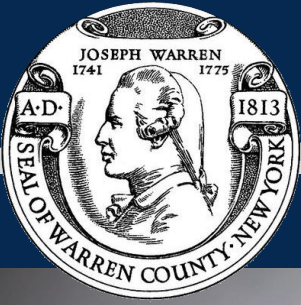


HAZARD MITIGATION PLAN

Warren County, New York



APPENDICES



2023



Prepared By:
Tetra Tech, Inc.
6 Century Drive, Suite 300
Parsippany, NJ 07054



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APPENDIX A. ADOPTION RESOLUTIONS

The Warren County and municipal adoption resolutions will be included in this appendix upon receipt of the Federal Emergency Management Agency (FEMA) Approval Pending Adoption (APA) status. Please refer to Section 8 (Planning Partnership) for additional information on plan adoption procedures.

This appendix also includes an example resolution to be submitted by Warren County and participating jurisdictions authorizing adoption of the Warren County Hazard Mitigation Plan Update.



RESOLUTION NO. XXXX-XX
A RESOLUTION OF THE **Governing Body** OF THE **Jurisdiction Name**
AUTHORIZING THE ADOPTION OF THE
2023 WARREN COUNTY, NY
HAZARD MITIGATION PLAN UPDATE

WHEREAS the **(local governing body)** recognizes the threat that natural hazards pose to people and property within **(local government)**; and

WHEREAS the **(local government)** has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in **(local community)** from the impacts of future hazards and disasters; and

WHEREAS adoption by the **(local governing body)** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the (title and date of mitigation plan).

NOW THEREFORE, BE IT RESOLVED BY THE **(LOCAL COMMUNITY), (STATE)**, THAT:

In accordance with **(local rule for adopting resolutions)**, the **(local governing body)** adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this ____ day of _____, _____.

By: _____

(print name)

ATTEST: By: _____

(print name)

APPROVED AS TO FORM: By: _____

(print name)

ABSTAIN: _____

Mayor, **City/Town/Village** of _____

ATTEST: _____

Clerk, **City/Town/Village** of _____

Warren County Board of Supervisors

RESOLUTION NO. 493 OF 2023

RESOLUTION INTRODUCED BY SUPERVISORS GERACI, MAGOWAN, SMITH, CONOVER, MCDEVITT, DRISCOLL, AND LEGGETT

ADOPTING THE 2023 WARREN COUNTY HAZARD MITIGATION PLAN UPDATE

WHEREAS, Warren County recognizes the threat that natural hazards pose to people and property with Warren County, and

WHEREAS, Warren County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000, and

WHEREAS, the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Warren County from the impacts of future hazards and disasters, and

WHEREAS, adoption by the Warren County Board of Supervisors demonstrates their commitment to hazard mitigation and achieving the goals outline in the 2023 Warren County Hazard Mitigation Plan, now, therefore, be it

RESOLVED, that the Warren County Board of Supervisors hereby adopts the 2023 Warren County Hazard Mitigation Plan, which is located and accessible at www.warrencountynewyorkhmp.com, and incorporated by reference herein, and be it further

RESOLVED, that this Plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations and only applies to this specific Plan and does not absolve the community from updating the Plan in 5 years.

STATE OF NEW YORK)
)ss.:
COUNTY OF WARREN)

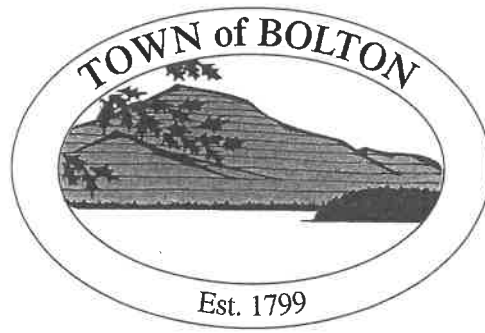
I, AMANDA ALLEN, Clerk, of the Board of Supervisors of the County of Warren, do hereby certify that the foregoing is a true and correct copy and the whole thereof of a Resolution duly adopted by the Board of Supervisors of the County of Warren, Lake George, New York at their Regular Board Meeting held on the 17th day of November, 2023.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Board of Supervisors on this 30th day of January, 2024.


Amanda Allen, Clerk
Warren County Board of Supervisors

(Affix seal above)

Assessor
644-2894
Justice Court
644-2202
Planning
644-2893



Supervisor
644-2461
Town Clerk
644-2444
Fax
518-644-2476

RESOLUTION #346

Councilmember Murnane moved, seconded by Councilmember MacEwan to authorize the adoption of the 2023 Warren County, NY Hazard Mitigation Plan Update as follows:

WHEREAS the Town of Bolton recognizes the threat that natural hazards pose to people and property within the Town of Bolton; and

WHEREAS the Town of Bolton has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Bolton from the impacts of future hazards and disasters; and

WHEREAS adoption by the Town of Bolton demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County, NY Hazard Mitigation Plan Update.

NOW THEREFORE, BE IT RESOLVED BY THE Town of Bolton, NY, THAT:

Section 1. In accordance with Municipal Home Rule, the Town of Bolton adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years. **All in Favor. Motion Carried.**

CERTIFICATE OF RECORDING OFFICER

I, Jodi Petteys, Town Clerk of the Town of Bolton, Warren County, New York, do hereby certify that the attached is a true and correct copy of Resolution #346 of 2023, as adopted at a legally convened meeting of the Town Board of the Town of Bolton duly held on the 27th day of December 2023; and further that such a resolution has been fully recorded in the Town Minute Book in my office.

In witness thereof, I hereunto set my hand this 9th day of January, 2024.


SIGNATURE OF RECORDING OFFICER

Town Clerk
TITLE OF RECORDING OFFICER



Town Clerk

6307 State Route 9, P.O. Box 467
Chestertown, New York 12817
Tel: (518)494-5160
Email: TownClerk@townofchesterny.org

January 24, 2024

Warren County SWCD
Jim Lieberum
394 Schroon River Road
Warrensburg, NY 12855

The following Resolution was adopted on January 9, 2024 regarding the Hazard Mitigation Plan Update:

RESOLUTION NO. 24 OF 2024: AUTHORIZING THE ADOPTION OF THE 2023 WARREN COUNTY, NY HAZARD MITIGATION PLAN UPDATE

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

WHEREAS, the Town of Chester has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Chester from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Chester demonstrates their commitment to hazard mitigation and achieving the goals outlined in the Warren County Hazard Mitigation Plan 2023 Update.

NOW THEREFORE, BE IT RESOLVED, by the Town of Chester, Warren County, New York, adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

On a motion by Councilwoman DuRose, seconded by Councilperson Cooper, Resolution No. 24 of 2024 was **ADOPTED**.

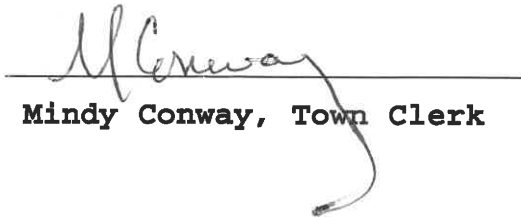
AYE 4 NO 0

STATE OF NEW YORK

COUNTY OF WARREN

I, Mindy Conway, Town Clerk of the Town Board of the Town of Chester, Warren County, New York, do hereby certify that the forgoing is a true and correct copy of the whole thereof a Resolution duly adopted by the Town Board on the 9th day of January 2024.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official Seal of the Town of Chester this 24th day of January 2024.


Mindy Conway, Town Clerk

At a regular City of Glens Falls Common Council meeting held on Tuesday, February 13th, 2024, at City Hall, 42 Ridge Street, Glens Falls, New York 12801, the following resolution was passed:

RESOLUTION NO. 27

On the motion of Councilman-At-Large Clark, seconded by Councilwoman Gooden, all voting affirmatively, it was

RESOLVED THAT, The Common Council hereby approves and adopts the 2023 Warren County Hazard Mitigation Plan. This plan may be edited or amended after submission for review but will not require the city to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

AYES: Councilman-At-Large Clark, Councilman Landry, Councilwoman Gooden, Councilman Donohue, and Councilman Lapham.

NAYS: None.

ABSTAIN: None.

ABSENT: Councilwoman Palmer.

Said resolution hereby declared as **ADOPTED**.

CITY OF GLENS FALLS

STATE OF NEW YORK ss:

COUNTY OF WARREN

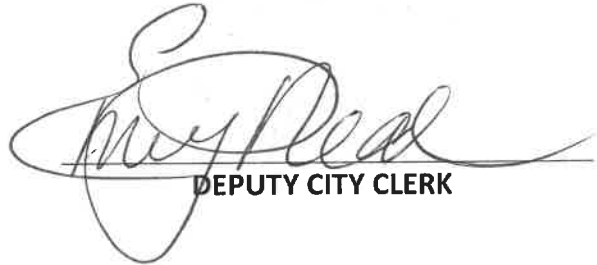
I, Emily Neal, **Deputy City Clerk** of the City of Glens Falls and Clerk to the **COMMON COUNCIL** of said City, do hereby certify that the Resolution and Order, of which the foregoing is a copy, was duly adopted by the **COMMON COUNCIL** of the City of Glens Falls, at a meeting of said **COMMON COUNCIL** held on the **13th day of February, 2024** and that I have compared the preceding resolution with the original resolution duly adopted by the said **COMMON COUNCIL** and contained in the minutes of said meeting of said **COMMON COUNCIL** now on file in my office, and that the same is a correct transcript therefrom and of the whole of said original.

IN WITNESS WHEREOF, I HAVE HEREUNTO

subscribed my name and affixed the seal

of said City,

this 4th day of March 2024


DEPUTY CITY CLERK

Town of Hague

Community Center • 9793 Graphite Mountain Road • P.O. Box 509 • Hague, NY 12836

RESOLUTION # 83 OF 2023

A RESOLUTION AUTHORIZING THE ADOPTION OF THE 2023 WARREN COUNTY, NY HAZARD MITIGATION PLAN UPDATE

WHEREAS, the Hague Town Board recognizes the threat that natural hazards pose to people and property
Within the Town of Hague, and

WHEREAS, the Town of Hague has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren
County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce
or eliminate long-term risk to people and property in the Town of Hague from the impacts of future
hazards and disasters; and

WHEREAS, adoption by the Hague Town Board demonstrates their commitment to hazard mitigation and
achieving the goals outlined in the 2023 Warren County Hazard Mitigation Plan, NOW THEREFORE,
BE IT

RESOLVED, that the Hague Town Board hereby adopts the 2023 Warren County Hazard Mitigation Plan. This
plan may be edited or amended after submission for review, but will not require the re-adoption
of any further iterations. This only applies to this specific plan and does not absolve the Town
Board from updating the plan in 5 years.

DULY ADOPTED BY THE FOLLOWING VOTE:

AYES: Deputy Supervisor Ramant, Cherubini, Bast, Patchett

NAYS: None

ABSENT: Supervisor Frasier

DATED: September 19, 2023



KIM COFFIN TOWN CLERK

SUPERVISOR
Michael N. Geraci
518-494-3647

TOWN CLERK/TAX COLLECTOR
Krista Wood
518-494-4643

HIGHWAY SUPERINTENDENT
Darian Granger
518-494-2115



ASSESSOR
Christine Hayes
518-494-4198

ZONING ADMINISTRATOR
Matthew Magee
518-494-4245

TOWN COUNSEL
Mark Schachner
518-793-6611

HAMLETS OF ADIRONDACK & BRANT LAKE

RESOLUTION #147-2023

Councilman Palmer and Councilman Olson introduced Res. No. 147 and moved its adoption:

A RESOLUTION OF THE TOWN BOARD OF THE TOWN OF HORICON AUTHORIZING THE ADOPTION OF THE 2023 WARREN COUNTY, NY HAZARD MITIGATION PLAN UPDATE

WHEREAS the Horicon Town Board recognizes the threat that natural hazards pose to people and property within Town of Horicon; and

WHEREAS the Horicon Town Board has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Horicon from the impacts of future hazards and disasters; and

WHEREAS adoption by the Horicon Town Board demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF HORICON, NY, THAT:

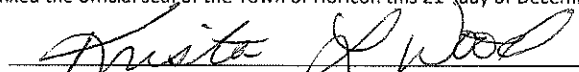
The Horicon Town Board adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

AYES: 5 NAYS: 0 ABSENT: 0
Councilperson Carlozzi: AYE Councilperson Smith: AYE Councilperson R. Olson: AYE Councilperson P. Palmer: AYE
Supervisor Geraci: AYE

State of New York)
County of Warren)

I, KRISTA WOOD, TOWN CLERK OF THE TOWN OF HORICON, COUNTY OF WARREN, do hereby certify that the foregoing is a true and correct copy and the whole thereof of a Resolution duly adopted by the Town Board of the Town of Horicon on the 21st day of December, 2023.

IN WITNESS WHEREOF, I have set my hand and affixed the official seal of the Town of Horicon this 21st day of December, 2023.



Krista L. Wood, Town Clerk

Town of Johnsburg

Meeting Date: January 16, 2024

Resolution # 24 – 19

A RESOLUTION AUTHORIZING THE ADOPTION OF THE 2023 WARREN COUNTY, NY HAZARD MITIGATION PLAN UPDATE

WHEREAS, the Johnsburg Town Board recognizes the threat that natural hazards pose to people and property with the Town of Johnsburg, and

WHEREAS, the Town of Johnsburg has prepared a multi-hazard mitigation plan, hereby known as 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 200, and

WHEREAS, the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long term risk to people and property in the Town of Johnsburg from the impacts of future hazards and disasters, and

WHEREAS, adoption by the Johnsburg Town Board demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County Hazard mitigation Plan,


NOW THEREFORE, BE IT RESOLVED, that the Johnsburg Town Board hereby adopts the 2023 Warren County Hazard Mitigation Plan. This plan may be edited or amended after submission for review, but will not require the re-adoption of any further iterations. This only applies to this specific plan and does not absolve the Town Board from updating the plan in 5 years.

DULY ADOPTED BY THE FOLLOWING VOTE:

Ayes: 5 (Bean, Bowers, Heid, Stevens, Williams)

Nays: 0

Dated: January 16, 2024


Jean M. Comstock
Town Clerk

Dennis Dickinson Supervisor
Vincent Crocitto Deputy Supervisor
Daniel Hurley Councilperson
Marisa Muratori Councilperson
Nancy Stannard Councilperson



Jenn Farrell Comptroller • **Lori Barber** Assessor • **Dan Barusch** Director of Planning & Zoning
Rob Lanfear Superintendent of Highway • **Patty Schuster** • Town Clerk **Jim Martino** • Buildings & Grounds
Travis Howe EMS Director

**A RESOLUTION OF THE TOWN BOARD OF THE TOWN OF LAKE GEORGE
AUTHORIZING THE ADOPTION OF THE 2023 WARREN COUNTY, NY
HAZARD MITIGATION PLAN UPDATE**

RESOLUTION #165-2023, Introduced by Councilperson Muratori and seconded by Councilperson Crocitto.

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

WHEREAS, the Town Board has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Lake George from the impacts of future hazards and disasters; and

WHEREAS adoption by the Town Board demonstrates their commitment to hazard mitigation and achieving the goals outlined in the Warren County Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED THAT

The Town Board of the Town of Lake George adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

Duly adopted this 11th day of December 2023, by the following vote:

Ayes:	5	Crocitto, Hurley, Muratori, Stannard-Linehan, Dickinson
Nays:	0	
Absent:	0	

STATE OF NEW YORK

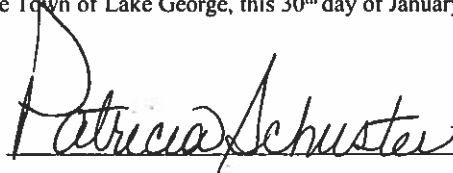
COUNTY OF WARREN

TOWN OF LAKE GEORGE



I, Patricia Schuster, Town Clerk of the Town of Lake George, Warren County, New York, DO HEREBY CERTIFY, that I have compared the foregoing with the original Resolution #165-2023 adopted by the Lake George Town Board at a meeting of said Board on the 11th day of December, 2023 and the foregoing is a true and correct copy of said Resolution.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the Town of Lake George, this 30th day of January 2024.



Town Clerk

RESOLUTION NO. 14-2024

A RESOLUTION OF THE VILLAGE TRUSTEES OF THE VILLAGE OF LAKE GEORGE

AUTHORIZING THE ADOPTION OF THE

2023 WARREN COUNTY, NY

HAZARD MITIGATION PLAN UPDATE

WHEREAS the Village of Lake George recognizes the threat that natural hazards pose to people and property within Village of Lake George; and

WHEREAS the Village of Lake George has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Village of Lake George from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Lake George demonstrates their commitment to hazard mitigation and achieving the goals outlined in the (title and date of mitigation plan).

NOW THEREFORE, BE IT RESOLVED BY THE TRUSTEES OF THE VILLAGE BOARD OF LAKE GEORGE, THAT:

The Village Board of the Village of Lake George adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 22 day of January, 2024.

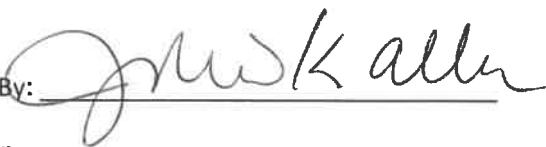
SIGNED BY:



Ray Perry

Mayor, Village of Lake George

ATTEST: By:



Julie Allen

Clerk, Village of Lake George

Resolution No. 126 of 2023
A Resolution of the Town Board of the Town of Lake Luzerne
Authorizing the Adoption of the
2023 Warren County, NY
Hazard Mitigation Plan Update

WHEREAS the Town Board of Lake Luzerne recognizes the threat that natural hazards pose to people and property within the Town; and

WHEREAS the Town has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town from the impact of future hazards and disasters; and

WHEREAS adoption by the Town Board of Lake Luzerne demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County, NY Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF LAKE LUZERNE, NY THAT:

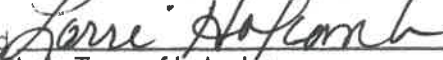
Section 1. In accordance with Resolution No. 126 of 2023, the Town of Lake Luzerne adopts the 2023 Warren County Hazard Mitigation Plan. This plan, approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

Introduced by Councilman Hanlon, **Seconded by** Councilman Lewandowski

Adopted by a vote of 5 In Favor, 0 against this 27th day of November 2023.

By: 
Eugene J. Merlino, Supervisor Town of Lake Luzerne

This is to certify that this is a true copy of a record on file in the office of the Town Clerk.

Signed 
Town Clerk, Town of Lake Luzerne
County of Warren, State of New York

Date 

**RESOLUTION AUTHORIZING ADOPTION OF
2023 WARREN COUNTY, NY HAZARD MITIGATION PLAN UPDATE**

RESOLUTION NO.: 398, 2023

**INTRODUCED BY: Mr. Timothy McNulty
WHO MOVED ITS ADOPTION**

SECONDED BY: Mr. Anthony Metivier

WHEREAS, the Queensbury Town Board recognizes the threat that natural hazards pose to people and property within the Town of Queensbury, and

WHEREAS, Warren County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Warren County Hazard Mitigation Plan (Plan) in accordance with the Disaster Mitigation Act of 2000, and

WHEREAS, the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Queensbury from the impacts of future hazards and disasters, and

WHEREAS, the Town Board wishes to adopt the Plan to demonstrate the Town Board's commitment to hazard mitigation and achievement of the goals outlined in the Plan,

NOW, THEREFORE, BE IT

RESOLVED, that the Queensbury Town Board hereby authorizes adoption of the 2023 Warren County Hazard Mitigation Plan, which Plan may be edited or amended after submission for review by the New York State Division of Homeland Security and Emergency Services and the Federal Emergency Management Agency but will not require the Town to readopt the Plan should there be any further iterations and only applies to this specific Plan and does not absolve the Town from updating the Plan in five (5) years, and

BE IT FURTHER,

RESOLVED, that the Town Board further authorizes and directs the Town Supervisor and/or Town Clerk to take any actions needed to effectuate the terms of this Resolution.

Duly adopted this 20th day of November, 2023, by the following vote:

AYES : Mr. Freer, Mr. Ferone, Mr. McNulty, Mr. Strough, Mr. Metivier

NOES : None

ABSENT: None

I, Colleen Rathbun, Deputy Town Clerk of the Town of Queensbury, Warren County, New York, do hereby certify that I have compared the foregoing with the original resolution as listed above adopted at a regular meeting of the Town Board of the Town of Queensbury held on the 20th day of November, 2023 at which a quorum was present and that the same is a correct transcript therefrom and of the whole original thereof to date.

IN WITNESS THEREOF, I have hereto set my hand and the SEAL of said Town of Queensbury, this 19th day of December, 2023.

SEAL

SIGNED:



Colleen Rathbun
Deputy Town Clerk
Town of Queensbury

RESOLUTION NO. 35

**A RESOLUTION OF THE TOWN BOARD OF THE TOWN OF STONY CREEK
AUTHORIZING THE ADOPTION OF
THE 2023 WARREN COUNTY, NY
HAZARD MITIGATION PLAN UPDATE.**

WHEREAS the Town Board recognizes the threat that natural hazards pose to people and property within the Town of Stony Creek; and
Whereas the County has prepared a multi-hazard mitigation plan, hereby know as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000;
and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Stony Creek from the impacts of future hazards and disasters; and

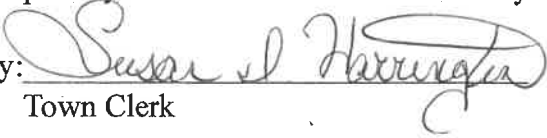
WHEREAS adoption by the Town Board demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County Hazard Mitigation Plan Update.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF STONY CREEK, NEW YORK, THAT

Section 1 In accordance with a majority vote, the Twon Board adopts the 2023 Warren County Hazard Mitigation Plan. This Plan approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

Adopted by a vote of 5 in favor this 16th day of January, 2024

By:


Town Clerk

TOWN OF STONY CREEK

YEAR 2024

RESOLUTION NO. 035

DATE: January 16

INTRODUCED BY: Councilman John Thomas

SECONDED BY: Councilman Edward Lowell Jr.

TEXT: **A RESOLUTION OF THE TOWN BOARD OF THE TOWN OF STONY CREEK
AUTHORIZING THE ADOPTION OF
THE 2023 WARREN COUNTY, NY
HAZARD MITIGATION PLAN UPDATE.**

WHEREAS the Town Board recognizes the threat that natural hazards pose to people and property within the Town of Stony Creek; and
Whereas the County has prepared a multi-hazard mitigation plan, hereby know as the 2023 Warren County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2023 Warren County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Stony Creek from the impacts of future hazards and disasters; and

WHEREAS adoption by the Town Board demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2023 Warren County Hazard Mitigation Plan Update.


NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF STONY CREEK, NEW YORK, THAT

Section 1 In accordance with a majority vote, the Twon Board adopts the 2023 Warren County Hazard Mitigation Plan. This Plan approved by the community, may be edited or amended after submission for review, but will not require the community to re-adopt any further iterations. This only applies to this specific plan and does not absolve the community from updating the plan in 5 years.

ROLL CALL VOTE:

<u>Supervisor Frank Thomas</u>	<u>Yes</u>
<u>Councilman Nathan Thomas</u>	<u>Yes</u>
<u>Councilman John Thomas</u>	<u>Yes</u>
<u>Councilman Edward Lowell Jr.</u>	<u>Yes</u>
<u>Councilwoman Melissa Bradley</u>	<u>Yes</u>

I HEREBY CERTIFY THAT THIS IS A TRUE AND EXACT COPY OF THE RESOLUTION AS PASSED BY THE TOWN BOARD OF THE TOWN OF STONY CREEK.


TOWN CLERK



PARTICIPATION MATRIX

Appendix B includes the participation matrix for meetings convened during the development of the Warren County Hazard Mitigation Plan Update.



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Tammie DeLorenzo	Assistant to the County Administrator	Warren County Administrators Office	X	X		X	X			X				X		
Aaron Frankendorf	Staff Director. Adirondack/Glens Falls Transportation Council	ADK Glens Falls Transportation Council	X	X			X				X					
Sara Frankendorf	GIS Coordinator	Warren County	X	X			X			X	X		X			
Ethan Gaddy	WC Planner/Climate Smart	Warren County Planning Department	X	X			X		X	X	X			X		
Kevin Hajos	Superintendent	Warren County Department of Public Works	X	X											X	X
Sandy LeBarron	Director of Environmental Health and Safety	Finch Paper	X	X						X			X			X
Jim Lieberum, CPESC	District Manager/County Hazard Mitigation Coordinator	Warren County Soil and Water Conservation District (WCSWCD)	X	X		X	X	X	X	X	X	X	X	X	X	X
Ann Marie Mason	Director/Emergency Manager	Warren County	X	X		X	X	X	X		X		X	X		X



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Ashley Rivers	Emergency Services Coordinator	Warren County	X	X		X	X			X		X				X
Scott Royale	Sustainability Coordinator	SUNY	X	X												
Laura Stebbins	Director of Emergency Preparedness	Glens Falls Hospital	X	X		X	X	X				X	X			X
Bob Bradshaw	Managing Partner	Contingency Management Consulting Group			X	X										
Jennifer Ramsey	Public Safety Committee	Warren County		X		X		X		X						
John Gibb	Emergency Management	Contingency Management Consulting Group				X				X		X	X			X
Joshua Westfall, AICP	Planner	Bolton, Town		X			X	X			X				X	
Cheryl Bolton	Planning and Zoning Secretary	Bolton, Town													X	
Matt Coon	Dep. Highway Superintendent	Bolton, Town													X	
Marion Eagan	Deputy Supervisor	Chester, Town		X							X		X	X		



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Larry Turcotte	Councilman	Chester, Town		X												
Marion Eagan	Planning and Zoning	Chester, Town		X			X									
Jeremy Little	Zoning Administrator	Chester, Town		X			X								X	
Jessica Leerkes	Engineer	Chester, Town		X							X			X	X	
Craig Leggett	Supervisor	Chester, Town													X	
Mindy Conway	Town Clerk	Chester, Town		X										X		
James P. Schrammel	Fire Chief	City of Glens Falls	X	X					X							
Kris Vanderzee	Code Enforcement Officer	Glens Falls, City		X	X											
William Norton	Superintendent, Water & Sewer	Glens Falls, City		X			X	X			X					
Sheila Mender	Engineering Department	Glens Falls, City		X										X	X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Justin Reckner	Code Enforcement Officer, Building & Codes	Glens Falls, City													X	
Philip Cancelliere	Building Inspector	Glens Falls, City													X	
Edna A. Frasier	Town Supervisor	Hague, Town		X										X	X	
Matther Coffin	Deputy Highway Superintendent	Hague, Town		X												
Matthew Magee	Zoning Administrator	Hague, Town		X											X	
Cathy Clark	Zoning Enforcement Officer	Hague, Town		X										X	X	
Tim Fiallo	Highway Clerk	Hague, Town													X	
Michael N. Geraci	Supervisor	Horicon, Town		X			X	X			X			X	X	
Darian Granger	Highway Superintendent	Horicon, Town		X							X				X	
Matthew Magee	Zoning Administrator	Horicon, Town													X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Danae Tucker	Bookkeeper	Johnsburg, Town		X				X	X					X	X	
Fred Comstock	Highway Superintendent	Johnsburg, Town		X				X							X	
Mike Dunkley	Deputy Highway Superintendent	Johnsburg, Town		X				X				X			X	
Ernie Dunkley	Safety Officer	Johnsburg, Town		X				X				X		X	X	
Colin Mangan	Zoning Enforcement Officer	Johnsburg, Town													X	
Dan Barusch	Village and Town of George Planner	Village and Town of Lake George	X	X			X		X		X	X	X	X	X	
Rob Lanfear	Highway Department	Lake George, Town/Village		X				X						X	X	
Keith Lanfear	Superintendent Public Works	Lake George, Town/Village		X				X	X			X			X	
Doug Frost	Code Enforcement Officer	Lake George, Town													X	
Robert Blais	Mayor	Lake George, Village		X											X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
John Helms	DPW Foreman	Lake George, Village		X											X	
Eugene J. Merlino	Town Supervisor	Lake Luzerne, Town		X			X	X							X	
Ronnie Deuel	Highway Superintendent	Lake Luzerne, Town		X											X	
Karen Putney	Zoning Officer	Lake Luzerne, Town		X			X	X			X			X	X	
Khristopher Kassay	Deputy Zoning Enforcement Officer	Lake Luzerne, Town		X							X			X	X	
Frank E. Thomas	Supervisor	Stony Creek, Town		X					X		X				X	
Ed Lowell, Jr.	Councilman	Stony Creek, Town		X												
Deb Runyon	Supervisor	Thurman, Town		X			X	X			X				X	
Patrick Wood	Highway Superintendent	Thurman, Town		X												
James S. Hull	Code Enforcement Officer	Warrensburg, Town		X			X				X			X	X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Kevin B. Geraghty	Town Supervisor	Warrensburg, Town		X												
Patti Corlew	Floodplain Administrator	Warrensburg, Town													X	
John Strough	Supervisor	Queensbury, Town		X					X			X		X		
Laura Moore	Planner	Queensbury, Town	X	X		X			X	X		X	X			X
John O'Brien	Director of Building and Code Enforcement	Queensbury, Town		X			X									
Mike Palmer	Fire Marshal	Queensbury, Town		X			X									
Laura Moore	Planning and Zoning	Queensbury, Town		X			X				X					X
Dave Duell	Highway Superintendent	Queensbury, Town		X			X	X			X					
Mark DeMers	Deputy Highway Superintendent	Queensbury, Town		X							X					
Don Lehman	Public Information Officer	Warren County			X					X			X	X		



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Elizabeth O'Reilly	Planning Manager	NYS DHSES	X		X		X	X	X					X		X
Shannon Clarke	Planner	NYS DHSES	X		X		X									
Shelby Meyers	Planner	NYS DHSES	X		X		X	X								
Betsy Parmerter	Planner	NYS DHSES			X									X		
Kevin Clapp	Planner	NYS DHSES			X									X		
Roland Paperman	Planner	NYS DHSES			X									X		
John Wilkerson	Planner	NYS DHSES			X									X		
Paul Hoole	Mitigation Planner	FEMA			X		X	X	X					X		



APPENDIX C. MEETING DOCUMENTATION

Appendix C includes meeting agendas, sign-in sheets, and minutes (where applicable and available) for meetings convened during the development of the Warren County Hazard Mitigation Plan Update.

WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/9/2022 at 10:00 am



- Scope and Schedule
 - Brief review of our approved proposal
 - Grand performance period (copy of Grant Agreement)
 - Project schedule

- Municipal Participation – Letters of Intent to Participate
 - Email to all municipal coordinators (Email and LOIP template)
 - Identify any group meetings to leverage for the mitigation planning process

- Review Steering Committee Composition - refer to 2011 Steering Committee members

- Information and Data Collection
 - GIS Point of Contact for spatial data
 - Previous (2017) critical facility list – PCII data
 - Arrange GIS collection meeting
 - Data Wish List
 - Lifelines – FEMA incorporating into mitigation
 - NFIP data request
 - CAV dates and list of floodplain administrators
 - CEPA
 - Point of Contact for reviewing Public Information (brochure/surveys/announcements)
 - Draft content for website update, newsletter, social media content, and public meeting announcements

- Meeting Logistics
 - Schedule first Steering Committee meeting
 - Schedule HMP Kick-Off (public?)
 - Date and Location

- Hazard of Concern Identification
- Plan Style Guide
- Communications Guide
- In-Kind Tracking
 - County can begin tracking all time with the development of RFP, reviews, meetings, this call etc.
 - Tetra Tech to track meeting attendance for all participants

Documents:

Municipal Letter of Participation Request

Project Schedule

Data Wish List

In-Kind Tracker

NFIP Request Letter/ISAA



WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/16/2022 at 2:00 pm



Attendees: Ashley Rivers, Ann Marie Mason, Jim Lieberum, Bob Bradshaw, Jennifer Ramsey, John Gibb, Tammy Delorenzo

- Scope and Schedule
 - Brief review of our approved proposal
 - Grand performance period (copy of Grant Agreement) PoP ending 12/2024.
 - Project schedule-hold for input from the state.
 - Project reporting milestones submitted to NYSDHSES: March 2023; T Bolton, and County Public Works have pending funding-must confirm funding mechanisms-County to with DHSES on the status and timing re: need for an approved HMP.

- Municipal Participation – Letters of Intent to Participate
 - Email to all 13 municipal coordinators (Email and LOIP template)-COMPLETE. Tt to create OneDrive to share information. Jim to post.
 - Identify any group meetings to leverage for the mitigation planning process. LEPC-October (10/21) and quarterly, board of supervisors monthly (and invite mayors?), subcommittee on environmental concerns, kick-off right after board of supervisor's meeting (in-person or hybrid?).

- Review Steering Committee Composition - refer to 2011 Steering Committee members
 - In 2011-six persons, 2 County, Town of Queensbury, City of Glens Falls fire chief.+, LEPC has reps from hospital and Finch
Major businesses: Hospital, Price Chopper, Finch, Lake George Land Conservancy, Lake George Association; Champlain Watershed Improvement Coalition of NY (CWICNY); Upper Hudson River Watershed Coalition. Agency for SVAs, Tt to provide crosswalk and old SC and suggestions for new committee.

- Core working group: meet bi-weekly-half hour on Wednesdays, 9 am on 9/21, 9/28 and bi-weekly thereafter.

- Information and Data Collection
 - GIS Point of Contact for spatial data-Sarah Frankenfeld to provide GIS files. Last plan redacted municipal water supply; high hazard dam element for HMP has been approved. County to send to us.
 - Previous (2017) critical facility list – PCII data
 - Arrange GIS collection meeting
 - Data Wish List
 - Lifelines – FEMA incorporating into mitigation
 - NFIP data request-Tt to send email request for data to Ann.
 - CAV dates and list of floodplain administrators. Tt to send request email to Ann.
 - CEPA-County to provide CEPA
 - Point of Contact for reviewing Public Information (brochure/surveys/announcements)
 - Draft content for website update, newsletter, social media content, and public meeting announcements Tt to provide social media info and brochure for outreach. Don Lehman (public info officer and director of Public Affairs) to review and provide branding.



WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/16/2022 at 2:00 pm



-
- Meeting Logistics-[discuss next week](#).
 - Schedule first Steering Committee meeting
 - Schedule HMP Kick-Off (public?)
 - Date and Location

 - Hazard of Concern Identification- [Tt to send survey prior to SC Kick-Off](#)
 - Plan Style Guide – [ask Don](#)
 - Communications Guide – [copy John Gibb in meetings](#).
 - In-Kind Tracking-[Jim tracking in-kind](#)
 - County can begin tracking all time with the development of RFP, reviews, meetings, this call etc.
 - Tetra Tech to track meeting attendance for all participants

Documents:

Municipal Letter of Participation Request

Project Schedule

Data Wish List

In-Kind Tracker

NFIP Request Letter/ISAA





WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #1 – AGENDA
MEETING DATE/TIME: October 27, 2022 – 9:00 am



Remote – MS Teams Link [Click here to join the meeting](#) (preferred for screen sharing)

Remote – Dial-in by phone (audio only) - [+1 518-300-1367,,453227155#](#) United States, Albany; Phone Conference ID: 453 227 155#

- 1. Welcome and Introductions**
- 2. Hazard Mitigation Plan Overview**
- 3. Project Organization**
- 4. Steering Committee Composition and Ground Rules**
- 5. In-Kind Services Tracking**
- 6. Planning Process and Data Collection Status**
- 7. Hazards of Concern Identification**
- 8. Critical Facilities and Lifelines**
- 9. Mission Statement, Goals, and Objectives**
- 10. Conclusion and Next Steps**



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	October 27, 2022, 9:00 am – 10:15 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Aaron Frankenfeld	ADK Glens Falls Transportation Council, Director
Tammie DeLorenzo	Warren County Administrators Office
Ann Marie Mason	Warren County, Director of Emergency Services
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Elizabeth O'Reilly	NYS DHSES, Planning Manager
Shannon Clarke	NYS DHSES, Planner
Shelby Meyers	NYS DHSES, Planner
Paul Hoole	FEMA, Mitigation Planning
Cynthia Addonizio-Bianco	Tetra Tech
Erika Corsi	Tetra Tech

Agenda Summary:

Item No.	Description	Action item(s):
1	<p>Welcome and Opening Remarks</p> <ul style="list-style-type: none"> • Meeting started at 9:05 pm • Jim Lieberum, Director of Warren County Soil and Water Conservation District gave opening remarks providing an overview of the importance of this planning process and thanking the participants for agreeing to serve on the Steering Committee. • Cynthia Addonizio-Bianco, project manager from Tetra Tech (Tt), also thanked participants. • Elizabeth O'Reilly of NYSDHSES noted that hazard mitigation is a diverse subject and can cross the line between recovery and response. The purpose of the mitigation plan is to reduce the amount of response potentially necessary against natural hazards. She indicated that NYSDHSES will provide support as needed throughout the mitigation planning process. • Each participating member introduced themselves and provided input on their participation in the process: <ul style="list-style-type: none"> ○ Resiliency 	Steering Committee to provide additional relevant plans to review and incorporation into the mitigation plan.



Warren County
 Hazard Mitigation Plan Update
 Meeting Notes



	<ul style="list-style-type: none"> ○ Intersection of hazard mitigation and climate adaptation mitigation through Climate Smart Communities program ○ Communication with other municipalities that has technical capacity restrictions ○ Help inform communities on their land use impacts to resiliency ○ Maintaining Queensbury codes. Queensbury identified as busiest community in terms of development and economic driver for the County ○ Bridge information throughout the County 	
2	<p>Project Overview</p> <ul style="list-style-type: none"> ● Ms. Addonizio-Bianco provided the following information: <ul style="list-style-type: none"> ○ An overview of hazard mitigation, what it is and how it can provide increase resilience through the development of a FEMA-approved Hazard Mitigation Plan. She also noted the need to track time spent working on the plan outside of meetings through in-kind tracking to provide match for federal funding support for the planning effort. An online tracker will be sent out to all plan participants. ○ An overview of the phases of the hazard mitigation planning process including description of the project organization: <ul style="list-style-type: none"> ▪ Core Planning Team (CPT) ▪ Warren County Emergency Services ▪ Warren County Soil and Water Conservation District ▪ Tetra Tech ○ Steering Committee (SC) <ul style="list-style-type: none"> ▪ Numerous County Departments, Major Businesses, Outside Agencies, 1 municipal representatives ○ Planning Partnership (PP) <ul style="list-style-type: none"> ▪ All participating municipalities and Steering Committee members. ○ FEMA ○ Stakeholders ● Steering Committee roles and responsibilities: <ul style="list-style-type: none"> ○ Provide guidance and leadership ○ Oversee the planning process ○ Act as point of contact for partners and stakeholders ● Focus on updating the 2017 critical facilities inventory to ensure completeness and identify lifeline facilities. The County and planning partners will provide input to update the list of critical facilities and lifelines via an online survey. Once updated, the information will be used during the risk assessment and mitigation strategy development. ● DHSES will notify the County when the draft plan has been submitted to FEMA for review. ● FEMA will notify the County and jurisdictions to let them know the submitted plan is approvable. ● Request for relevant plans and studies. (Post meeting note: The attached presentation has been updated to reflect the list of plans 	<ul style="list-style-type: none"> ● Tt to provide SC member access to the project OneDrive site and Steering Committee members to confirm access to OneDrive – access to be provided in separate email ● Critical facility inventory survey to be distributed by Tt to the County and municipal representatives.



Warren County
Hazard Mitigation Plan Update
Meeting Notes

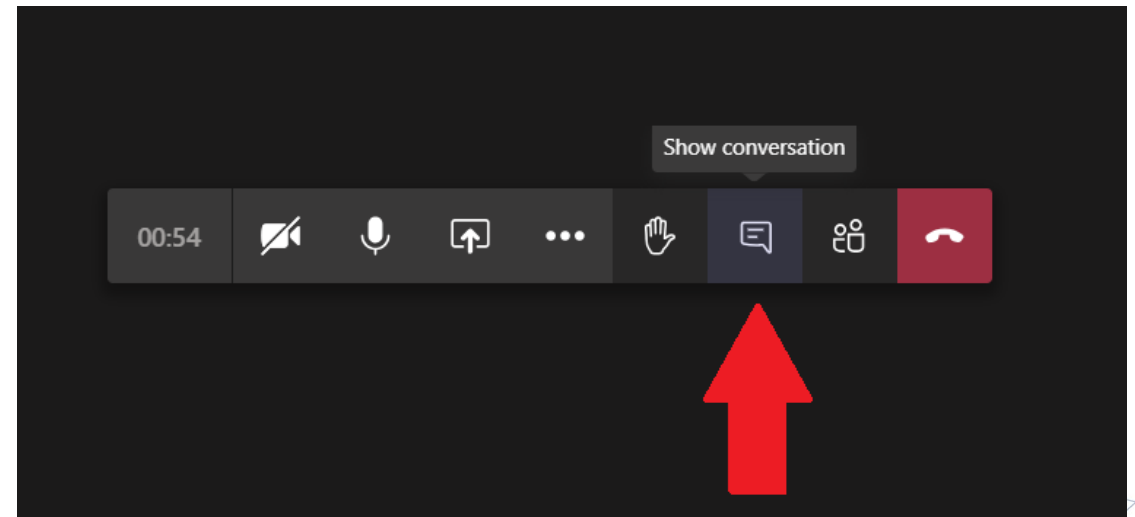


	<p>collected to date.) The committee members are requested to review the list and forward links to additional plans that may be relevant to the planning process.</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco noted that participants will be given access to OneDrive to share documents and information. 	
3	<p>Risk Assessment and Hazards of Concern</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco discussed the process of the risk assessment and reviewed the hazards of concern identified in the last HMP. These hazards of concern will need to be reviewed and updated as necessary. A survey will be sent out to the Steering Committee. One action is needed for every hazard of concern that impacts a municipality. 	<ul style="list-style-type: none"> Steering Committee to provide input to update Hazards of Concern– to be distributed by and returned to Tt via email.
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco introduced the goals and objectives from the last HMP and provided suggestions to update them to align with current priorities. The Steering Committee as tasked with reviewing the mission statement, goals and objectives to provide feedback to guide the plan update. The Steering Committee recommending creating a goal and objective that addresses daily and long-term activities 	<ul style="list-style-type: none"> Steering Committee to provide input – to be distributed by and returned to Tt via email. Steering Committee to clarify definition of ‘daily and long-term activities’
5	<p>Upcoming Meetings</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco reviewed upcoming meetings: <ul style="list-style-type: none"> Steering Committee Meeting – October 27th, 2022* Planning Partnership – November 2nd, 2022 Risk Assessment Meeting – February, 2023 (<i>tentative</i>) <i>Planning Partnership Risk Assessment Meeting – February, 2023 (tentative)</i> Mitigation Strategy Workshop – March, 2023 (<i>tentative</i>) 	
6	<p>Next Steps</p> <ul style="list-style-type: none"> Attend Planning Partnership Meeting Determine Hazards of Concern to include in the HMP Strengths, Weaknesses, Obstacles and Opportunities (SWOO) Review Hazard Profiles Review Risk Assessment Results Identify Problems and Problem Areas Develop Mitigation Strategy Review Draft Plan Submit Draft Plan for NYSDHSES/FEMA Review Adopt FEMA-Approved Plan Implement Projects and Maintain the Plan and Increase Resilience 	
7	<p>Conclusion - The meeting concluded at 10:15 am.</p>	



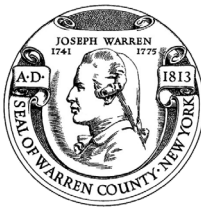
Welcome!

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.
 - Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.
 - Click “Show Conversation.”



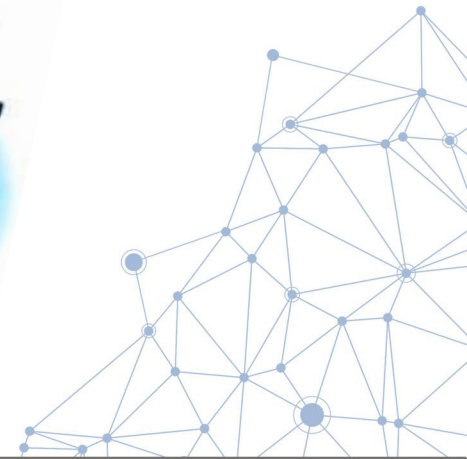
Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee Kick-Off Meeting | October 27,
2022



Agenda

- Welcome and Introductions
- In-Kind Services Tracking
- Benefits of Hazard Mitigation
- Hazard Mitigation Planning Overview
- Project Organization
- Steering Committee Responsibilities
- Public and Stakeholder Outreach
- Update Hazards of Concern and Risk Assessment
- Critical Facilities and Lifelines
- Goals and Objectives
- Schedule
- Questions/Next Steps/Wrap Up





Introductions

- Tell us...
 - What's your name?
 - Where you are from?
 - What is your mitigation experience?
 - What do you want to focus on during this process or what is your area of expertise?
 - What are your resilience concerns for Warren County?





Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).








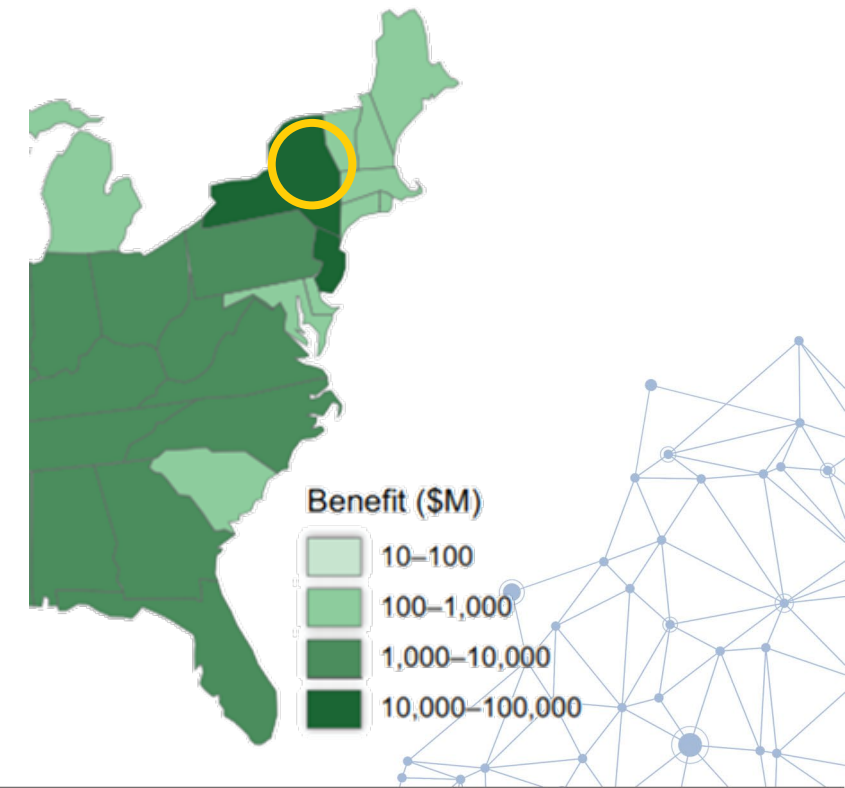


Hazard Mitigation Works!

- According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2018 Interim Report, federal mitigation grants save \$6 for every \$1 spent!

Mitigation saves in every in state! New York has saved up to \$100 million in benefits.

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>		Federally Funded
Overall Hazard Benefit-Cost Ratio		6:1
 Riverine Flood		7:1
 Hurricane Surge		Too few grants
 Wind		5:1
 Earthquake		3:1
 Wildland-Urban Interface Fire		3:1

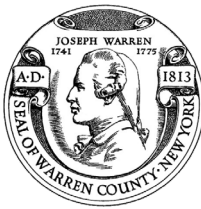


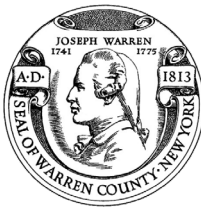
Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (\$)
Blizzard	Losses not reported
Drought	Losses not reported
Excessive Temperature	Losses not reported
Flash Flood	\$22.36 million
Flood	\$6.24 million
Hail	\$13,000
Heavy Rain	Losses not reported
Heavy Snow	\$35,000
High Wind	\$731,000
Hurricane/Tropical Storm	Losses not reported
Lightning	\$77,000
Strong Wind	\$193,000
Thunderstorm Wind	\$10.62 million
Tornado/Funnel Cloud	\$252,500
Winter Storm	\$182,300
Winter Weather	\$1,000
Total	\$42.345 million

Source: NOAA-NCEI 2022





What's at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472
2020	COVID-19	3434
	COVID-19 PANDEMIC	4480



4 Flood



4 Hurricane



4 Severe Storm(s)



2 Biological



2 Other



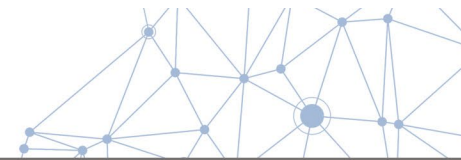
1 Earthquake



1 Fire

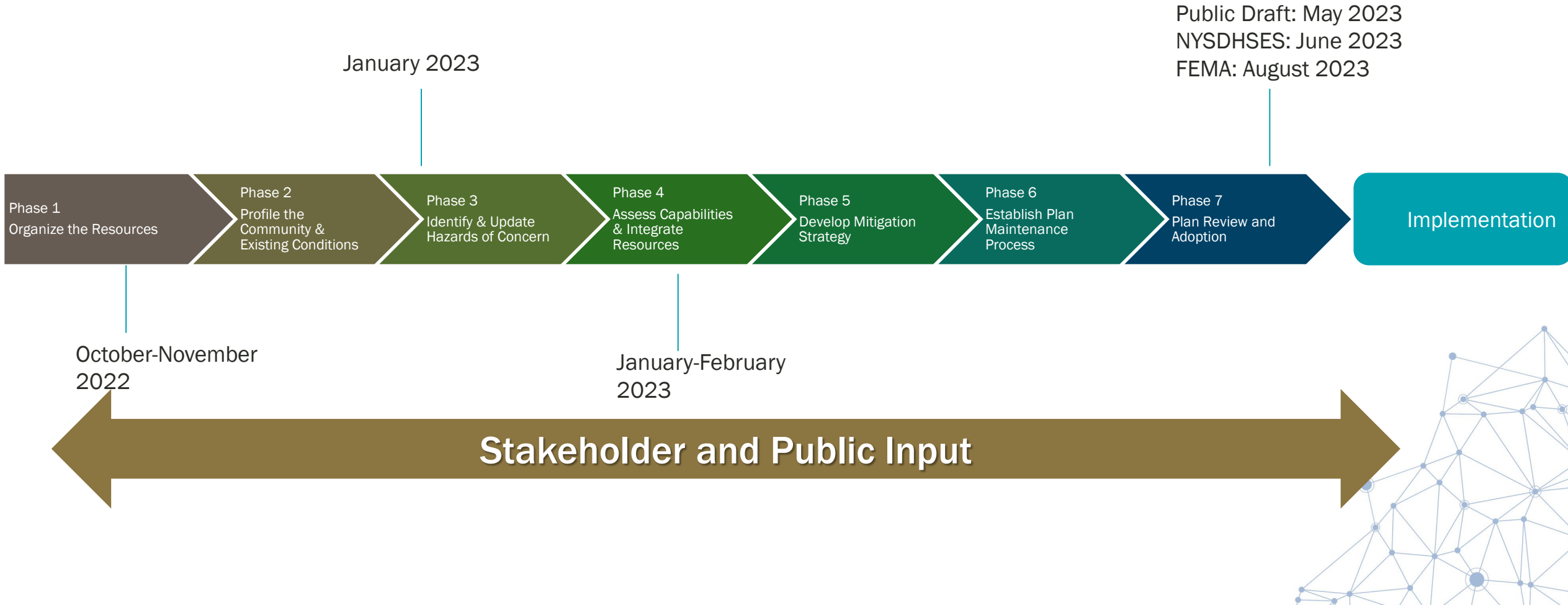


1 Snow



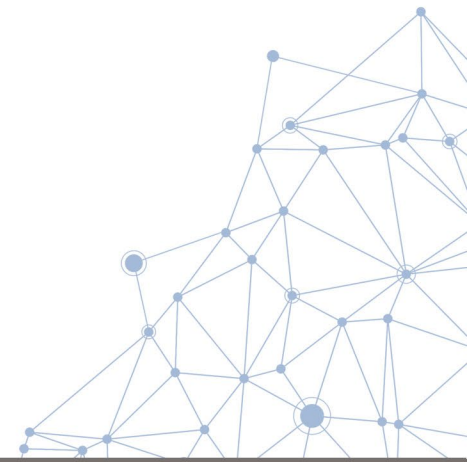


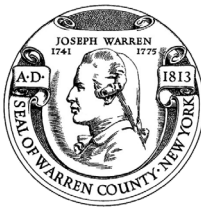
Planning Process Overview





Project Organization





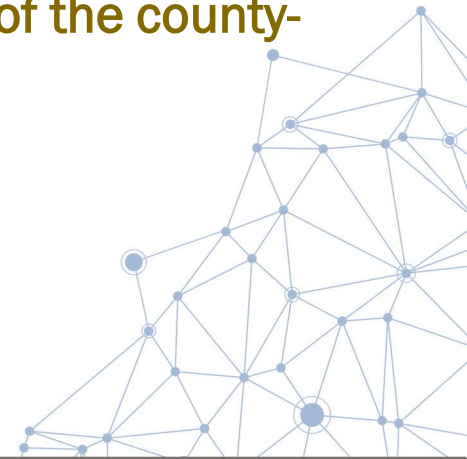
Hazard Mitigation Committee Composition

Steering Committee Members

Warren County Soil and Water Conservation District	Adirondack / Glens Falls Transportation Council
Warren County Office of Emergency Services	City of Glens Falls
Warren County Department of Planning and Community Development	Village of Lake George
Warren County Department of Public Works	SUNY Adirondack
Town of Queensbury – Planning Department	Glens Falls Hospital
	Finch Pryne
	Board of Supervisors

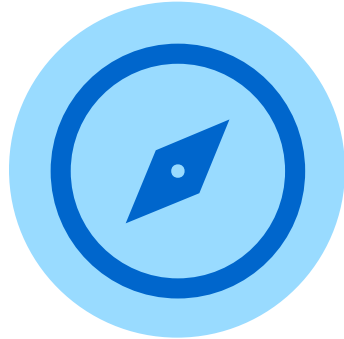
Role

- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents





Steering Committee Roles and Responsibilities



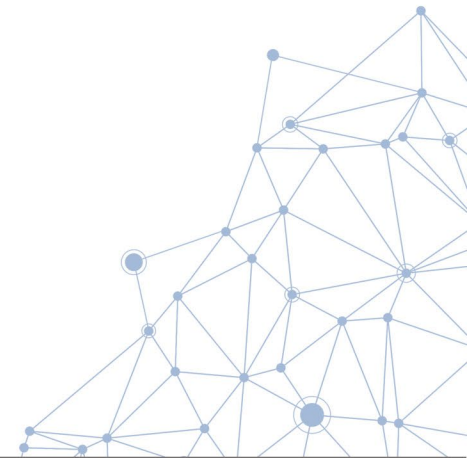
PROVIDE GUIDANCE AND LEADERSHIP THROUGHOUT THE PLANNING PROCESS



OVERSEE THE PLANNING PROCESS



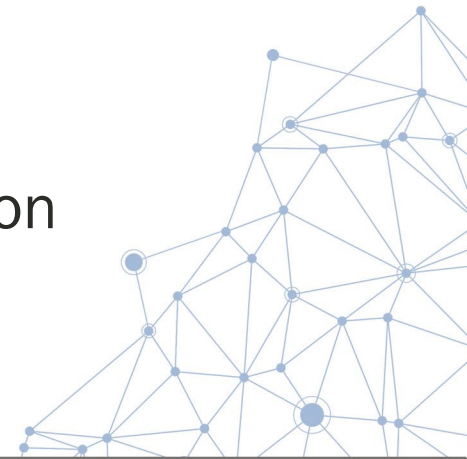
ACT AS THE POINT OF CONTACT FOR ALL PARTNERS AND STAKEHOLDERS





Early Progress

- Requested/Received NFIP Community Assistance Visit Data
- Requested NFIP Data
- GIS Data Collection
- Review of Hazards of Concern/Distributed Worksheet to Steering Committee
- HMP website – In development
- HMP Fact Sheet, Citizen Survey, Agency Surveys - in progress
- County-Level/Regional Plan Collection
- Planning Partnership Outreach/Letter of Intent to Participate Distribution
- Planning Partnership Kick-Off Meeting Scheduled (November 2nd at 9am)

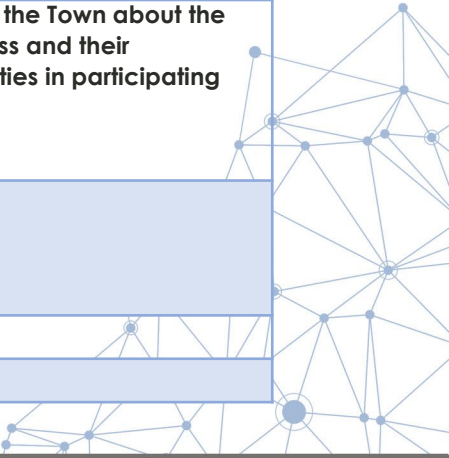


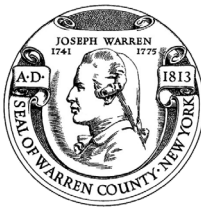


In-Kind Services

Name of Team Member: _____

Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes – sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

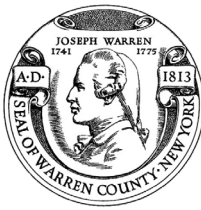




Data Collection Status

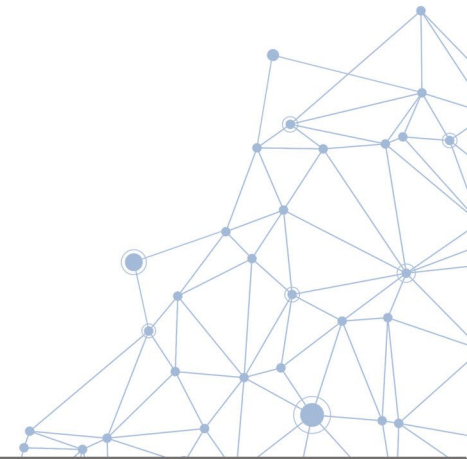
- Letters of Intent to Municipalities
- Critical Facility Inventory (County providing initial data)
- Reports and Plans – Initial collection of reports, plans, and codes available online
- Capability Assessments
- Mitigation Strategy Updates



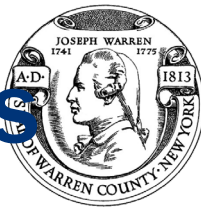


Public and Stakeholder Outreach

- HMP is in development-
<https://www.warrencountynyhmp.com>
- Social Media
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey



Relevant County and Regional Plans and Studies



Name of Plan/Document	Date of Plan	Jurisdiction
Excessive Heat Plan	2022	Countywide
Schroon Lake Watershed Management Plan Addendum	2019	Chester (T)
Lake Champlain Watershed Roadside Erosion Assessment	-	Bolton (T), Hague (T), Lake George (T), Queensbury (T)
Upper Hudson River Watershed Management Plan	2020	Countywide
Friends Lake Watershed Assessment	2017	Chester (T)
LC Nonpoint Source Pollution Watershed Assessment and Management Plan	2018	Countywide
LG HAB Plan 2022 Update	2022	Lake George (T), Bolton (T)
Loon Lake Watershed Report	2021	Loon Lake, Chester (T)
Warren County - Dam Risk into Local HMG Plans	2021	Countywide

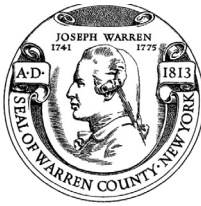
- Others?



Update Risk Assessment

- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee
- Risk assessment meeting

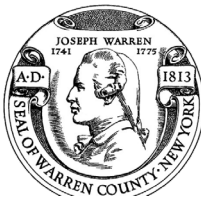




NYS DHSES Requirements

- Establish Jurisdictional Teams
- Assess Critical Facilities
- Plan for Displaced Residents
 - Intermediate (Temporary Housing) and Long-Term (Permanent Housing)
- Plan for Evacuation and Sheltering
- Document Past Mitigation Accomplishments
- Include Jurisdictional Annexes
- Develop Mitigation Actions (minimum of 2 projects)
- Plan for Climate Change





EXERCISE – Identifying Hazards of Concern

Thinking back over the last few years...

- The 2017 plan included:
 - Disease Outbreak
 - Earthquake
 - Flood
 - Infestation
 - Landslide
 - Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
 - Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
 - Wildfire

- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to minimize number or required actions?
 - Should additional hazards be included?

- Have additional hazards impacted Warren County since 2017?
- Have hazards been mitigated and no longer cause damage or put the County at risk?
- Should hazards be regrouped to align with the 2019 State HMP?

2019 NY State HMP	Identified Hazard in the 2017 Warren HMP	2017 Warren HMP Ranking	2021 CEPA Ranking**	Has the frequency, severity, or location of the hazard changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in this column)	2023 Warren HMP* (indicate 'keep', combine with other hazard, or provide comments for any changes)
Natural Hazards					
Avalanche	-	-			
Coastal Hazards					
Coldwaves	-	-			
Drought	-	-	Low		
Earthquake	X	High	Low		Keep
Flooding	X	Medium	Very High		Keep
Hail	X	Severe Storm: High			Keep

Please identify any other hazards that you believe should be considered in the 2023 update of the Warren County Hazard Mitigation Plan (e.g. landslides, wildfires, invasive species, etc.)

What are the natural hazards that present the most risk to your jurisdiction today?

- | | |
|--|--|
| <input type="checkbox"/> Climate Change | <input type="checkbox"/> Severe Weather (high wind, tornado, thunderstorm, hail) |
| <input type="checkbox"/> Dam Failure | <input type="checkbox"/> Severe Winter Weather (heavy snow, blizzard, ice) |
| <input type="checkbox"/> Drought | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Earthquake | <input type="checkbox"/> Hazardous Materials (fixed site, in-transit) |
| <input type="checkbox"/> Extreme Temperature (heat and cold) | <input type="checkbox"/> Disease Outbreak |
| <input type="checkbox"/> Flood (riverine, dam failure, beaver dam) | <input type="checkbox"/> Invasive Species |
| <input type="checkbox"/> Geologic (landslide, subsidence/sinkhole) | <input type="checkbox"/> Other: _____ |

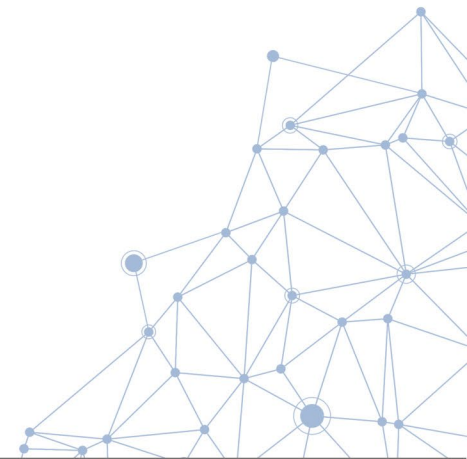


Community Lifelines

- Review 2017 critical facility inventory to ensure complete
- Crosswalk and identify lifelines

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security

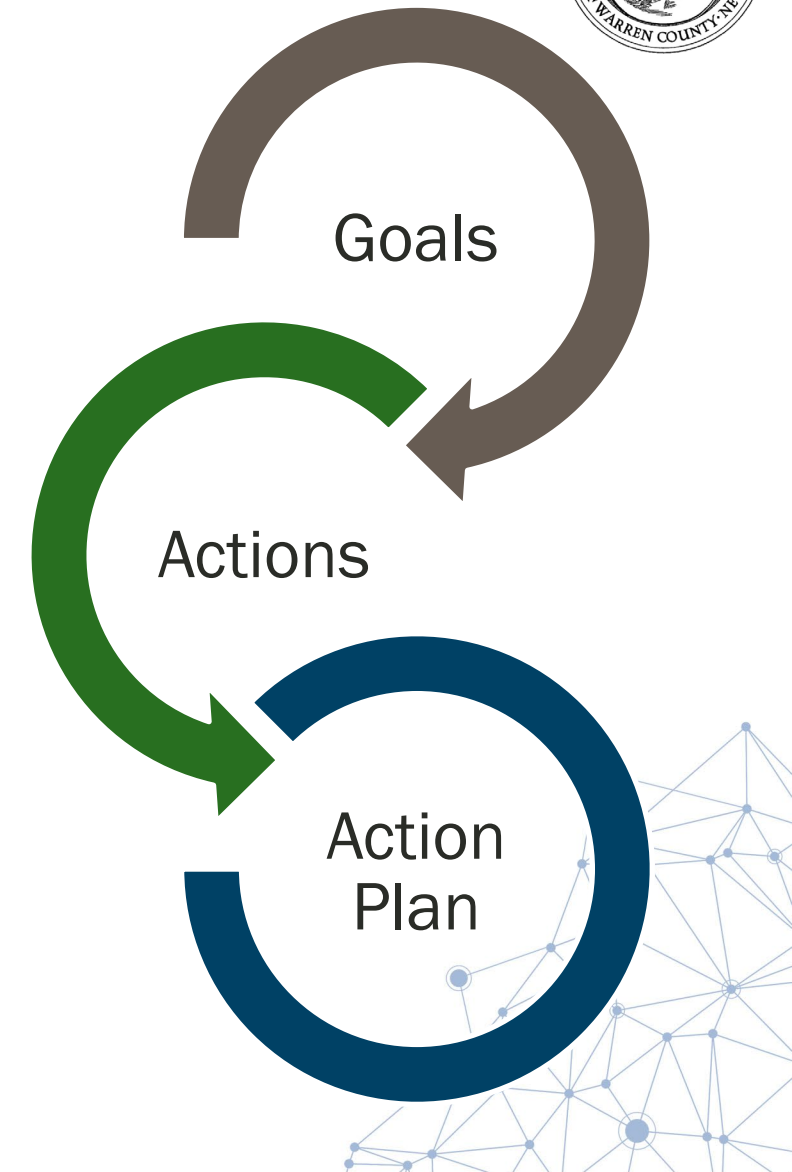
Essential facilities are a subset of lifelines that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category includes police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

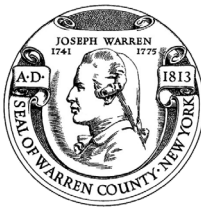




Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?



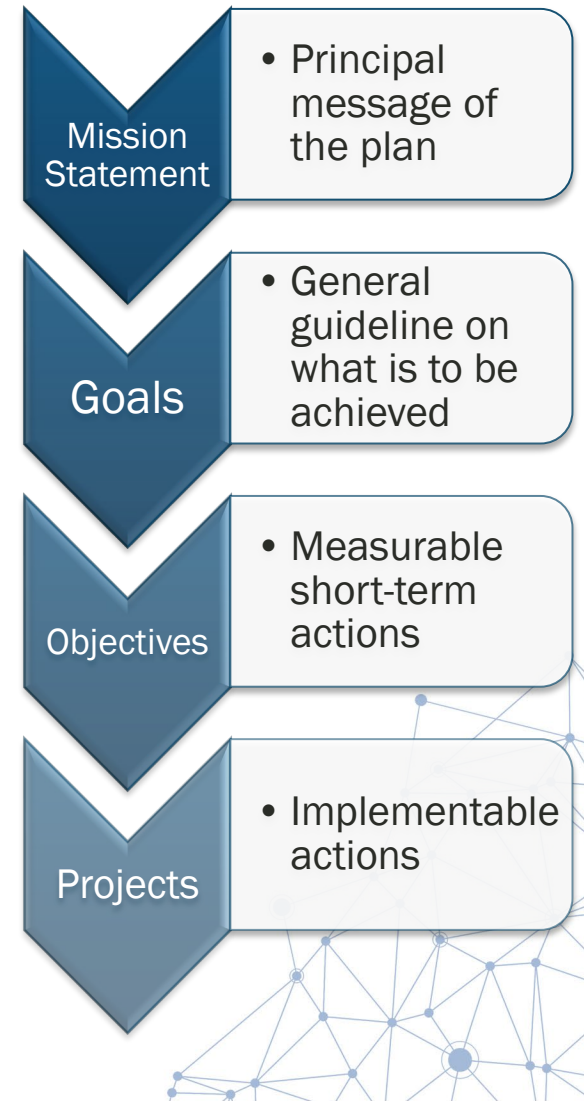


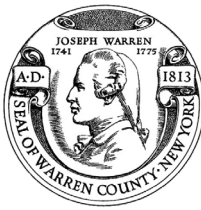
Update Mission Statement?

As part the of the 2017 update process, the Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as noted below. At this time, the committee is requested to review the Mission Statement to update to align with current County, state, and local policy. The committee is requested to consider adding the concept of equity and inclusiveness of socially vulnerable populations to the mission statement and the goals and objectives as well as additional adjustments to align with count, state, and local policy.

2017 HMP Mission Statement

To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations and the public to eliminate or reduce risks and adverse impacts from natural, technological and human-caused hazards .





Goals and Objectives Review and Update

Goal	Objective
Goal 1: Protect Life and Property.	1.1: Introduce mitigation activities that will make homes, businesses and critical facilities and infrastructure more hazard resistant and to increase resilience.
	1.2: In areas vulnerable to hazards, encourage businesses and homeowners to take preventive actions when possible .
	1.3: Periodically review existing building codes, safety procedures, municipal and county ordinances to update recent standards for building protection.
	1.4: Immediately enforce existing building codes within the jurisdiction.
	1.5: Encourage owners of home and businesses and renters to purchase appropriate insurance coverage for potential damages from hazards.
Goal 2: Increase Public Awareness	2.1: Continue developing and integrating education and outreach programs in an effort to enhance public awareness of the hazards, providing information on specific activities for individuals in anticipation of a hazard event .
	2.2: Provide information on current government programs and funding resources to assist with mitigation and resilience.
	2.3: Strengthen communication and cooperation between public agencies, citizens, non-profit groups, and businesses to implement mitigation activities effectively.





Goals and Objectives Review and Update

Goal 3: Provide for Emergency Services

3.1: Coordinate hazard mitigation activities with existing local emergency plans.

3.2: Identify and plan for acquiring any specific emergency services and equipment needed to improve response capabilities for specific hazards.

3.3: Review emergency traffic routes, making changes as needed, and educating the public as to the routes .

Goal 4:

Support comprehensive county and local mitigation through the integration of hazard mitigation planning into related state, regional, county and local plans and programs.

4.1: Promote land use planning to encourage resilient and sustainable efforts throughout statewide and regional programs that address zoning, building codes, capital improvement programs, open space preservation, nature-based solutions, and storm water management regulations.

4.2: Continue to participate in state, regional and local programs and efforts that focus on practices that support or enhance resiliency.

4.3: Improve hazard data through participation in studies, research, and mapping to enhance information related to the impacts of hazards and related risks, vulnerability, and losses.

Goal 5:

Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.

5.1: Encourage the use of green and natural infrastructure and nature based solutions.

5.2: Provide technical assistance to communities and stakeholders in the application and implementation of mitigation projects that preserve or restore natural systems.

5.3: Maintain and encourage ongoing relationships between state agencies and partners to play an active and vital role in preservation and restoration of vulnerable natural systems.

5.4: Promote climate change adaption strategies that protect against long-term effects on the environment.

Goal 5: Address Long-Term Vulnerabilities from High Hazard Dams

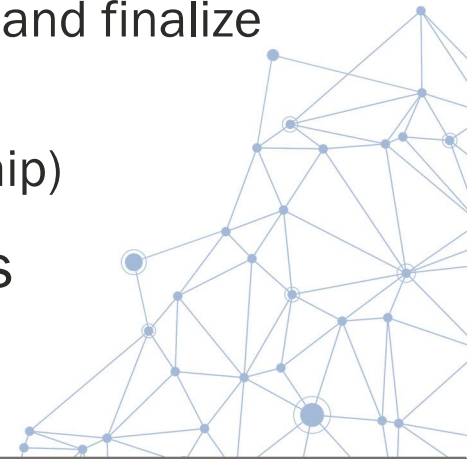
5.1: Ensure dam infrastructure is maintained

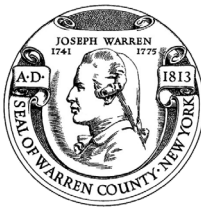




Schedule

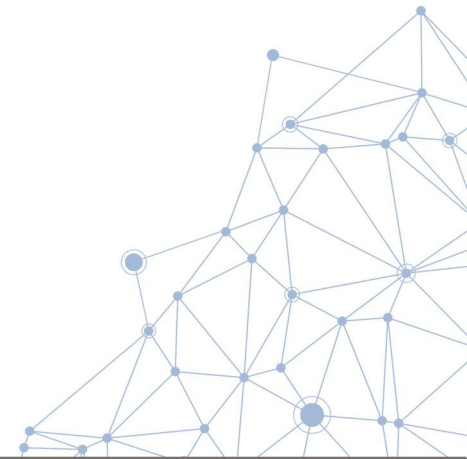
- Planning Process
 - Steering Committee Kick-Off – TODAY!
 - Planning Partnership Kick-Off – November 2nd at 9 am (Steering committee will be invited)
- Update Risk Assessment
 - Data collection is underway; confirm local critical facilities inventory by December 2023
 - Begin vulnerability assessment
 - Steering Committee Meeting: November, to identify hazards of concern for County and finalize goals
 - Risk Assessment Meetings: February (Steering Committee and Planning Partnership)
- Public Involvement Strategy – ongoing throughout the planning process





Schedule

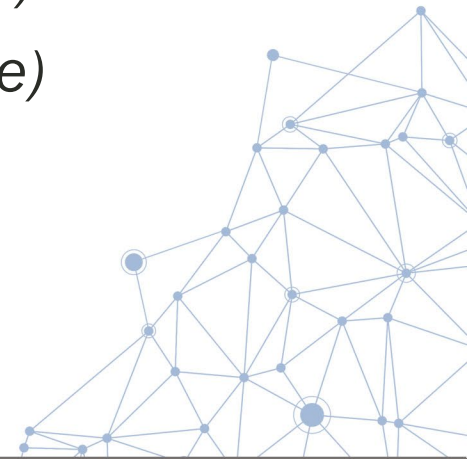
- Mitigation Strategy
 - Begin working with the municipalities in **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 2023**
- Draft Plan to Steering Committee in **May-June 2023** (*as sections are ready*)
- Public Review Period (30 days) – **June 2023**
- Final draft plan to NYSDHSES by June 2023 and FEMA by **August 2023**






Next Steps – Key Dates

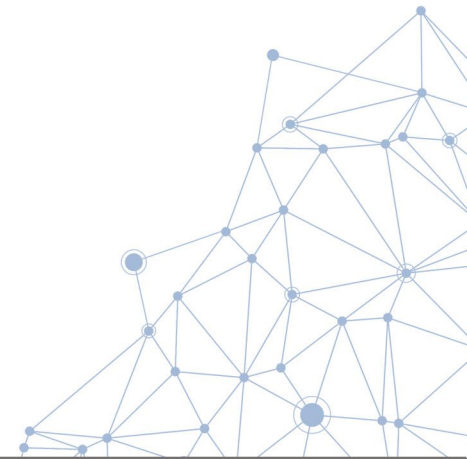
- Complete Hazards of Concern & Goals and Objectives worksheets and return by November 1st.
- Confirm access to OneDrive – *access to be provided in separate email*
- Planning Partnership Kick-Off* (Steering Committee and Municipalities) on **November 2nd, 2023**
- Steering Committee Meeting* – October 27th, 2022
- Steering Committee Risk Assessment Meeting – February, 2023 (*tentative*)
- Planning Partnership Risk Assessment Meeting – February, 2021(*tentative*)
- Mitigation Strategy Workshop – March 2023 (*tentative*)





Next Steps

1. Attend Planning Partnership Meeting
2. Determine Hazards of Concern to include in the HMP
3. Strengths, Weaknesses, Obstacles and Opportunities (SWOO)
4. Review Hazard Profiles
5. Review Risk Assessment Results
6. Identify Problems and Problem Areas
7. Develop Mitigation Strategy
8. Review Draft Plan
9. Submit Draft Plan for NYSDHSES/FEMA Review
10. Adopt FEMA-Approved Plan
11. Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

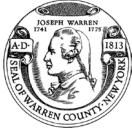
Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #1 – AGENDA
MEETING DATE/TIME: November 2, 2022 – 10:00 am



Virtual: Microsoft Teams Meeting - [Click here to join the meeting](#) or use this link:

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MGE2NDNIYWYtYWU3Ny00NGU4LWJkMWQtNmY0NGRhOTNiMTQ0%40thread.v2/0?context=%7b%22id%22%3a%22a40fe4ba-abc7-48fe-8792-b43889936400%22%2c%22oid%22%3a%22e2c51125-ed2c-4397-a8d5-53494e2597a5%22%7d)

[join/19%3ameeting_MGE2NDNIYWYtYWU3Ny00NGU4LWJkMWQtNmY0NGRhOTNiMTQ0%40thread.v2/0?context=%7b%22id%22%3a%22a40fe4ba-abc7-48fe-8792-b43889936400%22%2c%22oid%22%3a%22e2c51125-ed2c-4397-a8d5-53494e2597a5%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MGE2NDNIYWYtYWU3Ny00NGU4LWJkMWQtNmY0NGRhOTNiMTQ0%40thread.v2/0?context=%7b%22id%22%3a%22a40fe4ba-abc7-48fe-8792-b43889936400%22%2c%22oid%22%3a%22e2c51125-ed2c-4397-a8d5-53494e2597a5%22%7d) Dial in by phone (audio only), +1 518-300-1367,,776526083# United States, Albany, NY , Phone Conference ID: 776 526 083#

1. Welcome and Introductions
2. Benefits of Hazard Mitigation
3. Hazard Mitigation Planning Overview
4. Project Organization
5. Public and Stakeholder Outreach
6. In-Kind Services Tracking
7. Planning Partnership Responsibilities
8. Community Lifelines/Critical Facilities
9. Update Hazards of Concern and Risk Assessment
10. Goals and Objectives
11. Schedule
12. Questions/Next Steps/Wrap Up



Warren County
 Hazard Mitigation Plan Update
 Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	November 2, 2022, 9:00 am – 10:05 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ann Marie Mason	Warren County, Director Emergency Services
Ashley Rivers	Warren County OEM, Emergency Services Coordinator
Josh Westfall	Town of Bolton, Planner
Marion Eagan	Town of Chester, Planning and Zoning
Jeremy Little	Town of Chester, Zoning Administrator
Bill Norton	City of Glens Falls, Superintendent Water and Sewer
Michael N. Geraci	Town of Horicon, Supervisor
Danae Tucker	Town of Johnsbury, Bookkeeper
Fred Comstock	Town of Johnsbury, Highway Superintendent
Ernie Dunkley	Town of Johnsbury, Safety Officer
Mike Dunkley	Town of Johnsbury, Assistant Highway Superintendent
Laura Moore	Town of Queensbury, Land Use Planner
John O'Brien	Town of Queensbury, Director of Building and Code Enforcement
Mike Palmer	Town of Queensbury, Fire Marshal
Dave Duell	Town of Queensbury, Highway Superintendent
Deb Runyon	Town of Thurman, Supervisor
Dan Barusch	Town/Village Lake George, Planner
Rob Lanfear	Town/Village Lake George, Highway Department
Keith Lanfear	Town/Village Lake George, Superintendent Public Works
Eugene J. Merlino	Town of Lake Luzerne, Town Supervisor
Karen Putney	Town of Lake Luzerne, Zoning Enforcement Officer
James S. Hull	Town of Warrensburg, Code Enforcement Officer
Elizabeth O'Reilly	NYSDHSES, Planning Manager
Shelby Meyers	NYSDHSES, Planner
Paul Hoole	FEMA, Mitigation Planning
Cynthia Addonizio-Bianco	Tetra Tech, Inc.
Erika Corsi	Tetra Tech, Inc.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary:

Item No.	Description	Action item(s):
1	<p>Welcome and Opening Remarks</p> <ul style="list-style-type: none"> • Meeting started at 9:05 pm • Cynthia Addonizio-Bianco, project manager from Tetra Tech (Tt), facilitated introductions, gave opening remarks providing an overview of the importance of this planning process and thanked participants for supporting the hazard mitigation update. Jim Lieberum, Director of Warren County Soil and Water Conservation District introduced the County team. • Elizabeth O'Reilly of NYSDHSES indicated that NYSDHSES will provide support as needed throughout the mitigation planning process. 	N/A
2	<p>Project Overview</p> <ul style="list-style-type: none"> • Ms. Addonizio-Bianco provided the following information: <ul style="list-style-type: none"> ○ An overview of hazard mitigation, what it is and how it can provide increase resilience through the development of a FEMA-approved Hazard Mitigation Plan. She also noted the need to track time spent working on the plan outside of meetings through in-kind tracking to provide match for federal funding support for the planning effort. An online tracker will be sent out to all plan participants. ○ An overview of the phases of the hazard mitigation planning process including description of the project organization: <ul style="list-style-type: none"> ▪ Core Planning Team (CPT) ▪ Warren County Emergency Services ▪ Warren County Soil and Water Conservation District ▪ Tetra Tech ○ Steering Committee (SC) <ul style="list-style-type: none"> ▪ Numerous County Departments, Major Businesses, Outside Agencies, municipal representatives ○ Planning Partnership (PP) <ul style="list-style-type: none"> ▪ All participating municipalities and Steering Committee members. ○ FEMA/NYSDHSES ○ Stakeholders • Planning Partnership roles and responsibilities: <ul style="list-style-type: none"> ○ Provide guidance and leadership ○ Identify hazards of concern ○ Develop mitigation goals and objectives • Develop public and stakeholder outreach • Assist with the development of their jurisdictional annex. Each municipality will be provided a version of their jurisdictional annex. The municipal mitigation team will edit and make changes to the annex as needed and return to Tt. 	<ul style="list-style-type: none"> • Critical facility inventory survey to be distributed by Tt to the County and municipal representatives.



Warren County
Hazard Mitigation Plan Update
Meeting Notes

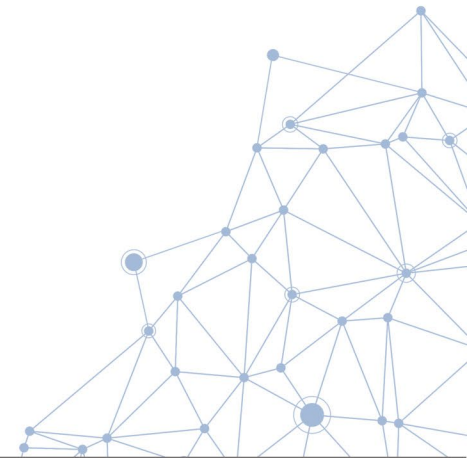
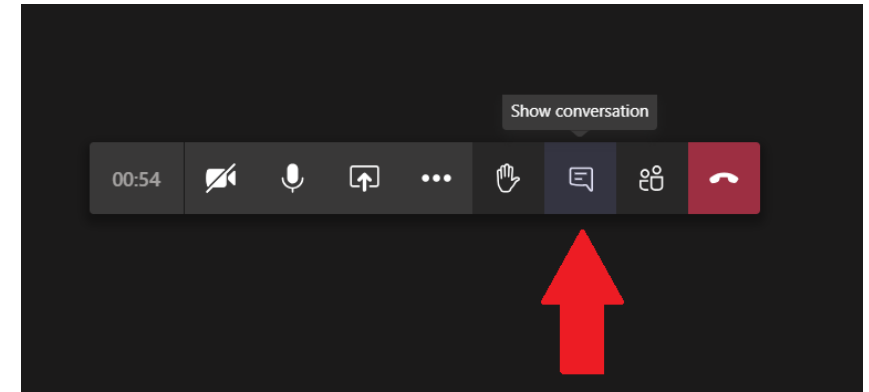


3	<p>Risk Assessment and Hazards of Concern</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco discussed the process of the risk assessment and reviewed the hazards of concern identified in the last HMP. These hazards of concern will need to be reviewed and updated as necessary. One action is needed for every hazard of concern that impacts a municipality. 	<ul style="list-style-type: none"> Planning Partnership to provide input to update Hazards of Concerns in associated worksheets.
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco introduced the goals and objectives from the last HMP. Community lifelines and critical facilities were introduced from the previous HMP. The jurisdictional representative should review the goals and objectives and the community lifelines to identify changes in their communities. 	<ul style="list-style-type: none"> Planning Partnership to provide critical facilities inventory by December 9th using the survey sent via email Tt to send critical facilities inventory survey
5	<p>Upcoming Meetings</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco reviewed upcoming meetings: <ul style="list-style-type: none"> Confirm critical facilities/lifeline inventory by December 9th 2022 Worksheet workshop – November 16th, 2022, at 10am All Annex worksheets due November 23rd, 2022 Risk assessment meeting – February 2023 	<ul style="list-style-type: none"> Tt to send out jurisdictional annexes
6	<p>Next Steps</p> <ul style="list-style-type: none"> Determine Hazards of Concern to include in the HMP Review Hazard Profiles Review Risk Assessment Results Identify Problems and Problem Areas Develop Mitigation Strategy Review Draft Plan Submit Draft Plan for NYSDHSES/FEMA Review Adopt FEMA-Approved Plan Implement Projects and Maintain the Plan and Increase Resilience 	
7	<p>Conclusion - The meeting concluded at 10:05 am.</p>	



Welcome!

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.
 - Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.
 - Click “Show Conversation.”





Warren County, New York Hazard Mitigation Plan – 2023 Update

Planning Partnership Kick-Off Meeting | November 2, 2022
9:00am



Agenda

- Welcome and Introductions
- Benefits of Hazard Mitigation
- Hazard Mitigation Planning Overview
- Project Organization
- Public and Stakeholder Outreach
- In-Kind Services Tracking
- Planning Partnership Responsibilities
- Community Lifelines/Critical Facilities
- Update Hazards of Concern and Risk Assessment
- Goals and Objectives
- Schedule
- Questions/Next Steps/Wrap Up





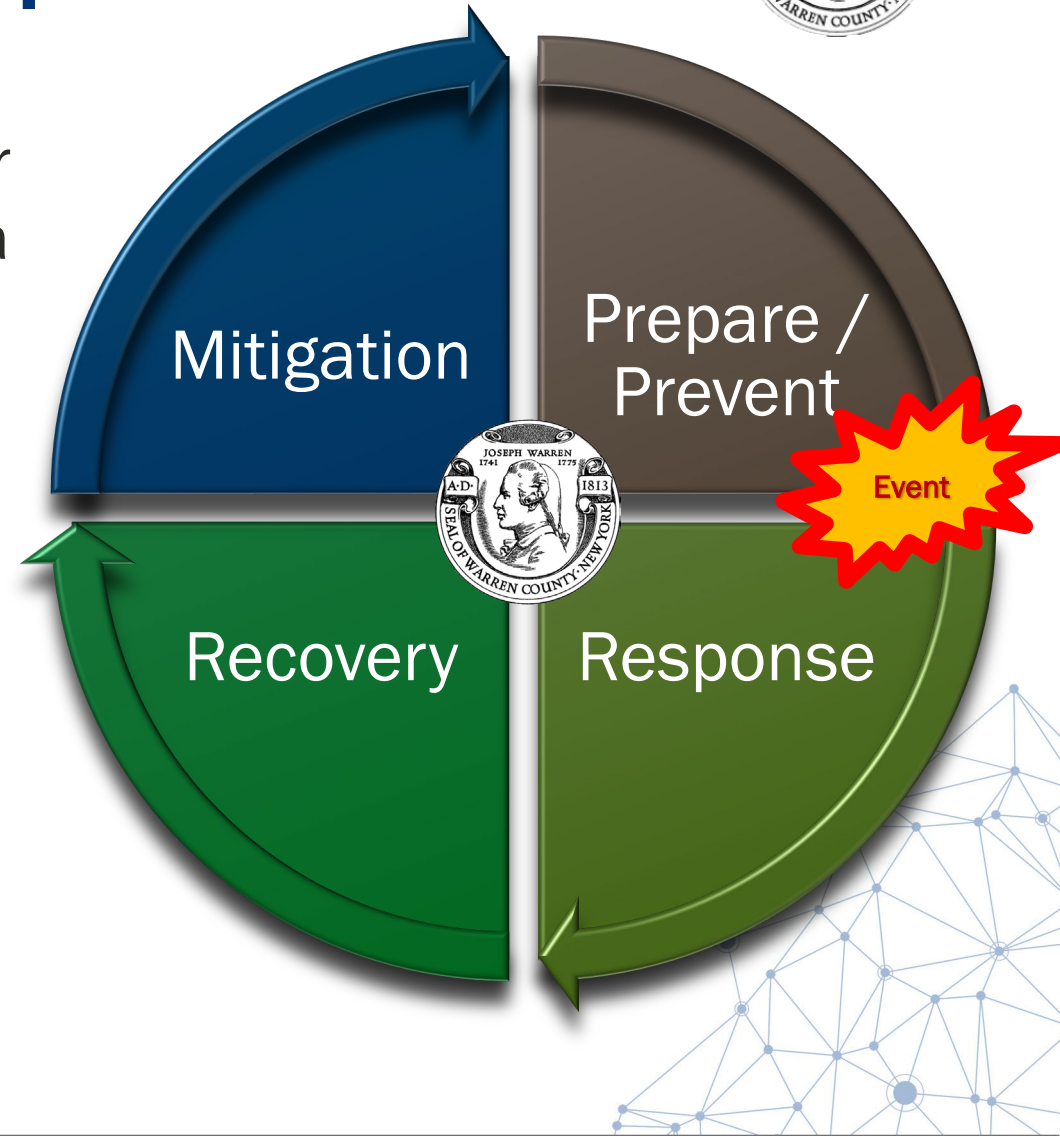
Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).

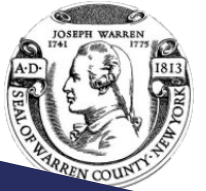


Hazard Mitigation Works!

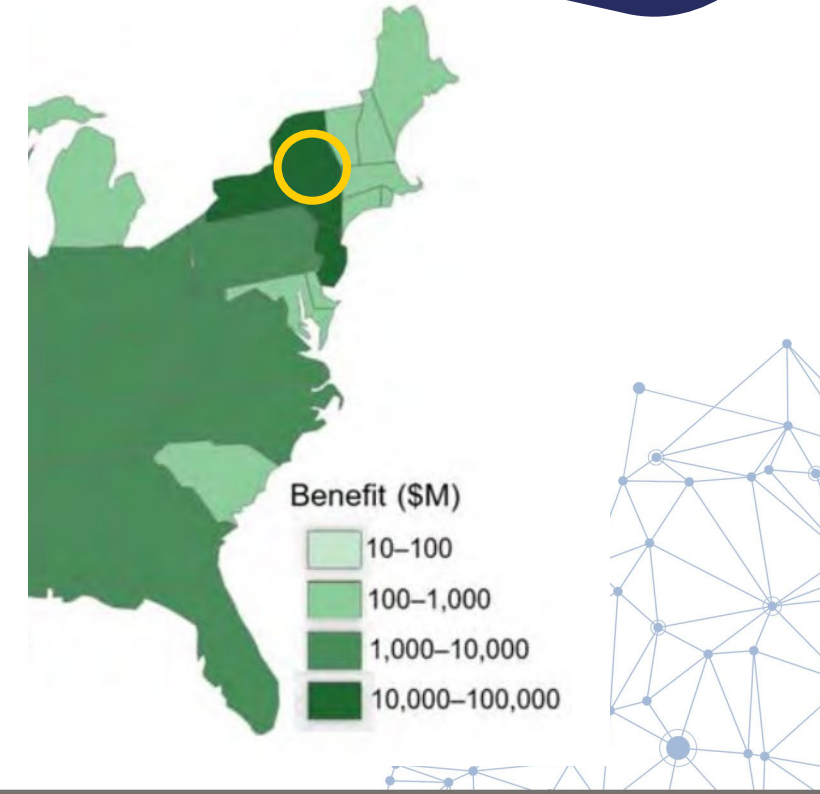
- According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2019 Report, federal mitigation grants save \$6 for every \$1 spent!

	ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio	11:1	4:1	4:1	4:1	6:1
Cost (\$ billion)	\$1/year	\$4/year	\$520	\$0.6	\$27
Benefit (\$ billion)	\$13/year	\$16/year	\$2200	\$2.5	\$160
Riverine Flood	6:1	5:1	6:1	8:1	7:1
Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
Wind	10:1	5:1	6:1	7:1	5:1
Earthquake	12:1	4:1	13:1	3:1	3:1
Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

Copyright © 2019 The National Institute of Building Sciences



Mitigation saves in every in state! New York State has benefited in over \$100 million from federal grants for flood, wind, earthquake, and fire mitigation.

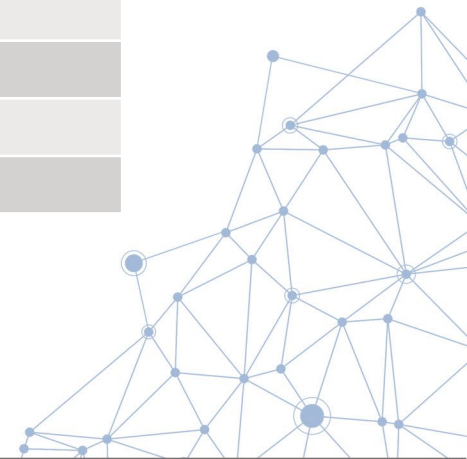


Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (\$)
Blizzard	Losses not reported
Drought	Losses not reported
Excessive Temperature	Losses not reported
Flash Flood	\$22.36 million
Flood	\$6.24 million
Hail	\$13,000
Heavy Rain	Losses not reported
Heavy Snow	\$35,000
High Wind	\$731,000
Hurricane/Tropical Storm	Losses not reported
Lightning	\$77,000
Strong Wind	\$193,000
Thunderstorm Wind	\$10.62 million
Tornado/Funnel Cloud	\$252,500
Winter Storm	\$182,300
Winter Weather	\$1,000
TOTAL	\$42.345 million

Source: NOAA-NCEI 2022



What's at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472
2020	COVID-19	3434
	COVID-19 PANDEMIC	4480



4 Flood



4 Hurricane



4 Severe Storm(s)



2 Biological



2 Other



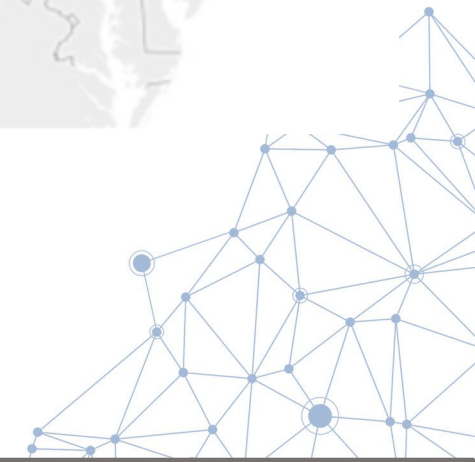
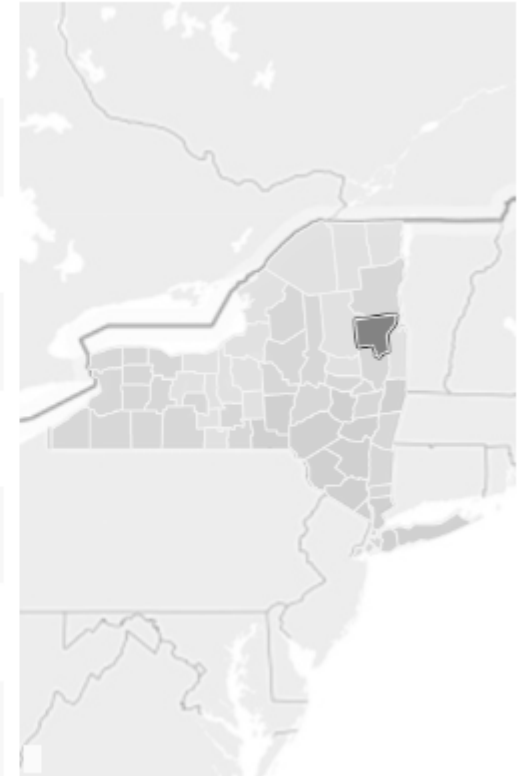
1 Earthquake

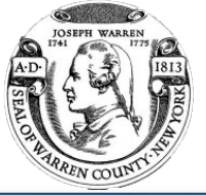


1 Fire



1 Snow



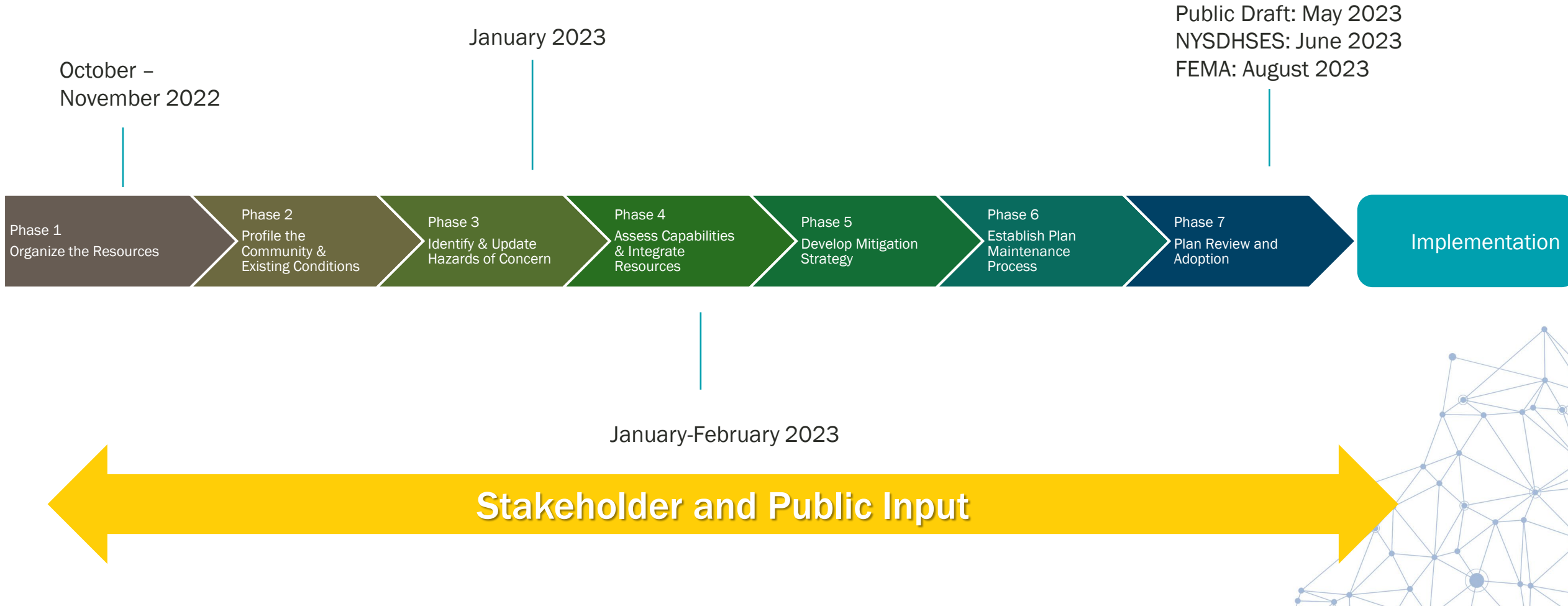


What is our Vision?

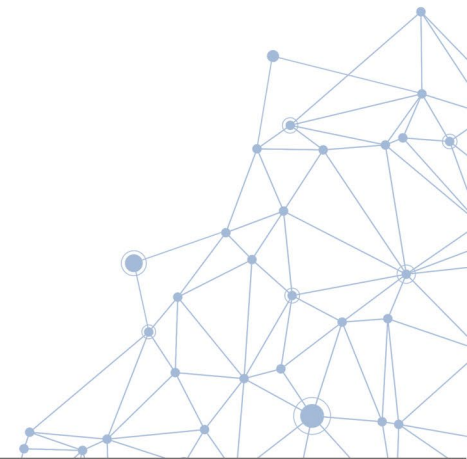
*The **mission** of the Warren County Hazard Mitigation Plan is to create communities whose daily activities reflect a comprehensive **commitment** by government, business, non-profit organizations and the public to eliminate or **reduce risks** and adverse impacts from natural, technological and human-caused hazards.*



Planning Process Overview



Project Organization





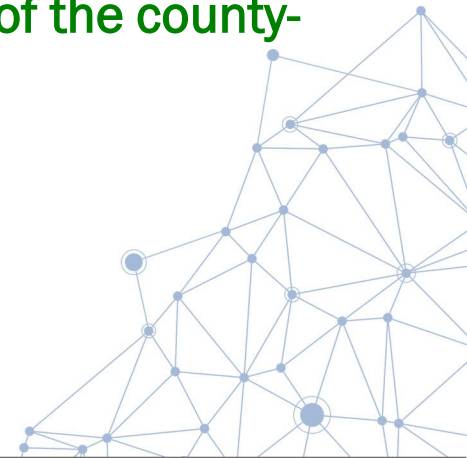
Who is Leading the Planning Process?

Steering Committee Members

Warren County Soil and Water Conservation District	Adirondack / Glens Falls Transportation Council
Warren County Office of Emergency Services	City of Glens Falls
Warren County Department of Planning and Community Development	Village of Lake George
Warren County Public Works	SUNY Adirondack
Town of Queensbury Planning Department	Glens Falls Hospital
	Finch Pryne
	Board of Supervisors

Role

- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents





How are we Engaging the Public?

- HMP website underdevelopment – <https://www.warrencountynewyorkhmp.com>
- Social Media Blasts – content and graphics will be sent out
- Surveys – public, stakeholder, and neighbors
- Local announcements of HMP update – local papers, municipal newsletters, etc.
- Local public meetings
- Draft plan review
- Document each and every time this is done!

Why conduct outreach?

- ✓ Informs and educates about hazards and risks
- ✓ Invites interested parties to contribute their views and ideas for mitigation
- ✓ Identifies conflicts and incorporates different perspectives and priorities early in the process
- ✓ Provides data and information that improves overall quality and accuracy of the plan
- ✓ Ensures transparency and builds trust
- ✓ Maximizes opportunities for implementation through greater consensus and acceptance

How to Document your Public and Stakeholder Outreach and In-Kind Hours?



- Track hours spent working on the HMP (outside of meetings with Tetra Tech)
- Track type of outreach you provide to inform residents and stakeholders about the Hazard Mitigation Plan.
- A survey will be emailed to you your input.

Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Press Release	Countywide						Press release issued to several local newspapers

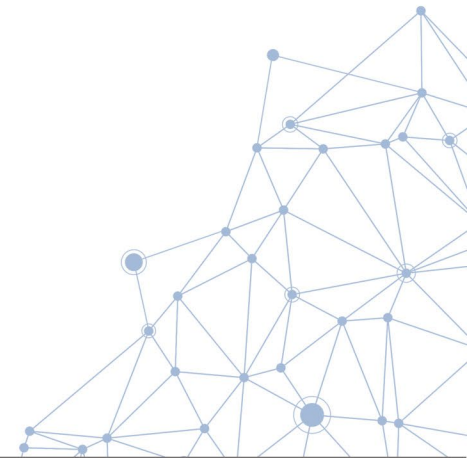


What are the Benefits for Municipal Participation?

- All municipalities are encouraged to actively participate (and continue to be covered by the countywide HMP).

Participating = you remain eligible for pre- and post-disaster mitigation funding!

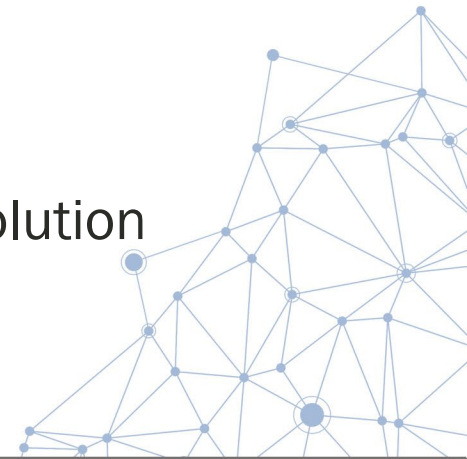
- FEMA has greatly expanded their scrutiny of ‘participation’ since your last plan update...





How Do You Participate?

- Submit Letter of Intent to Participate (LOIP)
 - LOIPs are required from each municipality
 - It outlines expectations and responsibilities for participating jurisdictions and identifies points of contact
- Assist with the development of your jurisdictional annex
- Attend planning partnership meetings/workshops – like this one!
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – governing body must pass an Adoption Resolution
- Implement and Maintain the Plan



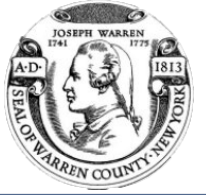


Who Should be on Your Team?

If you not fully decided who should be on your municipal mitigation team, the following could provide you a better idea on who to invite:

- NFIP Floodplain Administrator
- Building Code Official
- Engineer
- Land Use Planner
- Clerk
- Mayor/Administrator/Supervisor
- Municipal CFO/Fiscal Representative
- Public Works Superintendent/Director
- Police/Fire Official





List of Worksheets

- Worksheet A - Hazard Event History
- Worksheet B – Capability Assessment
- Worksheet C – National Flood Insurance Program (NFIP) Questionnaire
- Worksheet D – 2017 Mitigation Project Status (Action Plan) Review
- Worksheet E – Development, Building Permits (last 5 years)

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code			State and Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Zoning/Land Use Code			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
<i>Consider the following:</i>				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
<i>Consider the following:</i>				
<ul style="list-style-type: none"> • Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? • Do the regulations provide for conservation subdivisions or cluster subdivisions <u>in order to</u> conserve environmental resources? • Do the regulations allow density transfers where hazard areas exist? 				
Site Plan Ordinance			Local and County	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Stormwater Management Ordinance			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				





Update Annexes with Your Mitigation Team

- Attend the Worksheet Workshop to review each worksheet:
 - November 16 at 10 am
- Complete worksheets
 - Each worksheet has a suggested department lead
 - Critical asset review by December 9th
 - All worksheets due November 23rd



Who Should Conduct Your Capability Assessment?



