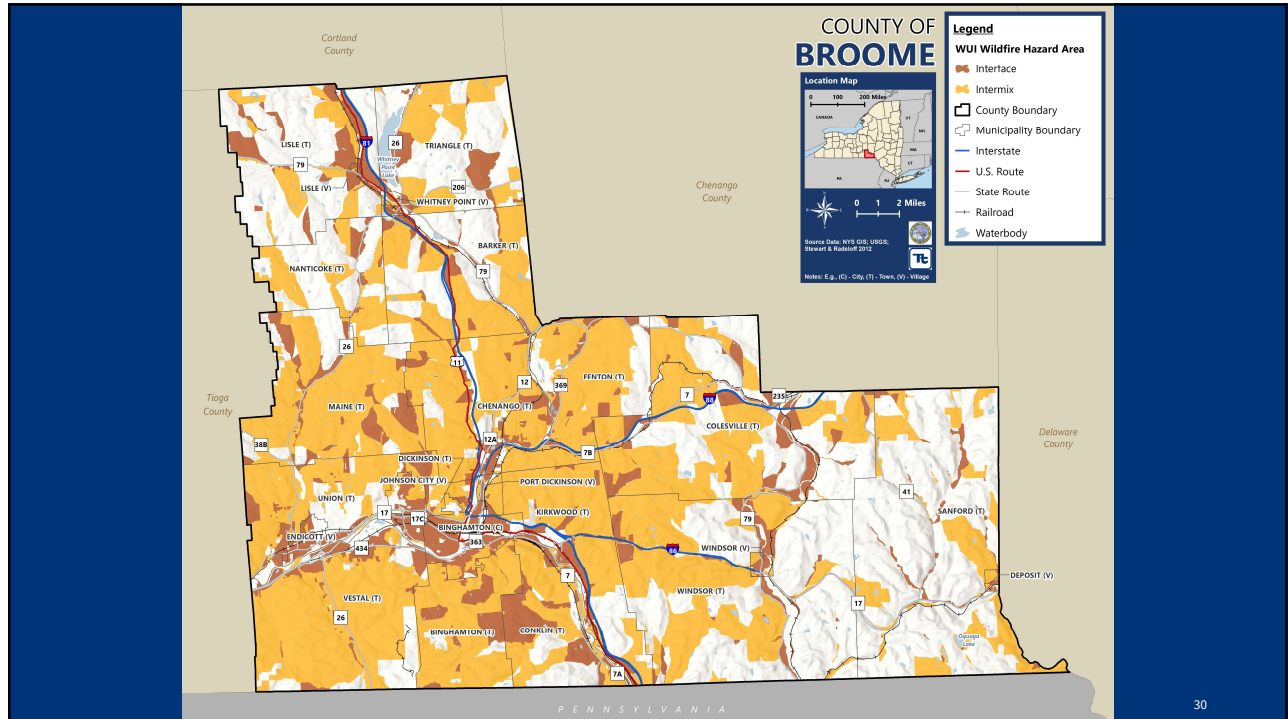
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Wildfire



- 37 wildfires recorded since 2008 (NYS Forest Ranger database)
- FEMA NRI Rating = Very Low
- Impacts
 - Entire population at risk
 - Property impacts – Medium
 - Economic impacts – Medium

Preliminary Hazard Ranking
MEDIUM






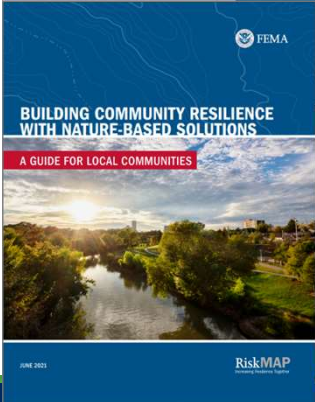

Mitigation Strategy

How will you accomplish the overall purpose of the HMP? What will you do to reduce risk?