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet B – Capability Assessment

- Planning and Regulatory Capability
- Building Code
- Administrative and Technical Capability
- Fiscal Capability
- Education and Outreach
- Community Classifications
- Adaptive Capacity

This will be reflected in your municipal annex



Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by November 23, 2022
Email: cynthia.bianco@tetratech.com

Municipality: _____
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Administrator, Chief Fiscal Officer

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to your community, what is present in the jurisdiction, and code citation and date. For existing regulatory tools, note how it reduces risk to hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Table B.1-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code			State and Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Zoning/Land Use Code			Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Consider the following:				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance			Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Consider the following:				
<ul style="list-style-type: none"> • Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? • Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? • Do the regulations allow density transfers where hazard areas exist? 				
Site Plan Ordinance			Local and County	
How has or will this be integrated with the HMP and how does this reduce risk?				

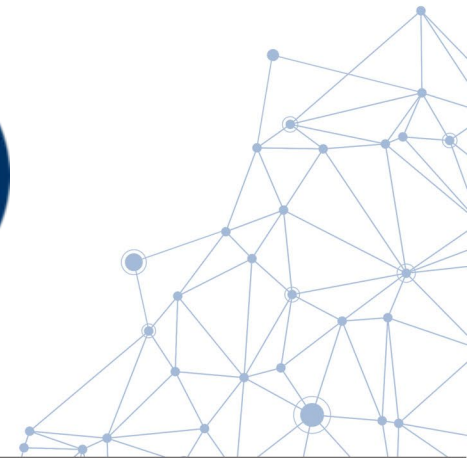


How to Update Municipal Community Lifelines?



- Review 2017 critical facility inventory to ensure complete using the Survey provided by email.
- Identify your lifelines

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security

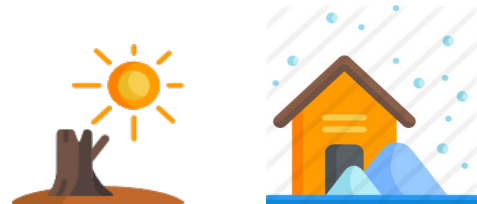




2017 Hazards of Concern

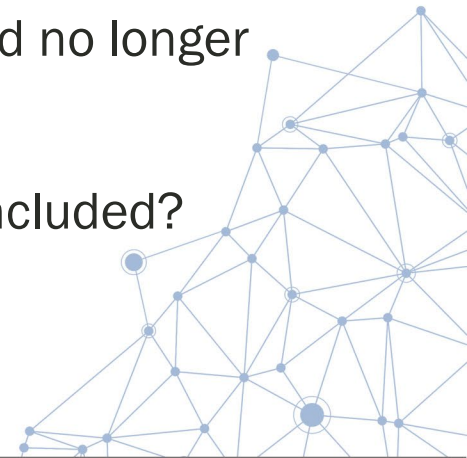
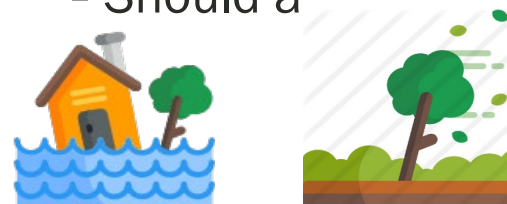
Natural Hazard of Concern:

- Disease Outbreak
- Earthquake
- Flood (riverine, ice jam, flash)
- Infestation
- Landslide
- Severe Storm (windstorm, thunderstorms, hail, tornados)
- Severe Winter Storm (heavy snow, blizzards, ice storms)
- Wildfire



Non-Natural Hazards of Concern:

- Cyber Security
- Haz-Mat
- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped?
 - Should additional hazards be included?



Update Risk Assessment


- Update Assets
- Examine Previous Impacts
- Analyze Risks
- Review with Steering Committee
- Risk Assessment Meeting - open to the public





Review Your Previous Mitigation Strategy

- Determine status of 2017 Mitigation Actions
- The updated mitigation strategy will build on this as well as additional identified issues
- What progress has been made on the 2017 HMP actions?
 - Completed?
 - If yes, describe funding source, funding amount, and details on the project and how it was completed.
 - No progress?
 - Describe why.
 - Is this project still a priority? If yes, we will include in the 2023 Update.
 - If no, we will remove.


WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
 Worksheet D - Mitigation Action Review
 MUNICIPALITY

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is <u>complete</u>)			1. Next Steps Project to be Included in 2023 HMP or Discontinue		
						Cost	Level of Protection	Damages Avoided; Evidence of Success	1.	2.	3.
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		

This will be included in your municipal annex





New Mitigation Actions for the 2023 Update

- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- Tips for the 2023 update:
 - Quality NOT quantity
 - Specific not general
 - What can realistically be accomplished in 5 years?
 - Action for every hazard of concern

 **Plans and regulations** include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.

 **Structure and infrastructure projects** involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.

 **Natural systems protection projects** minimize losses while also preserving or restoring the function of natural systems.

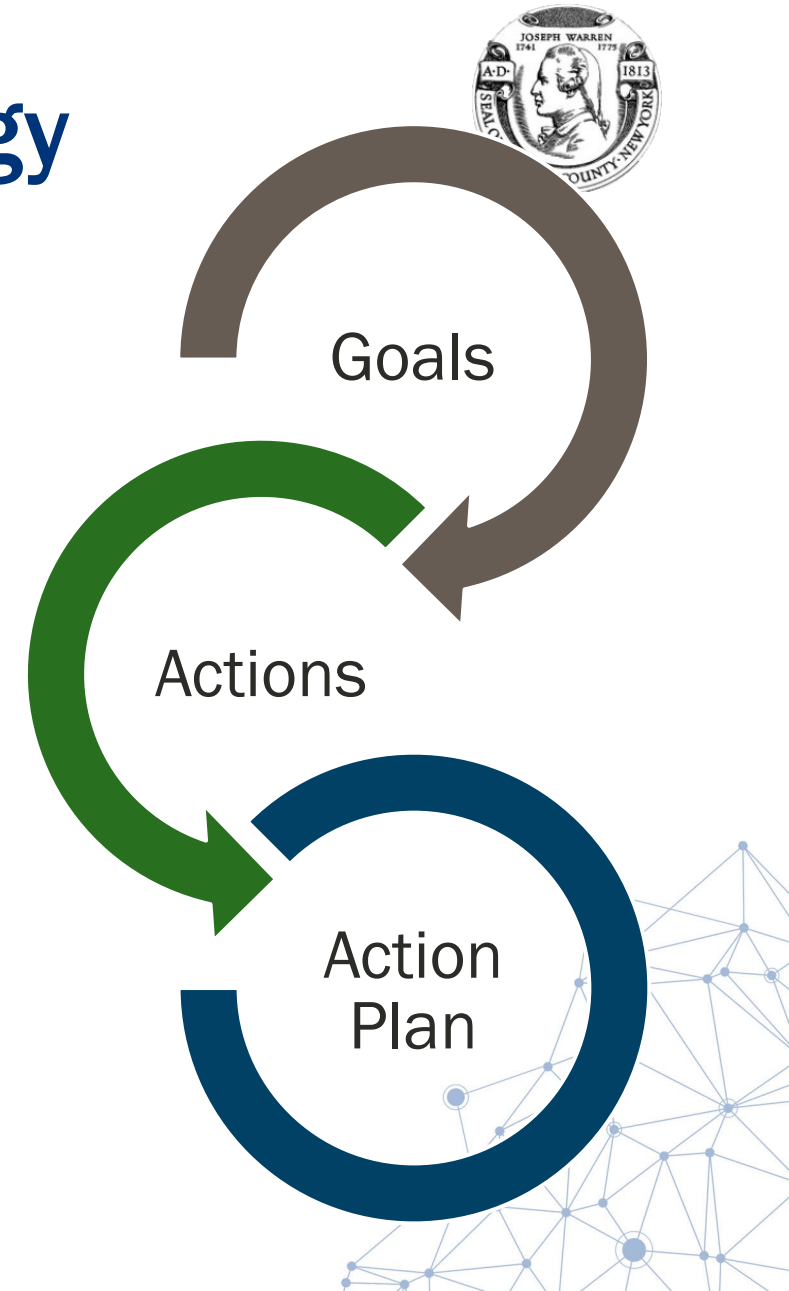
 **Education and awareness programs** include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category also include tr



“At the first sign of a flood, you just push this little button.”

Connection to the Mitigation Strategy

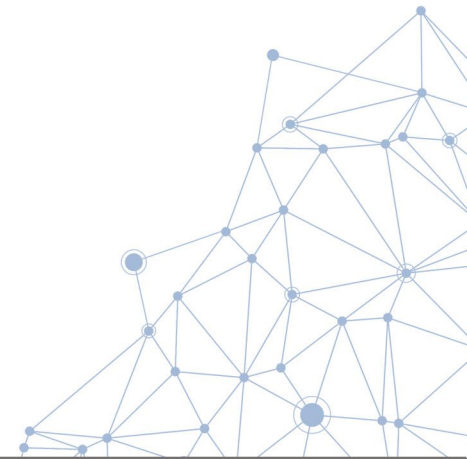
- Need a clear connection between vulnerability and proposed mitigation actions.
- Use the capability assessment to provide insight into challenges/opportunities for the mitigation strategy as well.
- Provide a factual basis for activities proposed in the mitigation strategy.





What We Need From You

- Attend the upcoming worksheet workshop
 - Worksheet Workshop – November 16 at 10 am
- Review and submit your critical facilities by December 9th
- Complete and return your worksheets
- Start thinking about what new mitigation actions you would like to add to your mitigation strategy.

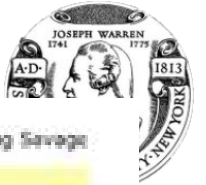


Schedule

- Planning Process
 - Planning Partnership Kick-Off – TODAY!
 - Confirm critical facility/lifeline inventory by December 9th
 - Worksheets due November 23rd
 - Worksheet Workshop – November 16 at 10 am
 - Update Risk Assessment
 - Begin vulnerability assessment
 - Risk Assessment Meeting – February 2023
- Public Involvement Strategy – ongoing throughout the planning process

Savage Chickens


by Doug Savage



www.savagechickens.com



Next Steps

- Determine Hazards of Concern to include in the HMP
- Review Hazard Profiles
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for DHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC, District Manager
jiml@warrenswcd.org

Ann Marie Mason, Emergency Services Director
masona@warrencountyny.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Homework Workshop – AGENDA
MEETING DATE/TIME: November 16, 2022 – 10:00 am



In-Person/Hybrid Meeting:

Human Services Building
3rd floor conference room
1340 State Route 9, Warren, Lake George, NY

Virtual: Microsoft Teams Meeting:
Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: 211 930 051 572

Passcode: 89z58L

Agenda Items

1. Welcome and Introductions
2. Benefits of Hazard Mitigation
3. Hazard Mitigation Planning Overview
4. Project Organization
5. Public and Stakeholder Outreach
6. In-Kind Services Tracking
7. Planning Partnership Responsibilities
8. Community Lifelines/Critical Facilities
9. Update Hazards of Concern and Risk Assessment
10. Goals and Objectives
11. Schedule
12. Questions/Next Steps/Wrap Up



Warren County
 Hazard Mitigation Plan Update
 Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	November 16, 2022, 10:00 am – 11:00 am

Attendees:

- | | |
|--------------------------|---|
| Laura Stebbins | Director of Emergency Preparedness, Glens Falls Hospital |
| Jim Lieberum | Warren County SWCD, District Manager, HM Coordinator |
| Ann Marie Mason | Warren County, Director Emergency Services |
| Ethan Gaddy | Warren County Planner/Climate Smart |
| Josh Westfall | Town of Bolton, Planner |
| Jennifer Ramsey | Warren County Office of Emergency Services |
| Jessica Leerkes | Town of Chester |
| Bill Norton | City of Glens Falls, Superintendent Water and Sewer |
| Michael N. Geraci | Town of Horicon, Supervisor |
| Danae Tucker | Town of Johnsbury, Bookkeeper |
| John Strough | Town of Queensbury |
| John O'Brien | Town of Queensbury, Director of Building and Code Enforcement |
| Dave Duell | Town of Queensbury, Highway Superintendent |
| Deb Runyon | Town of Thurman, Supervisor |
| Dan Barusch | Town/Village Lake George, Planner |
| Keith Lanfear | Town/Village Lake George, Superintendent Public Works |
| Eugene J. Merlino | Town of Lake Luzerne, Town Supervisor |
| Karen Putney | Town of Lake Luzerne, Zoning Enforcement Officer |
| Frank E. Thomas | Town of Stoney Creek, Supervisor |
| Elizabeth O'Reilly | NYSDHSES, Planning Manager |
| Paul Hoole | FEMA, Mitigation Planning |
| Cynthia Addonizio-Bianco | Tetra Tech, Inc. (Tt) |



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary: The purpose of the meeting was to provide an overview of information needed to update the local information for the Warren County Hazard Mitigation Plan (HMP) update.

Item No.	Description	Action item(s):
1	<p>Overview/Agenda: Tetra Tech welcomed the attendees and provided an overview of the agenda which included the following topics: Benefits of hazard mitigation, Planning Partnership responsibilities, Worksheet review and data input, community lifelines and critical facilities, and next steps. Refer to the attached copy of the presentation for details.</p>	
2	<p>Discussion items:</p> <ul style="list-style-type: none"> ▪ Worksheet information will be included in the community section or annex of the mitigation plan. ▪ Worksheet A: Hazard Event History - it is important to document local natural hazard events that have resulted in damages <i>not limited to named or declared events</i>. For example, if a community has experience localized flooding, note the date, location, and any damages or road closures. This information will help inform the development of projects to reduce future risk and damages. ▪ Worksheet B: Capability Assessment – Basic information such as whether or not the planning mechanism, code, or ordinance is in place. Additional information includes the adoption date of the item and a description of how it reduces risk or integrates hazard mitigation into the community activities. ▪ Worksheet C: NFIP Questionnaire – This should be completed by the community National Flood Insurance Program Administrator. ▪ Worksheet D: Action Review - This has been populated with the mitigation actions from the current plan. Information on the progress of the project is required (is it complete, in progress, no longer relevant?). Also indicate whether the project should be included in the plan update. ▪ Worksheet E: Building Permits - A listing of permits for new development since 2017 is required. This will provide an understanding of where development is occurring and if it is occurring in hazard areas. A description of the county permitting activities on behalf of local government will be included in the plan. A potential mitigation action may be to ensure that permits in floodplains are tracked going forward. ▪ Mr. Gaddy noted that it may be worthwhile to understand if the NYDEC Unit Management Process addresses elements of mitigation in state owned property management. 	<ul style="list-style-type: none"> • Tt to check HMP integration with NYDEC for Unit Management Process
3	<p>Submittal date: All municipalities were requested to submit the completed worksheets to Cynthia.bianco@tetrattech.com on or before November 23rd.</p>	Municipalities to submit worksheets to Tt on or before 11/23/22.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



4	<p>Questions/Support: Questions should be directed to Cynthia Bianco of Tetra Tech at Cynthia.bianco@tetrattech.com or Jim Lieberum of Warren County Soil & Water Conservation district at jiml@warrenswcd.org .</p>	<ul style="list-style-type: none">• Tt to post recording on OneDrive and share the link.• Tt to send Presentation to invitees
7	<p>Conclusion - The meeting concluded at 10:55 am.</p>	

DRAFT



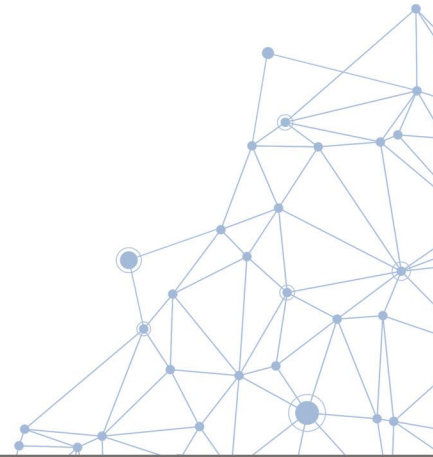
Warren County, New York Hazard Mitigation Plan – 2023 Update

Homework Workshop | November 16, 2022 10:00am



Agenda

- 1 Welcome
- 2 Benefits of Hazard Mitigation
- 3 Hazard Mitigation Planning Overview
- 4 Planning Partnership Responsibilities
- 5 Worksheet Review/Data Input
- 6 Community Lifelines/Critical Facilities
- 7 Questions/Next Steps/Wrap Up





This is the Benefit of Participating in the Plan

By participating AND adopting the hazard mitigation plan:

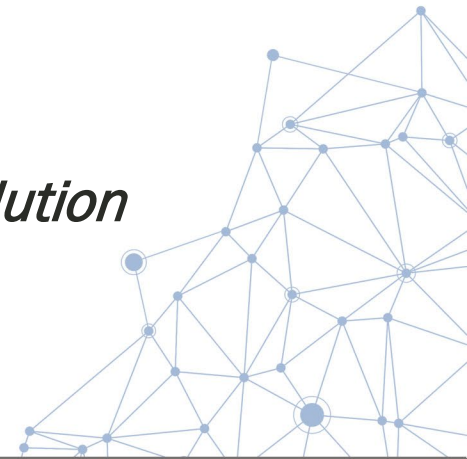
- 1.** Your community remains eligible for pre-disaster mitigation funding!
- 2.** Your plan will help reduce future damages in your community





How Do You Participate?

- Submit Letter of Intent to Participate
 - If you haven't returned it yet, please do so ASAP!
- ***Provide information about your town or village.***
(This will be included in your chapter of the plan.)
- Attend planning partnership meetings/workshops
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – ***governing body must pass an Adoption Resolution***
- Implement and maintain the Plan

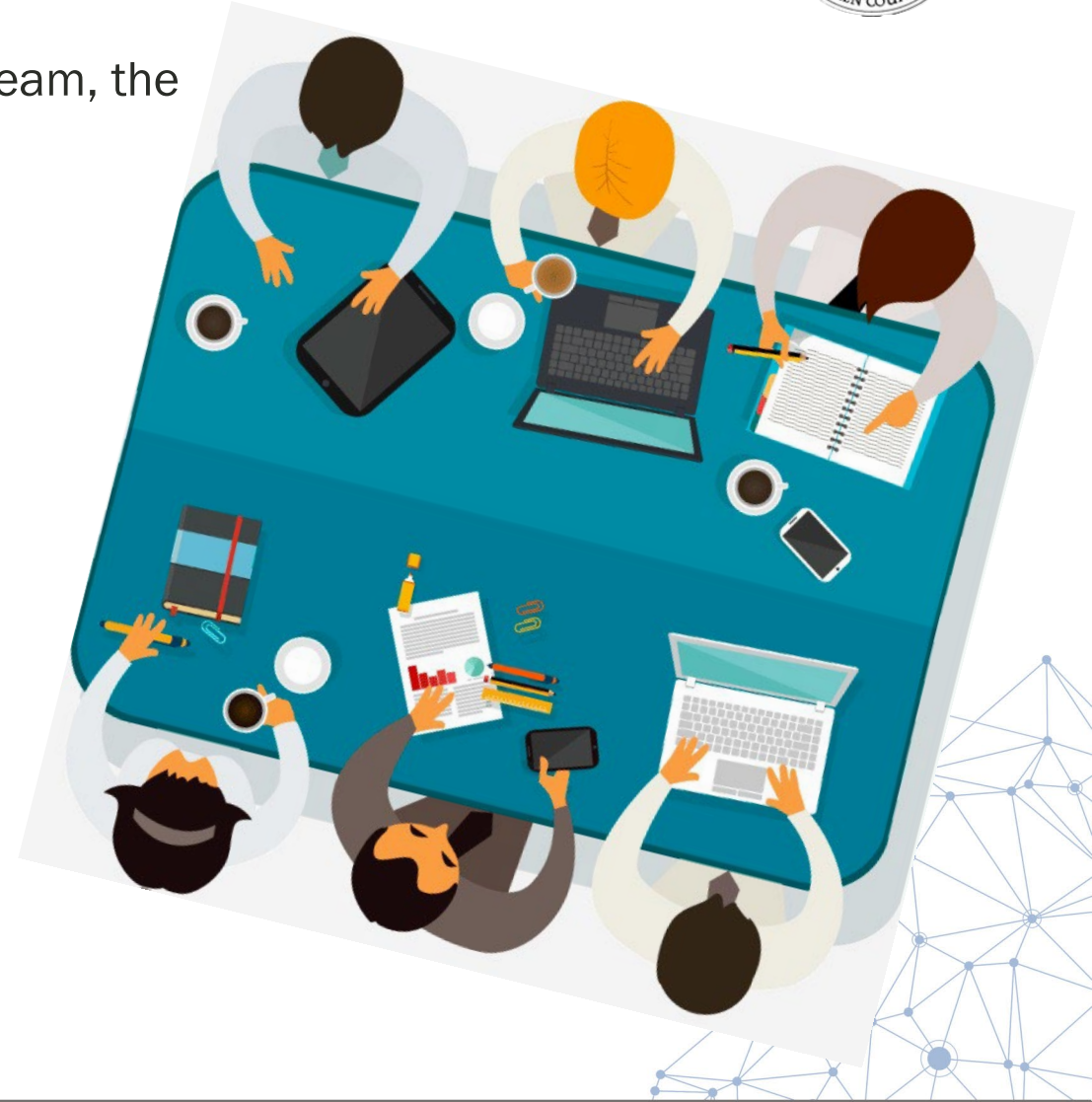




Assemble Your Mitigation Team!

If you have not fully decided who should be on your municipal team, the following can provide you a better idea on who to invite:

- NFIP Floodplain Administrator
- Building Code Official
- Engineer
- Land Use Planner
- Clerk
- Mayor/Administrator
- Municipal CFO/Fiscal Representative
- Public Works Superintendent/Director
- Police/Fire Official





What We Your Input!

- Tetra Tech has provided you with worksheets
- Information from the last plan has been pre-populated in your worksheets, as available.
- Your Mitigation Team is responsible for
 - providing updated information
 - reviewing the information from the 2017 plan.
- *This information will be included in your town or village annex*

SECTION 9.2 TOWN OF BOLTON

This section presents the jurisdictional annex for the Town of Bolton that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the municipality, who in the TOWN participated in the planning process, an assessment of the Town of Bolton's risk and vulnerability, the different capabilities used in the TOWN, and an action plan that will be implemented to achieve a more resilient community.

9.2.1 Hazard Mitigation Planning Team

The Town of Bolton identified the hazard mitigation plan (HMP) primary and alternate points of contact and developed this plan over the course of several months with input from many TOWN departments, including XXXX. The XXXX represented the community on the Warren County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Volume 1, Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.1-1. Hazard Mitigation Planning Team

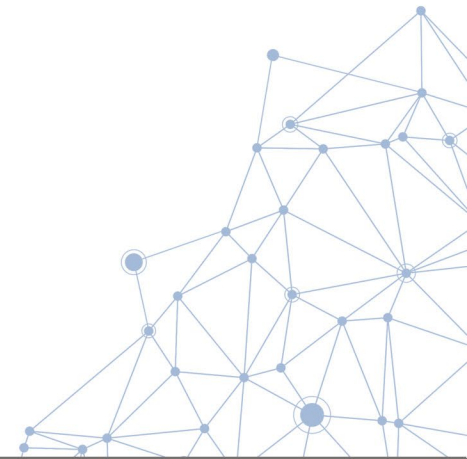
Primary Point of Contact	Alternate Point of Contact
Name/Title: Joshua Westfall, AICP Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Westfall.J@Town.Bolton.NY.US	Name/Title: Richard Miller, PE Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Miller.R@Town.Bolton.NY.US
NFIP Floodplain Administrator	
Name/Title: Richard Miller, PE Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Miller.R@Town.Bolton.NY.US	
Additional Contributors	
Name/Title: Method of Participation: Name/Title:	

TETRA TECH 2023 | HAZARD MITIGATION PLAN – WARREN COUNTY, NEW YORK 1

Hazard Event History Specific to Your Town or Village



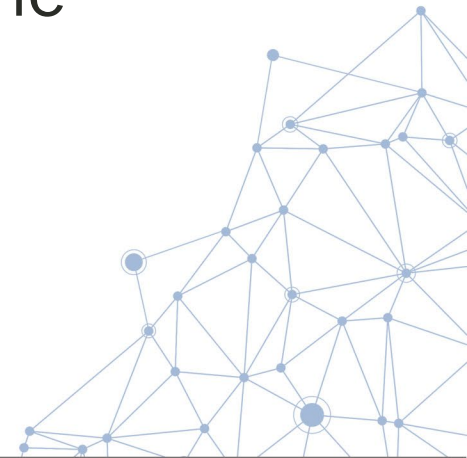
- Describe impactful hazard events that have occurred since 2017
 - When did the event occur?
 - What type of event was it?
 - What are the details of how the event unfolded?
 - How was the community impacted?
 - Damages
 - Closures
 - Injuries/deaths





HAZARD EVENT HISTORY

- ✓ Fill out contact information.
- ✓ Provide a summary of damages/impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.
- ✓ Identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc



WORKSHEET A – HAZARD EVENT HISTORY



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet A – Hazard Event History

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by November 23rd, 2022.
Email: cynthia.bianco@tetratech.com

Municipality: Town of Bolton

Name and Title of Individual Completing Worksheet: _____

Warren County has frequently experienced natural hazard events. Please complete the table below to summarize specific loss and damages experienced during hazard events since the last hazard mitigation plan update (January 1, 2017). Information already populated in the table below is based on County-wide events that resulted in significant damages and losses.

Please update the table to provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
April 27-28, 2011	Severe Storms, Flooding, Tornadoes and Straight-Line Winds (DR-1993)	Yes	Flooding occurred along the Hudson River in Warren County from North River southward to the Saratoga County line. Numerous reports of flooding. The County had approximately \$676,000 in damages. Nearly two-thirds of the County was damaged. In the Town of Bolton, River Rd. and Highway Roads were closed from flooding. The Town brought in six loads of #4 fill to fix both roads. In addition, there was one washout on Highway Rd., which the Town used two loads of #4 fill to fix.	
May 27 – June 2, 2011	Flooding "Memorial Day Storm"	N/A	Flooding occurred in the County and there was severe damage along a thin line through the County (Stony Creek, Thurman, Warrensburg, Highway and Bolton) that resulted in \$13.125 million in damages. Extensive flood damage to transportation infrastructure occurred throughout the Town of Bolton, including Combs Road Bridge which was washed out. A 30' deep x 50' wide segment of Hendricks Road washed out. Snye Farm Road was completely washed out, along with sections of Trout Falls and Highway Roads. A 4' x 60' culvert on Ricer Rd. was also washed out.	
August 27-29, 2011	Hurricane Irene (DR-4020)	Yes	There was severe wind and flooding damage throughout the County. Very little damage occurred in the Town of Bolton. A few trees came down. The Town Highway Crew worked 15 overtime hours. Highway and Parks Departments kept all the culverts cleaned out.	

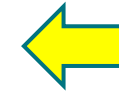


Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet A – Hazard Event History

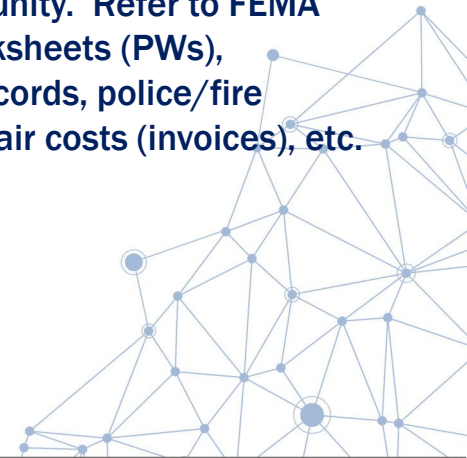
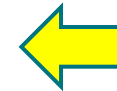
May 29, 2012	Hail and Wind	N/A	Debris removal occurred in the County as a result of this event. A generator at a fire station, a patrol car, and the canopy of a patrol boat were all damaged. Very little damage occurred in the Town of Bolton. Clean up was needed for a few downed trees. Highway crews swept debris from roadways.	
October 29, 2012	Hurricane Sandy (EM-8351)	Yes	Heavy rain fell throughout the County. In the Town of Bolton, trees came down in Cotton Point. Highway crews swept debris from roadways.	
October 31 – November 1, 2019	Severe Storms, Straight-line winds, Flooding (DR-4472) "Halloween Storm"	Yes	A strengthening <u>low-pressure</u> system moving from Ohio to Lake Ontario drew anomalous warmth and moisture northward on Halloween, with temperatures surging into the 60s and 70s over eastern New York and western New England. Showers across the southern Adirondacks and Mohawk Valley became steadier and heavier during the evening ahead of a strong cold front as the low continued to strengthen. Strong winds aloft mixed down to the surface as an intense line of showers developed along the front resulting in sporadic wind damage and scattered power outages over eastern New York.	A large swath of rainfall totaling 2-5 inches, with isolated areas as high as 7 inches, occurred over the Mohawk Valley and southern Adirondacks, resulting in reports of flash flooding. The runoff caused rapid rises on area creeks and streams, with river gauges reaching record levels along the Mohawk River at Little Falls, the West Canada Creek at Hrnckley and Kast Bridge, and the Sacandaga River at Hope.
January 20, 2020	Covid-19 (EM-3434)	Yes	As of November 2022, Warren County has experienced over 20,000 positive cases of Covid-19	

Please identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc.

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses



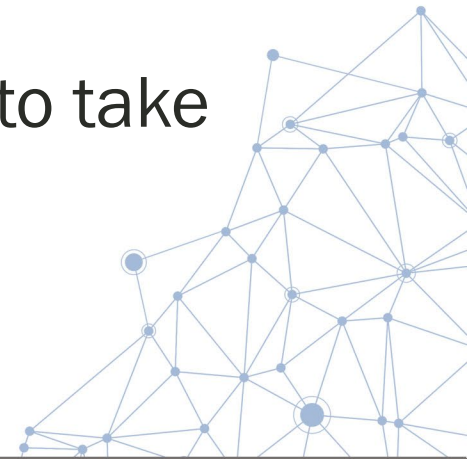
- ✓ Fill out contact information.
- ✓ Provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.
- ✓ Identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc.





Recent and Expected Future Development

- List the number of building permits for **NEW construction** issued since 2017
 - Do not include redevelopments or improvements
- List and describe recent **MAJOR DEVELOPMENT** (housing developments, hotels, commercial or industrial development, etc.) that has taken place since 2017
- List and describe **ANTICIPATED MAJOR DEVELOPMENT** likely to take place in the next 5 years.



WORKSHEET E – RECENT DEVELOPMENT (BUILDING PERMITS)



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet E – Building Permits

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version by November 23rd, 2022 to:
Cynthia Bianco, Tetra Tech | cynthia.bianco@tetrattech.com



Municipality: Town of Bolton

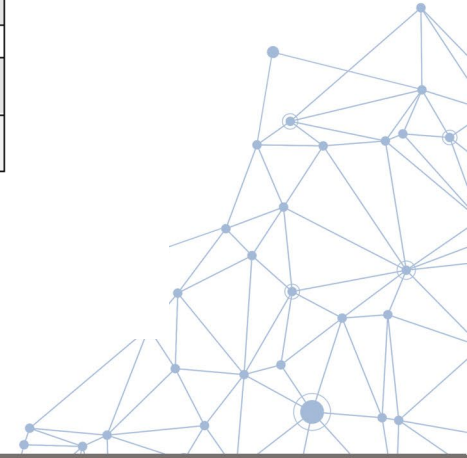
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: The Building Department, Planning Department, and NFIP Floodplain Administrator



Type of Development	2017		2018		2019		2020		2021		2022	
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)												
Single Family												
Multi-Family												
Other (commercial, mixed-use, etc.)												
Total New Construction Permits Issued												

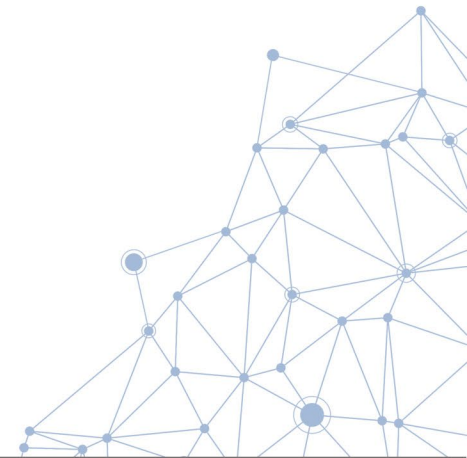
SFHA Special Flood Hazard Area (1% annual chance flood event)
* Only location-specific hazard zones or vulnerabilities identified.





National Flood Insurance Program

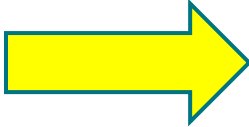
- This section should worksheet to be filled Floodplain Administrator for your community.
- Answer the questions regarding NFIP participation and implementation of floodplain administration.
- Provide details where necessary



WORKSHEET C – FLOODPLAIN ADMINISTRATION QUESTIONNAIRE



Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco by November 23rd, 2022
 Email: cynthia.bianco@tetrattech.com



Municipality: Town of Bolton

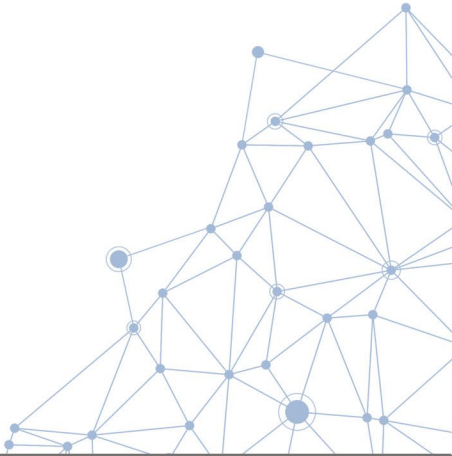
NFIP Floodplain Administrator Name/Title: _____



Who can assist with completing this table: NFIP Floodplain Administrator – as identified by role/title in your Flood Damage Prevention Ordinance.



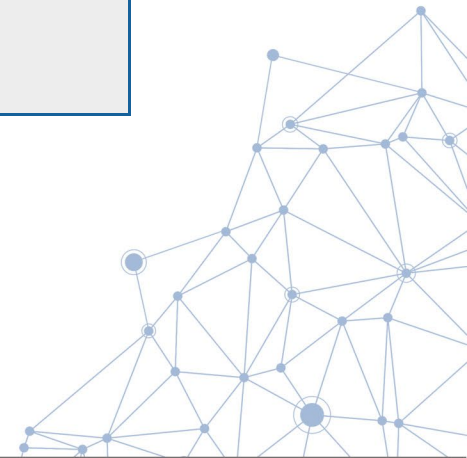
NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? 	No
Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. 	-
How do you make Substantial Damage determinations? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? 	No
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> If there are mitigation properties, how were the projects funded? 	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	



WORKSHEET C – FLOODPLAIN ADMINISTRATION QUESTIONNAIRE



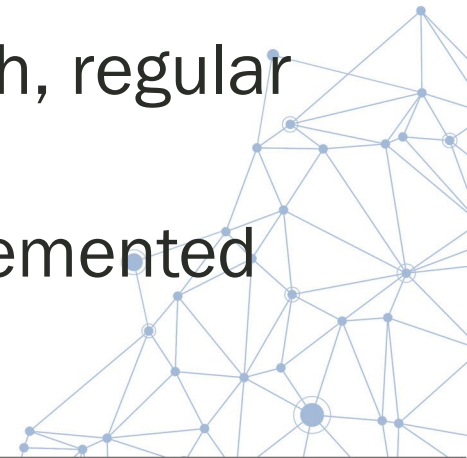
<p>• If not, state why.</p> <p>NFIP Compliance</p>	
What local department is responsible for floodplain management?	
Are any certified floodplain managers on staff in your jurisdiction?	Yes – Floodplain Administrator
Do you have access to resources to determine possible future flooding conditions from climate change?	Unknown
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	





Status of Previous HMP Mitigation Actions

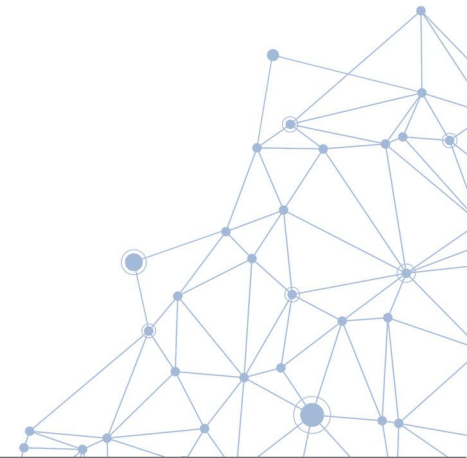
- Report on the status of previous mitigation actions from the 2017 plan.
 - **In Progress:** The action has been started but has not been completed to date.
 - **No Progress:** The action has not been started
 - **Ongoing Capability:** The action has been started and is now part of the municipality's regular or annual operations
 - Examples: Regular stormwater cleaning, annual outreach, regular trainings for staff
 - **Complete:** The action has been 100% completed and implemented





Status of Previous HMP Mitigation Actions

- Indicate if this action should be included in the 2023
 - In progress actions should be carried over
 - If identified as an ongoing capability, we will include it in the integration section of the annex but not as a 2023 action
 - Completed actions will not be carried over as actions in the 2023 HMP update



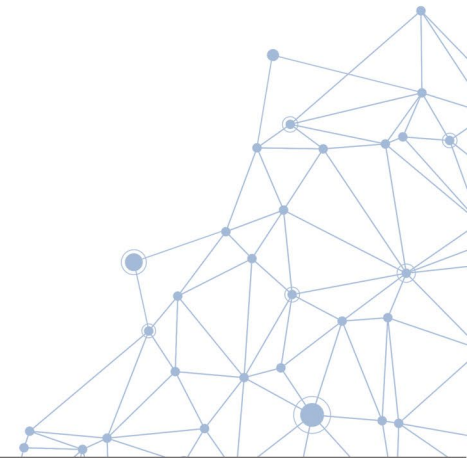
WORKSHEET D – 2017 MITIGATION ACTION OR PROJECT REVIEW



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet D - Mitigation Action Review Town of Bolton



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2023 HMP or Discontinue 2. If including action in the 2023 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
1	Develop a Hamlet-wide Stormwater Drainage System plan for the Hamlet of Bolton	Flood		Planning, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
2	Adopt and implement the Local Waterfront Revitalization Plan (draft released in July , 2014).	All Hazards		Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
3	Edgecomb Pond Dam Auxiliary Spillover Development Project: Install an auxiliary spillway for the dam which provides water to hamlet (built-up) area. Drainage easements have been acquired in area where new spillway would be built.	Flood		Bolton Water District, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
4	Edgecomb Pond Dam Upgrades: Make structural upgrades and improvements of the existing Edgecomb Pond Dam as called for by the upcoming structural evaluation. The Dam (owned by Bolton Water District) is in need of some improvements. The Town is in the process of contracting for a	Flood		Bolton Water District, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.





Status of Previous Mitigation Actions

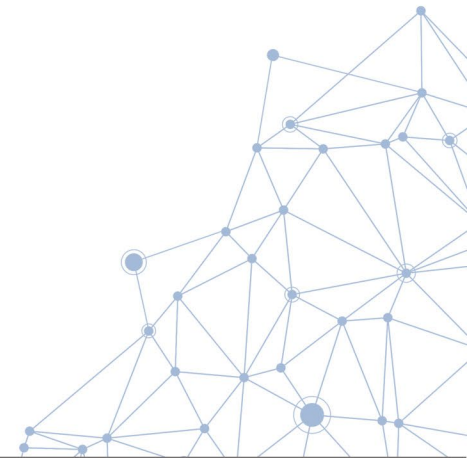
- List any mitigation actions or measures taken since the 2017 plan that were not part of the 2017 mitigation strategy
 - Did you install generators at critical facilities?
 - Upsize culverts or drainage pipes to reduce flooding?



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet D - Mitigation Action Review Town of Bolton



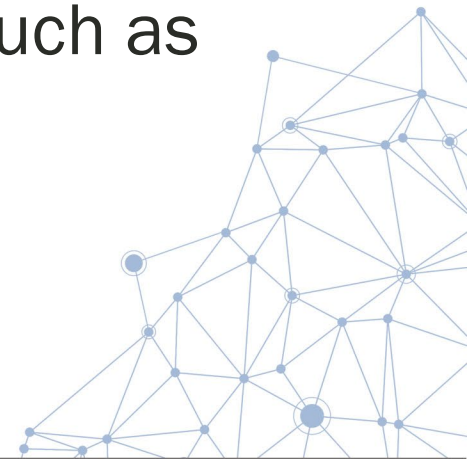
Have you completed, or are there any in-progress or proposed mitigation or resilience projects that are not included in the table above since 2017? If yes, please provide the project details, what the project is mitigating and who is implementing below.





Identified Issues

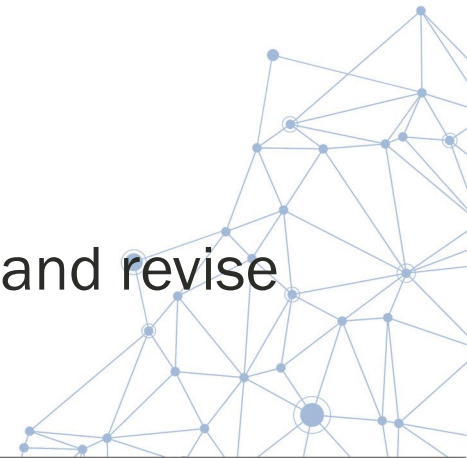
- Where are the problem areas in your community related to damages due to natural hazards?
 - What problems need solving?
 - What solutions need implementation?
 - What projects need funding?
- Tell us about floodprone locations outside of the floodplain such as stormwater/urban flooding areas
- Tell us about areas that experience damages.





Planning, Legal, and Regulatory Capability

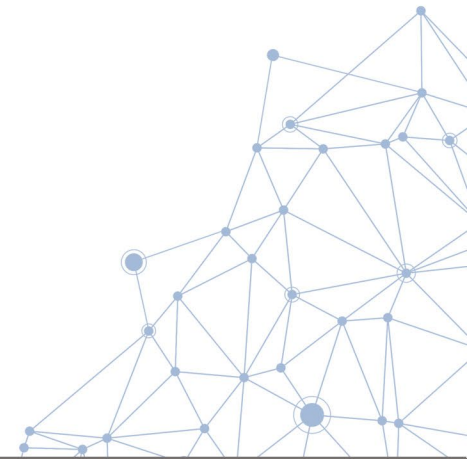
- This table reviews our codes, ordinances, & requirements; planning documents; and response/recovery planning
- Indicate if you have the plan/ordinance/requirement
- Indicate if it already integrates hazard mitigation
 - Tetra Tech has reviewed a majority of your plans, codes and ordinances and updated this section. Please review and revise accordingly.
- Describe the plan/ordinance/requirement
 - Who is in charge of implementation?
 - When was it adopted/updated?
 - How does it integrate hazard mitigation/emergency response?
 - Again, Tetra Tech addressed this during our review. Please review and revise accordingly.





Hazard Mitigation Planning Team

- Update contact information if necessary
 - Primary Point of Contact
 - Alternate Point of Contact
 - NFIP Floodplain Administrator
- **Remember**, this is a public document so your contact information will also be public.

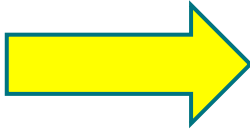


WORKSHEET B – CAPABILITY ASSESSMENT



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet B – Capability Assessment

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by **November 23, 2022**.
Email: cynthia.bianco@tetratech.com



Municipality: Town of Bolton
Name and Title of Individual Completing Worksheet: _____

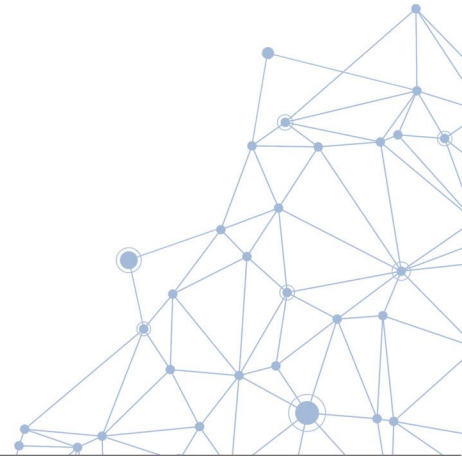
Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Administrator, Chief Fiscal Officer

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to your community, what is present in the jurisdiction, and code citation and date. For existing regulatory tools, note how it reduces risk to hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Table 9.1-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code	Yes	NYS Property Maintenance Code	State and Local	Town Building Inspector
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Town of Bolton adopted the New York State Property Maintenance Code in December 2021.				
Zoning/Land Use Code	Yes	Chapter 200 – Zoning	Local	Zoning and Planning
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Zoning Ordinance is in place to promote the health, safety, and general welfare of the community and to protect the property values and aesthetics of the community by channeling and directing growth and by regulating and restricting the height, number of stories and size of buildings and other structures, the percentage of lot that may be occupied, the size of yard, courts and other open spaces, the density of population and the location and use of buildings, structures and land for trade, industry, residence and other purposes, to the maximum extent permissible within the proper exercise of the police power as delegated by the Town Law.				
Consider the following:				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance	Yes	Chapter 150 – Subdivision of Land	Local	Zoning and Planning
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				



Brainstorm New Mitigation Actions for the 2023 HMP Update



- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- Tips for the 2023 update:
 - One action for each hazard of concern
 - Quality NOT quantity
 - Specific not general
 - What can realistically be accomplished in 5 years?



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.



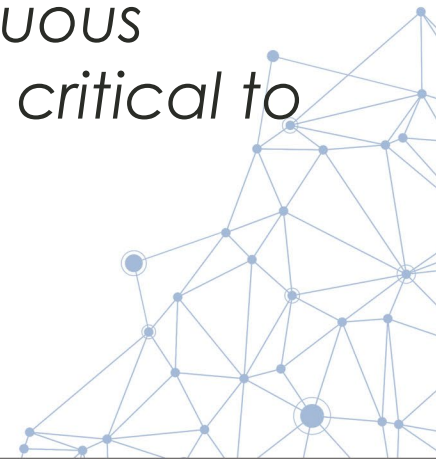
"At the first sign of a flood, you just push this little button."





Critical Facilities and Lifelines

- ✓ **Critical Facilities** are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard
 - ✓ Include essential facilities to ensure a full recovery following the occurrence of a hazard event, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.
- ✓ **Lifelines** provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security





Critical Facilities and Lifelines

- Tetra Tech will send out the Critical Facilities list to your community for your review – we push back the deadline as necessary (originally October 14th)
- Ensure the list is complete
 - Add new critical facilities that have been built/established in the last 5 years
 - Omit critical facilities that have been decommissioned in the last 5 years






We Need YOU Engaged and Involved!

- *Update your Municipal webpage and link to County's HMP webpage at <https://www.warrencountynewyorkhmp.com>*
 - Social Media Blasts – Tetra Tech will provide you with content and graphics
 - Local Announcements of HMP Update – local papers, newsletters, etc.
 - Local public meetings
 - Draft Plan Review
 - Document *each and every time* you share and engage!
- **Why conduct outreach?**
 - Informs and educates about hazards and risks
 - Invites interested parties to contribute their views and ideas for mitigation
 - Identifies conflicts and incorporates different perspectives and priorities early in the process
 - Provides data and information that improves overall quality and accuracy of the plan
 - Ensures transparency and builds trust
 - Maximizes opportunities for implementation through greater consensus and acceptance

Remember to Document Your In-Kind Services!



 **Warren County HMP - In-Kind Tracker**

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

* Jurisdiction

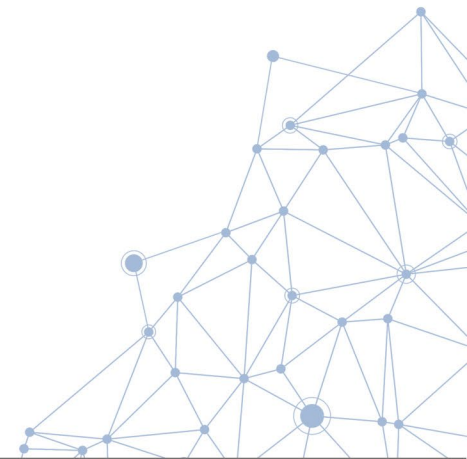
Please document your time spent working on the HMP:

Date	<input type="text"/>
# Hours	<input type="text"/>
Task Description	<input type="text"/>
Comments	<input type="text"/>

Please document your time spent working on the HMP:

Date	<input type="text"/>
# Hours	<input type="text"/>

- Use the on-line survey to document your in-kind hours worked on the hazard mitigation plan:
<https://www.surveymonkey.com/r/WarrenNYHMPInKind>



Schedule

- Planning Process
 - Confirm critical facility/lifeline inventory by December 9th
 - Worksheets due November 23rd
 - Worksheet Workshop – today!
 - Update Risk Assessment
 - Begin vulnerability assessment
 - Risk Assessment Meeting – February 2023
- Public Involvement Strategy – ongoing throughout the planning process
 - Mitigation Strategy
 - Mitigation Strategy Workshop
 - Draft Plan to Steering Committee by May 2023
 - Final draft plan to NYSDHSES and FEMA by August 2023



Savage Chickens


by Doug Savage

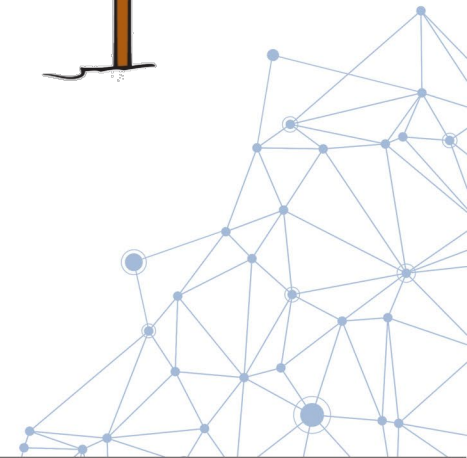


www.savagechickens.com



Next Steps

- COMPLETE THE WORKSHEETS
 - Use Tetra Tech to answer any questions you may have!
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for NYSDHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC, District Manager
jiml@warrenswcd.org

Ann Marie Mason, Emergency Services Director
masona@warrencountyny.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #2 – AGENDA
MEETING DATE/TIME: December 14, 2022 – 10:00 am



Remote – MS Teams Link [Click here to join the meeting](#) (preferred for screen sharing)

Remote – Dial-in by phone (audio only) - [+1 518-300-1367](tel:+15183001367),,[503640440#](tel:+15183001367) United States, Albany; Phone Conference ID: 503 640 440#

- Welcome
- Committee Responsibilities
- Progress Report
- Public and Stakeholder Outreach
- Data Collection - Plans and Reports
- Critical Facilities and Lifelines Review
- Confirmation of Hazards of Concern
- Goals and Objectives Updates
- SWOO (Strengths, Weaknesses, Obstacles, Opportunities)
- In-Kind Services Tracking
- Schedule
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Teleconference Teams Meeting
Date of Meeting:	December 14, 2022, 10:00 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Sandy LeBarron	Finch Pruyn, Director of Environmental Health, and Safety
Tammie DeLorenzo	Warren County Administrators Office
James Schrammel	City of Glens Falls, Fire Chief
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Don Lehman	Warren County Public Information Officer
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to confirm Hazards of Concern, Update Mission Statement, Goals and Objectives, and facilitate a SWOO.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. The process is on track for plan submittal to FEMA in August 2023. Tetra Tech will begin the vulnerability analysis once the final municipal critical facility input is received from the local jurisdictions. Steering committee responsibilities include guiding the planning process and confirming the hazards of concern to include in the plan as well as the updated goals and objectives. GIS data collection is complete with support from the County GIS staff. The steering committee was provided with a list of plans gathered to date and requested to provide any additional relevant plans. 	Committee to review the list of plans collected to date and provide any additional relevant plans.
2	<p>Outreach</p> <ul style="list-style-type: none"> The HMP website is now live at https://www.warrencountynewyorkhmp.com and public outreach materials are available for distribution. All communities in the county have confirmed their intent to participate in the planning process. The county sent out a press release this month and a couple of local weekly newspapers published articles regarding the mitigation plan and provided access to the public survey. 	<ul style="list-style-type: none"> Tt to provide a social media package to municipalities to enable further online outreach. Tt to contact Warren County (WC) Chamber of Commerce for business email distribution lists.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> One citizen has contacted Warren County Soil & Water Conservation District (WCSWCD) to discuss concerns related to hazard mitigation and will meet with Mr. Lieberum to discuss. Tt requested email lists to support the stakeholder outreach and distribution of surveys to agencies including health services, police, fire, EMS, etc. WC Emergency Services, Glens Falls Hospital will provide available information. Tt to contact the Chamber of Commerce to distribute surveys to county businesses. 	
3	<p>Hazards of Concern</p> <ul style="list-style-type: none"> The committee confirmed that the following hazard of concern pose significant risk to the county and its communities: <ul style="list-style-type: none"> Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) Earthquake Extreme Temperatures Flood High Hazard Potential Dams Infestation Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms) Wildfire <p>These hazards will be profiled for the plan to provide a basis for the vulnerability assessment and the development of mitigation actions.</p>	
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco shared the goals and objectives from the last HMP noting updates to include changes identified in the last committee meeting as well as additional edits to align with current priorities. During the discussion additional edits were made and are available in the attached document. The updated mission statement, goals and objectives will guide the plan update. 	
5	<p>Strengths, Weaknesses, Obstacles, and Opportunities (SWOO)</p> <ul style="list-style-type: none"> Tt provided an overview of the purpose of the SWOO which is to review the hazards of concern to identify areas that the county and communities do well and can improve upon, and to further understand obstacles to implementing policy, actions, and projects to mitigate the effects of the hazards – all with the intent of identifying actions or projects to support resilience. The committee reviewed examples related to the flood hazard and participated in a discussion of county-specific issues. The committee members were requested to access and respond to the SWOO survey to document their input. Attached is the SWOO survey input received as of the date of this meeting. 	<ul style="list-style-type: none"> The committee is requested to provide input to the SWOO survey to assist in identifying problem areas and mitigation actions.
6	<p>Upcoming Meetings</p>	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">• Dates for the following meetings will be confirmed and shared with the committee in January:<ul style="list-style-type: none">○ Risk Assessment Meeting – February 2023○ Planning Partnership Risk Assessment Meeting – February 2023 (tentative)○ Mitigation Strategy Workshop – March 2023	
7	<p>Next Steps</p> <ul style="list-style-type: none">• Provide input via Strengths, Weaknesses, Obstacles and Opportunities (SWOO) survey• Review Hazard Profiles• Review Risk Assessment Results• Identify Problems and Problem Areas• Develop Mitigation Strategy• Review Draft Plan• Submit Draft Plan for NYSDHSES/FEMA Review• Adopt FEMA-Approved Plan• Implement Projects and Maintain the Plan and Increase Resilience	
7	<p>Conclusion - The meeting concluded at 11:25 am.</p>	



Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #2 Meeting | December 14, 2022 | 10:00 – 11:30 AM

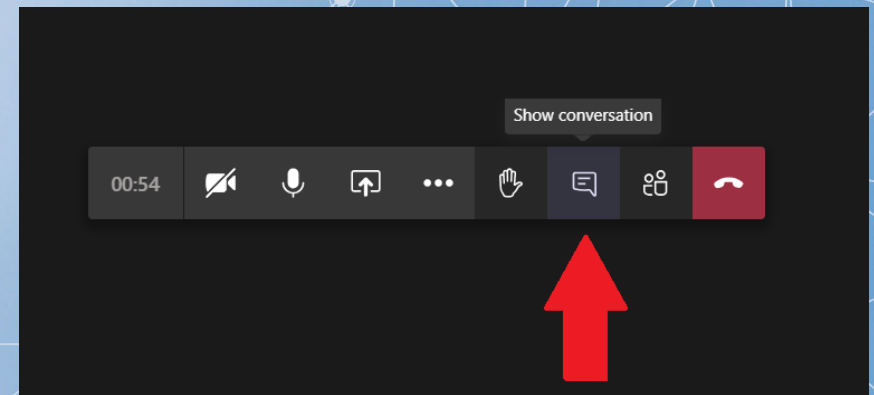
WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.

Click “Show Conversation” and type in your information.

This will assist in our attendance documentation.

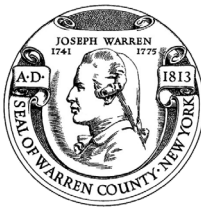




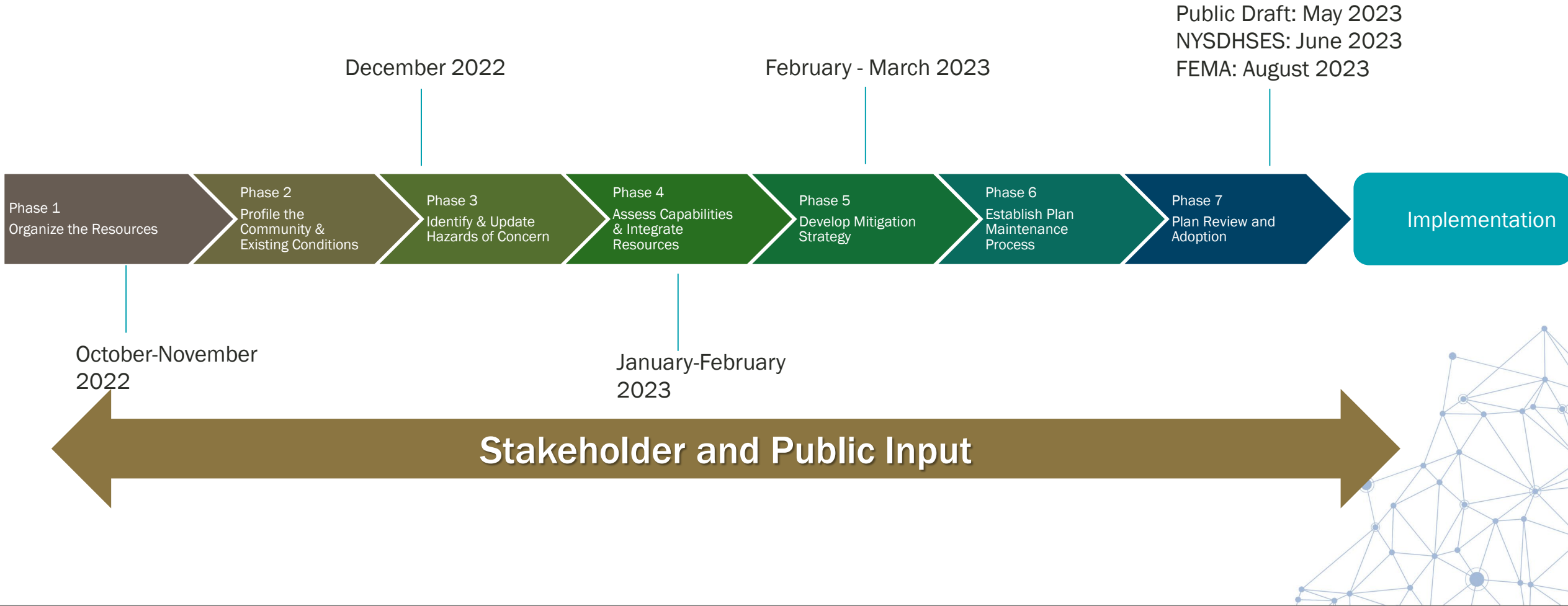
Agenda

- Welcome
- Committee Responsibilities
- Progress Report
- Data Collection - Plans and Reports
- Critical Facilities and Lifelines Review
- Confirmation of Hazards of Concern
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- Next Steps/ Questions/ Wrap Up





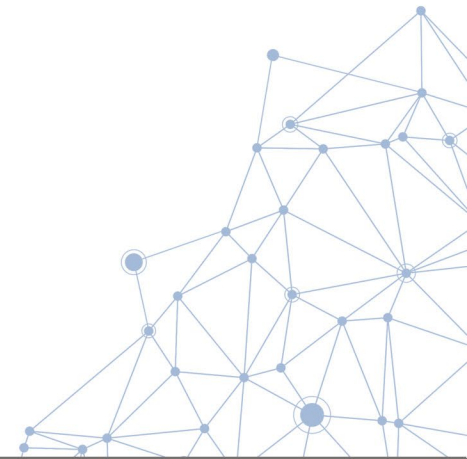
Where are we in the Process?





Steering Committee Responsibilities

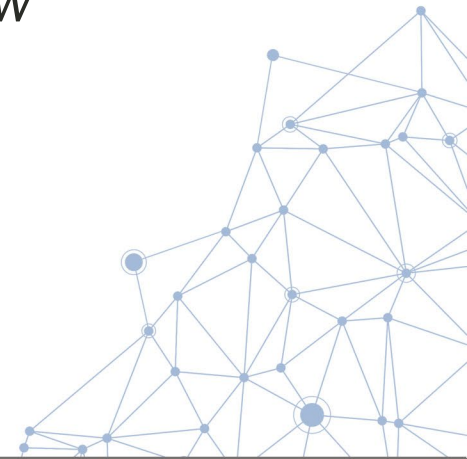
- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents

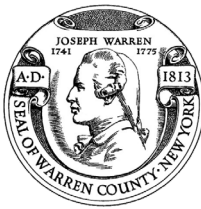




Progress

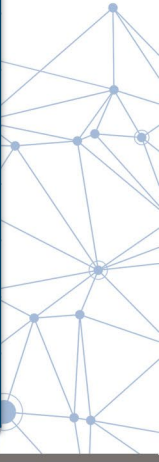
- Requested NFIP Data
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *In progress*
- Review of Hazards of Concern/Input by Steering Committee – *Today*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *For Steering Committee Review*
- Planning Partnership Participation – 100%



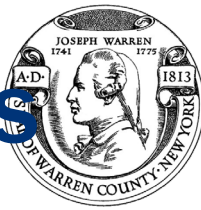


Data Collection Status

Jurisdiction	Worksheet A - Hazard Event History	Worksheet B - Capability Assessment	Worksheet C - NFIP	Worksheet D - Action Review	Worksheet E - Building Permits
Warren County	X	X	N/A	X	X
Town of Bolton	X	X	X	X	
Town of Chester	X	X	X	X	X
City of Glens Falls					
Town of Hague	X	X	X	X	X
Town of Horicon					
Town of Johnsbury	X	X	X	X	X
Town of Lake George	X	X	X	X	X
Village of Lake George	X	X	X	X	X
Town of Lake Luzerne	X	X	X	X	X
Town of Queensbury	X	X	X	X	X
Town of Stony Creek	X	X	X	X	X
Town of Thurman	X	X	X	X	X
Town of Warrensburg	X	X	X	X	X

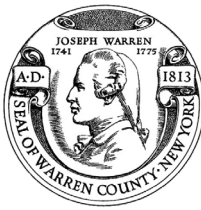


Relevant County and Regional Plans and Studies



Name of Plan/Document	Date of Plan	Jurisdiction
Excessive Heat Plan	2022	Countywide
Schroon Lake Watershed Management Plan Addendum	2019	Chester (T)
Lake Champlain Watershed Roadside Erosion Assessment	-	Bolton (T), Hague (T), Lake George (T), Queensbury (T)
Upper Hudson River Watershed Management Plan	2020	Countywide
Friends Lake Watershed Assessment	2017	Chester (T)
LC Nonpoint Source Pollution Watershed Assessment and Management Plan	2018	Countywide
LG HAB Plan 2022 Update	2022	Lake George (T), Bolton (T)
Loon Lake Watershed Report	2021	Loon Lake, Chester (T)
Warren County - Dam Risk into Local HMG Plans	2021	Countywide

- *Summary matrix including local plans sent to committee for review .*



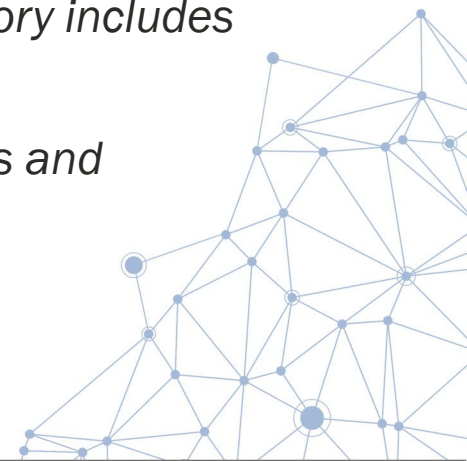
Critical Facilities and Community Lifelines

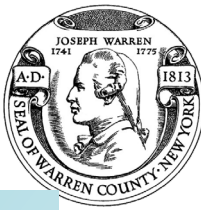
- Municipalities to review the updated critical facility inventory to ensure complete
- Critical facility survey distributed to communities on 12/8 with input due on or before 12/21/22.

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include **essential facilities**, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of lifelines that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category includes police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security





Identifying Hazards of Concern

- The 2017 plan included:
 - Disease Outbreak (Influenza, Ebola, Zika)
 - Earthquake
 - Flood
 - Infestation
 - **Landslide**
 - Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
 - Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
 - Wildfire
- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to minimize number or required actions?
 - Should additional hazards be included?

2023 Hazards to Consider

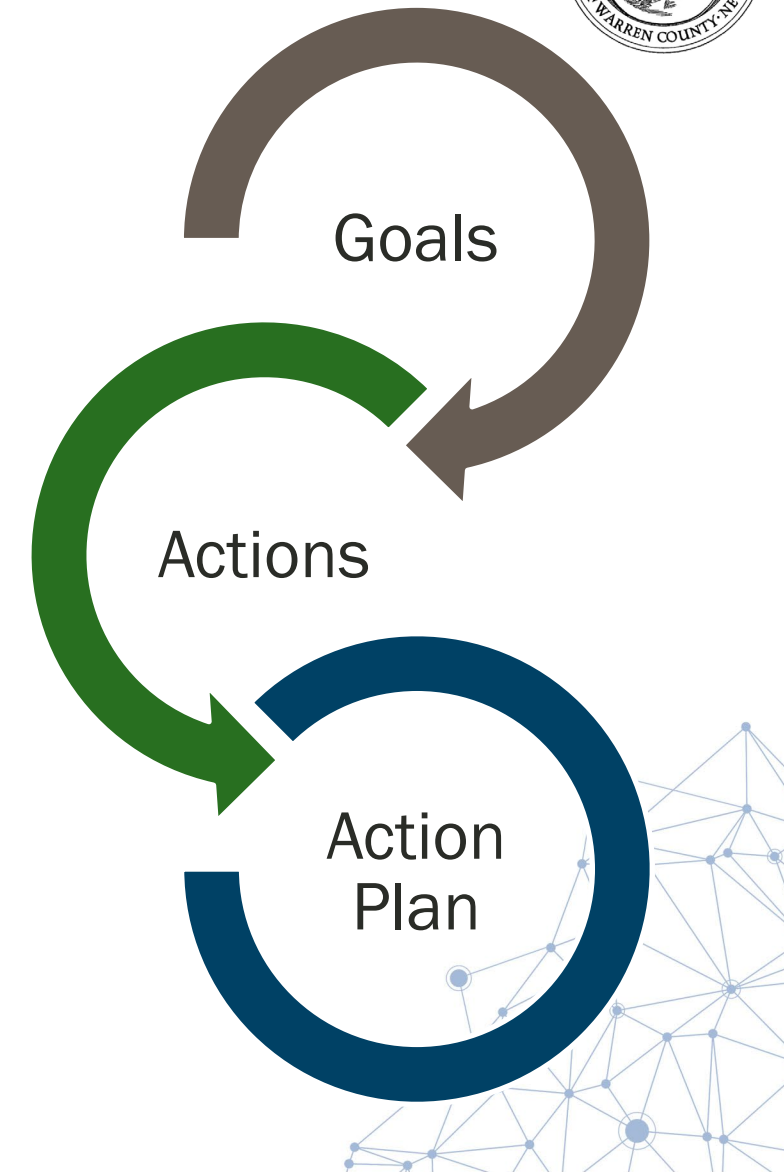
- **Disease Outbreak**
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

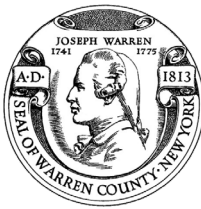




Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?



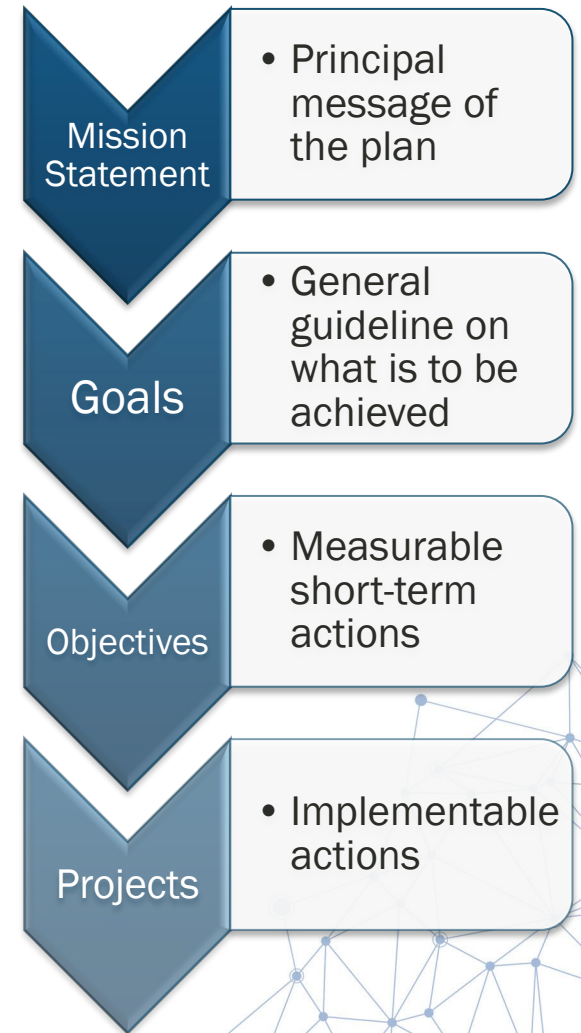


Update Mission Statement?

As part the of the 2017 update process, the Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as noted below. At this time, the committee is requested to review the Mission Statement to update to align with current County, state, and local policy. The committee is requested to consider adding the concept of equity and inclusiveness of socially vulnerable populations to the mission statement and the goals and objectives as well as additional adjustments to align with count, state, and local policy.

HMP Mission Statement

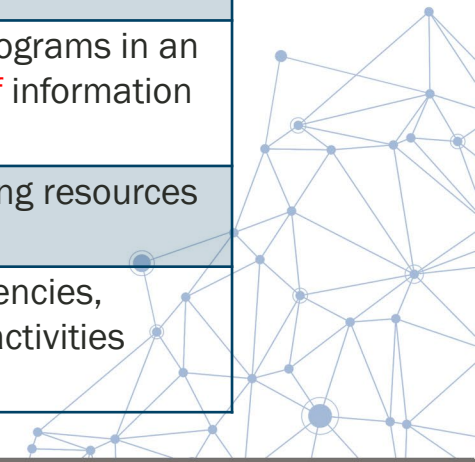
*To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations, **socially vulnerable populations** and the public to eliminate or reduce risks and adverse impacts from natural, **technological** and human-caused hazards .*

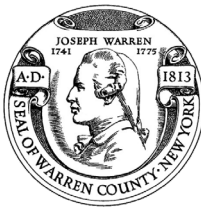




Goals and Objectives Review and Update

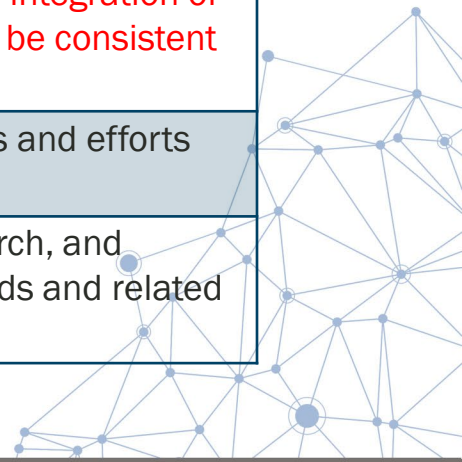
Goal	Objective
<p><u>Goal 1:</u></p> <p>Protect Life and Property.</p>	<p>1.1: Introduce mitigation and adaptation activities that will make homes, businesses and critical facilities and infrastructure more hazard resistant and to increase resilience.</p>
	<p>1.2: In areas vulnerable to hazards, encourage businesses and homeowners to take preventive actions when possible and in an equitable manner.</p>
	<p>1.3: Periodically review existing building codes, safety procedures, municipal and county ordinances to update recent standards for building protection.</p>
	<p>1.4: Immediately enforce existing building codes, zoning ordinances, and floodplain development review and permitting within the jurisdictions.</p>
	<p>1.5: Encourage owners of home and businesses and renters to purchase appropriate insurance coverage for potential damages from hazards.</p>
<p><u>Goal 2:</u></p> <p>Increase Public Awareness</p>	<p>2.1: Continue developing and integrating education and outreach programs in an effort to enhance public awareness of the hazards, and availability of information on specific activities for individuals in anticipation of a hazard event .</p>
	<p>2.2: Provide information on current government programs and funding resources to assist with mitigation and resilience.</p>
	<p>2.3: Strengthen communication and cooperation between public agencies, citizens, non-profit groups, and businesses to implement mitigation activities effectively.</p>

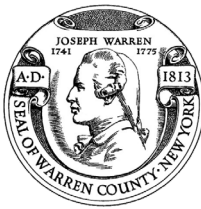




Goals and Objectives Review and Update

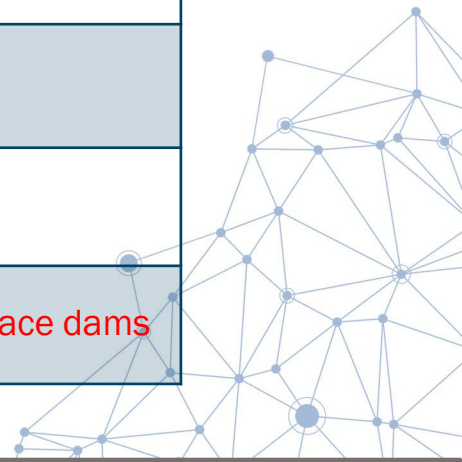
Goal	Objective
<p>Goal 3: Provide for Emergency Services</p>	<p>3.1: Coordinate hazard mitigation activities with existing local emergency plans.</p> <p>3.2: Identify and plan for acquiring any specific emergency services and equipment needed to improve response capabilities for specific hazards.</p> <p>3.3: Review emergency traffic routes, making changes as needed, and educating the public as to the routes including use of mass notification systems and real-time storm and problem area reporting.</p>
<p>Goal 4: Support comprehensive county and local mitigation through the integration of hazard mitigation planning into related state, regional, county and local plans and programs.</p>	<p>4.1: Promote land use planning to encourage resilient and sustainable efforts throughout statewide and regional programs that address zoning, building codes, capital improvement programs, open space preservation, nature-based solutions, and storm water management regulations. Encourage integration of mitigation via review and update of local planning documents to be consistent with and relevant to the Hazard Mitigation Plan.</p> <p>4.2: Continue to participate in state, regional and local programs and efforts that focus on practices that support or enhance resiliency.</p> <p>4.3: Improve hazard data through participation in studies, research, and mapping to enhance information related to the impacts of hazards and related risks, vulnerability, and losses.</p>

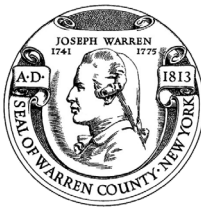




Goals and Objectives Review and Update

Goal	Objective
<p>Goal 5:</p> <p>Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.</p>	5.1: Encourage the use of green and natural infrastructure, low impact development, and nature-based solutions.
	5.2: Provide technical assistance to communities and stakeholders in the application and implementation of mitigation projects that preserve or restore natural systems.
	5.3: Maintain and encourage ongoing relationships between state agencies and partners to play an active and vital role in preservation and restoration of vulnerable natural systems.
	5.4: Promote climate change adaption strategies that protect against long-term effects on the environment and incorporate into a county-wide climate action plan.
<p>Goal 6:</p> <p>Address Long-Term Vulnerabilities from High Hazard Dams</p>	6.1: Ensure dam infrastructure is maintained
	6.2: Ensure Emergency Action Plans are developed and updated
	6.3: Support the identification and access to funding to repair/replace dams



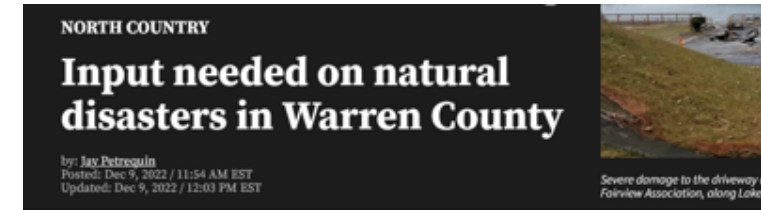


Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey



SHARE    ...

WARREN COUNTY, N.Y. (NEWS10) – It's important to know and understand what potential hazards could come with where one lives, and what different weather conditions can bring to those areas. Warren County is looking for public input as it makes updates to its plan to curb natural disaster danger for county residents.

[Get the latest news, weather, sports and community events delivered right to your inbox!](#)

The county's Multi-Jurisdictional Hazard Mitigation Plan is up for revision – and a survey gives residents a chance to weigh in on it. The plan is a document that can be used by the county to reduce the impact and damage from natural disasters, especially targeted at prevention and

by NY Weather ▾ Traffic Watch Live News ▾ Sports ▾ Jobs ▾

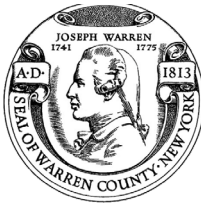
"Public participation and feedback are a vital part of the hazard mitigation planning process," said Warren County Emergency Services Director Ann Marie Mason. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

The survey asks for residents to report what types of natural disasters they have seen and experienced in Warren County over the last decade, such as flooding, drought and climate change impacts. It also seeks information such as concern for future disasters, and how residents get their disaster information.

[ARPA lets Glens Falls Hospital's crisis unit grow](#)

The Hazard Mitigation Plan is updated every five years. The plan is used for communities to make risk-based decisions that can lead to fewer lives being lost, or less property being damaged, in the event of a disaster. The process going forward will also involve voices from nonprofits, community partners and the private sector. The plan will analyze how best to protect essential community facilities, transportation systems, lifeline utilities and hazardous material facilities.





Strengths, Weaknesses, Obstacles, and Opportunities (SWOO)

The purpose of the SWOO is to identify mitigation strategies and capabilities that will meet the goals and objectives of the plan update.

It is also used to develop potential mitigation actions for the participating jurisdictions.

- Strengths – what we do well
- Weaknesses – what could we do better
- Obstacles – things that stand in the way, and either prevents you from doing something or something that need to be overcome
- Opportunities – used to develop mitigation strategies

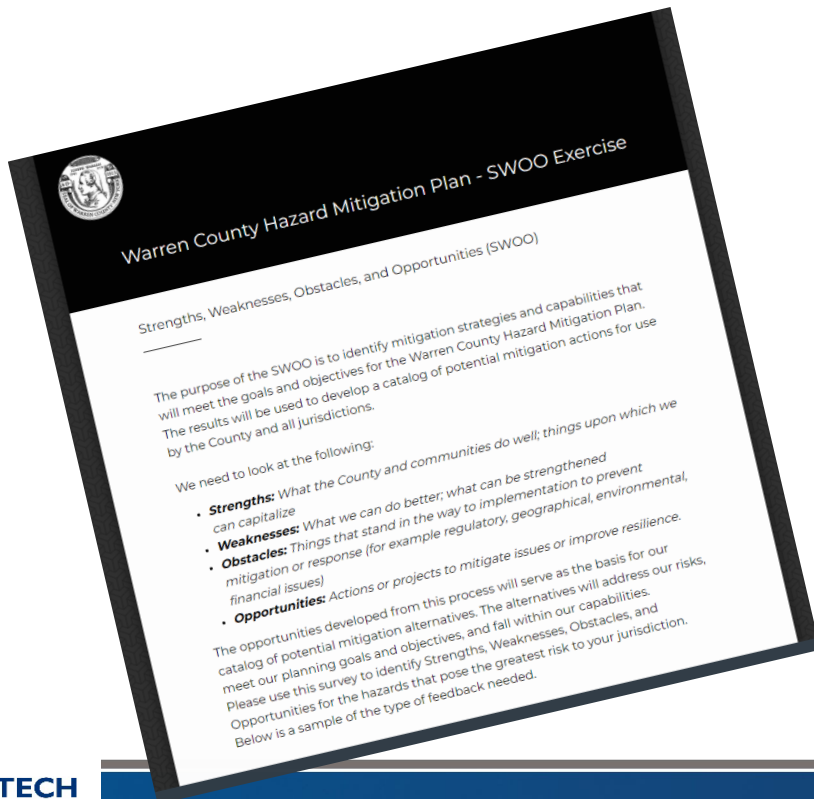


SWOO EXERCISE

Strengths, Weaknesses, Obstacles and Opportunities

Thinking about hazards of concern and any new hazards for this update...what are some strengths, weaknesses, obstacles and opportunities the County has for each? Complete the form.

Here are some examples to help brainstorm:

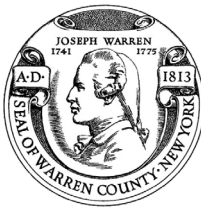


Hazard: Flood	
S	Minimal exposure to flood risk
W	Silt and debris buildup in streams can lead to localized flooding
Ob	Funding for culvert and catch basin maintenance
Opps	Installing stream gages

Hazard: Severe Storms	
S	Tree trimming programs are in place
W	Aging infrastructure; lack of underground utilities
Ob	Cost to retrofit existing utility infrastructure
Opps	Underground utilities; enhance public outreach program

Hazard: Severe Winter Storm	
S	Municipalities have the resources and experience to deal with winter weather
W	Aging equipment
Ob	Funding; limited staff for prolonged events
Opps	Shared services

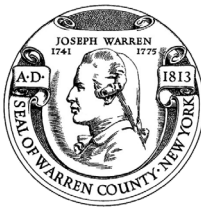




2020 SW00 Discussion/Example

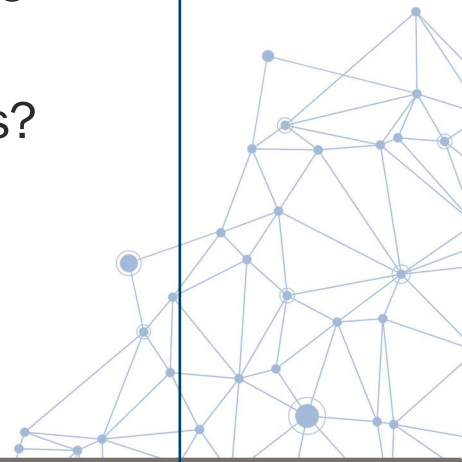
Flood	
Strengths	Weaknesses
<p>What do the County/Communities do well in terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?	<p>What can the County/Communities do better or what are identified gaps in terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?





2020 SW00 Discussion/Example

Flood	
Obstacles	Opportunities
<p>What is preventing the County/Communities to implement:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?	<p>What can the County/Communities implement terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?

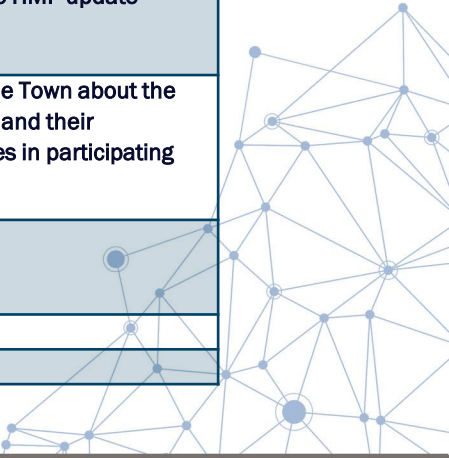




In-Kind Services

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

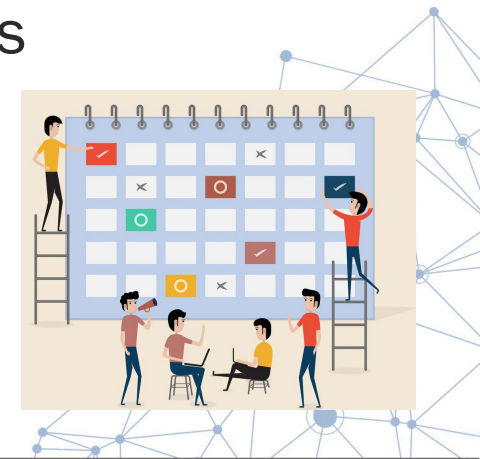
Name of Team Member: _____							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ??phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	





Schedule

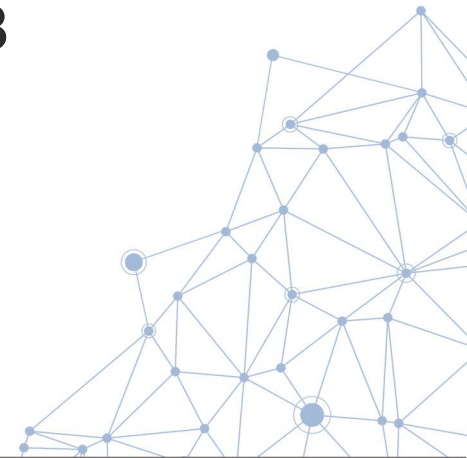
- Planning Process
 - Steering Committee #2 to identify hazards of concern for County and finalize goals– TODAY!
- Update Risk Assessment
 - Data collection is underway; confirm local critical facilities inventory by December 21, 2022
 - Begin vulnerability assessment
 - Risk Assessment Meetings: February (Steering Committee and Planning Partnership)
- Public Involvement Strategy – ongoing throughout the planning process





Schedule

- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 2023**
- Draft Plan to Steering Committee in **May-June 2023** (*as sections are ready*)
- Public Review Period (30 days) – **June 2023**
- Final draft plan to NYSDHSES by June 2023 and FEMA by **August 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #3 – AGENDA
MEETING DATE/TIME: February 10, 2023 – 10:00 am



- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	February 8, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Aaron Frankenfeld	Director, Adirondack/Glens Falls Transportation Council
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Jennifer Ramsey	Warren County Office of Emergency Services
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a project status update and the preliminary county level hazards of concern relative risk rankings; to obtain input or adjustments of the rankings to incorporate local data.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. The process continues to be on track for plan submittal to FEMA in August 2023. The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. The table of contents and draft sections of the plan are being posted as available on the project Teams site to enable steering committee members to access and review to enable input prior to sharing the drafts with the public. Tt requested the steering committee to review the documents and provide comments via 'track changes'. 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<p>to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements.</p> <ul style="list-style-type: none"> The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. Surveys to target the public, neighboring counties, agencies, and businesses have been distributed and will be used to provide additional input to the plan to support the identification of mitigation actions. 	
3	<p>Risk Assessment Overview</p> <ul style="list-style-type: none"> Tt reviewed the methodology to calculate the relative risk of the county’s identified hazards of concern and shared the preliminary risk rankings. The ranks of Low, Medium, and High for each hazard will serve as a guide in identifying impactful mitigation actions to reduce damages and increase resilience. After review and adjustment by the core group, the preliminary county level ranks are as follows: <ul style="list-style-type: none"> Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) - Medium Earthquake - Medium Extreme Temperatures - Medium Flood - High Dams Failure - High Infestation - Medium Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) – High Severe Winter Storm (Heavy Snow, Blizzards, Ice Storms) - High Wildfire - High <p>The county ranks indicate the highest municipal risk rather than the calculated regional risk. The Steering Committee was tasked to review the information provided in the presentation (see attached) to provide any additional input to revisit and potentially further adjust the rankings.</p> <p>Discussion included clarification that vulnerability assessment included only projected damages to general building stock and not potential infrastructure damages which are not modeled in Hazus-MH. These damages are an example of why the rankings should be adjusted, in particular, the flood ranking as it should include the risk posed by unmapped, localized flood areas evidenced by washouts and culvert failures. Capturing these floodprone areas was suggested as county and local level mitigation actions and could be documented in part using the ReadyWarren app.</p> <p>The public sharing of dam inundation areas was also discussed and will be addressed by Emergency Services staff.</p>	<p>Steering Committee members to email any input regarding adjusted risk ranking on or before 2/14/23.</p> <p>Emergency Services to review the level of detail provided to the public regarding dam inundation areas.</p> <p>Emergency Services, County GIS and SWCD to consider options to collect and map localized flood areas.</p>



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">• These rankings will be presented to the Planning Partnership during a meeting on February 15th.	
6	Upcoming Meetings <ul style="list-style-type: none">• Planning Partnership Risk Assessment Meeting – February 15, 2023 <i>(Optional for Steering Committee members not affiliated with a municipality.)</i>• Mitigation Strategy Workshop – March 15, 2023 <i>(Optional for Steering Committee members not affiliated with a municipality.)</i>	
7	Next Steps <ul style="list-style-type: none">• Update Risk Assessment including adjustments as noted by Steering Committee• Present to planning partners• Populate adjusted results municipal annexes• Planning Partnership Risk Assessment Meeting: February 15, 2023• Continue to engage the public• Begin working with the municipalities to develop mitigation strategy/actions: February 2023• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	Conclusion - The meeting concluded at 11:15 am.	



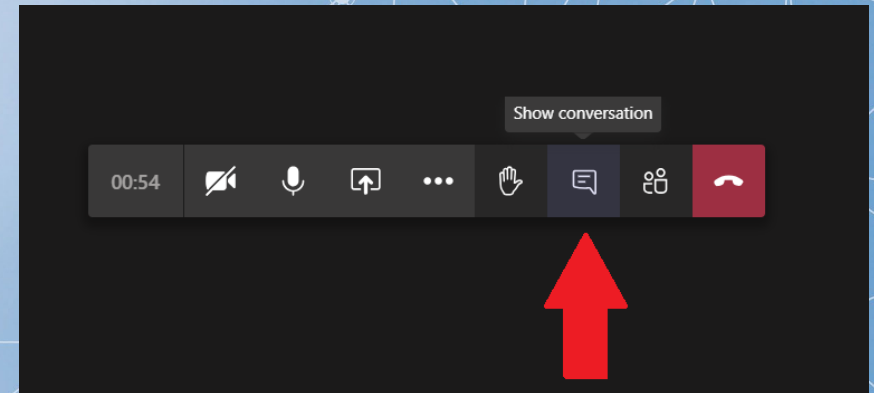
Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #3 Meeting | February 10, 2023 | 10:00 – 11:30 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.

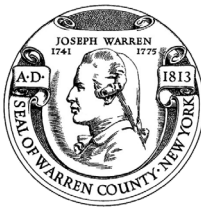




Agenda

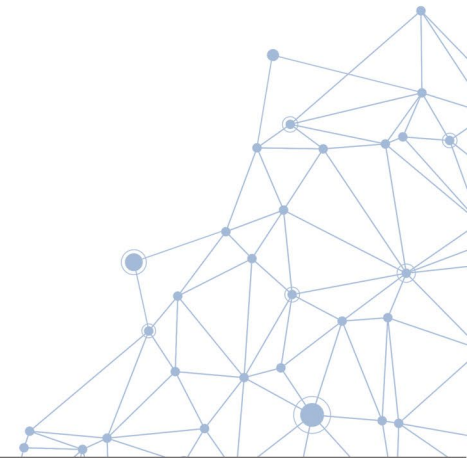
- Welcome
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- Next Steps/ Questions/ Wrap Up

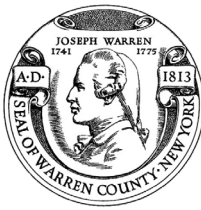




Project Schedule Review

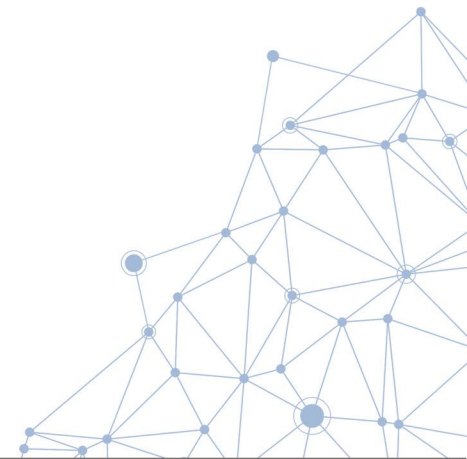
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ☐ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |





Progress

- Requested NFIP Data – *Data pending*
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *Complete*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *Complete*
- Planning Partnership Participation – 100%





Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes

My files > Warren County (NY) HMP

Name	Modified	Modified By	File size	Sharing
GIS	November 14, 2022	frankenfelds@warrencoun	4 items	Shared
Letters of Intent to Participate	September 16, 2022	Bianco, Cynthia	14 items	Shared
Outreach Materials	November 30, 2022	Bianco, Cynthia	10 items	Shared
Steering Committee	January 24	Bianco, Cynthia	1 item	Shared
Survey				
SWCD				

My files > Warren County (NY) HMP > Steering Committee > Documents for Review

Name	Modified	Modified By	File size
Old	January 31	Bianco, Cynthia	6 items
Warren_TOC.docx	January 25	Bianco, Cynthia	205 KB
5.2 - HOC ID_Warren_rev.docx	6 days ago	Bianco, Cynthia	422 KB
Section 1-Introduction_rev.docx	6 days ago	Bianco, Cynthia	1.05 MB
Section 2-Plan Adoption.docx	January 25	masona@warrencountyny	360 KB
Section 5.1_Methodology_rev.docx	6 days ago	Bianco, Cynthia	517 KB

My files > Warren County (NY) HMP > Steering Committee

Name	Modified	Modified By	File size	Sharing
Documents for Review	January 24	Bianco, Cynthia	6 items	Shared



In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPInKind>
- Submit form to Jim Lieberum at jim1@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

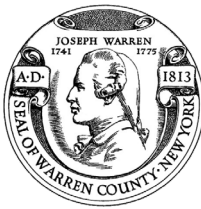
* Jurisdiction

Please document your time spent working on the HMP:

Date

Hours





Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Public Survey
- Stakeholder Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey

WARREN COUNTY HAZARD MITIGATION PLAN 2023 UPDATE

Home About What is Mitigation Meetings Calendar Explore the Plan Additional Information

Warren County Hazard Mitigation Plan 2023 Update

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee has developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update. This survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in February 2023

List Month Week Day February 2023 Go < Today >



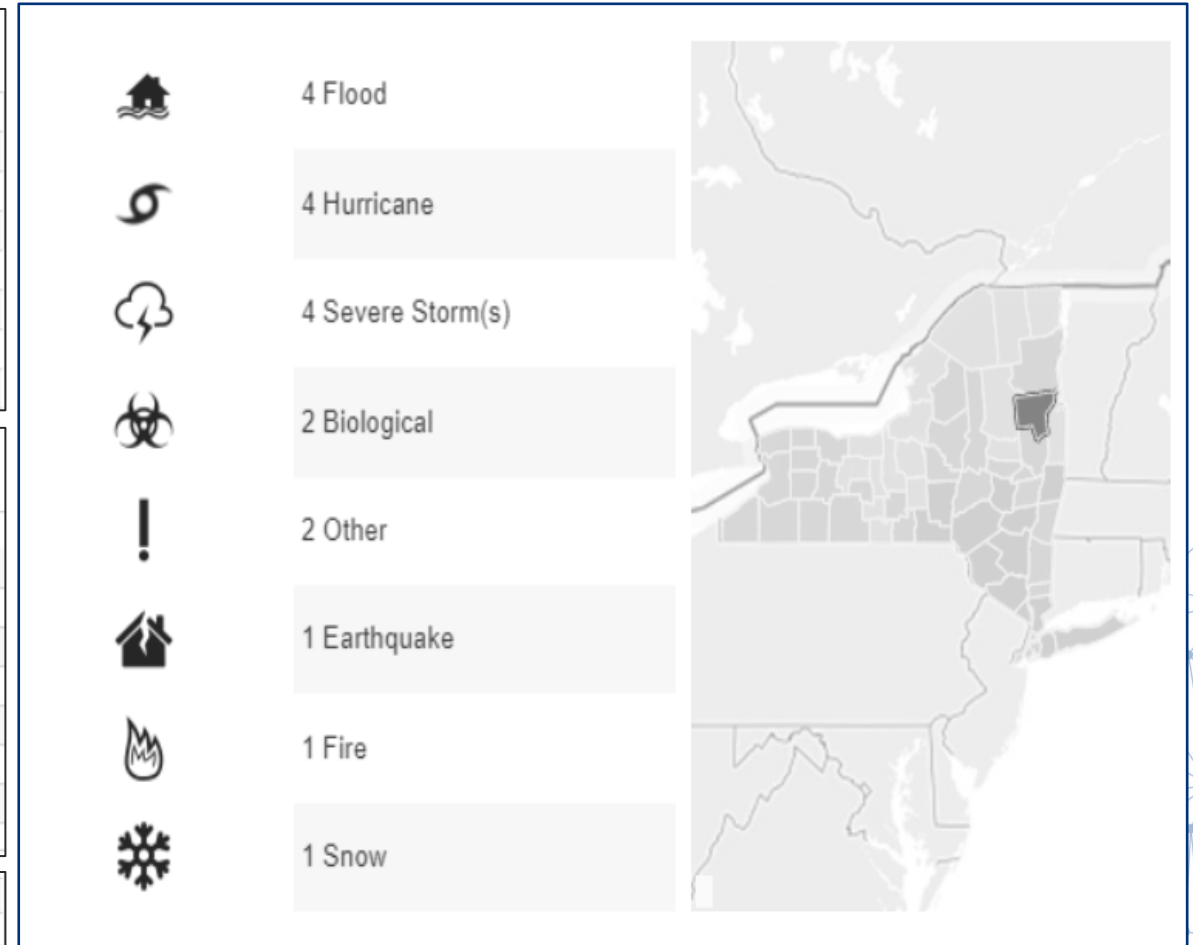
Hazard Mitigation – What’s at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472

2020	COVID-19	3434
	COVID-19 PANDEMIC	4480





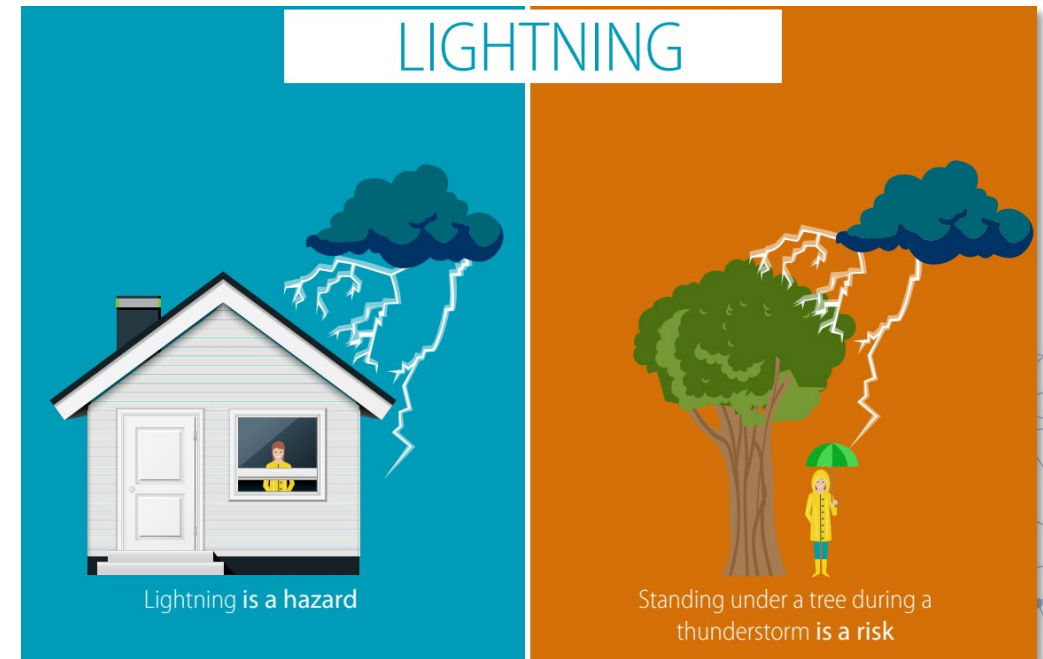
2023 HMP Hazards of Concern

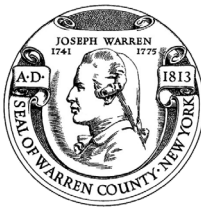
- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire



What is Risk?

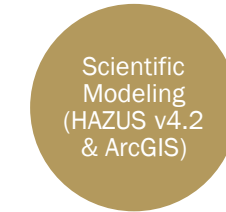
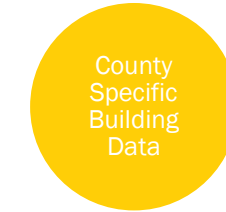
- ✓ Hazard
 - Source of potential danger or adverse condition
- ✓ Exposure
 - Manmade or natural features that are exposed to the hazard
- ✓ Vulnerability
 - Damage susceptibility of the exposed features
- ✓ Adaptive Capacity (or capability)
 - Plans/policies
 - Response/recovery
 - Financial resources
- ✓ Climate Change





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



Preliminary Hazard Ranking

How are the rankings calculated?

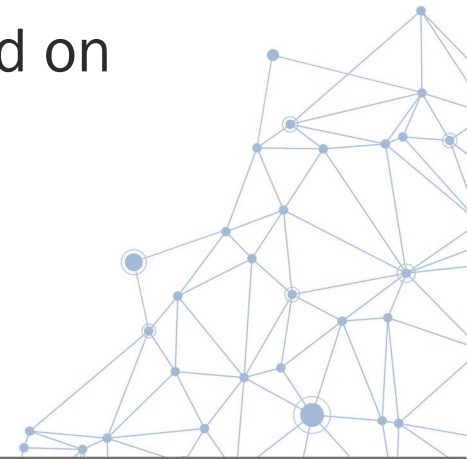




Preliminary Hazard Ranking Methodology

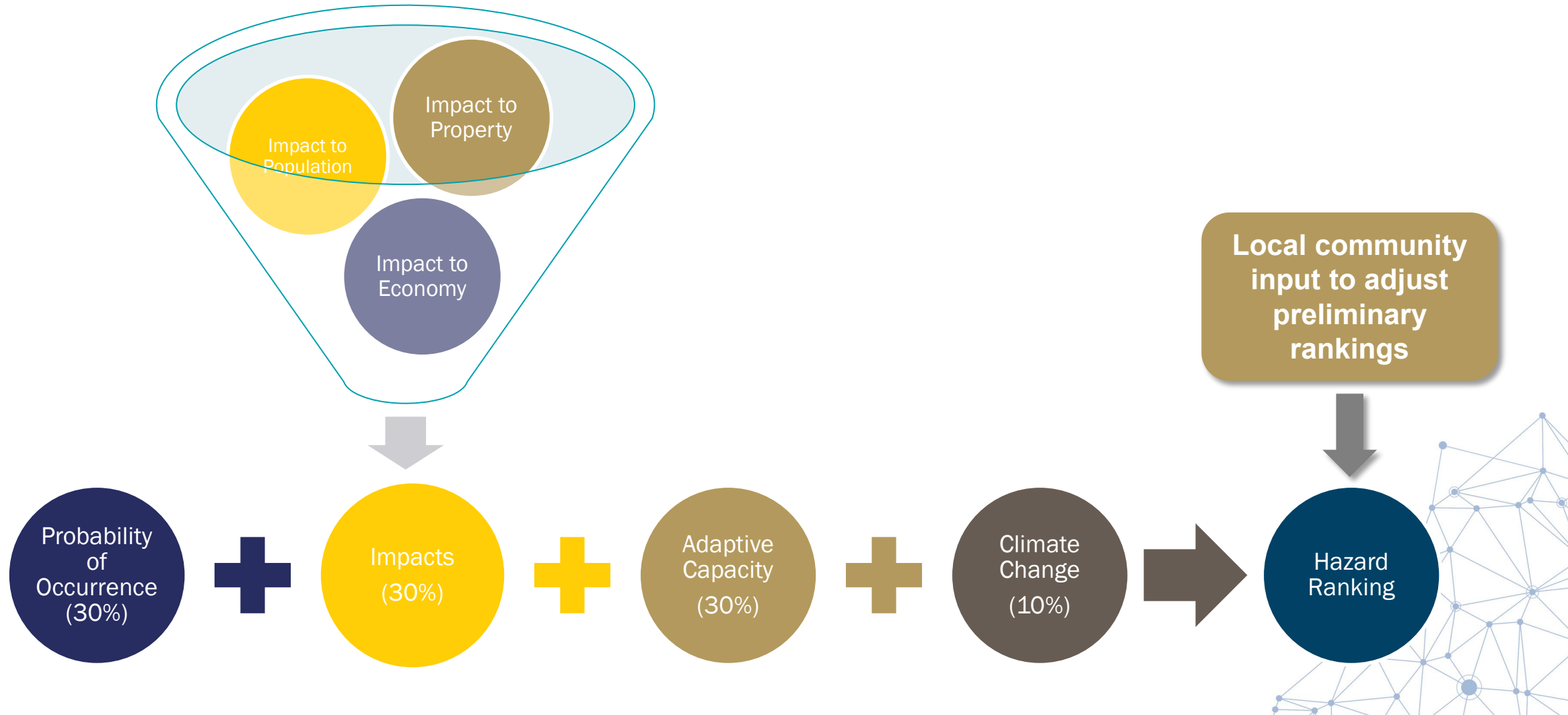
Hazard Ranking is determined by quantitative and qualitative factors including:

- 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.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.





Hazard Ranking Formula



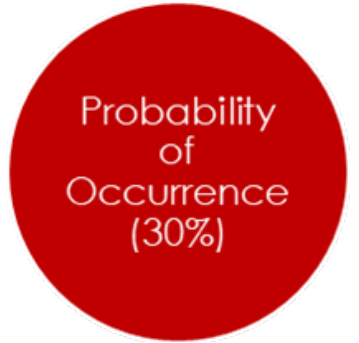
Ranking the Hazards of Concern

What information plays a role in determining the risk rankings?

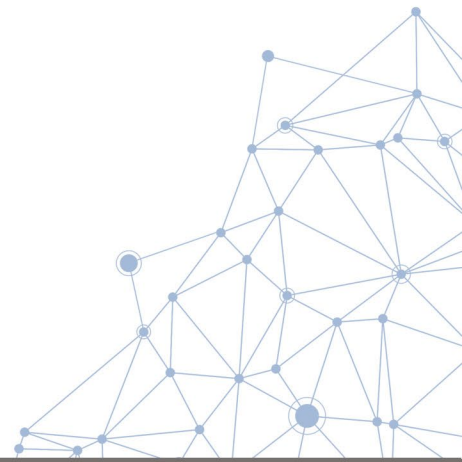




Probability Of Occurrence



- **Unlikely**
 - Not likely to occur or less than 1% annual chance of occurring
- **Rare**
 - Between 1 and 10% annual chance of occurring
- **Occasional**
 - Between 10 and 100% annual chance of occurring
- **Frequent**
 - 100% chance occurring; occurs multiple times a year





Hazard Ranking Input

Impact on Population – Function of population exposed

- ✓ Low – 14% or less population exposed
- ✓ Medium – 15%-29% population exposed
- ✓ High – 30%+ population exposed

Impact on property – Function of structures exposed

- ✓ Low – 14% or less structures exposed
- ✓ Medium – 15%-29% structures exposed
- ✓ High – 30%+ structures exposed

Impact on economy – Function of damages to building stock

- ✓ Low – 9% or less loss estimate of total replacement cost
- ✓ Medium – 10%-19% loss estimate of total replacement cost
- ✓ High – 19%+ loss estimate of total replacement cost

Capability – Function of level of planning, policies, enforcement

- ✓ Weak – outdated policies; limited to no deployable resources; limited capabilities to respond; long recovery
- ✓ Moderate – minimum requirements; mitigation strategies identified but not implemented; moderate county capabilities
- ✓ Strong – exceed requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high

Climate Change – Function of climate predictions

- ✓ Low - No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence)
- ✓ Medium - Studies and modeling projections indicate a potential for exacerbated conditions due to climate change
- ✓ High - Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change



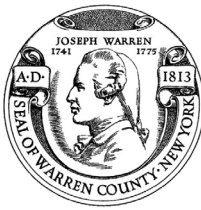


Preliminary Overall Risk Ranking

Hazard of Concern	2021 CEPA Ranking	2023 Calculated Risk Ranking	2017 Risk Ranking	2023 Adjusted Ranking
Earthquake	Low	Low	High	Medium
Extreme Temperature	-	Medium	-	Medium
Flood	Very High	Low	Medium	High
Severe Storm	Medium	High	High	High
Severe Winter Storm	High	High	High	High
Wildfire	Medium	High	High	High
Infestation	-	Medium	Medium	Medium
Dam Failure	-	High	-	High
Disease Outbreak/Pandemic	Medium	Low	Medium	Medium

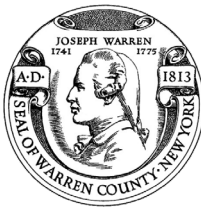
* Potential adjustments

Municipal Level Risk Ranking (Preliminary)



Hazard Ranking									
Municipality	Earthquake	Extreme Temps	Flood	Severe Storm	Severe Winter Storm	Wildfire	Infestation	Dam Failure	Disease Outbreak
Bolton (T)	Low	Medium	Low	High	High	Medium	Medium	High	Medium
Chester (T)	Low	Medium	Low	High	High	Low	Medium	High	Low
Glens Falls (C)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Hague (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Horicon (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Johnsburg (T)	Low	Medium	Low	High	High	Low	Medium	High	Medium
Lake George (T)	Low	Medium	Low	High	High	High	Medium	Medium	Medium
Lake George (V)	Low	Medium	Low	High	High	High	Medium	Low	Low
Lake Luzerne (T)	Medium	Medium	Low	High	High	Medium	Medium	Medium	Low
Queensbury (T)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Stony Creek (T)	Medium	Low	Low	High	High	Low	Medium	Medium	Low
Thurman (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Warrensburg (T)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Warren County	Medium	Medium	Low	High	High	High	Medium	High	Low

* To be adjusted



Sample Risk Analysis Input (Flood)

Warren County Municipality	Probability		Impact on Population				
	Impact	Index	Population (2020 Decennial)	1-Percent Annual Chance Flood Event Population Exposed	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Impact	Numeric Value x3
Bolton (T)	Frequent	3	2,012	132	6.5%	L	3
Chester (T)	Frequent	3	3,086	262	8.5%	L	3
Glens Falls (C)	Frequent	3	14,830	0	0.0%	L	3
Hague (T)	Frequent	3	633	45	7.1%	L	3
Horicon (T)	Frequent	3	1,471	77	5.2%	L	3
Johnsburg (T)	Frequent	3	2,143	49	2.3%	L	3
Lake George (T)	Frequent	3	2,494	65	2.6%	L	3
Lake George (V)	Frequent	3	1,008	2	0.2%	L	3
Lake Luzerne (T)	Frequent	3	3,079	200	6.5%	L	3
Queensbury (T)	Frequent	3	29,169	376	1.3%	L	3
Stony Creek (T)	Frequent	3	758	23	3.0%	L	3
Thurman (T)	Frequent	3	1,095	8	0.7%	L	3
Warrensburg (T)	Frequent	3	3,959	147	3.7%	L	3
Warren County	Frequent	3	65,737	1,385	2.1%	L	3

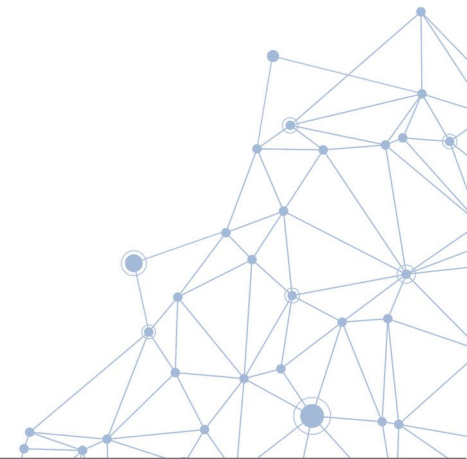


Earthquake

- Number of Events

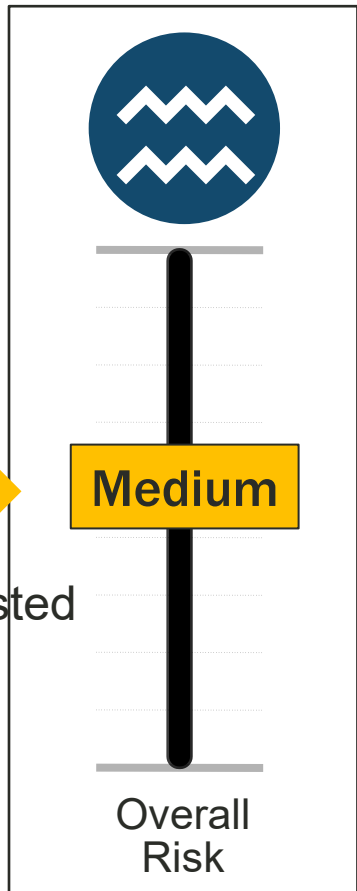
- 189 earthquakes epicentered in NYS with 4 epicentered in Warren County, per 2015 NYS HMP, between 1973 and 2014
- Faults are located within the County
- Individual Assistance (IA) declared for EMA declarations DR-1415 in Warren County (5/16/2002)
- Impacts
- 2 earthquake scenarios: 500-yr and 2500-yr events
- People and structures located in areas with soils more susceptible to earthquakes

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Earthquake



Probability of Occurrence: Rare



Impact on Population: Medium

65.6% of population is exposed and vulnerable (NEHRP D & E soils)



Impact on Property: High

48.7% of County building stock is exposed and vulnerable (NEHRP D & E soils)



Impact on Economy: Low

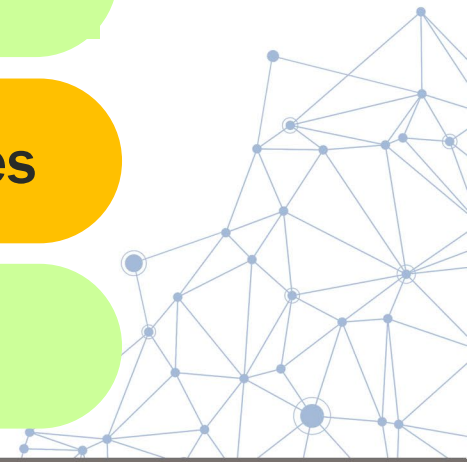
\$1.9% of Structural Replacement Cost Value damaged

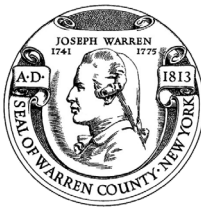


Adaptive Capacity: Medium for all municipalities

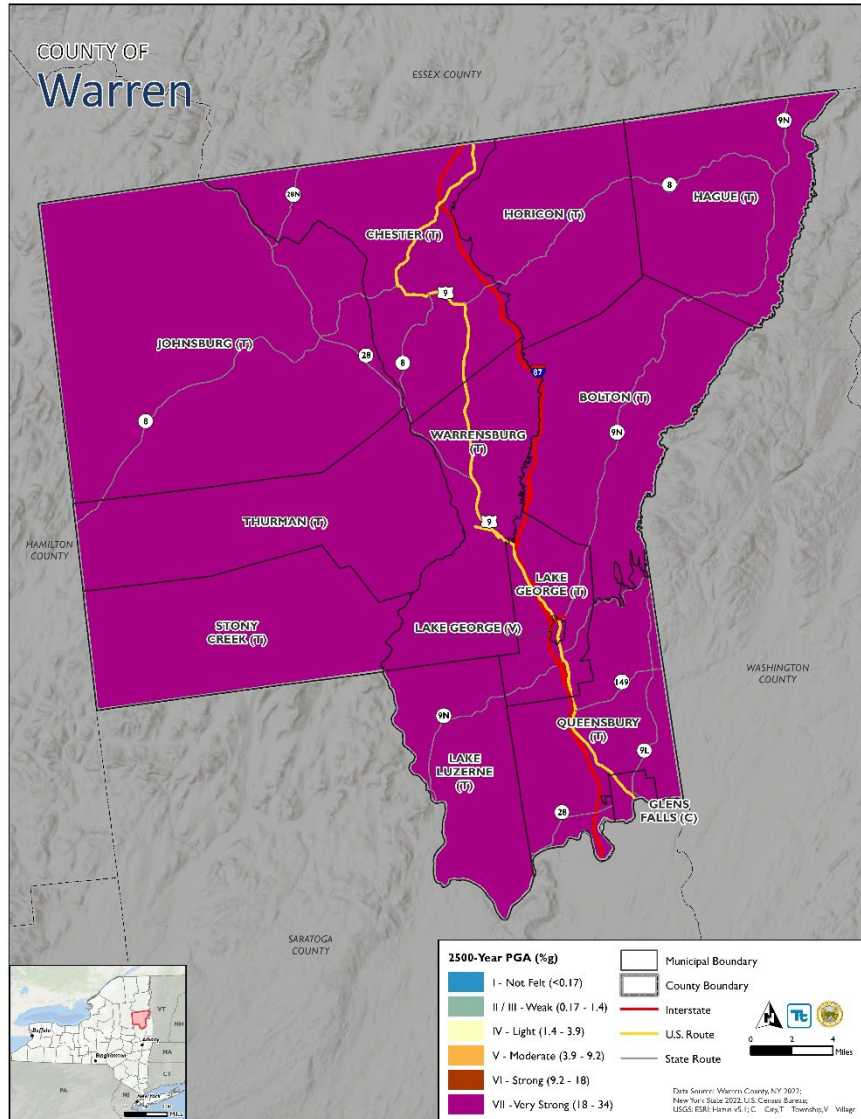


Climate Change: Low for all municipalities

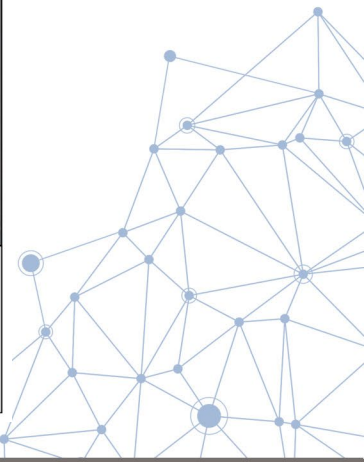
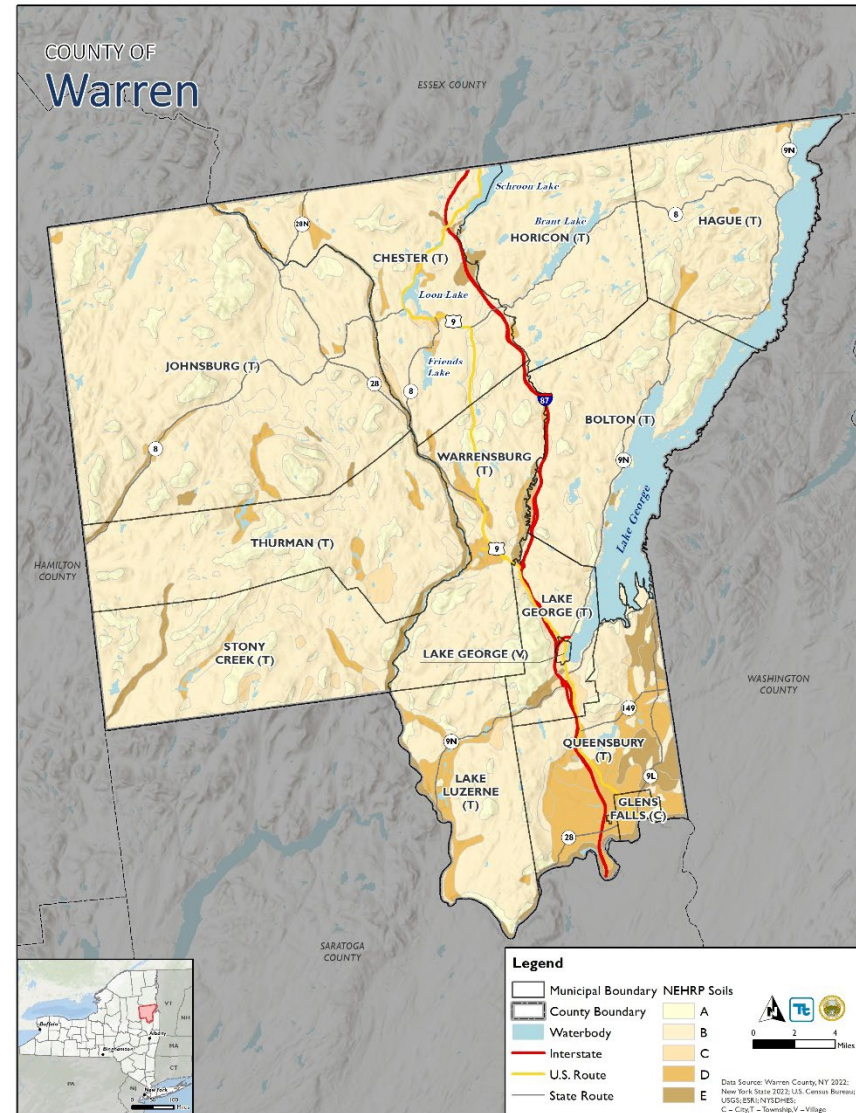




Peak Ground Acceleration



NEHRP Soil Class

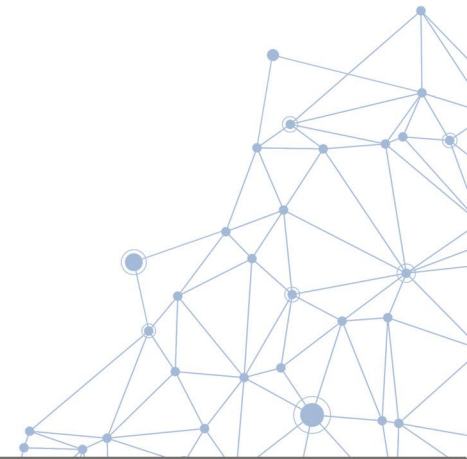




Flood

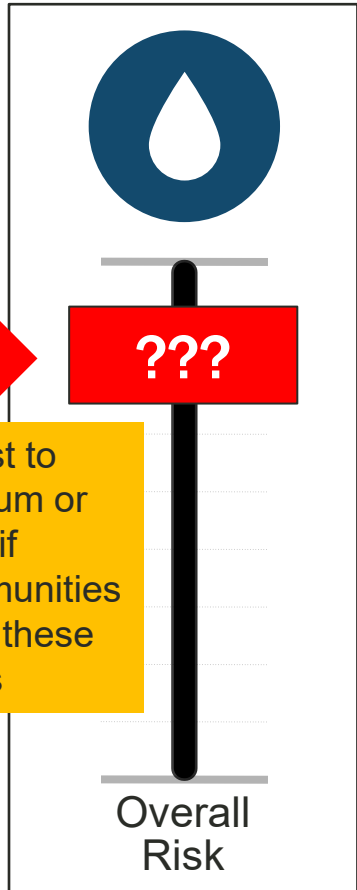
- Previous Events
 - Riverine, flash, and stormwater flooding
 - Between 2000 and 2022, Warren County included in 2 FEMA flood-related declarations.
 - FEMA-DR-1993 (Severe Storms Tornadoes, Winds and Flooding) – April 26, 2011
 - FEMA-DR-4129 (Severe Storms, and Flooding) – July 2013
- Exposure
 - People and property located in the 1% annual chance flood area

Warren County
Ranking
LOW





Countywide Preliminary Risk Ranking: Flood



Probability of Occurrence: Frequent



Impact on Population: Low

1,385 people (2.1% of the population) in the SFHA



Impact on Property: Low

1,252 buildings (3.1% of total County buildings) in the SFHA; 1 Rep Loss



Impact on Economy: Low

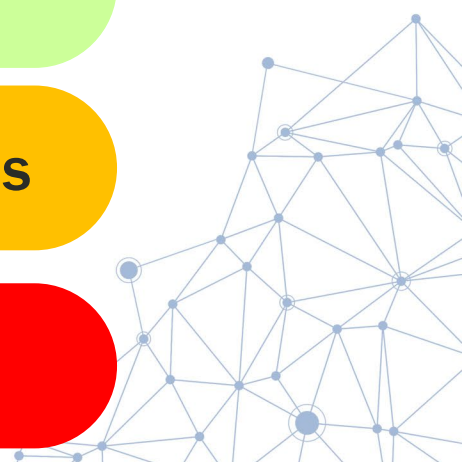
\$721 M Replacement Cost Value (RCV) (3% of County total RCV) located in the Regulatory Floodplain



Adaptive Capacity: Medium for all municipalities



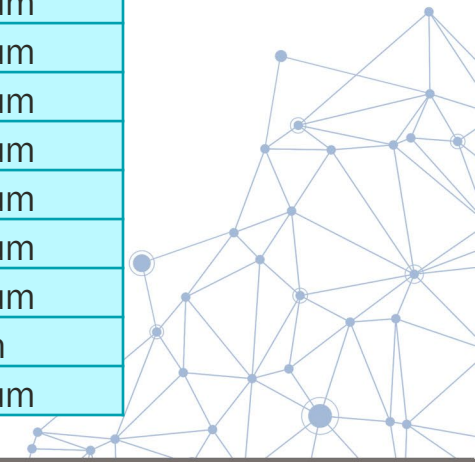
Climate Change: High for all municipalities



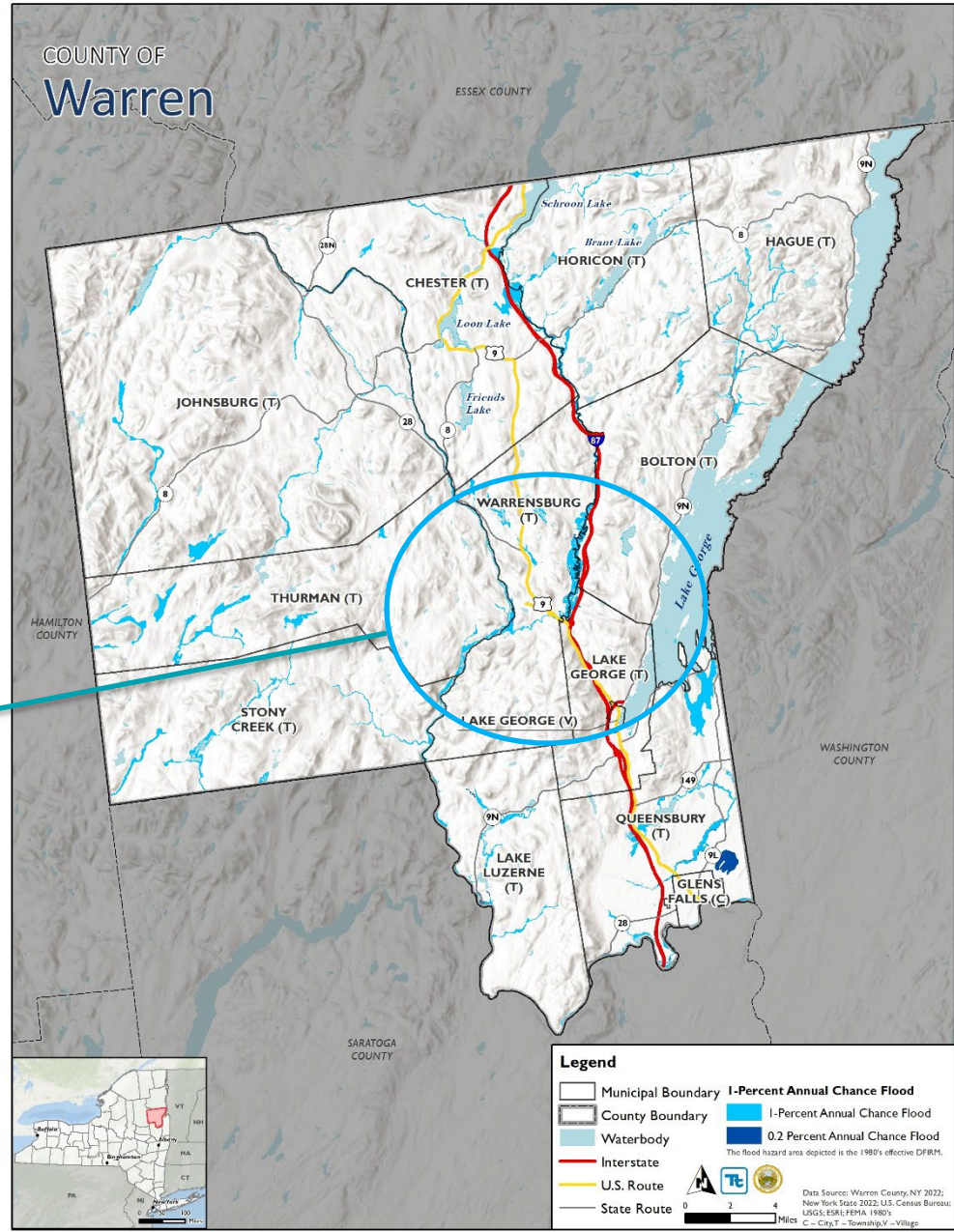
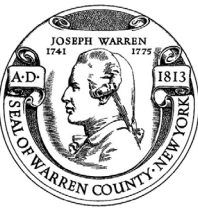


2023 vs. 2017 Rankings (Flood)

Warren County Municipality	IMPACT ON POPULATION	IMPACT ON PROPERTY	IMPACT ON ECONOMY	RISK RANKING	RISK RANKING
	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Percent of Total Buildings in 1% Flood Area	Percent of Total GBS RCV	2023 Estimated	2017
Bolton (T)	6.5%	6.6%	6.5%	Low	Medium
Chester (T)	8.5%	8.2%	7.6%	Low	Medium
Glens Falls (C)	0.0%	0.1%	1.0%	Low	Medium
Hague (T)	7.1%	7.0%	3.2%	Low	Medium
Horicon (T)	5.2%	5.2%	7.2%	Low	Medium
Johnsburg (T)	2.3%	2.4%	3.8%	Low	Medium
Lake George (T)	2.6%	2.5%	1.0%	Low	Medium
Lake George (V)	0.2%	1.1%	1.2%	Low	Medium
Lake Luzerne (T)	6.5%	6.3%	3.6%	Low	Medium
Queensbury (T)	1.3%	1.4%	2.1%	Low	Medium
Stony Creek (T)	3.0%	3.2%	3.8%	Low	Medium
Thurman (T)	0.7%	0.8%	0.5%	Low	Medium
Warrensburg (T)	3.7%	3.9%	2.7%	Low	High
Warren County	2.1%	3.1%	3.0%	Low	Medium



Flood Hazard Areas



Legend

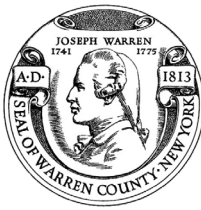
- Municipal Boundary
- County Boundary
- Waterbody
- Interstate
- U.S. Route
- State Route
- 1-Percent Annual Chance Flood
- 0.2 Percent Annual Chance Flood

The flood hazard area depicted is the 1980's effective DFIRM.

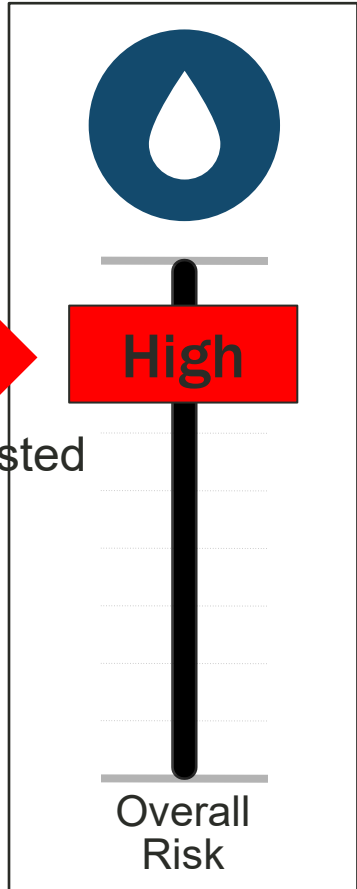
Data Source: Warren County, NY 2022;
 New York State 2022; U.S. Census Bureau;
 USGS; ESRI; FEMA 1980's
 C - City, T - Township, V - Village


0 2 4 Miles





Countywide Preliminary Risk Ranking: Dam Failure



 **Probability of Occurrence: Rare**

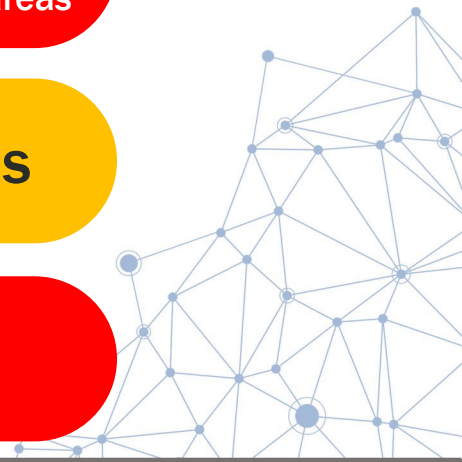
 **Impact on Population: High**
216 people in inundation areas

 **Impact on Property: High**
254 buildings (0.6% of total County buildings) located in inundation areas

 **Impact on Economy: High**
\$130 M Replacement Cost Value (RCV) (0.5% of County total RCV) in inundation areas

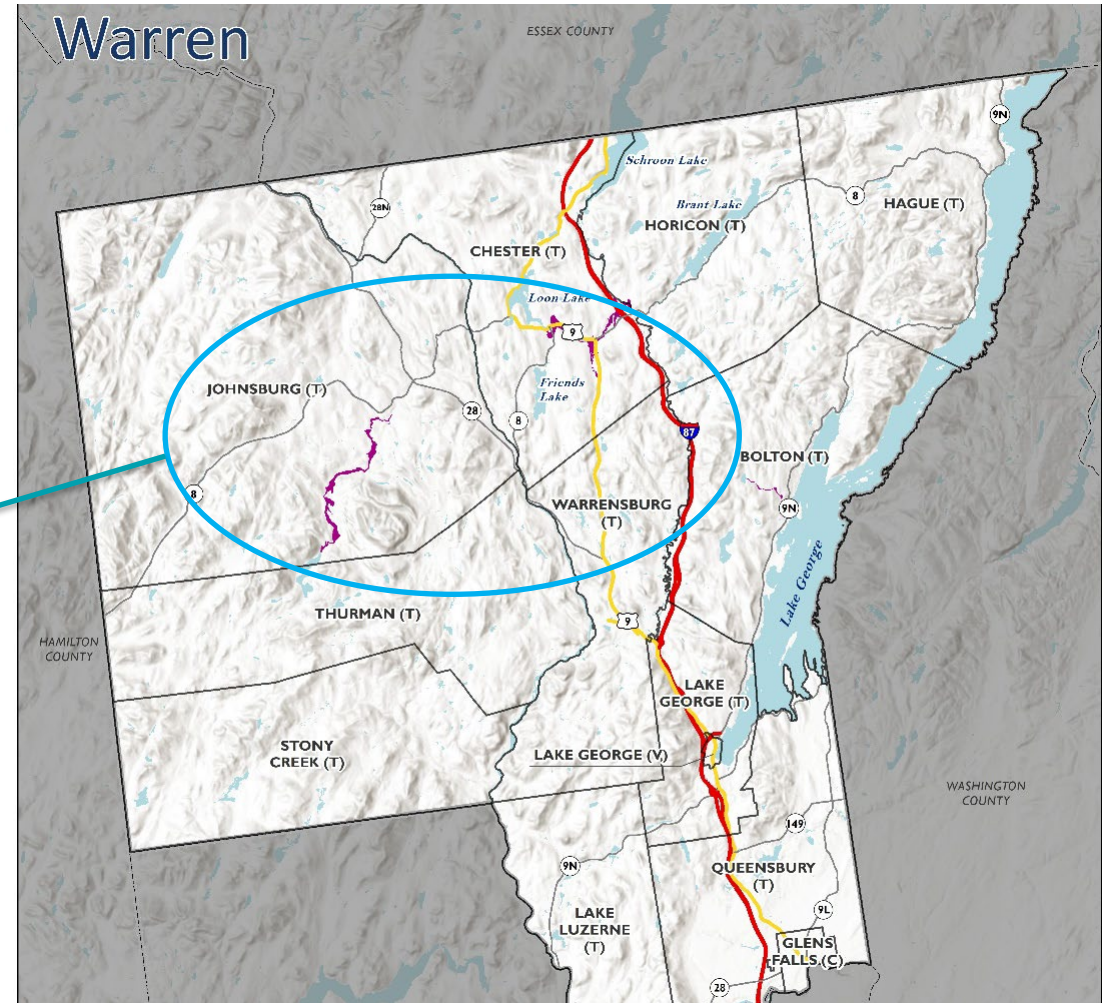
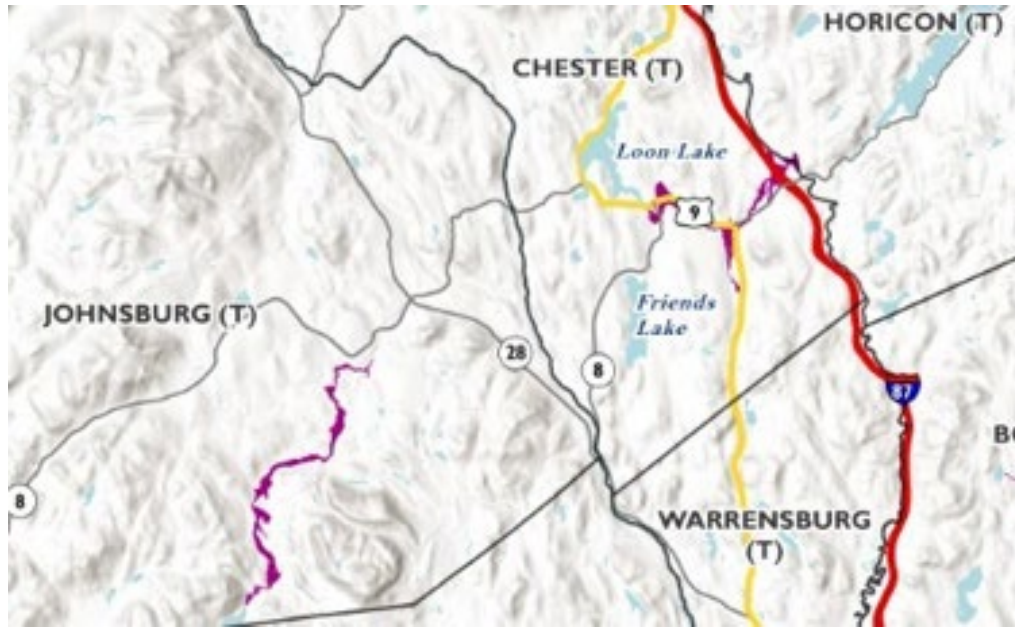
 **Adaptive Capacity: Medium for all municipalities**

 **Climate Change: High for all municipalities**





Dam Inundation Areas





Severe Storm

- Previous Events

- Hazard includes lightning, hail, and windstorms
- FEMA-DR-4472 (Severe Storms, Straight-line Winds and Flooding) – October 2019
- Between 2016 and 2022, Warren County was included in 1 FEMA severe storm-related declaration.
- According to the NOAA, 5 tornado events took place in Warren County between 1950 and 2022

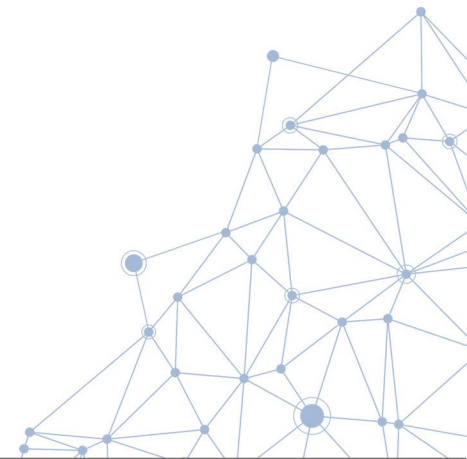
- Exposure

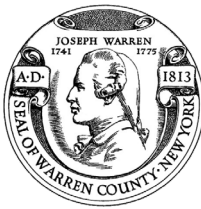
- Population and property exposed to 100-year peak wind gusts (Tropical Storm-39 to 73 mph) and 500-year (Tropical Storm speeds)
- All people and property exposed and vulnerable

- Potential Impacts

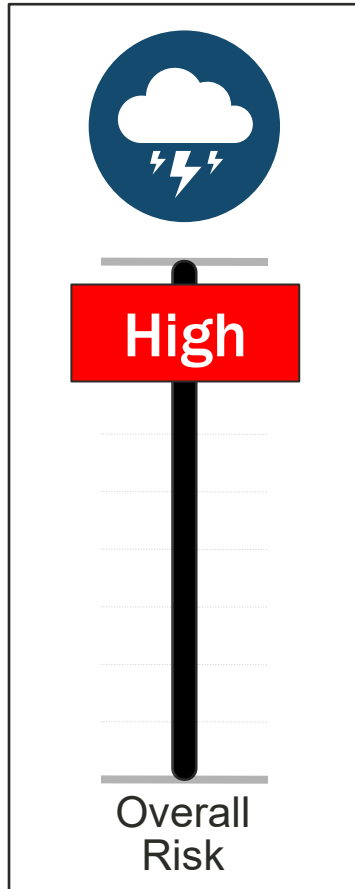
- Power outages
- Critical facility and infrastructure damage

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable



Impact on Economy: Low

\$4.8 M (less than 1%) general building stock loss for a 500-year event



Adaptive Capacity: High for all municipalities



Climate Change: High for all municipalities

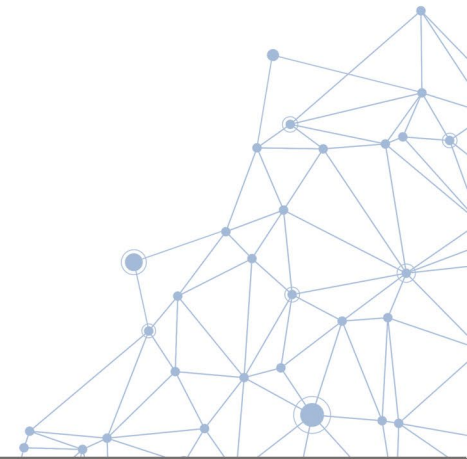


Wildfire

- Previous Events

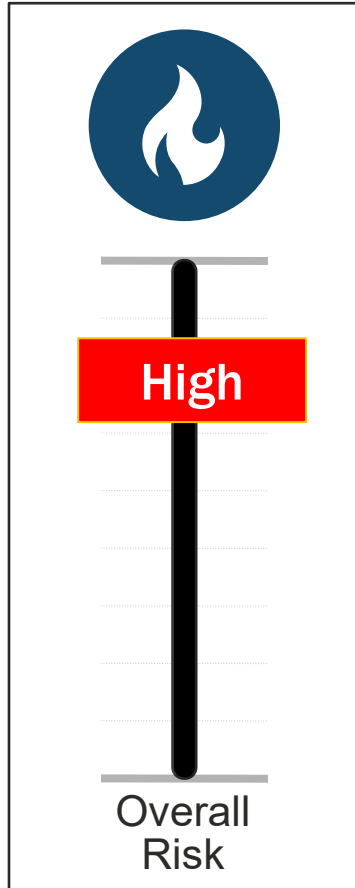
- The NYS HMP identified wildfire as a hazard of concern for New York State, however the daily probability of a wildfire event for the state is .09 percent.
- Warren County was included in one FEMA fire declaration; however, it was a manmade terrorist attack.
- According to the 2020 Warren County CEPA, the wildfire hazard is ranked medium.
- Exposure
- People and property located in Wildfire Urban Interface WUI.







Warren County
Ranking
HIGH

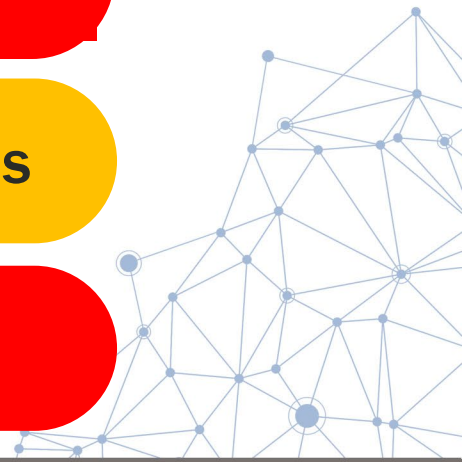




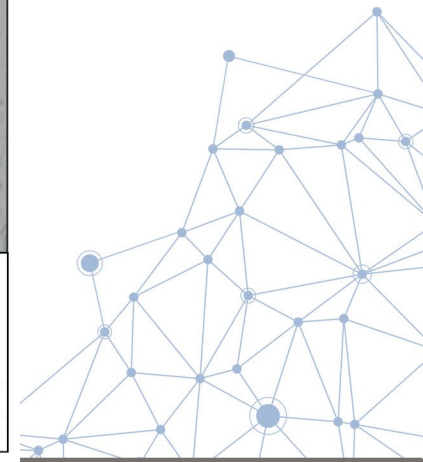
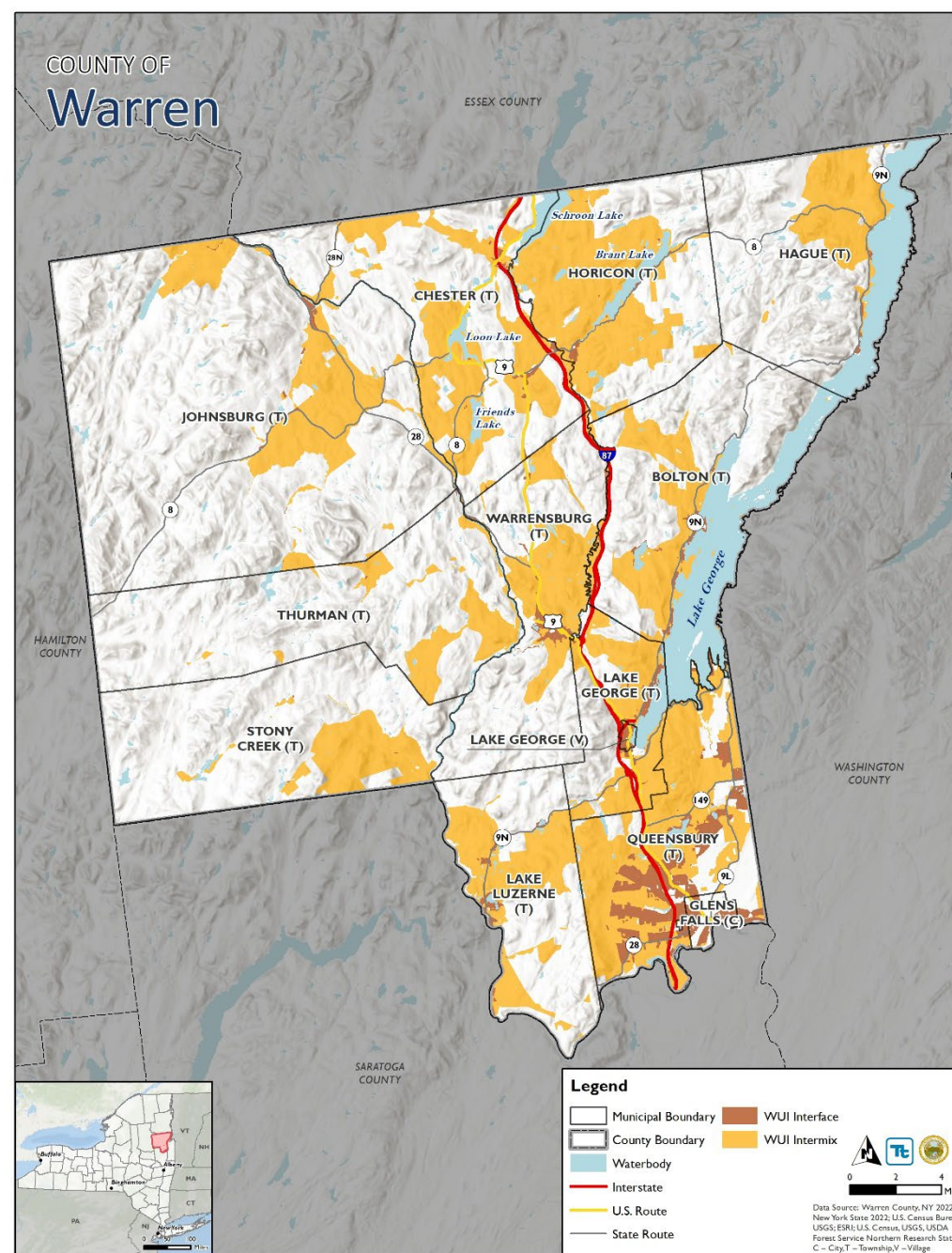
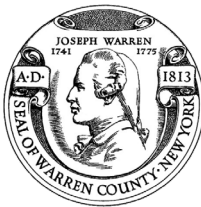
Countywide Preliminary Risk Ranking: Wildfire

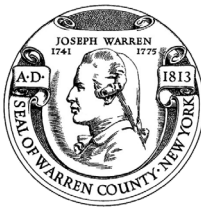


-  **Probability of Occurrence: Occasional**
-  **Impact on Population: High**
44.4% of population exposed to the WUI Interface
-  **Impact on Property: High**
14,488 buildings (35.9 % of County total) exposed to WUI Interface
-  **Impact on Economy: High**
\$8.6M in RCV 35.4% of County total) exposed to WUI Interface
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**



Wildland Urban Interface/ Intermix Area

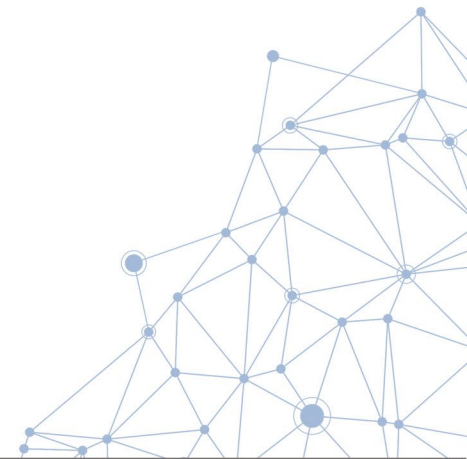


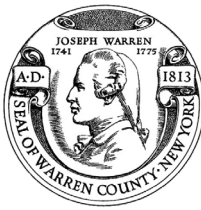


Severe Winter Storm

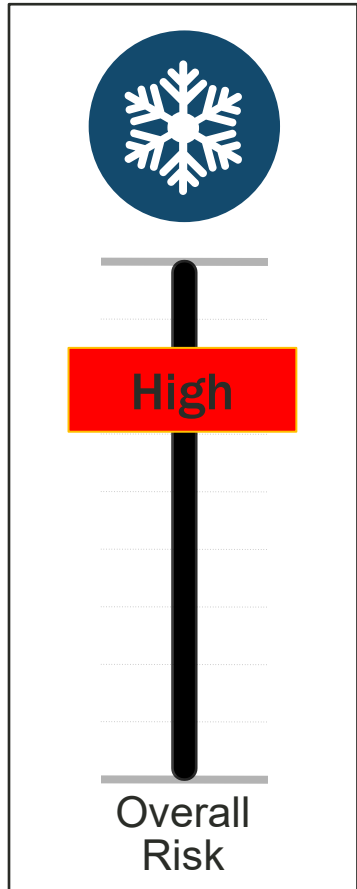
- Hazard includes heavy snow, blizzards, ice storms
- Previous Events
 - FEMA included Warren County in one winter storm-related disaster declaration
 - FEMA-EM-3107 (Severe Blizzard) – March 1993
- Exposure
 - All people and property exposed and vulnerable
- Potential Impacts
 - Power outages
 - Critical facility and infrastructure damage
 - Transportation interruptions/accidents







Warren County
Ranking
HIGH

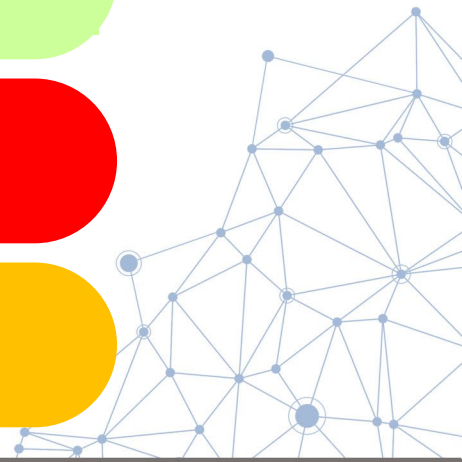




Countywide Preliminary Risk Ranking: Severe Winter Storm



-  **Probability of Occurrence: Frequent**
-  **Impact on Population: High**
Entire population is exposed and vulnerable
-  **Impact on Property: High**
Entire building stock is exposed and vulnerable; however, impacts are minimal
-  **Impact on Economy: Low**
\$1.2M (5%) potential losses to building stock
-  **Adaptive Capacity: High for all municipalities**
-  **Climate Change: Medium for all municipalities**



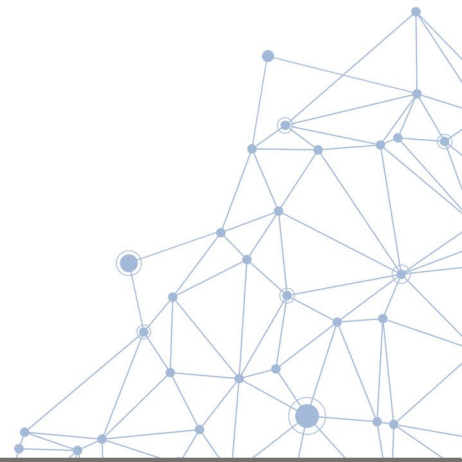


Disease Outbreak/Pandemic

- Previous Events

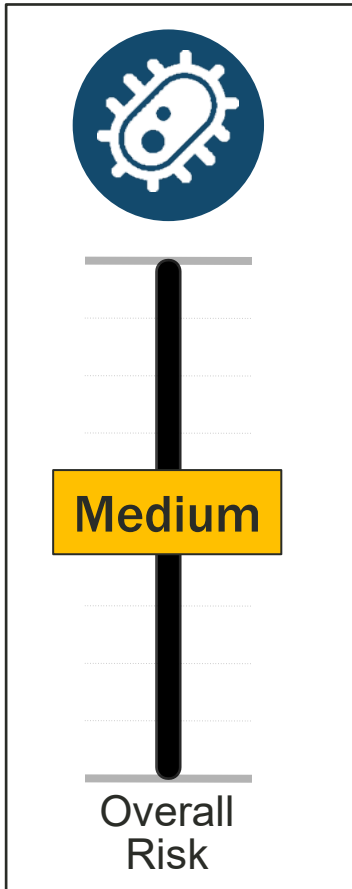
- According to the 2020 Warren County CEPA, the pandemic hazard is ranked medium.
- The County has been impacted by the COVID-19 pandemic (DR-4480).
- The County has been impacted by various diseases (COVID-19, West Nile Virus, Lyme disease)
- Exposure
 - Entire County is exposed and vulnerable; however, not occurring multiple times a year with significant impacts
 - Severe events can lead to staffing and bed shortages in hospitals

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Disease Outbreak



Probability of Occurrence: Occasional



Impact on Population: Medium

(14,754 County residents are 65+ years and 2,850 >5 years (26.8 % of County population))



Impact on Property: Low



Impact on Economy: Medium

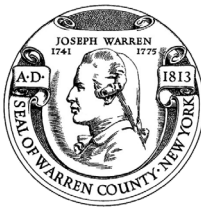


Adaptive Capacity: Medium for all municipalities



Climate Change: Medium for all municipalities

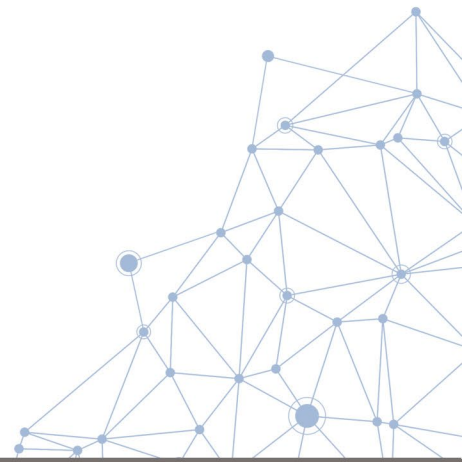




Extreme Temperature

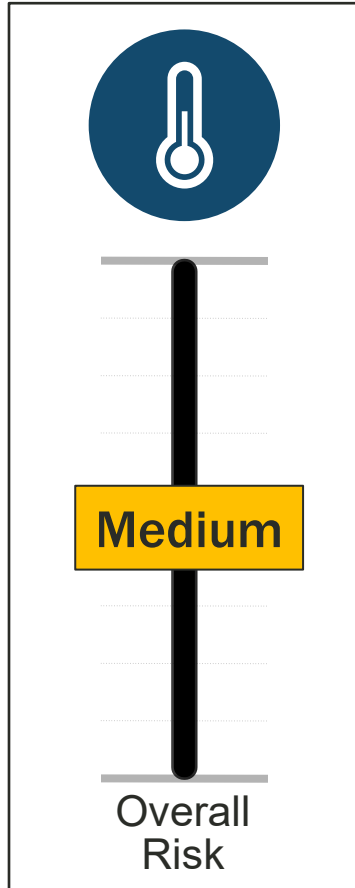
- Previous Events
 - Hot and cold events
- Exposure
 - Entire County is vulnerable
 - Increased vulnerability to populations at higher risk (65+ / <5 years old)
- Potential impacts:
 - Increased wildfire/brush fire risk
 - Impacts to agriculture/farms
 - Long-periods of warm temperatures can lead to drought conditions

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Extreme Temps



Probability of Occurrence: Occasional



Impact on Population: Medium

17,604 County residents are 65+ years old or >5 years (26.8% of County population)



Impact on Property: Low



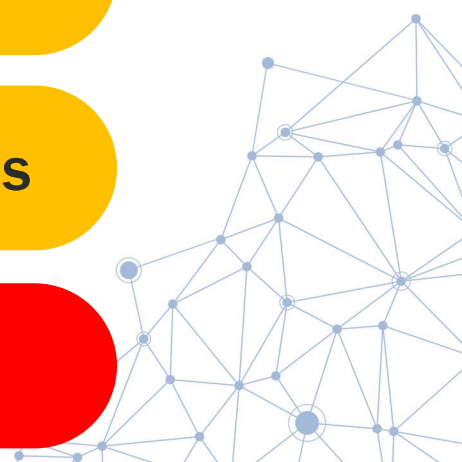
Impact on Economy: Medium



Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Infestation and Invasive Species

- Previous Events

- Beaver Dam Failure, March 2022
- Hemlock Woolly Adelgid, Lake George, 2017
- Emerald Ash Borer (EAB), Shroon River, 2022

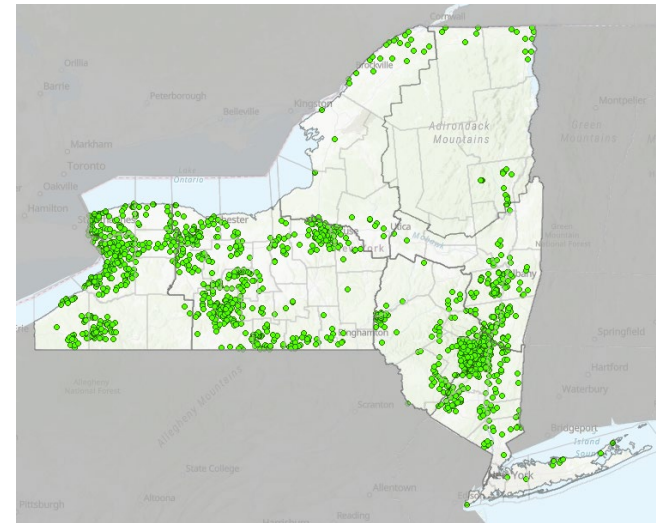
- Exposure

- Entire County is vulnerable

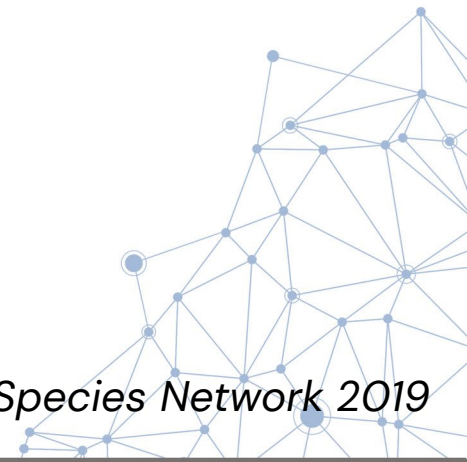
- Potential impacts:

- Soil destabilization
- Increased wildfire risk
- Impacts to agriculture/farms

Warren County
Ranking
MEDIUM

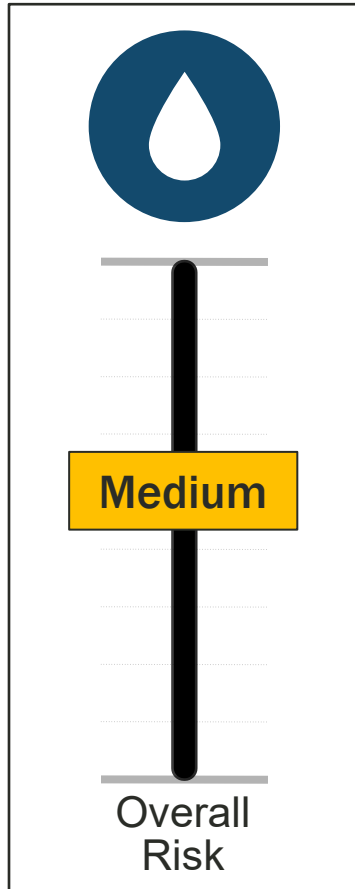








EAB - Source: New York Invasive Species Network 2019

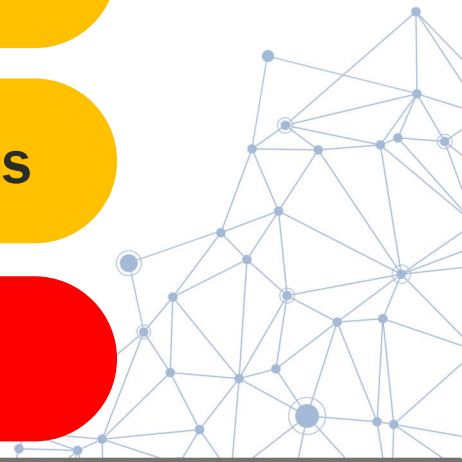


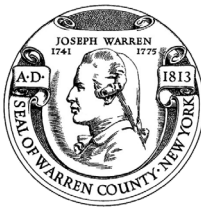


Countywide Preliminary Risk Ranking: Infestation



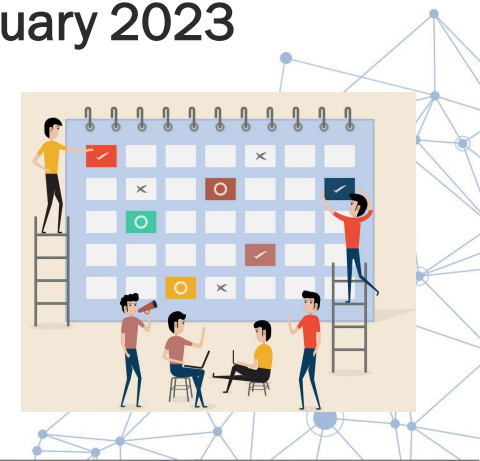
-  **Probability of Occurrence: Occasional**
-  **Impact on Population: Medium**
-  **Impact on Property: Medium**
-  **Impact on Economy: Medium**
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**





Next Steps

- Update Risk Assessment
 - Prepare results to present to planning partners
 - Populate adjusted results municipal annexes
 - Planning Partnership Risk Assessment Meeting: February 15, 2023
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
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Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #3 – AGENDA
MEETING DATE/TIME: February 15, 2023 – 10:00 am



- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	February 15, 2023, 10:00 am

Attendees:

Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Jessica Leerkes*	Engineer, Town of Chester
Dan Barusch*	Town/Village Lake George, Planner
Dave Duell*	Town of Queensbury Highway Superintendent
Mark DeMers	Deputy Highway Superintendent
Craig Leggett*	Supervisor, Town of Chester
Debra Runyan*	Town of Thurman Supervisor
Tammie DeLorenzo*	Assistant to the County Administrator, Warren County
Michael Geraci*	Supervisor, Town of Horicon
Frank E. Thomas*	Supervisor, Town of Stoney Creek
Khristopher Kassay	Town of Lake Luzerne
Erin Putney	Town of Lake Luzerne, Zoning Officer
Laura Moore*	Planner, Town of Queensbury
Westfall, Josh*	Planner, Town of Bolton
James Hull	Code Enforcement Officer, Town of Warrensburg
Mike Dunkley	Deputy Highway Superintendent, Town of Johnsbury
Ernie Dunkley	Safety Officer, Town of Johnsbury
Keith Lanfear	Superintendent of Public Works, Village of Lake George
William Norton	Superintendent, Water & Sewer, City of Glens Falls
John Strough	Supervisor, Town of Queensbury
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a project status update and the preliminary municipal level hazards of concern relative risk rankings; to prepare the Planning Partners to review municipal rankings and adjust as necessary to take into account local data or undocumented issues.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. Warren County (Jim Lieberum, Warren County Soil & Water Conservation District) provided an overview of the importance of the plan in identifying projects to reduce risk and encouraged municipal 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<p>teams supporting the plan to include public works, fire department, emergency management, and law enforcement staff to provide information on past events and problem areas to support the development mitigation projects.</p> <ul style="list-style-type: none"> • The process continues to be on track for plan submittal to FEMA in August 2023. • The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> • Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • Warren County reminded municipalities to submit documentation of in-kind hours to support the obligations related to the planning grant funding. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. • Surveys to target the public, neighboring counties, agencies, and businesses have been distributed and will be used to provide additional input to the plan to support the identification of mitigation actions. 	<p>Action: All staff to submit documentation of hours spent supporting the mitigation planning process, including hours spent to provide data, review documents, provide updates to communities.</p>
3	<p>Risk Assessment Overview</p> <ul style="list-style-type: none"> • Tt reviewed the methodology to calculate the relative risk of the county’s identified hazards of concern and shared the preliminary risk rankings. The ranks of Low, Medium, and High for each hazard will serve as a guide in identifying impactful mitigation actions to reduce damages and increase resilience. After review and adjustment by the core group, the preliminary county level ranks are as follows: <ul style="list-style-type: none"> ○ Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) - Medium ○ Earthquake - Medium ○ Extreme Temperatures - Medium ○ Flood - High ○ Dams Failure - High ○ Infestation - Medium ○ Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) – High ○ Severe Winter Storm (Heavy Snow, Blizzards, Ice Storms) - High ○ Wildfire - High <p>The county ranks indicate the highest municipal risk rather than the calculated regional risk. The Steering Committee was tasked to review the information provided in the presentation (see attached) to provide</p>	



Warren County Hazard Mitigation Plan Update Meeting Notes



	<p>any additional input to revisit and potentially further adjust the rankings.</p> <p>Discussion included clarification that vulnerability assessment included only projected damages to general building stock and not potential infrastructure damages which are not modeled in Hazus-MH. These damages are an example of why the rankings should be adjusted, in particular, the flood ranking as it should include the risk posed by unmapped, localized flood areas evidenced by washouts and culvert failures.</p> <p>The public sharing of dam inundation areas was also discussed and will be addressed by Emergency Services staff.</p> <ul style="list-style-type: none">• It will distribute municipal specific rankings of the hazard of concern to the Planning Partnership the week of 2/20/23. The Planning Partnership to review and adjust ranks for the hazards of concern to incorporate local hazard history and undocumented data, if necessary.	
6	<p>Upcoming Meeting</p> <ul style="list-style-type: none">• Mitigation Strategy Workshop – March 15, 2023.	
7	<p>Next Steps</p> <ul style="list-style-type: none">• Update municipal level risk ranking as necessary• Address data gaps in municipal annexes• Continue to engage the public• Develop mitigation strategy/actions: February 2023• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	<p>Conclusion - The meeting concluded at 10:55 am.</p>	



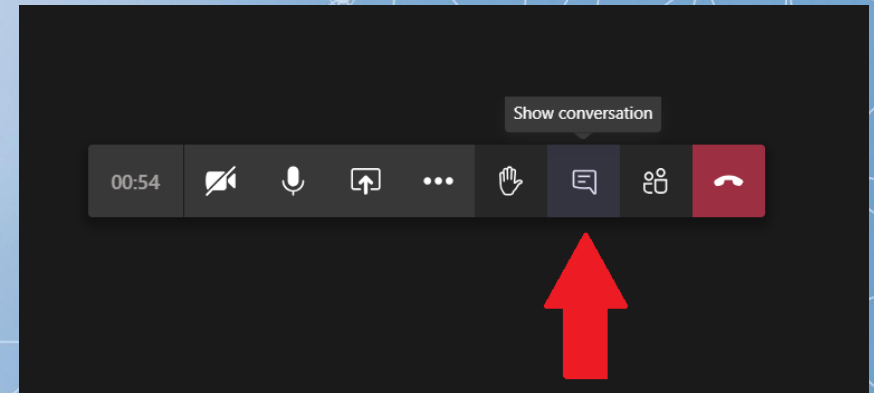
Warren County, New York Hazard Mitigation Plan – 2023 Update

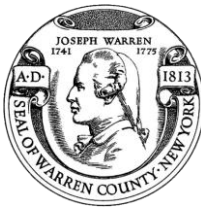
Planning Partnership #2 Meeting | February 15, 2023 | 10:00 – 11:00 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.

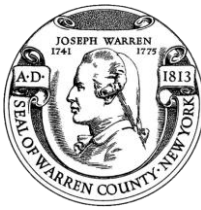




Agenda

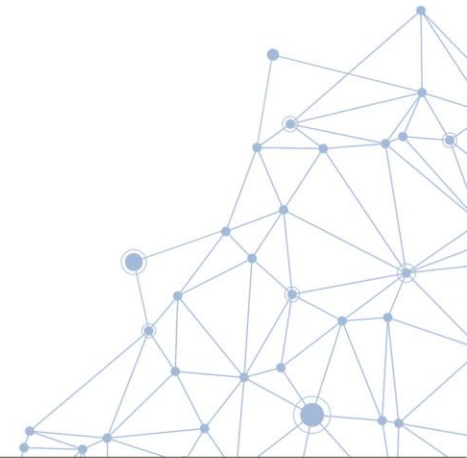
- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up

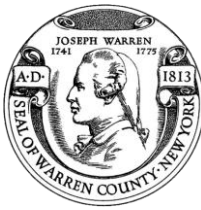




Project Schedule Review

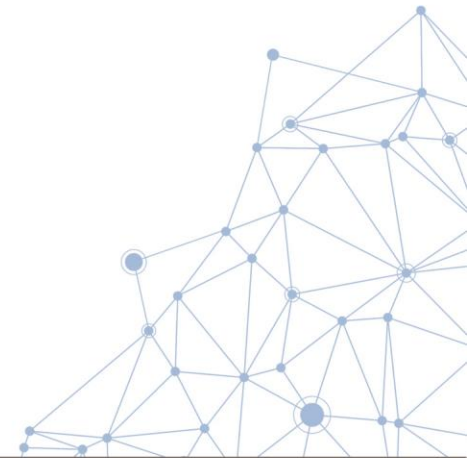
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ☐ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |

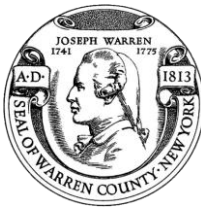




Progress

- Requested NFIP Data – *Data pending*
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *Complete*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *Complete*
- Planning Partnership Participation – 100%





In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

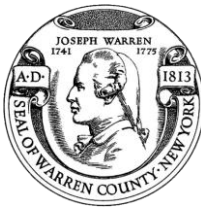
* Jurisdiction

Please document your time spent working on the HMP:

Date

Hours





Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Public Survey
- Stakeholder Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey

WARREN COUNTY HAZARD MITIGATION PLAN
2023 UPDATE

Home About What is Mitigation Meetings Calendar Explore the Plan Additional Information

Warren County Hazard Mitigation Plan 2023 Update

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

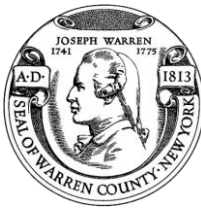
The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee has developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update. This survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in February 2023

List Month Week Day February 2023 Go < Today >



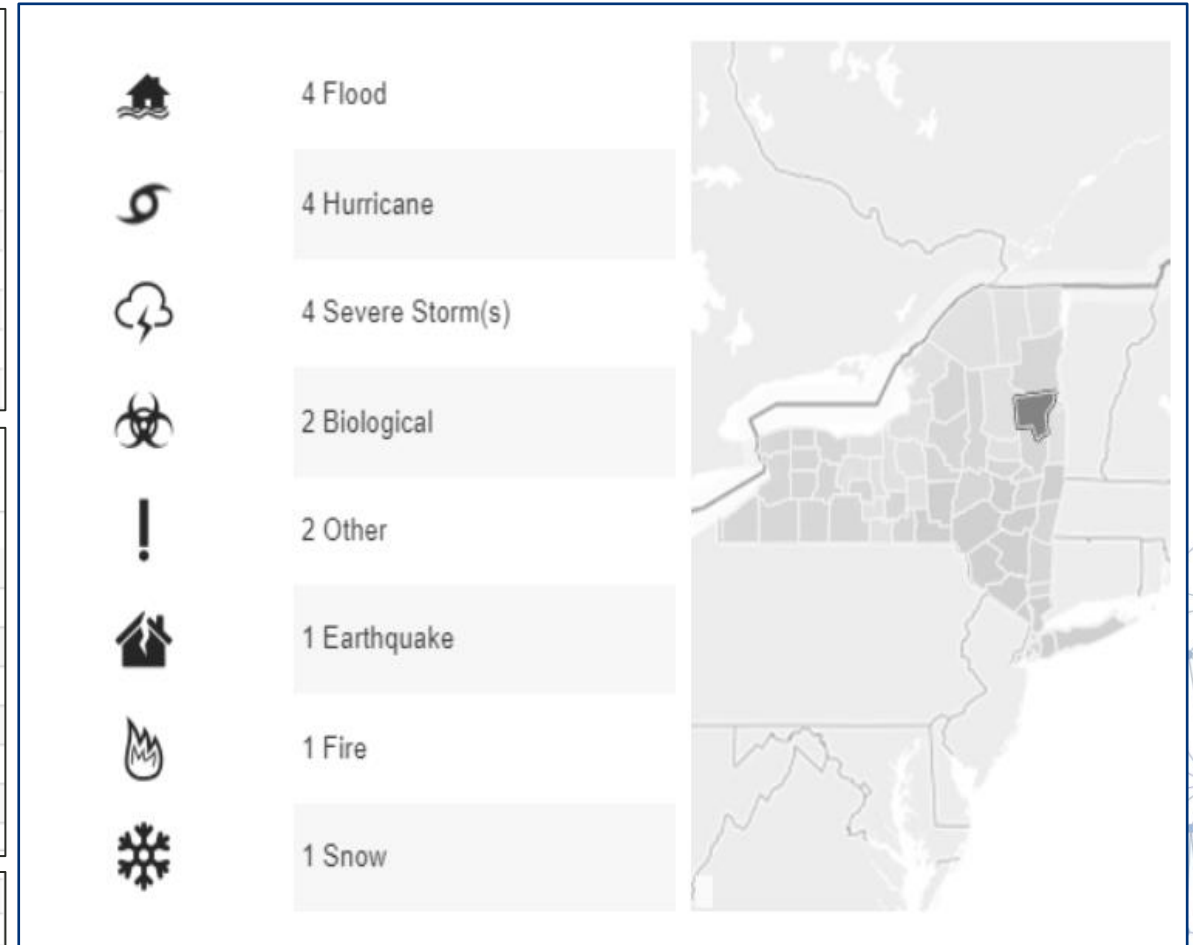
Hazard Mitigation – What’s at Risk?

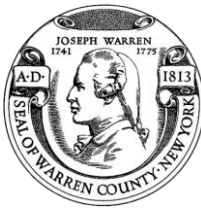
- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472

2020	COVID-19	3434
	COVID-19 PANDEMIC	4480

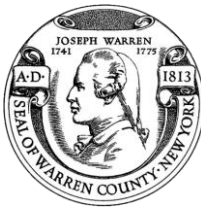




2023 HMP Hazards of Concern

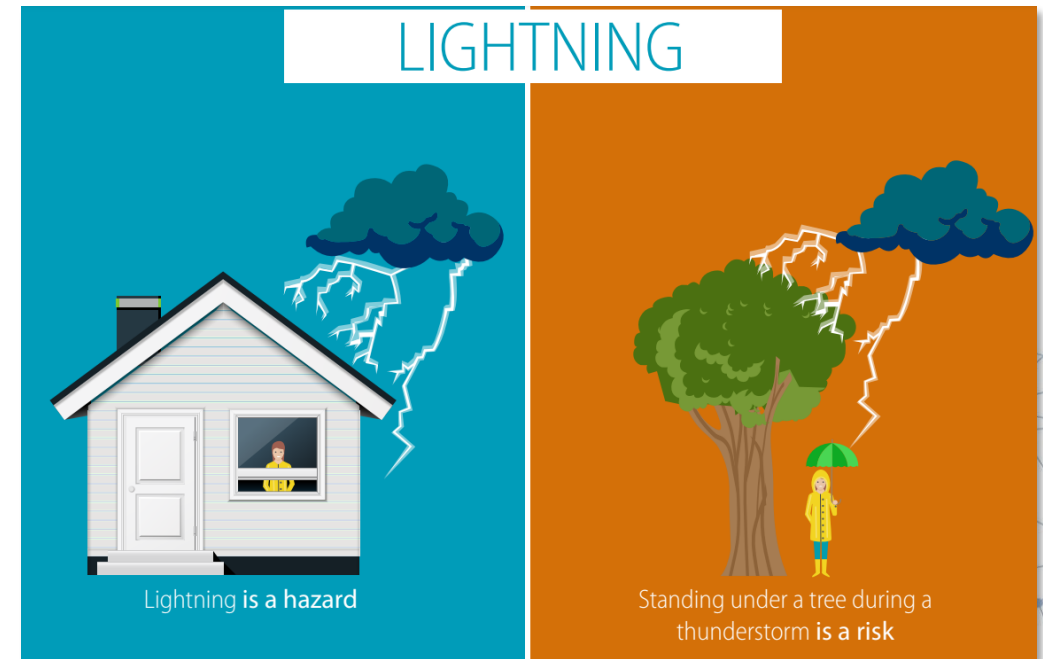
- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

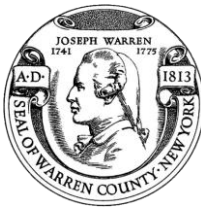




What is Risk?

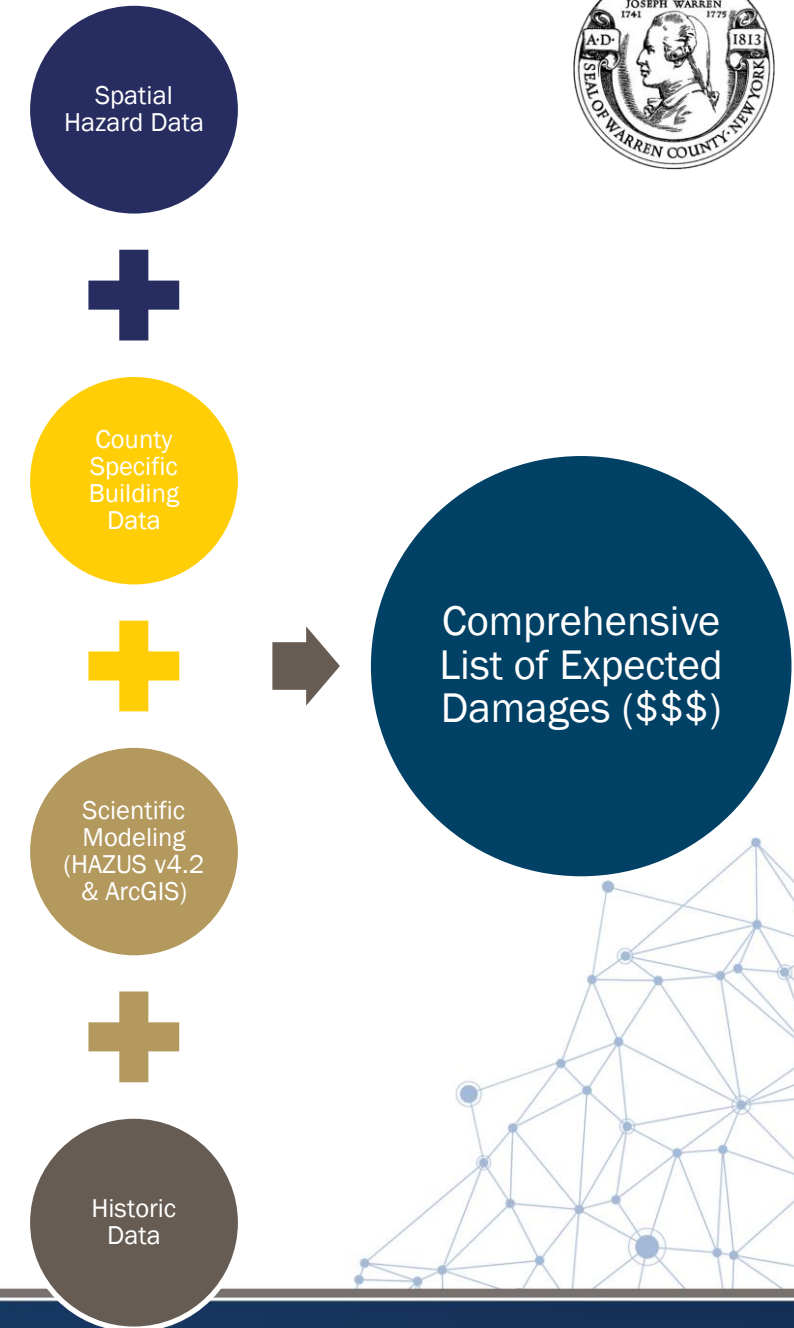
- ✓ Hazard
 - Source of potential danger or adverse condition
- ✓ Exposure
 - Manmade or natural features that are exposed to the hazard
- ✓ Vulnerability
 - Damage susceptibility of the exposed features
- ✓ Adaptive Capacity (or capability)
 - Plans/policies
 - Response/recovery
 - Financial resources
- ✓ Climate Change





Purpose of the Risk Assessment

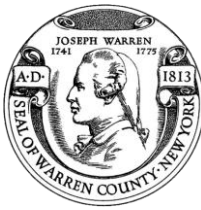
- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- Local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



Preliminary Hazard Ranking

How are the rankings calculated?

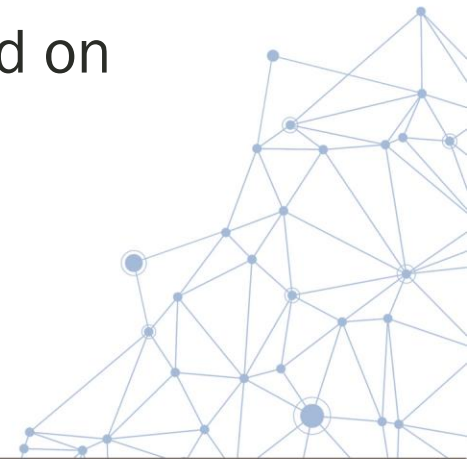


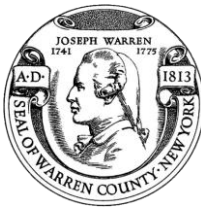


Preliminary Hazard Ranking Methodology

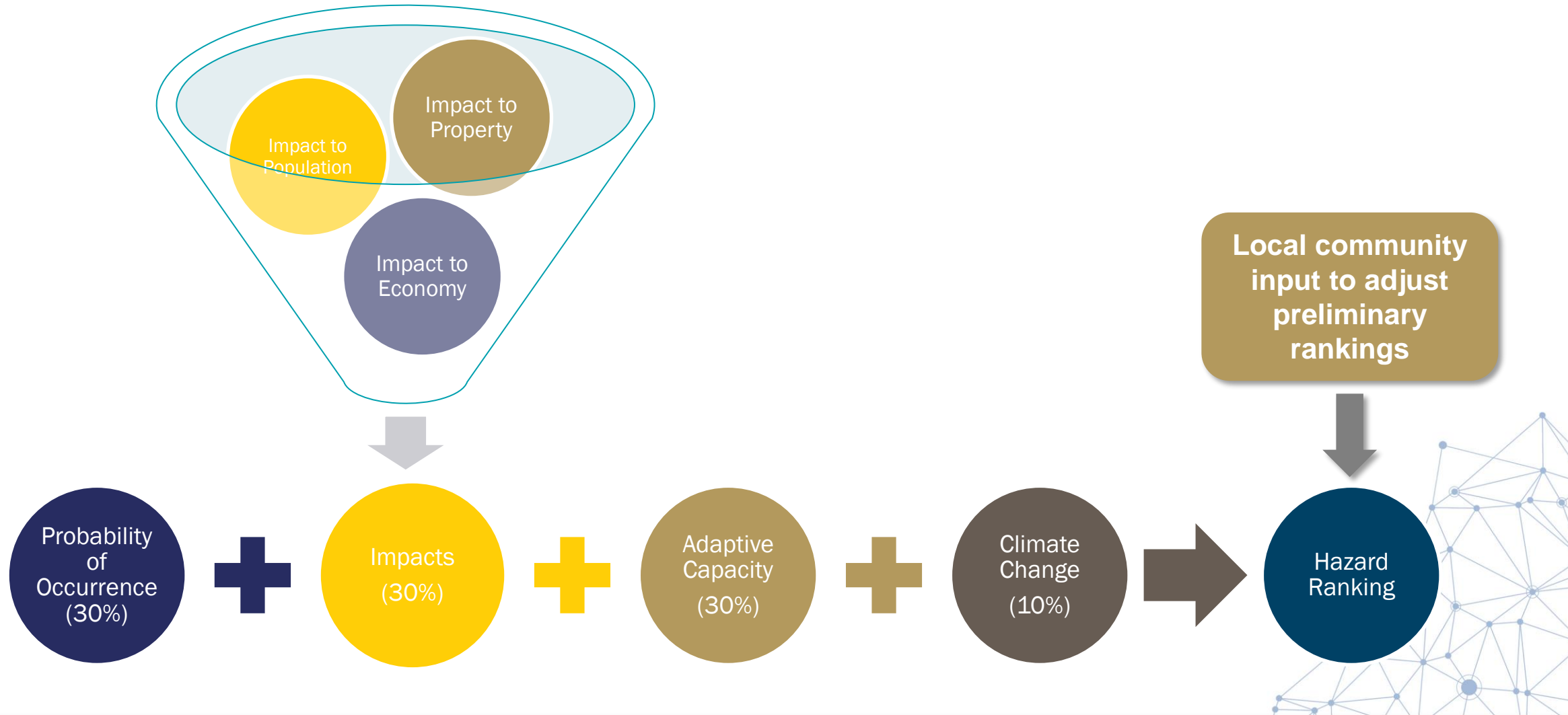
Hazard Ranking is determined by quantitative and qualitative factors including:

- 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.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.





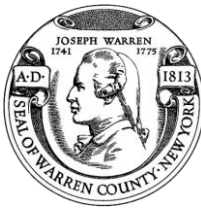
Hazard Ranking Formula



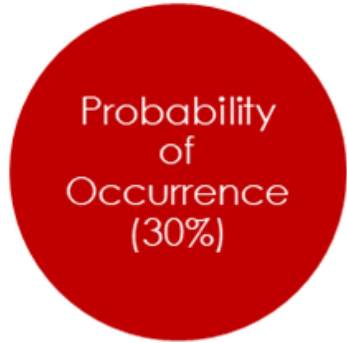
Ranking the Hazards of Concern

What information plays a role in determining the risk rankings?

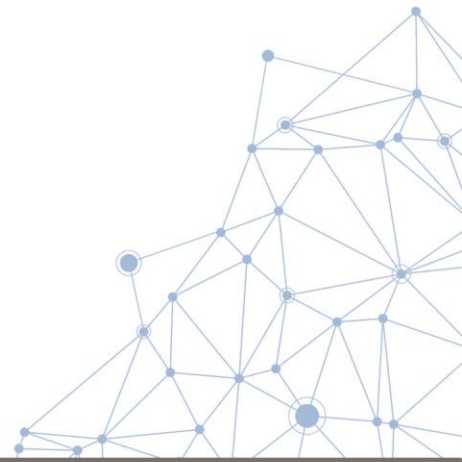


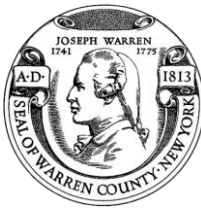


Probability Of Occurrence



- **Unlikely**
 - Not likely to occur or less than 1% annual chance of occurring
- **Rare**
 - Between 1 and 10% annual chance of occurring
- **Occasional**
 - Between 10 and 100% annual chance of occurring
- **Frequent**
 - 100% chance occurring; occurs multiple times a year





Hazard Ranking Input

Impact on Population – Function of population exposed

- ✓ Low – 14% or less population exposed
- ✓ Medium – 15%-29% population exposed
- ✓ High – 30%+ population exposed

Impact on property – Function of structures exposed

- ✓ Low – 14% or less structures exposed
- ✓ Medium – 15%-29% structures exposed
- ✓ High – 30%+ structures exposed

Impact on economy – Function of damages to building stock

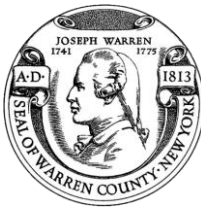
- ✓ Low – 9% or less loss estimate of total replacement cost
- ✓ Medium – 10%-19% loss estimate of total replacement cost
- ✓ High – 19%+ loss estimate of total replacement cost

Capability – Function of level of planning, policies, enforcement

- ✓ Weak – outdated policies; limited to no deployable resources; limited capabilities to respond; long recovery
- ✓ Moderate – minimum requirements; mitigation strategies identified but not implemented; moderate county capabilities
- ✓ Strong – exceed requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high

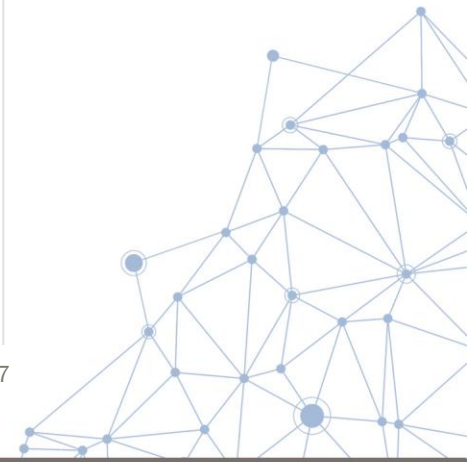
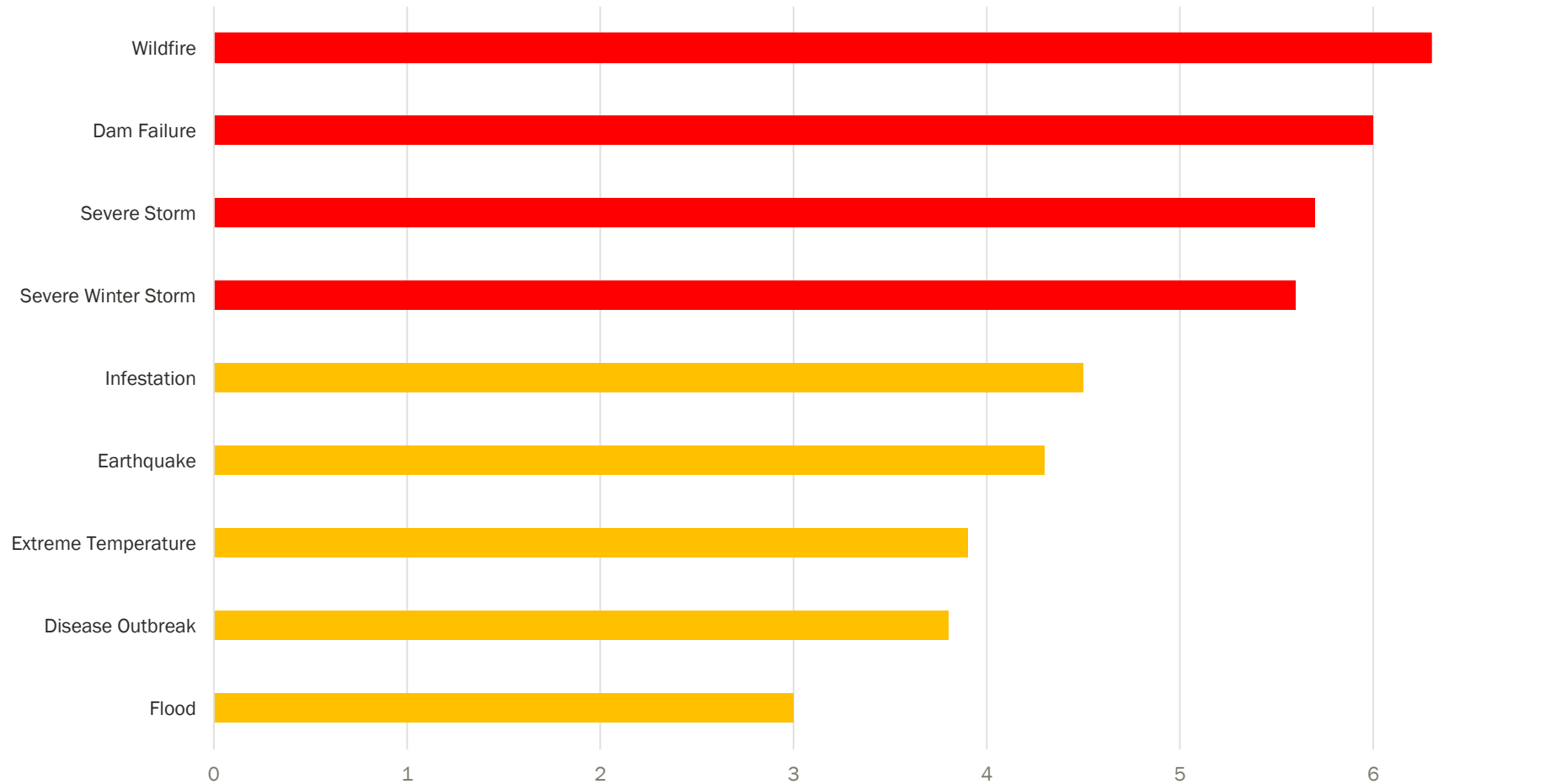
Climate Change – Function of climate predictions

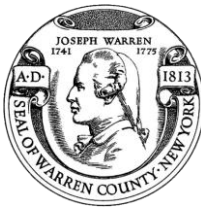
- ✓ Low - No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence)
- ✓ Medium - Studies and modeling projections indicate a potential for exacerbated conditions due to climate change
- ✓ High - Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change



Preliminary County Overall Risk Ranking

County Preliminary Relative Risk Rankings



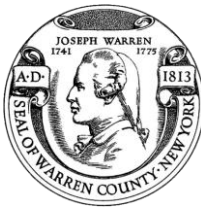


Preliminary County Overall Risk Ranking

Hazard of Concern	2021 CEPA Ranking	2023 Calculated Risk Ranking	2017 Risk Ranking	2023 Adjusted Ranking
Earthquake	Low	Low	High	Medium
Extreme Temperature	-	Medium	-	Medium
Flood	Very High	Low	Medium	Medium
Severe Storm	Medium	High	High	High
Severe Winter Storm	High	High	High	High
Wildfire	Medium	High	High	High
Infestation	-	Medium	Medium	Medium
Dam Failure	-	High	-	High
Disease Outbreak/Pandemic	Medium	Low	Medium	Medium

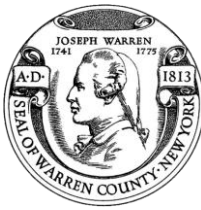
* Potential adjustments

Municipal Level Risk Ranking (Preliminary)



Hazard Ranking									
Municipality	Earthquake	Extreme Temps	Flood	Severe Storm	Severe Winter Storm	Wildfire	Infestation	Dam Failure	Disease Outbreak
Bolton (T)	Low	Medium	Low	High	High	Medium	Medium	High	Medium
Chester (T)	Low	Medium	Medium	High	High	Low	Medium	High	Low
Glens Falls (C)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Hague (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Horicon (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Johnsburg (T)	Low	Medium	Low	High	High	Low	Medium	High	Medium
Lake George (T)	Low	Medium	Low	High	High	High	Medium	Medium	Medium
Lake George (V)	Low	Medium	Low	High	High	High	Medium	Low	Low
Lake Luzerne (T)	Medium	Medium	Medium	High	High	Medium	Medium	Medium	Low
Queensbury (T)	Medium	Medium	Medium	High	High	High	Medium	Medium	Low
Stony Creek (T)	Medium	Low	Low	High	High	Low	Medium	Medium	Low
Thurman (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Warrensburg (T)	Medium	Medium	Medium	High	High	High	Medium	Medium	Low
Warren County	Medium	Medium	Medium	High	High	High	Medium	High	Medium

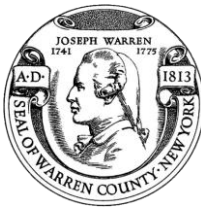
* adjusted



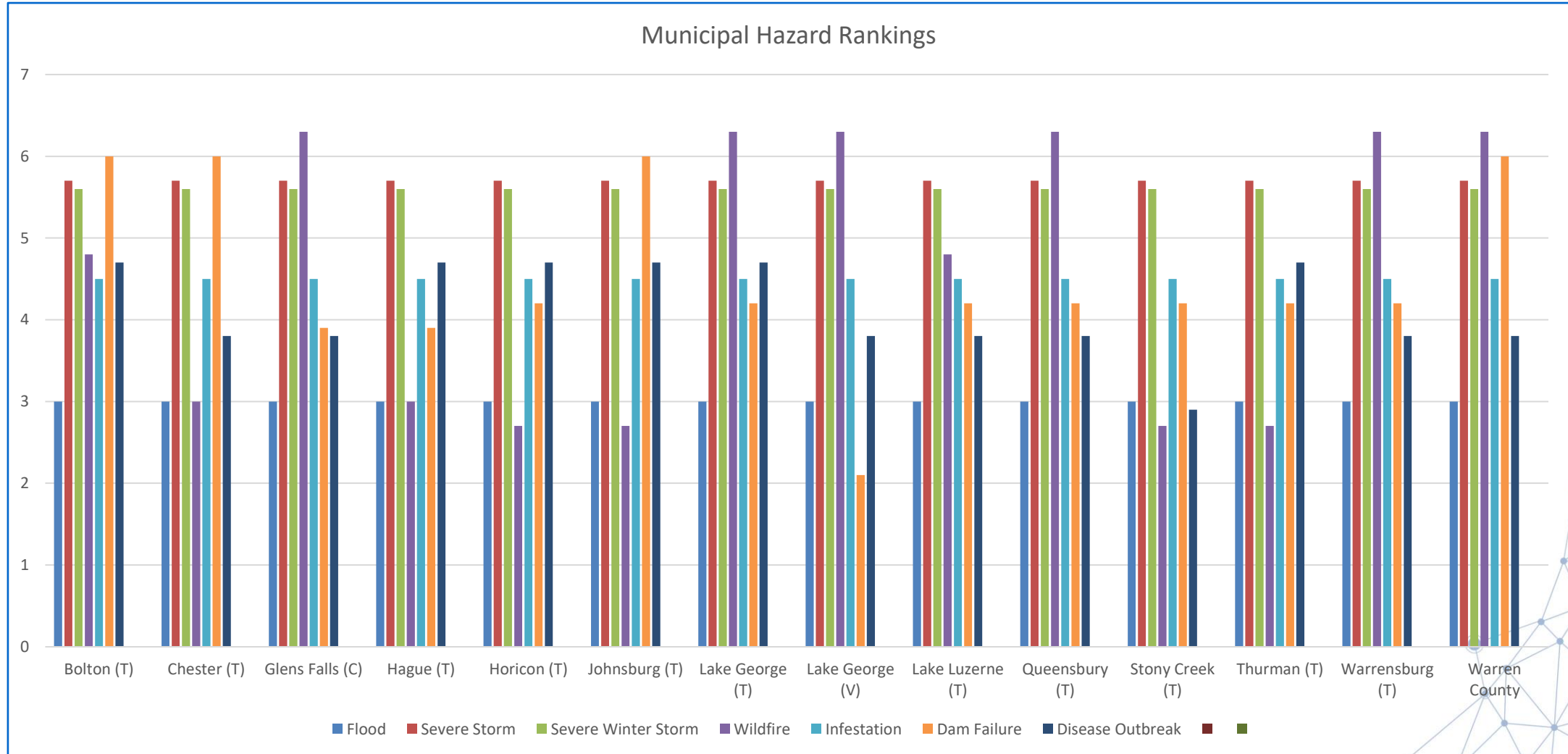
Public Input: Flood Hazard Events

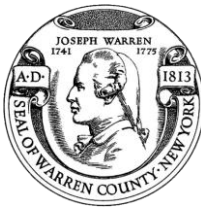
In the past 10 years, which of the following hazard events have you experienced in Warren County? Check all that apply.