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How do you reduce risk?

- How do you reduce risk for a hazard?
 - **Manipulate the Hazard**
 - Structural flood control (e.g., flood walls, levees)
 - **Reduce/Eliminate Exposure**
 - Acquire floodprone properties
 - **Reduce Vulnerability**
 - Retrofit (e.g., floodproofing structures)
 - **Increase Capability**
 - \$, preparation, technical assistance, planning enforcement

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Using Your Mitigation Strategy to Reduce Risk



- What is a **Mitigation Strategy**?
 - A group of projects or actions to reduce the impacts of the hazards of concern on your community
 - Plans and Regulations
 - Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs
- Terms to describe the Mitigation Strategy include:
 - **Mitigation Action Plan** or **Action Plan**
 - **Mitigation Projects** or **Initiatives** or **Actions**

Your Mitigation Strategy table is included in your annex. We will use action worksheets and online forms to collect details on the actions you will include in the 2024 Update.



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Where do you need to focus?




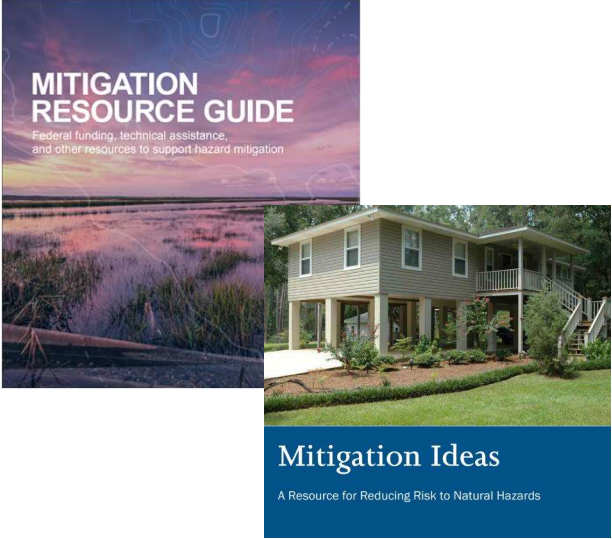
- Stronger connection between the risk assessment and mitigation strategy
- More specific, achievable actions
 - Specific projects, in specific locations, in a specific timeframe
 - Focus on socially vulnerable populations and underserved communities
- Diverse actions
 - You need at least one action per hazard of concern. Think about actions that can cover multiple hazards.
 - Include a variety of action types (e.g., developing plans, outreach, structural, etc.)



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Other Mitigation Actions to Consider






MITIGATION RESOURCE GUIDE
Federal funding, technical assistance, and other resources to support hazard mitigation


Mitigation Ideas
A Resource for Reducing Risk to Natural Hazards

- Local Disaster Debris Management Plans
- Substantial Damage Management Plan
- Actions to address high-hazard or significant-hazard dams
- Public education and outreach programs
- Generators at critical facilities and community lifelines
- Floodproofing critical facilities and community lifelines
- Addressing repetitive and severe repetitive loss properties

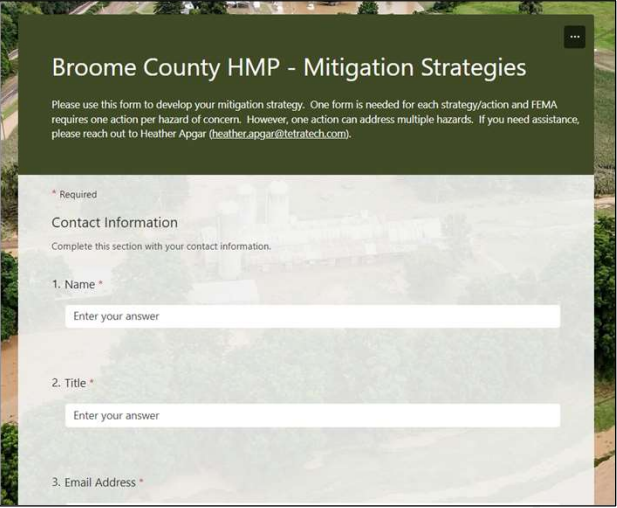


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Mitigation Strategy Online Form



- We will be collecting input on mitigation actions through on online form
- Complete one form per action
- We will be providing additional information to help with the actions
- Any questions, reach out!