Preliminary Hazard Ranking – Warren County



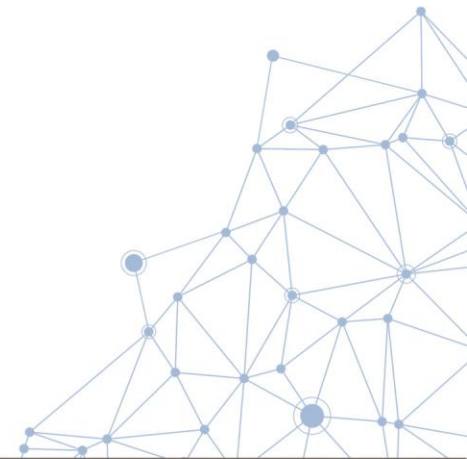


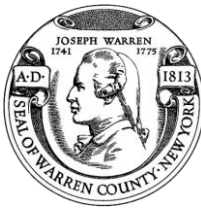
Earthquake

- Number of Events

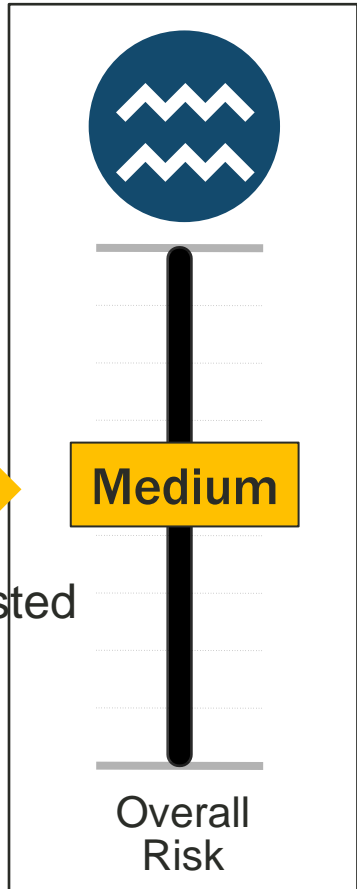
- 189 earthquakes epicentered in NYS with 4 epicentered in Warren County, per 2015 NYS HMP, between 1973 and 2014
- Faults are located within the County
- Individual Assistance (IA) declared for EMA declarations DR-1415 in Warren County (5/16/2002)
- Impacts
- 2 earthquake scenarios: 500-yr and 2500-yr events
- People and structures located in areas with soils more susceptible to earthquakes

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Earthquake



Probability of Occurrence: Rare



Impact on Population: Medium

65.6% of population is exposed and vulnerable (NEHRP D & E soils)



Impact on Property: High

48.7% of County building stock is exposed and vulnerable (NEHRP D & E soils)



Impact on Economy: Low

\$1.9% of Structural Replacement Cost Value damaged

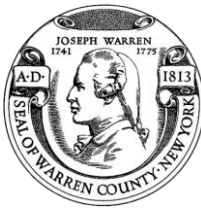


Adaptive Capacity: Medium for all municipalities

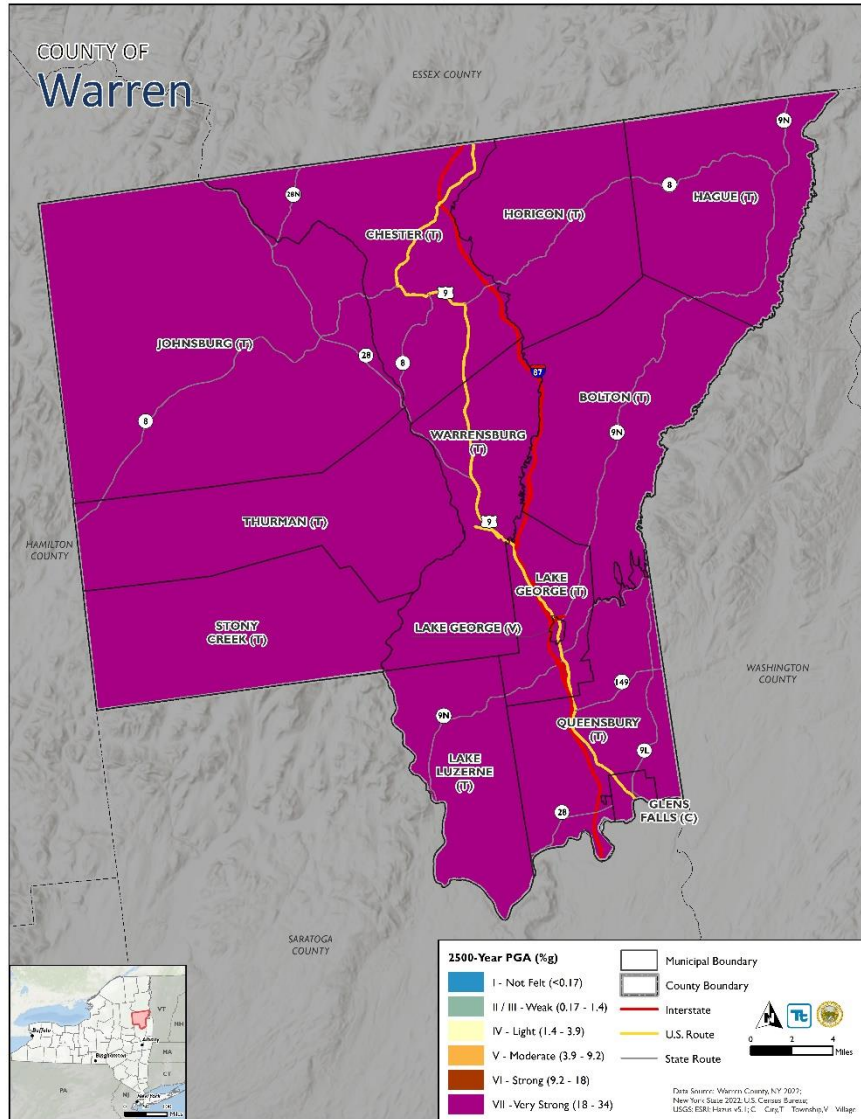


Climate Change: Low for all municipalities

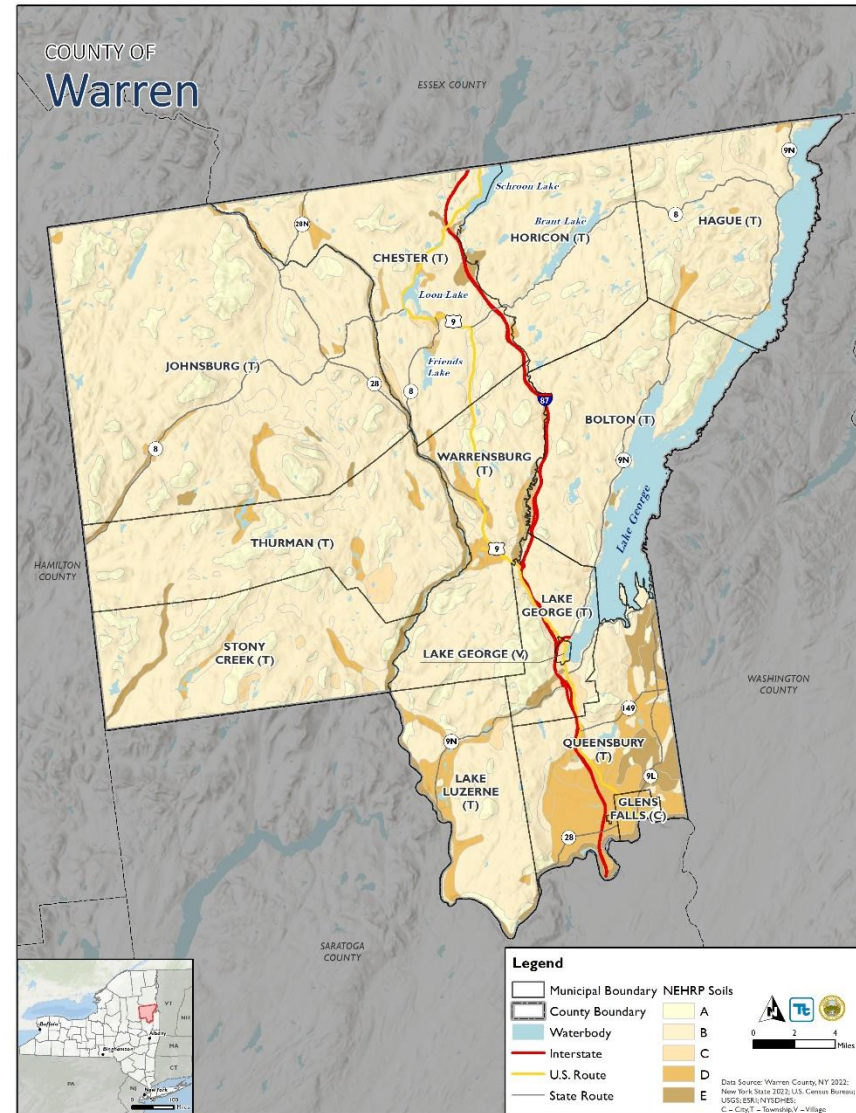


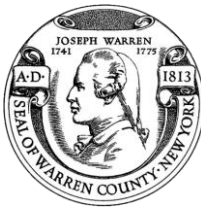


Peak Ground Acceleration



NEHRP Soil Class

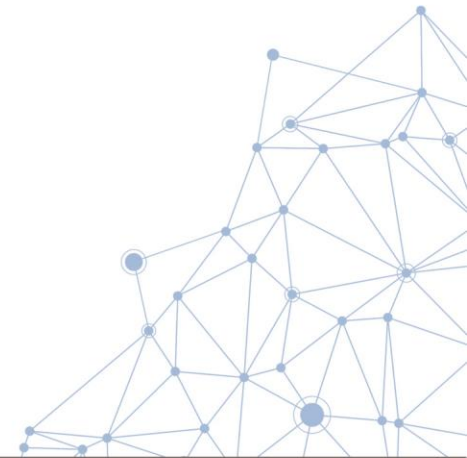


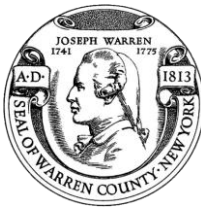


Flood

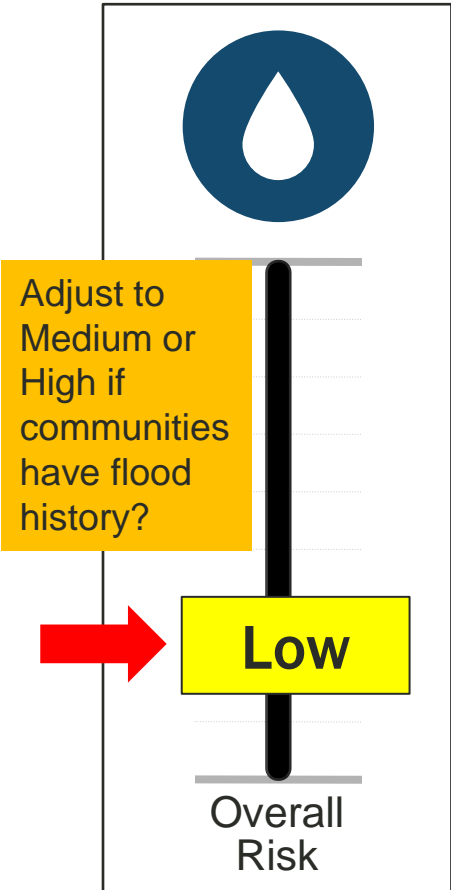
- Previous Events
 - Riverine, flash, and stormwater flooding
 - Between 2000 and 2022, Warren County included in 2 FEMA flood-related declarations.
 - FEMA-DR-1993 (Severe Storms Tornadoes, Winds and Flooding) – April 26, 2011
 - FEMA-DR-4129 (Severe Storms, and Flooding) – July 2013
- Exposure
 - People and property located in the 1% annual chance flood area

Warren County
Ranking
LOW





Countywide Preliminary Risk Ranking: Flood



Probability of Occurrence: Occasional or Frequent



Impact on Population: Low

1,385 people (2.1% of the population) in the SFHA



Impact on Property: Low

1,252 buildings (3.1% of total County buildings) in the SFHA; 1 Rep Loss



Impact on Economy: Low

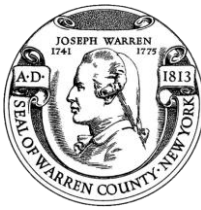
\$721 M Replacement Cost Value (RCV) (3% of County total RCV) located in the Regulatory Floodplain



Adaptive Capacity: Medium for all municipalities

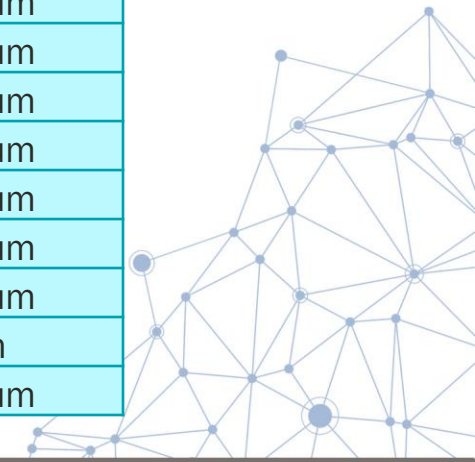


Climate Change: High for all municipalities

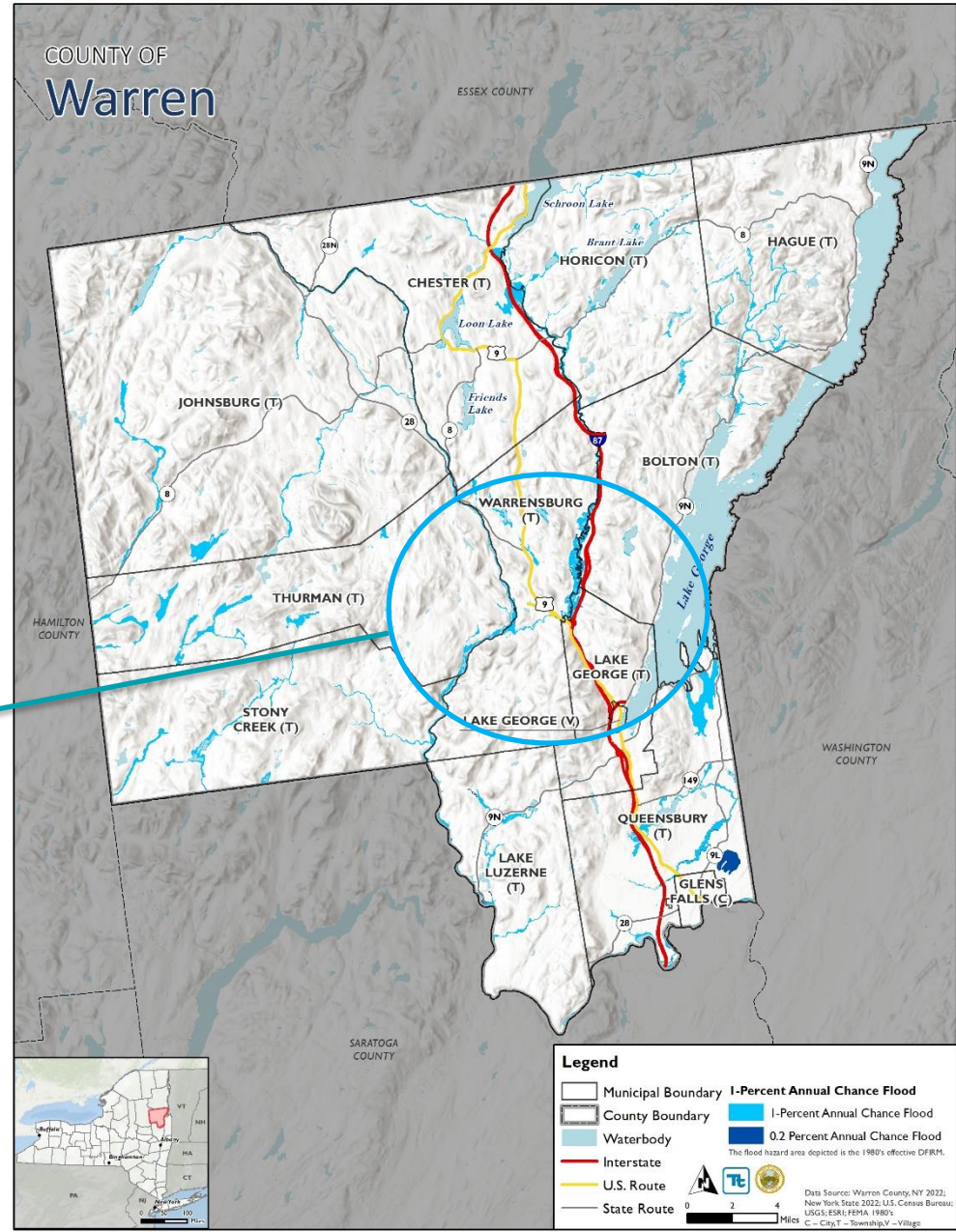


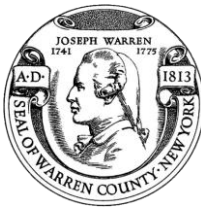
Preliminary 2023 vs. 2017 Rankings (Flood)

Warren County Municipality	IMPACT ON POPULATION	IMPACT ON PROPERTY	IMPACT ON ECONOMY	RISK RANKING	RISK RANKING
	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Percent of Total Buildings in 1% Flood Area	Percent of Total GBS RCV	2023 Estimated	2017
Bolton (T)	6.5%	6.6%	6.5%	Low	Medium
Chester (T)	8.5%	8.2%	7.6%	Low	Medium
Glens Falls (C)	0.0%	0.1%	1.0%	Low	Medium
Hague (T)	7.1%	7.0%	3.2%	Low	Medium
Horicon (T)	5.2%	5.2%	7.2%	Low	Medium
Johnsburg (T)	2.3%	2.4%	3.8%	Low	Medium
Lake George (T)	2.6%	2.5%	1.0%	Low	Medium
Lake George (V)	0.2%	1.1%	1.2%	Low	Medium
Lake Luzerne (T)	6.5%	6.3%	3.6%	Low	Medium
Queensbury (T)	1.3%	1.4%	2.1%	Low	Medium
Stony Creek (T)	3.0%	3.2%	3.8%	Low	Medium
Thurman (T)	0.7%	0.8%	0.5%	Low	Medium
Warrensburg (T)	3.7%	3.9%	2.7%	Low	High
Warren County	2.1%	3.1%	3.0%	Low	Medium

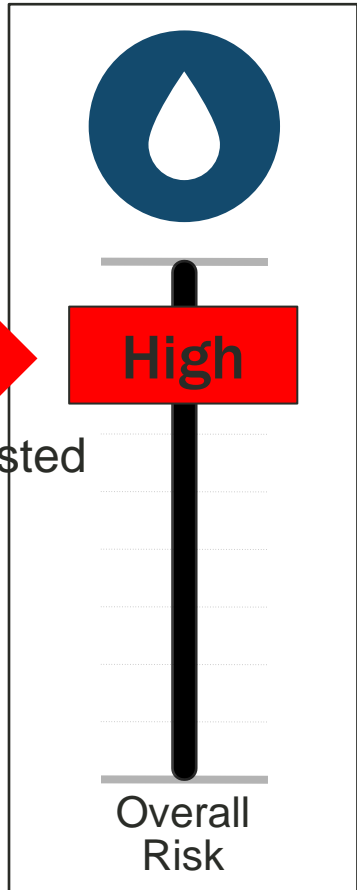



Flood Hazard Areas





Countywide Preliminary Risk Ranking: Dam Failure



 **Probability of Occurrence: Rare**

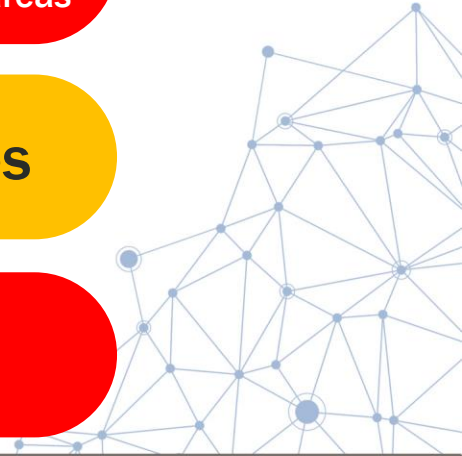
 **Impact on Population: High**
216 people in inundation areas

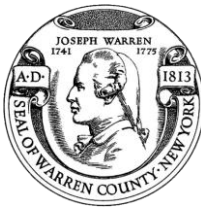
 **Impact on Property: High**
254 buildings (0.6% of total County buildings) located in inundation areas

 **Impact on Economy: High**
\$130 M Replacement Cost Value (RCV) (0.5% of County total RCV) in inundation areas

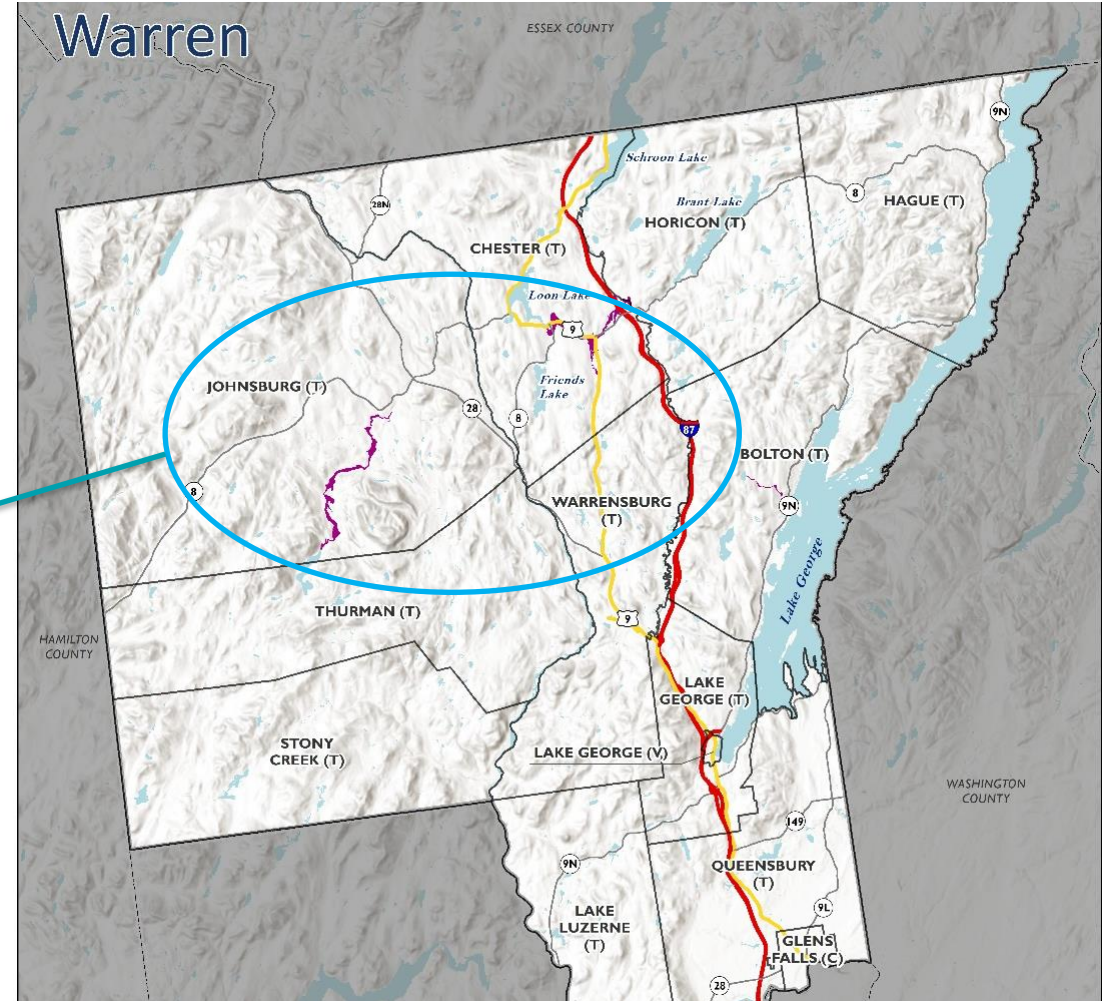
 **Adaptive Capacity: Medium for all municipalities**

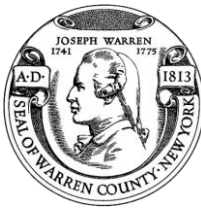
 **Climate Change: High for all municipalities**





Dam Inundation Areas





Severe Storm

- Previous Events

- Hazard includes lightning, hail, and windstorms
- FEMA-DR-4472 (Severe Storms, Straight-line Winds and Flooding) – October 2019
- Between 2016 and 2022, Warren County was included in 1 FEMA severe storm-related declaration.
- According to the NOAA, 5 tornado events took place in Warren County between 1950 and 2022

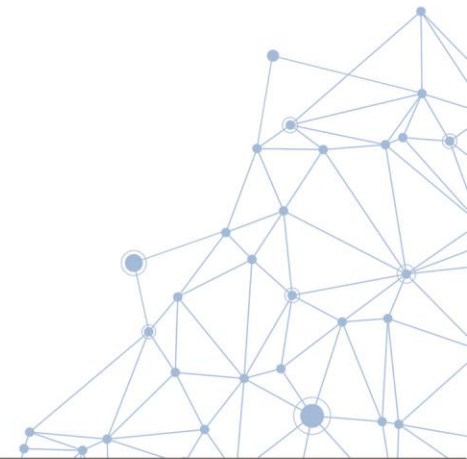
- Exposure

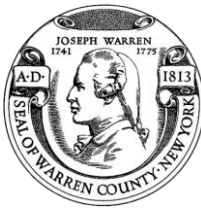
- Population and property exposed to 100-year peak wind gusts (Tropical Storm-39 to 73 mph) and 500-year (Tropical Storm speeds)
- All people and property exposed and vulnerable

- Potential Impacts

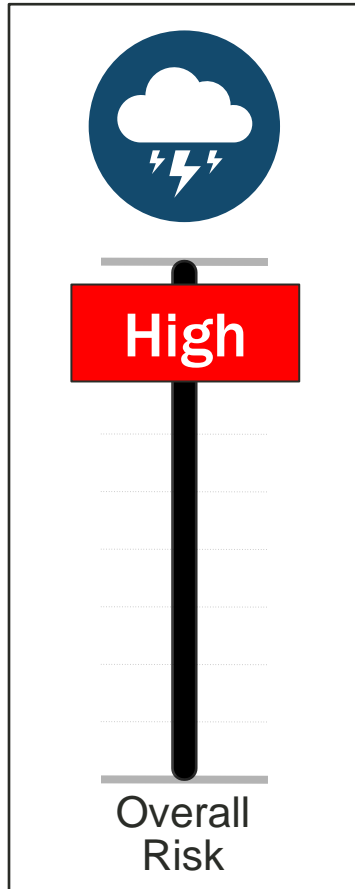
- Power outages
- Critical facility and infrastructure damage

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable



Impact on Economy: Low

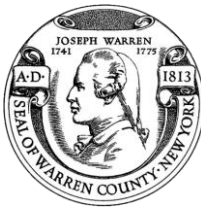
\$4.8 M (less than 1%) general building stock loss for a 500-year event



Adaptive Capacity: High for all municipalities



Climate Change: High for all municipalities

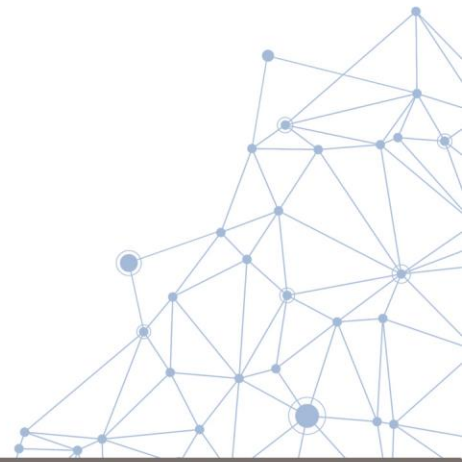


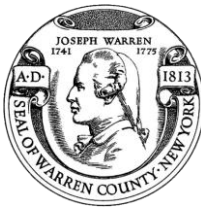
Wildfire

- Previous Events

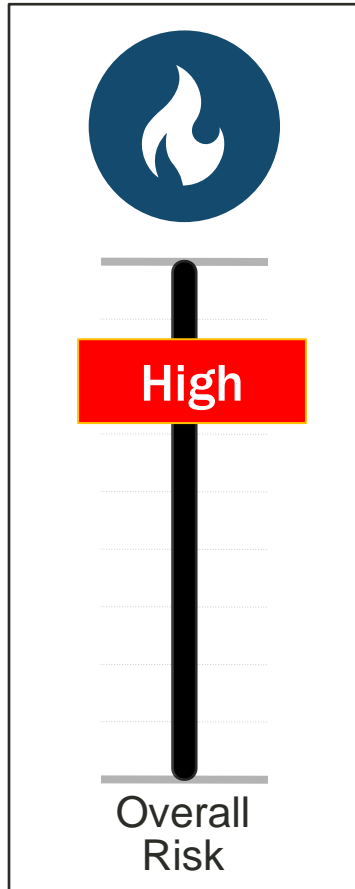
- The NYS HMP identified wildfire as a hazard of concern for New York State, however the daily probability of a wildfire event for the state is .09 percent.
- Warren County was included in one FEMA fire declaration; however, it was a manmade terrorist attack.
- According to the 2020 Warren County CEPA, the wildfire hazard is ranked medium.
- Exposure
- People and property located in Wildfire Urban Interface WUI.







Warren County
Ranking
HIGH

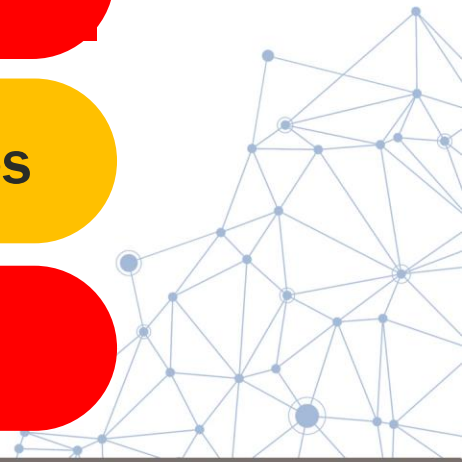




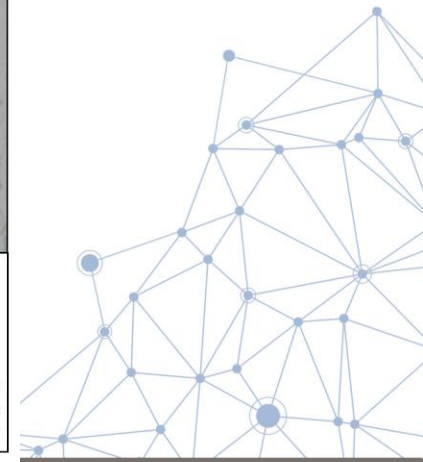
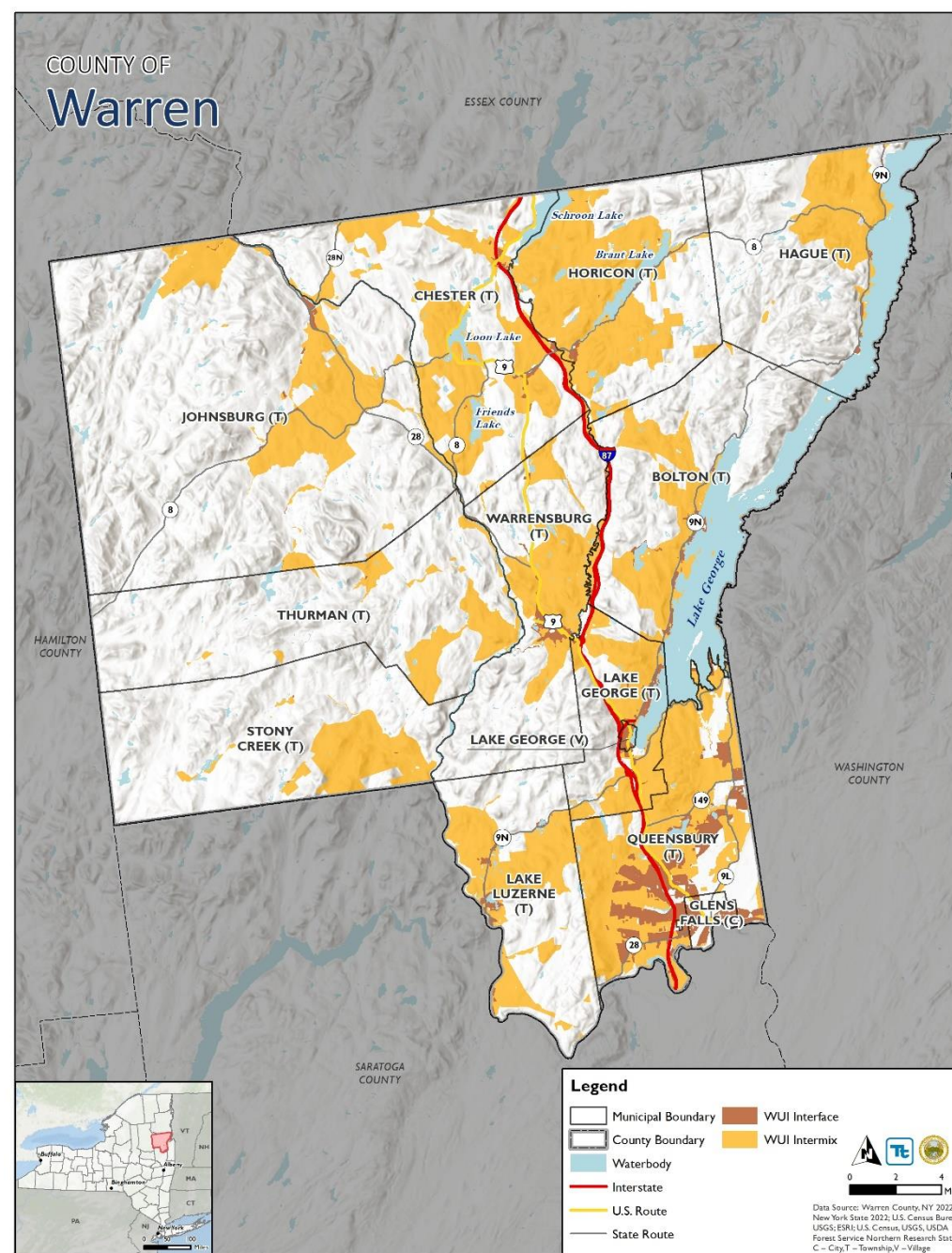
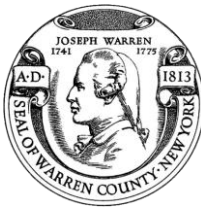
Countywide Preliminary Risk Ranking: Wildfire

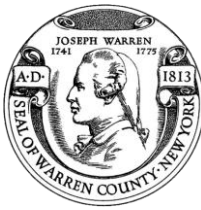


-  **Probability of Occurrence: Occasional**
-  **Impact on Population: High**
44.4% of population exposed to the WUI Interface
-  **Impact on Property: High**
14,488 buildings (35.9 % of County total) exposed to WUI Interface
-  **Impact on Economy: High**
\$8.6M in RCV 35.4% of County total) exposed to WUI Interface
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**



Wildland Urban Interface/ Intermix Area

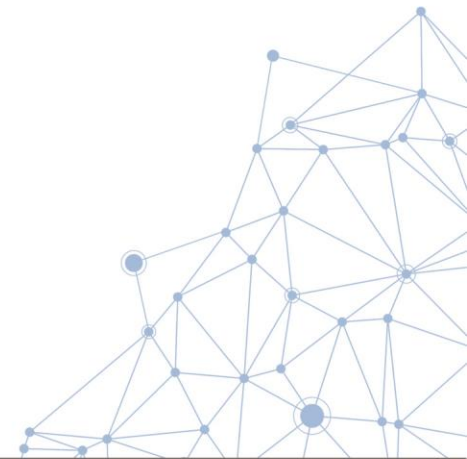


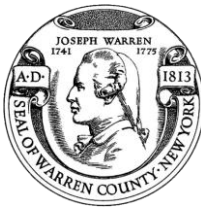


Severe Winter Storm

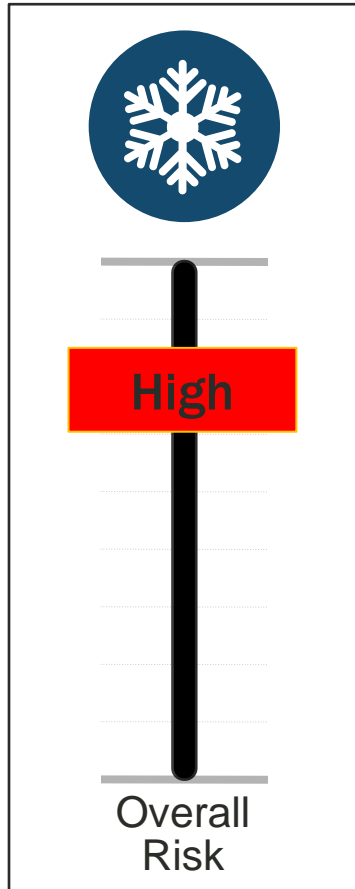
- Hazard includes heavy snow, blizzards, ice storms
- Previous Events
 - FEMA included Warren County in one winter storm-related disaster declaration
 - FEMA-EM-3107 (Severe Blizzard) – March 1993
- Exposure
 - All people and property exposed and vulnerable
- Potential Impacts
 - Power outages
 - Critical facility and infrastructure damage
 - Transportation interruptions/accidents

Warren County
Ranking
HIGH






Countywide Preliminary Risk Ranking: Severe Winter Storm



 **Probability of Occurrence: Frequent**

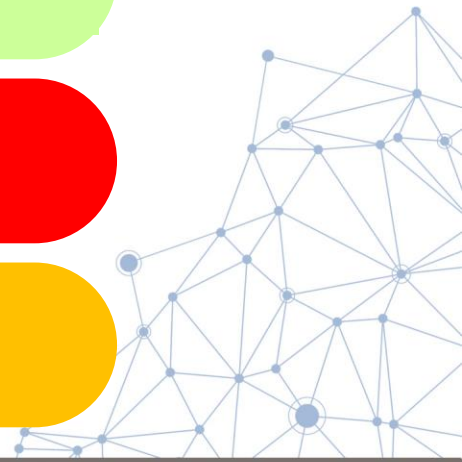
 **Impact on Population: High**
Entire population is exposed and vulnerable

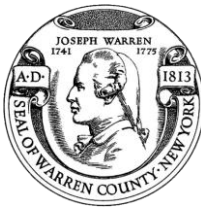
 **Impact on Property: High**
Entire building stock is exposed and vulnerable; however, impacts are minimal

 **Impact on Economy: Low**
\$1.2M (5%) potential losses to building stock

 **Adaptive Capacity: High for all municipalities**

 **Climate Change: Medium for all municipalities**



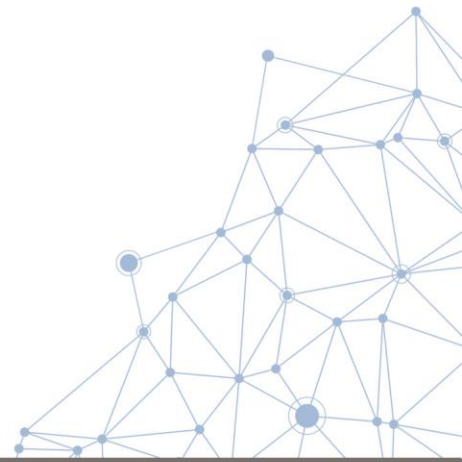


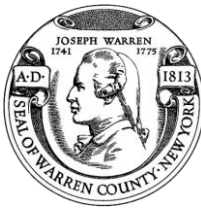
Disease Outbreak/Pandemic

- Previous Events

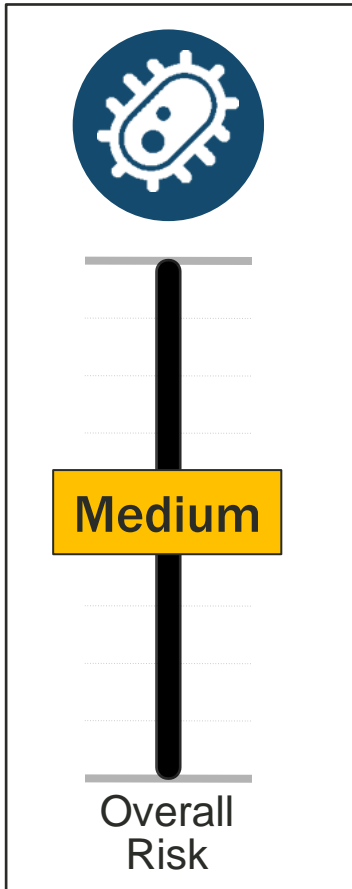
- According to the 2020 Warren County CEPA, the pandemic hazard is ranked medium.
- The County has been impacted by the COVID-19 pandemic (DR-4480).
- The County has been impacted by various diseases (COVID-19, West Nile Virus, Lyme disease)
- Exposure
 - Entire County is exposed and vulnerable; however, not occurring multiple times a year with significant impacts
 - Severe events can lead to staffing and bed shortages in hospitals

Warren County
Ranking
MEDIUM






Countywide Preliminary Risk Ranking: Disease Outbreak



 **Probability of Occurrence: Occasional**

 **Impact on Population: Medium**
(14,754 County residents are 65+ years and 2,850 >5 years (26.8 % of County population))

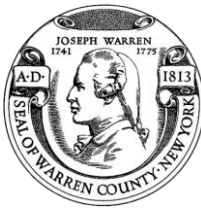
 **Impact on Property: Low**

 **Impact on Economy: Medium**

 **Adaptive Capacity: Medium for all municipalities**

 **Climate Change: Medium for all municipalities**

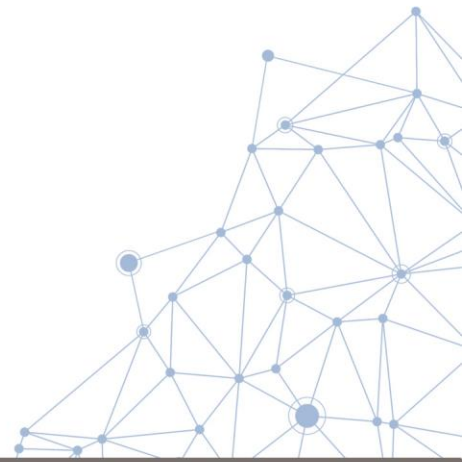


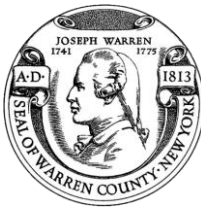


Extreme Temperature

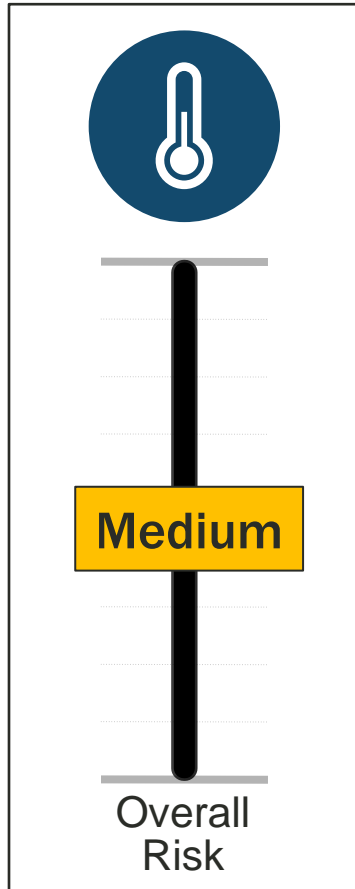
- Previous Events
 - Hot and cold events
- Exposure
 - Entire County is vulnerable
 - Increased vulnerability to populations at higher risk (65+ / <5 years old)
- Potential impacts:
 - Increased wildfire/brush fire risk
 - Impacts to agriculture/farms
 - Long-periods of warm temperatures can lead to drought conditions

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Extreme Temps



Probability of Occurrence: Occasional



Impact on Population: Medium

17,604 County residents are 65+ years old or >5 years (26.8% of County population)



Impact on Property: Low



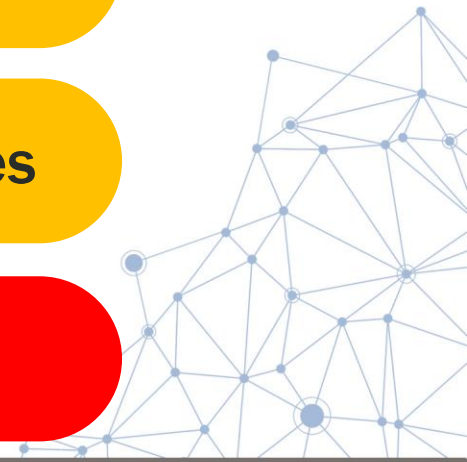
Impact on Economy: Medium

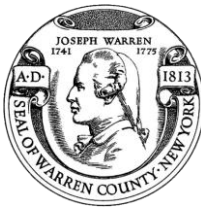


Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Infestation and Invasive Species

- Previous Events

- Beaver Dam Failure, March 2022
- Hemlock Woolly Adelgid, Lake George, 2017
- Emerald Ash Borer (EAB), Shroon River, 2022

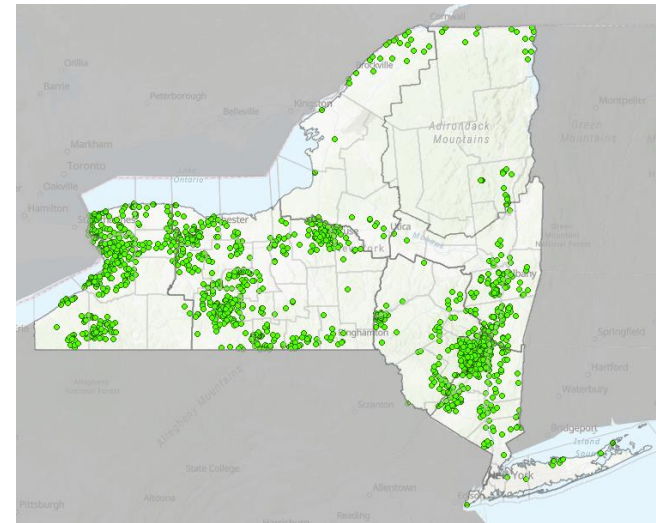
- Exposure

- Entire County is vulnerable

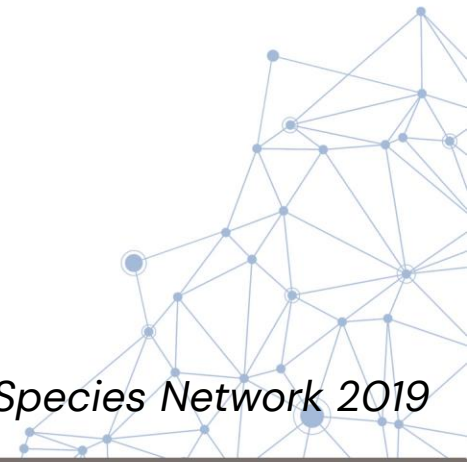
- Potential impacts:

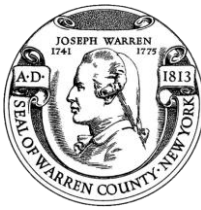
- Soil destabilization
- Increased wildfire risk
- Impacts to agriculture/farms

Warren County
Ranking
MEDIUM

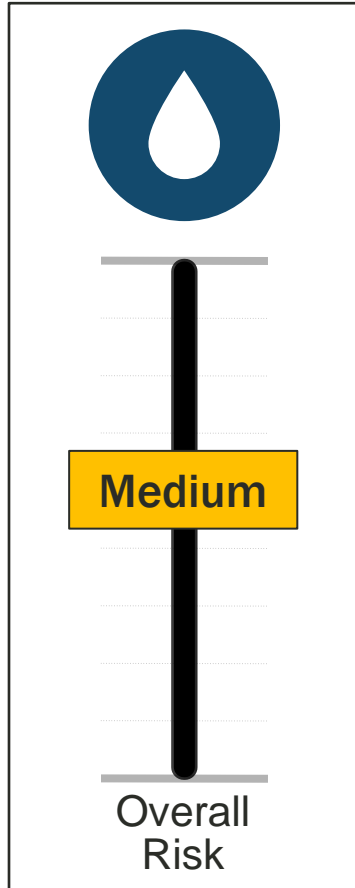


EAB – Source: New York Invasive Species Network 2019





Countywide Preliminary Risk Ranking: Infestation



Probability of Occurrence: Occasional



Impact on Population: Medium



Impact on Property: Medium



Impact on Economy: Medium

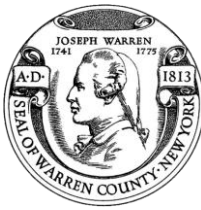


Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Next Steps

- Update Risk Assessment
 - Prepare results to present to planning partners
 - Populate adjusted results municipal annexes
 - Planning Partnership Risk Assessment Meeting: February 15, 2023
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #4 – AGENDA
MEETING DATE/TIME: March 8, 2023 – 10:00 am



- Welcome
- Progress Report
- Pending Action Items
- Public and Stakeholder Outreach
- Other Items
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	March 8, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services (OES)
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Don Lehman	Warren County Public Information Officer
Sandra LeBarron	Director of Environmental Health and Safety, Finch Pruyn
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a brief progress report and address pending action items.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:05 am • Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. • The process continues to be on track for plan submittal to FEMA in August 2023. • The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. 	
2	<p>Progress Report</p> <ul style="list-style-type: none"> • Risk Ranking worksheets due today. To date the communities that have submitted include: <ul style="list-style-type: none"> ○ Town of Lake George ○ Village of Lake George <ul style="list-style-type: none"> ○ Town of Hague - In progress ○ Town of Lake Luzerne - Requested clarification and noted worksheets in progress ○ Town of Chester - Complete and awaiting supervisor review ○ Town of Queensbury - In progress 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> • Assistance offered to the following communities via Mr. John Gibb: <ul style="list-style-type: none"> ○ Town of Chester ○ Town of Glens Falls ○ Town of Horicon ○ Town of Johnsburg ○ Town of Queensbury. 	
3	<p>Pending Action Items</p> <ul style="list-style-type: none"> • High Hazard Dam Information. Warren County OEs confirmed that dam inundation areas will be deemed confidential information and available at the Office of Emergency Services on an as needed basis. • Collection of localized flooding information. Warren County SWCD, OES, and GIS affirmed that the collection of localized flood impacts will be a collaborative mitigation action to be included in the hazard mitigation plan. • Receipt of National Flood Insurance information. Warren County OES confirmed that FEMA has provided this information. This will be incorporated into the hazard mitigation plan to assist with the identification of mitigation strategies. • Surveys targeting the public, neighboring counties, agencies, and businesses are live and will be used to provide additional input to the plan to support the identification of mitigation actions. Warren County PIO will perform another media blast to support a robust response to the surveys. To date sixty-nine responses have been received for the public survey. This represents an 87% completion rate with an average of 9 minutes to complete the survey. Respondents identified thirty areas vulnerable to hazard of concern. • Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. • Tetra Tech reminded steering committee members to access the project OneDrive site to review draft plan sections and to provide input, as necessary. 	<p>Warren County Public Information Officer to</p> <p>Tetra Tech to analyze NFIP data for inclusion in the HMP process and plan.</p>
6	<p>Upcoming Meeting</p> <ul style="list-style-type: none"> • Mitigation Strategy Workshop – March 15, 2023 (<i>Optional for Steering Committee members not affiliated with a municipality.</i>) 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



7	Next Steps <ul style="list-style-type: none">• Populate adjusted results municipal annexes• Planning Partnership Risk Assessment Meeting: February 15, 2023• Continue to engage the public• Work with the municipalities to develop mitigation strategy/actions• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	Conclusion - The meeting concluded at 10:38 am.	



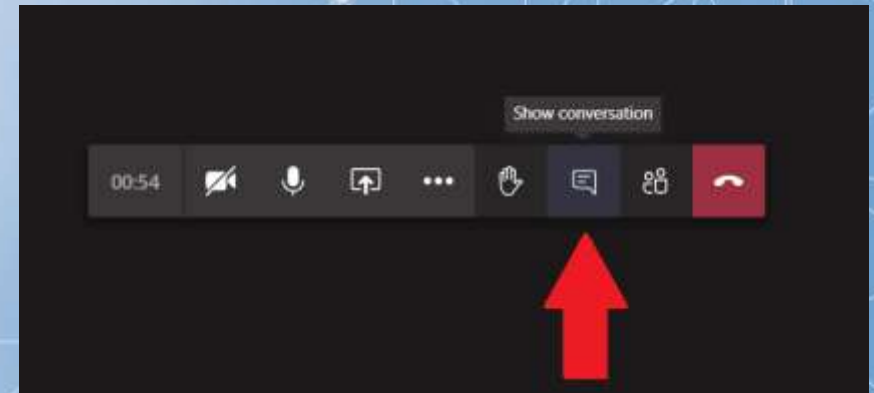
Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #4 Meeting | March 8, 2023 | 10:00 – 11:00 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.





Agenda

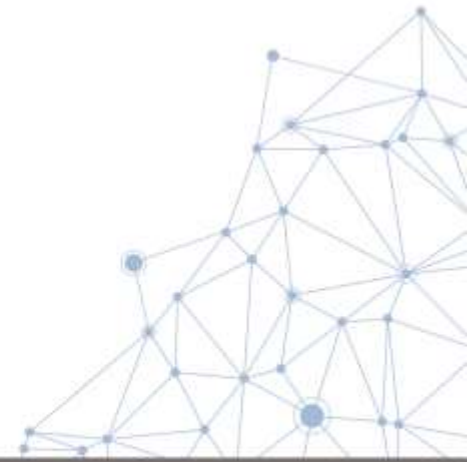
- Welcome
- Progress Report
- Pending Action Items
- Public and Stakeholder Outreach
- Other Items
- Next Steps/ Questions/ Wrap Up





Project Schedule Review

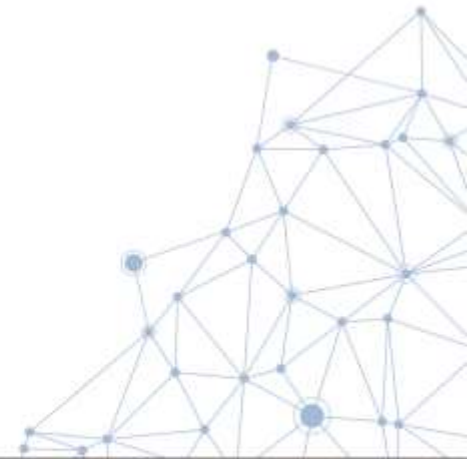
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ✓ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |





Progress Report

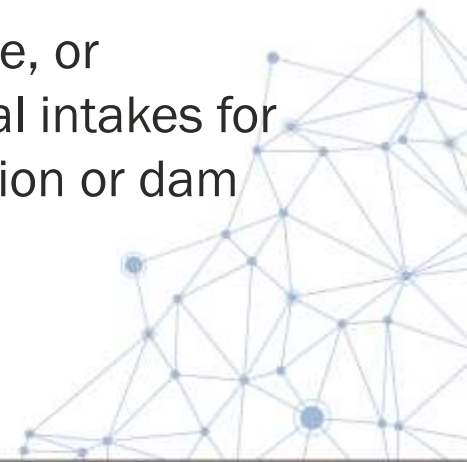
- Requested NFIP Data – *Data pending*
- Risk Ranking Worksheets due today.
 - To date these communities have submitted:
 - Town of Lake George
 - Village of Lake George
 - Town of Hague
 - In progress
 - Town of Lake Luzerne asked for clarification and noted worksheets in progress
 - Town of Chester, complete and awaiting supervisor review
 - Town of Queensbury, in progress
 - Assistance offered via Mr. John Gibb to:
 - Town of Chester
 - Town of Glens Falls
 - Town of Horicon
 - Town of Johnsbury
 - Town of Queensbury





Pending Action Items

- Pending action items:
 - Emergency Services to review the level of detail provided to the public regarding dam inundation areas.
 - Emergency Services, County GIS and SWCD to consider options to collect and map localized flood areas.
 - NFIP information receipt
- Information Request
 - Input regarding history of damages for disease outbreak, extreme heat, dam failure, or infestation hazards is requested. Examples include data/metrics regarding hospital intakes for related illnesses, impacts on workforce, or localized information regarding infestation or dam failure.

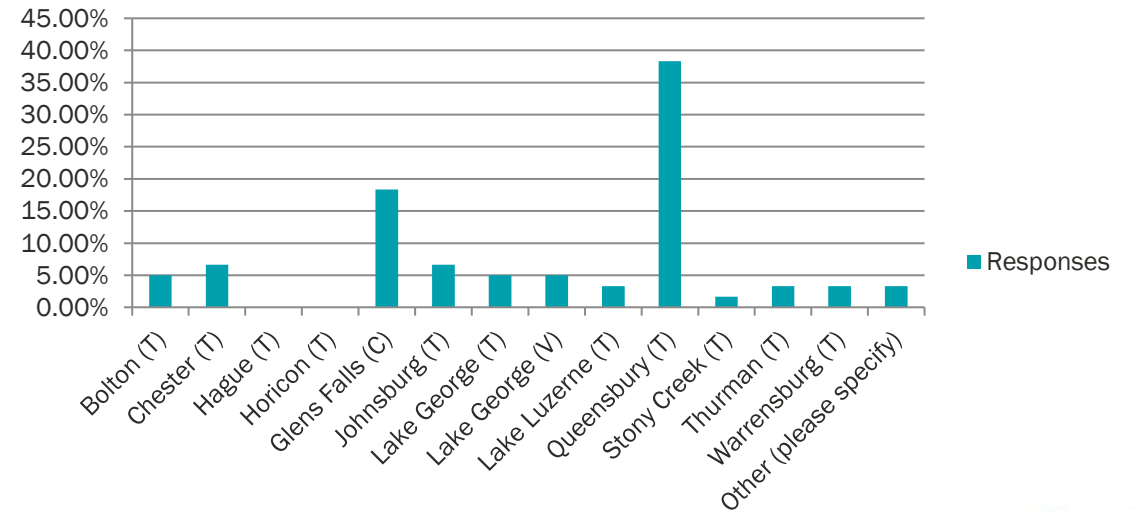




Public Survey Results

- 69 Responses
- 87% Completion Rate
- 9 Minutes to Complete (Avg)
- ~30 identified vulnerable areas/items

Please indicate the municipality in which you live:

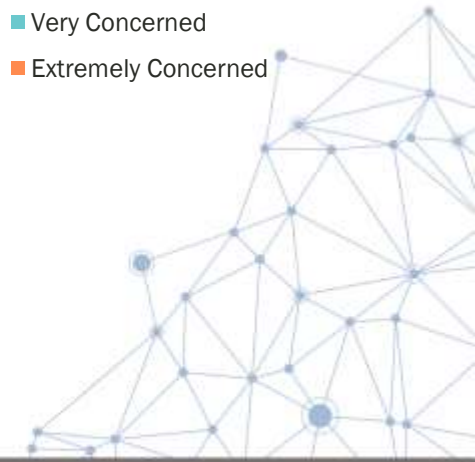
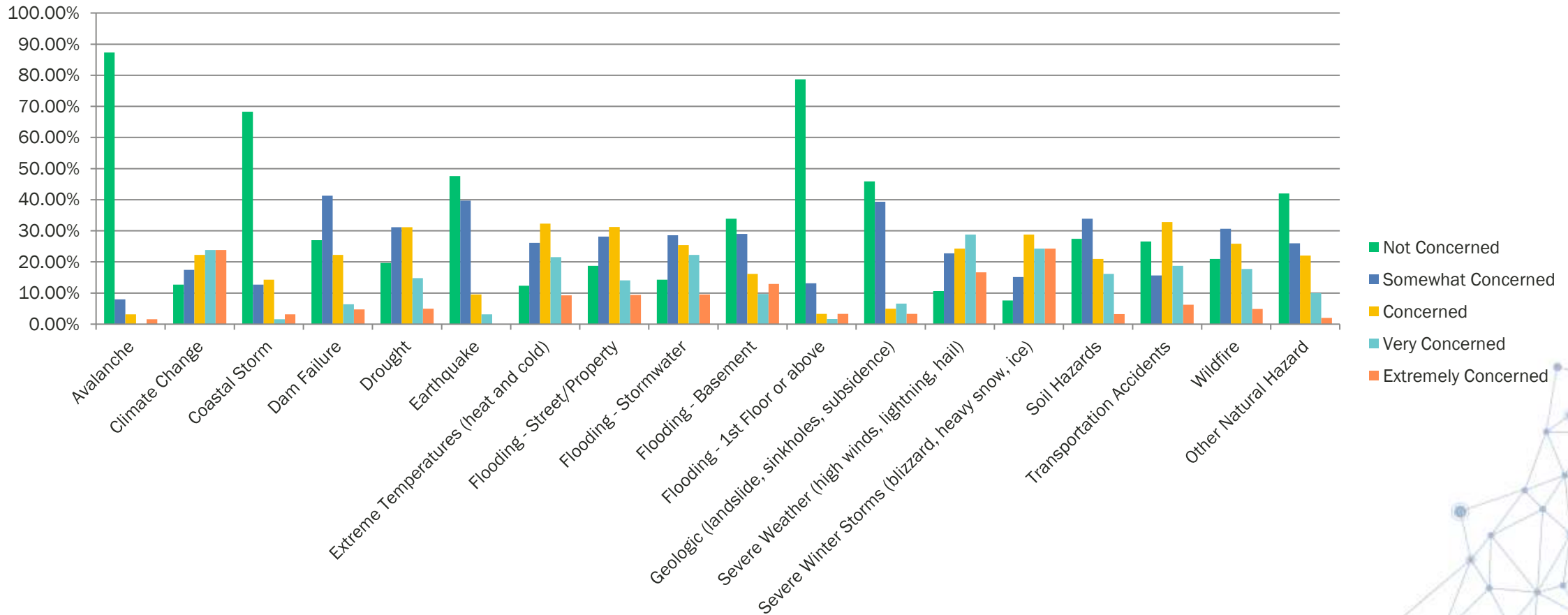


County streets Lake property Glens Falls Rd water due Road River
flood drainage trees Hudson River None ice



Public Survey Results - Hazard Concerns

How concerned are you about the following hazards in Warren County? Please check one for each hazard.





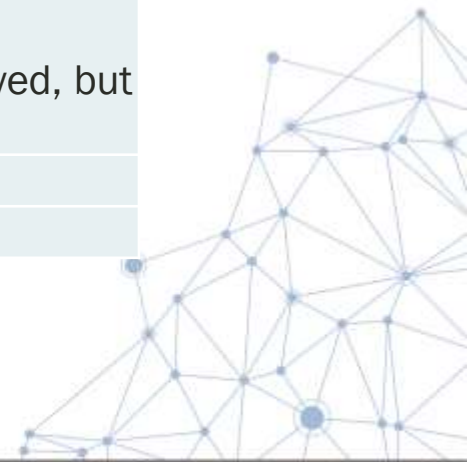
Problem Areas

- Prone to power outages from trees on lines
- General back-up power, snow/ice blockage on highways
- Floodprone area on Meadowbrook Road @ Halfway Brook
- Low water levels in Kattskill Bay Lake George due to water management practices
- Apartment building for disabled and retired with all electric heat. No on demand generator. Located at 10 Manor Rd.
- 13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.
- Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)
- Water Tank control panel without power backup
- Ice jamming on Hudson River at 418 Bridge. Flooding on River Road
- Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.
- Numerous roads and stream crossings could be subject to flood/storm damage.
- East End in Glens Falls is known for being a high water table area
- North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.
- Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.
- Lack of municipal sewer and water
- Poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.
- My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored
- C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD Johnsburg
- Loon Lake Dam, Rt 8/9, Chestertown
- ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.
- Hudson River Basin Lake Luzerne to Corinth
- We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.



Problem Areas

- Queensbury - Halfway Brook Area/flooding
Warrensburg - Schroon River Area/flooding
Chester & Horicon - Schroon River Area/flooding
- Meadowbrook rd, Qby - Flooding
- Lakeview Circle Drive Town of Lake George
- GFWWTP releasing sewage into Hudson after every heavy rainstorm.
Inadequate storm drainage on streets
- Still ZERO fragrance-free emergency shelters - I would not be able to survive in an emergency shelter due to respiratory distress when exposed to fragranced / scented products (body, laundry, cleaning, etc.)
- Power cybersecurity concern
- Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River, and includes part of the town North Creek at the train station where Teddy Roosevelt learned McKinley had died from his wound, and he was now President. The historic Train station has been preserved, but flooding of the Hudson in the spring has caused concern a number of years in the past ten.
- Thurman bridge
- Downtown Warrensburg from Schroon River flooding





In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

* Jurisdiction

Please document your time spent working on the HMP:

Date

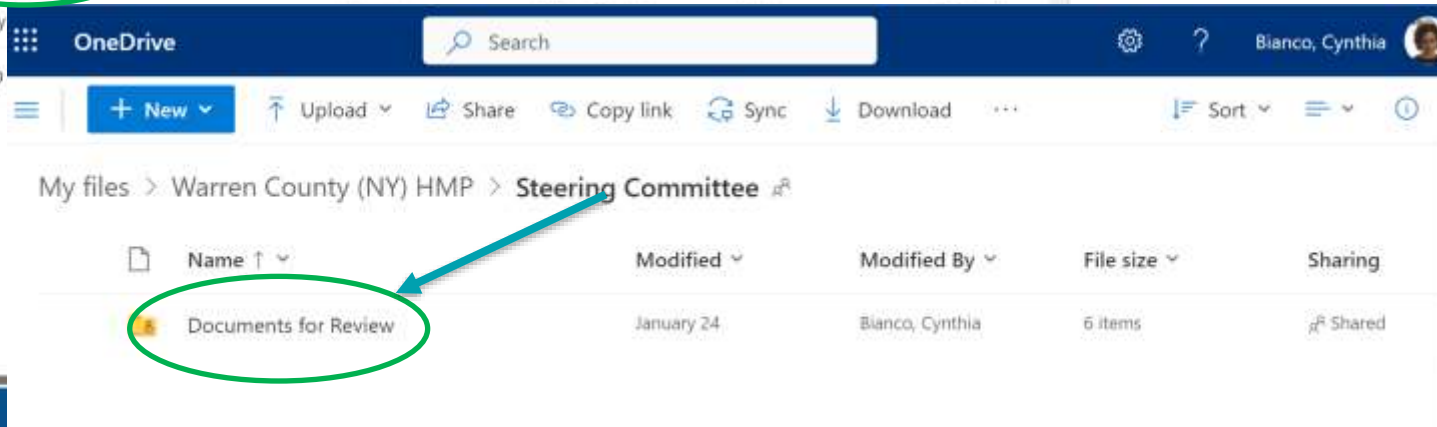
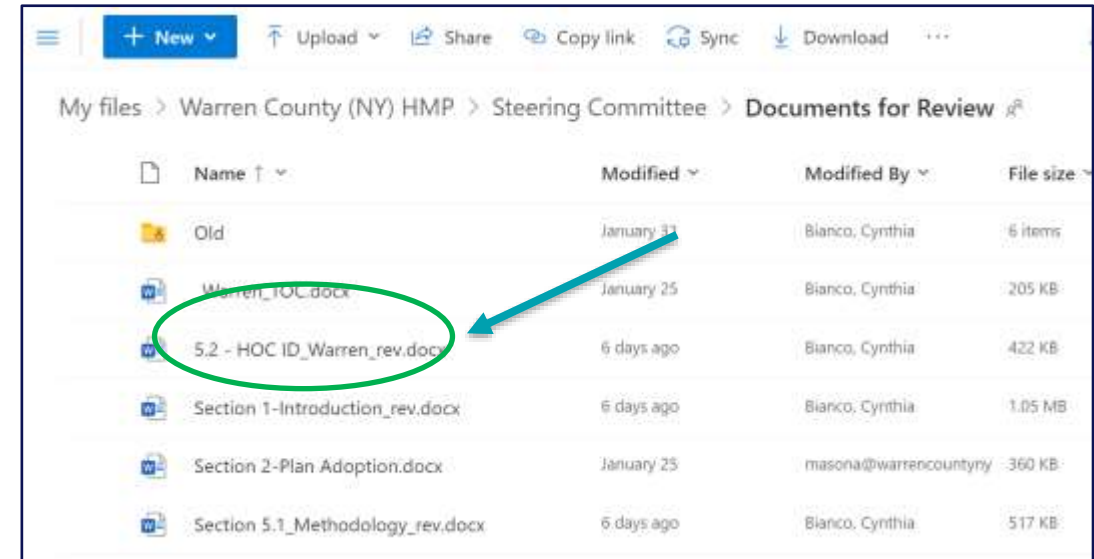
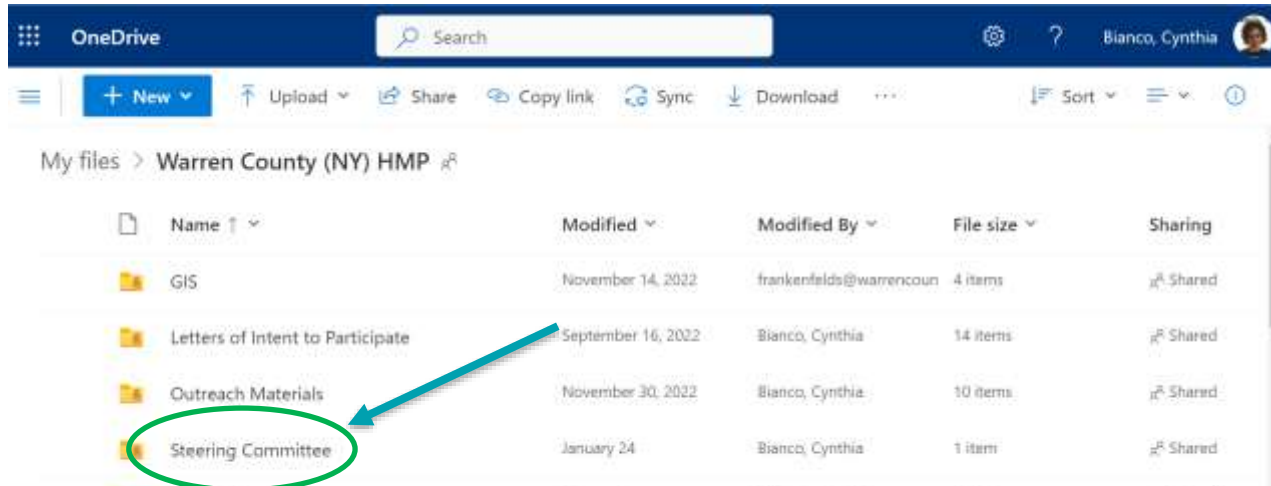
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Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes





Next Steps

- Update Risk Assessment
 - Populate adjusted results municipal annexes to support project identification
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Mitigation Strategy Workshop
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	March 15, 2023, 10:00 am

Attendees:

Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ann Marie Mason	Director, Warren County Emergency Services
Jessica Leerkes	Engineer, Town of Chester
Dan Barusch	Town/Village Lake George, Planner
Keith Lanfear	Village of Lake George
Craig Leggett	Supervisor, Town of Chester
Tammie DeLorenzo	Assistant to the County Administrator, Warren County
Michael Geraci	Supervisor, Town of Horicon
Khristopher Kassay	Town of Lake Luzerne
Karen Putney	Town of Lake Luzerne, Zoning Officer
James Hull	Code Enforcement Officer, Town of Warrensburg
Ernie Dunkley	Safety Officer, Town of Johnsbury
Danae Tucker	Town of Johnsbury
John Strough	Supervisor, Town of Queensbury
Laura Moore	Planner, Town of Queensbury
Mindy Conway	Town Clerk, Town of Chester
Betsy Parmerter	NYSDHSES
Elizabeth O'Reilly	NYSDHSES
Edna Frasier	Supervisor, Town of Hague
Cathy Clark	Town of Hague
Sheila Mender	City of Glens Falls
Don Lehman	Warren County Public Information
Kevin Clapp	NYSDHSES
John Gibb	CMCG
Roland Paperman	NYSDHSES
Laura Stebbins	Glens Falls
John Wilkerson	NYSDHSES
Paul Hoole	FEMA
Ethan Gaddy	Warren County
Chris Huch	Tetra Tech, Inc.
Cynthia Addonizio-Bianco	Tetra Tech, Inc.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary: Purpose to provide guidance on identifying mitigation actions and developing a mitigation strategy		
Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:05 am • 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> • Mr. Lieberum reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • Warren County reminded municipalities to submit documentation of in-kind hours to support the obligations related to the planning grant funding. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. 	<p>Action: Submit documentation of hours spent supporting the mitigation planning process, including hours spent to provide data, review documents, provide updates to communities.</p>
3	<p>Developing Mitigation Strategies</p> <ul style="list-style-type: none"> • Tetra Tech reviewed risk reduction strategies as included in the presentation (attached). • Regarding mitigation project details, in addition to the mitigation project matrix, Tetra Tech recommends at least two action worksheets for grant eligible projects. If a community has repetitive or severe repetitive loss properties, these should be addressed with an action worksheet. • Tetra Tech distributed brainstorming worksheets to kick-start the development of problem statements. In addition, they provided all communities with pre-populated Action Worksheets for some initial projects. 	
4	<p>Development of Actions and Action Worksheets. Tetra Tech reviewed the following guidelines for the content of Action Worksheets:</p> <ul style="list-style-type: none"> • Projects should have a strong connection to the risk assessment • Projects should be specific in time, place, and location • Projects should be diverse in nature • Communities have been provided a Mitigation Catalog • Project descriptions to include consideration of priorities, integration with existing programs, timelines, benefits, and costs• 	
5	<p>Next Steps</p>	<p>Schedule a support meeting with Tetra Tech to complete your community annex.</p>



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">• To enable those who could not participate, a video of the presentation is available online for review here: Warren County Mitigation Workshop Video• Continue to engage the public• Develop mitigation strategy/actions: March 2023• Email chris.huch@ttratech.com to schedule a support meeting with Tetra Tech to complete your community annex.	
6	Conclusion - The meeting concluded at 11:14 am.	



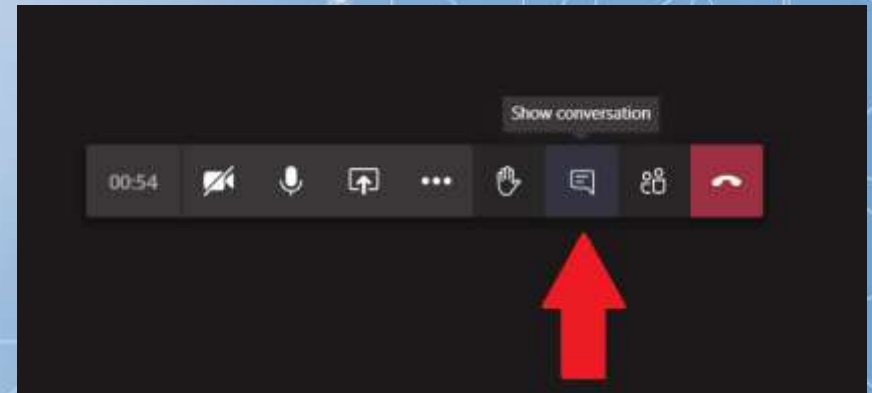
Warren County, New York Hazard Mitigation Plan – 2023 Update

Mitigation Workshop | March 15, 2023 | 10:00 – 11:30 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.





Agenda

1. Introductions
2. In-Kind Tracking Reminder
3. Hazard Mitigation Refresher
4. Project Status
5. Developing Mitigation Strategies – NYS DHSES, FEMA
6. Updating Previous Actions
7. Using Mitigation Development Worksheets to Select Your Actions
8. Action Worksheets
9. Next Steps





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* Title

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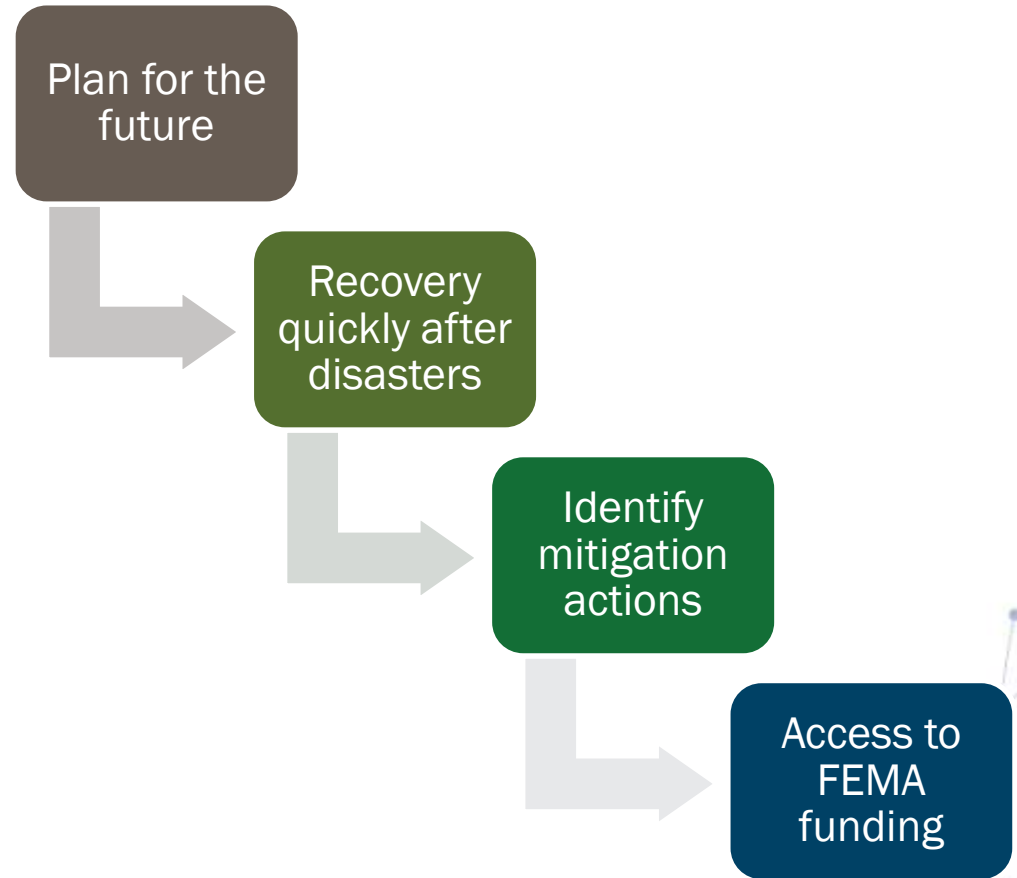
Date

#Hours





Hazard Mitigation – What is it?





Why are we spending valuable time on this?

Hazard Mitigation Works!

- For every \$1 spent on hazard mitigation, saves the U.S. \$6 in future disaster costs!
- More than just money – it could prevent 600 deaths and 1 million non-fatal injuries!

**More Mitigation Measures,
More Savings**



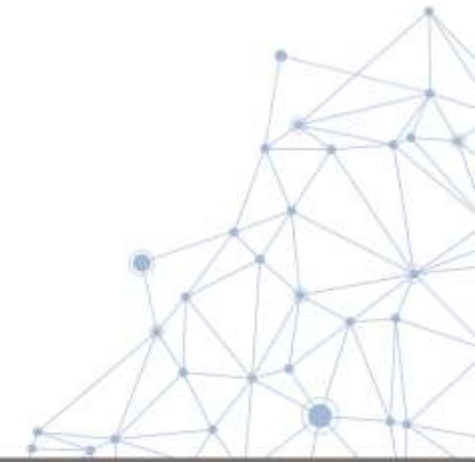
**One dollar invested in mitigation =
six dollars U.S. saves in future costs**





Our Schedule

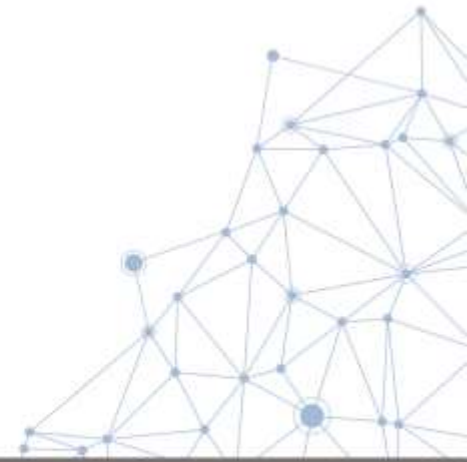
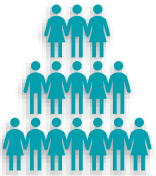
Task	Date
Data Collection	Complete
Update Hazard Profiles	Complete
Risk Assessment	Complete
Risk Results Presentation	Complete
Mitigation Strategy Workshop	March 15, 2023 – TODAY!
Review Draft Plan	May 2023
Public Review of Plan	June/July
Submit to NYSDHSES	July/August
Submit to FEMA	September/October 2023





Public Outreach and Engagement

- Check out the HMP website - <https://www.warrencountynewyorkhmp.com/>
- Post links on social media and department/agency websites
- Citizen, stakeholder and neighboring county surveys distributed, as of 3/10/23:
 - Citizen Survey: 71 responses
 - Stakeholder Survey: 9 responses
 - Neighboring County Survey: 1 response
 - *All responses relating to your jurisdiction are included in your updated Annex*



Mitigation Strategy





2023 HMP Hazards of Concern

- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- Dam Failure
- Infestation and Invasive Species
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

A community must include at least one mitigation action for each hazard that is deemed to have a significant impact on the community.

For hazards with minimal or no perceived impact to a community, a statement must be included in the annex to indicate why the community has not address any hazards with a mitigation action.



Risk Reduction Examples

To Reduce Risk:

- **Manipulate the Hazard:**
 - Structural flood control
- **Reduce/Eliminate Exposure:**
 - Property acquisition
- **Reduce Vulnerability:**
 - Retrofit existing structures
- **Increase Capability:**
 - Preparation, technical assistance, planning, enforcement





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
- 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 of the plan.
TWO of your actions must be detailed on Action Worksheets



FEMA Mitigation Action Types



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



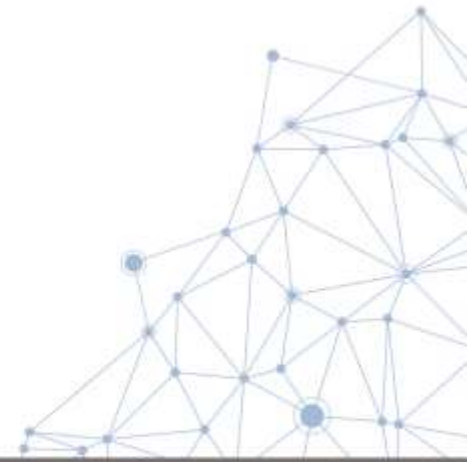
Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.





NYS Requirements for Mitigation Strategy Update

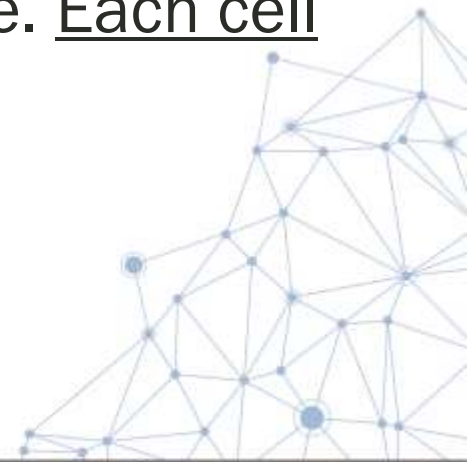
- **Need to develop at least 2 Action Worksheets**
- **If jurisdiction has a regulatory floodplain then one worksheet must address flooding**
 - [if the jurisdiction has Repetitive and Severe Repetitive Loss Properties - it is good practice to include action with details (street or neighborhood names)]
- **Critical facilities in the 100-year floodplain – must be protected to the 500-year flood event**
 - If already protected, we must note how
 - If not protected, a mitigation action must be developed
- **Plan for Climate Change and propose actions to address**





NYS Requirements for Mitigation Strategy Update

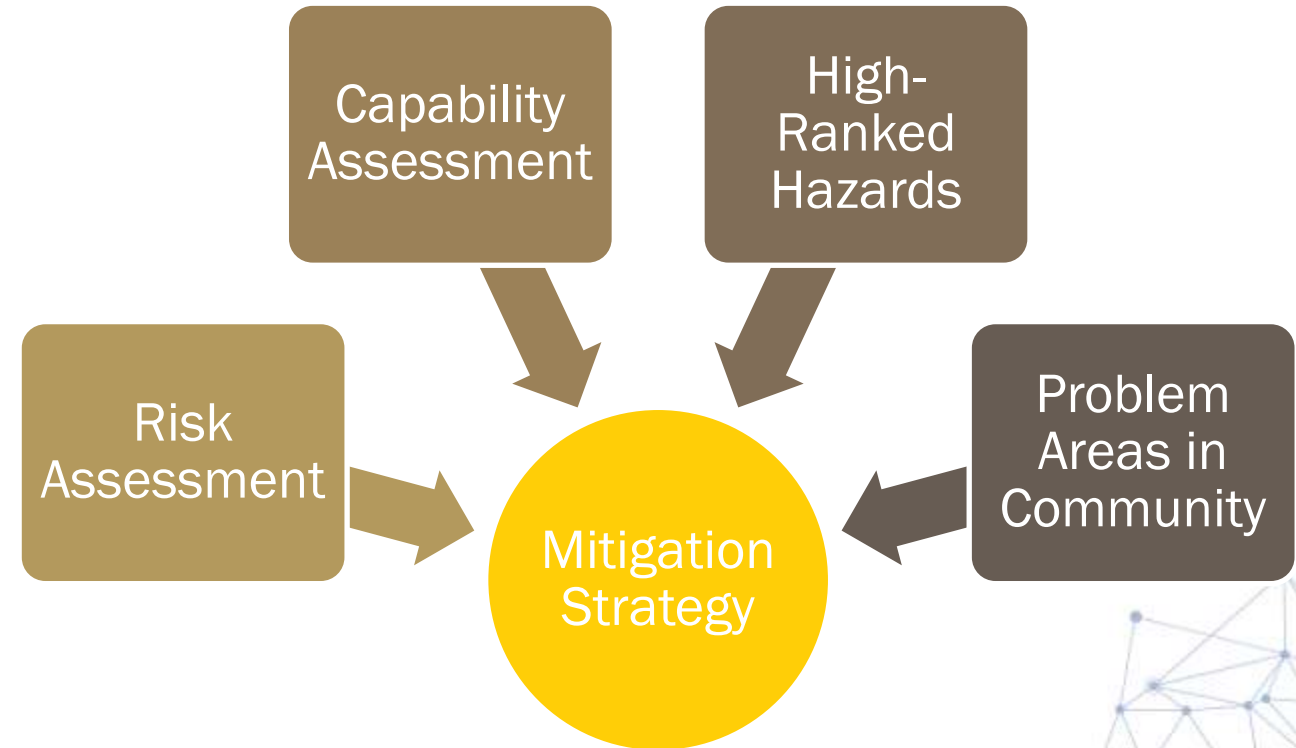
- Proposed actions MUST have specific information identified including:
 - Project lead
 - Estimated cost
 - Timeline
 - Whether the action involves a critical facility
- All required items are identified within the proposed action table. Each cell of the table MUST be filled out!



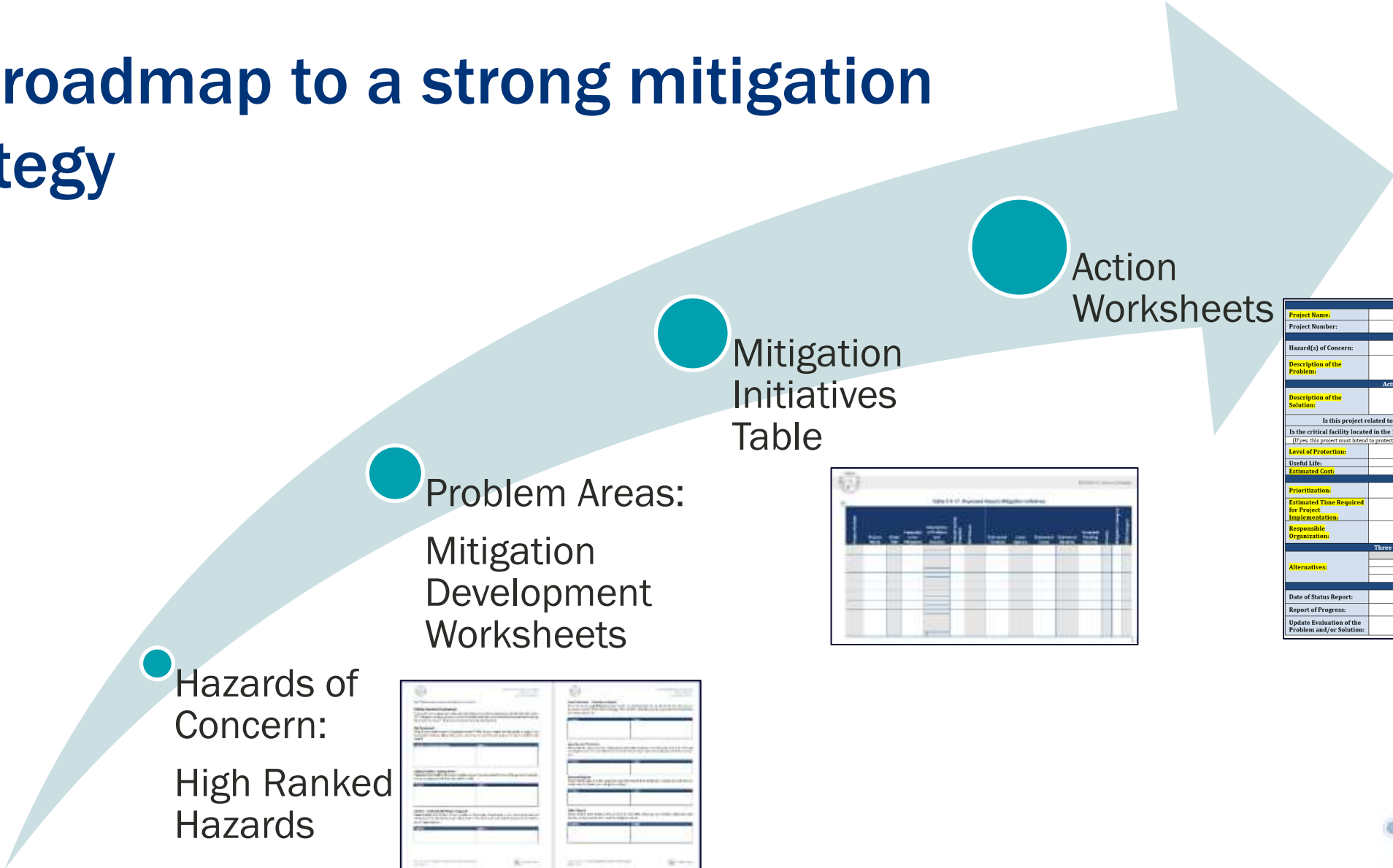


Connecting to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges/opportunities for the mitigation strategy as well.
- Provides the factual basis for activities proposed in the mitigation strategy.



The roadmap to a strong mitigation strategy



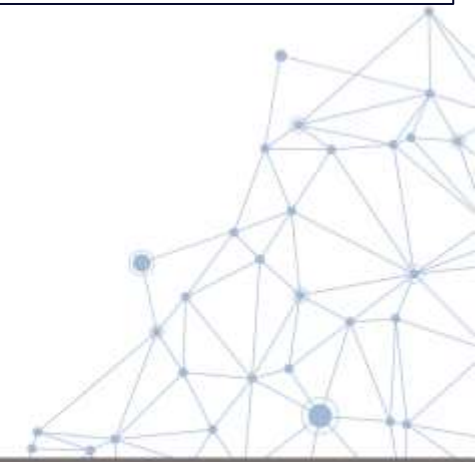
Hazards of Concern:
High Ranked Hazards

Problem Areas:
Mitigation Development Worksheets

Mitigation Initiatives Table

Action Worksheets

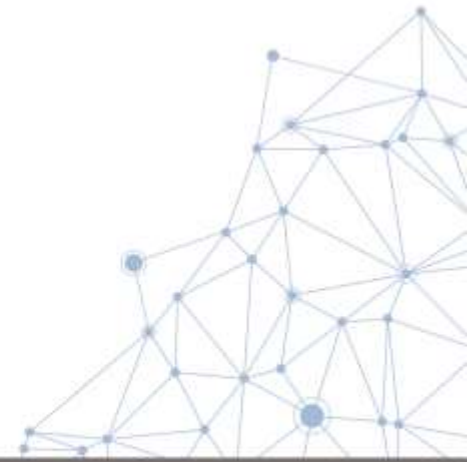
Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is the critical facility located in the 1% annual chance flood area? Yes <input type="checkbox"/> No <input type="checkbox"/>			
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:	Estimated Benefits		
<small>(Times avoided):</small>	Goals Met:		
Useful Life:	Mitigation Action Type:		
Estimated Cost:	Plan for Implementation:	Desired Timeframe for Implementation:	Potential Funding Source:
	Responsible Organization:	Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (Including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





What are we focusing on for our mitigation strategy?

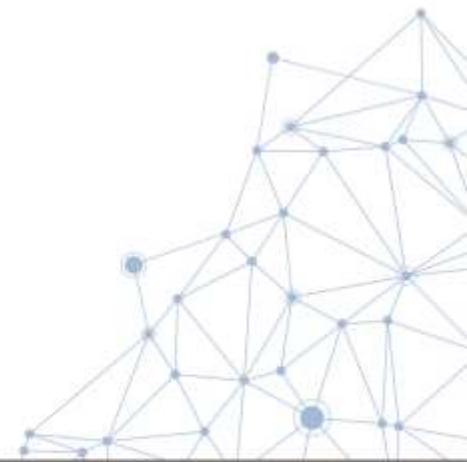
- **Stronger connection between the risk assessment and mitigation strategy**
 - At least one action is needed to address each hazard of concern
- **More specific actions**
 - Specific projects, in specific locations, in a specific timeframe
- **Diverse actions**
 - Include a variety in the types of actions





Update the Mitigation Strategy

- Review our Goals and Objectives
- Start with Problems (many identified on your Worksheets)
 - Areas that have been impacted by hazard events
 - Recurring issues
 - Critical/Lifeline facilities in the floodplain
 - RL/SRL properties need mitigating
 - Evacuation routes and sheltering needs

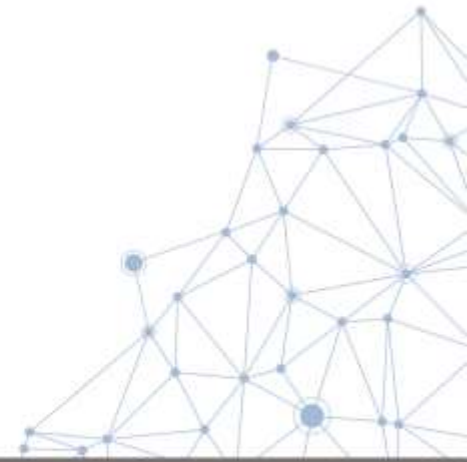




Update the Mitigation Strategy

- Identify New Mitigation Actions/Projects
- Modify 'Carry-Over' projects from the previous HMP -more specific or address different aspect of original problem

Quality Over Quantity!!



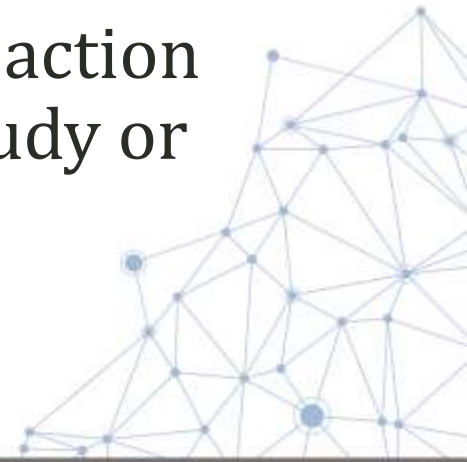
Making Previous Actions More Specific





Why we must update our actions...

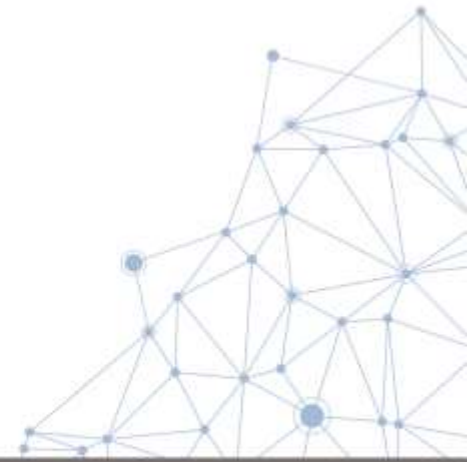
- Actions in the previous plan often were general and did not include detailed information.
- Detailed information is needed to support FEMA grant applications for funding support.
- Focus on updating previous actions to include the necessary level of detailed information.
- If detailed information is not available, note a phase in the action that will gather this information such as an engineering study or feasibility assessment.
- Use the same level of detail for new actions as well!





Example: Previous problem and action

- **Problem:** Critical facilities require backup power.
- **Solution:** Acquire backup power for critical facilities.





Example: Improved problem and action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase the appropriately sized backup generator for the Town Hall. The Town DPW will install the backup generator and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.





Example: EVEN MORE Improved problem and action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter **for approximately 100 people**. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase **a 75 kW** generator for the Town Hall. The Town DPW will install the backup generator **on the roof of the Town Hall** and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.

Mitigation Development Worksheet





Use Your Worksheet to Identify Mitigation Actions



Note: *Adaptive capacity was assumed Moderate for all hazards.

Problem Statement Development

Utilizing the results gathered to date (i.e., risk assessment, capability assessment, identified problem areas, 2017 mitigation strategy), please review the identified problems and potential solutions and add anything that may be missing to inform your mitigation strategy development.

Risk Assessment

What is your hazard concern of greatest concern? Refer to your hazard ranking results on page 1 (ex: stormwater flooding, falling trees, power loss, etc.). Do you have any projects in mind to address that hazard?

Problem / High-Ranked Hazards	Solution

Critical Facilities - Backup Power

Please list critical facilities that require backup power. If you have specifics (size of the generator, potential cost, etc.), please provide that information as well.

Problem	Solution

Culverts - Undersized/In Need of Upgrade

Please indicate the location of any culverts or stormwater components in your community that are undersized or are damaged from past flood events. Then note if you would like to add a project to address any of these locations.

Problem	Solution



Flood Protection – Elevation or Buyout

Please identify any **repetitive loss areas**, homes, or neighborhoods that would benefit from elevation or buyout to prevent future flood damages. Then identify potential projects to provide flood protection (elevation, buyout, etc.)

Problem	Solution

Infrastructure Protection

Please identify roads and other infrastructure that needs protection from flooding, storms, etc. Provide any projects where you would like to include protection measures (elevate roadway, harden infrastructure, etc.)

Problem	Solution

Outreach Projects

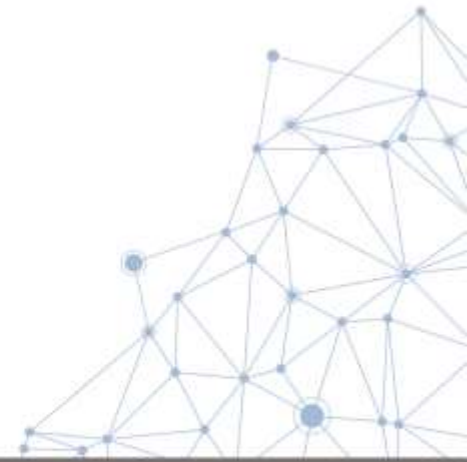
Please identify gaps in public awareness regarding hazards and identify any outreach projects that you would like to include in your mitigation strategy.

Problem	Solution

Other Projects

Please identify other projects that you have in mind after reviewing your problem statements, past actions, risk assessment results, and the mitigation catalog.

Problem	Solution

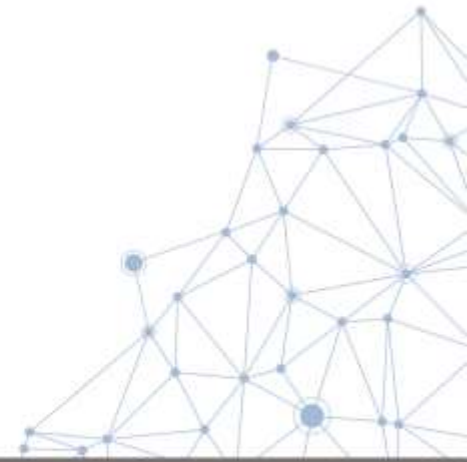




How do you fill in the Worksheet?

The worksheet asks a series of questions to help you think about vulnerabilities within your community.

- Critical Facilities/Lifelines – backup power
- Critical Facilities/Lifelines – flood protection
- Culverts – undersized/in need of upgrades
- Flood Protection – elevations/buyouts; think about the RL/SRL properties – if you have RL/SRLs you need an action related to this
- Infrastructure Protection – what needs protection from flooding, storms, etc.?
- Anything else?





How do you fill in the Worksheet?

- Review the pre-populated information on your worksheet
 - Information from worksheets submitted to date
 - Input from public/stakeholder surveys
 - Risk assessment results
- Determine the problems that you will pursue solutions for
- Add as much detail as possible to the problems and develop detailed solutions
- Return worksheet to your Tetra Tech planner for discussion during your annex development meeting

Schedule your meeting with your Tetra Tech planner ASAP!

Proposed Action Table





Proposed Action Table

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
2020-Muni-001				Problem:										
				Solution:										
2020-Muni-002				Problem:										
				Solution:										
2020-Muni-003				Problem:										
				Solution:										
2020-Muni-004				Problem:										
				Solution:										
2020-Muni-005				Problem:										
				Solution:										

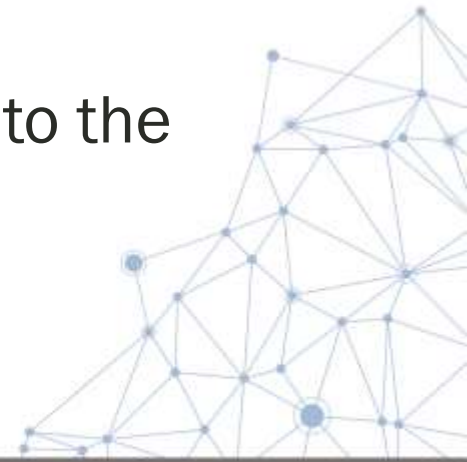
Action Worksheets





Action Worksheets

- Each jurisdiction must develop at least 2 Action Worksheets
- Should also develop additional Action Worksheets for projects you plan to apply for FEMA funding support for within the next 5 years
- Not every action requires an Action Worksheet to be developed but the same sort of information about those actions are still needed in the Proposed Actions table of the annex
- If jurisdiction has a regulatory floodplain then one worksheet must address flooding
- Critical facilities in the 100-year floodplain – must be protected to the 500-year flood event
- Plan for Climate Change and propose actions to address



Action Worksheet

- Description of the Problem
 - What is the problem?
 - What is the risk?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past damages?
 - How frequently does the problem occur?



Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet

- Description of the Solution
 - How do you propose to solve or mitigate the problem?
 - What are the design specifications?
 - Height and length of a floodwall
 - kW for backup generators
 - Number of structures to be bought out or elevated
 - Etc.
 - Who is responsible for what aspects of the project?



Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
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Action or Project Intended for Implementation			
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Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
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Alternatives:	Action	Estimated Cost	Evaluation
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Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet

➤ Level of Protection

- What level event is the project being designed to protect to?
 - For flood protection: 100-year flood, 500-year flood
 - For stormwater improvements: 5 year, 10 year rain events
- If not a specific level, include brief description of what protections are
 - For generators: Prevents power loss



Action Worksheet			
Project Name:			
Project Number:			
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Action or Project Intended for Implementation			
Description of the Solution:			
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Plan for Implementation			
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Alternatives:	Action	Estimated Cost	Evaluation
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Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet

- Estimated cost
- What will the project cost?
- If project includes phases or components, what will each phase or component cost?
 - New generator: \$25K, elevation platform for generator: \$1K

Action Worksheet			
Project Name:			
Project Number:			
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Action or Project Intended for Implementation			
Description of the Solution:			
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Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
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Alternatives:	Action	Estimated Cost	Evaluation
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Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet

- Estimated Benefits
- Provide a description of the estimated benefits, either quantitative and/or qualitative
- Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
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Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet

- Prioritization
- High, Medium, or Low
- Use the second page of Action Worksheet to evaluate each action and assist in the determination of priority (to be discussed shortly)



Action Worksheet			
Project Name:			
Project Number:			
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Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
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Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet

- Responsible Organization
- Identify the lead organization/department/individual for the project
- Identify any supporting organizations/departments/ individuals for the project.

Action Worksheet					
Project Name:					
Project Number:					
Risk / Vulnerability					
Hazard(s) of Concern:					
Description of the Problem:					
Action or Project Intended for Implementation					
Description of the Solution:					
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Estimated Cost:		Mitigation Action Type:			
Plan for Implementation					
Prioritization:		Desired Timeframe for Implementation:			
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Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:			
Three Alternatives Considered (including No Action)					
Alternatives:	Action	Estimated Cost	Evaluation		
	No Action	\$0	Current problem continues		
Progress Report (for plan maintenance)					
Date of Status Report:					
Report of Progress:					
Update Evaluation of the Problem and/or Solution:					





Action Worksheet

- Estimated Time Required for Project Implementation
- Provide the estimated time required to complete the project from start to finish.

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
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Is the critical facility located in the 1% annual chance flood area?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
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Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet

- Alternatives
- Three alternatives are needed for each action worksheet.
 - 1st alternative can be no action
 - 2nd and 3rd alternatives – include estimate cost and a description of the pros/cons of the alternatives

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
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Update Evaluation of the Problem and/or Solution:			





Evaluation of Actions

- Consider the benefits and costs
- Consider the implementation timeline
- Consider the areas/problems of greatest need
- Consider the funding sources
- High/Medium/Low priority

1 = highlight effective or feasible

0 = neutral

-1 = ineffective or not feasible

Evaluation and Prioritization		
Project Name:		
Project Number:		
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
Total		
Priority (High/Med/Low)		



Important Actions

- **Municipalities with high hazard potential dams with a condition rating of unsafe or unsound** should include an action to address the deficiencies, using the High Hazard Potential Dam (HHPD) grant program for funding.
- **Municipalities with repetitive loss properties** need to include an action to address repetitive loss (elevation and/or acquisition). Tetra Tech has emailed the communities that have repetitive loss properties.

High Hazard Potential Dam (HHPD) Worksheet
A job aid for Municipalities Preparing /Amending Mitigation Plans¹
Complete a Separate Worksheet for each² state regulated HHPD in your community.

Name of the Mitigation Plan:	Point of Contact for this Worksheet Name: _____ Email: _____
Municipality where dam is located:	Name of Dam: _____
Name of the Dam Owner:	NYS Dam ID #: _____

Dams are critical infrastructure that can be impacted by natural hazards and if they fail to operate as designed, there could be cascading consequences downstream in the inundation area and potentially to a larger area if the use of the pooled reservoir is lost or diminished.

This worksheet, when completed, will:

1. Describe the process followed for assessing the risks to /from the identified high hazard potential dam located in the municipality.
2. Describe the risks to the dam from natural hazards, and from the dam should it fail to operate as designed.
3. Describe the mitigation plan goal that covers addressing the vulnerabilities to/from HHPDs.
4. Describe one or more planned mitigation actions / projects related to a high hazard potential dam, be it with a HHPD grant or other FEMA hazard mitigation grant programs.

This worksheet is designed to be placed in the annex of the municipality with jurisdiction over the area where the dam is located. Use of this worksheet will ensure no HHPD requirement has been overlooked for the dam being assessed. Completing worksheets for each of the HHPDs in the municipality will allow FEMA to quickly confirm the municipality has a hazard mitigation plan that included all dam risks.

It is highly recommended that when the dam owner is another municipality, the worksheet should also be added to the other municipality's mitigation plan. Doing so will ensure the other municipality meets Element B3-a and C4-b for approval of their mitigation plan under the Stafford Act requirements.

General or generic discussion of high hazard dams and their risks is welcomed content in a mitigation plan. However, it is not a substitute meeting HHPD requirements 1 thru 4, as covered by this worksheet.

¹ Source: Local Mitigation Planning Policy Guide (pages 34-35 and 57), Released April 19, 2023

² This change, to include all state regulated HHPDs, per the Policy Guide went into effect with the release of the release of the Rehabilitation of High Hazard Potential Dams Grant Program Fiscal Year 2023 Notice of Funding Opportunity.

1



Schedule

- Complete Mitigation Development Worksheet and Schedule Meeting with your Tetra Tech Planner **Before March 31st**
- Work with Tetra Tech Planner to Complete Actions and Annex following meeting
- Draft Plan to Steering Committee by middle of May
- Final draft plan to NYS DHSES and FEMA – August/September 2023



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	June 7, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services (OES)
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Laura Moore	Town of Queensbury, Land Use Planner
Kevin Hajos	Warren County Department of Public Works
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Sandra LeBarron	Director of Environmental Health and Safety, Finch Pruyn
Elizabeth O'Reilly	NYSDHSES

Agenda Summary: Purpose to provide a brief progress report and address pending action items. To re-convene the Steering Committee meeting to review the plan status and agenda items below.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:00 am • Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items as summarized in the attached PowerPoint presentation. • The Steering Committee is requested to access the draft plan documents on the project OneDrive to review and provide any comments or feedback to be incorporated into the plan before posting for public review. 	
2	<p>Progress Report</p> <ul style="list-style-type: none"> • The process continues to be on track for plan submittal to FEMA in August 2023. • Upcoming milestones <ul style="list-style-type: none"> ○ Steering Committee Review of Draft Plan (through July 12th) ○ Draft plan posted for public comment (August 1st – August 31st) ○ Plan submittal to NYSDHSES/FEMA (September) 	
3	<p>Draft Plan Review (refer to attached presentation for details)</p> <ul style="list-style-type: none"> • Survey Results • Section-by-section content review • Maintenance procedure review 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> Steering Committee Review guidelines 	
4	<p>Discussion</p> <ul style="list-style-type: none"> Mr. Hajos reviewed and discussed mitigation actions included in the draft county annex to support finalization of the mitigation strategy. This input will be included in the draft annex. 	
5	<p>Pending Action Items</p> <ul style="list-style-type: none"> Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. Tetra Tech reminded steering committee members to access the project OneDrive site to review draft plan sections and to provide input, as necessary. 	<p>Steering Committee members to access plan on project OneDrive and provide comments as needed by July 12th.</p> <p>Tt to send OneDrive access links and review guidance to committee members.</p>
6	<p>Next Steps</p> <ul style="list-style-type: none"> Steering Committee members to access plan on project OneDrive and provide comments as needed by July 12th. Tt to update draft plan to include committee feedback and post plan for public review in August. 	
7	<p>Conclusion - The meeting concluded at 11:07 am.</p>	



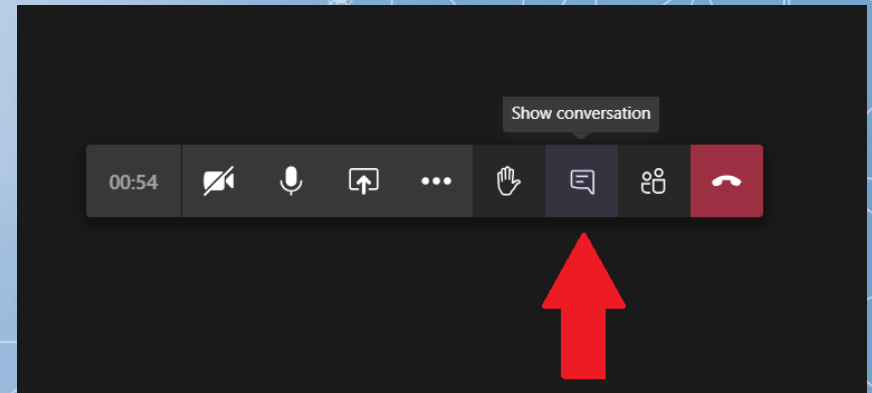
Warren County, New York Hazard Mitigation Plan – 2023 Update

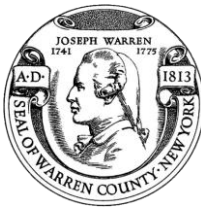
Steering Committee #5 Meeting | June 7, 2023 | 10:00 – 11:00 AM
Draft Plan Review

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

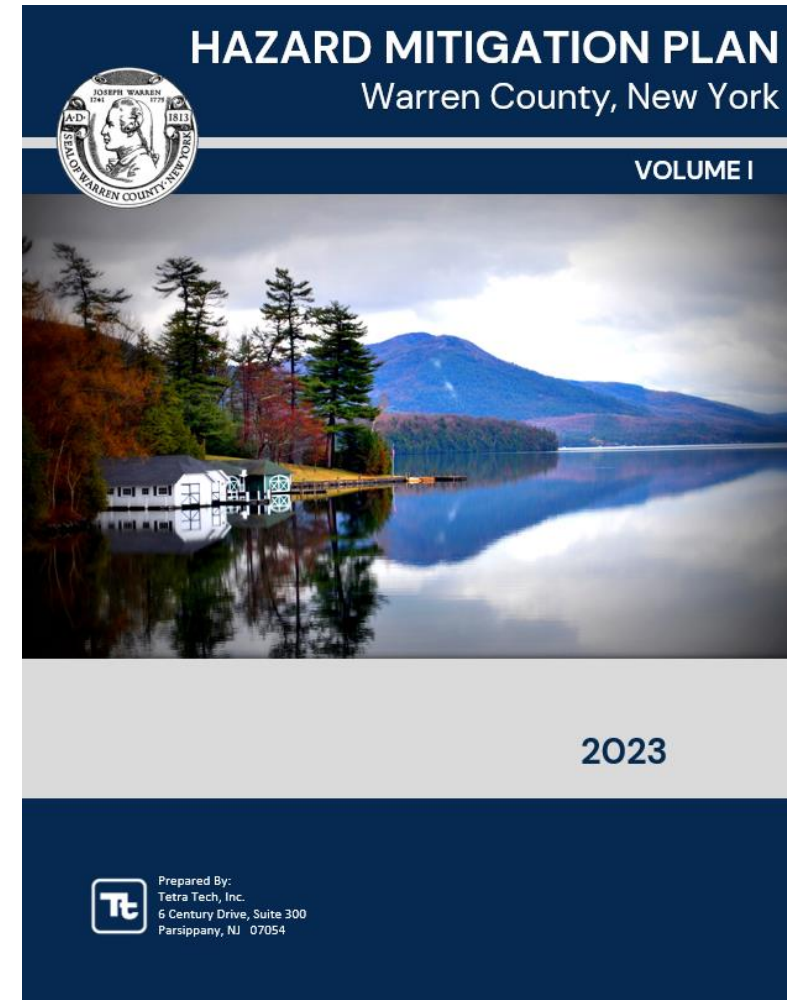
This will assist in our attendance documentation.

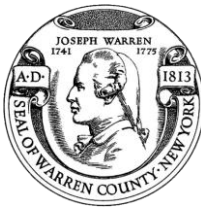




Agenda

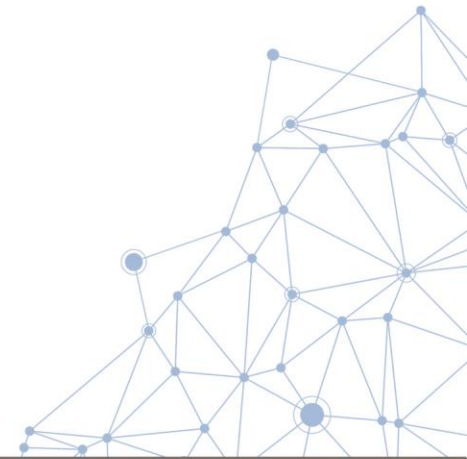
1. Introductions
2. Project Schedule
3. Draft Plan Review
 - What is New?
 - Survey Results
 - Section-by-Section Content Overview
 - Review Guidelines
 - Finalizing the Plan
 - County Mitigation Actions Discussion
4. Next Steps
5. Q&A

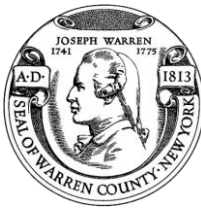




Project Schedule Review

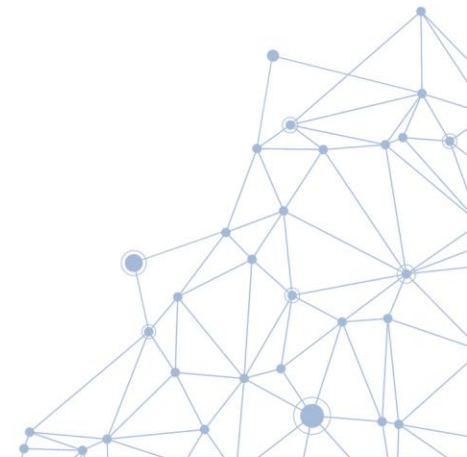
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ✓ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ✓ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | June/July 2023 | Review draft plan |
| ☐ | September 2023 | Submit plan to NYSDHSES and FEMA |

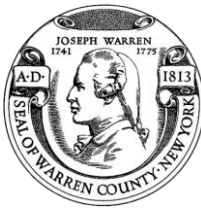




What is new in the 2023 Update?

- Review of hazard impacts since last plan.
- Updated critical facility inventory, including Community Lifelines
- Updated annexes to align with new FEMA and NYSDHSES Guidance
- Supplementary information appendix to support policy and planning
- Climate Change impacts and Adaptive Capacity to reduce vulnerability used in hazard ranking





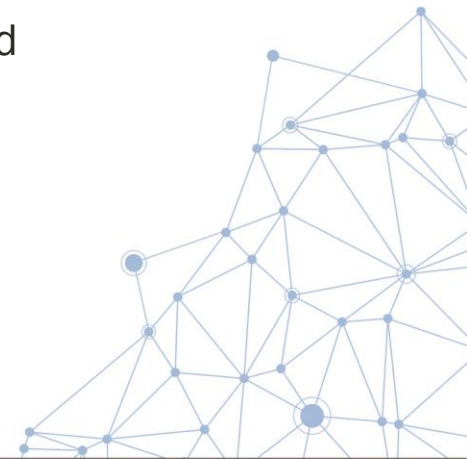
Neighboring County Survey Results

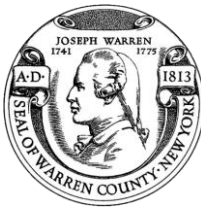
- **Saratoga (2 responses)**

- Indicated mutual agreements to deploy staff for emergency evacuations/disaster response
- Warren County was instrumental in helping us to develop many of our plans. They are a partner that could be asked for assistance in a variety of disasters.
- Emergency Managers work together to respond to incidents and may work together to mitigate against incidents along shared vulnerabilities.
- Shared hazards of concern: Flooding along the Hudson - which serves as the boundary between a good portion our counties. Additionally, various incidents along the Northway. Also, large scale incidents (e.g .brush fire) along our rural border; All dams/flooding along common county borders.
- Information shared with Saratoga communities by the hazard mitigation plan, intercommunity communication often by the highway department leadership.
- Multi-county evacuations would require collaboration. Historically we have collaborated on shared hazards/events

- **No response**

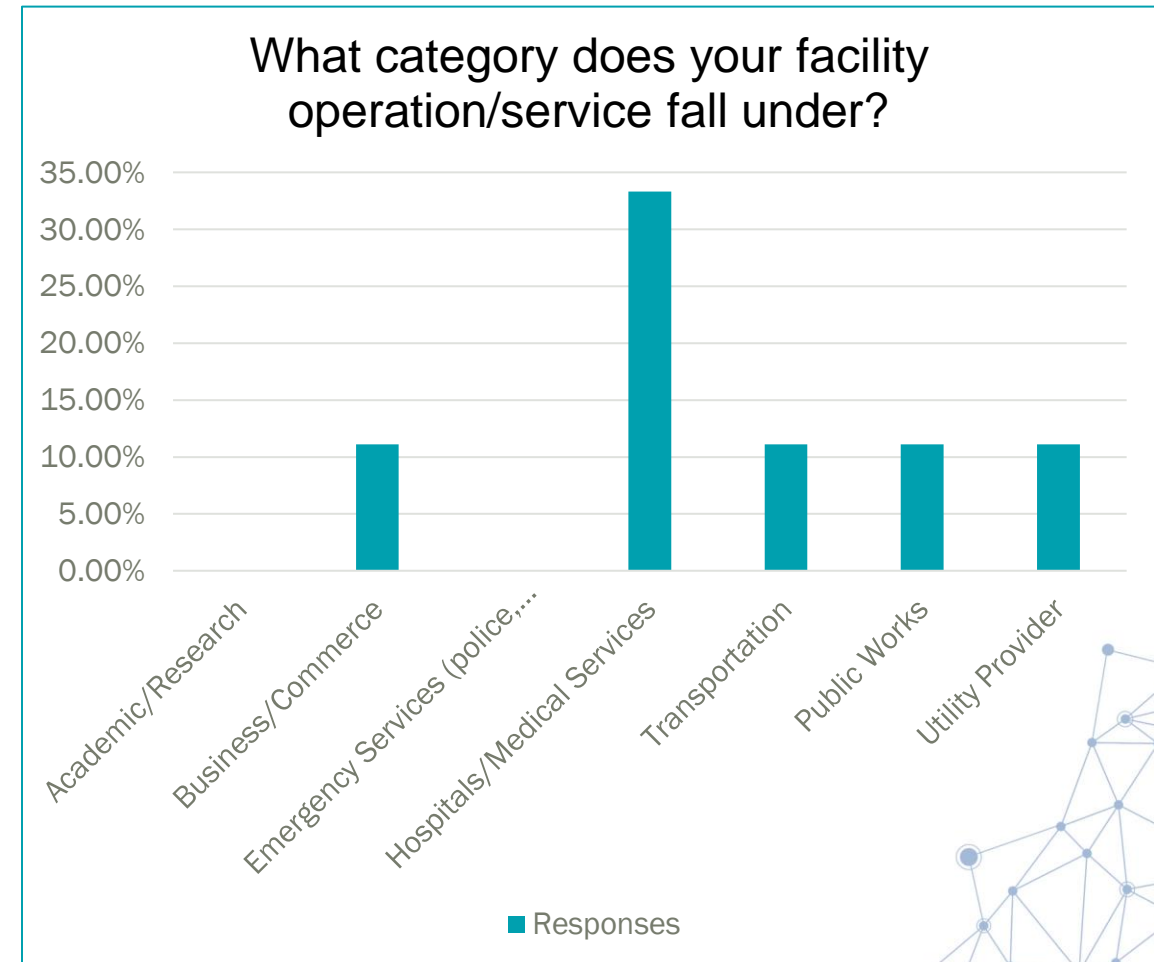
- Essex accessed survey (No data-will contact to discuss)
- Hamilton County
- Washington County

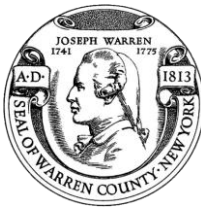




Agency Survey Results

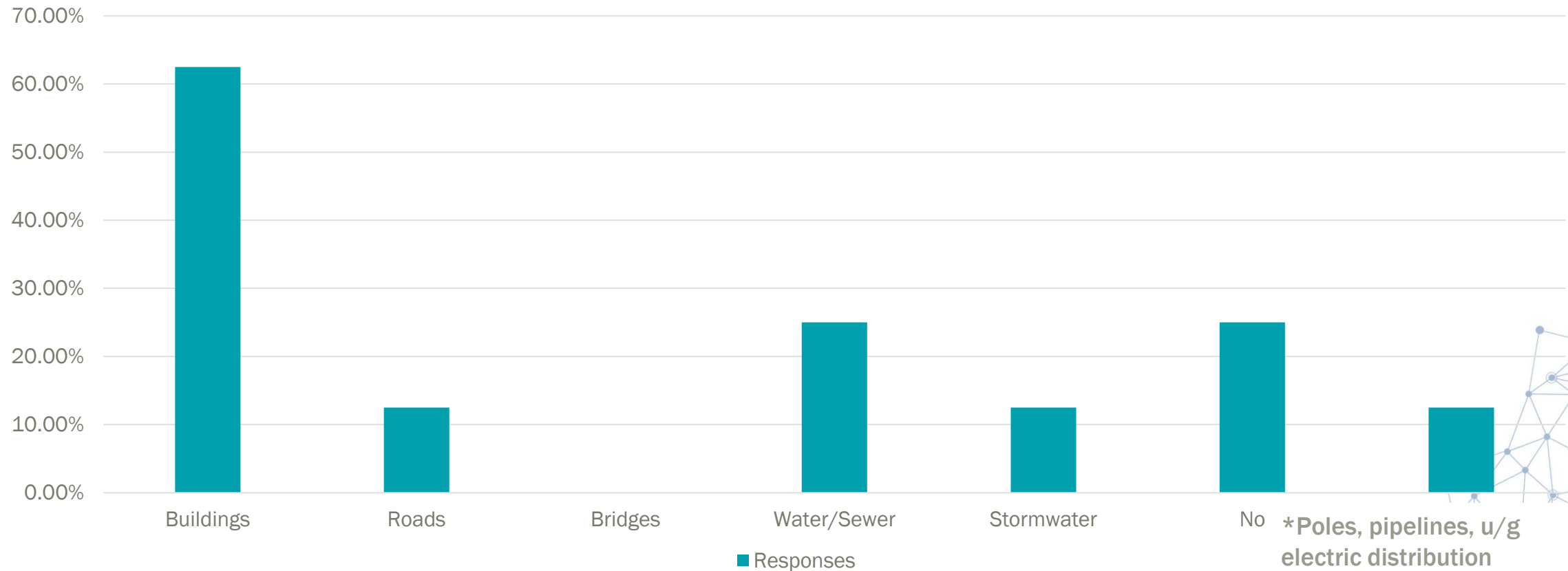
- 9 Respondents
 - National Grid
 - Warren County Health Services
 - SAIL
 - NYS Department of Health Glens Falls District Office
 - Lake George Regional Chamber of Commerce & CVB
 - Southern Adirondack Independent Living
 - Glens Falls Hospital
 - Greater Glens Falls Transit
 - Glens Falls Common Council





Agency Survey Results

Does your organization maintain or manage any of the following within your designated service area?

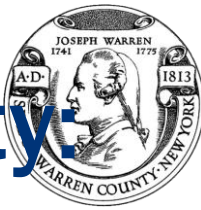


Agency Survey - Hazard Vulnerability:



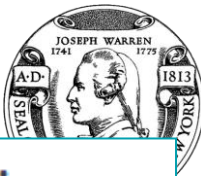
- Electric Substations and gas regulating stations. As we've all seen in the news with the recent vandalism with electric utility equipment, it is high on the priority list for our security teams.
- Salt mitigation to protect the lake. We currently use sand on the backside of our building/parking area and salt/sand mixture on the front. No other hazards as of this writing.
- Reliance on pre-identified municipal buildings and locations that are owned and maintained by City/Town municipalities for many of our activities.
- Our hub is the County Municipal Center. Vulnerabilities include fire, severe weather impacting the facility, loss of internet and utilities caused by weather or man-made factors"
- Road hazards - downed trees, winter driving conditions
- Industry along the river and watershed





Agency Survey - Programs to Reduce Vulnerability

- Tree Trimming program - each of our circuits are trimmed on 5-year cycles, that means every 5 years ""Main St in Queensbury"" will be inspected for danger trees and trimmed by one of our tree contractors.
- **"Computapole"** program. This is a program that has us inspect and get eyes on every piece of National Grid electric infrastructure throughout our territory. We identify potential hazards like rotting poles, broken or unbonded guy wires, blown lightning arrestors, or broken cross arms. Once they are reported, the issues are then sent to the field workers for repairs. This is also done in 5-year cycles for each of our circuits.
- We have a similar program for our gas distribution system regarding our Leak Prone Pipe program where we are replacing old cast iron mains and services with plastic. We have a gas corrosion team that inspects our pipelines to make sure they are still in spec.
- We were able to take advantage of the second round of PPP funding because of our 501c6 corporate status that helped us through the pandemic financially. Other strategies in the past have been to cut programs and not people to stay financially stable as an organization.
- Upgrading work from home opportunities if the facility is unusable, ensuring a suitable secondary location is available for staff that have to be in the office, providing funding to ensure IT and other equipment necessary to maintain operations is provided
- Sewage treatment plant power project



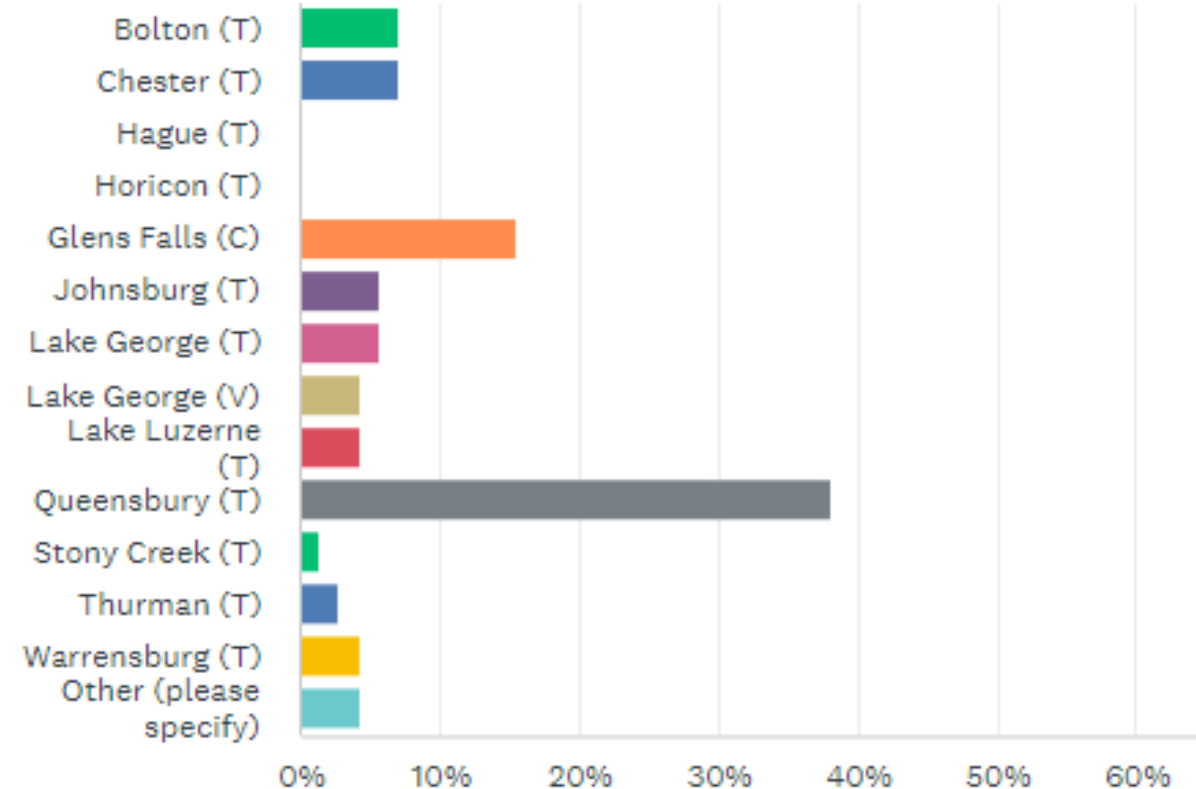
Public Survey Results

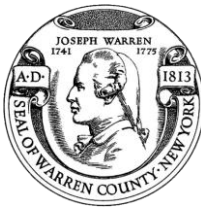
- 81 Responses
- 64% Completion Rate
- 8 Minutes to Complete (Avg)
- ~39 identified vulnerable areas/items

County streets Lake property Glens Falls Rd water due Road River
flood drainage trees Hudson River None ice

Please indicate the municipality in which you live:

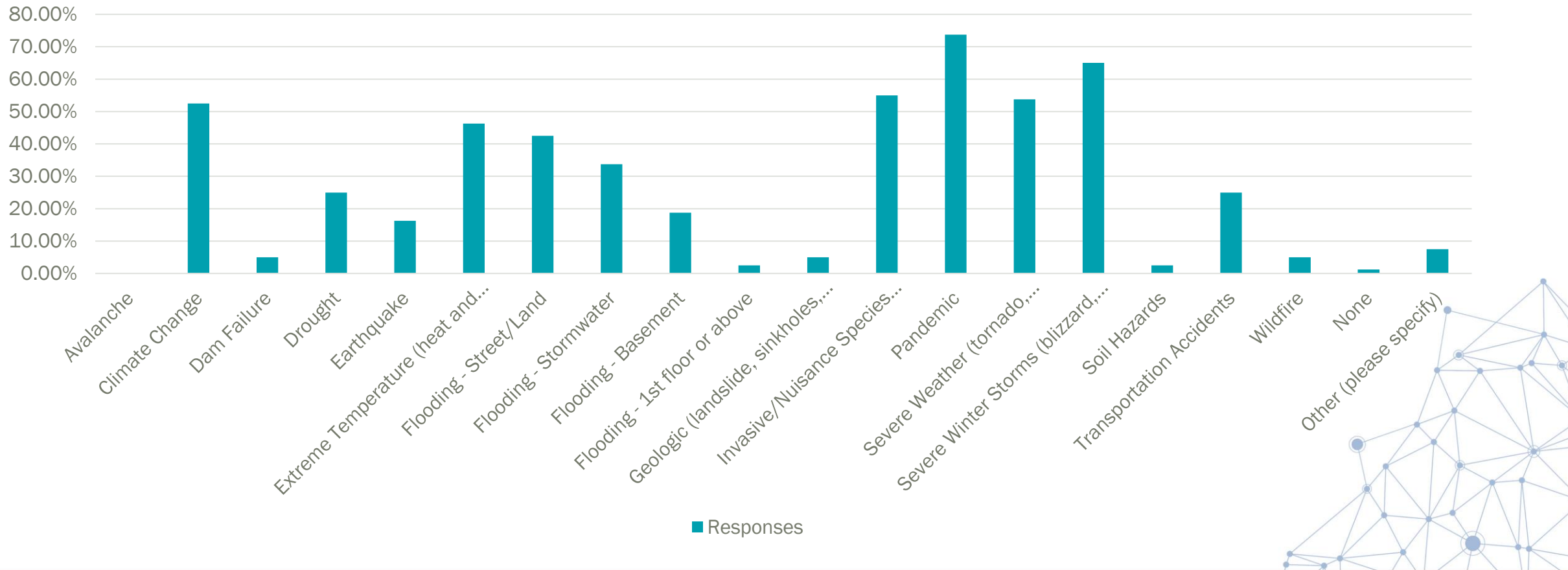
Answered: 71 Skipped: 10

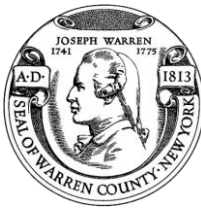




Public Survey Results: Hazards Experienced

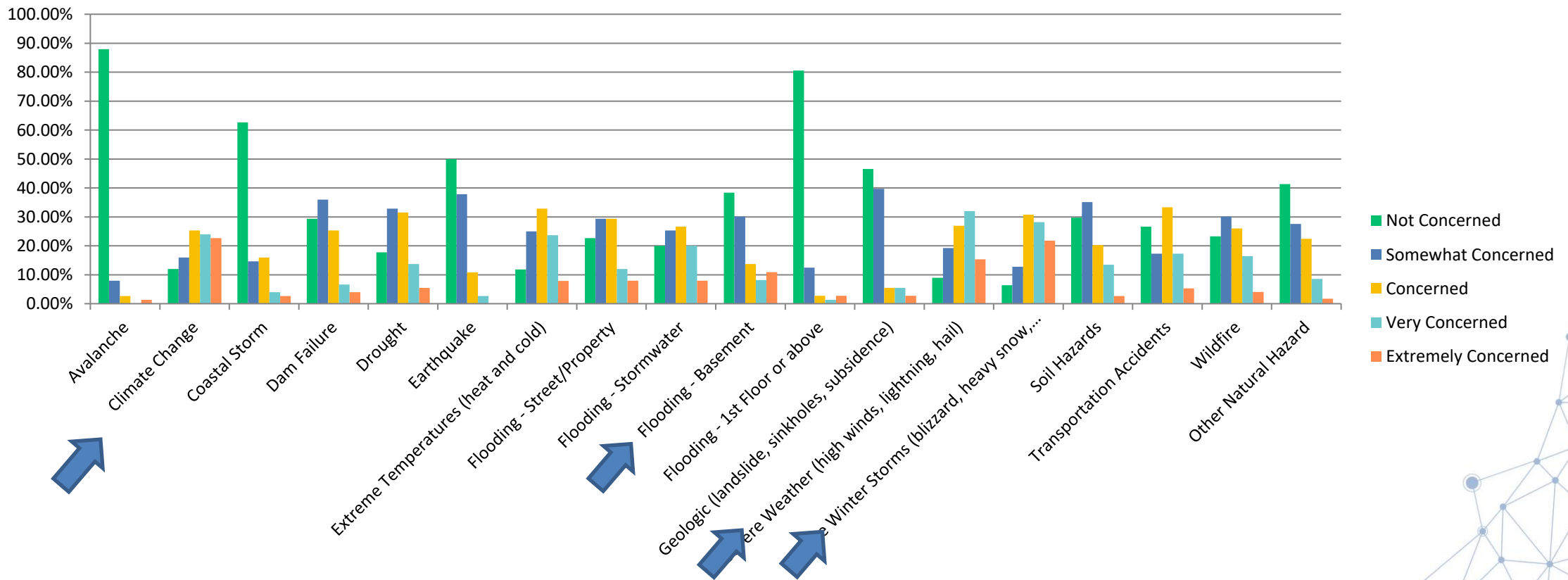
In the past 10 years, which of the following hazard events have you experienced in Warren County?

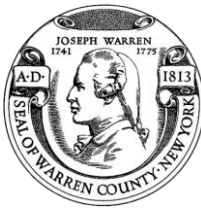




Public Survey Results - Hazard Concerns

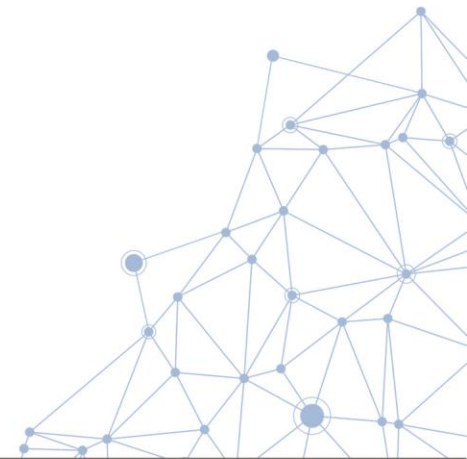
How concerned are you about the following hazards in Warren County? Please check one for each hazard.

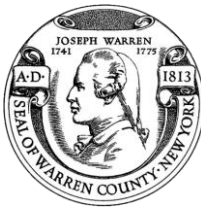




Problem Areas

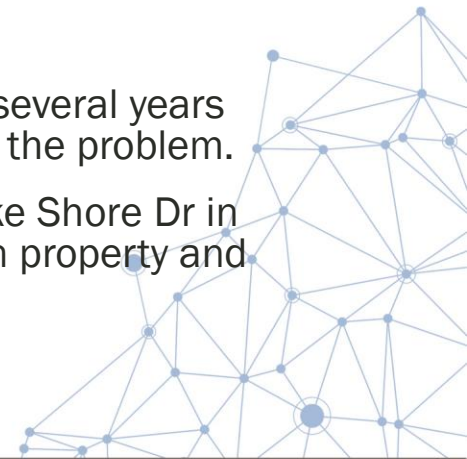
- Pine Tree Lane Diamond Point
- Always having power outages when others don't. They can last up to four days.
- Lack of back up power
- Loon Lake Dam Failure.
- Power outages due to lack of appropriate tree removal along power lines.
- Poor cell service. Lake Luzerne
- Queensbury boat launch, Glen Lake, Lake George, Hudson
- Susceptibility to flooding, poorly maintained dams owned by city of Glens Falls.
- Schools lack of back up power in the event power goes out and lack heating elements. Trees along residential roads that aren't cut back. Power drainage on roadways.
- Prone to power outages from trees on lines
- General back-up power, snow/ice blockage on highways
- Floodprone area on Meadowbrook Road @ Halfway Brook
- Low water levels in Kattskill by Lake George due to water management practices
- Apartment building for disabled and retired with all electric heat. No on demand generator.
- Located at 10 Manor Rd.

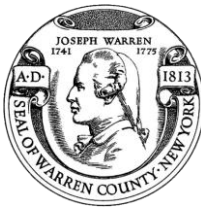




Problem Areas, continued

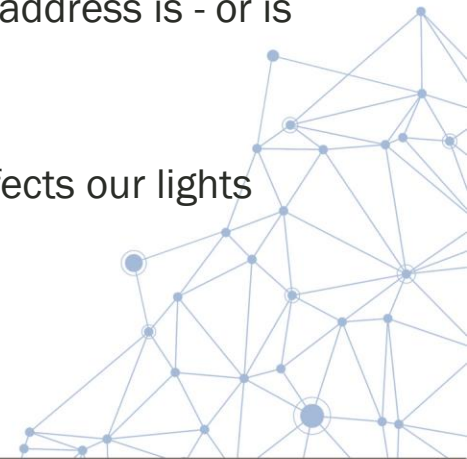
- 13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.
- Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)
- Water Tank control panel without power backup
- Ice jamming on Hudson River at 418 Bridge.
- Flooding on River Road
- Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.
- Numerous roads and stream crossings could be subject to flood/storm damage.
- East End in Glens Falls is known for being a high water table area
- North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.
- Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.

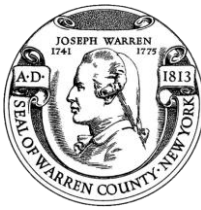




Problem Areas, continued

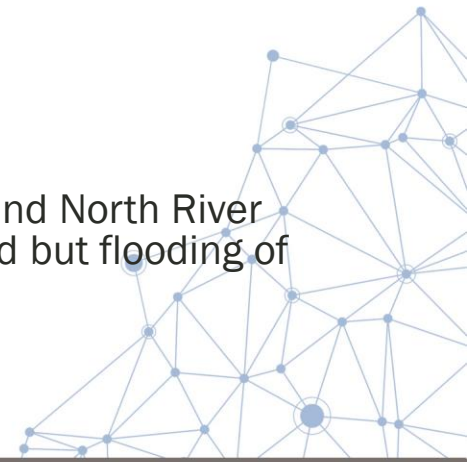
- Lack of municipal sewer and water
- Poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.
- My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored
- C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD
Johnsburg
- Loon Lake Dam, Rt 8/9, Chestertown
- ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.
- Hudson River Basin Lake Luzerne to Corinth
- We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.
- Electric
- Glens Falls dams on West Mountain

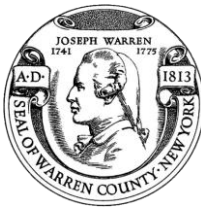




Problem Areas, continued

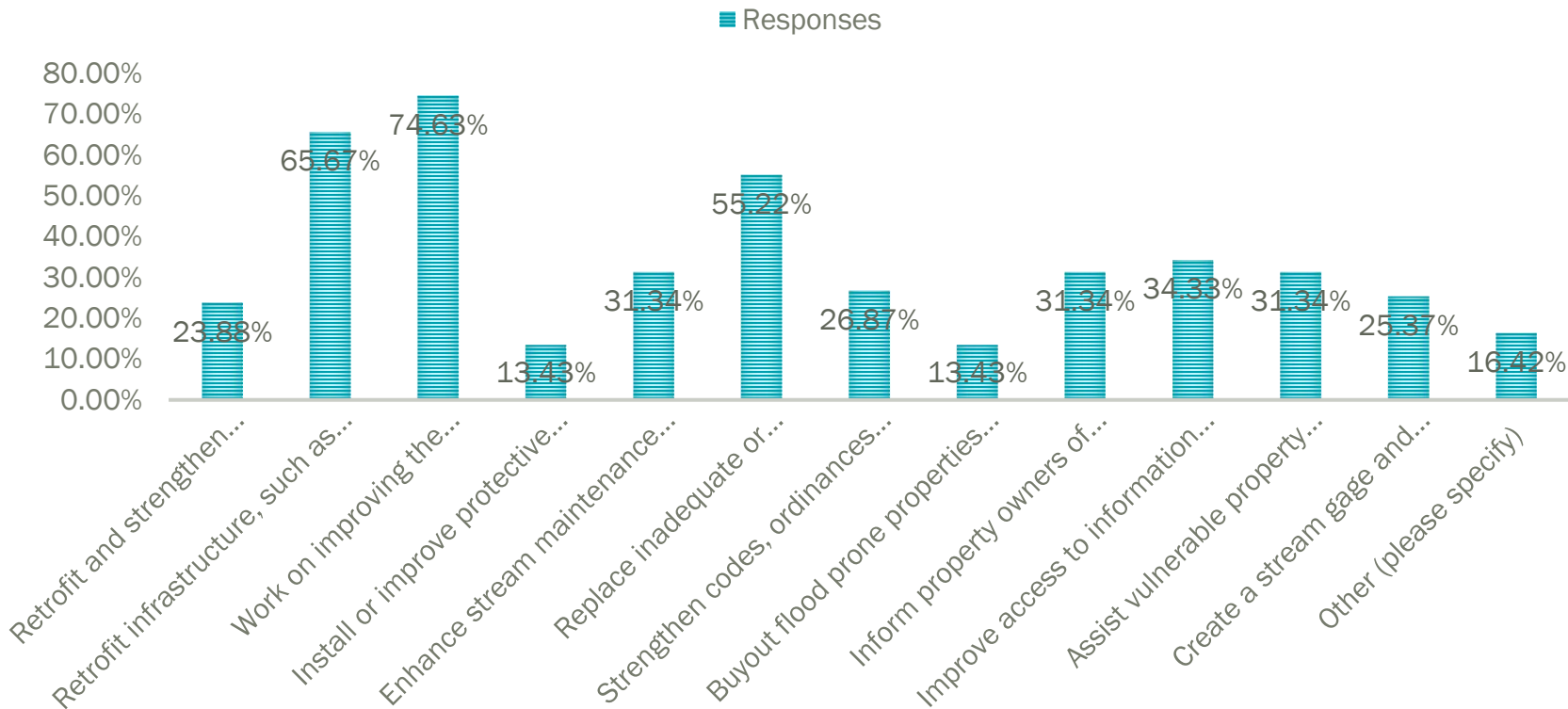
- Federal Hill Rd
- Areas along Hudson River and Schroon River are flooded frequently
- Lack of internet service in rural areas.
- Queensbury - Halfway Brook Area/flooding
- Warrensburg - Schroon River Area/flooding
- Chester & Horicon - Schroon River Area/flooding
- Meadowbrook Road, Queensbury - Flooding
- Lakeview Circle Drive Town of Lake George
- GFWWTP releasing sewage into Hudson after every heavy rainstorm.
- Inadequate storm drainage on streets
- Power cybersecurity concerns
- Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River and includes part of the town North Creek at the train station. The historic Train station has been preserved but flooding of the Hudson in the spring has caused concern a number of years in the past ten.
- Thurman bridge
- Downtown Warrensburg from Schroon River flooding





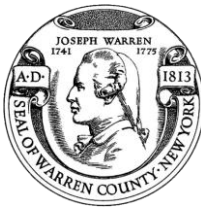
Priority Projects

What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Warren County?



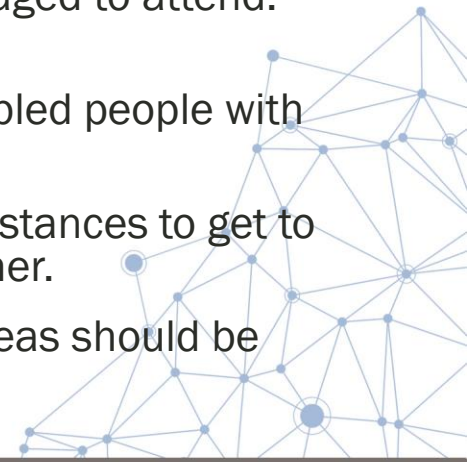
Top 3 project types to fund:

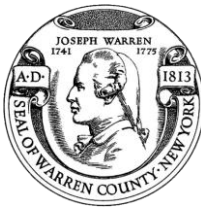
- 74.8% - Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)
- 65.6% - Retrofit infrastructure, such as elevating roadways and improving drainage systems
- 55.2% - Replace inadequate or vulnerable bridges and causeways



Concerns

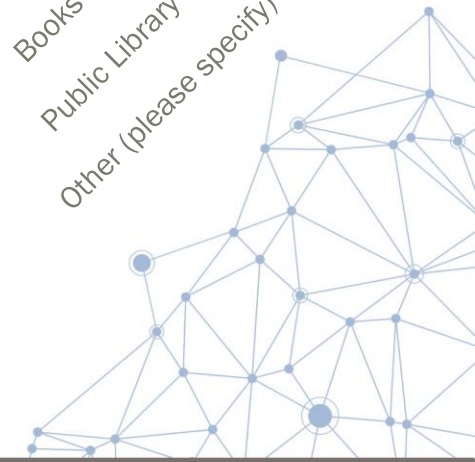
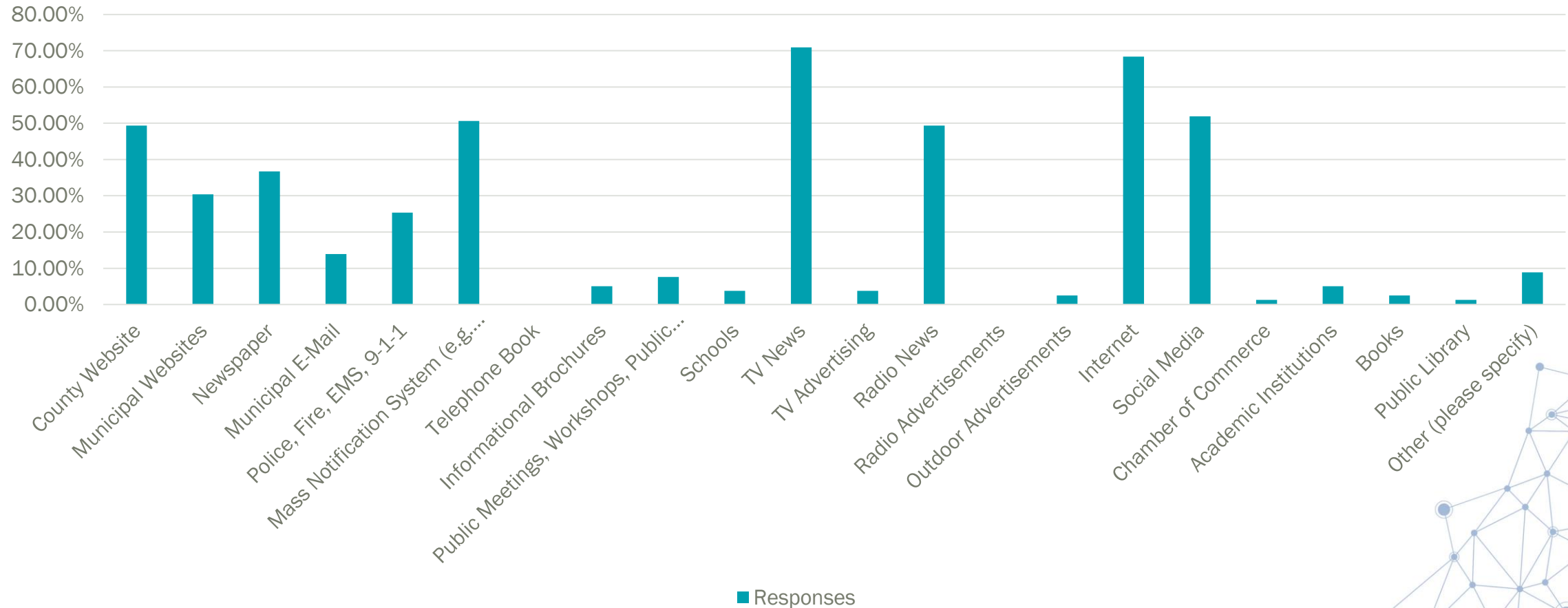
- Inadequate shelters in case of emergencies
- Remove tree limbs that hang over the 9L road before someone gets seriously injured
- I would appreciate receiving real time alerts from Warren County similarly to FEMA
- Each municipal government should be required to participate in this process. They should assess their community for potential hazards and develop a mitigation plan.
- Warren County needs to fix the drainage issue it CAUSED.
- I see that climate change is affecting us. One problem that we never experienced until recent years is algae blooms.
- I see climate change as one of the biggest concerns now and in the future that could and would impact a lot of weather -related hazard events. I think more projects that focus on taking care of our environment, like adopt a highway and stream clean up days, as a good thing to consider.
- Annual preparedness training at senior centers, at schools and in locations that citizens are encouraged to attend. create a citizen team to work with Emergency Management for Warren County
- Vastly improve ACCESSIBILITY for disabled people and Disaster Planning to include INPUT from disabled people with various disabilities; including respiratory
- During severe winter storms, county buildings need to close or open late as employees travel long distances to get to Warren County Municipal Center and should not have to use personal time in case of extreme weather.
- Extreme weather (heavy downpours and sudden storms) have increased greatly. Review of runoff areas should be reviewed.

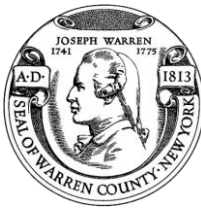




Effective Messaging Resources

How do you receive your information concerning a disaster? Check all that apply.





Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes

OneDrive interface showing the folder structure for Warren County (NY) HMP. The 'Steering Committee' folder is circled in green, and a blue arrow points to it from the right.

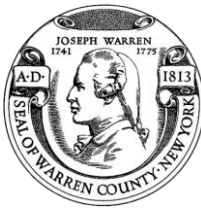
Name	Modified	Modified By	File size	Sharing
GIS	November 14, 2022	frankenfelds@warrencoun	4 items	Shared
Letters of Intent to Participate	September 16, 2022	Bianco, Cynthia	14 items	Shared
Outreach Materials	November 30, 2022	Bianco, Cynthia	10 items	Shared
Steering Committee	January 24	Bianco, Cynthia	1 item	Shared
Survey				
SWCD				

OneDrive interface showing the contents of the 'Documents for Review' folder. The file '5.2 - HOC ID_Warren_rev.docx' is circled in green, and a blue arrow points to it from the left.

Name	Modified	Modified By	File size
Old	January 31	Bianco, Cynthia	6 items
Warren_TOC.docx	January 25	Bianco, Cynthia	205 KB
5.2 - HOC ID_Warren_rev.docx	6 days ago	Bianco, Cynthia	422 KB
Section 1-Introduction_rev.docx	6 days ago	Bianco, Cynthia	1.05 MB
Section 2-Plan Adoption.docx	January 25	masona@warrencountyny	360 KB
Section 5.1_Methodology_rev.docx	6 days ago	Bianco, Cynthia	517 KB

OneDrive interface showing the contents of the 'Steering Committee' folder. The 'Documents for Review' folder is circled in green, and a blue arrow points to it from the right.

Name	Modified	Modified By	File size	Sharing
Documents for Review	January 24	Bianco, Cynthia	6 items	Shared



Draft Plan Review – Section Contents

Volume I

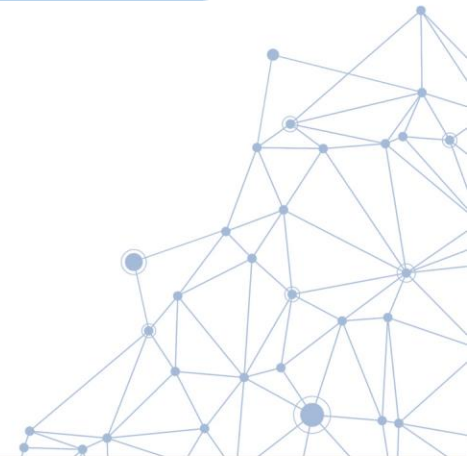
- **Section 1 – Introduction**
 - Mitigation Planning Overview
 - Participating Jurisdictions
 - 2023 Updates
- **Section 2 – Plan Adoption**
 - Adoption Process
- **Section 3 – Planning Process**
 - Participants
 - Activities
 - Ongoing Process

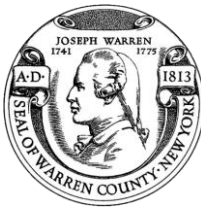


HAZUS-MH was applied to

- Identify Hazards (Phase 2)
- Profile Hazards (Phase 2)
- Perform a Vulnerability Assessment (Phase 2) including:
 - Inventory Assets
 - Estimate Losses
 - Evaluate Development Trends
 - Present Results of Risk Assessment

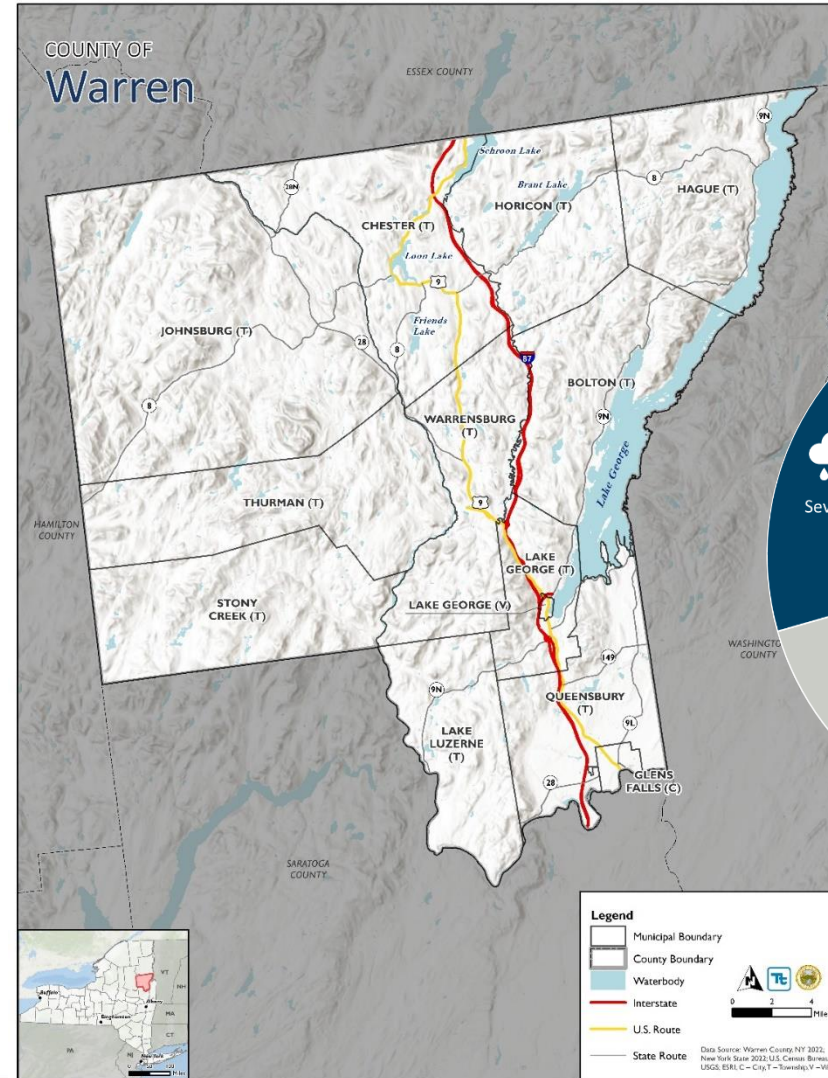
These results provide an input to Phase 3.



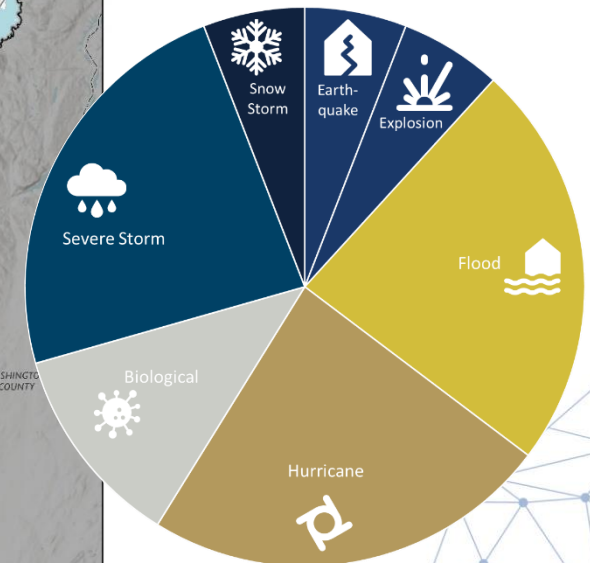


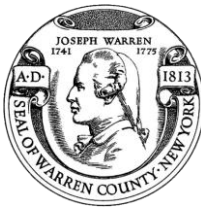
Draft Plan Review – Section Contents

- **Section 4 – County Profile**
 - History & Physical Setting
 - Population and Demographics
 - Major Hazard Event History
 - General Building Stock
 - Land Use and Population Trends
 - Critical Facilities & Lifelines
- **Section 5 – Risk Assessment**
 - Hazards of Concern
 - Hazard Ranking
 - Hazard Profiles

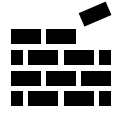


Warren County Hazard Events





Hazards Profiles – Section 5.4



- Dam Failure



- Disease Outbreak



- Earthquake



- Extreme Temperature



- Flood



- Infestation and Invasive Species



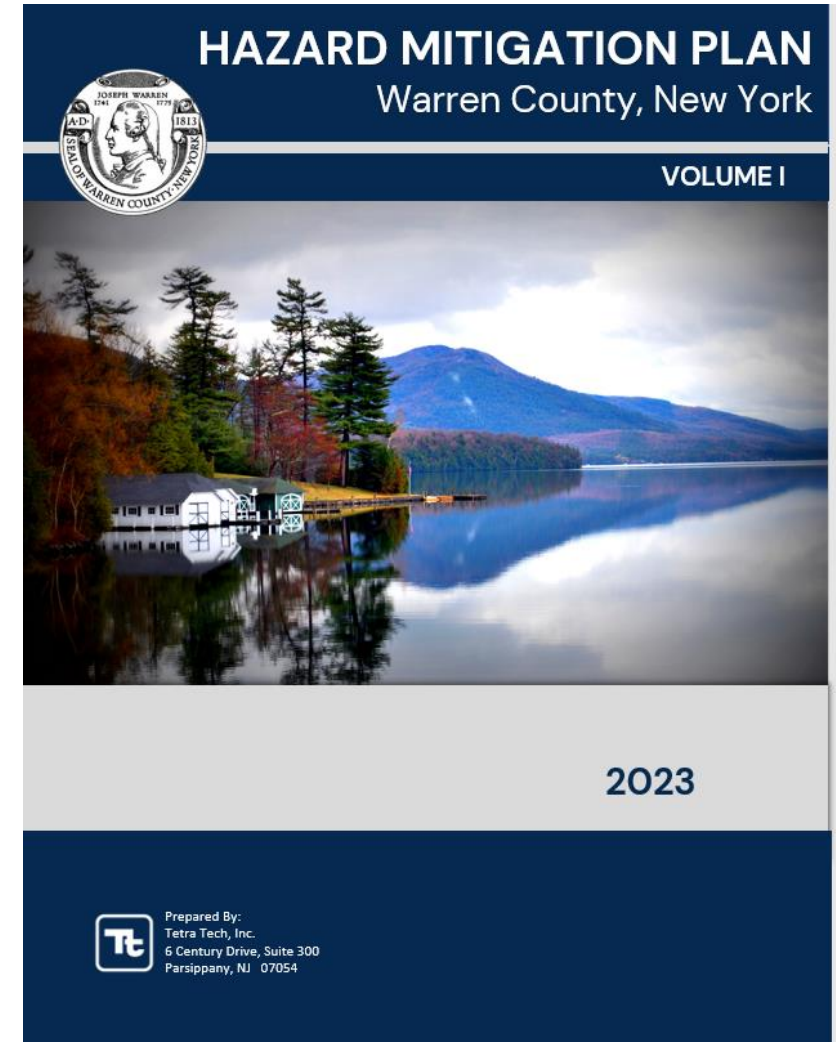
- Severe Storm

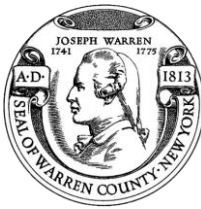


- Severe Winter Storm



- Wildfire



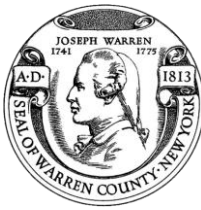


Draft Plan Review – Section Contents

- Section 6 – Mitigation Strategies
 - Past accomplishments
 - Goals and Objectives
 - Capability Assessment
 - Available plans, programs, & resources
 - Administrative and technical capabilities
 - Fiscal capabilities
 - Mitigation strategy development and update
 - Action identification
 - Evaluation and prioritization
 - Benefit/cost review

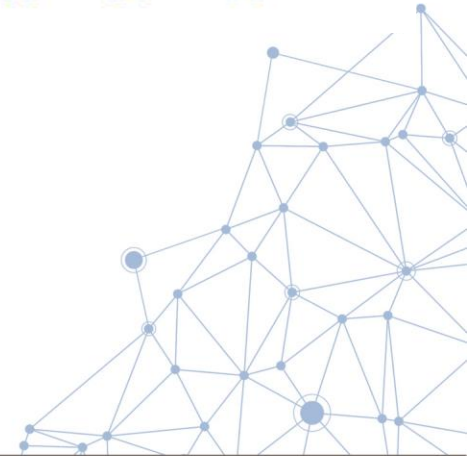
*To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations, socially vulnerable populations, and the public to eliminate or reduce risks and adverse impacts from natural, **and human-caused** hazards.*

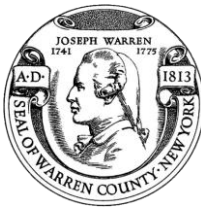
Discussion item: Omit human-caused hazards to align with FEMA HMP focus.



Draft Plan Review – Section Contents

- Section 7 – Plan Maintenance
 - HMP Coordinator
 - Ongoing Planning Committee
 - Monitoring
 - Continuous evaluation and progress reports
 - FEMA Worksheets and BAToolSM
 - Updating
 - Integration of hazard mitigation with existing and future programs
 - Continued public involvement





BAToolSM

- Online progress reporting for individual mitigation actions – pre-populated by Tetra Tech

Prev Action * Action ID: TPQ - 1 Next Action

Review of this Action has not started **Add New Action**

> View Update History

Please review and update this action by following the steps below and updating any/all fields (as needed).

Step 1: Enter your name as the 'Reviewer' (then step 2 will be enabled for selection).

* Reviewer:

Step 2: Update the 'Action Status' field. Please continue to review and update all other fields, as needed.

* Action Status: ^

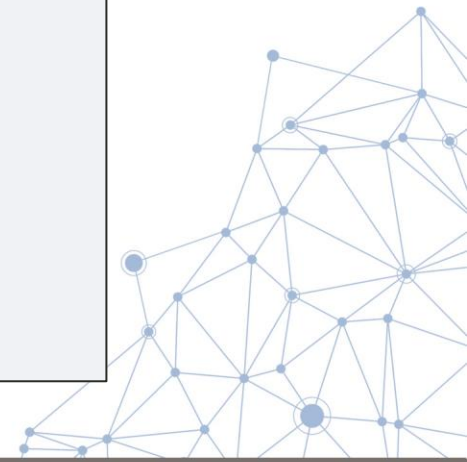
Previous Action Status:

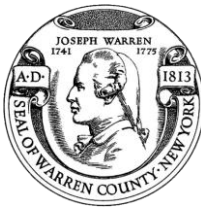
Project/Action Status Comments:

* Description of the Action:

Specific Problem Mitigated:

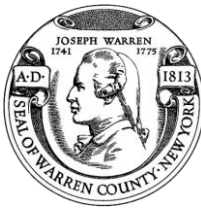
Note: A yellow arrow points to the 'Project/Action Status Comments' field.





Plan Maintenance Matrix

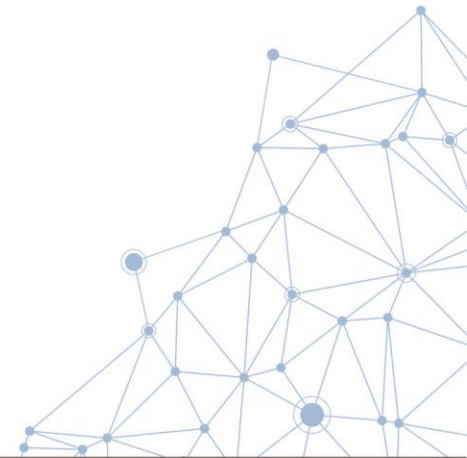
Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Preparation of status updates and action implementation tracking as part of submission for Annual Progress Report.	January or upon major update to Comprehensive Plan or major disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet (see 7.1.2 below) for annual review and update by all participating jurisdictions.	January each year with interim email reminders to address integration in county and municipal activities.	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions as submitted by the monitoring task lead and support to assess the effectiveness of the plan; compile and finalize the Annual Progress Report	Finalized progress report completed by January 15 of each year	Steering Committee; Plan Maintenance element	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)
Update	Reconvene the planning partners , at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive Plan or major disaster	Warren County HMP Coordinator	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)

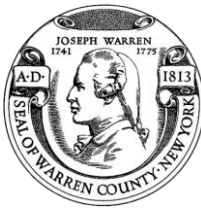


Draft Plan Review – Section Contents

Volume II

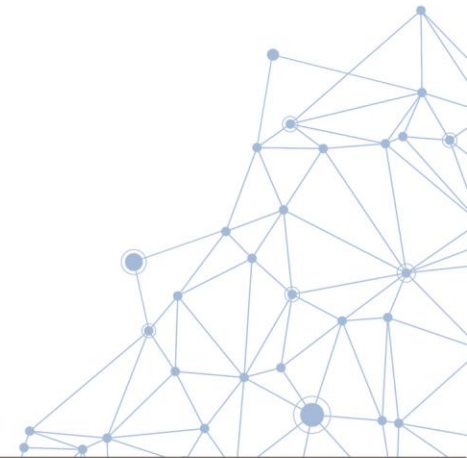
- **Section 8 – Planning Partnership**
 - Participating jurisdictions
 - Introduce jurisdictional annexes
- **Section 9 – Municipal Annexes**
 - Point of Contact
 - Municipal Profile
 - Capabilities
 - NFIP Participation
 - Risk Assessment
 - Critical Facilities
 - Status of Past Mitigation Actions
 - Current Mitigation Actions
 - Future Needs

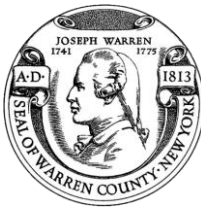




Draft Plan Review – Section Contents

- Appendices
 - Appendix A – Plan Adoption
 - Appendix B – Participation Matrix
 - Appendix C – Meeting Documentation
 - Appendix D – Public and Stakeholder Outreach Documentation
 - Appendix E – County Profile and Risk Assessment Supplementary Data
 - Appendix F – Critical Facilities
 - Appendix G – FEMA Plan Review Tools
 - Appendix H – NYS DHSES 2017 Mitigation Planning Standards

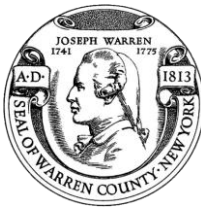




Steering Committee Review Guidance

- Documents posted on OneDrive for collaborative review
 - OneDrive guidance will provide direction on how to edit/comment
- Input requested
 - Provide additional or specific information
 - Correct errors or omissions
- All feedback requested on or before July 12th
 - Feedback will be incorporated as appropriate before Public Review
- Plan sections to be posted on the Warren HMP website for a 30-day review period
- Public feedback to be incorporated as appropriate prior to submittal to NYSDHSES/FEMA for agency review





Plan Adoption and Timeline

- Information on the planning process is available here: (<https://www.warrencountynewyorkhmp.com>)
- Draft plan sections will be posted for public review and comment beginning August 1st for 30 days
- The plan will be submitted for review and approval by NYSDHSES and FEMA in November
- Adoption of the plan by the community is required to be deemed **APPROVED** by FEMA.

**WARREN COUNTY HAZARD MITIGATION PLAN
2023 UPDATE**

Home About What Is Mitigation Meetings Calendar Explore the Plan Additional Information

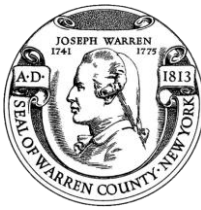
Explore the Plan

2023 Warren County Hazard Mitigation Plan Update

Sections of the 2023 Warren County HMP update will be posted as available.

Municipal Annexes

• 9.02_Town of Bolton	Download
• 9.03_Town of Chester	Download
• 9.04_City of Glens Falls	Download
• 9.05_Town of Hague	Download
• 9.06_Town of Horicon	Download
• 9.07_Town of Johnsbury	Download
• 9.08_Town of Lake George	Download
• 9.09_Village of Lake George	Download
• 9.10_Town of Lake Luzerne	Download



In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jiml@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

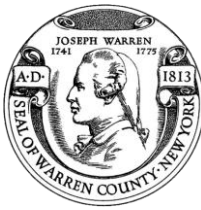
* Jurisdiction

Please document your time spent working on the HMP:

Date

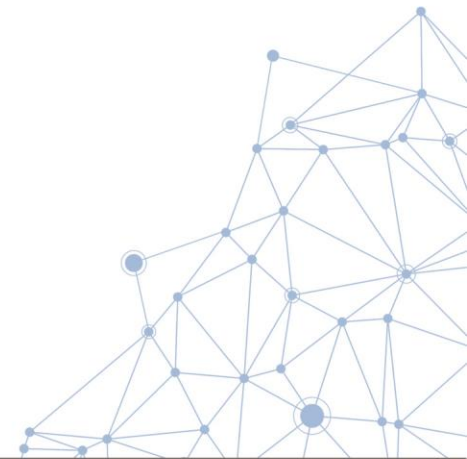
Hours





Next Steps

- Finalize Jurisdictional Annexes – in progress, drafts posted on OneDrive and www.warren
- Steering Committee Plan Review – Now through July 12th
- Update Plan Based on Steering Committee Feedback
- Draft Posted for Public Review and Comment – August 1st – 30 Days
- Submit to NYS DHSES and FEMA – September 2023
 - Estimated 45-day review period
- BAToolSM Webinar to Review Plan Maintenance
- Plan Adoption by County and Participating Municipalities



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

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Thank
You!



APPENDIX D. PUBLIC AND STAKEHOLDER OUTREACH

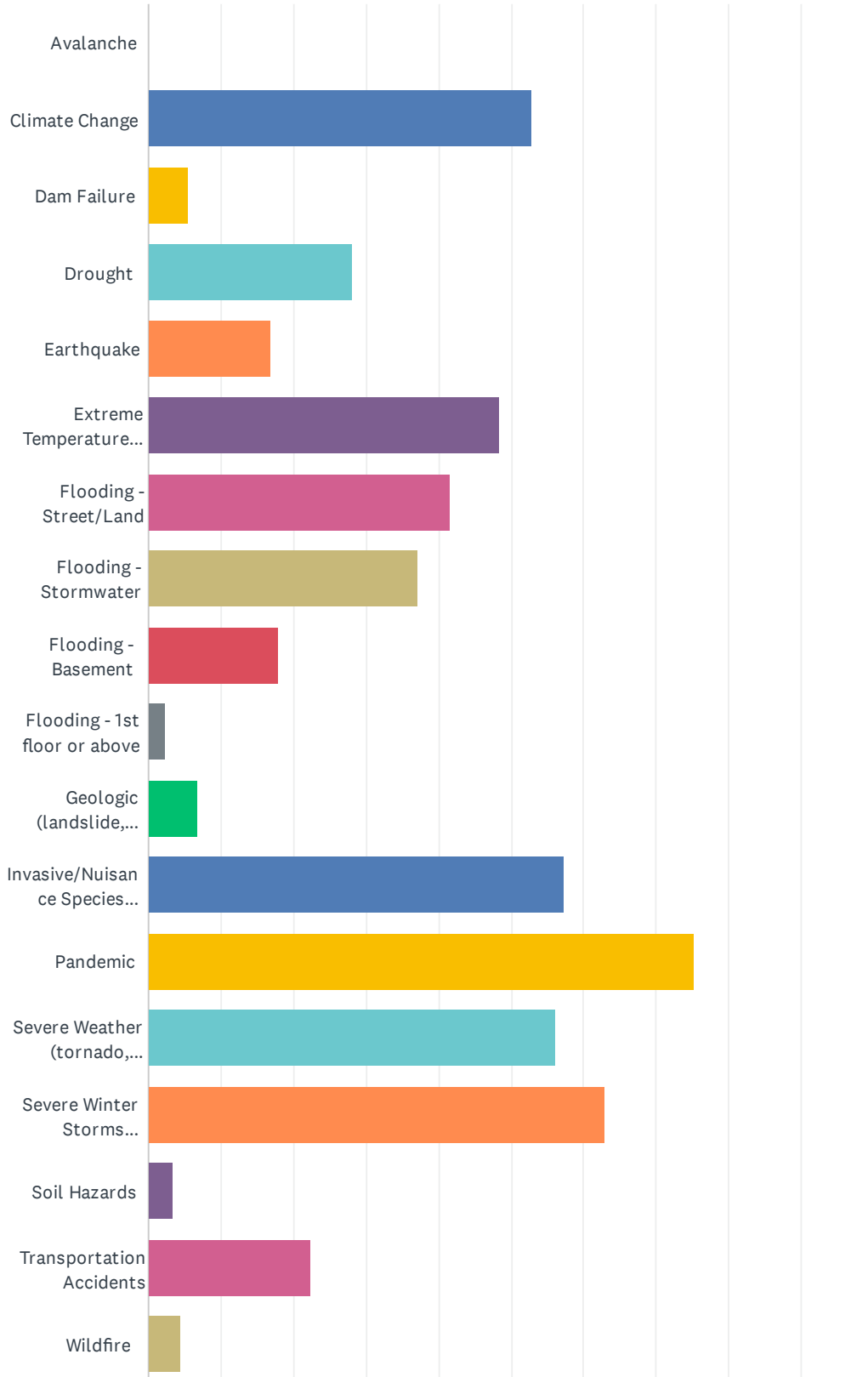
This appendix provides documentation of public and stakeholder outreach. Stakeholder involvement in this planning process was broad and productive as discussed and further documented in Section 3 (Planning Process). Public and stakeholder input has been incorporated throughout this HMP as appropriate, as identified in Section 3 and the References section, as well as within specific mitigation initiatives identified within the jurisdictional annexes (Section 9). Respondent feedback filtered by jurisdiction is included in each jurisdictional annex as available to provide an indication of community resident concerns related to natural hazards.

D.1 WARREN COUNTY CITIZEN SURVEY RESULTS

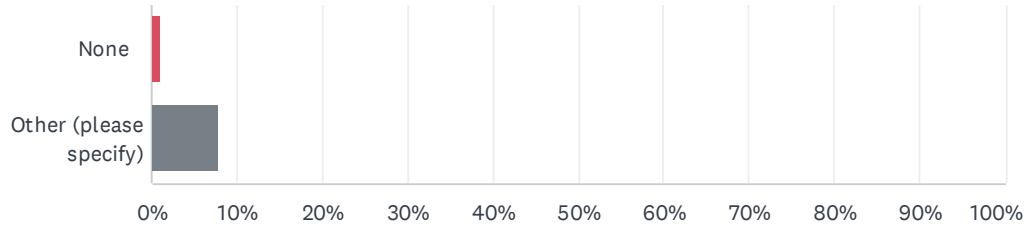
This section contains information and results gathered from the Warren County Citizen Survey. The main objective of this survey was to gather information from citizens regarding their level of knowledge regarding hazard vulnerability and knowledge of hazard mitigation information for their local communities. Over 90 respondents completed this survey over a period of 12 months during the planning process. The survey was available on Warren County website and the HMP website at: <https://www.warrencountynewyorkhmp.com>. The survey results are provided in the following pages, with personal information redacted.

Q1 In the past 10 years, which of the following hazard events have you experienced in Warren County? Check all that apply.

Answered: 89 Skipped: 1



Warren County Hazard Mitigation Plan Update - Public Survey



ANSWER CHOICES	RESPONSES	
Avalanche	0.00%	0
Climate Change	52.81%	47
Dam Failure	5.62%	5
Drought	28.09%	25
Earthquake	16.85%	15
Extreme Temperature (heat and cold)	48.31%	43
Flooding - Street/Land	41.57%	37
Flooding - Stormwater	37.08%	33
Flooding - Basement	17.98%	16
Flooding - 1st floor or above	2.25%	2
Geologic (landslide, sinkholes, subsidence)	6.74%	6
Invasive/Nuisance Species (harmful algal bloom, spotted lanternfly, etc.)	57.30%	51
Pandemic	75.28%	67
Severe Weather (tornado, thunderstorm, hail)	56.18%	50
Severe Winter Storms (blizzard, heavy snow, ice)	62.92%	56
Soil Hazards	3.37%	3
Transportation Accidents	22.47%	20
Wildfire	4.49%	4
None	1.12%	1
Other (please specify)	7.87%	7
Total Respondents: 89		

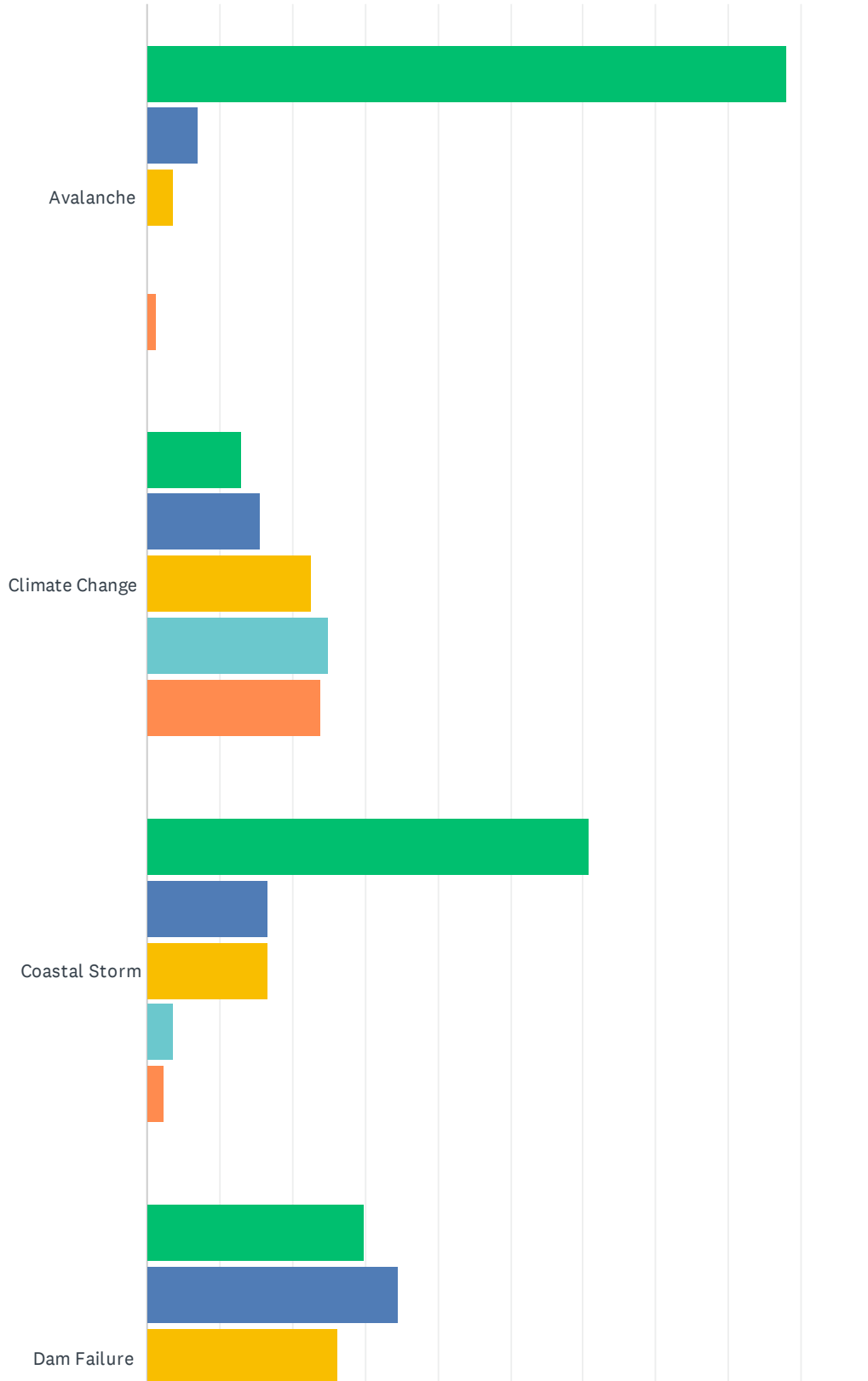
#	OTHER (PLEASE SPECIFY)	DATE
1	Air Quality Danger from Canadian Wildfires	8/2/2023 8:24 AM
2	Spongy Moths	12/21/2022 10:17 AM
3	salt runoff into my private well near Church Hill Road in Bolton Landing	12/11/2022 10:06 AM
4	high winds; raw sewage releases into the Hudson River	12/10/2022 11:36 AM
5	Tree failures. Blocking the road	12/10/2022 8:19 AM

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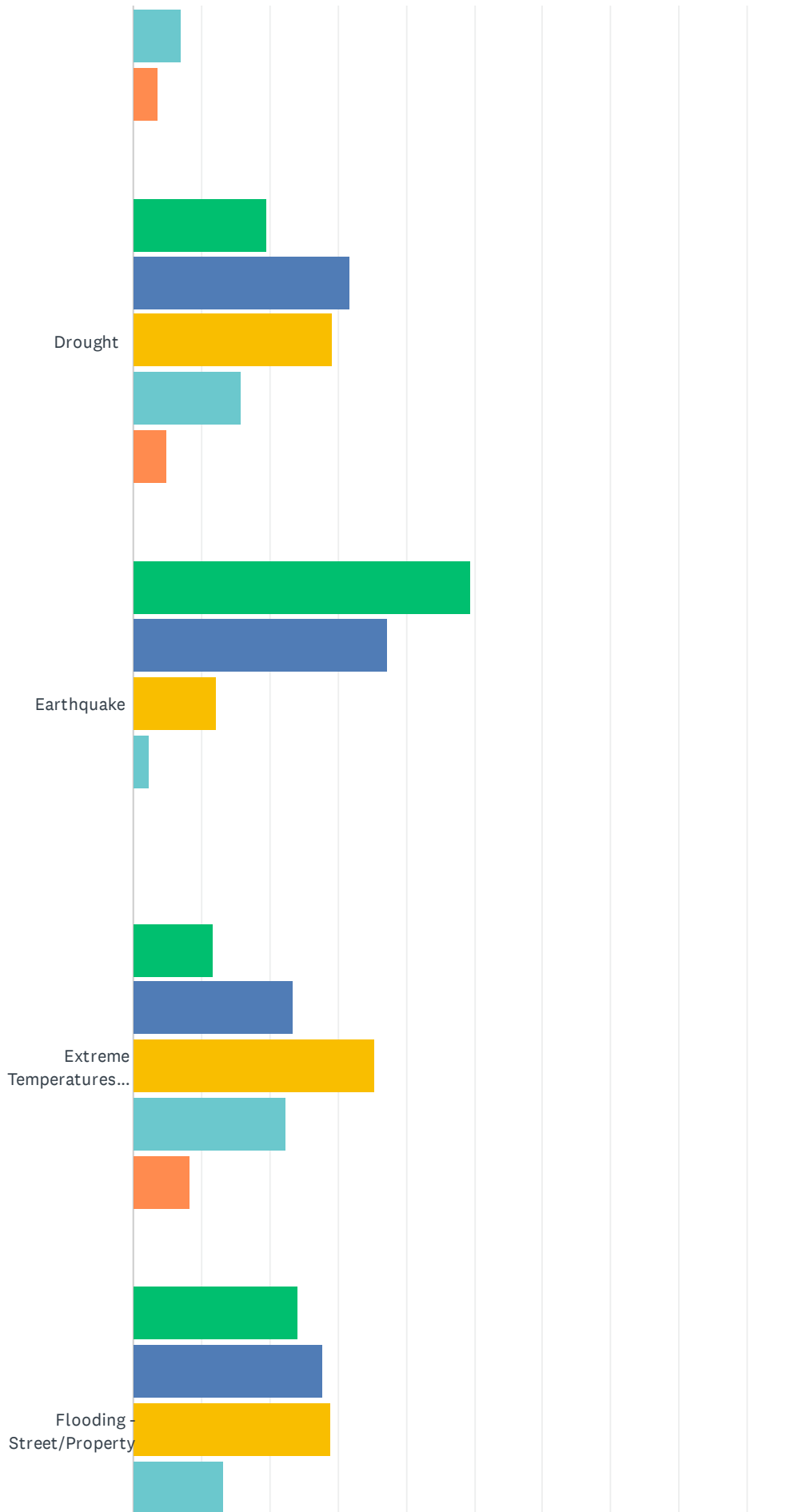
6	Sewage backup from street to basement, sewage gas fumes in HVAC floor vents	12/9/2022 9:35 PM
7	tree fell on house	12/9/2022 8:50 PM

Q2 How concerned are you about the following hazards in Warren County? Please check one for each hazard.

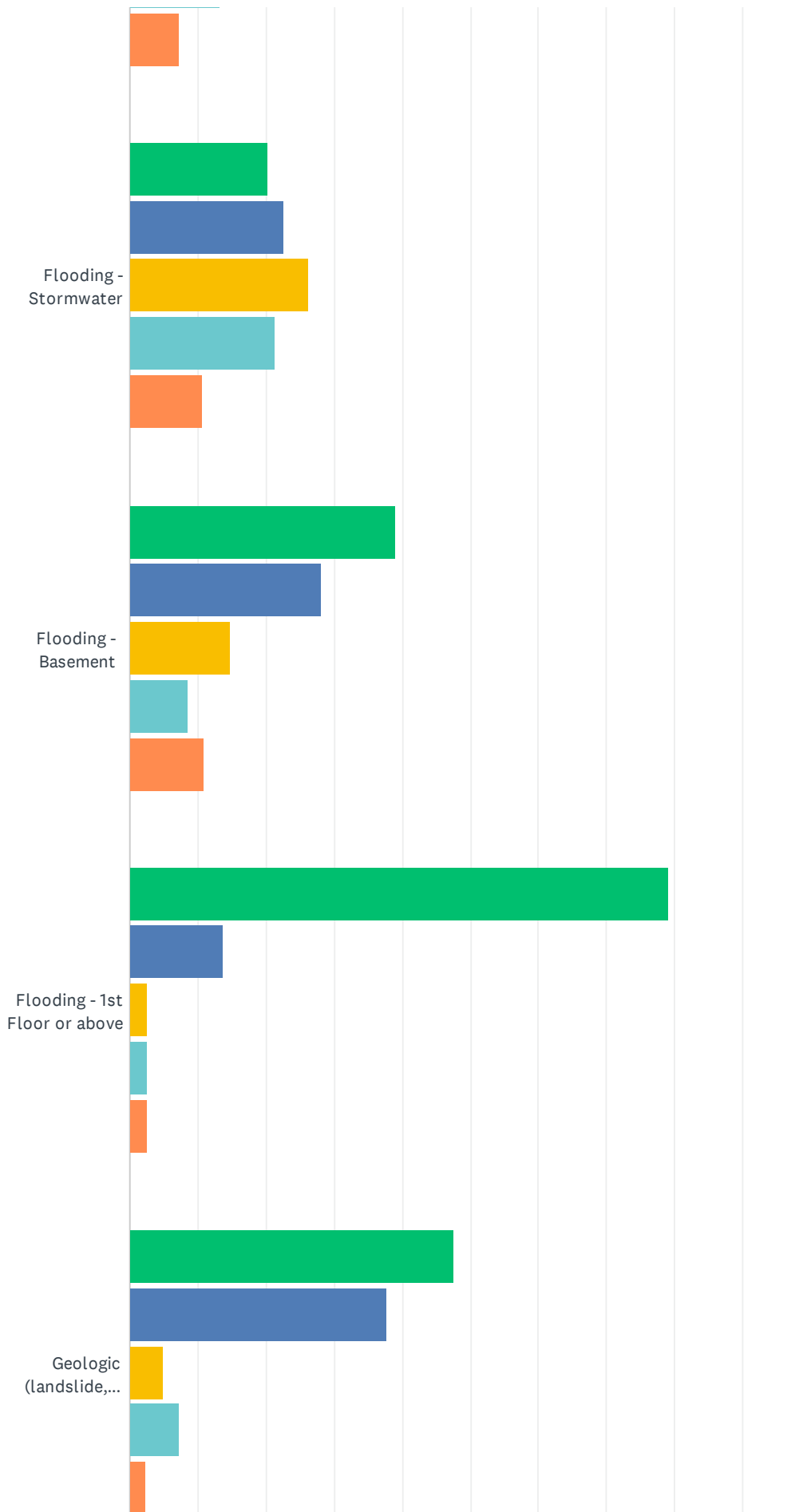
Answered: 89 Skipped: 1



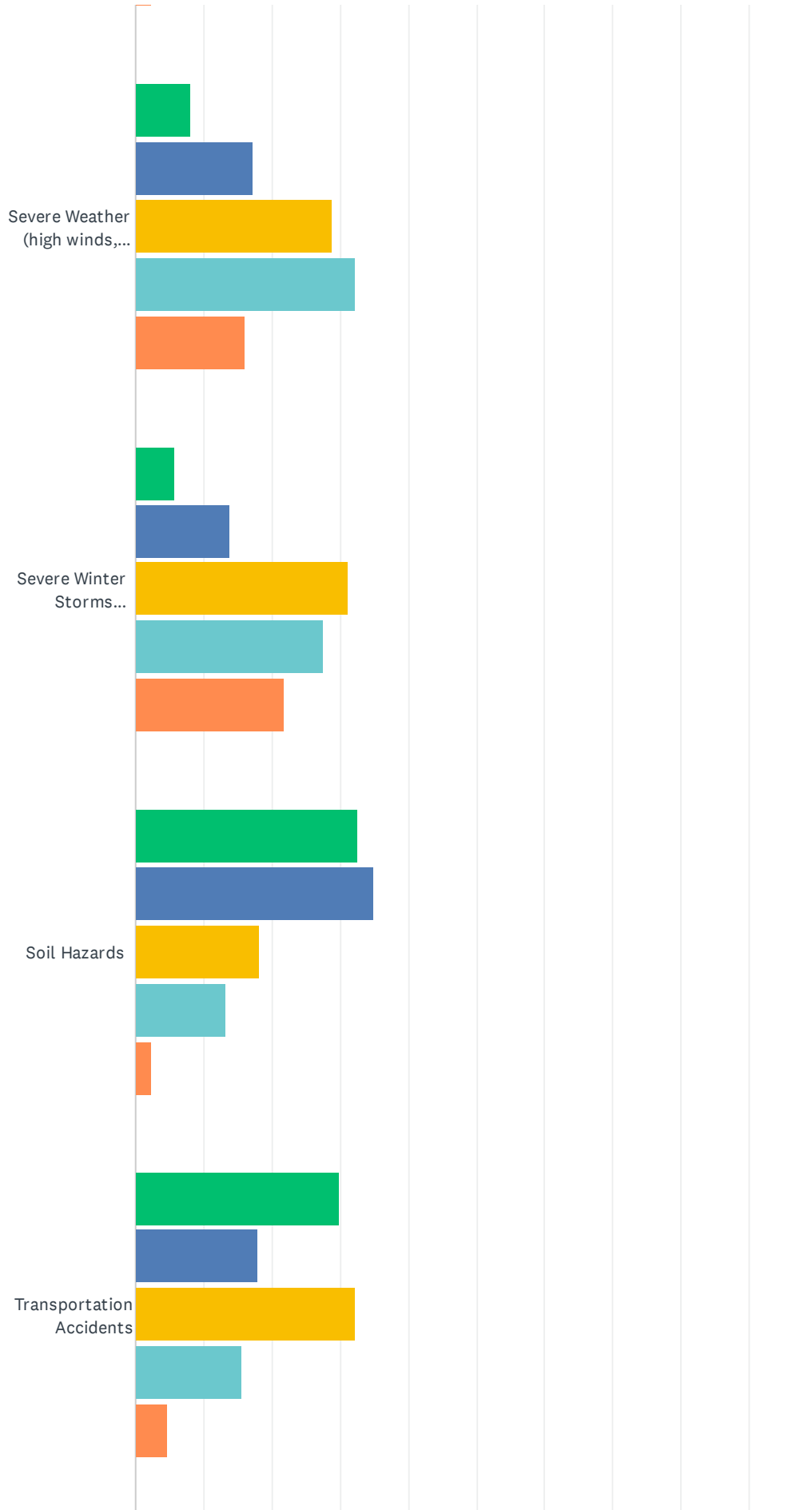
Warren County Hazard Mitigation Plan Update - Public Survey



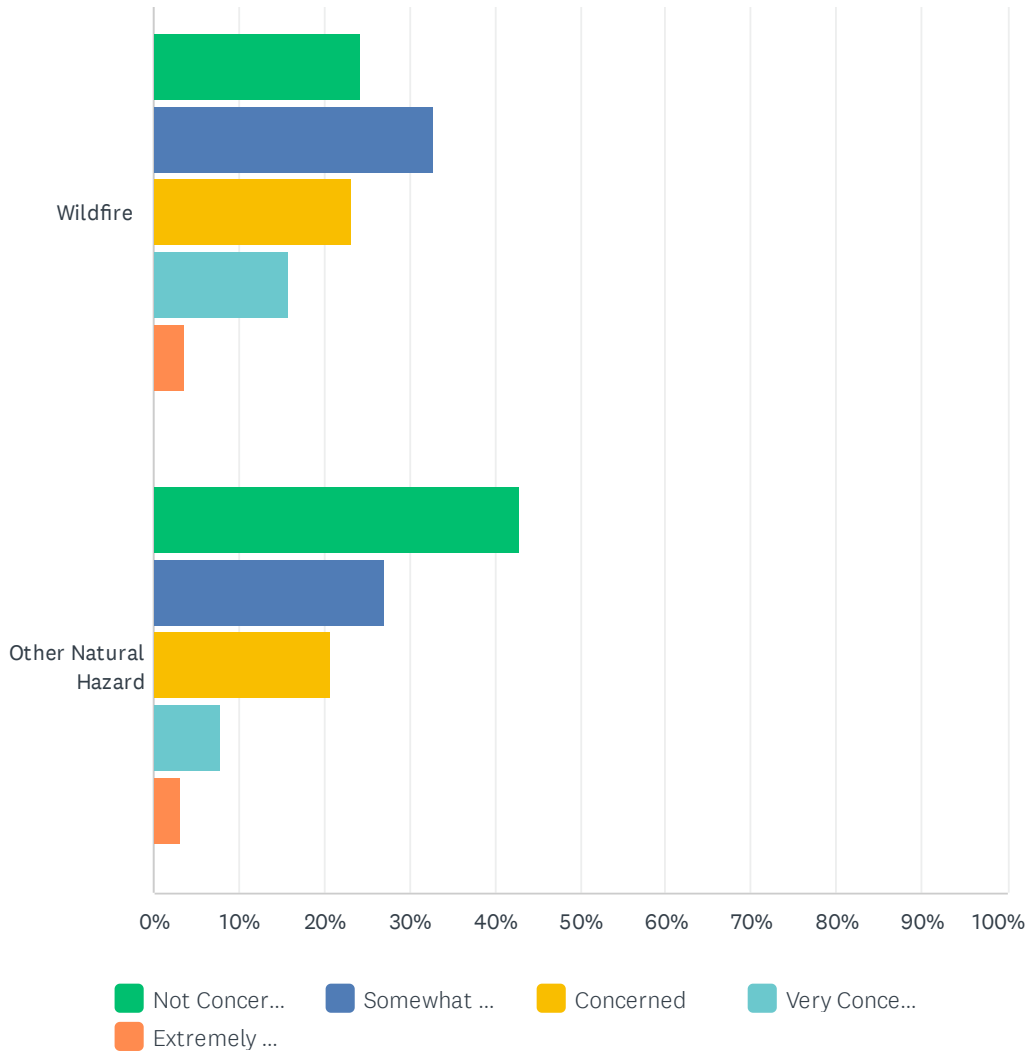
Warren County Hazard Mitigation Plan Update - Public Survey



Warren County Hazard Mitigation Plan Update - Public Survey



Warren County Hazard Mitigation Plan Update - Public Survey



Warren County Hazard Mitigation Plan Update - Public Survey

	NOT CONCERNED	SOMEWHAT CONCERNED	CONCERNED	VERY CONCERNED	EXTREMELY CONCERNED	TOTAL RESPONDENTS
Avalanche	88.10% 74	7.14% 6	3.57% 3	0.00% 0	1.19% 1	84
Climate Change	13.10% 11	15.48% 13	22.62% 19	25.00% 21	23.81% 20	84
Coastal Storm	60.71% 51	16.67% 14	16.67% 14	3.57% 3	2.38% 2	84
Dam Failure	29.76% 25	34.52% 29	26.19% 22	7.14% 6	3.57% 3	84
Drought	19.51% 16	31.71% 26	29.27% 24	15.85% 13	4.88% 4	82
Earthquake	49.40% 41	37.35% 31	12.05% 10	2.41% 2	0.00% 0	83
Extreme Temperatures (heat and cold)	11.76% 10	23.53% 20	35.29% 30	22.35% 19	8.24% 7	85
Flooding - Street/Property	24.10% 20	27.71% 23	28.92% 24	13.25% 11	7.23% 6	83
Flooding - Stormwater	20.24% 17	22.62% 19	26.19% 22	21.43% 18	10.71% 9	84
Flooding - Basement	39.02% 32	28.05% 23	14.63% 12	8.54% 7	10.98% 9	82
Flooding - 1st Floor or above	79.01% 64	13.58% 11	2.47% 2	2.47% 2	2.47% 2	81
Geologic (landslide, sinkholes, subsidence)	47.56% 39	37.80% 31	4.88% 4	7.32% 6	2.44% 2	82
Severe Weather (high winds, lightning, hail)	8.05% 7	17.24% 15	28.74% 25	32.18% 28	16.09% 14	87
Severe Winter Storms (blizzard, heavy snow, ice)	5.75% 5	13.79% 12	31.03% 27	27.59% 24	21.84% 19	87
Soil Hazards	32.53% 27	34.94% 29	18.07% 15	13.25% 11	2.41% 2	83
Transportation Accidents	29.76% 25	17.86% 15	32.14% 27	15.48% 13	4.76% 4	84
Wildfire	24.39% 20	32.93% 27	23.17% 19	15.85% 13	3.66% 3	82
Other Natural Hazard	42.86% 27	26.98% 17	20.63% 13	7.94% 5	3.17% 2	63

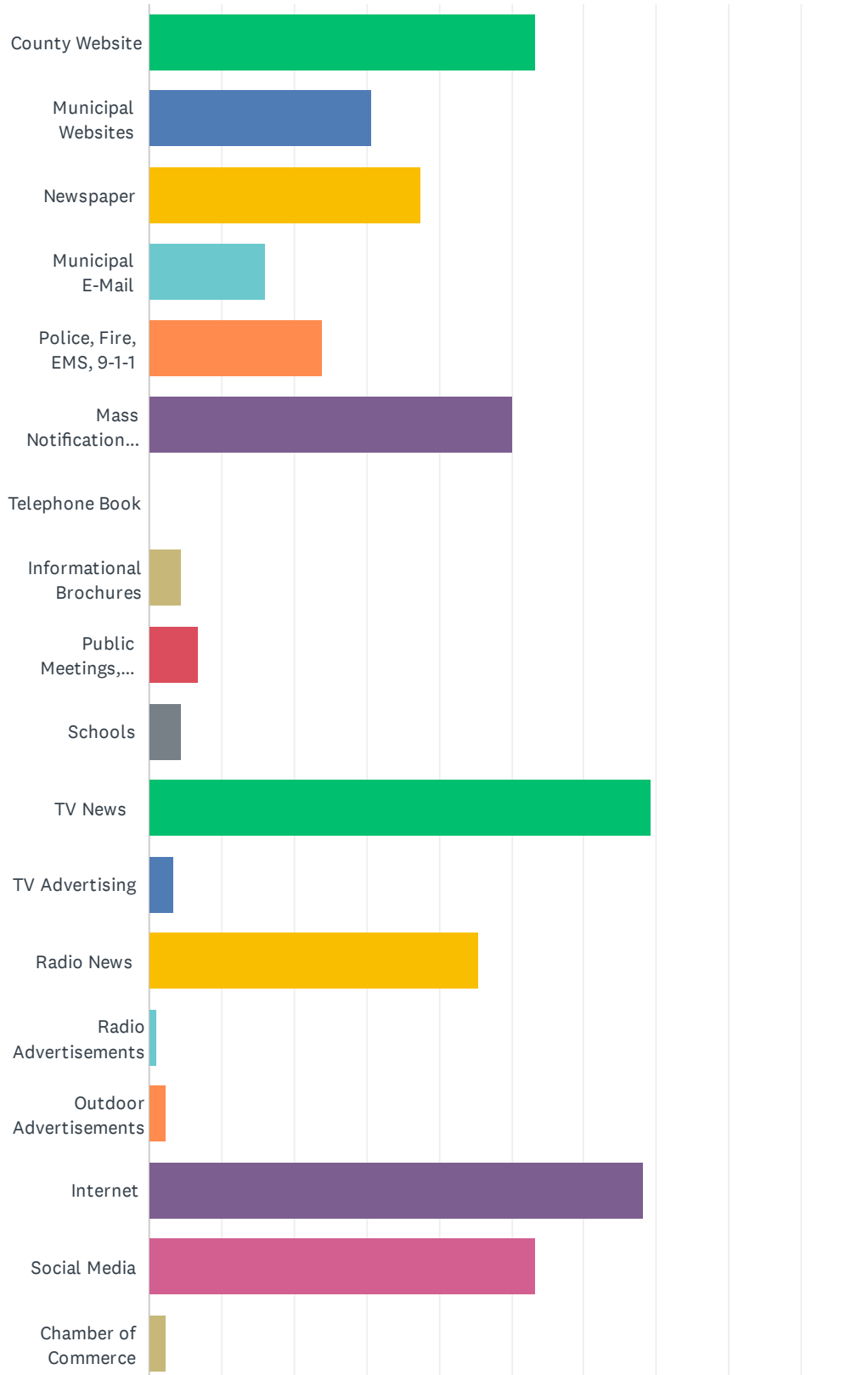
#	OTHER (PLEASE SPECIFY)	DATE
1	Air Quality Dangers	8/2/2023 8:24 AM
2	invasive species ie ash borers	3/15/2023 8:40 AM
3	mass shootings	3/11/2023 6:56 AM
4	Invasive species	3/10/2023 9:13 PM
5	G E and Finch landfills, Hudson River	3/10/2023 7:41 PM
6	Invasive insect forest destruction, power grid failure	1/12/2023 1:43 PM

Warren County Hazard Mitigation Plan Update - Public Survey

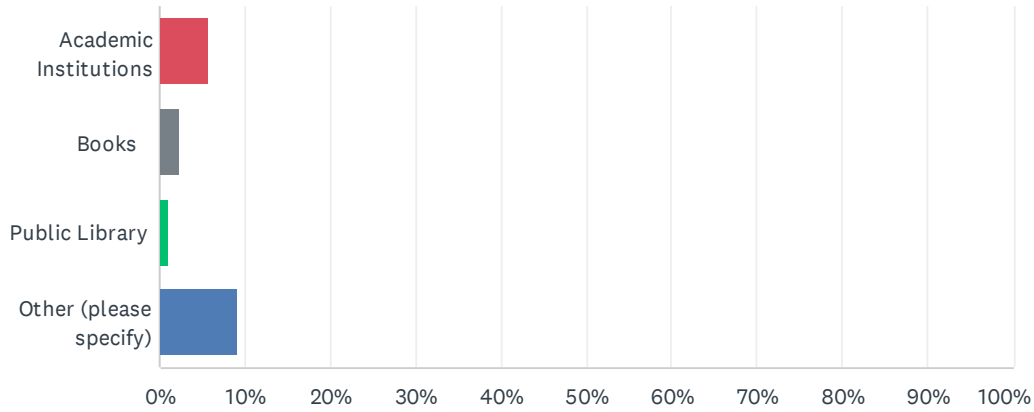
7	Aging Infrastructure	12/27/2022 7:03 AM
8	Invasive species impacts	12/21/2022 10:17 AM
9	Invasive insects	12/20/2022 1:35 PM
10	oil/gas/antifreeze seepage from dock storage at North Bolton Road/Church Hill Road into my pond/catch-basin	12/11/2022 10:06 AM
11	algae blooms	12/10/2022 11:45 AM
12	Power service interruptions should be on your list as they are a very big concern.	12/10/2022 6:52 AM
13	aquifer drainage by Just Water. Toxic air pollution by Finch Pruyn etc	12/9/2022 10:21 PM
14	Tornado	12/9/2022 9:35 PM
15	Invasive species	12/6/2022 10:16 AM

Q3 How do you receive your information concerning a disaster? Check all that apply.

Answered: 88 Skipped: 2



Warren County Hazard Mitigation Plan Update - Public Survey



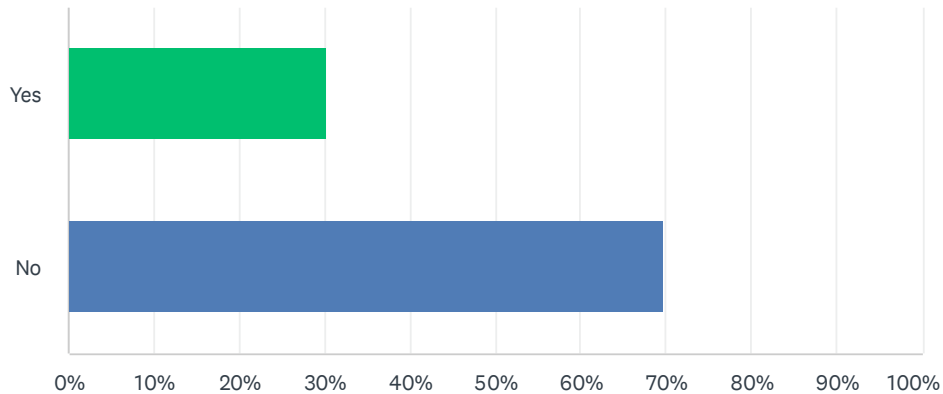
ANSWER CHOICES	RESPONSES	
County Website	53.41%	47
Municipal Websites	30.68%	27
Newspaper	37.50%	33
Municipal E-Mail	15.91%	14
Police, Fire, EMS, 9-1-1	23.86%	21
Mass Notification System (e.g. NYAlert)	50.00%	44
Telephone Book	0.00%	0
Informational Brochures	4.55%	4
Public Meetings, Workshops, Public Awareness Events	6.82%	6
Schools	4.55%	4
TV News	69.32%	61
TV Advertising	3.41%	3
Radio News	45.45%	40
Radio Advertisements	1.14%	1
Outdoor Advertisements	2.27%	2
Internet	68.18%	60
Social Media	53.41%	47
Chamber of Commerce	2.27%	2
Academic Institutions	5.68%	5
Books	2.27%	2
Public Library	1.14%	1
Other (please specify)	9.09%	8
Total Respondents: 88		

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#	OTHER (PLEASE SPECIFY)	DATE
1	Google phone alerts	7/13/2023 9:20 AM
2	Word of mouth	3/9/2023 6:24 AM
3	Phone/text communication w/ colleagues, friends, family	1/12/2023 1:05 PM
4	Utility Company Alerts (National Grid/Spectrum)	1/8/2023 4:40 PM
5	I am responding	12/14/2022 8:12 AM
6	NY.gov text alerts	12/12/2022 12:02 PM
7	National Grid notifications (Town of Bolton & Warren County do not send emails)	12/11/2022 10:06 AM
8	Friends who work in the fields	12/9/2022 9:35 PM

Q4 In the past, has your home been damaged by a hazard event? For example, the basement of your home flooded and damaged the hot water heater.

Answered: 86 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	30.23%	26
No	69.77%	60
TOTAL		86

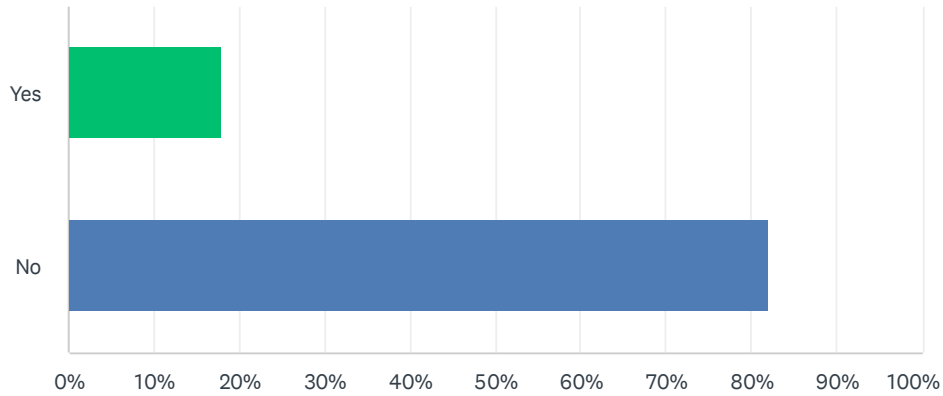
#	PLEASE EXPLAIN THE TYPE OF DAMAGE SUSTAINED AND WHEN IT OCCURRED.	DATE
1	Severe storm with lightening damage. Furnace, Door Opener, Elec Damage.	7/24/2023 9:37 AM
2	Extreme cold, frozen water pipes	7/13/2023 7:58 AM
3	roof shingles torn off in wind event in summer 2022	7/12/2023 4:26 PM
4	Wind damage to roof, water damage to ceilings, ice damage, electric system damage from lightning strike	7/11/2023 2:16 PM
5	Tree fell on house	3/11/2023 3:55 AM
6	Wind damage to roof and eaves	3/10/2023 9:13 PM
7	Wind damaged roof, lightning hit tree and traveled into house, damaging electrical system	3/9/2023 1:37 PM
8	Trees falling, high winds	3/9/2023 6:24 AM
9	We had severe rain and driving winds and our basement floor had water soaked through the concrete foundation; this was in the past year. About 3-4 years ago, we had an earthquake which caused some cracking in our house walls and shifting so the interior doors didn't close correctly anymore.	2/15/2023 1:01 PM
10	Sewer backup flooded into basement after a storm event.	1/12/2023 1:05 PM
11	I did have some flooding from a recent severe rain storm and my contractor was able to fix the roof issue that happened due to severe rain and then immediate 40 mph winds.	1/8/2023 4:40 PM
12	Basement flooded	12/20/2022 1:35 PM
13	Basement flood caused furnace outage and resulted in frozen pipes	12/14/2022 7:24 AM

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14	Basement in home flooded from ice storm causing flooring and walls needing to be replaced.	12/12/2022 12:02 PM
15	Due to the constant flooding from climate change and no longer just the spring thaw my basement floors have cracked and pieces of the concrete flooring are eroding/chipping and white mold has appeared	12/12/2022 9:31 AM
16	There's a county storm drain underneath Brook St, in the town of Bolton, that shoots huge volumes of water onto three other properties including mine, with it, we receive rocks, raw sewage, sand, glass, soil from upstream tributaries, and road debris. This is in addition to the widened culvert drain pipe running under Brook and Stewart Ave.	12/11/2022 5:05 PM
17	My garage is sinking because Warren County raised the road ~5 feet at the brook so my garage is now the lowest point on North Bolton Road at the foot of Church Hill Road. This resulted in NO drainage from the west side to east side of the road, almost no drainage north-to-south from garage to brook. This causes flooding in the road (as well as my former garden area and my garage foundation) all spring and summer AND ice all winter across North Bolton Road. Repeated requests for drainage solutions have been repulsed.	12/11/2022 10:06 AM
18	Storm drainage system failure in 30" CMP, caused wash out and beach failure. From the washout silts and stones washed into lake George causing a delta of sand and stone and asphalt	12/11/2022 7:50 AM
19	Basement flood	12/10/2022 2:31 PM
20	high winds have caused tree branches to come down and hit the house; roof shingle damage	12/10/2022 11:36 AM
21	Roof damage and leak from strong wind thunderstorm resulted in interior damage	12/10/2022 7:27 AM
22	Broken sewer line backed up into the basement with sewer gas fumes into my HVAC floor vents a few months ago. I developed both polycythemia and obstructive sleep apnea that may be related to previously diagnosed rare autoimmune neuromuscular disease OR the sewer line may have contributed	12/9/2022 9:35 PM
23	Tree fell on house in high wind - 2016 & 2022 Crawl space flooded - 2011	12/9/2022 8:50 PM
24	hot water heater	12/9/2022 4:50 PM
25	Hail storm. House roof had to be replaced. Additionally, car needed major (auto body) repair.	12/9/2022 2:14 PM
26	Severe thunderstorms, roof damage.	12/6/2022 10:16 AM

Q5 If you answered 'yes' above, did you report the damages to your local police or fire departments or to an emergency management agency?

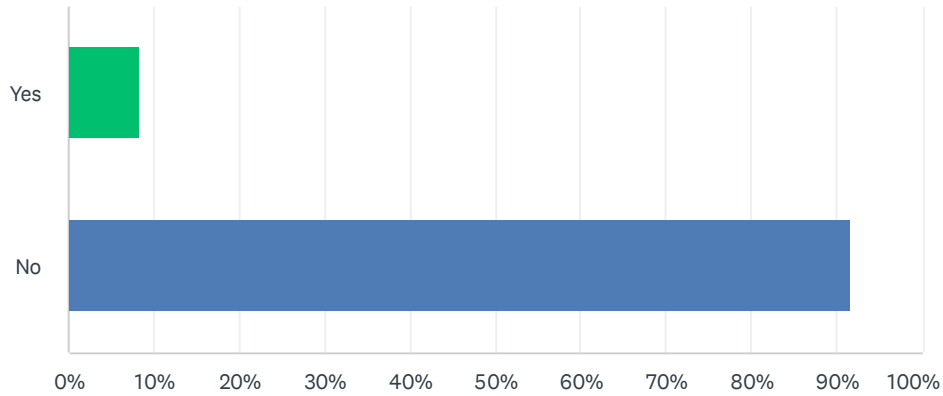
Answered: 56 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	17.86%	10
No	82.14%	46
TOTAL		56

Q6 To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

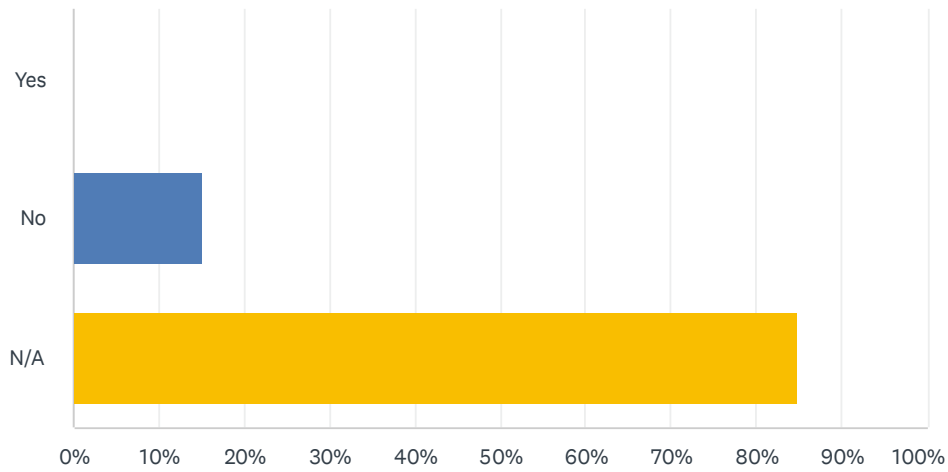
Answered: 85 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	8.24%	7
No	91.76%	78
TOTAL		85

Q7 If your property is in the floodplain, do you have flood insurance?

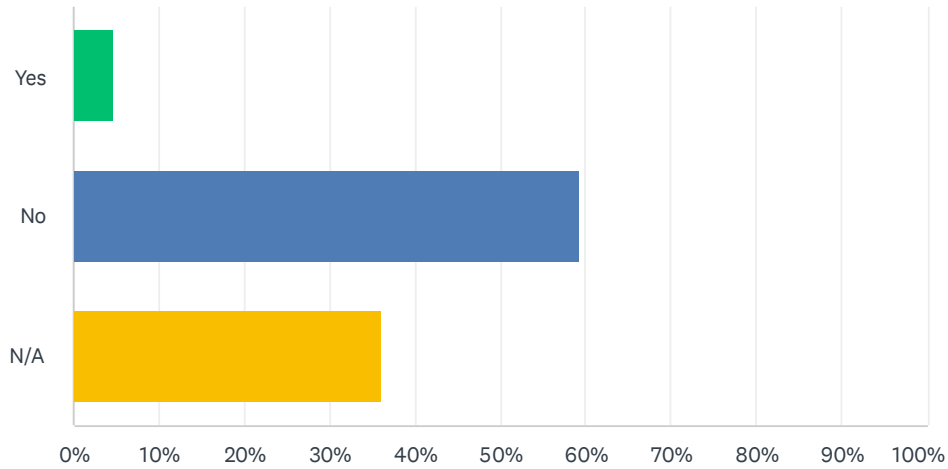
Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	15.19%	12
N/A	84.81%	67
TOTAL		79

Q8 If your property is located outside of the floodplain, do you have flood insurance?

Answered: 86 Skipped: 4



ANSWER CHOICES	RESPONSES
Yes	4.65% 4
No	59.30% 51
N/A	36.05% 31
TOTAL	86

Q9 Please identify any specific vulnerabilities that you are aware of in your city/town/village (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 45 Skipped: 45

#	RESPONSES	DATE
1	All of Warren County is susceptible to air quality dangers, as recently experienced from the Canadian Wildfires. The Hazard Mitigation plan is critically deficient regarding this danger.	8/2/2023 8:29 AM
2	13th Lake Road, North River, NY - 1st mile gabion wall.	7/14/2023 12:32 PM
3	The above-ground electric poles along Bloody Pond Road (and elsewhere in LG) are prone to outages due to wind and snow. Buried lines would be safer.	7/13/2023 9:23 AM
4	Thurman Bridge Spring Ice Jam 418	7/13/2023 8:02 AM
5	Stormwater washing out roads	7/12/2023 4:33 PM
6	Glens Falls watershed dams had concerns. Stormwater basins frequently overflow in Queensbury	7/11/2023 2:18 PM
7	Pine Tree Lane Diamond Point Always having power outages when others don't. They can last up to four days.	3/11/2023 10:56 AM
8	lack of back up power	3/11/2023 8:36 AM
9	Loon Lake Dam Failure. Power outages due to lack of appropriate tree removal along power lines.	3/11/2023 7:01 AM
10	Poor cell service. Lake Luzerne	3/10/2023 8:44 PM
11	Queensbury boat launch, Glen Lake, Lake George, Hudson	3/10/2023 7:45 PM
12	Susceptibility to flooding, poorly maintained dams owned by city of Glens Falls.	3/9/2023 1:38 PM
13	Schools lack of back up power in the event power goes out and lack heating elements. Trees along residential roads that aren't cut back. Power drainage on road ways.	3/9/2023 6:32 AM
14	I only work in Warren County; I live in Saratoga County. I don't believe this question is applicable to me.	2/24/2023 8:55 AM
15	prone to power outages from trees on lines	2/16/2023 2:05 PM
16	general back-up power, snow/ice blockage on highways	2/15/2023 1:58 PM
17	Floodprone area on Meadowbrook Road @ Halfway Brook	2/15/2023 1:34 PM
18	low water levels in kattskill bay lake george due to water management practices	2/15/2023 1:33 PM
19	None that I'm	2/15/2023 12:41 PM
20	n/a	2/15/2023 12:40 PM
21	None known	1/15/2023 10:53 PM
22	Apartment building for disabled and retired with all electric heat. No on demand generator. Located at 10 Manor Rd.	1/13/2023 2:03 PM
23	13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.	1/12/2023 3:57 PM
24	Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer	1/8/2023 4:44 PM

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drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)

25	Water Tank control panel without power backup	12/27/2022 7:07 AM
26	None	12/23/2022 3:24 PM
27	Ice jamming on Hudson River at 418 Bridge. Flooding on River Road	12/21/2022 10:22 AM
28	See initial list of environmental threats experienced in this region	12/14/2022 3:47 PM
29	Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.	12/14/2022 7:27 AM
30	None	12/14/2022 6:49 AM
31	Numerous roads and stream crossings could be subject to flood/storm damage.	12/14/2022 6:03 AM
32	East End in Glens Falls is known for being a high water table area	12/12/2022 9:33 AM
33	North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.	12/11/2022 10:09 AM
34	Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.	12/11/2022 8:00 AM
35	Lack of municipal sewer and water	12/10/2022 2:32 PM
36	na	12/10/2022 11:49 AM
37	poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.	12/10/2022 11:44 AM
38	My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored	12/10/2022 8:22 AM
39	C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD Johnsbury	12/10/2022 7:39 AM
40	Loon Lake Dam, Rt 8/9, Chestertown	12/10/2022 6:57 AM
41	ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.	12/9/2022 9:47 PM
42	Hudson River Basin Lake Luzerne to Corinth	12/9/2022 8:54 PM
43	We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.	12/9/2022 7:25 PM
44	Electric	12/9/2022 12:13 PM
45	Glens Falls dams on West Mountain	12/9/2022 9:03 AM

Q10 Please identify any specific vulnerable areas outside of your city/town/village (e.g. flood-prone areas or specific properties, critical facilities that lack backup power, etc.). Please list the city/town/village, street names, and other specific identifiers if possible.