Broome County HMP - Mitigation Strategies

Please use this form to develop your mitigation strategy. One form is needed for each strategy/action and FEMA requires one action per hazard of concern. However, one action can address multiple hazards. If you need assistance, please reach out to Heather Apgar (heather.apgar@tetratech.com).


* Required

Contact Information
Complete this section with your contact information.

1. Name *
Enter your answer

2. Title *
Enter your answer

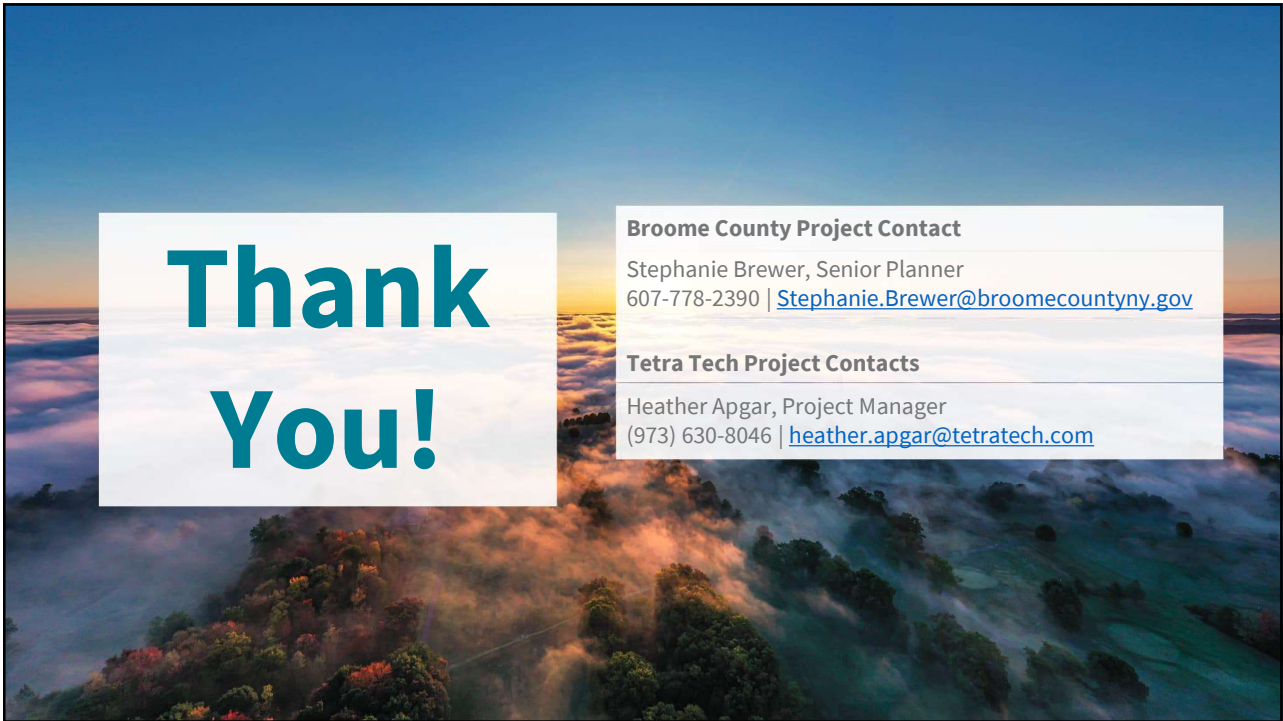
3. Email Address *



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