Answered: 33 Skipped: 57

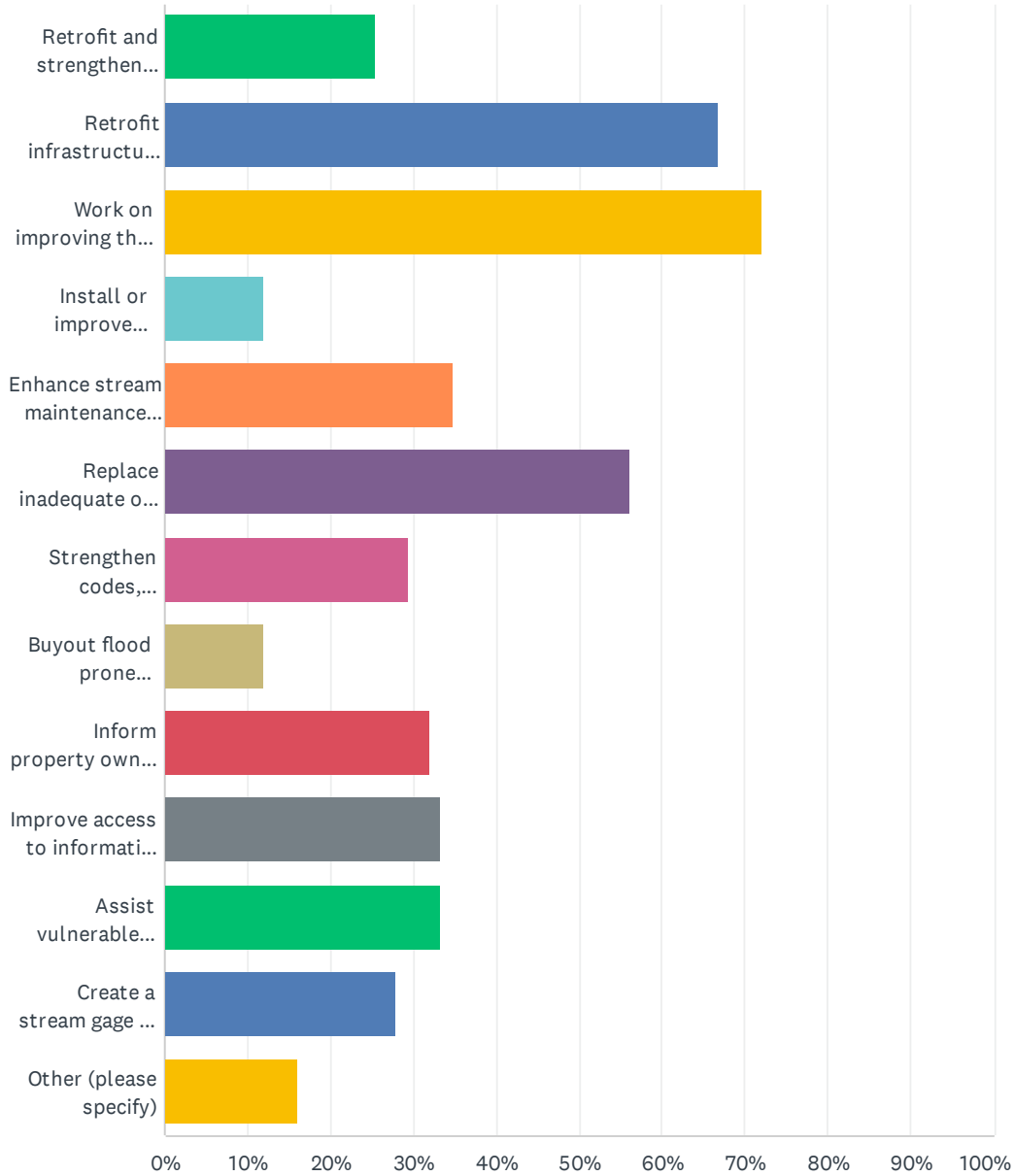
#	RESPONSES	DATE
1	n/a	8/2/2023 8:29 AM
2	n/a	7/13/2023 9:23 AM
3	Post office is located on Number 9 Brook.	7/13/2023 8:14 AM
4	Hague Brook flooding	7/12/2023 4:33 PM
5	Schroon and Hudson Rivers flooding	7/11/2023 2:18 PM
6	Federal Hill Rd	3/11/2023 8:36 AM
7	See above	3/10/2023 7:45 PM
8	Areas along Hudson River and Schroon River are flooded frequently	3/9/2023 1:38 PM
9	Lack of internet service in rural areas.	3/9/2023 6:32 AM
10	I only work in Warren County. I live in Saratoga County.	2/24/2023 8:55 AM
11	Queensbury - Halfway Brook Area/flooding Warrensburg - Schroon River Area/flooding Chester&Horicon - Schroon River Area/flooding	2/16/2023 2:05 PM
12	same	2/15/2023 1:58 PM
13	na	2/15/2023 1:33 PM
14	None that I'm aware of	2/15/2023 12:41 PM
15	n/a	2/15/2023 12:40 PM
16	Unknown	1/15/2023 10:53 PM
17	None I can think of	1/13/2023 2:03 PM
18	Meadowbrook rd, Qby - Flooding	1/12/2023 1:24 PM
19	Unsure.	1/8/2023 4:44 PM
20	None	12/23/2022 3:24 PM
21	Unaware	12/14/2022 3:47 PM
22	None.	12/14/2022 7:27 AM
23	None	12/14/2022 6:49 AM
24	None known of	12/11/2022 10:09 AM
25	Lakeview Circle Drive Town of Lake George	12/11/2022 8:00 AM
26	na	12/10/2022 11:49 AM
27	don't know.	12/10/2022 11:44 AM
28	GFWWTP releasing sewage into Hudson after every heavy rainstorm. Inadequate storm drainage on streets	12/9/2022 10:31 PM

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29	Still ZERO fragrance-free emergency shelters - I would not be able to survive in an emergency shelter due to respiratory distress when exposed to fragranced / scented products (body, laundry, cleaning, etc.)	12/9/2022 9:47 PM
30	Power cybersecurity concern	12/9/2022 8:10 PM
31	Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River, and includes part of the town North Creek at the train station where Teddy Roosevelt learned McKinley had died from his wound, and he was now President. The historic Train station has been preserved, but flooding of the Hudson in the spring has caused concern a number of years in the past ten.	12/9/2022 7:25 PM
32	Thurman bridge	12/9/2022 12:13 PM
33	Downtown Warrensburg from Schroon River flooding	12/9/2022 9:03 AM

Q11 What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Warren County? Select your top three choices.

Answered: 75 Skipped: 15



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ANSWER CHOICES	RESPONSES	
Retrofit and strengthen essential facilities such as police, schools, and hospitals	25.33%	19
Retrofit infrastructure, such as elevating roadways and improving drainage systems	66.67%	50
Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)	72.00%	54
Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks	12.00%	9
Enhance stream maintenance programs/projects	34.67%	26
Replace inadequate or vulnerable bridges and causeways	56.00%	42
Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas	29.33%	22
Buyout flood prone properties and maintain as open space	12.00%	9
Inform property owners of ways they can mitigate damage to their properties	32.00%	24
Improve access to information about hazard risks and high-hazard areas	33.33%	25
Assist vulnerable property owners with securing funding to mitigate their properties	33.33%	25
Create a stream gage and weather monitoring program to provide more accurate data and warnings	28.00%	21
Other (please specify)	16.00%	12
Total Respondents: 75		

#	OTHER (PLEASE SPECIFY)	DATE
1	Install PurpleAir air monitoring sensors in the Northern & Western areas of Warren County to improve the Air Quality Forecasts provided by the EPA and NYS DEC.	8/2/2023 8:29 AM
2	Require power companies to be more proactive in maintain power lines from tree damage, put power source lines underground	3/11/2023 8:36 AM
3	Underground utilities!	3/10/2023 7:45 PM
4	Burying utilities and power lines to prevent damage from storms, and accidents	3/9/2023 6:32 AM
5	Encourage all property owners to assist with capturing & infiltrating stormwater.	1/12/2023 1:24 PM
6	I think some of the projects listed here are already being mitigated/worked on.	1/8/2023 4:44 PM
7	None	12/14/2022 6:49 AM
8	Retrofit infrastructure by LOWERING North Bolton Road at the foot of Church Hill Road to where it was years ago when drainage was NEVER A PROBLEM.	12/11/2022 10:09 AM
9	Infrastructure improvements drainage	12/11/2022 8:00 AM
10	Assist utilities in ROW acquisition on bridge projects and to support new critical ethic redundancy projects	12/10/2022 7:39 AM
11	emergency preparedness training for natural disasters for citizens, and in schools	12/9/2022 10:31 PM
12	Ensure town's have emergency plans and backup or mobile power	12/9/2022 2:25 PM

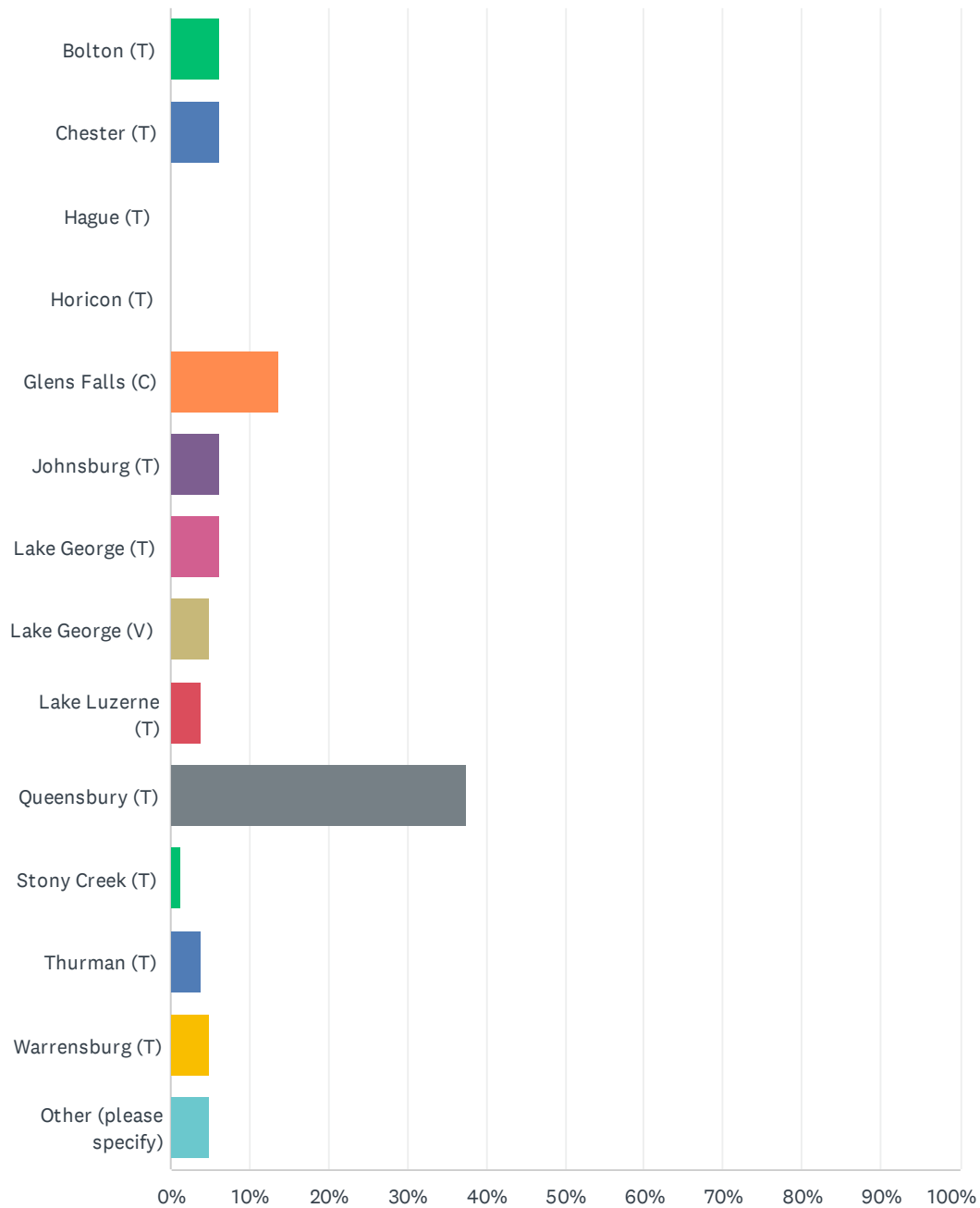
Q12 Do you have any other comments, questions, or concerns regarding hazard mitigation in Warren County?

Answered: 23 Skipped: 67

#	RESPONSES	DATE
1	Air Quality emergencies must be incorporated into this hazard mitigation plan. This plan is critically deficient without this obvious hazard.	8/2/2023 8:29 AM
2	Inadequate shelters in case of emergencies	3/11/2023 7:01 AM
3	Use the health Dept	3/10/2023 7:45 PM
4	no	3/9/2023 1:38 PM
5	no	2/24/2023 8:55 AM
6	no, thanks	2/15/2023 1:58 PM
7	remove tree limbs that hang over the 9L road before someone gets seriously injured	2/15/2023 1:33 PM
8	I see climate change as one of the biggest concerns now and in the future that could and would impact a lot of weather related hazard events. I think more projects that focus on taking care of our environment, like adopt a highway and stream clean up days, as a good thing to consider.	2/15/2023 12:41 PM
9	No	1/13/2023 2:03 PM
10	Looking forward to the outcomes of these surveys.	1/8/2023 4:44 PM
11	Nope	12/23/2022 3:24 PM
12	I would appreciate receiving real time alerts from Warren County similarly to FEMA	12/14/2022 3:47 PM
13	The area looks pretty safe to me!!!....JMO	12/14/2022 6:49 AM
14	Each municipal government should be required to participate in this process. They should assess their community for potential hazards and develop a mitigation plan.	12/14/2022 6:03 AM
15	Warren County needs to fix the drainage issue it CAUSED.	12/11/2022 10:09 AM
16	Funding	12/11/2022 8:00 AM
17	I see that climate change is affecting us. One problem that we never experienced until recent years is algae blooms.	12/10/2022 11:49 AM
18	Until now, I've never heard of it.	12/10/2022 8:22 AM
19	No	12/10/2022 6:57 AM
20	Annual preparedness training at senior centers, at schools and in locations that citizens are encouraged to attend. create a citizen team to work with Emergency Management for Warren County	12/9/2022 10:31 PM
21	Vastly improve ACCESSIBILITY for disabled people and Disaster Planning to include INPUT from disabled people with various disabilities; including respiratory	12/9/2022 9:47 PM
22	during severe winter storms, county buildings need to close or open late as employees travel long distances to get to Warren County Municipal Center and should not have to use personal time in case of extreme weather.	12/9/2022 4:54 PM
23	Extreme weather (heavy downpours and sudden storms) have increased greatly. Review of runoff areas should be reviewed.	12/9/2022 2:25 PM

Q13 Please indicate the municipality in which you live:

Answered: 80 Skipped: 10



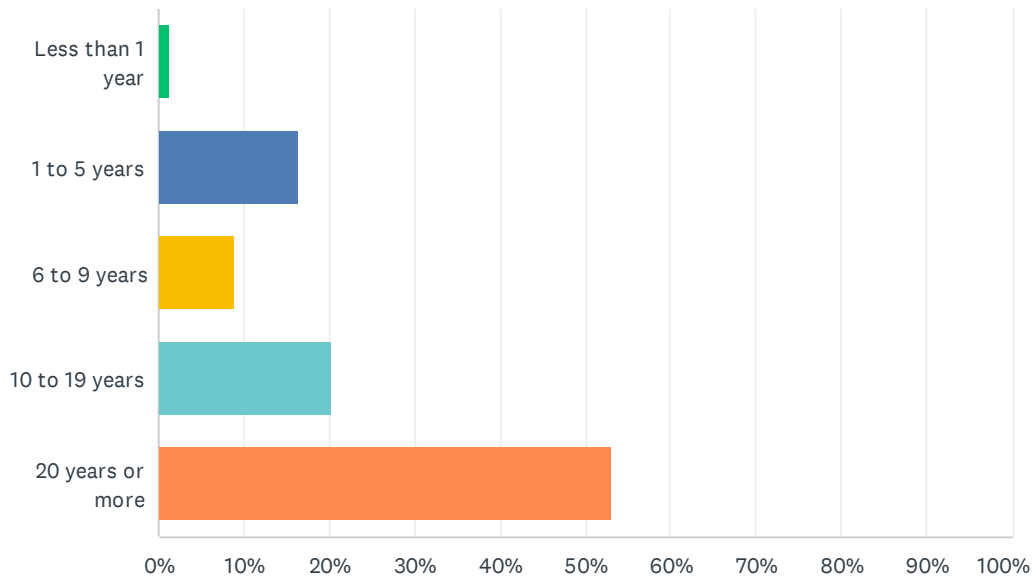
Warren County Hazard Mitigation Plan Update - Public Survey

ANSWER CHOICES	RESPONSES	
Bolton (T)	6.25%	5
Chester (T)	6.25%	5
Hague (T)	0.00%	0
Horicon (T)	0.00%	0
Glens Falls (C)	13.75%	11
Johnsburg (T)	6.25%	5
Lake George (T)	6.25%	5
Lake George (V)	5.00%	4
Lake Luzerne (T)	3.75%	3
Queensbury (T)	37.50%	30
Stony Creek (T)	1.25%	1
Thurman (T)	3.75%	3
Warrensburg (T)	5.00%	4
Other (please specify)	5.00%	4
Total Respondents: 80		

#	OTHER (PLEASE SPECIFY)	DATE
1	live outside Warren County in Ticonderoga but work in Hague	7/12/2023 4:35 PM
2	Hadley	3/15/2023 8:42 AM
3	Corinth	2/24/2023 8:56 AM
4	Ticonderoga, but work in Queensbury	2/15/2023 1:34 PM

Q14 How long have you lived here?

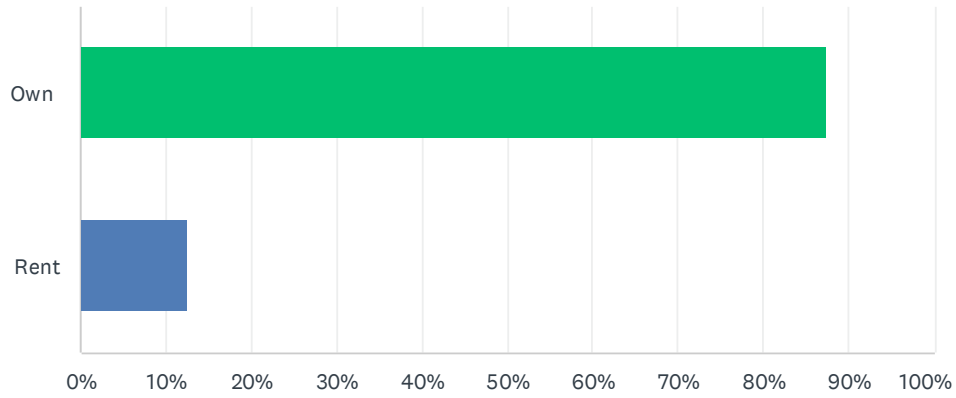
Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Less than 1 year	1.27%	1
1 to 5 years	16.46%	13
6 to 9 years	8.86%	7
10 to 19 years	20.25%	16
20 years or more	53.16%	42
TOTAL		79

Q15 Do you own or rent your place of residence?

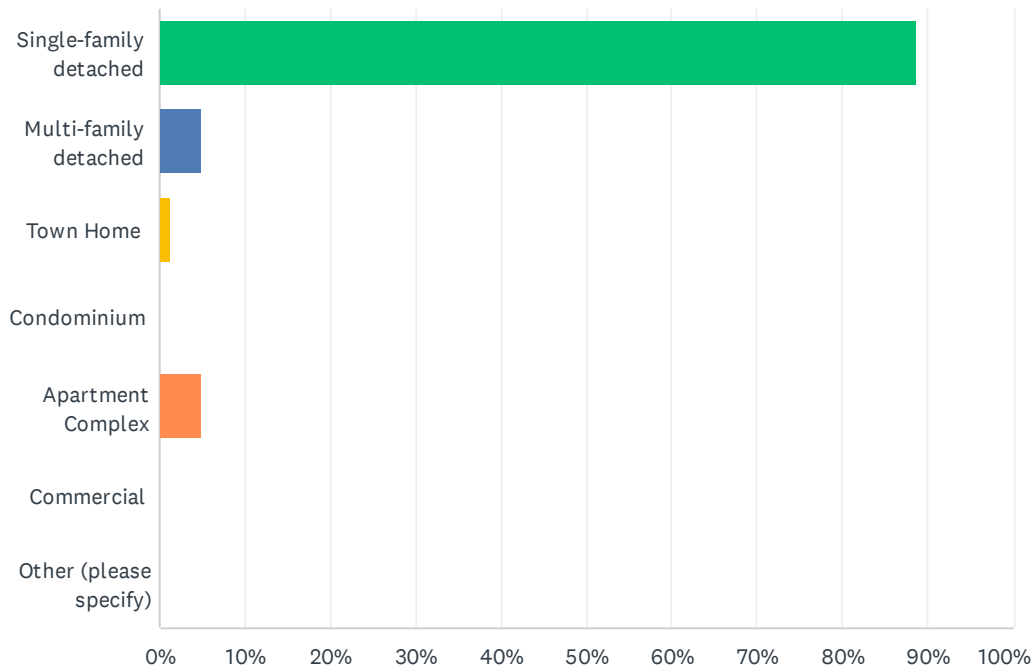
Answered: 80 Skipped: 10



ANSWER CHOICES	RESPONSES	
Own	87.50%	70
Rent	12.50%	10
TOTAL		80

Q16 What type of residence do you live in?

Answered: 80 Skipped: 10



ANSWER CHOICES	RESPONSES	
Single-family detached	88.75%	71
Multi-family detached	5.00%	4
Town Home	1.25%	1
Condominium	0.00%	0
Apartment Complex	5.00%	4
Commercial	0.00%	0
Other (please specify)	0.00%	0
TOTAL		80

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q17 What is the address of your property? (optional, will be kept confidential - only used to identify hazard areas such as flooding)

Answered: 40 Skipped: 50

#	RESPONSES	
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Warren County Hazard Mitigation Plan Update - Public Survey

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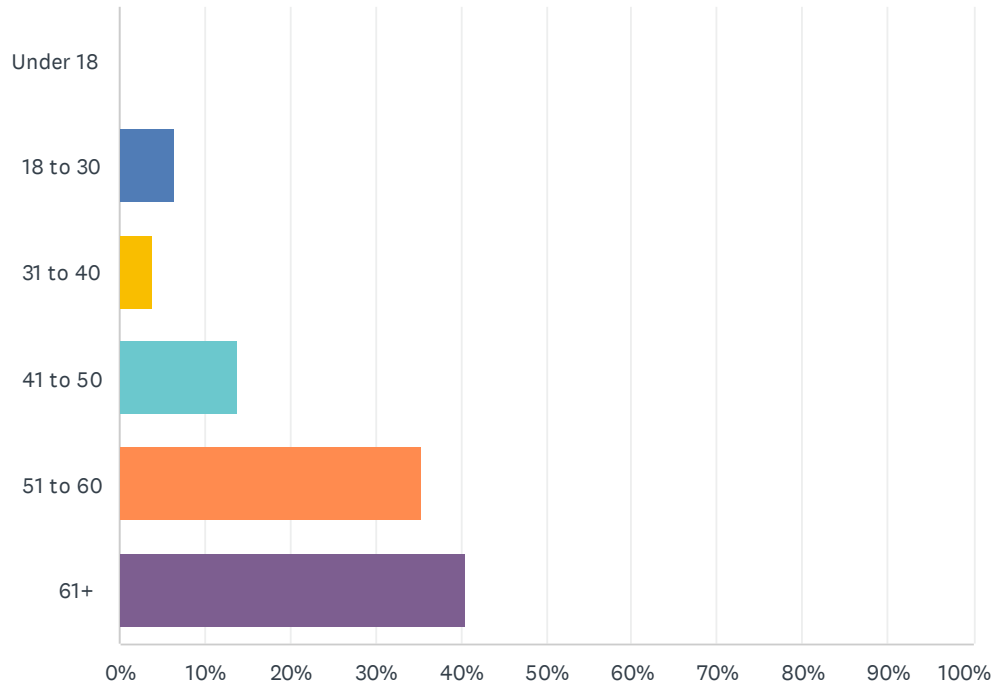
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Q18 Please indicate your age range:

Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 to 30	6.33%	5
31 to 40	3.80%	3
41 to 50	13.92%	11
51 to 60	35.44%	28
61+	40.51%	32
TOTAL		79



D.2 STAKEHOLDER SURVEYS

In addition to collecting information from residents of Warren County, surveys were developed for the agencies and stakeholders in the county. Unlike steering committee or planning partnership members, stakeholders may not be involved in all stages of the planning process, but they may have information or input to provide. In order to gather that information, the surveys were sent to the following stakeholders: law enforcement, firefighters, emergency medical services, highway and public works, business and commerce, hospitals and health care providers, and utilities. Results of the surveys are provided in the following pages, with personal information redacted.

Q1 Name of your department/office/institution

Answered: 15 Skipped: 0

#	RESPONSES	DATE
1	Glens Falls City School District	7/24/2023 2:55 PM
2	Warren/Hamilton Counties OFA	7/13/2023 3:09 PM
3	Silver Bay YMCA	7/13/2023 1:18 PM
4	Glens Falls Police Department	7/13/2023 11:05 AM
5	Center for Disability Services , Prospect School	7/13/2023 7:36 AM
6	Warren County Parks Recreation & Railroad	7/13/2023 7:22 AM
7	National Grid	1/18/2023 8:39 AM
8	WARREN COUNTY HEALTH SERVICES	1/9/2023 10:39 AM
9	NYS Department of Health Glens Falls District Office	1/9/2023 9:28 AM
10	Lake George Regional Chamber of Commerce & CVB	1/8/2023 4:26 PM
11	Southern Adirondack Independent Living	1/6/2023 8:13 AM
12	Health Services	1/6/2023 8:08 AM
13	Glens Falls Hospital	1/5/2023 4:55 PM
14	Greater Glens Falls Transit	1/5/2023 4:26 PM
15	Glens Falls common council	12/14/2022 7:26 PM

Q2 Name of Respondent

Answered: 15 Skipped: 0

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Q3 What is your position/title/role with your department/office/institution?

Answered: 15 Skipped: 0

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Q4 Please provide your contact information.

Answered: 15 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	15
Phone Number	93.33%	14

#	NAME	DATE
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There are no responses.

#	COMPANY	DATE
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There are no responses.

#	ADDRESS	DATE
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There are no responses.

#	ADDRESS 2	DATE
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There are no responses.

#	CITY/TOWN	DATE
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There are no responses.

#	STATE/PROVINCE	DATE
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There are no responses.

#	ZIP/POSTAL CODE	DATE
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There are no responses.

#	COUNTRY	DATE
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There are no responses.

#	EMAIL ADDRESS	DATE
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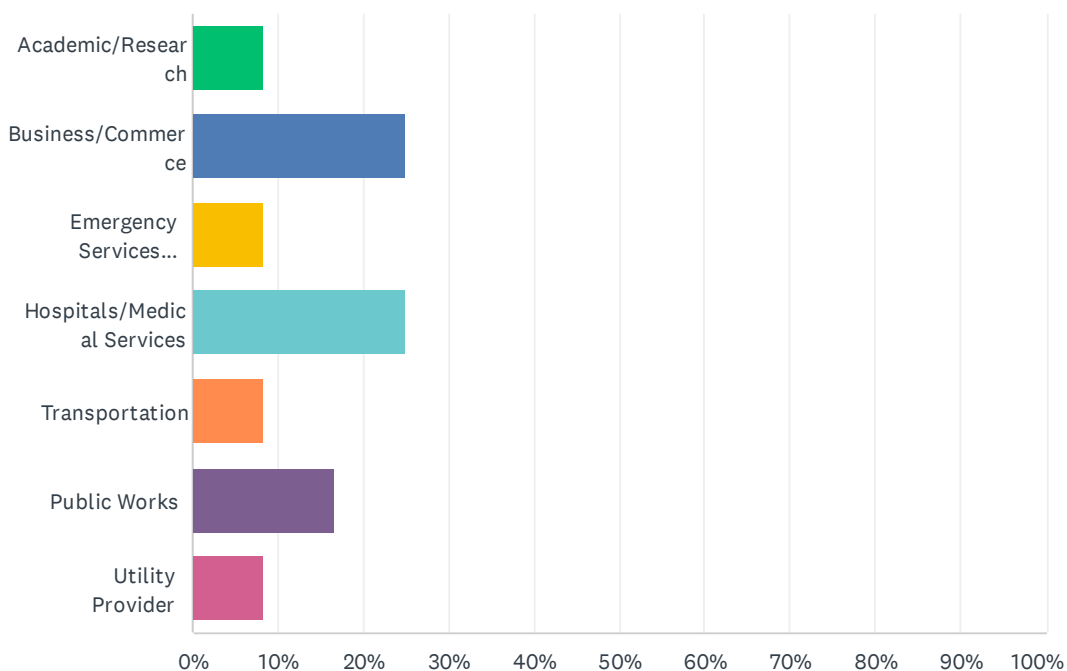
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Warren County Hazard Mitigation Plan - Stakeholder Survey

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Q5 What category does your facility operation/service fall under?

Answered: 12 Skipped: 3



ANSWER CHOICES	RESPONSES
Academic/Research	8.33% 1
Business/Commerce	25.00% 3
Emergency Services (police, fire, EMS)	8.33% 1
Hospitals/Medical Services	25.00% 3
Transportation	8.33% 1
Public Works	16.67% 2
Utility Provider	8.33% 1
TOTAL	12

#	OTHER (PLEASE SPECIFY)	DATE
1	School	7/13/2023 7:38 AM
2	Environmental Health	1/9/2023 9:32 AM
3	We work with more than 460 hospitality focused businesses to ensure our economic vitality throughout Warren County and beyond. We also promote Warren County as the destination of choice for group (business/association/bus tours/reunions/weddings) business. Lastly, we operate the Adirondacks Welcome Center TasteNY / Tourism programs.	1/8/2023 4:30 PM
4	Local Health Department	1/6/2023 8:18 AM

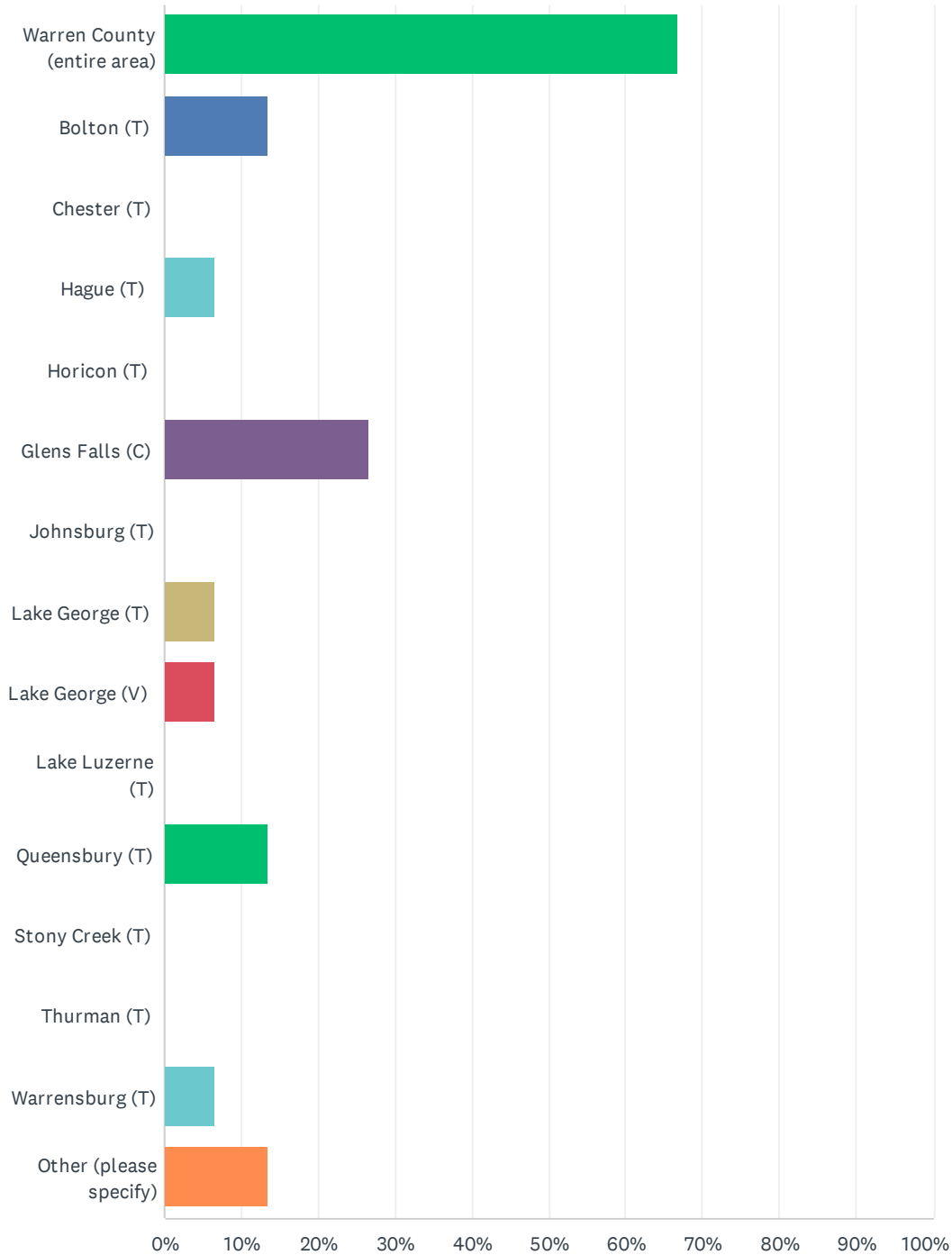
Q6 Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Answered: 14 Skipped: 1

#	RESPONSES	DATE
1	Public School	7/24/2023 2:58 PM
2	Office for the Aging - provide assistance to seniors	7/13/2023 3:11 PM
3	YMCA Family Retreat and Conference Center offers lodging, hospitality services, meals, programs and indoor and outdoor recreation to visitors and community members.	7/13/2023 1:21 PM
4	Police	7/13/2023 11:06 AM
5	We provide educational services for school age children	7/13/2023 7:38 AM
6	We manage and maintain the Warren County Fish Hatchery, Bikeway, Fairgrounds, Canoe access sites and Up Yonda Farm Environmental Education Center	7/13/2023 7:27 AM
7	Electricity and Natural Gas Utility.	1/18/2023 8:41 AM
8	MEDICAL ASSITANCE TO THE ILL AND ELDERLY, VACCINATIONS, RABIES CLINICS	1/9/2023 10:40 AM
9	Provide environmental health oversight of facilities permitted and regulated by our office.	1/9/2023 9:32 AM
10	We offer information outreach, tourism marketing/promotional activities, direct contact with visitors and community partners.	1/8/2023 4:30 PM
11	we are responsible for completing the requirements of NYSDOH Article 6 General Public Health Work Program which includes completing a Community Health Assessment & Improvement Plann every 3 years, chronic disease prevention (CVD, cancer, diabetes, obesity, tobacco prevention), communicable disease surveillance and control, vector borne disease monitoring and control, rabies control, lead poisoning prevention, and family health. In addition to the Article 6 programs we are also responsible for public health emergency preparedness planning which includes pandemic planning and response, isolation and quarantine protocols, medical countermeasures distribution and dispensing, participation in mass shelter/casualty/fatality planning and more.	1/6/2023 8:18 AM
12	SAIL is a non-profit organization that helps people live more independently through an array of programs and services.	1/6/2023 8:14 AM
13	Operates public transportation services in Glens Falls, Queensbury, Lake George (T & V), Bolton	1/5/2023 4:28 PM
14	Legislative	12/14/2022 7:27 PM

Q7 Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or “Warren County (entire area) ” if your service area is county-wide:

Answered: 15 Skipped: 0



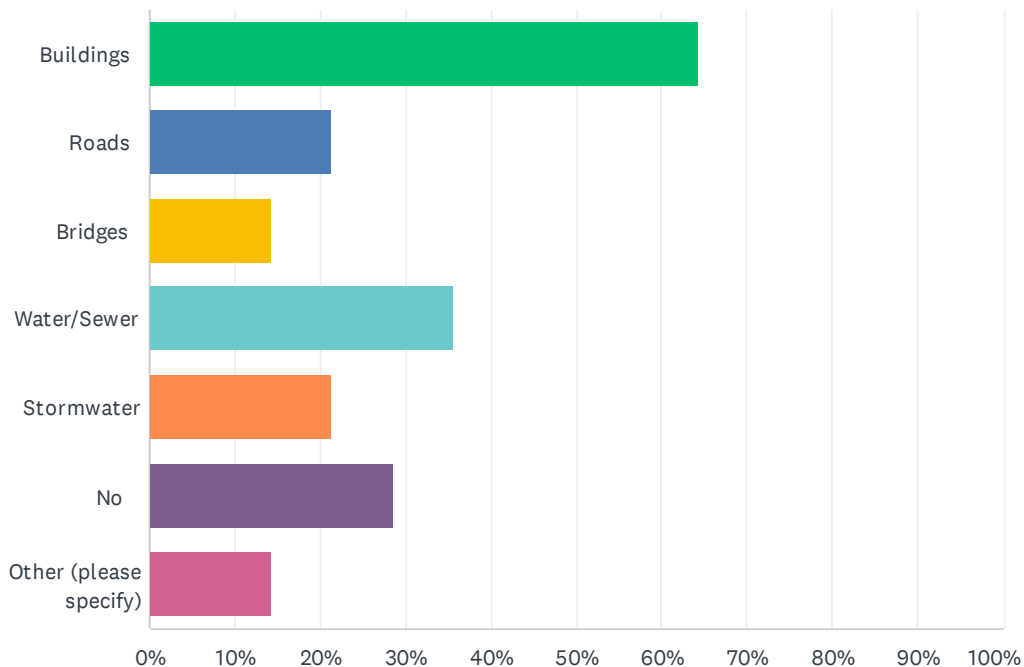
Warren County Hazard Mitigation Plan - Stakeholder Survey

ANSWER CHOICES	RESPONSES	
Warren County (entire area)	66.67%	10
Bolton (T)	13.33%	2
Chester (T)	0.00%	0
Hague (T)	6.67%	1
Horicon (T)	0.00%	0
Glens Falls (C)	26.67%	4
Johnsburg (T)	0.00%	0
Lake George (T)	6.67%	1
Lake George (V)	6.67%	1
Lake Luzerne (T)	0.00%	0
Queensbury (T)	13.33%	2
Stony Creek (T)	0.00%	0
Thurman (T)	0.00%	0
Warrensburg (T)	6.67%	1
Other (please specify)	13.33%	2
Total Respondents: 15		

#	OTHER (PLEASE SPECIFY)	DATE
1	Hamilton County	7/13/2023 3:11 PM
2	Other partners throughout the Adirondacks as well as statewide.	1/8/2023 4:30 PM

Q8 Does your organization maintain or manage any of the following within your designated service area? If not, answer “No” at the bottom, otherwise check all that apply.

Answered: 14 Skipped: 1

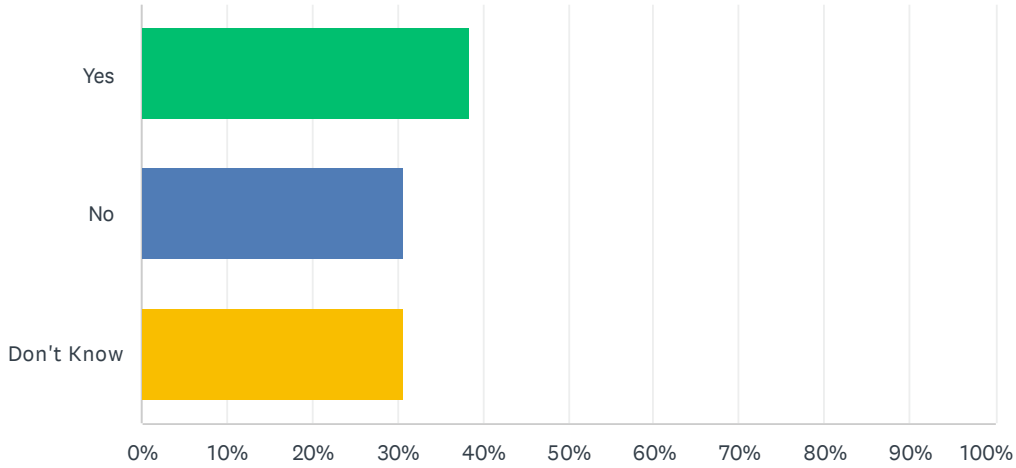


ANSWER CHOICES	RESPONSES
Buildings	64.29% 9
Roads	21.43% 3
Bridges	14.29% 2
Water/Sewer	35.71% 5
Stormwater	21.43% 3
No	28.57% 4
Other (please specify)	14.29% 2
Total Respondents: 14	

#	OTHER (PLEASE SPECIFY)	DATE
1	Bikeway path	7/13/2023 7:27 AM
2	Utility Poles, pipelines, underground electric distribution facilities.	1/18/2023 8:41 AM

Q9 Looking back at previous hazard events, have buildings/facilities/structures you have worked in and/ or are responsible for been impacted by a hazard (ex. damage/closures/etc.)?

Answered: 13 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	38.46%	5
No	30.77%	4
Don't Know	30.77%	4
TOTAL		13

Q10 If you answered “Yes” to the above question, please describe the event that caused or is causing (if recurring) damage and loss of service/property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

Answered: 7 Skipped: 8

#	RESPONSES	DATE
1	Sewage back up in Middle School when storm water was visible in the streets (not draining).	7/24/2023 3:08 PM
2	Road Closure; Power Outages; Telephone Outages	7/13/2023 3:13 PM
3	Significant rain event washed out road	7/13/2023 1:25 PM
4	Flooding and tree hazards along bikeway. Power outages at Up Yonda Farm, flooding at the Fish Hatchery. Blocked culverts on railroad, due to beaver activity.	7/13/2023 7:35 AM
5	N/A	1/9/2023 9:32 AM
6	Fire in the municipal center	1/6/2023 8:22 AM
7	NA	1/5/2023 4:30 PM

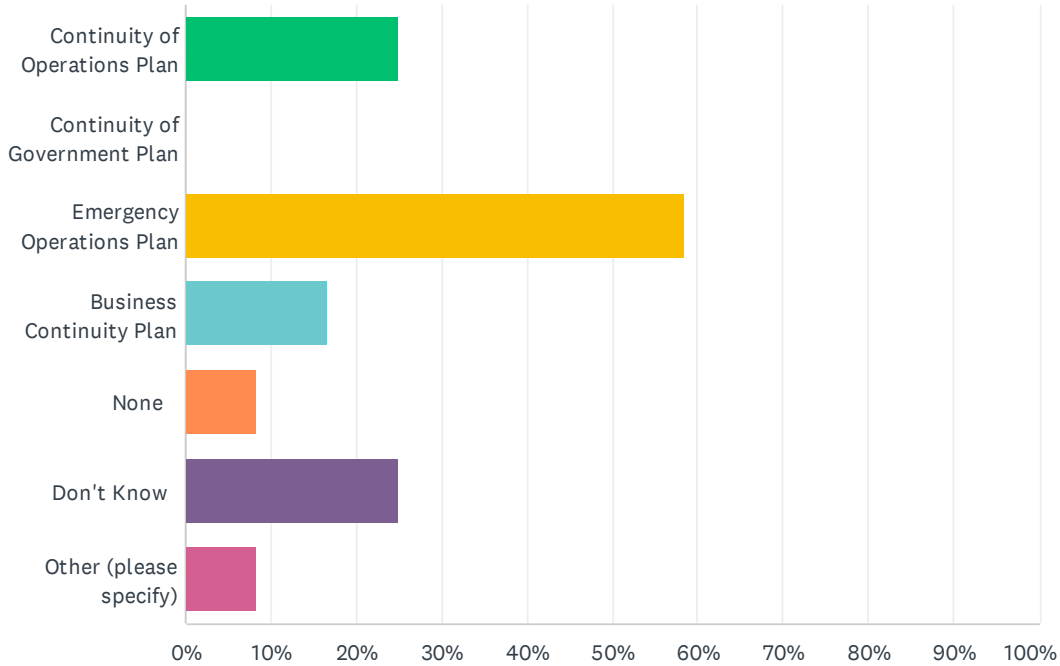
Q11 Looking at where your facilities or services are located in Warren County, what areas do you believe to be the most vulnerable to hazards? What are these hazards? (please explain).

Answered: 12 Skipped: 3

#	RESPONSES	DATE
1	The streets around the Middle and High Schools, Administrative Offices on Quade St, West Notre Dame, and Shippey Ave regularly have standing storm water.	7/24/2023 3:08 PM
2	North Country near bodies of water; Areas with significant snow storms, wind storms; Rainfall	7/13/2023 3:13 PM
3	Power outages, fallen trees, stormwater washing out roads, water supply (Lake George)	7/13/2023 1:25 PM
4	City Hall/Police Station Possible Fire	7/13/2023 11:07 AM
5	severe storms	7/13/2023 7:39 AM
6	The bikeway constantly has issues with trees down or blocking the bikeway. At the Fish Hatchery, every spring we need to be prepared for ice jams and flooding.	7/13/2023 7:35 AM
7	Electric Substations and gas regulating stations. As we've all seen in the news with the recent vandalism with electric utility equipment, it is high on the priority list for our security teams.	1/18/2023 9:13 AM
8	N/A	1/9/2023 9:32 AM
9	Salt mitigation to protect the lake. We currently use sand on the backside of our building/parking area and salt/sand mixture on the front. No other hazards as of this writing.	1/8/2023 4:31 PM
10	We rely on pre-identified municipal buildings and locations that are owned and maintained by City/Town municipalities for many of our activities. Our hub is the County Municipal Center. Vulnerabilities include fire, severe weather impacting the facility, loss of internet and utilities caused by weather or man made factors	1/6/2023 8:22 AM
11	Road hazards - downed trees, winter driving conditions	1/5/2023 4:30 PM
12	Industry along the river and watershed	12/14/2022 7:28 PM

Q12 Is your organization covered by any of the following plans? Check all that apply

Answered: 12 Skipped: 3

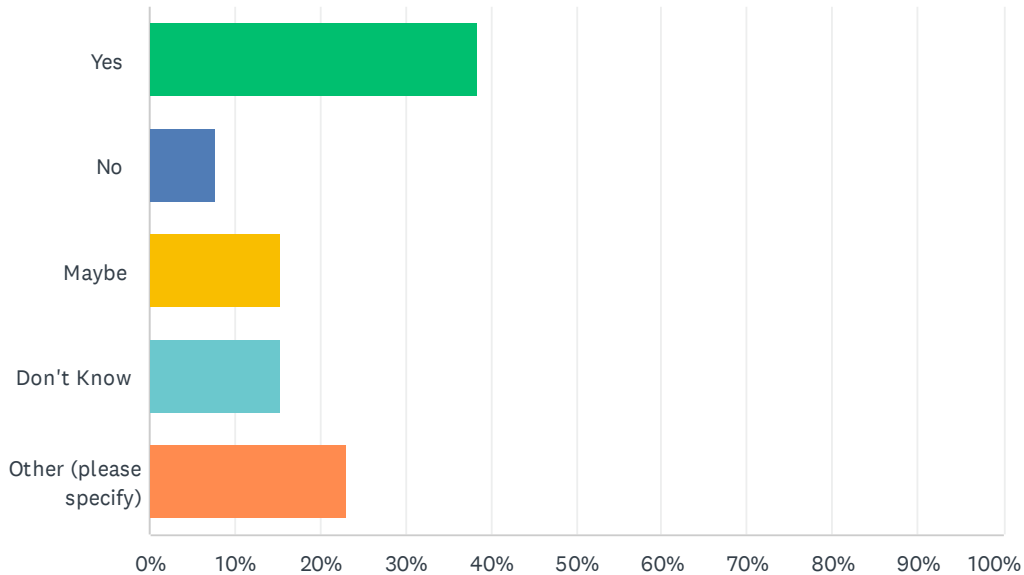


ANSWER CHOICES	RESPONSES	
Continuity of Operations Plan	25.00%	3
Continuity of Government Plan	0.00%	0
Emergency Operations Plan	58.33%	7
Business Continuity Plan	16.67%	2
None	8.33%	1
Don't Know	25.00%	3
Other (please specify)	8.33%	1
Total Respondents: 12		

#	OTHER (PLEASE SPECIFY)	DATE
1	GFSD Safety Plan	7/24/2023 3:08 PM

Q13 Do you believe the facilities and infrastructure for your organization are equipped to handle a disaster and/or resilient to damages?

Answered: 13 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	38.46%	5
No	7.69%	1
Maybe	15.38%	2
Don't Know	15.38%	2
Other (please specify)	23.08%	3
TOTAL		13

#	OTHER (PLEASE SPECIFY)	DATE
1	Some are and some not as well	7/13/2023 7:39 AM
2	We have systems in place to maintain our infrastructure while also performing continuous improvement projects for storm hardening/reliability on our networks.	1/18/2023 9:13 AM
3	We were able to operate successfully throughout the pandemic shutdown and help our community overcome the challenges for economic success. Unsure about other potential disasters as we haven't had them other than economic downturns (2008-2010, 1990's).	1/8/2023 4:33 PM

Q14 Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Answered: 9 Skipped: 6

#	RESPONSES	DATE
1	No	7/24/2023 3:11 PM
2	Improved stormwater management, additional power generators,	7/13/2023 1:33 PM
3	Frequent inspections of facilities and regular maintenance	7/13/2023 7:52 AM
4	We have an emergency plan in place for fire, natural disasters and man made disasters and we conduct drills	7/13/2023 7:41 AM
5	Tree Trimming program - each of our circuits are trimmed on 5 year cycles, that means every 5 years "Main St in Queensbury" will be inspected for danger trees and trimmed by one of our tree contractors. "Computapole" program. This is a program that has us inspect and get eyes on every piece of National Grid electric infrastructure throughout our territory. We identify potential hazards like rotting poles, broken or unbonded guy wires, blown lightening arrestors, or broken cross arms. Once they are reported, the issues are then sent to the field workers for repairs. This is also done in 5 year cycles for each of our circuits. We have a similar program for our gas distribution system in regards to our Leak Prone Pipe program where we are replacing old cast iron mains and services with plastic. We have a gas corrosion team that inspects our pipe lines to make sure they are still in spec.	1/18/2023 9:13 AM
6	N/A	1/9/2023 9:33 AM
7	We were able to take advantage of the second round of PPP funding because of our 501c6 corporate status that helped us through the pandemic financially. Other strategies in the past have been to cut programs and not people to stay financially stable as an organization.	1/8/2023 4:36 PM
8	Upgrading work from home opportunities if the facility is unusable, ensuring a suitable secondary location is available for staff that have to be in the office, providing funding to ensure IT and other equipment necessary to maintain operations is provided	1/6/2023 8:32 AM
9	Sewage treatment plant power project	12/14/2022 7:29 PM

Q15 Can you identify projects or programs that have been recently been implemented to reduce your facility's/organization's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Answered: 12 Skipped: 3

#	RESPONSES	DATE
1	No	7/24/2023 3:11 PM
2	Warren County Continuity of Operations Plan implemented by Amy Hirsch; Response to COVID	7/13/2023 3:14 PM
3	Installed manmade wetland to help manage stormwater, installed limited number of generators to offset power losses	7/13/2023 1:33 PM
4	Frequent inspections of facilities and regular maintenance	7/13/2023 7:52 AM
5	Drilling our disaster plan	7/13/2023 7:41 AM
6	See Above.	1/18/2023 9:13 AM
7	N/A	1/9/2023 9:33 AM
8	We are reworking our strategic plan and have begun a five year financial look-back and a five year forecast CAGR - (compound annual growth rate).	1/8/2023 4:36 PM
9	none at a County level. Public Health initiatives to mitigate the impacts of a disaster have been undertaken as a requirement of the NYSDOH Office of Health Emergency Preparedness annual core deliverables which must be completed to receive funding from NYSDOH for the Warren County Public Health Emergency Preparedness program	1/6/2023 8:32 AM
10	SAIL has an internal emergency preparedness plan that we will exercise in the event of an emergency.	1/6/2023 8:16 AM
11	Installation of an emergency back-up generator	1/5/2023 4:31 PM
12	Storm water and sewage decoupling projects	12/14/2022 7:29 PM

Q16 Do you have any questions or comments for Warren County?

Answered: 8 Skipped: 7

#	RESPONSES	DATE
1	No	7/24/2023 3:12 PM
2	NO	7/13/2023 7:52 AM
3	no	7/13/2023 7:41 AM
4	Warren County has been a great partner in National Grid's restoration and community efforts. I look forward to working with you for years to come.	1/18/2023 9:13 AM
5	No	1/9/2023 9:33 AM
6	None as of this writing.	1/8/2023 4:36 PM
7	What steps are being taken to prepare for the impacts of climate change? NYSDOH is making that a priority in Public Health Emergency Preparedness Planning? Also what steps are being taken to identify populations within Warren County with access and functional needs so planning considerations can be made and gaps can be filled as funding becomes available. Is there a plan to create or does one exist for a work pool for County workers if a department temporarily needs extra help to respond to and recovery from a disaster? Are the elected leaders in Warren County required to attend emergency preparedness trainings and participate in the hazard mitigation planning process?	1/6/2023 8:38 AM
8	None	1/6/2023 8:16 AM

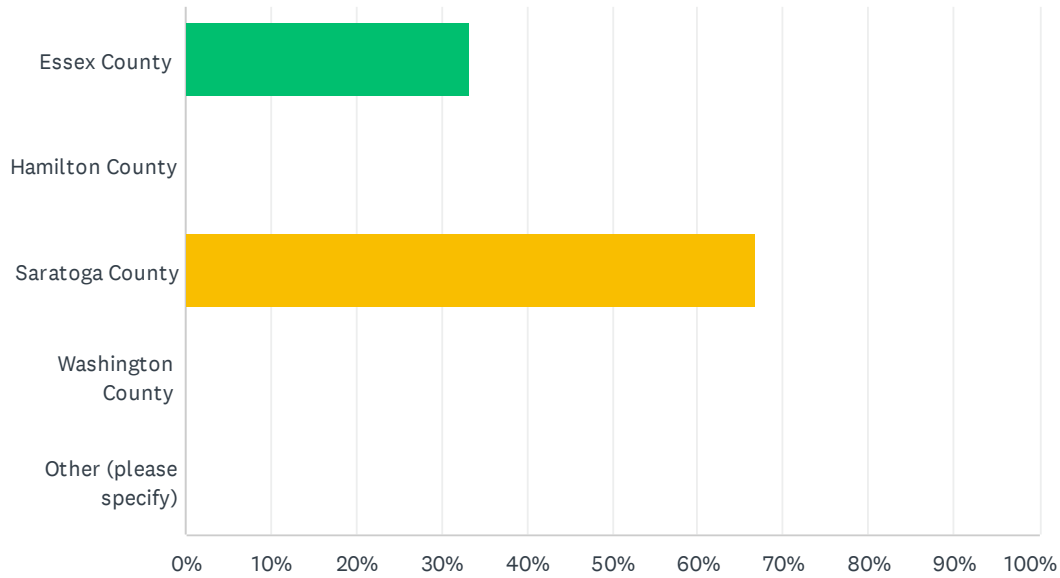


D.3 NEIGHBORING COUNTY SURVEY

A neighboring county survey was sent to the surrounding counties of Warren due to their proximity to the County and because the effects of hazard events that impact Warren County would be similar to that of their neighbors. A summary of the results are included on the following pages.

Q1 Please indicate the community in which you represent

Answered: 3 Skipped: 0



ANSWER CHOICES	RESPONSES	
Essex County	33.33%	1
Hamilton County	0.00%	0
Saratoga County	66.67%	2
Washington County	0.00%	0
Other (please specify)	0.00%	0
TOTAL		3

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q2 Name and Title of Respondent

Answered: 3 Skipped: 0

#	RESPONSES	DATE
1		
2		
3		

Q3 What department do you represent?

Answered: 3 Skipped: 0

#	RESPONSES	DATE
1	Saratoga County Emergency Management	5/1/2023 10:28 AM
2	Essex County Emergency Services	5/1/2023 8:14 AM
3	OEM	1/9/2023 2:35 PM

Q4 Please provide your contact information.

Answered: 3 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	3
Phone Number	100.00%	3

#	NAME	DATE
---	------	------

There are no responses.

#	COMPANY	DATE
---	---------	------

There are no responses.

#	ADDRESS	DATE
---	---------	------

There are no responses.

#	ADDRESS 2	DATE
---	-----------	------

There are no responses.

#	CITY/TOWN	DATE
---	-----------	------

There are no responses.

#	STATE/PROVINCE	DATE
---	----------------	------

There are no responses.

#	ZIP/POSTAL CODE	DATE
---	-----------------	------

There are no responses.

#	COUNTRY	DATE
---	---------	------

There are no responses.

#	EMAIL ADDRESS	DATE
---	---------------	------

1

2

3

#

1

Warren County Hazard Mitigation Plan - Neighboring Community Survey

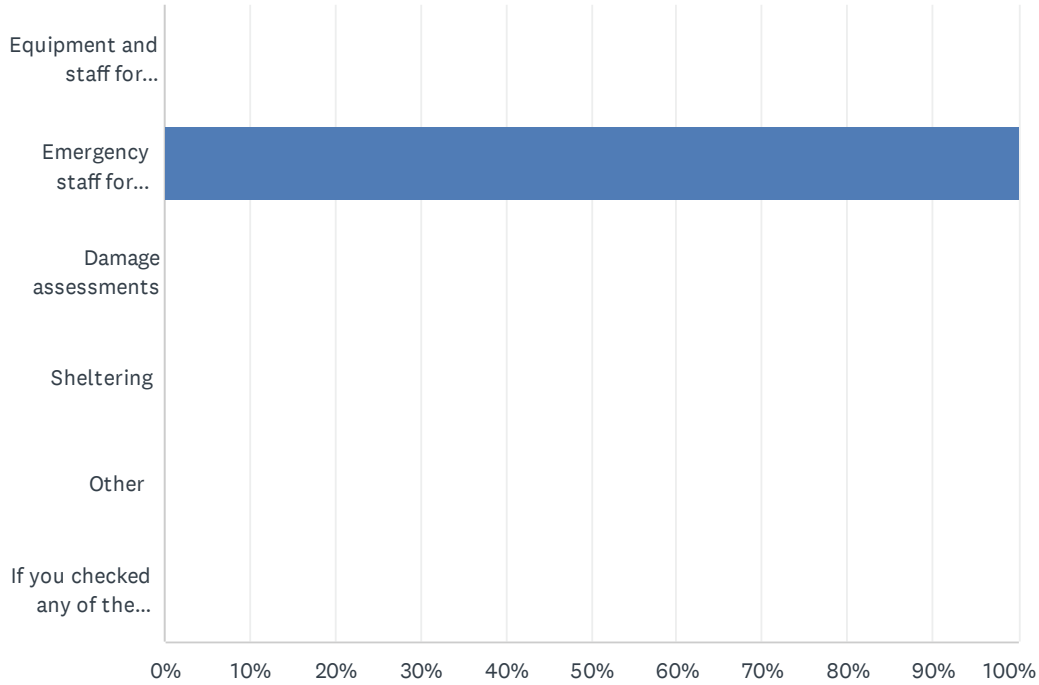
2

3

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Q5 Do you have any shared service agreements or mutual aid agreements in place with Warren County for the following?

Answered: 1 Skipped: 2

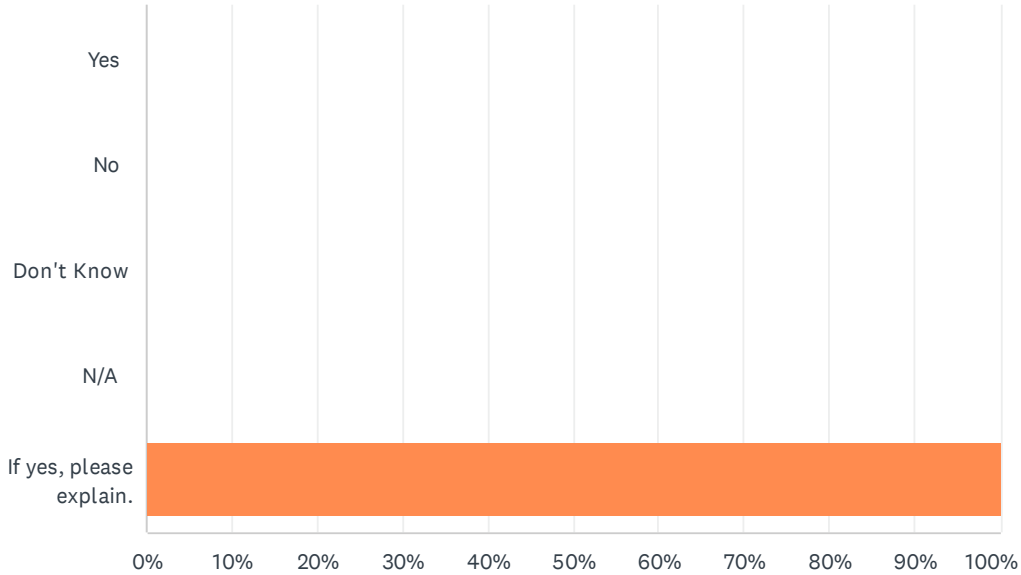


ANSWER CHOICES	RESPONSES	
Equipment and staff for debris cleanup and removal	0.00%	0
Emergency staff for evacuations/disaster response	100.00%	1
Damage assessments	0.00%	0
Sheltering	0.00%	0
Other	0.00%	0
If you checked any of the above, please explain.	0.00%	0
Total Respondents: 1		

#	IF YOU CHECKED ANY OF THE ABOVE, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q6 Is Warren County involved in your community's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 2 Skipped: 1

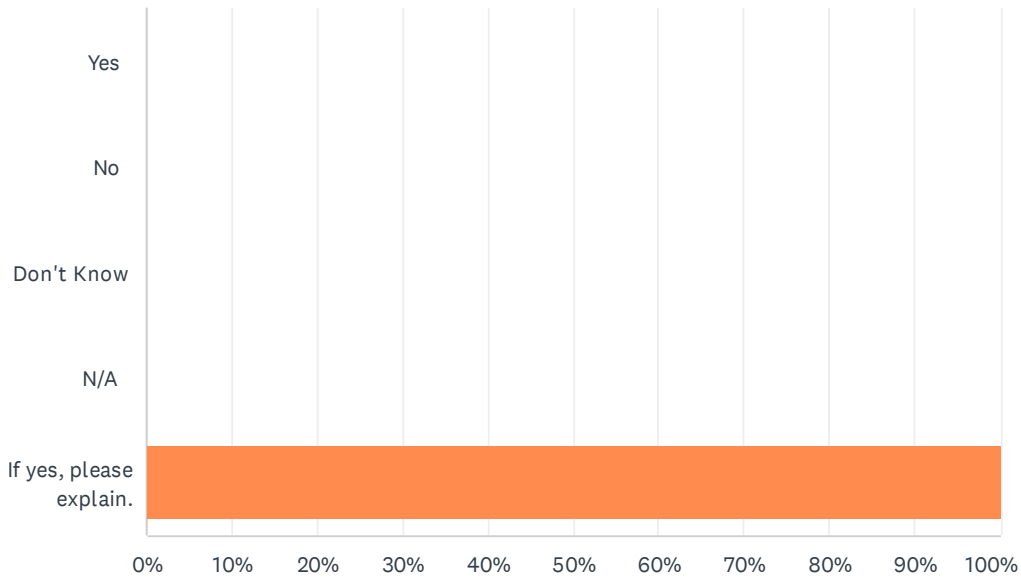


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	100.00% 2
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Fire/EMS mutual aid plans	5/1/2023 3:10 PM
2	Warren County was instrumental in helping us to develop many of our plans. They are a partner that could be asked for assistance in a variety of disasters	1/9/2023 2:38 PM

Q7 Is your community involved in Warren County's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 2 Skipped: 1

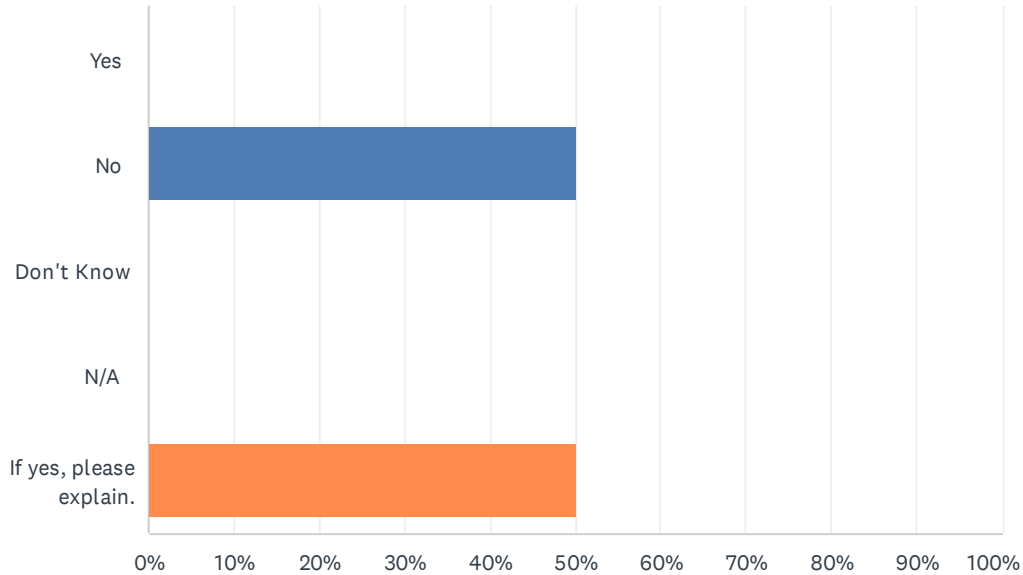


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	100.00% 2
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Fire/EMS mutual aid plans	5/1/2023 3:10 PM
2	Same as above	1/9/2023 2:38 PM

Q8 Is Warren County involved in your community’s Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of your community's essential functions for a period of time?

Answered: 2 Skipped: 1

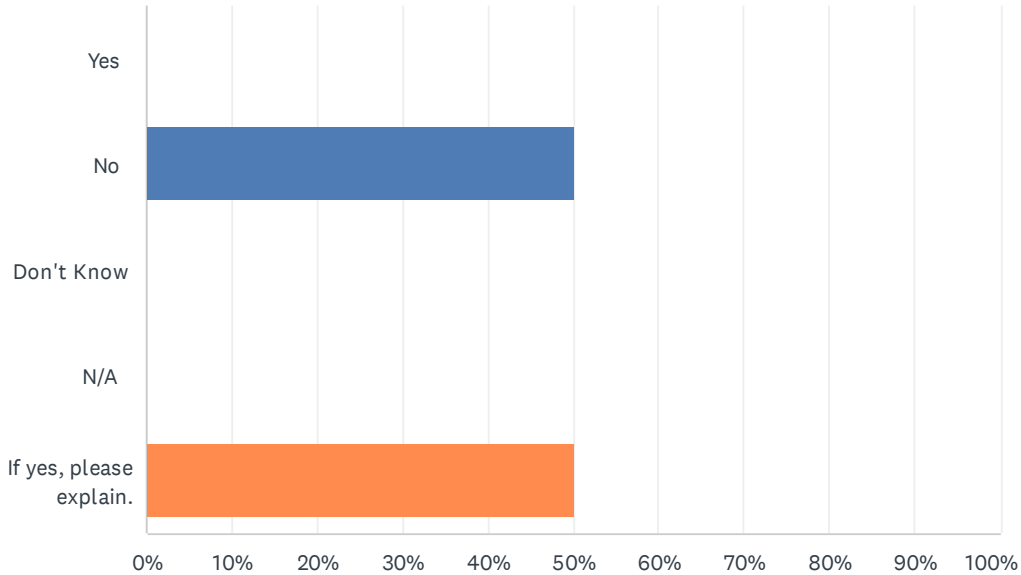


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Mutual aid plans Fire/EMS/Law	1/9/2023 2:38 PM

Q9 Is your community involved in Warren County's Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of Warren County's essential functions for a period of time?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Mutual aid plans Fire/EMS/Law	1/9/2023 2:38 PM

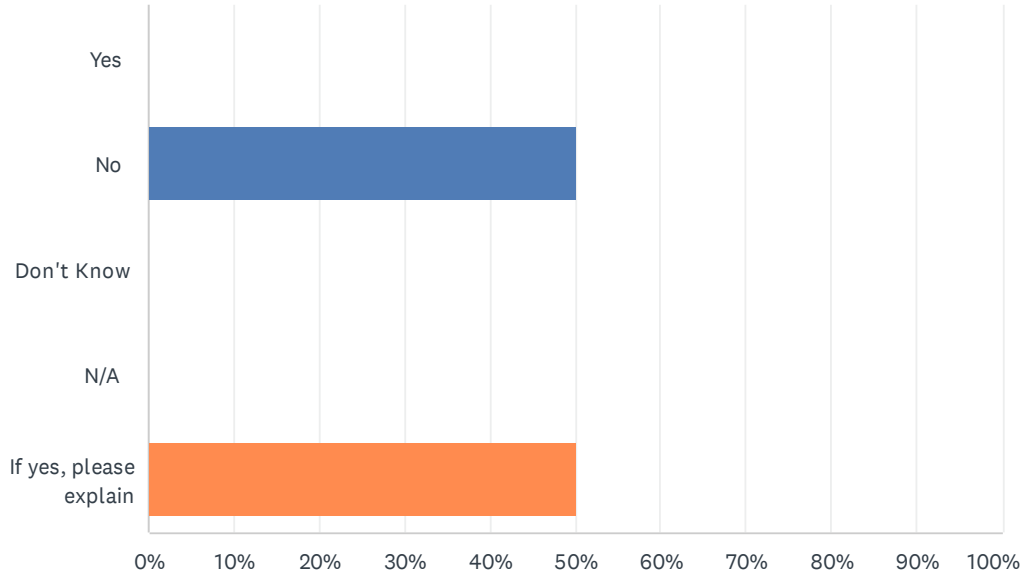
Q10 Thinking about emergency operations and disaster response, please explain how these actions are communicated between communities.

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Phone, email, NY Responds	5/1/2023 3:10 PM
2	Emergency Managers work together to respond to incidents and may work together to mitigate against incidents along shared vulnerabilities.	1/9/2023 2:38 PM

Q11 Does your community share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Warren County?

Answered: 2 Skipped: 1

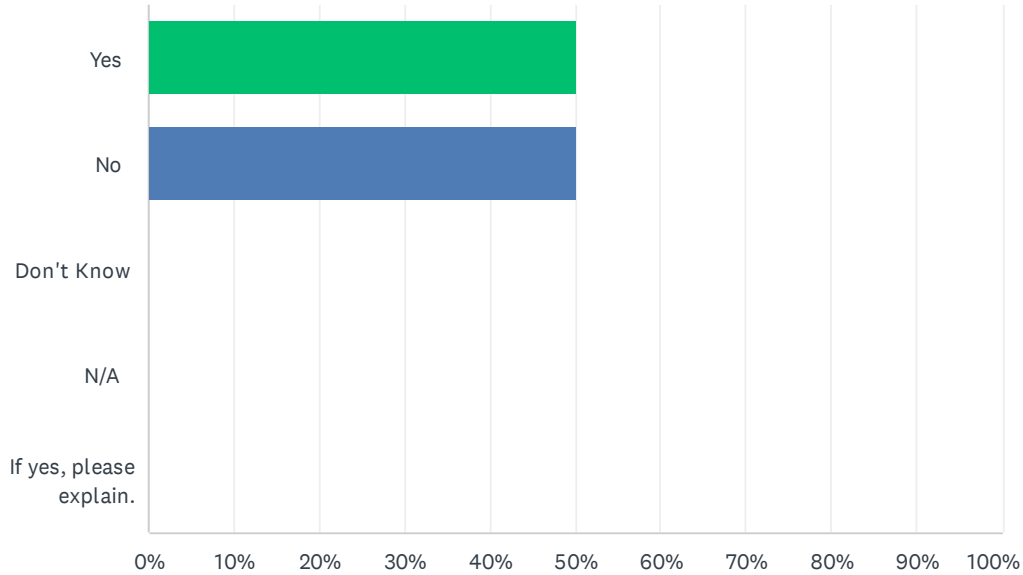


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN	DATE
1	Flood mapping	5/1/2023 3:11 PM

Q12 Do you collaborate with Warren County on establishing evacuation routes and alternate evacuation routes?

Answered: 2 Skipped: 1

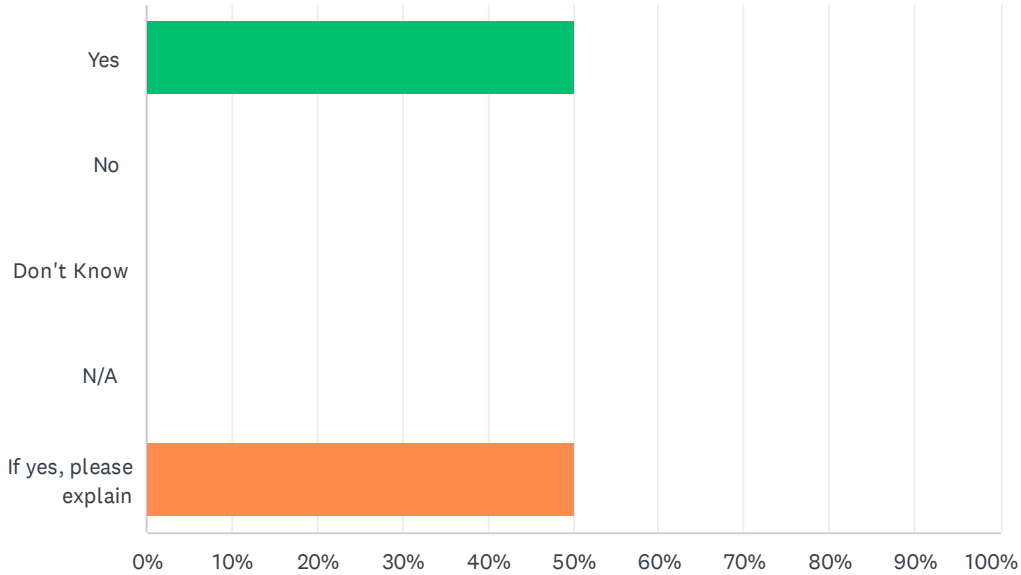


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q13 Do you and Warren County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring jurisdictions)?

Answered: 2 Skipped: 1

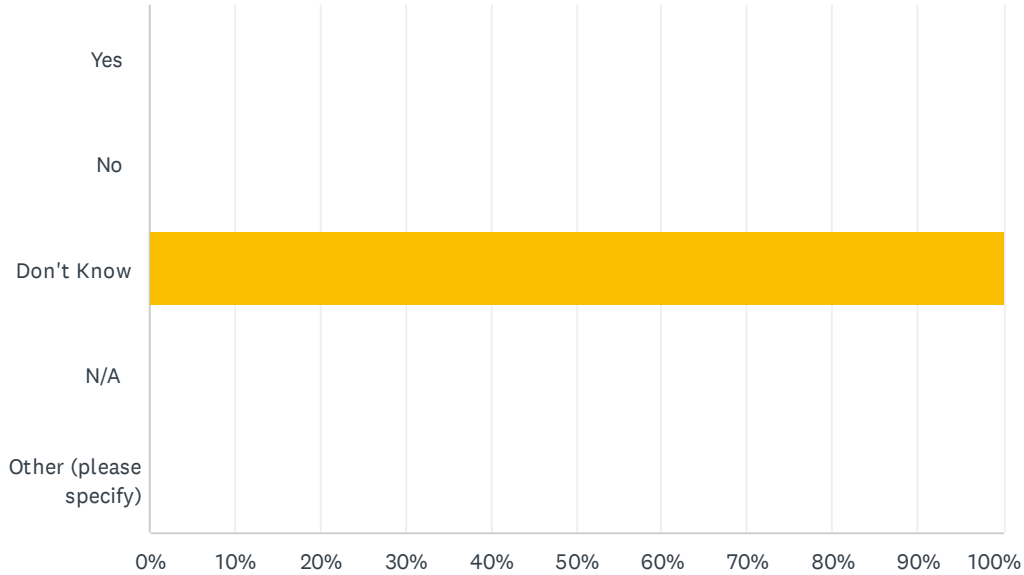


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN	DATE
1	Multi-county evacuations would require collaboration	5/1/2023 3:14 PM

Q14 Are evacuation routes maintained to the same level of protection across jurisdictional lines?

Answered: 2 Skipped: 1

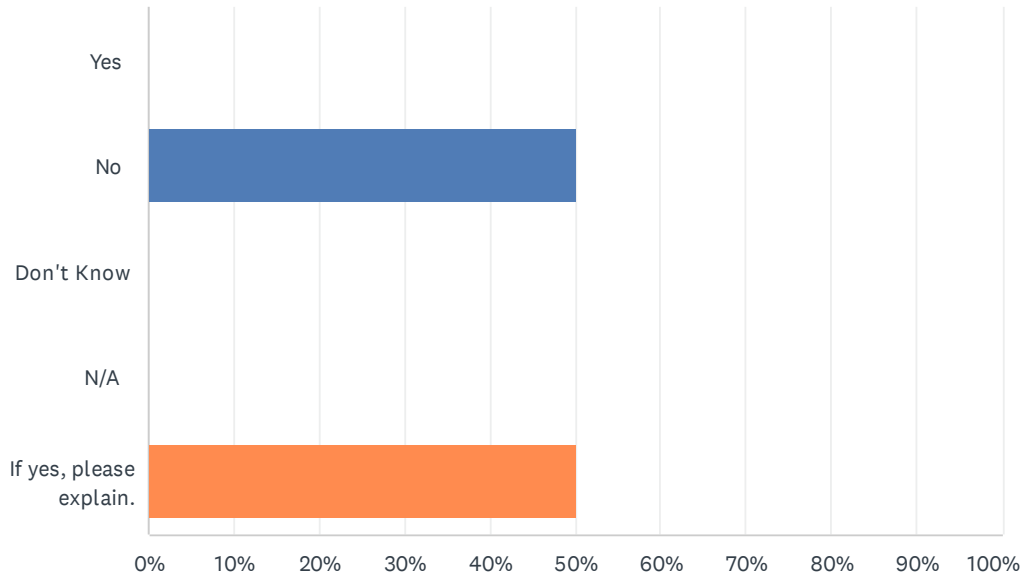


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	100.00% 2
N/A	0.00% 0
Other (please specify)	0.00% 0
TOTAL	2

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q15 Do you collaborate with Warren County on establishing shelters?

Answered: 2 Skipped: 1

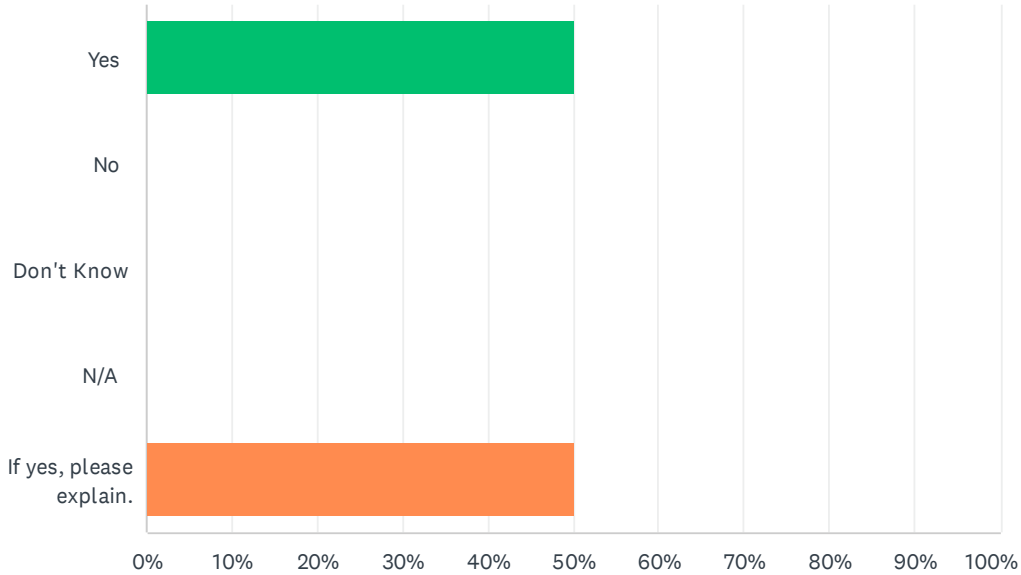


ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	50.00%	1
Don't Know	0.00%	0
N/A	0.00%	0
If yes, please explain.	50.00%	1
TOTAL		2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Historically we have collaborated on shared hazards/events	5/1/2023 3:14 PM

Q16 Do you and Warren County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring communities)?

Answered: 2 Skipped: 1

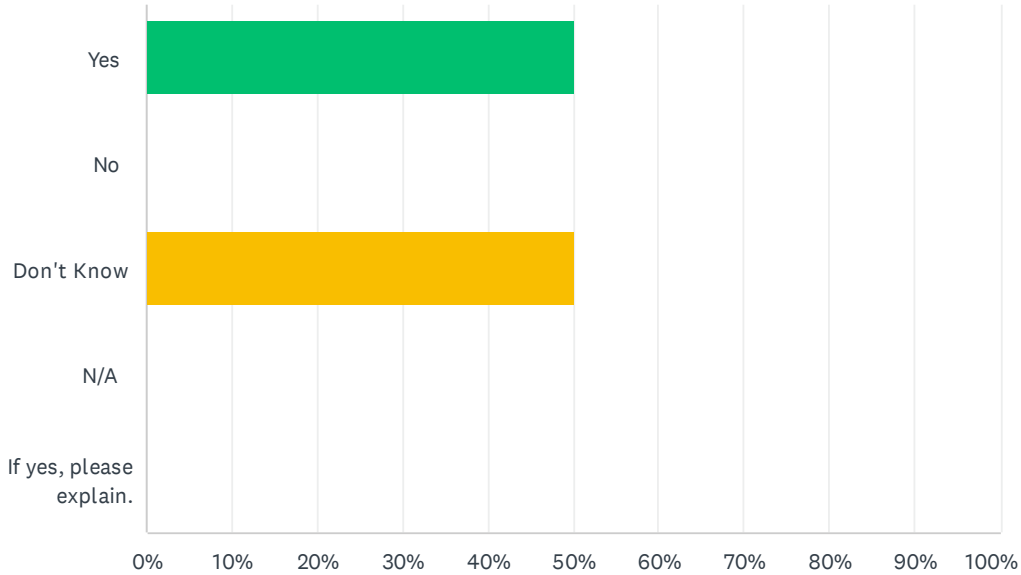


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	By phone/email	5/1/2023 3:14 PM

Q17 Do you and Warren County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

Answered: 2 Skipped: 1

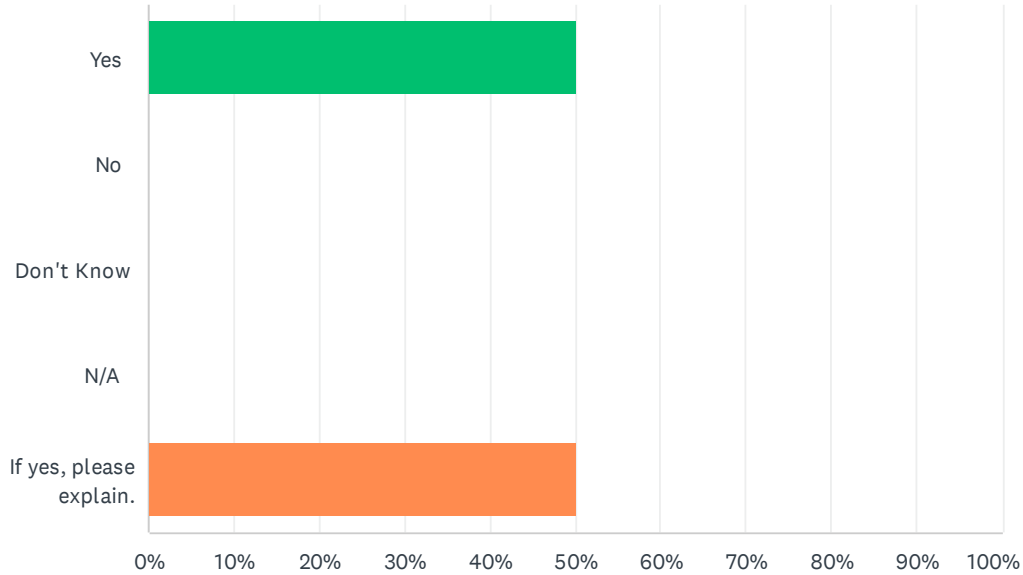


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q18 Does your community have access to contact information for Warren County's emergency operation centers?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Phone/email	5/1/2023 3:22 PM

Q19 Please describe any situations or hazards that are of concern to both your community and Warren County. For example, would flooding along a particular waterway impact both jurisdictions, or are there any facilities or infrastructure that would affect both jurisdictions if it/they failed?

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	All dams/flooding along common county borders	5/1/2023 3:22 PM
2	Flooding along the Hudson - which serves as the boundary between a good portion our counties. Additionally, various incidents along the northway. Also, large scale incidents (eg brush fire) along our rural border.	1/9/2023 2:51 PM

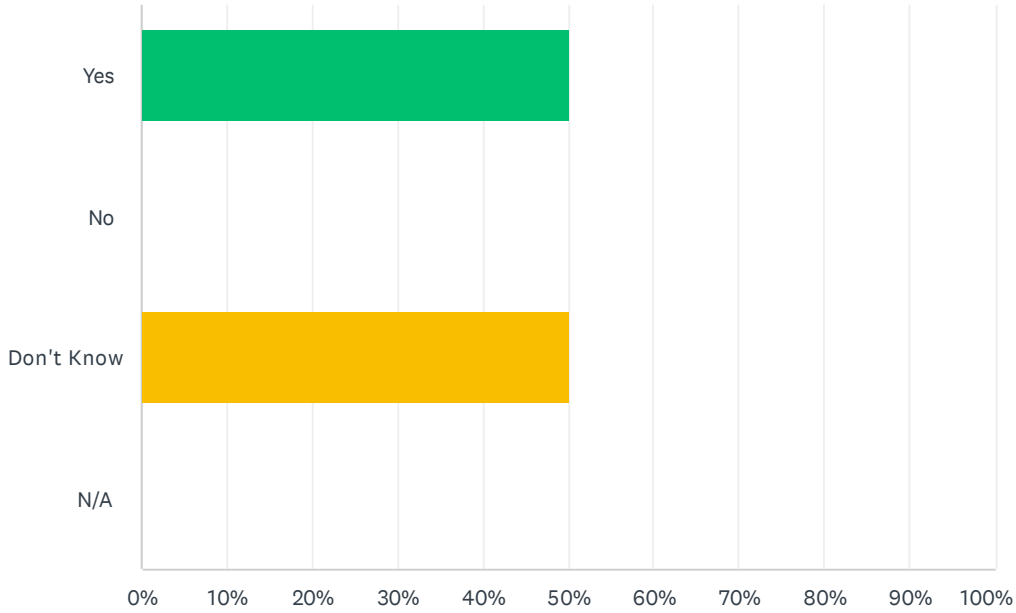
Q20 Please explain how information is shared between communities regarding mitigation projects.

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Phone/email	5/1/2023 3:22 PM
2	The hazard mitigation plan, intercommunity communication often by the highway department leadership	1/9/2023 2:51 PM

Q21 Is information regarding mitigation shared during the planning and implementation phases of the projects?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	50.00%	1
No	0.00%	0
Don't Know	50.00%	1
N/A	0.00%	0
TOTAL		2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q22 Are you aware of any projects for the following that requires cross-collaboration between jurisdictional boundaries?

Answered: 0 Skipped: 3

 No matching responses.

ANSWER CHOICES	RESPONSES	
Stormwater projects	0.00%	0
Watershed projects or planning	0.00%	0
Floodplain projects or planning	0.00%	0
Connected roadway improvements	0.00%	0
Natural infrastructure restoration	0.00%	0
Outreach (education and outreach campaigns, programs for public information, etc.)	0.00%	0
Other (please specify)	0.00%	0
Total Respondents: 0		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

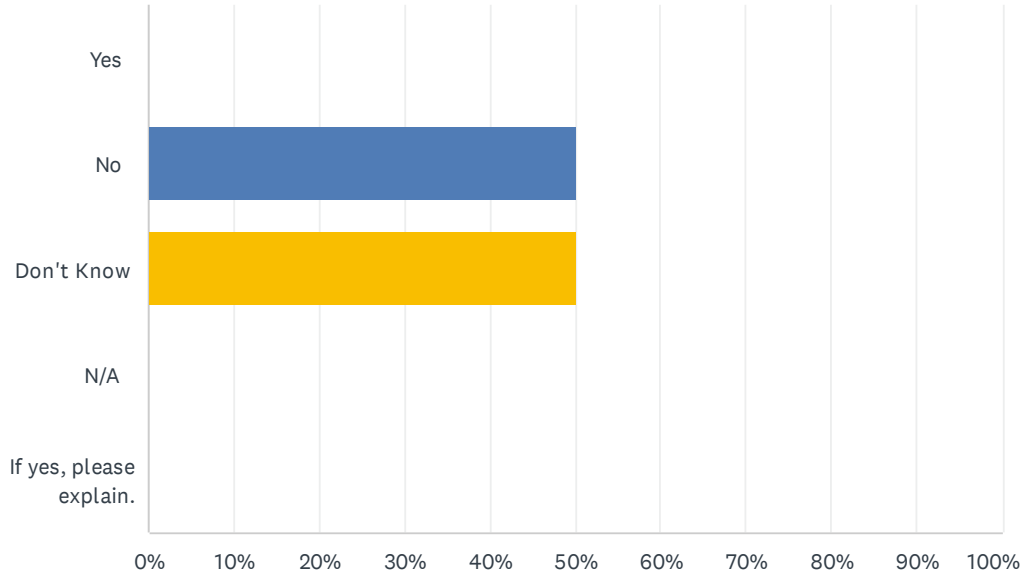
Q23 If you selected anything above, please explain.

Answered: 0 Skipped: 3

#	RESPONSES	DATE
	There are no responses.	

Q24 Have your community and Warren County collaborated on grant applications?

Answered: 2 Skipped: 1

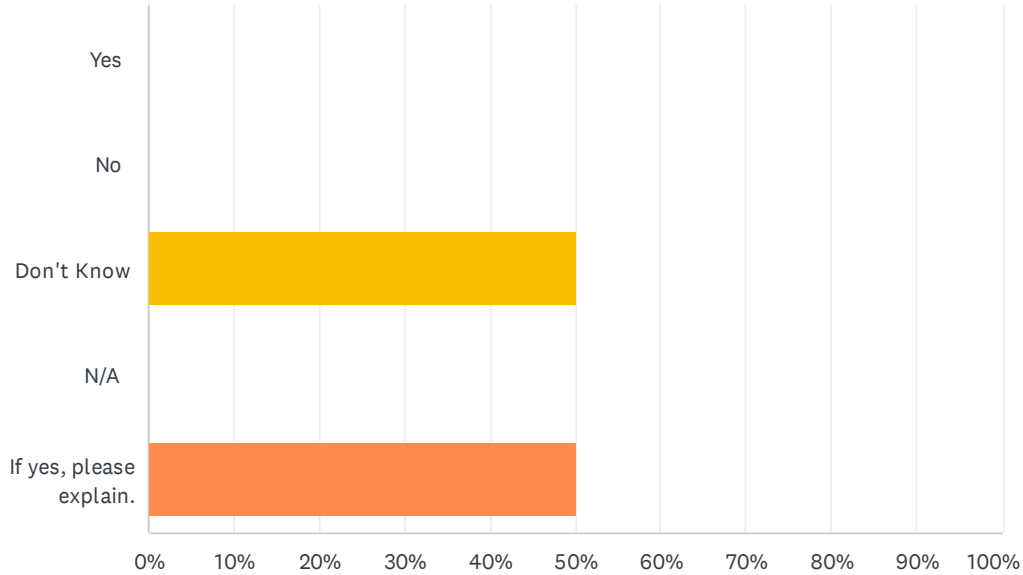


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q25 Are you aware of any organizations that carry out education and outreach regarding hazards in both your community and Warren County?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Dam operators	5/1/2023 3:24 PM

Q26 What are opportunities or ideas to optimize cooperation with Warren County on emergency management operations and hazard mitigation projects?

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Open communication when planning cross-jurisdictional projects	5/1/2023 3:24 PM
2	Corresponding HAZMIT Plans/Projects	1/9/2023 2:52 PM

Q27 Do you have any relevant questions or comments for Warren County?

Answered: 1 Skipped: 2

#	RESPONSES	DATE
1	We will be going through a HAZMIT plan update later this year as well	1/9/2023 2:52 PM



D.4 WEBSITE AND SOCIAL MEDIA POSTS

The following provides screenshots of the informational fact sheet, website, news articles, and social media posts.



WARREN COUNTY HAZARD MITIGATION PLAN

2023 Update

What is a Hazard Mitigation?

Hazard mitigation is an action to help reduce long-term risks caused by hazards or disasters, such as flooding, earthquakes, or wildfires. The purpose of hazard mitigation is to protect people and structures, and minimize the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policies, education, and environmental protection.

Proactive mitigation leads to more cost-effective projects. By contrast, reactive mitigation, tends to lead to severe damage and often more costly fixes; it simply costs too much to address the effects of disasters only after they happen. A surprising amount of damage can be prevented if we can anticipate where and how disasters occur, and take steps to prevent those damages.

What is a Hazard Mitigation Plan?

Hazard Mitigation Plans (HMP) are prepared and adopted by counties and municipalities with the primary purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events. HMPs are most effective when they are based on a comprehensive, long-term plans developed before a disaster occurs.

Effective mitigation planning can break the cycle of disaster damage, reconstruction, and repeated damage. There are four key elements of an HMP: 1) a risk assessment, 2) capability assessment, 3) mitigation strategy, and 4) plan maintenance procedures.

The purpose of mitigation planning is to identify local policies and actions that can be implemented over the long term to reduce risk and future losses from hazards. These mitigation policies and actions are identified based on an assessment of hazards, vulnerabilities, and risks and the participation of a wide range of stakeholders and the public in the planning process.

Purpose

The Warren County Soil and Water Conservation District is leading the update of the Warren County HMP. This plan is an opportunity to detail a variety of potential hazards that could affect some or all of the residents and will also allow the county and participating municipalities to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA).

The goal of the plan is to identify projects that can reduce damages from future hazards. The plan will include a risk assessment and a hazard mitigation strategy. The primary hazards of concern in the counties include: Dam Failure, Disease Outbreak, Earthquake, Flood, Infestation, Severe Storm, Severe Winter Storm, and Wildfire.

The study will focus on existing buildings and potential future development, infrastructure, and lifelines that might be impacted. Lifelines include but are not limited to municipal buildings and infrastructure such as power-generation facilities, water utilities, roadways, railroads and communication systems.



What are the benefits of Hazard Mitigation?

Mitigation planning will help the county and the participating jurisdictions prepare for disasters, before they happen, to reduce impacts when a disaster occurs. Benefits include:

- Identifying actions for risk reduction that are agreed upon by stakeholders and the public,
- Focusing resources on the greatest risks and vulnerabilities,
- Building partnerships by involving citizens, organizations, and businesses,
- Increasing education and awareness of threats and hazards, as well as their risks,
- Communicating priorities to state and federal officials, and
- Aligning risk reduction with other community objectives.

What is required in a Hazard Mitigation Plan?

FEMA regulations require that the public must be engaged in all phases of the plan's development. The HMP should review and incorporate existing plans and programs that can support or enhance hazard mitigation. The plan must assess the risk to natural hazards that may impact the planning area and identify and prioritize mitigation actions that can be taken. The HMP must also include a strategy for maintaining the plan, which must be updated every 5 years.

FAQs

What is mitigation? Any sustained action taken to reduce/ eliminate long-term risk to life and property from a hazard event.

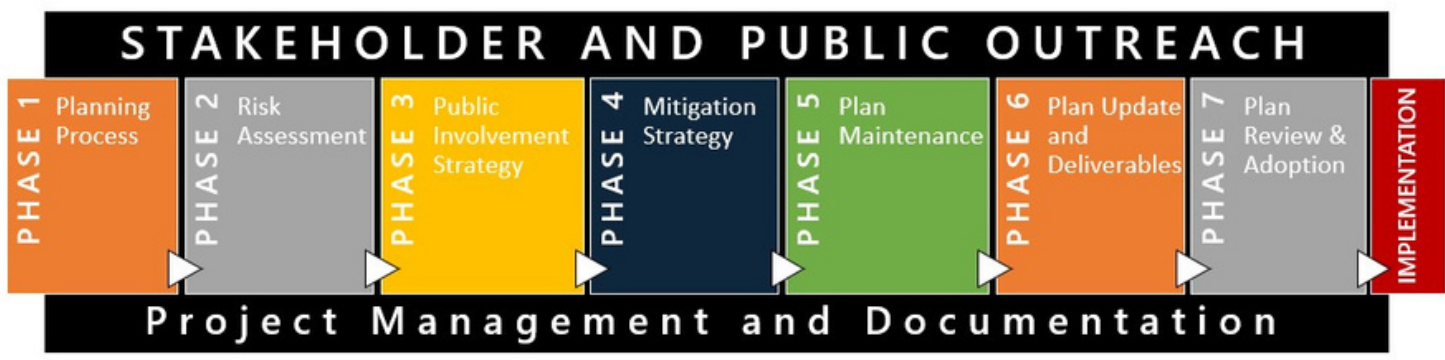
How can you reduce/eliminate risk? Identify mitigation actions/ projects/activities or processes that can include 1) Local plans and regulations; 2) Structure and infrastructure projects; 3) Natural systems protection; 4) Education and awareness programs.

What grant funding is available? FEMA Hazard Mitigation Assistance grant funding is available with a FEMA-approved Hazard Mitigation Plan (annual and post-disaster opportunities).


How can I support the plan? Take the public survey! This will help us obtain input and get a better understanding of public preparedness for hazard events.


Where can I see the 2023 plan? Sections of the draft plan will be available late-2022 for download, review and comment on the Warren County HMP website at: <https://www.warrencountynewyorkhmp.com/>

Planning Process



For more information, please visit our website:
<https://www.warrencountynewyorkhmp.com/>

For more information about this process, please contact:
 Warren County Soil and Water Conservation District
518-623-3119

Live or work in Warren County? Take our survey!
<https://www.surveymonkey.com/r/WarrenNYHMPPublic>
-or-
scan the QR code to complete the survey




WARREN COUNTY HAZARD MITIGATION PLAN 2023 UPDATE

[Home](#)[About](#)[What is Mitigation](#)[Meetings](#)[Calendar](#)[Explore the Plan](#)[Additional Information](#)

Warren County Hazard Mitigation Plan 2023 Update

The draft Warren County Hazard Mitigation Plan is available for public review. This plan will be available for public review through September 2nd, 2023.

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update which was active through June 8, 2023. The results of the survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in August 2023–July 2024

WARREN COUNTY

2023 HAZARD MITIGATION PLAN UPDATE

**When natural hazards occur, how are you prepared?
Let us know in this survey as part of Warren County's
Hazard Mitigation Plan update.**

<https://www.warrencountynewyorkhmp.com/>



For more information, please contact Warren County Soil
and Water Conservation District:
(518) 623-3119



Boost post



HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note this ...

March 9, 2023 at 6:11 AM
ID: 555241586795063

Interactions

0 reactions

0 comments

5 shares

- Overview**
- Performance
- Feed preview

Performance

Reach ⓘ

Total	964
Organic	964 (100%)
Paid	0 (0%)

Engagements ⓘ

Reactions	0
Comments	0
Shares	5

[View details](#)

Negative interactions ⓘ

Total	0
Unique	0

Feed preview



Warren County, New York

March 9 · 🌐

HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note



Boost post



HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note this ...

January 12, 2023 at 6:21 AM
ID: 519354607050428

Interactions

2 reactions 0 comments 2 shares

- Overview**
- Performance
- Feed preview






















Performance

Reach ⓘ		Engagements ⓘ		Negative interactions ⓘ	
Total	928	Reactions	2	Total	0
Organic	928 (100%)	Comments	0	Unique	0
Paid	0 (0%)	Shares	2		

[View details](#)

Feed preview

Warren County, New York ...
January 12 · 🌐
HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note

	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Thu Mar 9, 6:11am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Thu Jan 12, 6:21am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Sat Jan 7, 10:19am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Dec 22, 2022	 	-- Distribution	0 Minutes viewed	0 3-second video views	0 1-Minute video views	0:00 Average minutes
	Good advice from Warren Coun... Warren County, New York	View insights	...	Dec 20, 2022	 	-- Distribution	0 Minutes viewed	0 3-second video views	0 1-Minute video views	0:00 Average minutes
	Warren County is looking for p... warrencountynewyork	View insights	...	Dec 9, 2022	 	--	--	--	--	--
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Warren County seeks input to update hazard mitigation plan

Post-Star staff report

Dec 13, 2022

Warren County is looking for public input as it updates its Multi-Jurisdictional Hazard Mitigation Plan, a document that details the potential hazards, such as storm-related conditions, that could affect residents and visitors.

The plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Ann Marie Mason, Warren County's director of emergency services, said that updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said in a news release. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

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The survey can be found here:

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

The plan identifies projects that can reduce damages from future natural hazards. It also creates a framework for risk-based decision making to reduce damages to lives, property and the economy from future disasters.

The county will involve the private sector, nonprofit organizations and other community partners in the planning process.

The approach is consistent with a “Whole Community Approach” that seeks to involve the entire community in disaster and hazard planning, according to Jim Lieberum, district manager of Warren County Soil and Water Conservation District, one of the planning partners.

The plan will include a risk assessment and a hazard mitigation strategy. It will focus on existing buildings and potential future development, infrastructure, and critical facilities that might be impacted. Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard, and include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities and hazardous material facilities.

The update of the plan allows the county and participating jurisdictions to continue to be eligible for grant-funded projects such as home acquisitions or elevations to either remove houses located in the floodplain to generate open space and increase flood storage or to raise their first floor above the FEMA base flood elevation and local flood control measures.

For more information or to get involved in this project, contact Lieberum at 518.623.3119 or **jiml@warrenswcd.org**.

To stay informed about the project, visit:

<https://www.warrencountynewyorkhmp.com>.

Input needed on natural disasters in Warren County

by: [Jay Petrequin](#)
Posted: Dec 9, 2022 / 11:54 AM EST
Updated: Dec 9, 2022 / 12:03 PM EST



Severe damage to the driveway and parking lot of the Lakeview Terrace Hotel and the Fairview Association, along Lake George, N.Y. (Photo: Jay Petrequin)

SHARE

WARREN COUNTY, N.Y. (NEWS10) – It’s important to know and understand what potential hazards could come with where one lives, and what different weather conditions can bring to those areas. Warren County is looking for public input as it makes updates to its plan to curb natural disaster danger for county residents.

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The county’s Multi-Jurisdictional Hazard Mitigation Plan is up for revision – and a [survey](#) gives residents a chance to weigh in on it. The plan is a document that can be used by the county to reduce the impact and damage from natural disasters, especially targeted at preventing and

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“Public participation and feedback are a vital part of the hazard mitigation planning process,” said Warren County Emergency Services Director Ann Marie Mason. “We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made.”

The [survey asks for residents](#) to report what types of natural disasters they have seen and experienced in Warren County over the last decade, such as flooding, drought and climate change impacts. It also seeks information such as concern for future disasters, and how residents get their disaster information.

[ARPA lets Glens Falls Hospital’s crisis unit grow](#)

The Hazard Minitagition Plan is updated every five years. The plan is used for communities to make risk-based decisions that can lead to fewer lives being lost, or less property being damaged, in the event of a disaster. The process going forward will also involve voices from nonprofits, community partners and the private sector. The plan will analyze how best to protect essential community facilities, transportation systems, lifeline utilities and hazardous material facilities.



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Warren County seeks input to update hazard mitigation plan

Post-Star staff report Dec 13, 2022 0



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Warren County is looking for public input as it updates its Multi-Jurisdictional Hazard Mitigation Plan, a document that details the potential hazards, such as storm-related conditions, that could affect residents and visitors.

The plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Ann Marie Mason, Warren County's director of emergency services, said that updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said in a news release. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

WARREN COUNTY, NY -- Warren County is looking for public input as it updates its **Multi-Jurisdictional Hazard Mitigation Plan**, a document that details the potential hazards, such as storm-related conditions, that could affect Warren County's residents and visitors.

This updated plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA), explained **Ann Marie Mason, Warren County Director of Emergency Services**.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

The survey can be found here: <https://www.surveymonkey.com/r/WarrenNYHMPPublic>.

What is a Hazard Mitigation Plan (HMP)?

A Hazard Mitigation Plan is a document that communities use to identify projects that can reduce damages from future natural hazards. HMPs form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The plan is updated every 5 years.

HMPs also create a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters. During the planning process, organizations in the Warren County HMP Planning Partnership will actively involve private sector, non-profit, and other community partners in the planning process.

The approach is consistent with a "Whole Community Approach," that seeks to involve the entire community in disaster and hazard planning, said **Jim Lieberum, District Manager of [Warren County Soil and Water Conservation District](#)**, one of the planning partners.

The plan will include a risk assessment and a hazard mitigation strategy. It will focus on existing buildings and potential future development, infrastructure, and critical facilities that might be impacted. Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard, and include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

The update of the plan allows the county and participating jurisdictions to continue to be eligible for grant-funded projects such as home acquisitions or elevations – to either remove houses located in the floodplain to generate open space and increase flood storage or to raise their first floor above the FEMA base flood elevation – and local flood control measures. Ultimately, these actions reduce vulnerability, and communities are able to recover more quickly from disasters.

If you would like more information on how to get involved in this project, contact Lieberum at 518.623.3119 or jiml@warrenswcd.org.

To stay informed about the project, visit: <https://www.warrencountynewyorkhmp.com>.



APPENDIX E SUPPLEMENTARY DATA

This appendix contains information and details to support information provided in Section 5 (Risk Assessment).

E.1 HISTORY OF HAZARD EVENTS WITHIN THE COUNTY

To supplement the information provided in this plan, events prior to the update of this plan are included below by hazard of concern type. Many sources provided historical information regarding previous occurrences and losses associated with hazards throughout New York and Warren County. It is noted that, with a number of sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the sources.

For more information on past events and impacts, refer to the 2017 Warren County Hazard Mitigation Plan.

E.1.1 Earthquake

Known earthquake events that have impacted New York State and Warren County between 1916 and 2023 are identified in Table E.1. Many sources were researched for historical information regarding earthquake events in Warren County; therefore, Table E.1 may not include all earthquake events that have impacted the County.

Table E.1. Earthquake History in New York State, 1916-2023

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
February 3, 1916	Earthquake 4.1	Galway, NY	N/A	N/A	No reference and/or no damage reported.
March 18, 1928	Earthquake 4.1	Paul Smiths, NY	N/A	N/A	No reference and/or no damage reported.
August 12, 1929	Earthquake 4.7	Corfu, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 1931	Earthquake 4.7	Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
April 15, 1934	Earthquake 4.5	Dannemora, NY	N/A	N/A	No reference and/or no damage reported.
January 1, 1966	Earthquake 4.3	Attica, NY	N/A	N/A	No reference and/or no damage reported.
June 13, 1967	Earthquake 4.1	Attica, NY	N/A	N/A	No reference and/or no damage reported.
July 15, 1973	Earthquake 3.4	Long Lake, NY	N/A	N/A	No reference and/or no damage reported.
June 7, 1974	Earthquake 3.3	Wappingers Falls, NY	N/A	N/A	No reference and/or no damage reported.
June 9, 1975	Earthquake 4.2	Altona, NY	N/A	N/A	No reference and/or no damage reported.
November 3, 1975	Earthquake 4.0	Long Lake, NY	N/A	N/A	No reference and/or no damage reported.

Commented [MM1]: Reference Hazard Event History from the 2016/17 plan does not have events prior to 2002. Highlighted events may need to be removed, but I wanted to confirm if events prior to 2002 need to be added.

Commented [BC2R1]: are those events included in an appendix of the old plan?

Commented [MM3R1]: I reviewed the other sections and appendices for the old plan and did not find any additional detail on past events.



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
September 28, 1977	Earthquake 3.1	Wilmington, NY	N/A	N/A	No reference and/or no damage reported.
April 5, 1978	Earthquake 2.6	Newcomb, NY	N/A	N/A	No reference and/or no damage reported.
August 21, 1978	Earthquake 3.1	Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
December 30, 1979	Earthquake 2.5	North Castle, NY	N/A	N/A	No reference and/or no damage reported.
June 6, 1980	Earthquake 3.5	Port Leyden, NY	N/A	N/A	No reference and/or no damage reported.
August 31, 1982	Earthquake 2.7	Northville, NY	N/A	N/A	No reference and/or no damage reported.
February 26, 1983	Earthquake 3.0	Pawling, NY	N/A	N/A	No reference and/or no damage reported.
October 7, 1983	Earthquake 5.1	Newcomb, NY	N/A	N/A	At Blue Mountain Lake, one old chimney collapsed, about 20 tombstones slid or rotated, and some minor cracks formed in plaster walls. Several landslides were reported. Light damage also occurred at several other towns in the area, but the most common effects were cracked chimneys, broken dishes or glassware and overturned or fallen objects. Although this earthquake caused only minor damage, it was felt over a wide region, including two Provinces in Canada and 12 States.
August 20, 1984	Earthquake 3.2	Chazy, NY	N/A	N/A	No reference and/or no damage reported.
October 19, 1985	Earthquake 3.6	Greenville, NY	N/A	N/A	No reference and/or no damage reported.
September 26, 1987	Earthquake 3.8	Tupper Lake, NY	N/A	N/A	No reference and/or no damage reported.
August 9, 1988	Earthquake 3.5	Massena, NY	N/A	N/A	No reference and/or no damage reported.
June 17, 1991	Earthquake 4.0	Worcester, NY	N/A	N/A	Felt (V) at Carlisle, Charlottesville, Cobleskill, Fly Creek, Fultonham, Herkimer, Howes Cave, Ilion, Morris, New Kingston, New York Mills, Portlandville, Rensselaerville, Seward and Worcester. Felt throughout much of New York from Rochester to Rockland and Westchester Counties. Also felt in northern New Jersey, western Connecticut, western Massachusetts and in parts of New Hampshire, Pennsylvania and Vermont.
March 2, 1995	Earthquake 3.0	Tupper Lake, NY	N/A	N/A	No reference and/or no damage reported.
July 31, 1997	Earthquake 3.2	Lyons Falls, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 2000	Earthquake 3.8	Newcomb, NY	N/A	N/A	Felt at Clifton Park, Crown Point, Greenwich, Ilion, Indian Lake, Lake Bonaparte, Newcomb, Northville, Queensbury, Saranac Lake, Tupper Lake, Vermontville and Wells. Felt at Keene and Swanzey, New Hampshire; Addison, Moretown, Montpelier and Northfield, Vermont. Also felt at Brigham and Sherbrooke, Quebec, Canada.



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
February 3, 2001	Earthquake 3.2	Bath, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 2002	Earthquake 5.1	Au Sable Forks, NY	DR-1415	Yes	Approximately 12 residents throughout the County reported specific damage to WCDER, including cracked foundations and walls, structural damage, broken doors and windows, and septic system and other utility damage.
July 24, 2007	Earthquake 3.1	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 27, 2008	Earthquake 2.7	Howes Cave, NY	N/A	N/A	No reference and/or no damage reported.
February 18, 2009	Earthquake 2.7	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 20, 2009	Earthquake 2.7	Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 23, 2009	Earthquake 2.1	Berne, NY	N/A	N/A	No reference and/or no damage reported.
March 22, 2009	Earthquake 2.8	Berne, NY	N/A	N/A	No reference and/or no damage reported.
May 18, 2009	Earthquake 3.0	Berne, NY	N/A	N/A	No reference and/or no damage reported.
October 21, 2009	Earthquake 2.9	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
December 13, 2009	Earthquake 3.1	Berne, NY	N/A	N/A	No reference and/or no damage reported.
June 24, 2010	Earthquake	Ottawa, Canada	N/A	N/A	An earthquake centered north of Ottawa, Canada was felt in the Hudson Valley and elsewhere in New York State and across a wide swath of the northeast United States. There were reports of people having felt the event in Warren County, New York. Chestertown residents reported having felt it. There were no reports of injuries or damages in the County.
August 23, 2011	Earthquake 5.8	Mineral, Virginia	DR-4044 (Washington D.C.) DR-4022 (Virginia)	No	A 5.8 earthquake occurred during the afternoon of August 23 rd when a fault near Mineral, VA ruptured. It damaged older buildings, shut down much of Washington D.C. and impacted people from New England to the Carolinas. Many buildings in Virginia and Washington D.C. were damaged as a result of this event.
January 23, 2012	Earthquake 2.3	New York	N/A	N/A	No reference and/or no damage reported.
August 25, 2013	Earthquake 2.7	6 miles S/SE of Warrensburg, NY	N/A	N/A	The USGS confirmed a minor earthquake occurred in the Glens Falls area on the morning of August 25 th . The 2.7 earthquake was centered approximately 6 miles south/southeast of Warrensburg. Residents of Glens Falls, Queensbury, Lake George, and Lake



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
					Luzerne area all reported having felt the earthquake.
July 24, 2014	Earthquake 1.6	9 miles NW of Hadley, NY	N/A	N/A	No reference and/or no damage reported.
November 13, 2014	Earthquake 1.6	13 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
February 2, 2015	Earthquake 1.9	19 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
May 25, 2015	Earthquake 1.3	19 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
July 11, 2017	Earthquake 2.5	7 miles NW of Barker, NY	N/A	N/A	No reference and/or no damage reported.
March 21, 2018	Earthquake 2.7	6 miles NW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
May 31, 2019	Earthquake 2.6	4 miles NW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
March 11, 2020	Earthquake 3.1	South Glens Falls, NY	N/A	N/A	No reference and/or no damage reported.
March 29, 2020	Earthquake 2.6	7 miles N of Lyndonville, NY	N/A	N/A	No reference and/or no damage reported.
July 14, 2021	Earthquake 2.8	5 miles NW of Massena, NY	N/A	N/A	No reference and/or no damage reported.
March 15, 2022	Earthquake 2.6	3 miles SW of Warsaw, NY	N/A	N/A	No reference and/or no damage reported.
July 27, 2022	Earthquake 2.5	1 mile SW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
February 6, 2023	Earthquake 3.8	0.5 miles NE of West Seneca, NY	N/A	N/A	No reference and/or no damage reported.

Source(s): NYS DHSES 2014; USGS 2023; FEMA 2016

DR Major Disaster Declaration (FEMA)
 FEMA Federal Emergency Management Agency
 N/A Not Applicable
 NY New York
 USGS U.S. Geological Survey



E.1.2 Extreme Temperature

Information regarding specific details of temperature extremes in Warren County is scarce; therefore, previous occurrences and losses associated with extreme temperature events are limited. Table H.2 summarizes the extreme temperature events in the County from 2000 through 2023.

Table E.2. Extreme Temperature Events between 2000 and 2023

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
March 8, 2000	Excessive Heat	N/A	N/A	The season's first Bermuda type high pumped unseasonably warm air into eastern New York on March 8 and March 9. Temperatures soared well into the 60s at most locations, and touched 70 in a few spots. Even across the Adirondacks, readings climbed well into the 50s to near 60. At the Albany International Airport, the high on March 8 of 66 degrees, eclipsed the old record of 64 set in 1942. On March 9, the high reached 68 degrees, replacing the old record of 66 established in 1977.
January 28-29, 2009	Winter Storm	N/A	N/A	A winter storm spread a significant wintry mix of precipitation across eastern New York State, with heavy snow and sleet across much of the southern Adirondacks into the Lake George Saratoga region. Snow and sleet amounts ranged from 8 to 12 inches across the southern Adirondacks and the Lake George Saratoga region. This wintry mix resulted in the closure of numerous schools and businesses across east central New York for both Wednesday and Thursday mornings, and also created treacherous travel conditions. Snowfall totals in Warren County ranged from 8 to 9 inches in the city of Glens Falls.
February 18, 2009	Winter Weather	N/A	N/A	Winter storm system swept northeast across eastern New York State early Thursday morning, preceded and accompanied by moderate to locally heavy wet snow. The snow began Wednesday afternoon and tapered off early Thursday morning. The heaviest snowfall amounts occurred across the Lake George Saratoga region, where 6 to 10 inches fell.
February 23, 2010	Heavy Snow	N/A	N/A	A powerful storm impacted the region, the second in just a couple of days bringing heavy rainfall and a heavy wet snow to the local area. The heavy wet snow resulted in additional and continued widespread power outages across east central New York, downed trees and power lines, treacherous travel, road closures, train delays, building collapses and snow emergencies. In Warren County, up to 2 feet of snow fell in the west portion of the county in the higher elevations. Route 9N at Pinewoods Road in the Town of Lake Luzerne was reported closed for a couple of hours late Tuesday evening, February 23rd, due to downed power lines. No property damages were reported. Snowfall totals in Warren County ranged from 10.5 inches in

Commented [MM4]: Reference Hazard Event History from the 2016/17 plan includes information on Severe Winter Weather, but information on extreme heat events was not located.

Commented [MM5R4]: NOAA data on excessive heat added.



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				the City of Glens Falls to 21.3 inches at the Town of Lake Luzerne.
February 25, 2010	Winter Storm	N/A	N/A	<p>This storm system produced a widespread swath of heavy wet snow across the greater Capital District and surrounding area, the Lake George Saratoga region, the Mohawk River Valley, Schoharie Valley and southern Adirondacks during the day Friday. Snowfall rates of 1 to 2 inches per hour occurred, beginning during the early morning hours, and persisting until late afternoon.</p> <p>Snowfall amounts reached 12 to 15 inches across northern portions of the Capital Region extending into the east central Mohawk River Valley and Lake George Saratoga region. The heavy snow created treacherous travel conditions for the morning and evening commutes on Friday, with numerous accidents reported, including along portions of the Adirondack Northway, as well as Interstate 90. The heavy wet snow also led to numerous school and business closings across much of eastern New York on Friday.</p> <p>Snowfall totals in Warren County ranged from 4 inches at Warrensburg to 24 inches at Garnet Hill in North River hamlet.</p>
July 21, 2011	Excessive Heat	N/A	N/A	<p>Bermuda high pressure dominated the region with broad southwest flow aloft. This flow ushered in hot and humid air. Temperatures across much of east central New York warmed well into the 90s with some locations reaching the century mark in the mid Hudson Valley. On Friday July 22nd in Dutchess County, Rhinebeck reached 104 degrees, Dutchess County Airport in Poughkeepsie reached 102 degrees and Mills Norre State Park came in with 100 degrees. In Columbia County, 101 degrees was reported in Hudson at the Columbia County Airport. The most oppressive day was Thursday, July 21st, due to very high dew points in the 70s. The high humidity, combined with temperatures in the 90s, resulted in heat indices of 105 to 110 degrees up the Hudson River Valley. The New York Independent System Operator (NYISO) reported that New York State's power consumption on the 21st peaked between 4 pm and 5 pm EDT and was the third highest peak on record. A weak boundary marked by a shift in winds and lower dew points moved southward across east central New York on Friday, July 22nd. Dew points dropped into the 50s in the wake of the boundary. However, the boundary did not reach the mid Hudson Valley until late in the day, and this was too late to bring any relief to the oppressive heat and humidity. The boundary dissipated across the area Friday evening. On Saturday July 23rd, temperatures warmed in the 90s, and with dew points in the upper 60s and lower 70s, resulted in heat indices of 100 to 104 degrees across the</p>



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				Capital District, mid Hudson Valley, southern Taconics and southeastern Catskills.
December 10-11, 2013	Winter Weather	N/A	N/A	As very cold air passed over the relatively warm water of Lake Ontario, a heavy, long-lasting band of lake effect snow developed on the evening of the 10 th , extending east across the entire western and southern Adirondacks. By the time the band ended late in the evening of December 11th, over one foot of snow was common across the western Adirondacks. Snowfall totals included 4.5 inches at Gore Mountain in Warren County.
December 14-15, 2013	Winter Storm	N/A	N/A	A light snow slowly spread across New York State from southwest to northeast during the day on December 14 th , followed by a steadier and heavier snowfall moved across the region during the evening hours and into the overnight. Snow fell at rates in excess of one inch per hour over much of the region and snow rates locally were as high as up to three inches per hour at times. The bulk of the accumulating snow was finished by the late overnight hours, but light snow showers and flurries continued into the mid-morning hours, especially across the Adirondacks and Capital Region. By the end of the storm, many places around the eastern Catskills, Capital Region and Lake George Saratoga Region received around a foot of snowfall. Snowfall totals in Warren County ranged from 9 inches at Brant Lake hamlet to 12.2 inches at the Town of Lake Luzerne.
February 13-14, 2014	Heavy Snow	N/A	N/A	An exceptional winter storm impacted all of eastern New York between Thursday, February 13th and the morning of Friday, February 14th. The snow began falling in the morning hours at rates of up to three inches per hour, causing significant travel issues across the region. After a late afternoon break in the snowfall, heavy precipitation returned in the late evening hours. Once again, the snow fell at significant rates of up to 3 inches per hour. In addition, lightning and thunder accompanied the snow across far southern and eastern areas at times as well. By the time snow ended, between one and two feet of snow fell across much of the Lake George Saratoga Region, with lower amounts of 4 to 10 inches across the Adirondacks. Very strong winds, gusting as high as 40 mph, occurred as the storm pulled away. This led to significant blowing and drifting of the snowfall through the entire day on February 14th. As a result of the storm, Governor Andrew M. Cuomo declared a state of emergency for the Mid-Hudson as well other counties, including Warren, across east central New York. Restrictions were put on travel. Many towns and cities had difficulty with snow removal, as much of the snowfall also remained from a recent early February snowstorm as well. The



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				weight of snow caused a few roof collapses and power outages across the region. Snowfall totals in Warren County ranged from 6 inches at North Creek hamlet to 12 inches at the Town of Lake Luzerne.
November 26-27, 2014	Nor'Easter / Snowstorm	DR-4204	No	An early season winter storm impacted eastern New York State during Thanksgiving. The storm began the morning of the 26 th and once the snow began, it increased in intensity, falling at rates at or greater than one inch per hour. Temperatures dropped to or below freezing across the entire region. There were heavy bands of snow occurring in some locations, especially across the Taconics, Mohawk Valley and southeastern Adirondacks. Snowfall totals ranged from six to 12 inches, with up to 15 inches in the southeastern Adirondacks. The weight of the snow caused power outages in the area, especially across the mid-Hudson Valley. Warren County DPW reported numerous damages, including automobile damages from falling trees and icy conditions, transportation blockages, and phone wires falling on and entangling a truck. Snowfall totals in Warren County ranged from 10 inches at the City of Glens Falls to 14.5 inches at North Creek hamlet.
January 7, 2015	Extreme Cold/Wind Chill	N/A	N/A	Behind an arctic cold front, bitter cold air moved into the region for the night of Wednesday, January 7th. Overnight lows were below zero in most areas, with temperatures as low as -10 to -30 degrees over the Adirondacks and the Lake George and Saratoga Region. With strong northwesterly winds in place, this allowed for winds chill values to be as low as -40 degrees during the late-night hours into the morning hours on Thursday, January 8th. Due to the dangerously cold temperatures, many towns and cities opened shelters and warming stations for residents who needed a place to stay overnight. Many school districts also delayed the start of school due to the extremely cold temperatures and low wind chill values.
February 15, 2015	Extreme Cold/Wind Chill	N/A	N/A	Behind a rapidly developing coastal storm, an extremely frigid Arctic air mass pour into the region from the north, beginning during the late morning hours on Sunday, February 15th. With the developing storm just east of the region, a strong pressure gradient allowed for very strong winds. Northwest winds frequently gusted over 30 MPH, with some gusts as high as 46 MPH through the evening hours. Temperatures fell quickly through the day and dropped below zero for Sunday night into the morning of Monday, February 16th. Some temperatures were as cold as 30 degrees below zero. With winds continuing to be gusty during the overnight and morning hours, wind chill values dropped as low as 15 to 45 degrees below zero.



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				With much of the month experiencing cold temperatures, many towns and cities continued to keep warming shelters open.
February 13, 2016	Extreme Cold/Wind Chill	N/A	N/A	<p>Behind an Arctic cold front, very cold temperatures poured into the region upon brisk northwesterly winds. Temperatures dropped through the day on Saturday, February 13th, reaching lows of 8 to 33 degrees below zero across eastern New York on Saturday night. Along with winds gusting 20 to 40 MPH, wind chill values reached 15 to 45 degrees below zero for Saturday night into Sunday morning.</p> <p>The cold temperatures and low wind chills resulted in several water main breaks across the region. About 60 residents of an elderly care facility in Hoosick had to spend the night at a fire station as a result of a burst water pipe. In addition, the Red Cross responded to 17 emergency calls over the weekend, including for house fires in Albany, Schodack and Gilboa. Around \$3000 of aid was given to families affected by these fires.</p>
February 12, 2017	Extreme Cold/Wind Chill	N/A	N/A	<p>Two low pressure systems approached the northeastern US on Sunday, February 12, with snowfall breaking out over the local area around sunrise. The snow was heavy during the morning and early afternoon, with accumulation rates of 1 to locally 2 inches per hour at times. The snow was wet and dense and readily clung to trees.</p> <p>In total, 7 to 12 inches of snowfall occurred through most of the local area, with lesser totals over southern portions of the region where sleet occurred. Car accidents were reported, and snow emergencies were in effect throughout the region, and Route 28 in Herkimer County was closed for a time due to several accidents. On February 13, strong winds developed on the back side of the system. The strongest winds targeted the Catskills and Mid-Hudson Valley, where several trees were downed and over 14,000 power outages were reported. Dutchess County Airport in Poughkeepsie recorded a 59 mph wind gust.</p>
December 22, 2017	Winter Storm	N/A	N/A	<p>A complex storm system brought snow and a wintry mix to the region on Friday, December 22nd through Saturday, December 23rd, 2017. The precipitation started out as snow on Friday, but transitioned to a wintry mix by Friday night. Freezing rain lingered through the day Saturday as a warm front lifted through the region, especially for sheltered mountain valley areas. Snowfall totals ranged from a trace in the Mid-Hudson Valley up to 8.5 inches in the Adirondacks (Hamilton county) along with light icing as well. A few spots in the Mohawk Valley and Saratoga Region saw up to two tenths of an inch of ice.</p>
February 7, 2018	Winter Storm	N/A	N/A	<p>A winter storm brought mixed wintry precipitation to the region. Precipitation began as snow during the morning hours but changed to a mix of sleet, freezing rain and snow during</p>



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				the afternoon hours, mixing as far north as the town of Schenectady. Precipitation transitioned back to snow during the evening hours before exiting the region northwest to southeast. Snowfall and sleet totals ranged from 1 inch to 12 inches, with the higher totals generally north and west of the Greater Capital District.
July 1, 2018	Excessive Heat	N/A	N/A	A hot and humid airmass brought excessively high heat indices to eastern New York from the beginning of July through the Independence Day holiday. Temperatures soared as high as 99 degrees on July 1st, the hottest day of the stretch. Combined with dewpoints in the mid-70s, heat indices reached near 110 degrees in the warmest valleys. July 5th marked the sixth consecutive day reaching a temperature of 90 degrees at Albany and Glens Falls, and a seventh consecutive day at Poughkeepsie. In addition to the hot daytime temperatures, overnight low temperatures only falling into the 70s was common, which exacerbated heat-related problems. The extensive heat prompted the opening of many cooling centers across the region.
November 15, 2018	Winter Storm	N/A	N/A	A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to eastern New York. The Mid-Hudson Valley and eastern Catskills were hit hardest with 8 to 14 inches of snow, most of which occurred during the evening hours. The snow spread in during the evening rush hour with one to three inches per hour accumulation, snarling traffic and resulting in numerous accidents. The southern Adirondacks also saw 6 to 12 inches of snowfall, while totals for the remainder of eastern New York generally ranged from 4 to 8 inches. The snow changed to sleet and freezing rain overnight in many areas with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending.
January 19, 2019	Winter Storm	N/A	N/A	The largest snowstorm to date in the 2018-19 winter occurred on January 19th and 20th across eastern New York. Low pressure formed over the lower Mississippi Valley and lifted northeast across the Tennessee Valley during the night of the 19th before moving along the Mason-Dixon line on the 20th. Strong rising motion occurred as southerly winds aloft transported moist air northward, which was lifted over the cold airmass in place over eastern New York. Snowfall broke out during the afternoon of the 19th, continuing heavy at times into the evening and overnight hours before ending during the morning of the 20th. The strong southerly flow brought above-freezing air aloft into the region, causing the snow to turn to sleet as far north as the Capital District and northern Catskills for a time before turning back to snow. Further south, the air aloft was warm enough to turn the



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				precipitation to freezing rain with ice accretion of one to three tenths of an inch over portions of the southeast Catskills, Mid-Hudson Valley, and southern Taconics.
July 20, 2019	Excessive Heat	N/A	N/A	<p>A heat wave gripped eastern New York from July 19th through the 21st. Temperatures soared into the low to mid-90s with dewpoints in the low to mid-70s. This resulted in heat index values in the 100 to 110 range in the warmest spots of the Hudson Valley. Saturday, July 20th was the hottest day for most areas. Due to the excessive heat, area cities extended hours for pools and cooling centers, and Saturday's races at the Saratoga Race Course were cancelled due to the heat for the first time since August 2006.</p> <p>The hot and humid airmass provided fuel for thunderstorms that formed along the Lake Ontario shoreline during the late afternoon of the 20th. Two clusters of storms moved from the Mohawk Valley through the Capital District and into the Taconics during the evening, resulting in several reports of wind damage. The storms knocked out power to over 1,700 customers in Schenectady and Saratoga Counties.</p>
December 29, 2019	Winter Storm	N/A	N/A	A complex winter storm brought a mix of rain, snow, sleet and freezing rain to the region from the evening of Sunday, December 29th, lingering through the morning of Tuesday, December 31st, 2019. Heavy accumulations of ice impacted portions of the eastern Catskills, Mohawk Valley and the southern Adirondacks during this time frame. There were approximately 10,000 people without power across the state due to a combination of icy conditions and strong winds bringing down trees and power lines.
March 23, 2020	Winter Storm	N/A	N/A	A late season snowfall impacted the region on Monday, March 23rd, 2020. This was brought on by an anomalously cold air mass interacting with a coastal low pressure system. Snowfall totals ranged from an inch in the Mid-Hudson valley up to almost 10 inches in the southern Adirondacks and northern Lake George Saratoga region. The lower amounts were mainly confined to the Lower Hudson Valley due to a rain and snow mix throughout much of the day. Snow intensity increased during the late afternoon and early evening hours impacting the evening commute. As a result, a tractor trailer crashed on Interstate 87 South prompting portions of the interstate to be closed.
February 3, 2022	Winter Storm	N/A	N/A	A prolific winter storm began on Thursday, February 3 and continued into Friday, February 4. Precipitation began as rain for most areas on February 3 with the exception of the Adirondacks which began as a mix of rain and snow. Colder air gradually pushed southward into the overnight and early morning hours of February 4 resulting in a changeover to a wintry mix of sleet, freezing rain and snow. Most locations picked up 1 to 2 inches of liquid equivalent precipitation from



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				this event with the majority of it falling as one or multiple types of frozen precipitation. Precipitation ended during the afternoon hours on February 4. Utility companies noted that more than 50,000 customers lost power from the storm across the Hudson Valley, most of them in eastern Ulster County. At least 44 utility poles broke and more than 900 power lines came down as a result of the snow and ice with more than 500 individual damage locations.
November 18, 2022	Severe Winter Storm	EM-3589	N/A	Following the passage of a strong cold front, bands of lake effect snow developed off Lake Ontario impacting portions of the Adirondacks and Mohawk Valley and also extending into the Hudson Valley. This resulted in multiple car accidents across the Hudson Valley with one occurring Sunday morning and the others Sunday evening. Additionally, the band of lake effect snow over Herkimer County resulted in several inches of accumulation over parts of the county. In addition to the snows, it was also blustery with winds gusting between 25-45 mph over the area.
December 23, 2022	Severe Winter Storm	EM-3590	N/A	Two separate frontal systems merged to form a powerful winter storm over the Great Lakes from December 22 to December 24 bringing multiple hazards to the region including heavy rain, snow, strong winds and a very cold air mass in its wake. Widespread rainfall amounts of 1 to 3 inches were observed with some localized amounts of 4 inches. The combination of the rain and snowmelt in some places resulted in some flooding and some creeks to overflow their banks. Strong pre-frontal and post-frontal winds occurred with this event with widespread wind gusts of 40 to 55 mph. Such winds resulted in some downed trees and power lines as well as minor damage to some structures. A few power outages occurred as a result. Snow showers in the wake of the cold front brought mainly light accumulations. However, a pocket of more moderate snow occurred across the northern and central Taconics with snowfall amounts in the 4-to-8-inch range. Much colder air built into the region in the wake of the front which, combined with the strong winds, led to wind chill values as low as 15 to 25 degrees below zero in some areas.
January 22, 2023	Winter Storm	N/A	N/A	With eastern New York in the cold sector of a coastal low pressure system, a swath of moderate to heavy snow fell across a good portion of the area Sunday evening/night into Monday before ending Monday afternoon. The winter storm proved impactful resulting in car crashes and power outages. Some schools and businesses also closed as a result of the storm.
March 13, 2023	Winter Storm	N/A	N/A	A powerful Nor'Easter resulted in widespread moderate to heavy wet snow and gusty winds across eastern New York March 13-March 15, 2023. Anywhere from 15 to 30 inches of snow with locally higher amounts in excess of 30 inches fell



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				over the SW Adirondacks and eastern Catskills. Valley locations received lesser amounts with totals generally ranging between 7 to 15 inches. A few locations across the western Mohawk Valley and mid-Hudson Valley received less than 6 inches of snow. Numerous downed trees and powerlines resulted in widespread power outages. According to the National Grid, approximately 141,000 customers lost power within the state of New York with most occurring within our county warning area. Some locations were without power for at least 1 or 2 days.

Sources: NYS DHSES 2014; USGS 2023; FEMA 2016
 NOAA-NCDC National Oceanic Atmospheric Administration – National Climatic Data Center
 NWS National Weather Service
 NYS New York State

E.1.3 Flood

Known flooding events that occurred from 1996 to 2022 are identified in Table E.3. With flooding documentation for New York State and Warren County being so extensive, not all sources have been identified or researched. Therefore, Table E.3 may not include all events that have occurred in the County.

Table E.3. Flooding Events in Warren County Between 1996 and 2022

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 19, 1996	Flooding	N/A	N/A	In Lake George Village widespread flooding occurred and seven families had to be evacuated. Many roads were closed throughout the county due to flooding including 16 county roads. Significant damage was also incurred to many state roads. Routes 9 and 9N were closed from Lake George north. Route 418 was closed at the Hudson River Bridge and along route 8 a 150 foot section was washed out between Brant Lake and Hague.
January 8, 1998	Flooding	N/A	N/A	From January 8 to January 12, the Hudson River flooded from its headwaters to where it crosses into Greene and Columbia Counties, due to a combination of significant rain and snowmelt. In Hamilton and Warren Counties, the river rose to heights that came close to the flood of record. Flood damage in this area was kept to a minimum due to its flow through undeveloped areas and vacation property which was secured for the winter.
April 1, 1998	Flooding	N/A	N/A	Due to rapid snowmelt at the end of March and beginning of April, rather severe flooding continued along the Schroon River in Warren County. The flood waters affected river front homes, State Highway 418 between Warrensburg and Thurman Station and forced the closure of a bridge at Starbuckville. The river at Riverbank crested at 9.3 feet during the afternoon of April 2.
February 28, 2000	Flooding	N/A	N/A	A warmup at the end of February, began melting the winter snowpack fairly quickly and helped break up an extensive ice pack on the upper Hudson and Mohawk Rivers. As a result, ice jams developed on the Mohawk and Hudson rivers. During the night of February 27 and 28, rainfall accumulated between one half and one inch and a half across eastern New York. The rains



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				exacerbated the runoff, which resulted in the flooding of the Mohawk and Hudson rivers, as well as some smaller streams. Most of the flooding was minor. There were no casualties directly related to this flooding, reported to the National Weather Service.
April 16, 2001	Flooding	N/A	N/A	he runoff from rapid snowmelt, caused the Schroon River in Warren County to rise out of its banks around midday, on April 16th. The gage at Riverbank reached the flood stage of 7.0 feet at that time. The river continued to swell, and did not crest until the gauge reached 10.1 feet, early on April 24. This was the highest level recorded in 50 years. Portions of Route 413 became inundated, as did many homes in the towns of Chester, Pottersville, Horicon and Warrensburg. A number of residents had to be evacuated and a few bridges were closed.
March 30, 2003	Flooding	N/A	N/A	An area of low pressure, moving along a slow moving cold front on March 29 and 30, produce 1 to 2 inches of rainfall across eastern New York. The rain, combined with seasonably mild temperatures, melted most of the remaining snow pack across much of eastern New York. The combination of the rain and mild temperatures, produced another significant runoff which caused some additional minor flooding.
April 2, 2004	Flooding	N/A	N/A	As much as three inches of rain fell between March 31 through April 2 across eastern New York. This rain combined with the last of the snow melt to produce an excessive runoff of water. As a result, the Schroon River in Warren County briefly reached above flood stage on the evening of April 2. No problems were reported to the National Weather Service as a result of this flooding.
May 1, 2006	Flooding	N/A	N/A	On May 1, at Riverbank, the Schroon River had some lingering flooding from heavy rainfall during the last week in April. The water level dropped below the 7-foot Riverbank flood stage at 18:45 EST.
April 20, 2007	Flooding	N/A	N/A	Warm temperatures from April 19th to April 24th led to rapid melting of a deep snowpack across much of the Adirondacks. Antecedent water equivalent in the snow pack ranged from 6 to 16 inches. This rapid melting led to flooding of many rivers that drain the Adirondacks. In addition, releases from Sacandaga Lake perpetuated the flooding on some rivers through the end of the month.
March 5, 2008	Flooding	N/A	N/A	A low-pressure system tracked northeast from the lower Ohio Valley on Tuesday March 4th, into south central New York State by Wednesday morning on March 5th. Abundant moisture was associated with this system, which led to widespread heavy rainfall across much of east central New York and western New England, which began late Tuesday night, and persisted into early Wednesday afternoon. Rainfall amounts of 1 to 3 inches fell during this event. This heavy rainfall, in combination with frozen ground and snowmelt led to flooding in many areas within the Capital Region, as well as within the Lake George and Saratoga region, the Schoharie Valley, the eastern Catskills and mid Hudson Valley.
April 9, 2008	Flooding	N/A	N/A	he melting of a deep snowpack led to moderate or higher river flooding across portions of the upper Hudson River basin, including the Schroon River, Lake Champlain, and the Great Sacandaga Lake. Snow water equivalents of nearly one foot began to melt during a warm period beginning around April 10th,



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				and led to river flooding which persisted through the end of April. Along the Schroon River, at least one permanent home, along with a few summer camps were flooded. On the Hudson River near Schuylerville, a sod farm suffered estimated losses of \$225,000 due to prolonged submersion of sod in Hudson River flood waters. In addition, the New York State Canal Corporation was unable to open the Hudson-Champlain Canal in April due to high water levels.
March 13-31, 2010	Severe Storms and Flooding	DR-1899	Yes	Moderate to heavy rain fell across east-central New York State. The ground was already nearly saturated from recent snow melt, causing rivers and streams to run high. Flooding from this event caused damage to numerous roads in the northern section of Warren County. In the Town of Johnsbury, a bridge was reported washed out on Harrington Road due to a possible beaver dam break along Johnson Brook. Overall, the County had approximately \$25,000 in property damage from this event.
October 1, 2010	Flooding (Remnants of Tropical Storm Nicole)	N/A	N/A	The remnants of Tropical Storm Nicole brought very heavy rains to east-central New York State. Rainfall totals from this storm ranged from three to nine inches, resulting in widespread river and small stream and urban flooding, including water in basements. In Warren County, there was standing water reported in the City of Glens Falls at the intersection of Sherman Avenue and Elm Street due to the heavy rains.
March 8-12, 2011	Ice Jam	N/A	N/A	An ice jam began to form on March 7 th near the Route 28N bridge in the hamlet of North Creek (Town of Johnsbury). The water that backed up from the ice jam began flooding Old River Road on March 10 th , prompting the evacuation of some residents and forced the closing of the road. The water began to recede on March 13 th when the ice jam release and moved downstream. As the ice jam moved down the river, it ripped trees from the river bank and then became lodged along the Route 418 bridge in the Town of Thurman on the evening of March 13 th . Overall, damage was reported at the County fish hatchery in the Town of Warrensburg and damage to a recreational property from North Creek downstream to Lake Luzerne.
April 28-30, 2011	Severe Storms, Flooding, Tornadoes, and Straight-Line Winds	DR-1993	Yes	Heavy showers and thunderstorms impacted the western and central Mohawk Valley, Adirondack region, and the Upper Hudson River Valley, including the Lake George Region (Warren County). Thunderstorms produced severe weather and very heavy rainfall. The combination of the rainfall and rapid snowmelt due to warm temperatures led to increased runoff and rapid river rises. In Warren County, flooding from this event covered nearly two-thirds of the County. Flooding occurred along the Hudson River in the County from North River southward to the Saratoga County line. Numerous municipalities reported flooding of roadways, houses, and riverside camps. Some properties had several feet of water in them. Many major roadways were closed



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				<p>in the County due to flooding. The North Creek Trailer Park on Route 28 in the Town of Johnsbury was evacuated because water from the Hudson River entered the park. A mudslide in excess of 200 feet occurred on 13th Lake Road in North River/North Creek. In the hamlet of North Creek (Town of Johnsbury), a couple hundred feet of railway tracks were reported under two to five feet of water with several buildings at the train station being flooded as well. In the Town of Stony Creek, the 1,000 Acres Golf Course was flooded with the 9th green under eight feet of water. Flood water receded through April 30th. The County had approximately \$676,000 in property damage from this event.</p>
May 27 – June 2, 2011	Flooding	N/A	N/A	<p>Flooding caused severe damage along a thin line through the County and impacted the Towns of Stony Creek, Thurman, Warrensburg, Horicon, and Bolton. The County had \$13.125 million in damages from this event.</p>
August 28-30, 2011	Hurricane Irene	DR-4020	Yes	<p>The greatest impact of Irene in eastern New York State was heavy to extreme rainfall which resulted in catastrophic flooding across portions of the region. Rainfall amounts averaged between four and eight inches with amounts of up to 12 inches falling in the eastern Catskills and Schoharie Valley. Three to six inches were common across the Lake George and Saratoga regions. The rainfall resulted in widespread flash flooding and river flooding across eastern New York State. Bridges were closed on major roadways in this area of the State.</p> <p>In Warren County, there was severe wind and flood damage throughout. In the Town of Lake George, Route 9N was flooded from the Route 9/9N split south to the ramp for Exit 21 for the Northway. Route 9L was also flooded between Route 9N and Bay Road. Two of the seven docks in the Village of Lake George floated off and were crushed.</p>
October 27 – November 8, 2012	Hurricane Sandy	EM-3351	Yes	<p>Hurricane Sandy moved up the east coast of the United States during the last week of October 2012. As the storm made landfall in southern New Jersey, bands of rain moved across eastern New York State. Rainfall totals in this part of the State were minimal and did not cause any flooding. The storm did bring strong and gusty winds to the area, bringing down trees and power lines across the region. Wind gusts ranged from 40 to 60 mph.</p> <p>In Warren County, wind gusts of 65 mph pushed down the length of Lake George, creating waves that threatened to spill over the shoreline. Some of the docks along the Lake were damaged but flooding did not occur. In Glens Falls, trees and wires were knocked down from the winds.</p>
February 1, 2013	Ice Jam	N/A	N/A	<p>Massive ice chunks of up to 10 feet thick in spots, broke off near North Creek in Warren County. This created an ice jam on the upper Hudson River near the Town of Thurman. As the ice</p>



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				chunks became lodged, they caused the water behind them to jump the banks, with more than 100 yards of River Road in Thurman over 10 feet of ice chunks. The water receded by midday and the town highway department had to use loaders and backhoes to remove the ice from the roadway.
June 28, 2013	Severe Storms and Flooding	DR-4129	Yes	<p>Heavy rain fell across the Mohawk Valley and western Adirondacks with rates of one inch per hour with three to five inches of rain falling in total. This event, with the combination of a previous rainfall event, led to significant flash flooding across both the Mohawk Valley and Adirondacks. Many roads were washed out and closed. Urbanized areas along the Mohawk River experienced flooding as well. Many communities declared state of emergencies and President Obama signed a major disaster declaration for New York State which included Herkimer, Montgomery and Warren Counties.</p> <p>In Warren County, the Town of Johnsbury experienced severe flooding from this event. Flash flooding occurred in the Bakers Mill section of the Town. Water rescue teams were deployed to several homes that were threatened by flooding. A state of emergency was declared for the Town as a result of flooding.</p>
January 12, 2014	Ice Jam	N/A	N/A	Harrington Road in the Town of Thurman had ice up to scraper banks in some locations and Glen Creek Road was closed due to flooding caused by an ice jam on the Hudson River.
April 13-21, 2014	Flooding	N/A	N/A	<p>Significant snow pack began to melt as a result of an extended period of warm weather. Up to 10 inches of liquid equivalent started melting between April 8th and April 15th. The snow melt caused many rivers and streams in and around the Adirondacks to become very high with a few reaching flood stages just from the snow melt.</p> <p>Heavy rain began to fall in the region on April 15th, bringing up to two inches of rain in the area. The rainfall, combined with the snow melt, caused many rivers to reach moderate flood stage. By April 21st, all rivers in the area were below flood stages.</p> <p>In Warren County, the Schroon River reached major flood stage and remained at this stage for several days. The flooding caused several private roads of homes and vacation properties to be impacted by water. Roads were closed due to flooding in the County.</p>
May 13-22, 2014	Flooding	N/A	N/A	A culvert was washed out in the County.
January 13, 2018	Flooding	N/A	N/A	After a frigid end of December and beginning of January, an unseasonably warm airmass was pumped into New York on January 12th on southerly winds. The temperatures reached the 50s and 60s during the day. Showers also developed in the warm



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				airmass ahead of a cold front and were heavy at times, with some locations receiving one to three inches of rainfall. The combination of warm temperatures and heavy rainfall caused river ice to dislodge and resulted in ice jams in spots. Flooding occurred due to a combination of ice jam movement and heavy rainfall. Several roads were closed or damaged and a water rescue had to be performed near the Hoosic River in Rensselaer County. After the strong cold front passed, many ice jams and their associated flooding froze back in place, resulting in road closures continuing for several days in some areas.
February 22, 2018	Flood	N/A	N/A	<p>A large ice jam remained in place on the Mohawk River for much of the month of February and was one of the biggest ice jam seen in decades, according to Union College professor John Garver.</p> <p>The ice jam stretched up to 17 miles from Rexford to Crane Hollow throughout the month in February. The ice jam mainly remained in place into late February and received a large amount of media and government attention. Albany County was concerned about impacts downstream if the jam were to give way quickly. Temperatures skyrocketing into the 60s and 70s on February 20-21 coupled with around 0.50-1.00 rainfall on the 19th over the Mohawk basin allowed river levels to rise and flooding occurred by the 21st within the Stockade neighborhood of Schenectady and across the river in Scotia, as well as backwater flooding of the Alplaus Kill. A substantial portion of the ice jam gave way during the early morning hours of the 22nd, leading to concern for flooding in the downstream communities, but it turned out that impacts were minimal. There were some road closures in the Rotterdam Junction and Schenectady area due to the ice jam movement and breakage. The remainder of the jam gradually broke up over the next week or so with little impact.</p>
April 20, 2019	Flood	N/A	N/A	Heavy rain, combined with snow melt from the Adirondacks, caused the Schroon River at Riverbank to rise above flood stage for several days. River levels reached moderate flood stage on Saturday, April 20th and remained there through Thursday, April 25th. The high water levels resulted in water making its way into numerous homes and onto several roads across northern Warren county. No homes were evacuated.
November 1, 2019	Flood	N/A	N/A	The Hudson River at Hadley reached moderate flood stage at 1000EST 1 November, rising to a crest of 17.96 feet at 1545EST. It fell below moderate flood stage buy 0118EST 2 November. The floodwaters reached some riverside streets in the Lake Luzerne area, including Stephen Lane where residents were evacuated. A residence on East River Drive sustained damage to basement walls as a result of the flooding.
February 18, 2022	Flood	N/A	N/A	A storm system pushed across the region during February 17-18, 2022. Warm air pushed northward into the region along with periods of rainfall before a cold front brought the return of windy



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				and colder weather. A convective line of gusty showers also accompanied the cold frontal passage. Some locations picked up over 1 inch of rainfall which led to minor flooding in a few locations.
April 8, 2022	Flood	N/A	N/A	A slow-moving frontal system produced widespread heavy rainfall and flooding across eastern New York from April 7-8, 2022. Rainfall amounts between 1.50 and 3.00 inches were common, though a few localized areas received upwards of 4.50 inches. Periods of light to moderate rainfall began during the daytime hours on April 7 with the steadiest and heaviest rainfall arriving during the evening hours on April 7 into the overnight hours on April 8 before ending. This heavy rainfall led to over a dozen rivers to exceed minor flood stage with a few rivers reaching moderate flood stage. For some, it took days after the event for waters to recede. In addition to the heavy rainfall and widespread flooding, strong winds developed across portions of the Taconics with peak gusts in the 35-50 mph range. The combination of rain and wind led to only sporadic power outages.

Source: NYSDEC 2015; FEMA 2015; NOAA-NCDC 2015; NWS 2015

Note (1): Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of increased U.S. Inflation Rates.

- DR Federal Disaster Declaration
- EM Federal Emergency Declaration
- FEMA Federal Emergency Management Agency
- IA Individual Assistance
- K Thousand (\$)
- M Million (\$)
- N/A Not applicable
- NCDC National Climate Data Center
- NOAA National Oceanic Atmospheric Administration
- NWS National Weather Service
- NYS DHSES New York State Division of Homeland Security & Emergency Services
- PA Public Assistance
- SHELDUS Spatial Hazard Events and Losses Database for the U.S.
- USACE U.S. Army Corps of Engineer

E.1.4 Severe Storm

Known severe storm events that occurred from 1978 to 2013 are identified in Table H.4. As severe storm documentation for New York State and Warren County is extensive, not all sources have been identified or researched. Therefore, Table H.7 may not include all events that have occurred in the County.

Table E.4. Severe Storm Events between 1978 and 2013

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
May 9, 1978	Tornado	N/A	N/A	F1 tornado traveled a distance of approximately 1.2 miles in an area between Lake Luzerne and Glens Falls



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
April 18, 1985	Tornado	N/A	N/A	F0 tornado was spotted between Route 149 and French Mountain Road. The total path of the storm was about 2 to 2.5 miles. Due to sparse population and hilly terrain, damage was limited. Some debris was found a mile or two from its original site.
July 19, 1989	Thunderstorm Wind	N/A	N/A	An early morning wave of thunderstorms produced hail and strong gusty winds. Wind damage caused downed trees, tree limbs, and power lines. Two persons were injured when a tree fell onto a vehicle during high thunderstorm winds.
July 6, 1999	Thunderstorm Wind	N/A	N/A	A cold front moved from the Great Lakes eastward across New York State on July 6. With sultry air in place, and favorable strong winds aloft, this front triggered the largest outbreak of severe weather in eastern New York since May 31st, 1998. A squall line developed around midday ahead of the front and produced the most damage. However, more thunderstorm cells continued developing and some of these became severe into the evening hours. Nearly every county in eastern New York experienced some wind damage. Rensselaer, Warren, Washington, Herkimer, Saratoga and Schenectady Counties were especially hard -hit. Powerful thunderstorms brought down trees and power lines in many localities. Unfortunately, a falling tree killed a camper located on Uncas Island on Lake George. Two other individuals were injured as they lost control of their car avoiding a falling tree at Diamond Point near Lake George.
August 9, 2001	Thunderstorm Wind	N/A	N/A	A lake breeze front off Lake Ontario, interacted with a hot and humid air mass, to trigger a thunderstorm cluster in western New York during the late afternoon of August 9. As the thunderstorm complex reached the Mohawk Valley, it evolved into a supercell. The supercell then developed into a mesoscale convective system (MCS) as it move into the Lake George / Saratoga region and into the northern Taconics. Wind damage then spread into Warren County, as power lines were blown down in both the villages of Lake Luzerne and Lake George.
June 6, 2005	Thunderstorm Wind	N/A	N/A	Trees and power lines down county-wide. A tree crashed through house in Queensbury. Part of Bay Road and Route 149 closed by downed trees or limbs. Additional trees fell on homes in Fort Edward, Granville, Queensbury and Argyle.
September 27, 2007	Thunderstorm Wind	N/A	N/A	A nearly stationary frontal boundary across central New York State gradually moved east during Thursday afternoon on September 27th. With a very warm, moist and unstable air mass in place to the east of this boundary, scattered strong to isolated severe thunderstorms developed across portions of eastern New York State Thursday afternoon and evening.
March 13 – 31, 2010	Severe Storms and Flooding	DR-1899	Yes	A low pressure system tracked northeast over northeastern United States on March 23rd, bringing a moderate to heavy rainfall to east central New York. The ground was already



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				nearly saturated from recent snow melt, causing rivers and streams to run high. In Warren County, a bridge was reported washed out on Harrington Road in the Town of Johnsburg due to a possible beaver dam break along Johnson Brook. The County reported a total of \$25,000 in property damage.
October 1, 2010	Flooding (Remnants of Tropical Storm Nicole)	N/A	N/A	The remnants of Tropical Storm Nicole brought very heavy rains to east-central New York State. Rainfall totals from this storm ranged from three to nine inches, resulting in widespread river and small stream and urban flooding, including water in basements. In Warren County, there was standing water reported in the City of Glens Falls at the intersection of Sherman Avenue and Elm Street due to the heavy rains.
April 28-30, 2011	Severe Storms, Flooding, Tornadoes, and Straight-Line Winds	DR-1993	Yes	<p>Heavy showers and thunderstorms impacted the western and central Mohawk Valley, Adirondack region, and the Upper Hudson River Valley, including the Lake George Region (Warren County). Thunderstorms produced severe weather and very heavy rainfall. The combination of the rainfall and rapid snowmelt due to warm temperatures led to increased runoff and rapid river rises.</p> <p>In Warren County, flooding from this event covered nearly two-thirds of the County. Flooding occurred along the Hudson River in the County from North River southward to the Saratoga County line. Numerous municipalities reported flooding of roadways, houses, and riverside camps. Some properties had several feet of water in them. Many major roadways were closed in the County due to flooding. The North Creek Trailer Park on Route 28 in the Town of Johnsburg was evacuated because water from the Hudson River entered the park. A mudslide in excess of 200 feet occurred on 13th Lake Road in North River/North Creek. In the hamlet of North Creek (Town of Johnsburg), a couple hundred feet of railway tracks were reported under two to five feet of water with several buildings at the train station being flooded as well. In the Town of Stony Creek, the 1,000 Acres Golf Course was flooded with the 9th green under eight feet of water. Flood water receded through April 30th. The County had approximately \$676,000 in property damage from this event.</p>
May 27 – June 2, 2011	Flooding, Thunderstorm Wind, Hail (Memorial Day Storm)	N/A	N/A	A combination of individual storms caused severe damage along a thin line through the County and impacted the Towns of Stony Creek, Thurman, Warrensburg, Horicon, and Bolton. A swath of heavy rainfall which fell in just a few hours causing flash flooding, resulting in road closures with significant damage to many roadways, washed-out culverts and a least a couple of washed-out bridges. In addition, a few of the storms



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>were severe producing large hail up to the size of a golf ball and some trees were downed by strong thunderstorm winds. It was reported that seven area fire departments, three EMS crews, the Warren County Sheriff's Office, State Police, along with state, county and local highway departments all responded to the flooding.</p> <p>Numerous trees were reported down on wires in Chestertown, as well as in Thurman, and Warrensburg. Nickel size hail was reported in Chestertown and Stony Creek, quarter size hail was reported in Hague, ping-pong ball size hail was reported in Thurman, and golf ball size hail was reported in Warrensburg.</p> <p>The County had \$13.125 million in damages from this event.</p>
August 28-30, 2011	Hurricane Irene	DR-4020	Yes	<p>The greatest impact of Irene in eastern New York State was heavy to extreme rainfall which resulted in catastrophic flooding across portions of the region. Rainfall amounts averaged between four and eight inches with amounts of up to 12 inches falling in the eastern Catskills and Schoharie Valley. Three to six inches were common across the Lake George and Saratoga regions. The rainfall resulted in widespread flash flooding and river flooding across eastern New York State. Bridges were closed on major roadways in this area of the State.</p> <p>In Warren County, wind and flood damage occurred throughout the county. The most severe was limited to the Lake Champlain Watershed area, located on the eastern side of the County, and in the Lake George and West Mountain areas. In the Town of Lake George, Route 9N was flooded from the Route 9/9N split south to the ramp for Exit 21 for the Northway. Route 9L was also flooded between Route 9N and Bay Road. Two of the seven docks in the Village of Lake George floated off and were crushed.</p>
October 27 – November 8, 2012	Hurricane Sandy	EM-3351	Yes	<p>Hurricane Sandy moved up the east coast of the United States during the last week of October 2012. As the storm made landfall in southern New Jersey, bands of rain moved across eastern New York State. Rainfall totals in this part of the State were minimal and did not cause any flooding. The storm did bring strong and gusty winds to the area, bringing down trees and power lines across the region. Wind gusts ranged from 40 to 60 mph.</p> <p>In Warren County, wind gusts of 65 mph pushed down the length of Lake George, creating waves that threatened to spill over the shoreline. Some of the docks along the Lake were damaged but flooding did not occur. Numerous private boats were sunk or damaged. In Glens Falls, trees and wires were knocked down from the winds.</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
June 28, 2013	Severe Storms and Flooding	DR-4129	Yes	<p>Heavy rain fell across the Mohawk Valley and western Adirondacks with rates of one inch per hour with three to five inches of rain falling in total. This event, with the combination of a previous rainfall event, led to significant flash flooding across both the Mohawk Valley and Adirondacks. Many roads were washed out and closed. Urbanized areas along the Mohawk River experienced flooding as well. Many communities declared state of emergencies and President Obama signed a major disaster declaration for New York State which included Herkimer, Montgomery and Warren Counties.</p> <p>In Warren County, the Town of Johnsbury experienced severe flooding from this event. Flash flooding occurred in the Bakers Mill section of the Town. Water rescue teams were deployed to several homes that were threatened by flooding. A state of emergency was declared for the Town as a result of flooding.</p>
July 8, 2014	Tornado	N/A	N/A	<p>A very warm and humid air mass was in place over the region on Tuesday, July 8th. The region was ahead of a strong cold front that was moving eastward from the Great Lakes Region. Aided by a strong jet streak aloft and a potent upper-level shortwave trough, the cold front triggered a line of thunderstorms that produced damaging winds across western and central New York. It continued to produce strong winds, which caused damage across the Adirondacks and Mohawk Valley and eventually into the Saratoga area, Capital Region and Hudson Valley as well. In addition, a weak, brief tornado also occurred in the southeastern Adirondacks in North Creek. The line of thunderstorms moved eastward and weakened as they reached the border with New England by the late evening hours.</p>
May 29, 2020	Tornado	N/A	N/A	<p>A couple of rounds of strong to severe thunderstorms impacted eastern New York during the afternoon and evening of the 29th. The first was a couple of isolated cells that produced sporadic wind damage from portions of the Capital District into the Glens Falls area. The second was a broken line of storms that produced a more widespread swath of wind damage in the greater Saratoga-Glens Falls area. An EF1 tornado formed within this line, impacting the area from Lake Luzerne to Glens Falls. Low-hanging wires resulted in the closure of Interstate 87 between exits 17 and 19. More than 8,000 customers lost power in Warren and northern Saratoga Counties due to the storms.</p>
August 29, 2020	Tornado	N/A	N/A	<p>Thunderstorms developed over portions of eastern New York during the afternoon of the 29th. A couple of these storms produced hail up to ping pong ball size. They later spawned two EF1 tornadoes in the towns of Stillwater and Schaghticoke, with damage to a couple of residences and a</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				high school. An EFO tornado briefly touched down in southwestern Warren County. Sporadic wind damage was noted elsewhere.

Sources: FEMA 2015; NYSDEC; Robinson 1999

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

- DR Federal Disaster Declaration
- EM Federal Emergency Declaration
- FEMA Federal Emergency Management Agency
- NCDC National Climate Data Center
- NOAA National Oceanic Atmospheric Administration
- NYS New York State
- NWS National Weather Service
- PA Public Assistance
- SHELDUS Spatial Hazard Events and Losses Database for the U.S.
- TSTM Thunderstorms

E.1.5 Severe Winter Storm

Known severe winter storm events that occurred in Warren County between 1996 and 2023 are identified in Table E.5. With severe winter storm documentation for New York State and Warren County being so extensive, not all sources have been identified or researched. Therefore, Table E.5 may not include all events that have occurred in the County.

Table E.5. Winter Storm Events Between 1996 and 2023

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
November 26, 1996	Winter Storm	N/A	N/A	On November 26, a low pressure system brought a combination of snow and freezing rain to parts of eastern New York. Over Warren and Washington Counties, snow and heavy freezing rain downed trees and power lines and caused numerous accidents. In Washington County, approximately 3,000 customers lost power.
January 24, 1997	Winter Storm	N/A	N/A	On January 24 and 25, low pressure moved from northern Indiana northeast to the Saint Lawrence Valley. The winter storm produced heavy snow over the southern Adirondacks, which occasionally mixed with sleet and freezing rain. Snowfall totals in Warren, Hamilton and northern Herkimer Counties ranged from 5 to 7 inches. Toward the end of the storm, the precipitation changed to a mix of freezing rain and sleet which caused icing on top of the snow pack.
March 14, 1997	Winter Storm	N/A	N/A	On March 14, a complex area of low pressure tracked from northern Ohio northeast to southern Ontario Canada. This system produced several hours of heavy snow across the southern Adirondacks, Catskills,



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				northern Saratoga County, Washington County and parts of the Mohawk Valley. The snow changed to sleet and eventually to freezing rain which caused significant icing. Snowfall totals generally ranged from 2 to 5 inches with up to 8 inches in Hamilton County. The icing resulted in treacherous driving conditions along with downed trees and power lines. Scattered power outages occurred across this region.
January 2, 1999	Winter Storm	N/A	N/A	A deep area of low pressure moved from the Mississippi Valley into the central Great Lakes Region during the night of January 2 and January 3. With arctic air in place over New York State, a wintry mix of heavy sleet and freezing rain resulted. This mix of precipitation resulted in significant accumulations of ice across the region. Total melted precipitation exceeded an inch across the Mid-Hudson Valley. The storm resulted in hundreds of vehicular accidents or vehicles sliding off roadways. Two highways in Greene County (Route 23 and route 23A) were temporarily closed due to very slick conditions. Ice buildup downed power lines which caused 2,500 residents to be without power in the Mid-Hudson Valley and an additional 1200 customers without power in the Saratoga region.
January 14, 1999	Winter Storm	N/A	N/A	Extremely cold arctic air moved into Eastern New York on January 13 and January 14. At the same time an area of low pressure formed in Kentucky. This low tracked east into northern Virginia then turned north and moved through the Hudson Valley late on January 14 through January 15. The storm dumped heavy snow on the region followed by an extended period of sleet and freezing rain. The onset of the snow was accompanied by dangerously cold conditions with temperatures as low as 9 below zero. Snowfall amounts included 11 inches at both the Albany International Airport and Little Falls in Herkimer County. 15 inches of snow fell at Gloversville in Fulton County. In addition to the usual traffic disruptions, the weight of the snow and ice caused a roof to cave in at a bowling alley in Rotterdam in Schenectady county. A roof also collapsed at a farm in Mayfield Fulton county which killed a cow and injured several others. The Adirondack Northway was closed between Exits 17 and 23 from 10AM through 7PM on Friday the 15th due to very icy conditions.
January 31, 2000	Winter Storm	N/A	N/A	Low pressure formed in the Gulf States on January 29. There was a disparity of snowfall with this system. To the south, sleet and freezing rain mixed in, which held accumulations to the 4 to 7 inch range across the Mid Hudson Valley and southern Catskills. Six to 10 inch



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>snowfall accumulations were common in the immediate Capital District. However, in the Mohawk Valley, just west of Amsterdam, and throughout the Western Adirondacks as well as the Lake George region, snow accumulated a foot or more. Most of the snow fell during the overnight hours on Sunday into Monday morning. To the west of Albany, snow fell heavily, at times in excess of 3 inches per hour.</p> <p>Specific accumulations included 7 inches at Albany, while East Caroga Lake got buried with 21, and 18 inches fell at Gloversville, both located in Fulton county. 17 inches fell at Fort Plain, Montgomery county and 16 at North Creek, Warren county. The storm once again closed many schools and some businesses. The snow removal effort was made more difficult due to the large amount of snow still left from previous storms.</p>
February 14, 2000	Winter Storm	N/A	N/A	<p>A low-pressure area developed over the Oklahoma panhandle early on February 13. This storm tracked northeast, reaching the Ohio Valley early on February 14, then across Pennsylvania and off the coast of Long Island by late in the day.</p> <p>The storm brought a potpourri of wintry weather to eastern New York, including snow, sleet, rain and freezing rain. A swath of 6 to 14 inches of snow fell across the Western Adirondacks, including 13 inches at Stillwater, and 7.5 inches at Indian Lake, both located in Herkimer county. Lesser amounts of snow fell across the remainder of the area. However, significant ice accumulated across the Saratoga-Lake George area. In this area, up to 3/4 of an inch of ice accretion was noted. The ice brought down some power lines near Scotia and Duaneburg in western Schenectady county. There were spotty power outages reported as well as some school and business closings.</p>
April 9, 2000	Winter Storm	N/A	N/A	<p>A strong cold front moved across eastern New York, then stalled to the east, over the Connecticut River valley late on April 8. Low pressure developed along this front, off Cape Hatteras. This storm strengthened as it moved due north along the front during the early morning hours of the 9th. Ample moisture was supplied by the warm air mass over eastern New England. Enough cold air was both advected into the region as well as brought downward by heavy precipitation to change the rain over to snow, and produce an unusually late season snowstorm. Snow, falling at the rate of 2 inches per hour, was common at the height of the storm. Gusty winds to near 35 mph produced near blizzard conditions at times, including both some blowing and drifting of the</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>snow. A mantle of 8 to locally more than 16 inches of snow buried the Schoharie and Mohawk valleys, Greater Capital District, Western Adirondacks as well as the Lake George Saratoga region. Further south, 4 to 8 inches of snow covered portions of the Mid Hudson Valley. The official reading of 13.3 inches at Albany was the second heaviest April snowstorm on record, second only to a 17.7 inch storm during 1982.</p> <p>Since the storm happened on a Sunday, disruptions from it were minimized. However, some business were closed or delayed in opening. The biggest damage from the storm was due to the heavy wet nature of the snow, which resulted in many damaged or downed limbs and trees, especially north of the Mohawk River. Up to 35,000 customers in eastern New York were without power during the height of the storm.</p>
March 21, 2001				<p>Low pressure, from eastern Georgia, moved to eastern North Carolina by the morning of March 21. The storm then tracked off the Virginia coastline and up the eastern seaboard, to become the third nor'easter of the month. By the morning of March 23, the storm center had slowly progressed to the Gulf of Maine. Although not all that powerful, the storm had both Gulf and Atlantic moisture to work with. Heavy wet snow fell, accumulating 5 to 10 inches across the higher terrain of eastern New York, with most valley locations getting little or no slushy accumulation. This snow was heavy and wet enough to bring down limbs across the region. Wires and trees were reported down in Middelburgh, Schoharie county. Trees also fell across portions of Warren county. Specific snowfall amounts included 7 inches at Windham, Greene County, 10.5 inches at Indian Lake, Hamilton County, 8.7 inches at Summit, Schoharie County, 8.5 inches at Stillwater in Herkimer County and 7.6 inches in Warrensburg, Warren County.</p> <p>An estimated 1,500 homes over the higher terrain across eastern New York state, were without power. Service was disrupted to about 100 phone customers in Warren County.</p>
November 17, 2002	Winter Storm	N/A	N/A	<p>A strong nor'easter developed off Cape Hatteras on Saturday, November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. The air was cold enough to produce a heavy wintery mix of precipitation during a good portion of the storm across eastern New York. Initially, the precipitation fell as snow, or snow and sleet mixed. A 1-3 inch swath of snow was</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>observed from about Albany southward. A 3-6 inch swath of snow fell north of Albany. As warmer air worked in aloft, the snow changed to sleet, then freezing rain. Freezing rain was more extensive south of Albany, where up to 58,000 customers lost power in the Mid Hudson Valley. Ice accretion was between one-half and one inch. Western Ulster County was especially hard hit where in addition to the ice, winds frequently gusted to 30 mph and, with lingering leaves on the trees, brought many trees and power lines down. Further north, the combination of snow, sleet and freezing rain still caused up to 1,000 customers in the Lake George Saratoga region to loose power, and spotty power losses elsewhere in the Capital District. In addition, there was a loss of significant limbs on trees and dangerous travel conditions.</p>
December 14, 2003	Winter Storm	N/A	N/A	<p>A low pressure area formed in the Gulf States early on December 14. This storm hugged the coast line as it tracked northward to become the second nor'easter of the winter season. This storm moved a little quicker than its predecessor. Also different from the last storm, enough warm air moved in aloft to change the snow to sleet and freezing rain, especially from Albany south. Snow began falling during the morning hours to the south of Albany, into the Capital District around noon, and further north during the afternoon. The sleet and freezing rain began mixing in during the evening hours. Meanwhile, the precipitation stayed all snow from about Glens Falls northward. By the time the storm was east of Cape Cod, early on Monday, a swath of 4 to 8 inches of snow, mixed with sleet, had fallen from Albany southward. To the north, 8 to 16 inches of mostly snow fell with locally higher amounts across the Adirondacks. Officially, 7.2 inches of snow fell at Albany, while up to 20.8 inches of snow, the most in eastern New York, was reported at Old Forge in Herkimer County. The storm closed most school districts on Monday and resulted in some vehicular accidents.</p>
April 12, 2007	Winter Storm	N/A	N/A	<p>Low pressure moved from the mid Mississippi Valley on Wednesday April 11th into the southern Great Lakes by Thursday morning on April 12th, spreading a swath of heavy wet snow across the higher elevations of the southern Adirondacks and eastern Mohawk Valley from early Thursday morning into early Thursday afternoon. Snowfall amounts were greatest across the higher elevations above 1500 feet, where 6 to 12 inches fell. Some snowfall totals included 10.5 inches at Speculator, 10.3 inches at Wells, 8 inches at Caroga Lake and</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				Stratford, 8 inches at Middle Grove, 12 inches at North Creek at an elevation of 3600 feet, and 10 inches at Bakers Mills. The heavy wet snowfall led to downed tree limbs and power lines, which led to numerous power outages across the affected region during Thursday afternoon.
February 6, 2008	Winter Storm	N/A	N/A	<p>A low-pressure system tracked east northeast from the lower Ohio Valley on Wednesday morning, February 6th, to just south of Cape Cod by Thursday morning on February 7th. This storm system spread a swath of moderate to locally heavy snow, sleet and freezing rain across portions of east central New York and adjacent western New England from Wednesday morning into Thursday morning.</p> <p>Snow and sleet amounts ranged from 6 to 12 inches across portions of the southern and western Adirondacks, with generally under 3 inches elsewhere. However, ice accretion from freezing rain ranged between one quarter, to just under one half of an inch, with the greatest amounts across the higher elevations of the central and southern Taconics, as well as across the Lake George and Saratoga region. The ice accretion led to scattered power outages as a result of downed tree limbs on power lines.</p>
January 28-29, 2009	Winter Storm	N/A	N/A	<p>A winter storm spread a significant wintry mix of precipitation across eastern New York State, with heavy snow and sleet across much of the southern Adirondacks into the Lake George Saratoga region. Snow and sleet amounts ranged from 8 to 12 inches across the southern Adirondacks and the Lake George Saratoga region. This wintry mix resulted in the closure of numerous schools and businesses across east central New York for both Wednesday and Thursday mornings, and also created treacherous travel conditions. Snowfall totals in Warren County ranged from 8 to 9 inches in the city of Glens Falls.</p>
February 18, 2009	Winter Weather	N/A	N/A	<p>Winter storm system swept northeast across eastern New York State early Thursday morning, preceded and accompanied by moderate to locally heavy wet snow. The snow began Wednesday afternoon, and tapered off early Thursday morning. The heaviest snowfall amounts occurred across the Lake George Saratoga region, where 6 to 10 inches fell.</p>
February 23, 2010	Heavy Snow	N/A	N/A	<p>A powerful storm impacted the region, the second in just a couple of days bringing heavy rainfall and a heavy wet snow to the local area. The heavy wet snow resulted in additional and continued widespread power outages across east central New York, downed trees and power</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>lines, treacherous travel, road closures, train delays, building collapses and snow emergencies.</p> <p>In Warren County, up to 2 feet of snow fell in the west portion of the county in the higher elevations. Route 9N at Pinewoods Road in the Town of Lake Luzerne was reported closed for a couple of hours late Tuesday evening, February 23rd, due to downed power lines. No property damages were reported. Snowfall totals in Warren County ranged from 10.5 inches in the City of Glens Falls to 21.3 inches at the Town of Lake Luzerne.</p>
February 25, 2010	Winter Storm	N/A	N/A	<p>This storm system produced a widespread swath of heavy wet snow across the greater Capital District and surrounding area, the Lake George Saratoga region, the Mohawk River Valley, Schoharie Valley and southern Adirondacks during the day Friday. Snowfall rates of 1 to 2 inches per hour occurred, beginning during the early morning hours, and persisting until late afternoon.</p> <p>Snowfall amounts reached 12 to 15 inches across northern portions of the Capital Region extending into the east central Mohawk River Valley and Lake George Saratoga region. The heavy snow created treacherous travel conditions for the morning and evening commutes on Friday, with numerous accidents reported, including along portions of the Adirondack Northway, as well as Interstate 90. The heavy wet snow also led to numerous school and business closings across much of eastern New York on Friday.</p> <p>Snowfall totals in Warren County ranged from 4 inches at Warrensburg to 24 inches at Garnet Hill in North River hamlet.</p>
December 10-11, 2013	Winter Weather	N/A	N/A	<p>As very cold air passed over the relatively warm water of Lake Ontario, a heavy, long-lasting band of lake effect snow developed on the evening of the 10th, extending east across the entire western and southern Adirondacks. By the time the band ended late in the evening of December 11th, over one foot of snow was common across the western Adirondacks. Snowfall totals included 4.5 inches at Gore Mountain in Warren County.</p>
December 14-15, 2013	Winter Storm	N/A	N/A	<p>A light snow slowly spread across New York State from southwest to northeast during the day on December 14th, followed by a steadier and heavier snowfall moved across the region during the evening hours and into the overnight. Snow fell at rates in excess of one inch per hour over much of the region and snow rates locally were as high as up to three inches per hour at times. The bulk of the accumulating snow was finished by the late overnight hours, but light snow showers and flurries</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				continued into the mid-morning hours, especially across the Adirondacks and Capital Region. By the end of the storm, many places around the eastern Catskills, Capital Region and Lake George Saratoga Region received around a foot of snowfall. Snowfall totals in Warren County ranged from 9 inches at Brant Lake hamlet to 12.2 inches at the Town of Lake Luzerne.
February 13-14, 2014	Heavy Snow	N/A	N/A	<p>An exceptional winter storm impacted all of eastern New York between Thursday, February 13th and the morning of Friday, February 14th. The snow began falling in the morning hours at rates of up to three inches per hour, causing significant travel issues across the region. After a late afternoon break in the snowfall, heavy precipitation returned in the late evening hours. Once again, the snow fell at significant rates of up to 3 inches per hour. In addition, lightning and thunder accompanied the snow across far southern and eastern areas at times as well. By the time snow ended, between one and two feet of snow fell across much of the Lake George Saratoga Region, with lower amounts of 4 to 10 inches across the Adirondacks. Very strong winds, gusting as high as 40 mph, occurred as the storm pulled away. This led to significant blowing and drifting of the snowfall through the entire day on February 14th.</p> <p>As a result of the storm, Governor Andrew M. Cuomo declared a state of emergency for the Mid-Hudson as well other counties, including Warren, across east central New York. Restrictions were put on travel. Many towns and cities had difficulty with snow removal, as much of the snowfall also remained from a recent early February snowstorm as well. The weight of snow caused a few roof collapses and power outages across the region.</p> <p>Snowfall totals in Warren County ranged from 6 inches at North Creek hamlet to 12 inches at the Town of Lake Luzerne.</p>
November 26-27, 2014	Nor'Easter / Snowstorm	DR-4204	No	<p>An early season winter storm impacted eastern New York State during Thanksgiving. The storm began the morning of the 26th and once the snow began, it increased in intensity, falling at rates at or greater than one inch per hour. Temperatures dropped to or below freezing across the entire region. There were heavy bands of snow occurring in some locations, especially across the Taconics, Mohawk Valley and southeastern Adirondacks. Snowfall totals ranged from six to 12 inches, with up to 15 inches in the southeastern Adirondacks. The weight of the snow caused power outages in the area, especially across the mid-Hudson</p>



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Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				Valley. Warren County DPW reported numerous damages, including automobile damages from falling trees and icy conditions, transportation blockages, and phone wires falling on and entangling a truck. Snowfall totals in Warren County ranged from 10 inches at the City of Glens Falls to 14.5 inches at North Creek hamlet.
February 12, 2017	Winter Storm	N/A	N/A	Two low pressure systems approached the northeastern US on Sunday, February 12, with snowfall breaking out over the local area around sunrise. The snow was heavy during the morning and early afternoon, with accumulation rates of 1 to locally 2 inches per hour at times. The snow was wet and dense and readily clung to trees. During the afternoon, warmer air resulted in precipitation changing to sleet for portions of the mid-Hudson Valley and Catskills, which cut down snowfall totals in those locales. The snowfall diminished Sunday evening, except over the higher terrain areas of the Adirondacks as well as the Mohawk Valley. In those locations, accumulating snowfall persisted through the night and into Monday before diminishing Monday afternoon.
December 22, 2017	Winter Storm	N/A	N/A	A complex storm system brought snow and a wintry mix to the region on Friday, December 22nd through Saturday, December 23rd, 2017. The precipitation started out as snow on Friday but transitioned to a wintry mix by Friday night. Freezing rain lingered through the day Saturday as a warm front lifted through the region, especially for sheltered mountain valley areas. Snowfall totals ranged from a trace in the Mid-Hudson Valley up to 8.5 inches in the Adirondacks (Hamilton county) along with light icing as well. A few spots in the Mohawk Valley and Saratoga Region saw up to two tenths of an inch of ice.
January 19, 2019	Winter Storm	N/A	N/A	he largest snowstorm to date in the 2018-19 winter occurred on January 19th and 20th across eastern New York. Low pressure formed over the lower Mississippi Valley and lifted northeast across the Tennessee Valley during the night of the 19th before moving along the Mason-Dixon line on the 20th. Strong rising motion occurred as southerly winds aloft transported moist air northward, which was lifted over the cold airmass in place over eastern New York. Snowfall broke out during the afternoon of the 19th, continuing heavy at times into the evening and overnight hours before ending during the morning of the 20th. The strong southerly flow brought above-freezing air aloft into the region, causing the snow to turn to sleet as far north as the Capital District and northern Catskills for a time before turning



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				back to snow. Further south, the air aloft was warm enough to turn the precipitation to freezing rain with ice accretion of one to three tenths of an inch over portions of the southeast Catskills, Mid-Hudson Valley, and southern Taconics.
March 23, 2020	Winter Storm	N/A	N/A	A late season snowfall impacted the region on Monday, March 23rd, 2020. This was brought on by an anomalously cold air mass interacting with a coastal low pressure system. Snowfall totals ranged from an inch in the Mid-Hudson valley up to almost 10 inches in the southern Adirondacks and northern Lake George Saratoga region. The lower amounts were mainly confined to the Lower Hudson Valley due to a rain and snow mix throughout much of the day. Snow intensity increased during the late afternoon and early evening hours impacting the evening commute. As a result, a tractor trailer crashed on Interstate 87 South prompting portions of the interstate to be closed.
January 17, 2022	Winter Storm	N/A	N/A	A winter storm dumped 7-14 inches over eastern New York January 16-17. It was also windy with gusts generally between 30-45 mph. There were a few gusts that topped 50 and 60 mph. Snow emergencies were put in place in the Utica/Dolgeville area.
March 13, 2023	Winter Storm	N/A	N/A	A powerful Nor'Easter resulted in widespread moderate to heavy wet snow and gusty winds across eastern New York March 13-March 15, 2023. Anywhere from 15 to 30 inches of snow with locally higher amounts in excess of 30 inches fell over the SW Adirondacks and eastern Catskills. Valley locations received lesser amounts with totals generally ranging between 7 to 15 inches. A few locations across the western Mohawk Valley and mid-Hudson Valley received less than 6 inches of snow. Numerous downed trees and powerlines resulted in widespread power outages. According to the National Grid, approximately 141,000 customers lost power within the state of New York with most occurring within our county warning area. Some locations were without power for at least 1 or 2 days.

Sources: NYSDEC, NWS, NYS DHSES, NOAA-NCDC, FEMA

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

- DR Disaster Declaration
- EM Emergency Declaration
- FEMA Federal Emergency Management Agency
- HMP Hazard Mitigation Plan
- N/A Not Applicable
- NCDC National Climatic Data Center
- NOAA National Oceanic and Atmospheric Administration
- NWS National Weather Service



PA

Public Assistance

E.1.6 Wildfire

Known wildfire events that have impacted Warren County from 2002 to 2015 are identified in Table E.6. Fire departments throughout the County respond to small brush fires each year. However, many of these fires are so small that little information is available. Therefore, Table E.6 may not include a complete record of all wildfire events that have occurred within the county.

Table E.6. Wildfire Events in Warren County, 2002 to 2015

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 5, 2002	Wildfire	N/A	N/A	Smoke, from many forest fires across the Nemiscau region of northern Quebec, became trapped under a subsidence inversion, and was transported south across eastern New York from the evening hours of July 5, to the late evening of July 7. The forest fires were sparked by exceptionally hot and dry weather over that part of Canada followed by an unusual amount of thunderstorm activity, resulting in many lightning strikes. The circulation between high pressure over Hudsons Bay and a low pressure off the Canadian Maritimes transported the smoke southward. The smoke obscured the sky, and even reduced surface visibilities to as low as one mile, especially on the early morning of July 7. Advisories were issued warning people with respiratory problems to remain indoors and all individuals to curb outside activity. No major problems were reported to the National Weather Service as a result of this smoke.
April 30 – May 7, 2009	Wildfire - Tongue Mtn 1	N/A	NYS-2009-0133	A lightning strike started a forest fire in a forest preserve in the Town of Hague, resulting in 13 acres burned.
May 16 – 27, 2013	Wildfire - Pine Mountain Fire	N/A	NYS-2013-0099	A lightning strike started a forest fire in a forest preserve in the Town of Warrensburg, resulting in 16.8 acres burned.
November 4-10, 2014	Wildfire	N/A	NYS-2014-0139	In 2014, the largest wildfire to occur in New York State was the 173-acre Darling Mountain Fire in the Town of Queensbury that



Appendix E. SUPPLEMENTARY DATA

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				began on November 4. This fire occurred on private land and spread quickly because of strong winds blowing fallen leaves. Smoke from the fire triggered automatic alarm systems six miles away in the City of Glens Falls. Little mop up was needed for this surface fire, and it was declared out three days later. This fire was caused by hunters leaving an unextinguished campfire.
May 8 – 17, 2015	Wildfire	N/A	NYS-2015-0105	A campfire in the Town of Queensbury was reported to spark forest fires on private property, resulting in 14 acres burned.

Sources: NYSDEC 2013; NYSDEC 2015; NOAA-NCDC

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or following the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

FEMA Federal Emergency Management Agency

K Thousand (\$)

M Million (\$)

N/A Not applicable



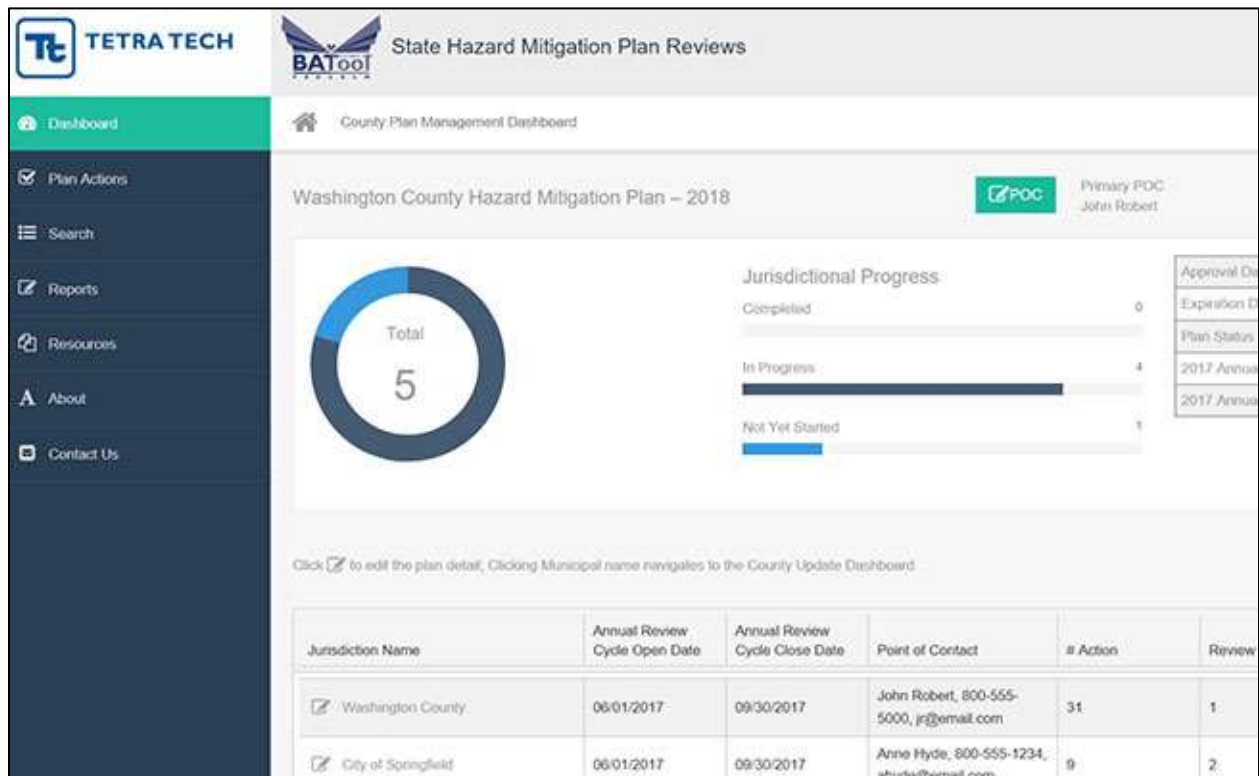
APPENDIX F. PLAN MAINTENANCE TOOLS

This appendix includes tools and worksheets to facilitate plan maintenance and review by the Warren County Steering and Planning Committees.

In the first year of the performance period, an online performance progress reporting system, the BAToolSM will provide municipal and county representatives direct access to their mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, add or delete projects to maintain mitigation project implementation. This online program will capture information and roll all input into a report to summarize mitigation strategy progress.



Figure G-1. BAToolSM Screenshot



The FEMA 386-4 guidance worksheets are also available to assist with progress reporting. These worksheets are provided in this section for ease of access to the HMP Coordinator and Planning Partnership to maintain the 2023 HMP throughout its period of performance.



Worksheet #1

Progress Report

step 2

Page 1 of 3

Progress Report Period: _____ to _____
(date) (date)

Project Title: _____ Project ID#: _____

Responsible Agency: _____

Address: _____

City/County: _____

Contact Person: _____ Title: _____

Phone #(s): _____ email address: _____

List Supporting Agencies and Contacts:

Total Project Cost: _____

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Complete	Projected Date of Completion



Plan Goal(s)/Objective(s) Addressed:

Goal: _____

Objective: _____

Indicator of Success (e.g., losses avoided as a result of the acquisition program):

In most cases, you will list losses avoided as the indicator. In cases where it is difficult to quantify the benefits in dollar amounts, you will use other indicators, such as the number of people who now know about mitigation or who are taking mitigation actions to reduce their vulnerability to hazards.

Status (Please check pertinent information and provide explanations for items with an asterisk. For completed or canceled projects, see Worksheet #2 — to complete a project evaluation):

Project Status

Project on schedule

Project completed

Project delayed*

*explain: _____

Project canceled

Project Cost Status

Cost unchanged

Cost overrun*

*explain: _____

Cost underrun*

*explain: _____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

B. What obstacles, problems, or delays did you encounter, if any?

C. How was each problem resolved?



Next Steps: What is/are the next step(s) to be accomplished over the next reporting period?

Other comments:

Adapted from the North Carolina HMGP Progress Report Form at http://www.dem.dcc.state.nc.us/mitigation/document_index.htm.



Worksheet #2 Evaluate Your Planning Team **step 3**

When gearing up for the plan evaluation, the planning team should reassess its composition and ask the following questions:

	YES	NO
Have there been local staffing changes that would warrant inviting different members to the planning team?		
Comments/Proposed Action:		
Are there organizations that have been invaluable to the planning process or to project implementation that should be represented on the planning team?		
Comments/Proposed Action:		
Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the planning team?		
Comments/Proposed Action:		
Are there procedures (e.g., signing of MOAs, commenting on submitted progress reports, distributing meeting minutes, etc.) that can be done more efficiently?		
Comments/Proposed Action:		
Are there ways to gain more diverse and widespread cooperation?		
Comments/Proposed Action:		
Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?		
Comments/Proposed Action:		

If the planning team determines the answer to any of these questions is "yes," some changes may be necessary.



Worksheet #3 Evaluate Your Project Results

step 3

page 1 of 2

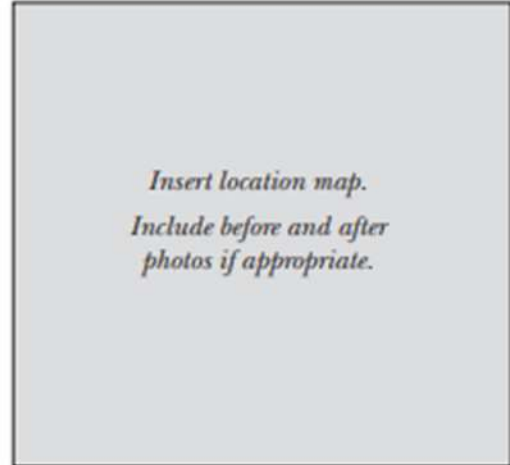
Project Name and Number: _____

Project Budget: _____

Project Description: _____

Associated Goal and Objective(s): _____

Indicator of Success (e.g., losses avoided): _____



Was the action implemented? YES NO



Why not?

Was there political support for the action?

Were enough funds available?

Were workloads equitably or realistically distributed?

Was new information discovered about the risks or community that made implementation difficult or no longer sensible?

Was the estimated time of implementation reasonable?

Were sufficient resources (for example staff and technical assistance) available?

YES NO



What were the results of the implemented action? _____



page 2 of 2

	YES	NO
Were the outcomes as expected? If No, please explain:		
Did the results achieve the goal and objective(s)? Explain how:		
Was the action cost-effective? Explain how or how not:		
What were the losses avoided after having completed the project?		
If it was a structural project, how did it change the hazard profile?		
Additional comments or other outcomes:		

Date: _____

Prepared by: _____



Worksheet #4 Revisit Your Risk Assessment step 4

Risk Assessment Steps	Questions	YES	NO	COMMENTS
Identify hazards	Are there new hazards that can affect your community?			
Profile hazard events	Are new historical records available?			
	Are additional maps or new hazard studies available?			
	Have chances of future events (along with their magnitude, extent, etc.) changed?			
	Have recent and future development in the community been checked for their effect on hazard areas?			
Inventory assets	Have inventories of existing structures in hazard areas been updated?			
	Is future land development accounted for in the inventories?			
	Are there any new special high-risk populations?			
Estimate losses	Have loss estimates been updated to account for recent changes?			

If you answered "Yes" to any of the above questions, review your data and update your risk assessment information accordingly.



Worksheet #5

Revise the Plan

step 4

page 1 of 4

Prepare to update the plan.

When preparing to update the plan:

Check the box when addressed:

1. Gather information, including project evaluation worksheets, progress reports, studies, related plans, etc.	<input type="checkbox"/>
Comments:	
2. Reconvene the planning team, making changes to the team composition as necessary (see results from Worksheet #2).	<input type="checkbox"/>
Comments:	

Consider the results of the evaluation and new strategies for the future.

When examining the community consider:

Check the box when addressed:

1. The results of the planning and outreach efforts.	<input type="checkbox"/>
Comments:	
2. The results of the mitigation efforts.	<input type="checkbox"/>
Comments:	



3. Shifts in development trends.	
Comments:	
4. Areas affected by recent disasters.	
Comments:	
5. The recent magnitude, location, and type of the most recent hazard or disaster.	
Comments:	
6. New studies or technologies.	
Comments:	
7. Changes in local, state, or federal laws, policies, plans, priorities, or funding.	
Comments:	



8. Changes in the socioeconomic fabric of the community.	
Comments:	
9. Other changing conditions.	
Comments:	

Incorporate your findings into the plan.

When examining the plan consider:

Check the box when addressed:

1. Revisit the risk assessment. <i>(See Worksheet #4)</i>	
Comments:	
2. Update your goals and strategies.	
Comments:	
3. Recalculate benefit-cost analyses of projects to prioritize action items.	
Comments:	



Use the following criteria to evaluate the plan:

Criteria	YES	NO	Solution
Are the goals still applicable?			
Have any changes in the state or community made the goals obsolete or irrelevant?			
Do existing actions need to be reprioritized for implementation?			
Do the plan's priorities correspond with state priorities?			
Can actions be implemented with available resources?			

Comments:



APPENDIX G. CRITICAL FACILITY INVENTORY

G.1 OVERVIEW

This section contains information and details to support information provided in Section 4 – County Profile which provides the distribution of critical facilities located within Warren County and its municipalities. Due to the sensitive nature of this information, details have been redacted. Contact the HMP Coordinator, for more information contact Ann Marie Mason Director, Warren County Office of Emergency Services at masona@warrencountyny.gov.



APPENDIX J. PLANNING GUIDANCE

This appendix includes the 2022 NYS DHSES planning standards and guidelines for hazard mitigation planning, as well as FEMA guidance for classifying Lifelines within a community.



2022 New York State Hazard Mitigation Planning Standards (Supersedes the 2017 NYS Hazard Mitigation Planning Standards)

Congratulations on taking the first steps to update a multi-hazard mitigation plan for your community!

The goal of both the New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA is that all jurisdictions develop robust mitigation plans and tangible mitigation actions that will contribute to long-term risk reduction.

The 2022 NYS Hazard Mitigation Planning Standards reduce the 2017 Hazard Mitigation Planning Standards. Any plan currently in development, regardless of date funded, will be held *only* to these reduced standards.

PLEASE NOTE:

On April 19, 2023, FEMA's new Local Mitigation Planning Policy will take effect. Plans approved on or after this date **must meet requirements** as outlined in the linked [Policy Guide](#).

https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf

The additional state requirements detailed below are intended to improve the quality of hazard mitigation plans and encourage the development of the most appropriate and effective mitigation projects for your community. It is recognized that many jurisdictions have inherent constraints and certain information may be difficult to provide. NYS DHSES and FEMA will work with you throughout the entire planning process to ensure the successful development of your community's hazard mitigation plan.

There are a multitude of resources that exist to provide guidance and support throughout the planning process, developed by Federal and State agencies, as well as private and research-based groups. We urge you to contact us so that we may direct you to additional resources and provide you with the most comprehensive technical assistance possible.

For questions and comments, please call our offices at 518-292-2304.

Additional contact information will be provided to sub-recipients for more direct assistance.



Please note:

Jurisdiction is used to describe all government entities within the boundaries set forth in the Multi-Jurisdictional Plan (typically County-wide), including the County itself, as well as cities, towns, villages and potentially tribes that choose to join a multi-jurisdictional plan.

Special Flood Hazard Area (SFHA) is defined as the area that will be inundated by the flood event having a 1-percent change of being equaled or exceeded in a given year (previously known as the 100-year flood event).

1. Assess Critical Facilities

Critical facilities must remain accessible and functional before, during and after disasters to meet the jurisdictions Continuity of Government (COG) and Continuity of Operations (COOP) standards, and to support important emergency, government and sheltering functions.

Jurisdictions must identify all critical facilities, assess their vulnerabilities, and evaluate and ensure they are protected to a 0.02% chance (500-year) flood event. Critical facilities that are located in an SFHA and/or have been previously flooded, must be protected against a repeat of that flood or to the 0.02% chance flood event, which ever provides the greater protection.

- The plan must document the name of facility, type of facility, jurisdictional location, and exposure to a 1% (100-year) and 0.02% chance event.
- The plan must document those critical facilities are protected to a 0.02% flood event, or previous worst case flood event. For those that do not meet this level of protection, the plan must include an action to meet or go beyond this criterion or explain why it is not feasible to do so. Going beyond this criterion is optional but may be wise to protect against a future worst case due to climate change.

2. Include Jurisdictional Annexes

Jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction.

The plan must be organized so that there is an annex for every jurisdiction within the county's borders, including the County.

- The plan must include a table in the Introduction section clearly identifying all jurisdictions and which are seeking FEMA approval.
- The annex for each jurisdiction seeking FEMA approval must include the following:
 - Contact Information;
 - Jurisdiction Profile;
 - Hazard Identification (specific to the jurisdiction);
 - Hazard Event History;
 - National Flood Insurance Program (NFIP) Summary (to meet Federal Standards);
 - Critical Facilities Information (to meet F1);
 - Jurisdiction/public identified vulnerabilities;
 - Additional public involvement;
 - Capabilities Assessment;
 - Mitigation Strategy:
 - All identified previous mitigation activities with current status;
 - All proposed mitigation activities (both new and carried forward, to meet F3)
- The annex for each non-participating jurisdiction (those not seeking FEMA approval at this time), must include a cover sheet and should include as much information as is available.



3. Develop Mitigation Actions

Projects that are well developed and documented in one place are more quickly identifiable for selection when grants become available, making implementation that much more likely.

Within each jurisdictional annex, jurisdictions must develop a minimum of two (2) new or carryover (not started) proposed mitigation actions that include all information requested in the NYS DHSES LHMP Proposed Action spreadsheet. For jurisdictions containing an SFHA, one (1) of these actions must be for a project that addresses flooding.

4. Post Draft Plan Online

Allowing the public to comment on the draft plan increases awareness about how mitigation saves lives and reduces risk and allows a final opportunity for public input.

The public must have an opportunity to view and comment on the draft plan prior to submittal.

- The draft plan must be posted in full (except for discretionary sensitive information) on an existing county/jurisdiction website, or one created for the purpose of soliciting comments, for 30 days or the time prescribed by local law, whichever is greater, and the plan must describe efforts made to solicit public comments from potentially underserved areas where residents may not have access to a computer to view the website. The website must clearly identify how the public can comment on the plan, to include either specific contact information to send comments or a user-friendly form or survey.

After NYS DHSES and FEMA Approval

- Once designated Approvable Pending Adoption (APA) or Approved by FEMA, the final plan must be placed on the same website (cited above) in its entirety (except for discretionary sensitive information).
- Final payment will occur only after 50% of the participating jurisdictions have adopted the plan and provided adoption resolutions to NYS DHSES. For county-led hazard mitigation planning efforts, the county must be one of the adopting jurisdictions.

The chart below shows the requirements as they appear on the plan review tool used by NYS DHSES and FEMA Region II to determine whether a submitted plan meets federal and state requirements.

1. REGULATION CHECKLIST	Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)		
ELEMENT F. ADDITIONAL STATE REQUIREMENTS – NYS HAZARD MITIGATION PLANNING STANDARDS			
These are required actions for plans developed with NYS DHSES-administered funds.			
H1. Do jurisdictions identify critical facilities, assess vulnerabilities, and ensure protection to a 0.02% flood event or worst-case scenario?			
H2. Does the plan include an annex for every jurisdiction within the County's boundaries?			
H3. Within each jurisdictional annex, are projects developed in accordance with the NYS DHSES Proposed Projects Table?			
H4. Was the draft plan posted for public comment?			
Note: The applicant is required to address the 2022 NYS Hazard Mitigation Planning Standards as required actions for a hazard mitigation plan developed with funds administered by NYS DHSES.			
ELEMENT H: REQUIRED REVISIONS			
<i>Please see opportunities for improvement</i>			



APPENDIX I. DAM FAILURE (CONFIDENTIAL)

This is a confidential appendix that summarizes the quantitative vulnerability assessment conducted for the dam failure hazard in Warren County. This section contains information and details to support information provided in Section 5.4.1 – Dam Failure Profile which provides the information regarding dam failure in Warren County. Due to the sensitive nature of this information, details have been redacted. Contact the HMP Coordinator, for more information contact Ann Marie Mason Director, Warren County Office of Emergency Services at masona@warrencountyny.gov.



APPENDIX J. PUBLIC COMMENT

This appendix provides documentation of public comment received following public review of the draft Warren County Hazard Mitigation Plan. Public feedback on the draft plan is an important part of the hazard mitigation planning process. Public comments have been addressed throughout the HMP as appropriate.

J.1 PUBLIC COMMENTS ON THE DRAFT PLAN

This section contains the public comment responses from the public review of the draft Warren County Hazard Mitigation plan. Comments were received from four residents for the entire plan and for specific sections. The public comments are provided in the following summary, with personal information removed.

J.1.1 Comments on the Entire Plan

- **Comment 1:** Request for a way to search the entire document for keywords.
 - **Response:** The final plan will be one searchable document.
- **Comment 2:** Expressed concern with recommending backup generators that use fossil fuels. Recommended using battery power backup systems, especially for powering facilities with vulnerable populations.
 - **Response:** Warren County will evaluate the use of power storage batteries to provide backup power instead of fuel powered generators, where possible.
- **Comment 3:** Recommended web based educational and outreach webinars to allow for remote participation for residents.
 - **Response:** Live Citizen Preparedness Training is available through NYSDHSES in conjunction with the National Guard and hosted by the County. Similar training is offered by the state offers and is available on YouTube in 13 languages at this link: <https://www.dhSES.ny.gov/citizen-preparedness-corps>.

J.1.2 Comments on Section 4

- **Comment 4.1:** Suggest adding a map showing the over 65 years old population in the county.
 - **Response:** The over 65 population group is discussed in detail in the vulnerability section of the plan.
- **Comment 4.2:** Recommend that the plan emphasize that seniors are more vulnerable to disease within the mitigation goals regarding public health guidance.



- **Response:** Information was added to the plan about vulnerability for seniors in Section 4 in order to emphasize the mitigation recommendations.

J.1.3 Comments on Section 5

- **Comment 5.1:** Suggested that more needs to be done to coordinate the use of generators for senior citizens during winter power outages.
 - **Response:** The County action item #2 addresses backup power for critical facilities which includes those that support senior citizens.

J.1.4 Comments on Section 9

- **Comment 9.1:** Recommend that the adaptive capacity for disease needs to be strong in Queensbury and elsewhere.
 - **Response:** The adaptive capacity ranks were developed through a stakeholder review by the Hazard Mitigation Plan Steering Committee and each participating community as part of the planning process. This is a factor in determining the relative risk presented by each hazard of concern. A higher adaptive capacity will result in a reduction in the relative hazard ranking and may be discussed with each community as needed to support the prioritization of projects.
- **Comment 9.2:** Highlighted that more needs to be done to control the Schroon River as it continues to flood more every year.

- **Response 9.2:**

The Schroon River in Warren County is impounded in the Town of Horicon by the Starbuckville Dam. The original dam was developed for the purpose of commerce of logs to paper and pulp mills in Glens Falls and further downstream on the Hudson River. The dam was rebuilt in 2005. This dam creates a pool elevation that has been established and is controlled by the dam. Dam sluices may be open, closed or in a combination of, to maintain the established water level.

The Schroon River in Warren County has a large watershed that begins in Essex County at Elk Lake. With such a large watershed, the Schroon is susceptible to flooding at any time of the year, but generally springtime during runoff and early-late summer with spring rains. As stated, flooding may occur at any time of the year based on existing hydrologic and meteorological conditions.

Floodplains associated with the Schroon River are often inundated during spring and high flow events. The vast majority of these areas are fields or forested areas. Development such as homes and commercial ventures have been established in existing floodplains or flood prone areas.



FEMA is currently redeveloping floodplain maps for Warren County and this updated and more accurate information will be used to determine what steps the county and its municipalities may take to reduce flooding impacts for landowners, while maintaining the ability of the river flow and utilize its floodplains when necessary.

- **Comment 9.3:** Recommend that the maps for Queensbury are revised to be easier to read.
 - **Response:** Users may zoom into digital maps to enable better readability.



PARTICIPATION MATRIX

Appendix B includes the participation matrix for meetings convened during the development of the Warren County Hazard Mitigation Plan Update.



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Tammie DeLorenzo	Assistant to the County Administrator	Warren County Administrators Office	X	X		X	X			X				X		
Aaron Frankendorf	Staff Director. Adirondack/Glens Falls Transportation Council	ADK Glens Falls Transportation Council	X	X			X				X					
Sara Frankendorf	GIS Coordinator	Warren County	X	X			X			X	X		X			
Ethan Gaddy	WC Planner/Climate Smart	Warren County Planning Department	X	X			X		X	X	X			X		
Kevin Hajos	Superintendent	Warren County Department of Public Works	X	X											X	X
Sandy LeBarron	Director of Environmental Health and Safety	Finch Paper	X	X						X			X			X
Jim Lieberum, CPESC	District Manager/County Hazard Mitigation Coordinator	Warren County Soil and Water Conservation District (WCSWCD)	X	X		X	X	X	X	X	X	X	X	X	X	X
Ann Marie Mason	Director/Emergency Manager	Warren County	X	X		X	X	X	X		X		X	X		X



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Ashley Rivers	Emergency Services Coordinator	Warren County	X	X		X	X				X		X			X
Scott Royale	Sustainability Coordinator	SUNY	X	X												
Laura Stebbins	Director of Emergency Preparedness	Glens Falls Hospital	X	X		X	X	X					X	X		X
Bob Bradshaw	Managing Partner	Contingency Management Consulting Group			X	X										
Jennifer Ramsey	Public Safety Committee	Warren County		X		X			X		X					
John Gibb	Emergency Management	Contingency Management Consulting Group				X					X		X	X		X
Joshua Westfall, AICP	Planner	Bolton, Town		X				X	X			X				X
Cheryl Bolton	Planning and Zoning Secretary	Bolton, Town														X
Matt Coon	Dep. Highway Superintendent	Bolton, Town														X
Marion Eagan	Deputy Supervisor	Chester, Town		X								X		X	X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Larry Turcotte	Councilman	Chester, Town		X												
Marion Eagan	Planning and Zoning	Chester, Town		X			X									
Jeremy Little	Zoning Administrator	Chester, Town		X			X								X	
Jessica Leerkes	Engineer	Chester, Town		X							X			X	X	
Craig Leggett	Supervisor	Chester, Town													X	
Mindy Conway	Town Clerk	Chester, Town		X										X		
James P. Schrammel	Fire Chief	City of Glens Falls	X	X					X							
Kris Vanderzee	Code Enforcement Officer	Glens Falls, City		X	X											
William Norton	Superintendent, Water & Sewer	Glens Falls, City		X			X	X			X					
Sheila Mender	Engineering Department	Glens Falls, City		X										X	X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Justin Reckner	Code Enforcement Officer, Building & Codes	Glens Falls, City													X	
Philip Cancelliere	Building Inspector	Glens Falls, City													X	
Edna A. Frasier	Town Supervisor	Hague, Town		X										X	X	
Matther Coffin	Deputy Highway Superintendent	Hague, Town		X												
Matthew Magee	Zoning Administrator	Hague, Town		X											X	
Cathy Clark	Zoning Enforcement Officer	Hague, Town		X										X	X	
Tim Fiallo	Highway Clerk	Hague, Town													X	
Michael N. Geraci	Supervisor	Horicon, Town		X			X	X			X			X	X	
Darian Granger	Highway Superintendent	Horicon, Town		X							X				X	
Matthew Magee	Zoning Administrator	Horicon, Town													X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Danae Tucker	Bookkeeper	Johnsburg, Town		X				X	X					X	X	
Fred Comstock	Highway Superintendent	Johnsburg, Town		X				X							X	
Mike Dunkley	Deputy Highway Superintendent	Johnsburg, Town		X				X				X			X	
Ernie Dunkley	Safety Officer	Johnsburg, Town		X				X				X		X	X	
Colin Mangan	Zoning Enforcement Officer	Johnsburg, Town													X	
Dan Barusch	Village and Town of George Planner	Village and Town of Lake George	X	X			X		X		X	X	X	X	X	
Rob Lanfear	Highway Department	Lake George, Town/Village		X				X						X	X	
Keith Lanfear	Superintendent Public Works	Lake George, Town/Village		X				X	X			X			X	
Doug Frost	Code Enforcement Officer	Lake George, Town													X	
Robert Blais	Mayor	Lake George, Village		X											X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
John Helms	DPW Foreman	Lake George, Village		X											X	
Eugene J. Merlino	Town Supervisor	Lake Luzerne, Town		X			X	X							X	
Ronnie Deuel	Highway Superintendent	Lake Luzerne, Town		X											X	
Karen Putney	Zoning Officer	Lake Luzerne, Town		X			X	X			X			X	X	
Khristopher Kassay	Deputy Zoning Enforcement Officer	Lake Luzerne, Town		X							X			X	X	
Frank E. Thomas	Supervisor	Stony Creek, Town		X					X		X				X	
Ed Lowell, Jr.	Councilman	Stony Creek, Town		X												
Deb Runyon	Supervisor	Thurman, Town		X			X	X			X				X	
Patrick Wood	Highway Superintendent	Thurman, Town		X												
James S. Hull	Code Enforcement Officer	Warrensburg, Town		X			X				X			X	X	



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Kevin B. Geraghty	Town Supervisor	Warrensburg, Town		X												
Patti Corlew	Floodplain Administrator	Warrensburg, Town													X	
John Strough	Supervisor	Queensbury, Town		X					X			X		X		
Laura Moore	Planner	Queensbury, Town	X	X		X				X	X		X	X		X
John O'Brien	Director of Building and Code Enforcement	Queensbury, Town		X				X								
Mike Palmer	Fire Marshal	Queensbury, Town		X				X								
Laura Moore	Planning and Zoning	Queensbury, Town		X				X				X				X
Dave Duell	Highway Superintendent	Queensbury, Town		X				X	X			X				
Mark DeMers	Deputy Highway Superintendent	Queensbury, Town		X								X				
Don Lehman	Public Information Officer	Warren County			X					X			X	X		



Name	Title	Department/Agency/Municipality	Steering Committee Member	Planning Partnership Member	Stakeholder/Other	Pre-Kick Off Meeting- 9/16/22	SC Meeting #1 - 9/27/22	PP Meeting #1 - 11/02/22	HW Support Meetings- 10/16/22	SC Meeting- 12/14/22	SC Meeting- 2/8/23	PP Meeting- 2/15/23	SC Meeting- 3/8/23	Strategy Workshop- 3/15/23	Local Annex Mtgs/Calls 3-6/23	Draft Plan Review-6/8/23
Elizabeth O'Reilly	Planning Manager	NYSDHSES	X		X		X	X	X					X		X
Shannon Clarke	Planner	NYSDHSES	X		X		X									
Shelby Meyers	Planner	NYSDHSES	X		X		X	X								
Betsy Parmerter	Planner	NYSDHSES			X									X		
Kevin Clapp	Planner	NYSDHSES			X									X		
Roland Paperman	Planner	NYSDHSES			x									X		
John Wilkerson	Planner	NYSDHSES			X									X		
Paul Hoole	Mitigation Planner	FEMA			X		X	X	X					X		



APPENDIX C. MEETING DOCUMENTATION

Appendix C includes meeting agendas, sign-in sheets, and minutes (where applicable and available) for meetings convened during the development of the Warren County Hazard Mitigation Plan Update.

WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/9/2022 at 10:00 am



- Scope and Schedule
 - Brief review of our approved proposal
 - Grand performance period (copy of Grant Agreement)
 - Project schedule

- Municipal Participation – Letters of Intent to Participate
 - Email to all municipal coordinators (Email and LOIP template)
 - Identify any group meetings to leverage for the mitigation planning process

- Review Steering Committee Composition - refer to 2011 Steering Committee members

- Information and Data Collection
 - GIS Point of Contact for spatial data
 - Previous (2017) critical facility list – PCII data
 - Arrange GIS collection meeting
 - Data Wish List
 - Lifelines – FEMA incorporating into mitigation
 - NFIP data request
 - CAV dates and list of floodplain administrators
 - CEPA
 - Point of Contact for reviewing Public Information (brochure/surveys/announcements)
 - Draft content for website update, newsletter, social media content, and public meeting announcements

- Meeting Logistics
 - Schedule first Steering Committee meeting
 - Schedule HMP Kick-Off (public?)
 - Date and Location

- Hazard of Concern Identification
- Plan Style Guide
- Communications Guide
- In-Kind Tracking
 - County can begin tracking all time with the development of RFP, reviews, meetings, this call etc.
 - Tetra Tech to track meeting attendance for all participants

Documents:

Municipal Letter of Participation Request

Project Schedule

Data Wish List

In-Kind Tracker

NFIP Request Letter/ISAA



WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/16/2022 at 2:00 pm



Attendees: Ashley Rivers, Ann Marie Mason, Jim Lieberum, Bob Bradshaw, Jennifer Ramsey, John Gibb, Tammy Delorenzo

- Scope and Schedule
 - Brief review of our approved proposal
 - Grand performance period (copy of Grant Agreement) PoP ending 12/2024.
 - Project schedule-hold for input from the state.
 - Project reporting milestones submitted to NYSDHSES: March 2023; T Bolton, and County Public Works have pending funding-must confirm funding mechanisms-County to with DHSES on the status and timing re: need for an approved HMP.

- Municipal Participation – Letters of Intent to Participate
 - Email to all 13 municipal coordinators (Email and LOIP template)-COMPLETE. Tt to create OneDrive to share information. Jim to post.
 - Identify any group meetings to leverage for the mitigation planning process. LEPC-October (10/21) and quarterly, board of supervisors monthly (and invite mayors?), subcommittee on environmental concerns, kick-off right after board of supervisor's meeting (in-person or hybrid?).

- Review Steering Committee Composition - refer to 2011 Steering Committee members
 - In 2011-six persons, 2 County, Town of Queensbury, City of Glens Falls fire chief.+, LEPC has reps from hospital and Finch
Major businesses: Hospital, Price Chopper, Finch, Lake George Land Conservancy, Lake George Association; Champlain Watershed Improvement Coalition of NY (CWICNY); Upper Hudson River Watershed Coalition. Agency for SVAs, Tt to provide crosswalk and old SC and suggestions for new committee.

- Core working group: meet bi-weekly-half hour on Wednesdays, 9 am on 9/21, 9/28 and bi-weekly thereafter.

- Information and Data Collection
 - GIS Point of Contact for spatial data-Sarah Frankenfeld to provide GIS files. Last plan redacted municipal water supply; high hazard dam element for HMP has been approved. County to send to us.
 - Previous (2017) critical facility list – PCII data
 - Arrange GIS collection meeting
 - Data Wish List
 - Lifelines – FEMA incorporating into mitigation
 - NFIP data request-Tt to send email request for data to Ann.
 - CAV dates and list of floodplain administrators. Tt to send request email to Ann.
 - CEPA-County to provide CEPA
 - Point of Contact for reviewing Public Information (brochure/surveys/announcements)
 - Draft content for website update, newsletter, social media content, and public meeting announcements Tt to provide social media info and brochure for outreach. Don Lehman (public info officer and director of Public Affairs) to review and provide branding.



WARREN COUNTY HAZARD MITIGATION PLAN - 2023 UPDATE
Project Management Team Meeting – Agenda
9/16/2022 at 2:00 pm



-
- Meeting Logistics-[discuss next week](#).
 - Schedule first Steering Committee meeting
 - Schedule HMP Kick-Off (public?)
 - Date and Location

 - Hazard of Concern Identification- [Tt to send survey prior to SC Kick-Off](#)
 - Plan Style Guide – [ask Don](#)
 - Communications Guide – [copy John Gibb in meetings](#).
 - In-Kind Tracking-[Jim tracking in-kind](#)
 - County can begin tracking all time with the development of RFP, reviews, meetings, this call etc.
 - Tetra Tech to track meeting attendance for all participants

Documents:

Municipal Letter of Participation Request

Project Schedule

Data Wish List

In-Kind Tracker

NFIP Request Letter/ISAA





WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #1 – AGENDA
MEETING DATE/TIME: October 27, 2022 – 9:00 am



Remote – MS Teams Link [Click here to join the meeting](#) (preferred for screen sharing)

Remote – Dial-in by phone (audio only) - [+1 518-300-1367,,453227155#](#) United States, Albany; Phone Conference ID: 453 227 155#

- 1. Welcome and Introductions**
- 2. Hazard Mitigation Plan Overview**
- 3. Project Organization**
- 4. Steering Committee Composition and Ground Rules**
- 5. In-Kind Services Tracking**
- 6. Planning Process and Data Collection Status**
- 7. Hazards of Concern Identification**
- 8. Critical Facilities and Lifelines**
- 9. Mission Statement, Goals, and Objectives**
- 10. Conclusion and Next Steps**



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	October 27, 2022, 9:00 am – 10:15 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Aaron Frankenfeld	ADK Glens Falls Transportation Council, Director
Tammie DeLorenzo	Warren County Administrators Office
Ann Marie Mason	Warren County, Director of Emergency Services
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Elizabeth O'Reilly	NYS DHSES, Planning Manager
Shannon Clarke	NYS DHSES, Planner
Shelby Meyers	NYS DHSES, Planner
Paul Hoole	FEMA, Mitigation Planning
Cynthia Addonizio-Bianco	Tetra Tech
Erika Corsi	Tetra Tech

Agenda Summary:

Item No.	Description	Action item(s):
1	<p>Welcome and Opening Remarks</p> <ul style="list-style-type: none"> • Meeting started at 9:05 pm • Jim Lieberum, Director of Warren County Soil and Water Conservation District gave opening remarks providing an overview of the importance of this planning process and thanking the participants for agreeing to serve on the Steering Committee. • Cynthia Addonizio-Bianco, project manager from Tetra Tech (Tt), also thanked participants. • Elizabeth O'Reilly of NYSDHSES noted that hazard mitigation is a diverse subject and can cross the line between recovery and response. The purpose of the mitigation plan is to reduce the amount of response potentially necessary against natural hazards. She indicated that NYSDHSES will provide support as needed throughout the mitigation planning process. • Each participating member introduced themselves and provided input on their participation in the process: <ul style="list-style-type: none"> ○ Resiliency 	Steering Committee to provide additional relevant plans to review and incorporation into the mitigation plan.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> ○ Intersection of hazard mitigation and climate adaptation mitigation through Climate Smart Communities program ○ Communication with other municipalities that has technical capacity restrictions ○ Help inform communities on their land use impacts to resiliency ○ Maintaining Queensbury codes. Queensbury identified as busiest community in terms of development and economic driver for the County ○ Bridge information throughout the County 	
2	<p>Project Overview</p> <ul style="list-style-type: none"> ● Ms. Addonizio-Bianco provided the following information: <ul style="list-style-type: none"> ○ An overview of hazard mitigation, what it is and how it can provide increase resilience through the development of a FEMA-approved Hazard Mitigation Plan. She also noted the need to track time spent working on the plan outside of meetings through in-kind tracking to provide match for federal funding support for the planning effort. An online tracker will be sent out to all plan participants. ○ An overview of the phases of the hazard mitigation planning process including description of the project organization: <ul style="list-style-type: none"> ▪ Core Planning Team (CPT) ▪ Warren County Emergency Services ▪ Warren County Soil and Water Conservation District ▪ Tetra Tech ○ Steering Committee (SC) <ul style="list-style-type: none"> ▪ Numerous County Departments, Major Businesses, Outside Agencies, 1 municipal representatives ○ Planning Partnership (PP) <ul style="list-style-type: none"> ▪ All participating municipalities and Steering Committee members. ○ FEMA ○ Stakeholders ● Steering Committee roles and responsibilities: <ul style="list-style-type: none"> ○ Provide guidance and leadership ○ Oversee the planning process ○ Act as point of contact for partners and stakeholders ● Focus on updating the 2017 critical facilities inventory to ensure completeness and identify lifeline facilities. The County and planning partners will provide input to update the list of critical facilities and lifelines via an online survey. Once updated, the information will be used during the risk assessment and mitigation strategy development. ● DHSES will notify the County when the draft plan has been submitted to FEMA for review. ● FEMA will notify the County and jurisdictions to let them know the submitted plan is approvable. ● Request for relevant plans and studies. (Post meeting note: The attached presentation has been updated to reflect the list of plans 	<ul style="list-style-type: none"> ● Tt to provide SC member access to the project OneDrive site and Steering Committee members to confirm access to OneDrive – access to be provided in separate email ● Critical facility inventory survey to be distributed by Tt to the County and municipal representatives.



Warren County
Hazard Mitigation Plan Update
Meeting Notes

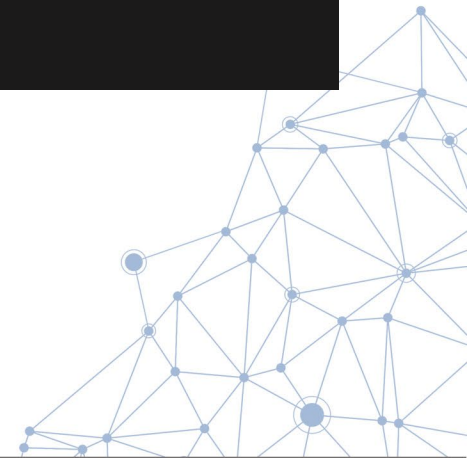
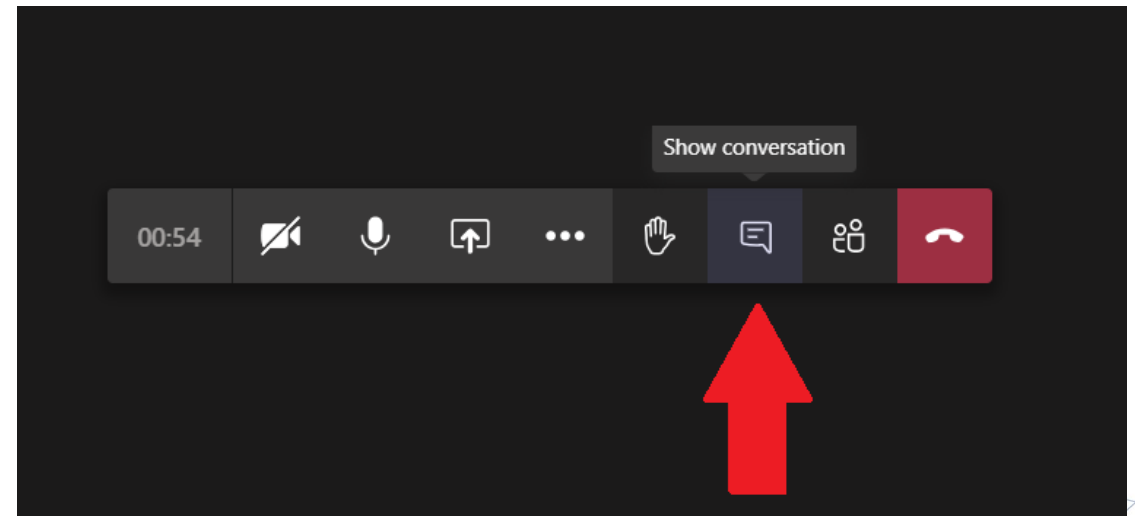


	<p>collected to date.) The committee members are requested to review the list and forward links to additional plans that may be relevant to the planning process.</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco noted that participants will be given access to OneDrive to share documents and information. 	
3	<p>Risk Assessment and Hazards of Concern</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco discussed the process of the risk assessment and reviewed the hazards of concern identified in the last HMP. These hazards of concern will need to be reviewed and updated as necessary. A survey will be sent out to the Steering Committee. One action is needed for every hazard of concern that impacts a municipality. 	<ul style="list-style-type: none"> Steering Committee to provide input to update Hazards of Concern– to be distributed by and returned to Tt via email.
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco introduced the goals and objectives from the last HMP and provided suggestions to update them to align with current priorities. The Steering Committee as tasked with reviewing the mission statement, goals and objectives to provide feedback to guide the plan update. The Steering Committee recommending creating a goal and objective that addresses daily and long-term activities 	<ul style="list-style-type: none"> Steering Committee to provide input – to be distributed by and returned to Tt via email. Steering Committee to clarify definition of ‘daily and long-term activities’
5	<p>Upcoming Meetings</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco reviewed upcoming meetings: <ul style="list-style-type: none"> Steering Committee Meeting – October 27th, 2022* Planning Partnership – November 2nd, 2022 Risk Assessment Meeting – February, 2023 (<i>tentative</i>) <i>Planning Partnership Risk Assessment Meeting – February, 2023 (tentative)</i> Mitigation Strategy Workshop – March, 2023 (<i>tentative</i>) 	
6	<p>Next Steps</p> <ul style="list-style-type: none"> Attend Planning Partnership Meeting Determine Hazards of Concern to include in the HMP Strengths, Weaknesses, Obstacles and Opportunities (SWOO) Review Hazard Profiles Review Risk Assessment Results Identify Problems and Problem Areas Develop Mitigation Strategy Review Draft Plan Submit Draft Plan for NYSDHSES/FEMA Review Adopt FEMA-Approved Plan Implement Projects and Maintain the Plan and Increase Resilience 	
7	<p>Conclusion - The meeting concluded at 10:15 am.</p>	



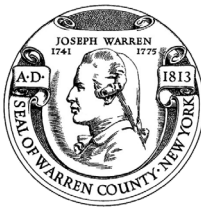
Welcome!

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.
 - Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.
 - Click “Show Conversation.”



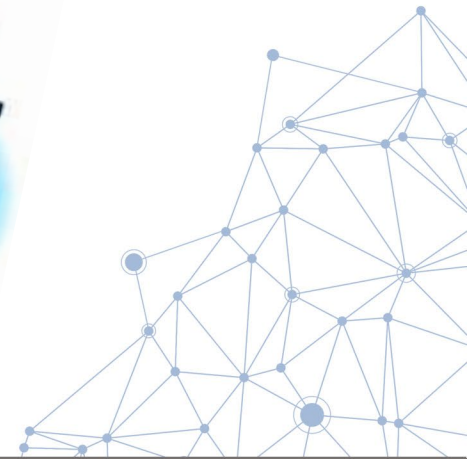
Warren County, New York Hazard Mitigation Plan – 2023 Update

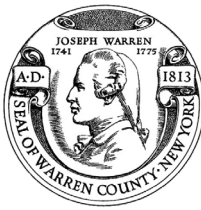
Steering Committee Kick-Off Meeting | October 27,
2022



Agenda

- Welcome and Introductions
- In-Kind Services Tracking
- Benefits of Hazard Mitigation
- Hazard Mitigation Planning Overview
- Project Organization
- Steering Committee Responsibilities
- Public and Stakeholder Outreach
- Update Hazards of Concern and Risk Assessment
- Critical Facilities and Lifelines
- Goals and Objectives
- Schedule
- Questions/Next Steps/Wrap Up





Introductions

- Tell us...
 - What's your name?
 - Where you are from?
 - What is your mitigation experience?
 - What do you want to focus on during this process or what is your area of expertise?
 - What are your resilience concerns for Warren County?





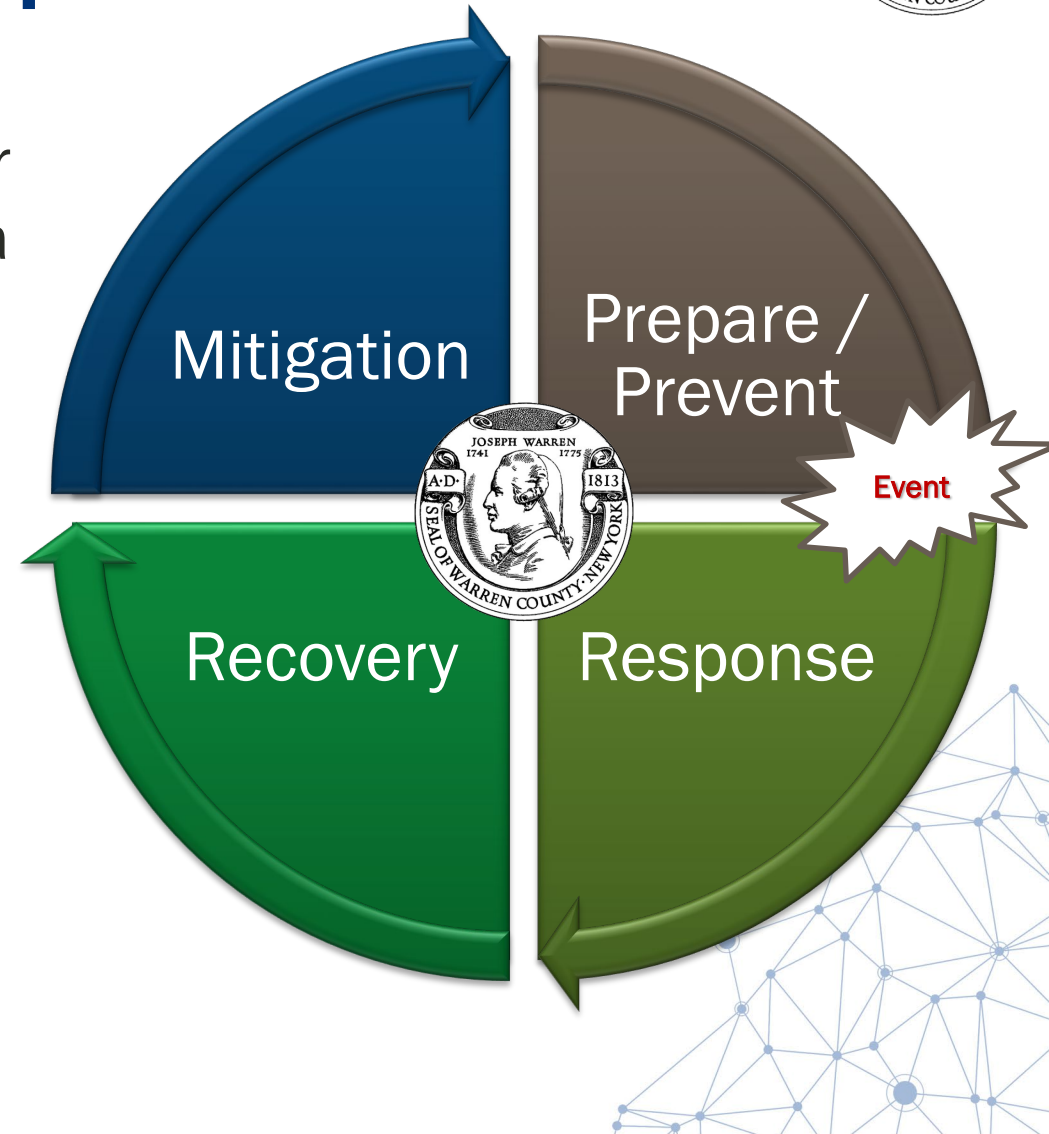
Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).








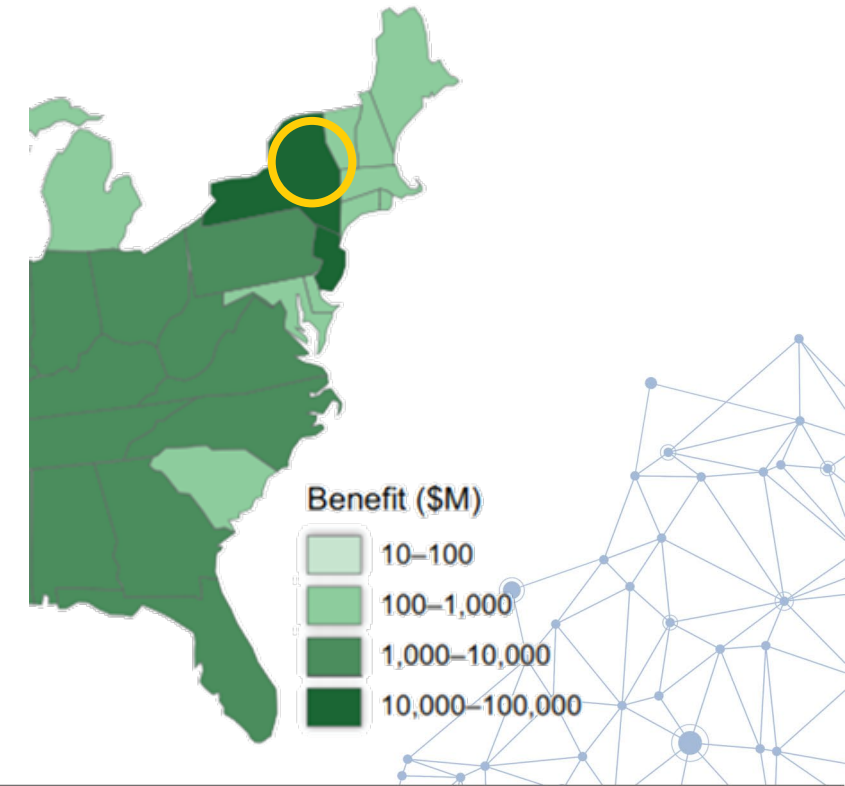


Hazard Mitigation Works!

- According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2018 Interim Report, federal mitigation grants save \$6 for every \$1 spent!

Mitigation saves in every in state! New York has saved up to \$100 million in benefits.

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>		Federally Funded
Overall Hazard Benefit-Cost Ratio		6:1
 Riverine Flood		7:1
 Hurricane Surge		Too few grants
 Wind		5:1
 Earthquake		3:1
 Wildland-Urban Interface Fire		3:1

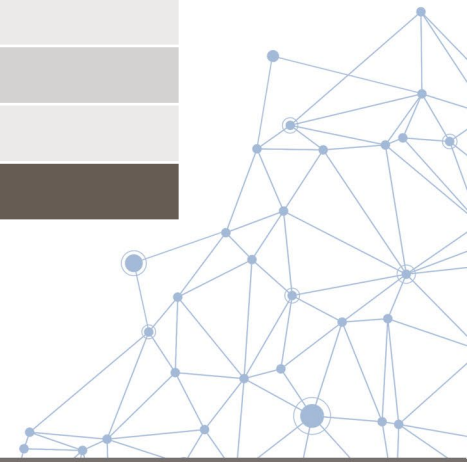
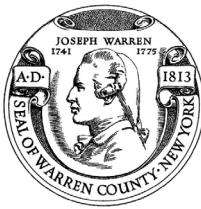


Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (\$)
Blizzard	Losses not reported
Drought	Losses not reported
Excessive Temperature	Losses not reported
Flash Flood	\$22.36 million
Flood	\$6.24 million
Hail	\$13,000
Heavy Rain	Losses not reported
Heavy Snow	\$35,000
High Wind	\$731,000
Hurricane/Tropical Storm	Losses not reported
Lightning	\$77,000
Strong Wind	\$193,000
Thunderstorm Wind	\$10.62 million
Tornado/Funnel Cloud	\$252,500
Winter Storm	\$182,300
Winter Weather	\$1,000
Total	\$42.345 million

Source: NOAA-NCEI 2022





What's at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472
2020	COVID-19	3434
	COVID-19 PANDEMIC	4480



4 Flood



4 Hurricane



4 Severe Storm(s)



2 Biological



2 Other



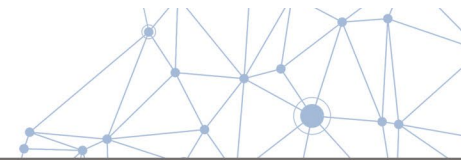
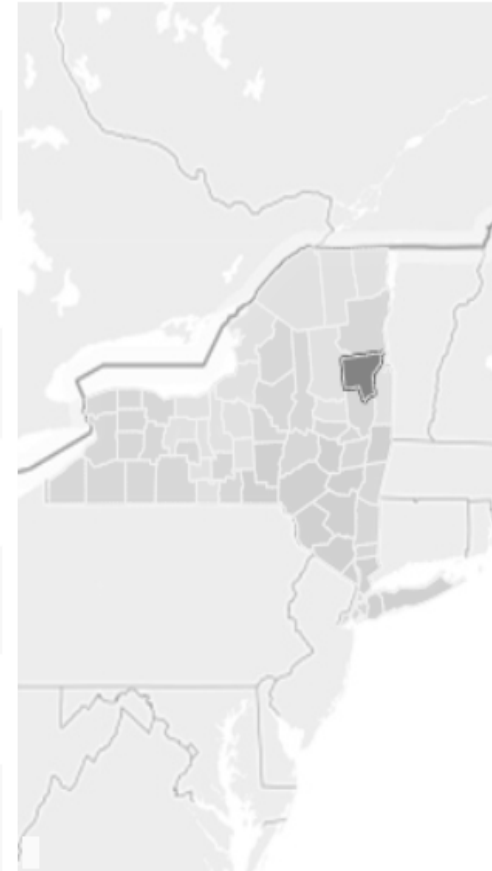
1 Earthquake



1 Fire

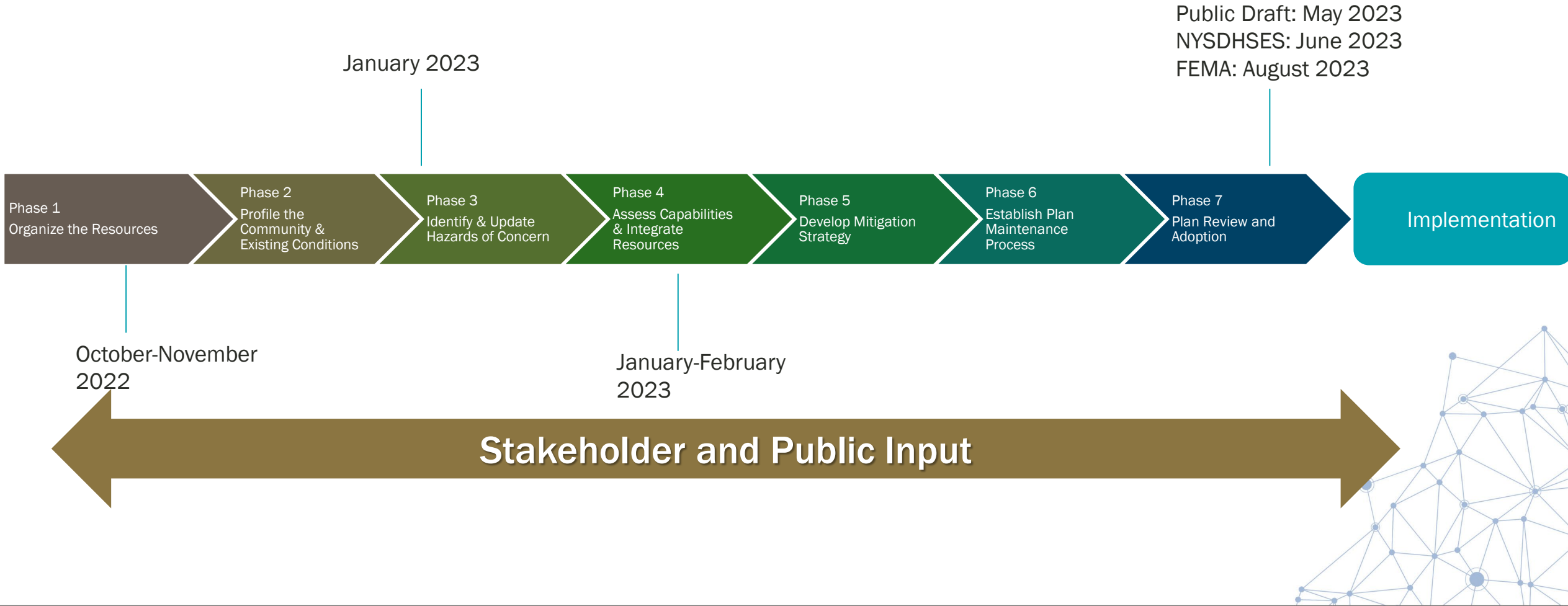


1 Snow



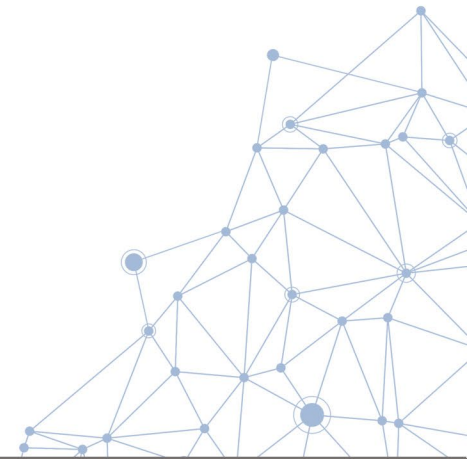


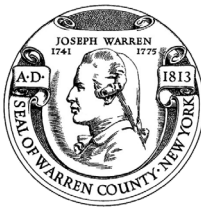
Planning Process Overview





Project Organization





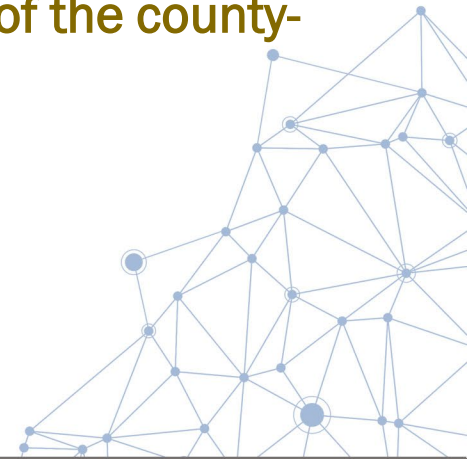
Hazard Mitigation Committee Composition

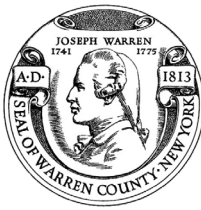
Steering Committee Members

Warren County Soil and Water Conservation District	Adirondack / Glens Falls Transportation Council
Warren County Office of Emergency Services	City of Glens Falls
Warren County Department of Planning and Community Development	Village of Lake George
Warren County Department of Public Works	SUNY Adirondack
Town of Queensbury – Planning Department	Glens Falls Hospital
	Finch Pryne
	Board of Supervisors

Role

- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents





Steering Committee Roles and Responsibilities



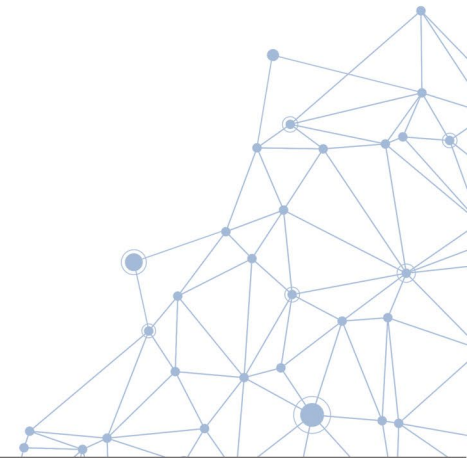
PROVIDE GUIDANCE AND LEADERSHIP THROUGHOUT THE PLANNING PROCESS



OVERSEE THE PLANNING PROCESS



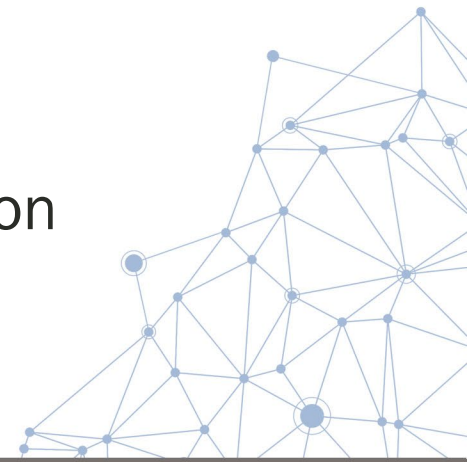
ACT AS THE POINT OF CONTACT FOR ALL PARTNERS AND STAKEHOLDERS





Early Progress

- Requested/Received NFIP Community Assistance Visit Data
- Requested NFIP Data
- GIS Data Collection
- Review of Hazards of Concern/Distributed Worksheet to Steering Committee
- HMP website – In development
- HMP Fact Sheet, Citizen Survey, Agency Surveys - in progress
- County-Level/Regional Plan Collection
- Planning Partnership Outreach/Letter of Intent to Participate Distribution
- Planning Partnership Kick-Off Meeting Scheduled (November 2nd at 9am)

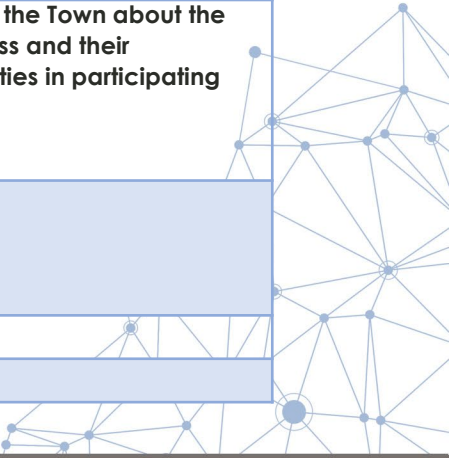


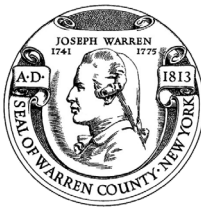


In-Kind Services

Name of Team Member: _____

Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes – sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	





Data Collection Status

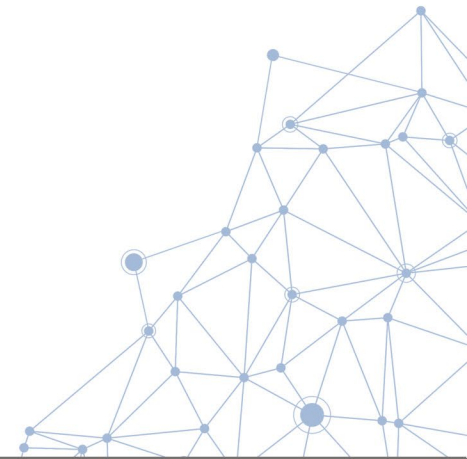
- Letters of Intent to Municipalities
- Critical Facility Inventory (County providing initial data)
- Reports and Plans – Initial collection of reports, plans, and codes available online
- Capability Assessments
- Mitigation Strategy Updates



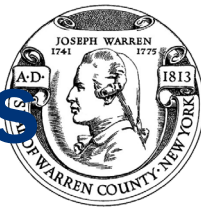


Public and Stakeholder Outreach

- HMP is in development-
<https://www.warrencountynyhmp.com>
- Social Media
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey



Relevant County and Regional Plans and Studies



Name of Plan/Document	Date of Plan	Jurisdiction
Excessive Heat Plan	2022	Countywide
Schroon Lake Watershed Management Plan Addendum	2019	Chester (T)
Lake Champlain Watershed Roadside Erosion Assessment	-	Bolton (T), Hague (T), Lake George (T), Queensbury (T)
Upper Hudson River Watershed Management Plan	2020	Countywide
Friends Lake Watershed Assessment	2017	Chester (T)
LC Nonpoint Source Pollution Watershed Assessment and Management Plan	2018	Countywide
LG HAB Plan 2022 Update	2022	Lake George (T), Bolton (T)
Loon Lake Watershed Report	2021	Loon Lake, Chester (T)
Warren County - Dam Risk into Local HMG Plans	2021	Countywide

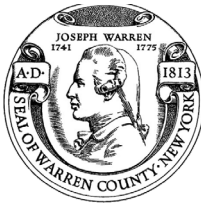
- Others?



Update Risk Assessment

- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee
- Risk assessment meeting

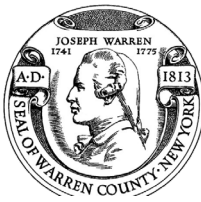




NYS DHSES Requirements

- Establish Jurisdictional Teams
- Assess Critical Facilities
- Plan for Displaced Residents
 - Intermediate (Temporary Housing) and Long-Term (Permanent Housing)
- Plan for Evacuation and Sheltering
- Document Past Mitigation Accomplishments
- Include Jurisdictional Annexes
- Develop Mitigation Actions (minimum of 2 projects)
- Plan for Climate Change





EXERCISE – Identifying Hazards of Concern

Thinking back over the last few years...

- The 2017 plan included:
 - Disease Outbreak
 - Earthquake
 - Flood
 - Infestation
 - Landslide
 - Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
 - Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
 - Wildfire

- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to minimize number or required actions?
 - Should additional hazards be included?

- Have additional hazards impacted Warren County since 2017?
- Have hazards been mitigated and no longer cause damage or put the County at risk?
- Should hazards be regrouped to align with the 2019 State HMP?

2019 NY State HMP	Identified Hazard in the 2017 Warren HMP	2017 Warren HMP Ranking	2021 CEPA Ranking**	Has the frequency, severity, or location of the hazard changed in your community? NC = No Change; I = Increase; D = Decrease (Please provide an explanation for any hazards marked I or D in this column)	2023 Warren HMP* (indicate 'keep', combine with other hazard, or provide comments for any changes)
Natural Hazards					
	Avalanche	-	-		
	Coastal Hazards				
	Coldwaves	-	-		
	Drought	-	Low		
	Earthquake	X	High	Low	Keep
	Flooding	X	Medium	Very High	Keep
	Hail	X	Severe Storm: High		Keep

Please identify any other hazards that you believe should be considered in the 2023 update of the Warren County Hazard Mitigation Plan (e.g. landslides, wildfires, invasive species, etc.)

What are the natural hazards that present the most risk to your jurisdiction today?

- | | |
|--|--|
| <input type="checkbox"/> Climate Change | <input type="checkbox"/> Severe Weather (high wind, tornado, thunderstorm, hail) |
| <input type="checkbox"/> Dam Failure | <input type="checkbox"/> Severe Winter Weather (heavy snow, blizzard, ice) |
| <input type="checkbox"/> Drought | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Earthquake | <input type="checkbox"/> Hazardous Materials (fixed site, in-transit) |
| <input type="checkbox"/> Extreme Temperature (heat and cold) | <input type="checkbox"/> Disease Outbreak |
| <input type="checkbox"/> Flood (riverine, dam failure, beaver dam) | <input type="checkbox"/> Invasive Species |
| <input type="checkbox"/> Geologic (landslide, subsidence/sinkhole) | <input type="checkbox"/> Other: _____ |

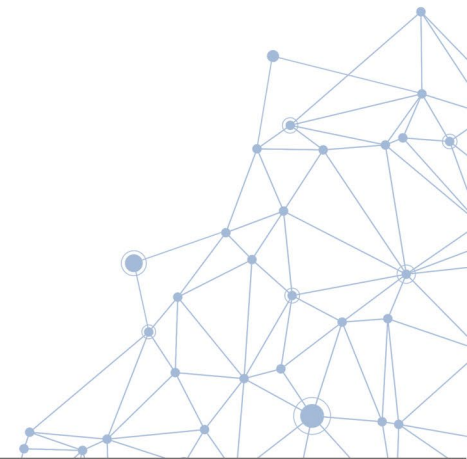


Community Lifelines

- Review 2017 critical facility inventory to ensure complete
- Crosswalk and identify lifelines

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security

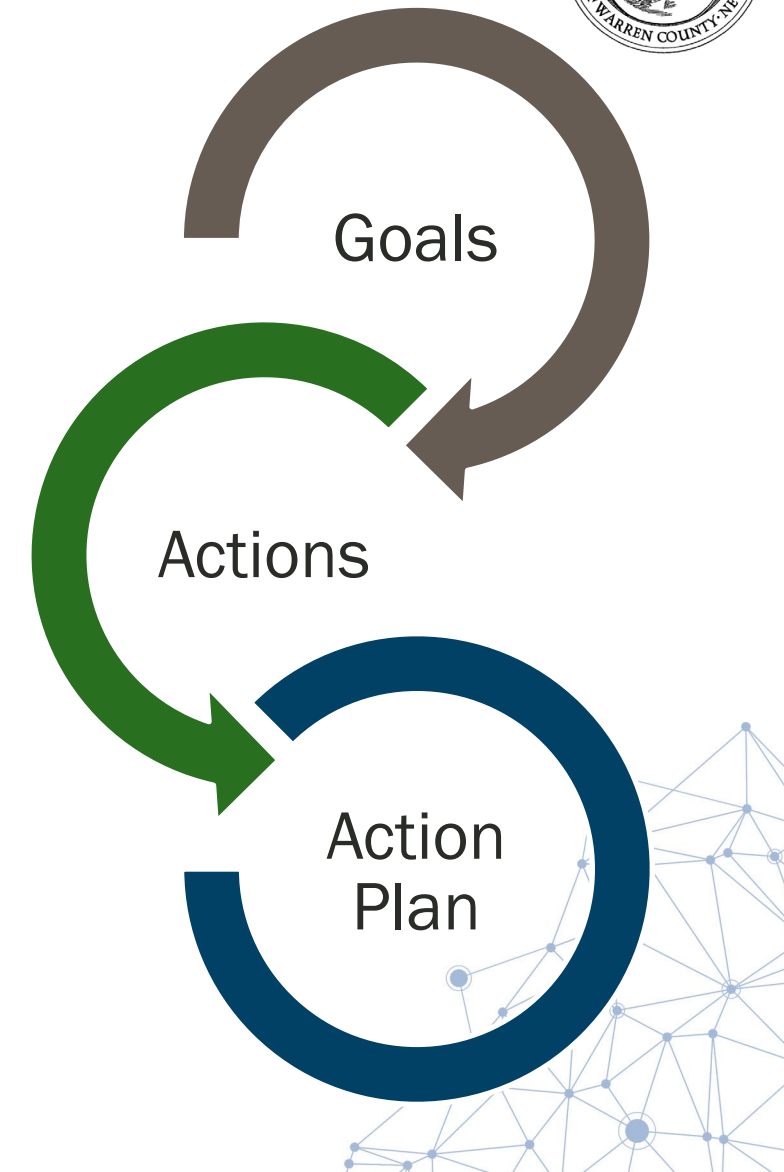
Essential facilities are a subset of lifelines that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category includes police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

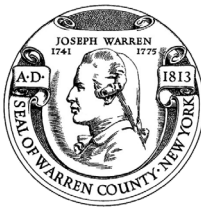




Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?



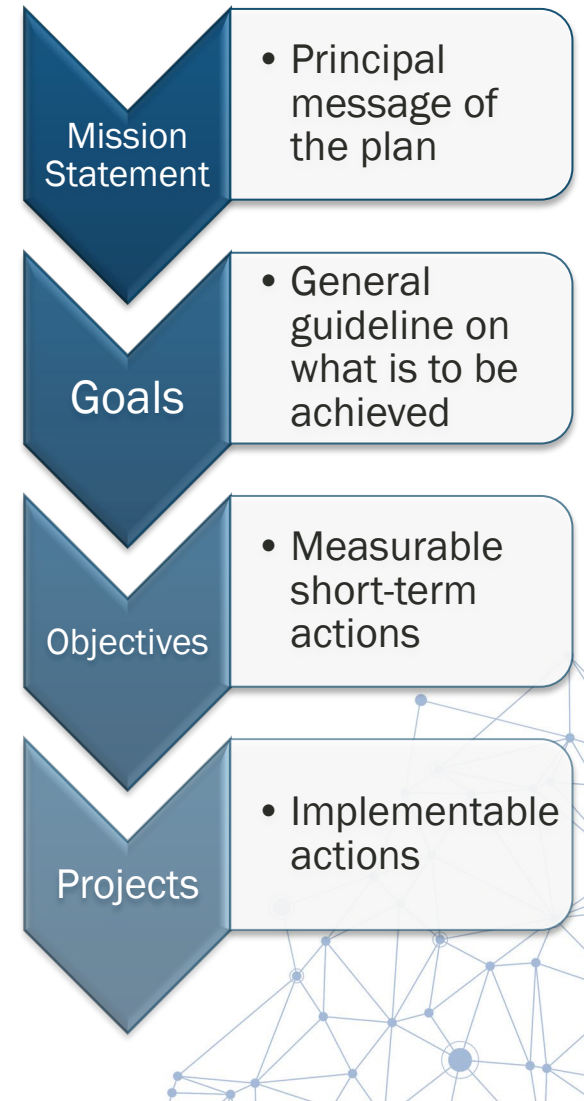


Update Mission Statement?

As part the of the 2017 update process, the Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as noted below. At this time, the committee is requested to review the Mission Statement to update to align with current County, state, and local policy. The committee is requested to consider adding the concept of equity and inclusiveness of socially vulnerable populations to the mission statement and the goals and objectives as well as additional adjustments to align with count, state, and local policy.

2017 HMP Mission Statement

To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations and the public to eliminate or reduce risks and adverse impacts from natural, technological and human-caused hazards .





Goals and Objectives Review and Update

Goal	Objective
Goal 1: Protect Life and Property.	1.1: Introduce mitigation activities that will make homes, businesses and critical facilities and infrastructure more hazard resistant and to increase resilience.
	1.2: In areas vulnerable to hazards, encourage businesses and homeowners to take preventive actions when possible .
	1.3: Periodically review existing building codes, safety procedures, municipal and county ordinances to update recent standards for building protection.
	1.4: Immediately enforce existing building codes within the jurisdiction.
	1.5: Encourage owners of home and businesses and renters to purchase appropriate insurance coverage for potential damages from hazards.
Goal 2: Increase Public Awareness	2.1: Continue developing and integrating education and outreach programs in an effort to enhance public awareness of the hazards, providing information on specific activities for individuals in anticipation of a hazard event .
	2.2: Provide information on current government programs and funding resources to assist with mitigation and resilience.
	2.3: Strengthen communication and cooperation between public agencies, citizens, non-profit groups, and businesses to implement mitigation activities effectively.





Goals and Objectives Review and Update

Goal 3: Provide for Emergency Services

3.1: Coordinate hazard mitigation activities with existing local emergency plans.

3.2: Identify and plan for acquiring any specific emergency services and equipment needed to improve response capabilities for specific hazards.

3.3: Review emergency traffic routes, making changes as needed, and educating the public as to the routes .

Goal 4:

Support comprehensive county and local mitigation through the integration of hazard mitigation planning into related state, regional, county and local plans and programs.

4.1: Promote land use planning to encourage resilient and sustainable efforts throughout statewide and regional programs that address zoning, building codes, capital improvement programs, open space preservation, nature-based solutions, and storm water management regulations.

4.2: Continue to participate in state, regional and local programs and efforts that focus on practices that support or enhance resiliency.

4.3: Improve hazard data through participation in studies, research, and mapping to enhance information related to the impacts of hazards and related risks, vulnerability, and losses.

Goal 5:

Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.

5.1: Encourage the use of green and natural infrastructure and nature based solutions.

5.2: Provide technical assistance to communities and stakeholders in the application and implementation of mitigation projects that preserve or restore natural systems.

5.3: Maintain and encourage ongoing relationships between state agencies and partners to play an active and vital role in preservation and restoration of vulnerable natural systems.

5.4: Promote climate change adaption strategies that protect against long-term effects on the environment.

Goal 5: Address Long-Term Vulnerabilities from High Hazard Dams

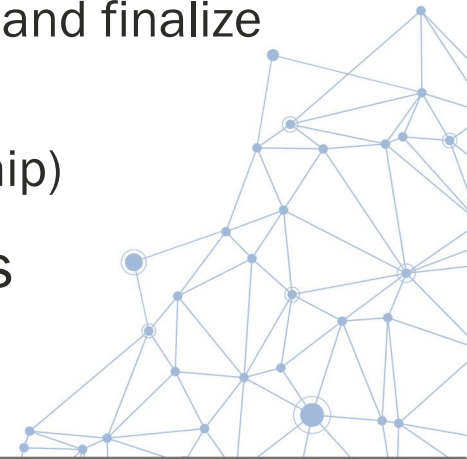
5.1: Ensure dam infrastructure is maintained

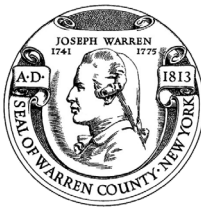




Schedule

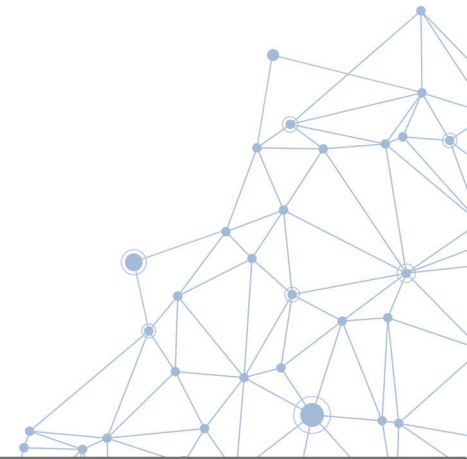
- Planning Process
 - Steering Committee Kick-Off – TODAY!
 - Planning Partnership Kick-Off – November 2nd at 9 am (Steering committee will be invited)
- Update Risk Assessment
 - Data collection is underway; confirm local critical facilities inventory by December 2023
 - Begin vulnerability assessment
 - Steering Committee Meeting: November, to identify hazards of concern for County and finalize goals
 - Risk Assessment Meetings: February (Steering Committee and Planning Partnership)
- Public Involvement Strategy – ongoing throughout the planning process

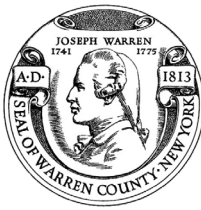




Schedule

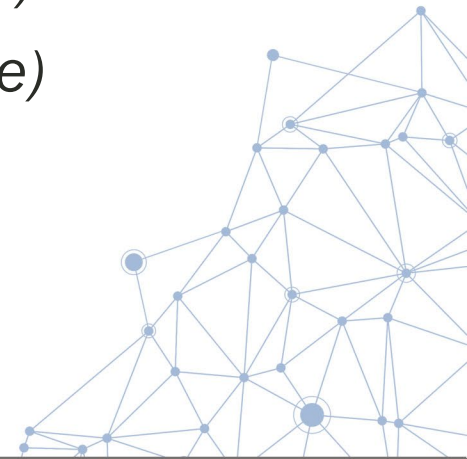
- Mitigation Strategy
 - Begin working with the municipalities in **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 2023**
- Draft Plan to Steering Committee in **May-June 2023** (*as sections are ready*)
- Public Review Period (30 days) – **June 2023**
- Final draft plan to NYSDHSES by June 2023 and FEMA by **August 2023**






Next Steps – Key Dates

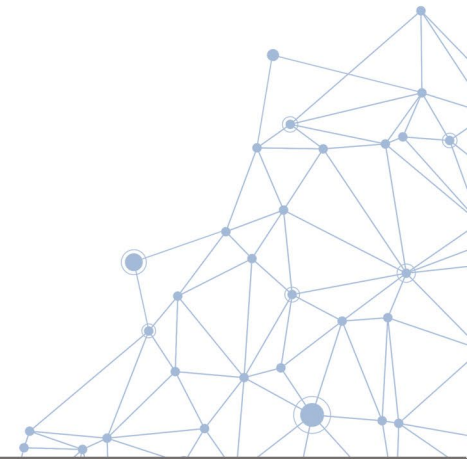
- Complete Hazards of Concern & Goals and Objectives worksheets and return by November 1st.
- Confirm access to OneDrive – *access to be provided in separate email*
- Planning Partnership Kick-Off* (Steering Committee and Municipalities) on **November 2nd, 2023**
- Steering Committee Meeting* – October 27th, 2022
- Steering Committee Risk Assessment Meeting – February, 2023 (*tentative*)
- Planning Partnership Risk Assessment Meeting – February, 2021(*tentative*)
- Mitigation Strategy Workshop – March 2023 (*tentative*)





Next Steps

1. Attend Planning Partnership Meeting
2. Determine Hazards of Concern to include in the HMP
3. Strengths, Weaknesses, Obstacles and Opportunities (SWOO)
4. Review Hazard Profiles
5. Review Risk Assessment Results
6. Identify Problems and Problem Areas
7. Develop Mitigation Strategy
8. Review Draft Plan
9. Submit Draft Plan for NYSDHSES/FEMA Review
10. Adopt FEMA-Approved Plan
11. Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #1 – AGENDA
MEETING DATE/TIME: November 2, 2022 – 10:00 am



Virtual: Microsoft Teams Meeting - [Click here to join the meeting](#) or use this link:

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MGE2NDNIYWYtYWU3Ny00NGU4LWJkMWQtNmY0NGRhOTNiMTQ0%40thread.v2/0?context=%7b%22id%22%3a%22a40fe4ba-abc7-48fe-8792-b43889936400%22%2c%22oid%22%3a%22e2c51125-ed2c-4397-a8d5-53494e2597a5%22%7d)

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1. Welcome and Introductions
2. Benefits of Hazard Mitigation
3. Hazard Mitigation Planning Overview
4. Project Organization
5. Public and Stakeholder Outreach
6. In-Kind Services Tracking
7. Planning Partnership Responsibilities
8. Community Lifelines/Critical Facilities
9. Update Hazards of Concern and Risk Assessment
10. Goals and Objectives
11. Schedule
12. Questions/Next Steps/Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	November 2, 2022, 9:00 am – 10:05 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ann Marie Mason	Warren County, Director Emergency Services
Ashley Rivers	Warren County OEM, Emergency Services Coordinator
Josh Westfall	Town of Bolton, Planner
Marion Eagan	Town of Chester, Planning and Zoning
Jeremy Little	Town of Chester, Zoning Administrator
Bill Norton	City of Glens Falls, Superintendent Water and Sewer
Michael N. Geraci	Town of Horicon, Supervisor
Danae Tucker	Town of Johnsbury, Bookkeeper
Fred Comstock	Town of Johnsbury, Highway Superintendent
Ernie Dunkley	Town of Johnsbury, Safety Officer
Mike Dunkley	Town of Johnsbury, Assistant Highway Superintendent
Laura Moore	Town of Queensbury, Land Use Planner
John O'Brien	Town of Queensbury, Director of Building and Code Enforcement
Mike Palmer	Town of Queensbury, Fire Marshal
Dave Duell	Town of Queensbury, Highway Superintendent
Deb Runyon	Town of Thurman, Supervisor
Dan Barusch	Town/Village Lake George, Planner
Rob Lanfear	Town/Village Lake George, Highway Department
Keith Lanfear	Town/Village Lake George, Superintendent Public Works
Eugene J. Merlino	Town of Lake Luzerne, Town Supervisor
Karen Putney	Town of Lake Luzerne, Zoning Enforcement Officer
James S. Hull	Town of Warrensburg, Code Enforcement Officer
Elizabeth O'Reilly	NYSDHSES, Planning Manager
Shelby Meyers	NYSDHSES, Planner
Paul Hoole	FEMA, Mitigation Planning
Cynthia Addonizio-Bianco	Tetra Tech, Inc.
Erika Corsi	Tetra Tech, Inc.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary:

Item No.	Description	Action item(s):
1	<p>Welcome and Opening Remarks</p> <ul style="list-style-type: none"> • Meeting started at 9:05 pm • Cynthia Addonizio-Bianco, project manager from Tetra Tech (Tt), facilitated introductions, gave opening remarks providing an overview of the importance of this planning process and thanked participants for supporting the hazard mitigation update. Jim Lieberum, Director of Warren County Soil and Water Conservation District introduced the County team. • Elizabeth O'Reilly of NYSDHSES indicated that NYSDHSES will provide support as needed throughout the mitigation planning process. 	N/A
2	<p>Project Overview</p> <ul style="list-style-type: none"> • Ms. Addonizio-Bianco provided the following information: <ul style="list-style-type: none"> ○ An overview of hazard mitigation, what it is and how it can provide increase resilience through the development of a FEMA-approved Hazard Mitigation Plan. She also noted the need to track time spent working on the plan outside of meetings through in-kind tracking to provide match for federal funding support for the planning effort. An online tracker will be sent out to all plan participants. ○ An overview of the phases of the hazard mitigation planning process including description of the project organization: <ul style="list-style-type: none"> ▪ Core Planning Team (CPT) ▪ Warren County Emergency Services ▪ Warren County Soil and Water Conservation District ▪ Tetra Tech ○ Steering Committee (SC) <ul style="list-style-type: none"> ▪ Numerous County Departments, Major Businesses, Outside Agencies, municipal representatives ○ Planning Partnership (PP) <ul style="list-style-type: none"> ▪ All participating municipalities and Steering Committee members. ○ FEMA/NYSDHSES ○ Stakeholders • Planning Partnership roles and responsibilities: <ul style="list-style-type: none"> ○ Provide guidance and leadership ○ Identify hazards of concern ○ Develop mitigation goals and objectives • Develop public and stakeholder outreach • Assist with the development of their jurisdictional annex. Each municipality will be provided a version of their jurisdictional annex. The municipal mitigation team will edit and make changes to the annex as needed and return to Tt. 	<ul style="list-style-type: none"> • Critical facility inventory survey to be distributed by Tt to the County and municipal representatives.



Warren County
Hazard Mitigation Plan Update
Meeting Notes

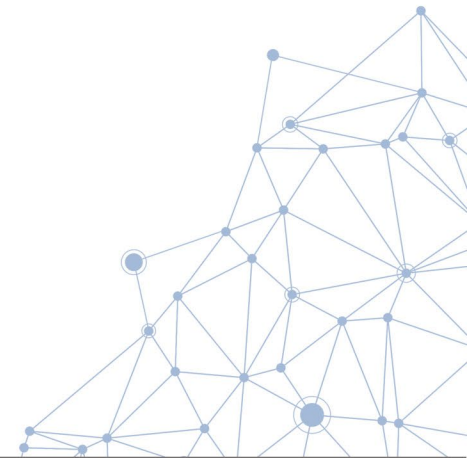
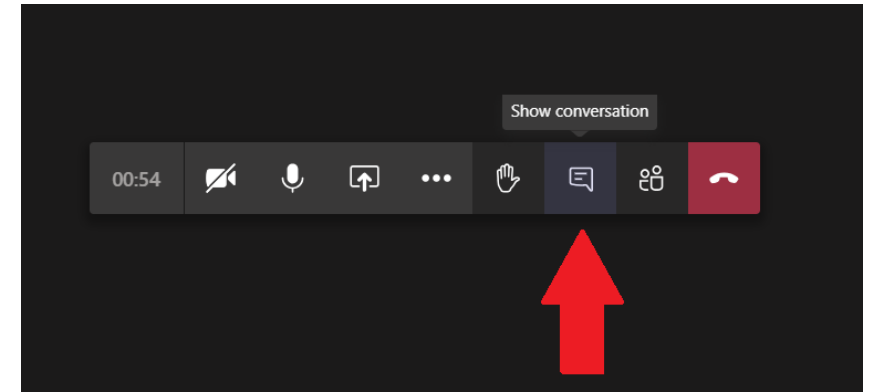


3	<p>Risk Assessment and Hazards of Concern</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco discussed the process of the risk assessment and reviewed the hazards of concern identified in the last HMP. These hazards of concern will need to be reviewed and updated as necessary. One action is needed for every hazard of concern that impacts a municipality. 	<ul style="list-style-type: none"> Planning Partnership to provide input to update Hazards of Concerns in associated worksheets.
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco introduced the goals and objectives from the last HMP. Community lifelines and critical facilities were introduced from the previous HMP. The jurisdictional representative should review the goals and objectives and the community lifelines to identify changes in their communities. 	<ul style="list-style-type: none"> Planning Partnership to provide critical facilities inventory by December 9th using the survey sent via email Tt to send critical facilities inventory survey
5	<p>Upcoming Meetings</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco reviewed upcoming meetings: <ul style="list-style-type: none"> Confirm critical facilities/lifeline inventory by December 9th 2022 Worksheet workshop – November 16th, 2022, at 10am All Annex worksheets due November 23rd, 2022 Risk assessment meeting – February 2023 	<ul style="list-style-type: none"> Tt to send out jurisdictional annexes
6	<p>Next Steps</p> <ul style="list-style-type: none"> Determine Hazards of Concern to include in the HMP Review Hazard Profiles Review Risk Assessment Results Identify Problems and Problem Areas Develop Mitigation Strategy Review Draft Plan Submit Draft Plan for NYSDHSES/FEMA Review Adopt FEMA-Approved Plan Implement Projects and Maintain the Plan and Increase Resilience 	
7	<p>Conclusion - The meeting concluded at 10:05 am.</p>	



Welcome!

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.
 - Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.
 - Click “Show Conversation.”





Warren County, New York Hazard Mitigation Plan – 2023 Update

Planning Partnership Kick-Off Meeting | November 2, 2022
9:00am



Agenda

- Welcome and Introductions
- Benefits of Hazard Mitigation
- Hazard Mitigation Planning Overview
- Project Organization
- Public and Stakeholder Outreach
- In-Kind Services Tracking
- Planning Partnership Responsibilities
- Community Lifelines/Critical Facilities
- Update Hazards of Concern and Risk Assessment
- Goals and Objectives
- Schedule
- Questions/Next Steps/Wrap Up





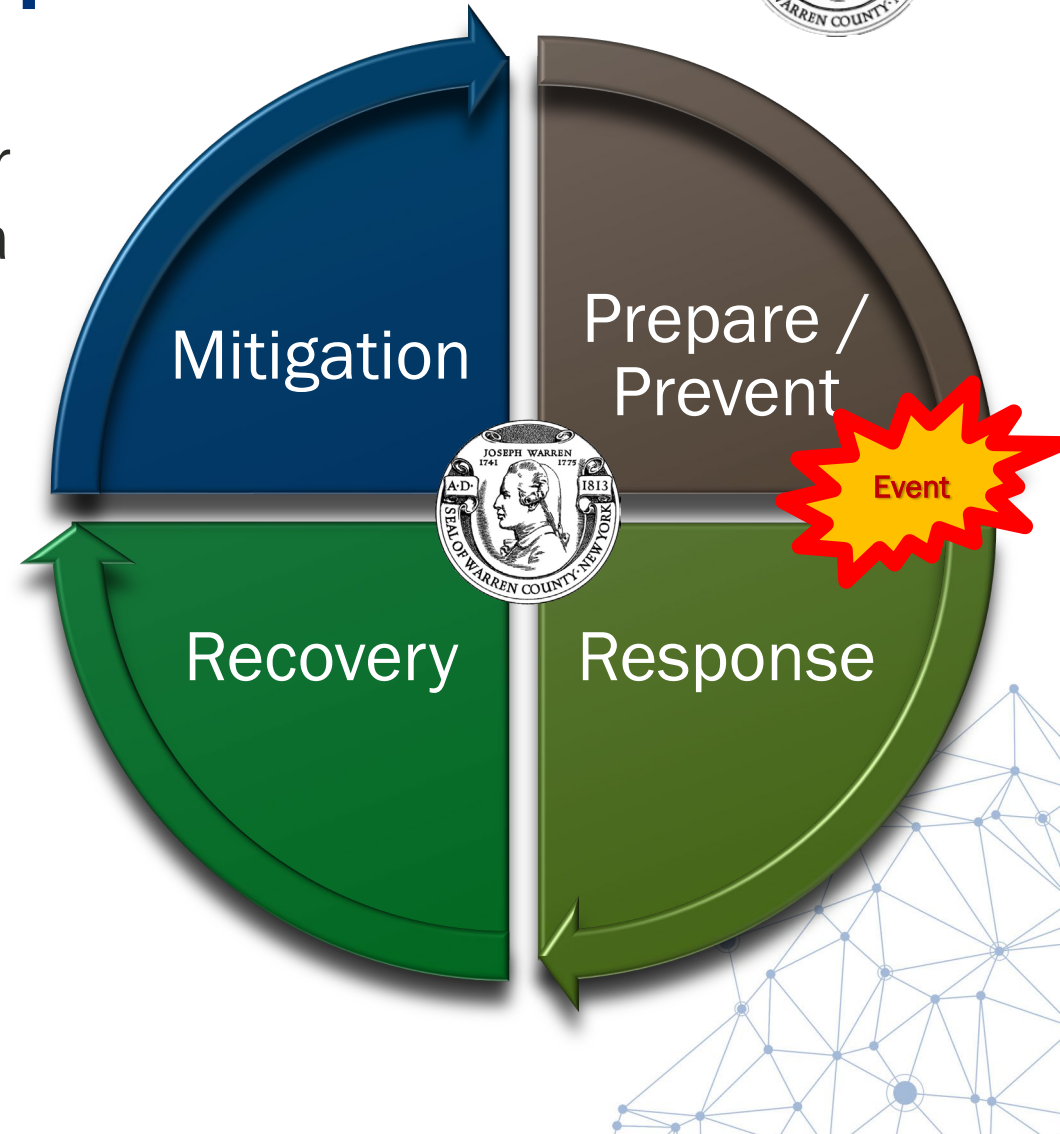
Hazard Mitigation – What is it?

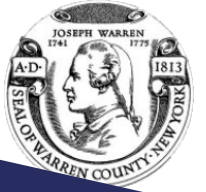
Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).





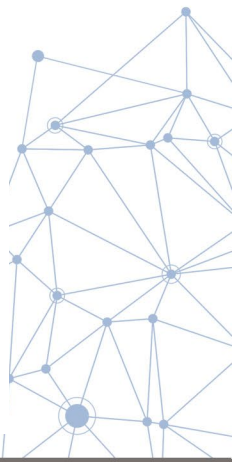
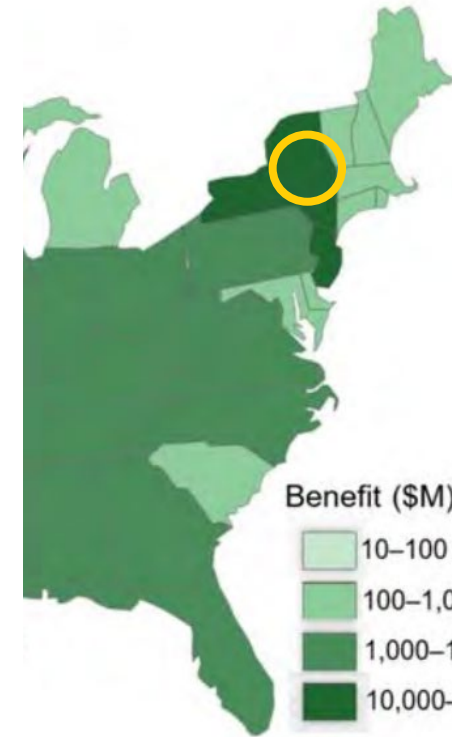
Hazard Mitigation Works!

- According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2019 Report, federal mitigation grants save \$6 for every \$1 spent!

Mitigation saves in every in state! New York State has benefited in over \$100 million from federal grants for flood, wind, earthquake, and fire mitigation.

	ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio	11:1	4:1	4:1	4:1	6:1
Cost (\$ billion)	\$1/year	\$4/year	\$520	\$0.6	\$27
Benefit (\$ billion)	\$13/year	\$16/year	\$2200	\$2.5	\$160
Riverine Flood	6:1	5:1	6:1	8:1	7:1
Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
Wind	10:1	5:1	6:1	7:1	5:1
Earthquake	12:1	4:1	13:1	3:1	3:1
Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

Copyright © 2019 The National Institute of Building Sciences

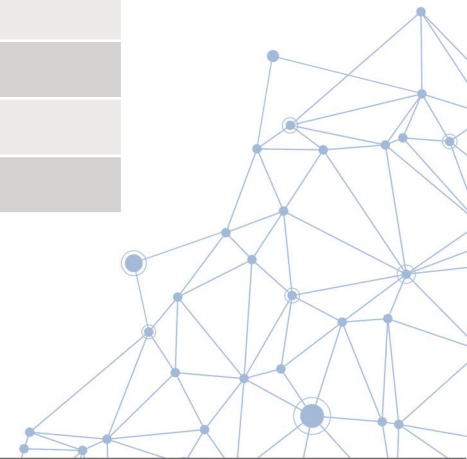


Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (\$)
Blizzard	Losses not reported
Drought	Losses not reported
Excessive Temperature	Losses not reported
Flash Flood	\$22.36 million
Flood	\$6.24 million
Hail	\$13,000
Heavy Rain	Losses not reported
Heavy Snow	\$35,000
High Wind	\$731,000
Hurricane/Tropical Storm	Losses not reported
Lightning	\$77,000
Strong Wind	\$193,000
Thunderstorm Wind	\$10.62 million
Tornado/Funnel Cloud	\$252,500
Winter Storm	\$182,300
Winter Weather	\$1,000
TOTAL	\$42.345 million

Source: NOAA-NCEI 2022



What's at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472
2020	COVID-19	3434
	COVID-19 PANDEMIC	4480



4 Flood



4 Hurricane



4 Severe Storm(s)



2 Biological



2 Other



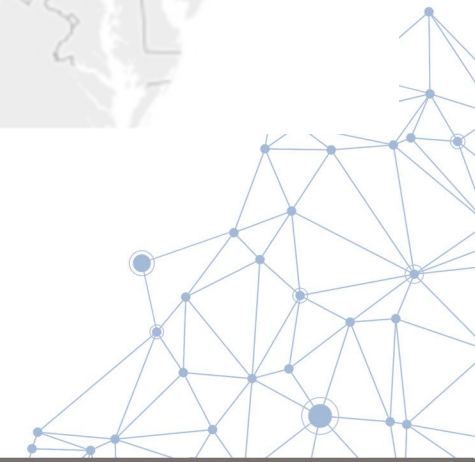
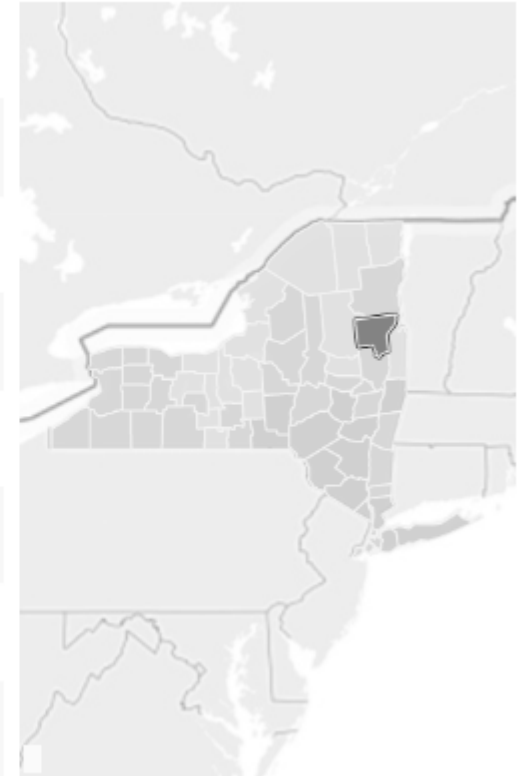
1 Earthquake

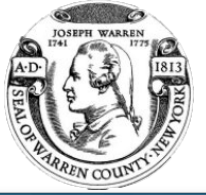


1 Fire



1 Snow



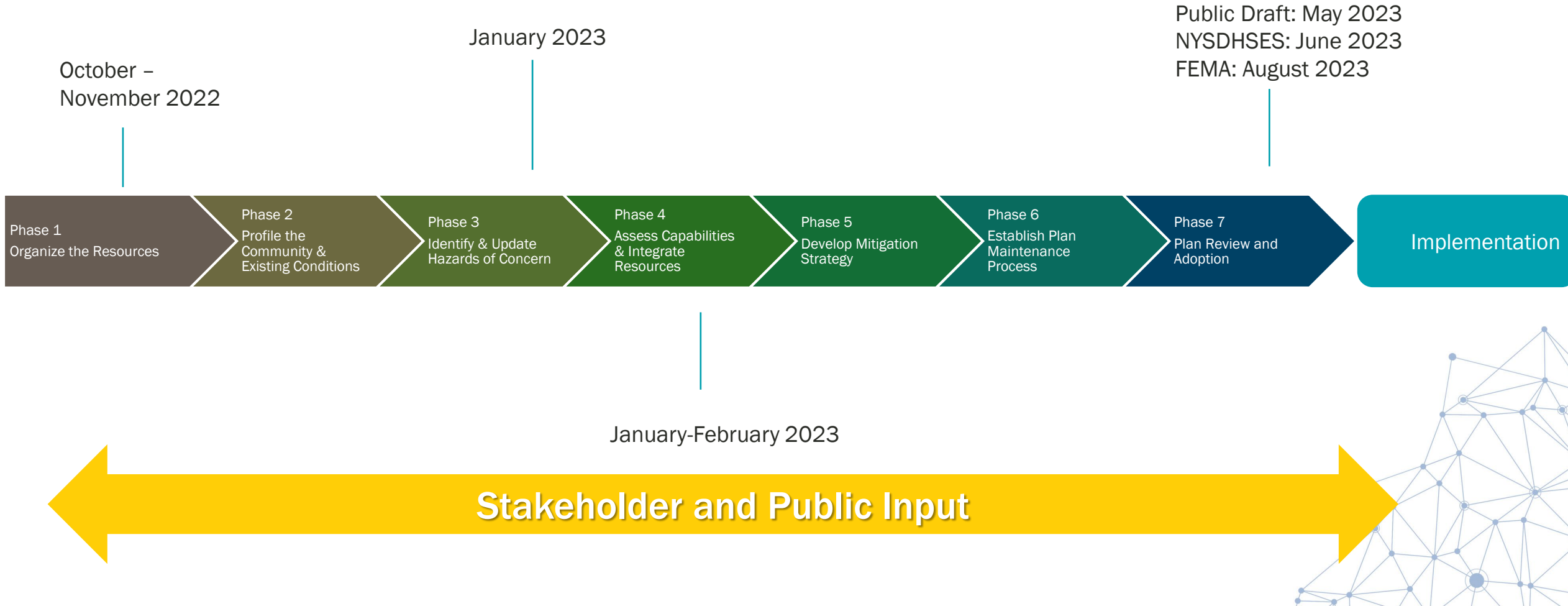


What is our Vision?

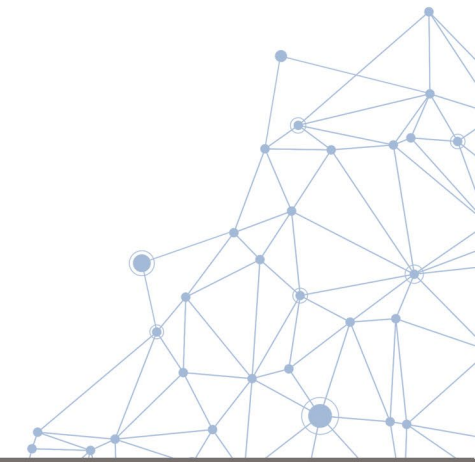
*The **mission** of the Warren County Hazard Mitigation Plan is to create communities whose daily activities reflect a comprehensive **commitment** by government, business, non-profit organizations and the public to eliminate or **reduce risks** and adverse impacts from natural, technological and human-caused hazards.*



Planning Process Overview



Project Organization





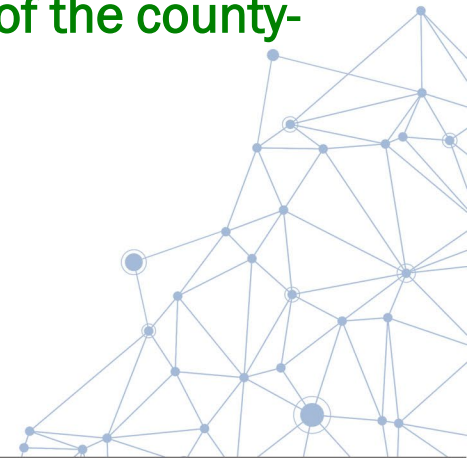
Who is Leading the Planning Process?

Steering Committee Members

Warren County Soil and Water Conservation District	Adirondack / Glens Falls Transportation Council
Warren County Office of Emergency Services	City of Glens Falls
Warren County Department of Planning and Community Development	Village of Lake George
Warren County Public Works	SUNY Adirondack
Town of Queensbury Planning Department	Glens Falls Hospital
	Finch Pryne
	Board of Supervisors

Role

- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents





How are we Engaging the Public?

- HMP website underdevelopment – <https://www.warrencountynewyorkhmp.com>
- Social Media Blasts – content and graphics will be sent out
- Surveys – public, stakeholder, and neighbors
- Local announcements of HMP update – local papers, municipal newsletters, etc.
- Local public meetings
- Draft plan review
- Document each and every time this is done!

Why conduct outreach?

- ✓ Informs and educates about hazards and risks
- ✓ Invites interested parties to contribute their views and ideas for mitigation
- ✓ Identifies conflicts and incorporates different perspectives and priorities early in the process
- ✓ Provides data and information that improves overall quality and accuracy of the plan
- ✓ Ensures transparency and builds trust
- ✓ Maximizes opportunities for implementation through greater consensus and acceptance

How to Document your Public and Stakeholder Outreach and In-Kind Hours?



- Track hours spent working on the HMP (outside of meetings with Tetra Tech)
- Track type of outreach you provide to inform residents and stakeholders about the Hazard Mitigation Plan.
- A survey will be emailed to you your input.

Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Press Release	Countywide						Press release issued to several local newspapers

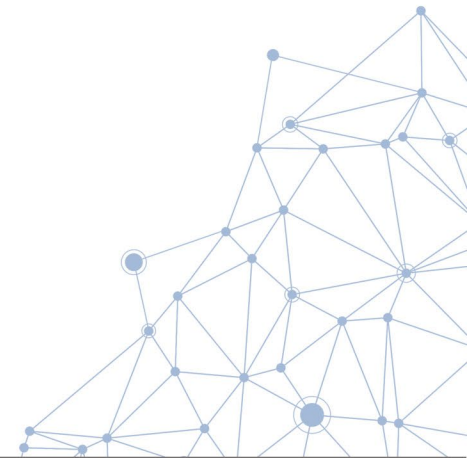


What are the Benefits for Municipal Participation?

- All municipalities are encouraged to actively participate (and continue to be covered by the countywide HMP).

Participating = you remain eligible for pre- and post-disaster mitigation funding!

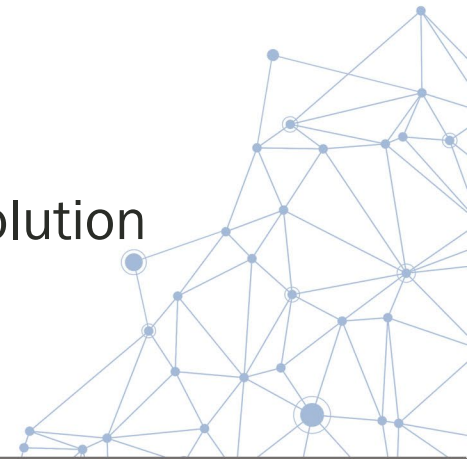
- FEMA has greatly expanded their scrutiny of ‘participation’ since your last plan update...





How Do You Participate?

- Submit Letter of Intent to Participate (LOIP)
 - LOIPs are required from each municipality
 - It outlines expectations and responsibilities for participating jurisdictions and identifies points of contact
- Assist with the development of your jurisdictional annex
- Attend planning partnership meetings/workshops – like this one!
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – governing body must pass an Adoption Resolution
- Implement and Maintain the Plan



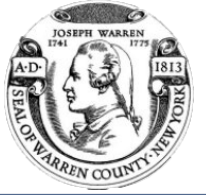


Who Should be on Your Team?

If you not fully decided who should be on your municipal mitigation team, the following could provide you a better idea on who to invite:

- NFIP Floodplain Administrator
- Building Code Official
- Engineer
- Land Use Planner
- Clerk
- Mayor/Administrator/Supervisor
- Municipal CFO/Fiscal Representative
- Public Works Superintendent/Director
- Police/Fire Official





List of Worksheets

- Worksheet A - Hazard Event History
- Worksheet B – Capability Assessment
- Worksheet C – National Flood Insurance Program (NFIP) Questionnaire
- Worksheet D – 2017 Mitigation Project Status (Action Plan) Review
- Worksheet E – Development, Building Permits (last 5 years)

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code			State and Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Zoning/Land Use Code			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
<i>Consider the following:</i>				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
<i>Consider the following:</i>				
<ul style="list-style-type: none"> • Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? • Do the regulations provide for conservation subdivisions or cluster subdivisions <u>in order to</u> conserve environmental resources? • Do the regulations allow density transfers where hazard areas exist? 				
Site Plan Ordinance			Local and County	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Stormwater Management Ordinance			Local	
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				





Update Annexes with Your Mitigation Team

- Attend the Worksheet Workshop to review each worksheet:
 - November 16 at 10 am
- Complete worksheets
 - Each worksheet has a suggested department lead
 - Critical asset review by December 9th
 - All worksheets due November 23rd



Who Should Conduct Your Capability Assessment?



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet B – Capability Assessment

- Planning and Regulatory Capability
- Building Code
- Administrative and Technical Capability
- Fiscal Capability
- Education and Outreach
- Community Classifications
- Adaptive Capacity

This will be reflected in your municipal annex



Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by November 23, 2022
Email: cynthia.bianco@tetratech.com

Municipality: _____
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Administrator, Chief Fiscal Officer

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to your community, what is present in the jurisdiction, and code citation and date. For existing regulatory tools, note how it reduces risk to hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Table B.1-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code			State and Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Zoning/Land Use Code			Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Consider the following:				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance			Local	
How has or will this be integrated with the HMP and how does this reduce risk?				
Consider the following:				
<ul style="list-style-type: none"> • Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? • Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? • Do the regulations allow density transfers where hazard areas exist? 				
Site Plan Ordinance			Local and County	
How has or will this be integrated with the HMP and how does this reduce risk?				

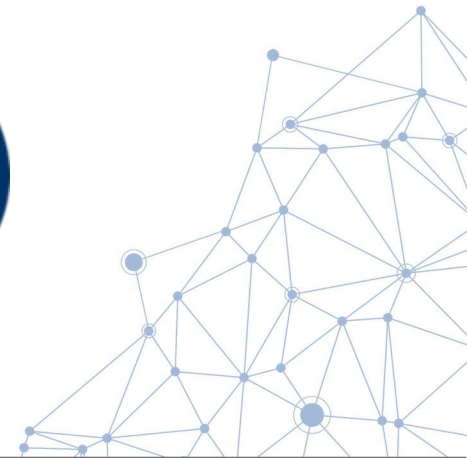


How to Update Municipal Community Lifelines?



- Review 2017 critical facility inventory to ensure complete using the Survey provided by email.
- Identify your lifelines

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security

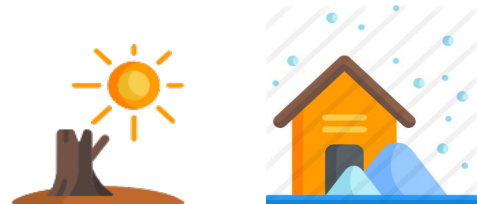




2017 Hazards of Concern

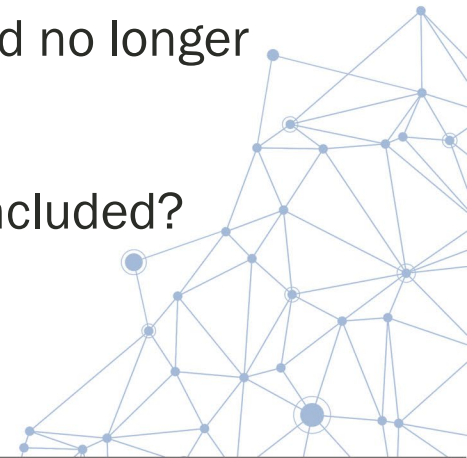
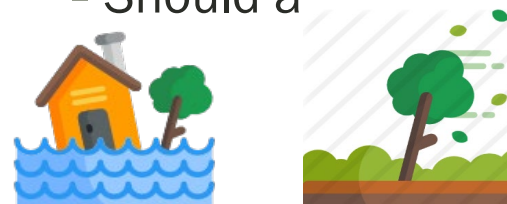
Natural Hazard of Concern:

- Disease Outbreak
- Earthquake
- Flood (riverine, ice jam, flash)
- Infestation
- Landslide
- Severe Storm (windstorm, thunderstorms, hail, tornados)
- Severe Winter Storm (heavy snow, blizzards, ice storms)
- Wildfire



Non-Natural Hazards of Concern:

- Cyber Security
- Haz-Mat
- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped?
 - Should additional hazards be included?



Update Risk Assessment


- Update Assets
- Examine Previous Impacts
- Analyze Risks
- Review with Steering Committee
- Risk Assessment Meeting - open to the public





Review Your Previous Mitigation Strategy

- Determine status of 2017 Mitigation Actions
- The updated mitigation strategy will build on this as well as additional identified issues
- What progress has been made on the 2017 HMP actions?
 - Completed?
 - If yes, describe funding source, funding amount, and details on the project and how it was completed.
 - No progress?
 - Describe why.
 - Is this project still a priority? If yes, we will include in the 2023 Update.
 - If no, we will remove.


WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
 Worksheet D - Mitigation Action Review
 MUNICIPALITY

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is <u>complete</u>)			1. Next Steps Project to be Included in 2023 HMP or Discontinue		
						Cost	Level of Protection	Damages Avoided; Evidence of Success	1.	2.	3.
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		
					Choose an item.				1.	Choose an item.	
					Choose an item.				2.		
					Choose an item.				3.		

This will be included in your municipal annex





New Mitigation Actions for the 2023 Update

- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- Tips for the 2023 update:
 - Quality NOT quantity
 - Specific not general
 - What can realistically be accomplished in 5 years?
 - Action for every hazard of concern

 **Plans and regulations** include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.

 **Structure and infrastructure projects** involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.

 **Natural systems protection projects** minimize losses while also preserving or restoring the function of natural systems.

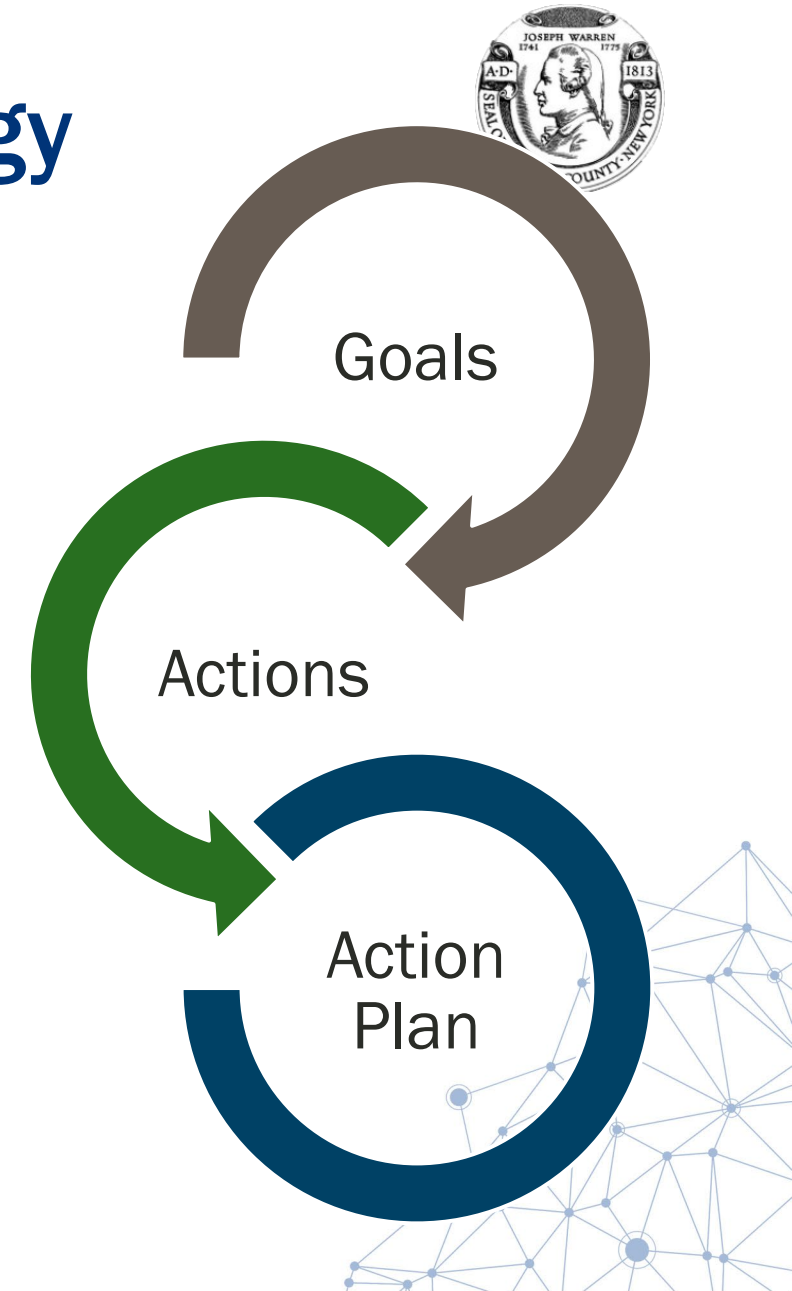
 **Education and awareness programs** include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category also include tr



“At the first sign of a flood, you just push this little button.”

Connection to the Mitigation Strategy

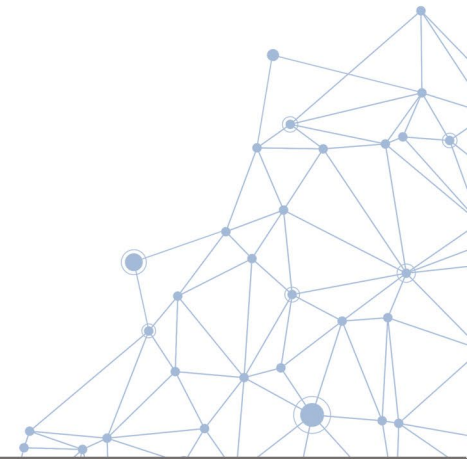
- Need a clear connection between vulnerability and proposed mitigation actions.
- Use the capability assessment to provide insight into challenges/opportunities for the mitigation strategy as well.
- Provide a factual basis for activities proposed in the mitigation strategy.





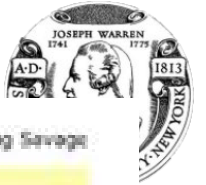
What We Need From You

- Attend the upcoming worksheet workshop
 - Worksheet Workshop – November 16 at 10 am
- Review and submit your critical facilities by December 9th
- Complete and return your worksheets
- Start thinking about what new mitigation actions you would like to add to your mitigation strategy.



Schedule

- Planning Process
 - Planning Partnership Kick-Off – TODAY!
 - Confirm critical facility/lifeline inventory by December 9th
 - Worksheets due November 23rd
 - Worksheet Workshop – November 16 at 10 am
 - Update Risk Assessment
 - Begin vulnerability assessment
 - Risk Assessment Meeting – February 2023
- Public Involvement Strategy – ongoing throughout the planning process



Savage Chickens


by Doug Savage



www.savagechickens.com



Next Steps

- Determine Hazards of Concern to include in the HMP
- Review Hazard Profiles
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for DHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC, District Manager
jiml@warrenswcd.org

Ann Marie Mason, Emergency Services Director
masona@warrencountyny.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Homework Workshop – AGENDA
MEETING DATE/TIME: November 16, 2022 – 10:00 am



In-Person/Hybrid Meeting:

Human Services Building
3rd floor conference room
1340 State Route 9, Warren, Lake George, NY

Virtual: Microsoft Teams Meeting:
Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: 211 930 051 572

Passcode: 89z58L

Agenda Items

1. Welcome and Introductions
2. Benefits of Hazard Mitigation
3. Hazard Mitigation Planning Overview
4. Project Organization
5. Public and Stakeholder Outreach
6. In-Kind Services Tracking
7. Planning Partnership Responsibilities
8. Community Lifelines/Critical Facilities
9. Update Hazards of Concern and Risk Assessment
10. Goals and Objectives
11. Schedule
12. Questions/Next Steps/Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Hybrid In-person and Teleconference Teams Meeting
Date of Meeting:	November 16, 2022, 10:00 am – 11:00 am

Attendees:

- | | |
|--------------------------|---|
| Laura Stebbins | Director of Emergency Preparedness, Glens Falls Hospital |
| Jim Lieberum | Warren County SWCD, District Manager, HM Coordinator |
| Ann Marie Mason | Warren County, Director Emergency Services |
| Ethan Gaddy | Warren County Planner/Climate Smart |
| Josh Westfall | Town of Bolton, Planner |
| Jennifer Ramsey | Warren County Office of Emergency Services |
| Jessica Leerkes | Town of Chester |
| Bill Norton | City of Glens Falls, Superintendent Water and Sewer |
| Michael N. Geraci | Town of Horicon, Supervisor |
| Danae Tucker | Town of Johnsbury, Bookkeeper |
| John Strough | Town of Queensbury |
| John O'Brien | Town of Queensbury, Director of Building and Code Enforcement |
| Dave Duell | Town of Queensbury, Highway Superintendent |
| Deb Runyon | Town of Thurman, Supervisor |
| Dan Barusch | Town/Village Lake George, Planner |
| Keith Lanfear | Town/Village Lake George, Superintendent Public Works |
| Eugene J. Merlino | Town of Lake Luzerne, Town Supervisor |
| Karen Putney | Town of Lake Luzerne, Zoning Enforcement Officer |
| Frank E. Thomas | Town of Stoney Creek, Supervisor |
| Elizabeth O'Reilly | NYSDHSES, Planning Manager |
| Paul Hoole | FEMA, Mitigation Planning |
| Cynthia Addonizio-Bianco | Tetra Tech, Inc. (Tt) |



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary: The purpose of the meeting was to provide an overview of information needed to update the local information for the Warren County Hazard Mitigation Plan (HMP) update.

Item No.	Description	Action item(s):
1	<p>Overview/Agenda: Tetra Tech welcomed the attendees and provided an overview of the agenda which included the following topics: Benefits of hazard mitigation, Planning Partnership responsibilities, Worksheet review and data input, community lifelines and critical facilities, and next steps. Refer to the attached copy of the presentation for details.</p>	
2	<p>Discussion items:</p> <ul style="list-style-type: none"> ▪ Worksheet information will be included in the community section or annex of the mitigation plan. ▪ Worksheet A: Hazard Event History - it is important to document local natural hazard events that have resulted in damages <i>not limited to named or declared events</i>. For example, if a community has experience localized flooding, note the date, location, and any damages or road closures. This information will help inform the development of projects to reduce future risk and damages. ▪ Worksheet B: Capability Assessment – Basic information such as whether or not the planning mechanism, code, or ordinance is in place. Additional information includes the adoption date of the item and a description of how it reduces risk or integrates hazard mitigation into the community activities. ▪ Worksheet C: NFIP Questionnaire – This should be completed by the community National Flood Insurance Program Administrator. ▪ Worksheet D: Action Review - This has been populated with the mitigation actions from the current plan. Information on the progress of the project is required (is it complete, in progress, no longer relevant?). Also indicate whether the project should be included in the plan update. ▪ Worksheet E: Building Permits - A listing of permits for new development since 2017 is required. This will provide an understanding of where development is occurring and if it is occurring in hazard areas. A description of the county permitting activities on behalf of local government will be included in the plan. A potential mitigation action may be to ensure that permits in floodplains are tracked going forward. ▪ Mr. Gaddy noted that it may be worthwhile to understand if the NYDEC Unit Management Process addresses elements of mitigation in state owned property management. 	<ul style="list-style-type: none"> • Tt to check HMP integration with NYDEC for Unit Management Process
3	<p>Submittal date: All municipalities were requested to submit the completed worksheets to Cynthia.bianco@tetrattech.com on or before November 23rd.</p>	Municipalities to submit worksheets to Tt on or before 11/23/22.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



4	<p>Questions/Support: Questions should be directed to Cynthia Bianco of Tetra Tech at Cynthia.bianco@tetrattech.com or Jim Lieberum of Warren County Soil & Water Conservation district at jiml@warrenswcd.org .</p>	<ul style="list-style-type: none">• Tt to post recording on OneDrive and share the link.• Tt to send Presentation to invitees
7	<p>Conclusion - The meeting concluded at 10:55 am.</p>	

DRAFT



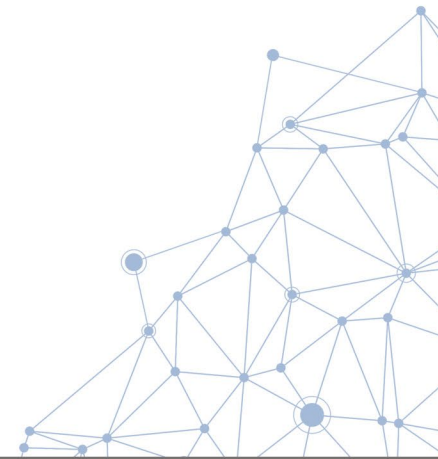
Warren County, New York Hazard Mitigation Plan – 2023 Update

Homework Workshop | November 16, 2022 10:00am



Agenda

- 1 Welcome
- 2 Benefits of Hazard Mitigation
- 3 Hazard Mitigation Planning Overview
- 4 Planning Partnership Responsibilities
- 5 Worksheet Review/Data Input
- 6 Community Lifelines/Critical Facilities
- 7 Questions/Next Steps/Wrap Up





This is the Benefit of Participating in the Plan

By participating AND adopting the hazard mitigation plan:

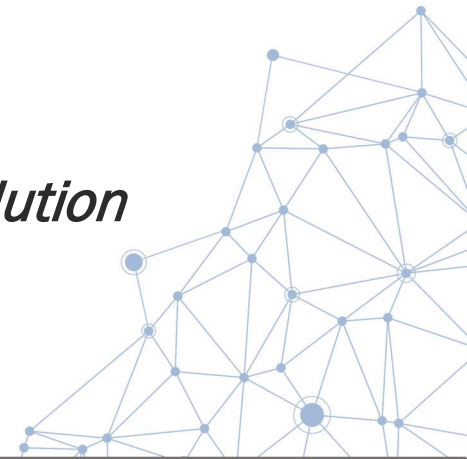
- 1.** Your community remains eligible for pre-disaster mitigation funding!
- 2.** Your plan will help reduce future damages in your community





How Do You Participate?

- Submit Letter of Intent to Participate
 - If you haven't returned it yet, please do so ASAP!
- ***Provide information about your town or village.***
(This will be included in your chapter of the plan.)
- Attend planning partnership meetings/workshops
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – ***governing body must pass an Adoption Resolution***
- Implement and maintain the Plan

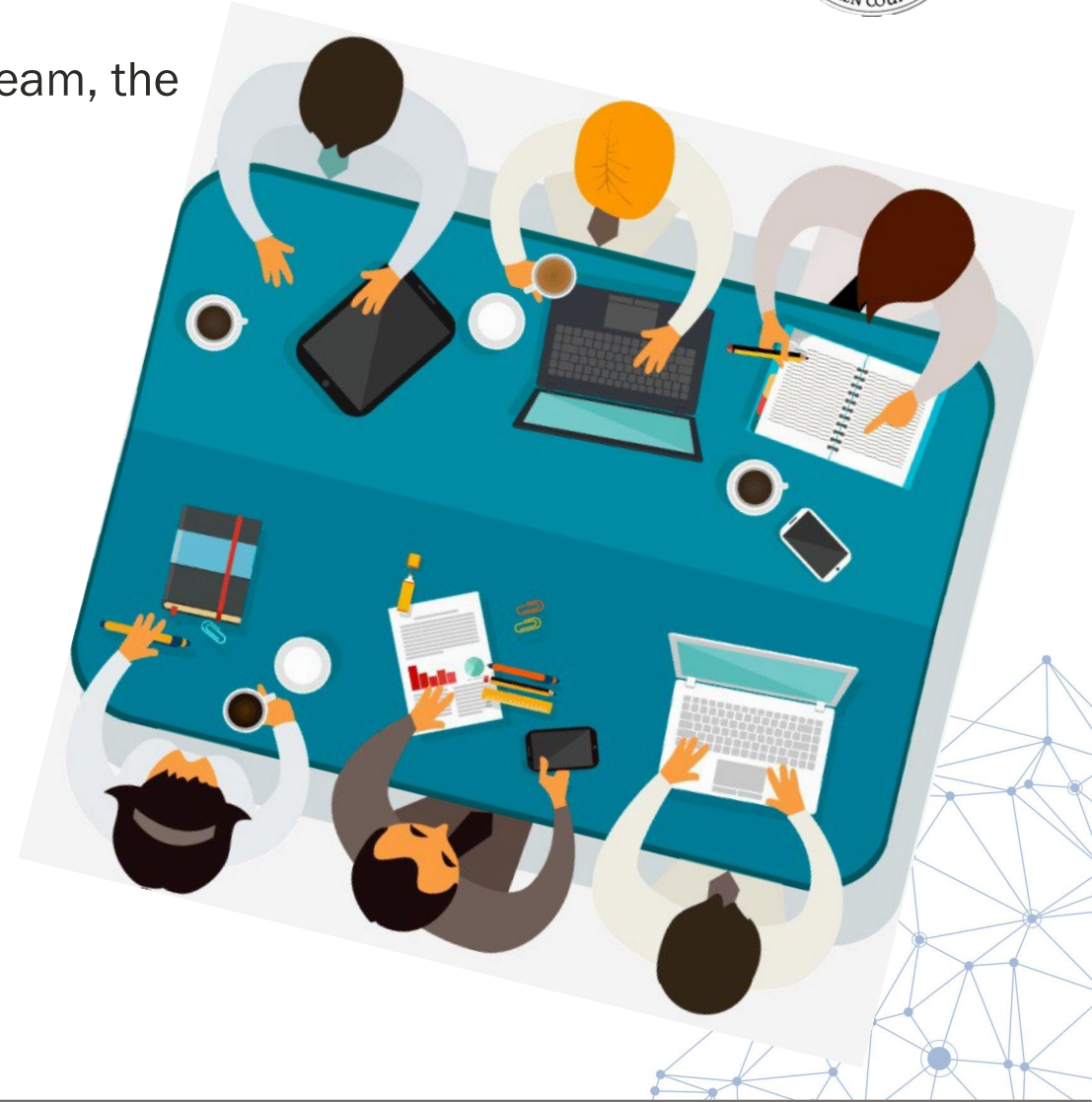




Assemble Your Mitigation Team!

If you have not fully decided who should be on your municipal team, the following can provide you a better idea on who to invite:

- NFIP Floodplain Administrator
- Building Code Official
- Engineer
- Land Use Planner
- Clerk
- Mayor/Administrator
- Municipal CFO/Fiscal Representative
- Public Works Superintendent/Director
- Police/Fire Official





What We Your Input!

- Tetra Tech has provided you with worksheets
- Information from the last plan has been pre-populated in your worksheets, as available.
- Your Mitigation Team is responsible for
 - providing updated information
 - reviewing the information from the 2017 plan.
- *This information will be included in your town or village annex*

SECTION 9.2. TOWN OF BOLTON

SECTION 9.2.1 Hazard Mitigation Planning Team

Table 9.1-1. Hazard Mitigation Planning Team

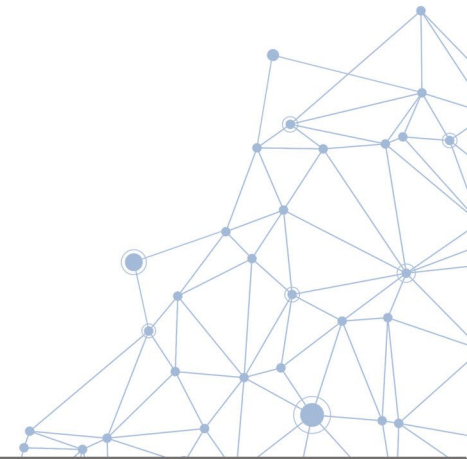
Primary Point of Contact	Alternate Point of Contact
Name/Title: Joshua Westfall, AICP Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Westfall.J@Town.Bolton.NY.US	Name/Title: Richard Miller, PE Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Miller.R@Town.Bolton.NY.US
NFIP Floodplain Administrator	
Name/Title: Richard Miller, PE Address: 4949 Lake Shore Drive, Bolton Landing, NY 12814 Phone Number: 518-644-2893 Email: Miller.R@Town.Bolton.NY.US	
Additional Contributors	
Name/Title: Method of Participation: Name/Title:	

TETRA TECH 2023 | HAZARD MITIGATION PLAN – WARREN COUNTY, NEW YORK 1

Hazard Event History Specific to Your Town or Village



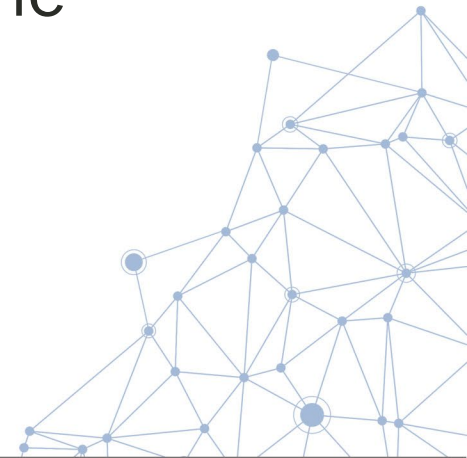
- Describe impactful hazard events that have occurred since 2017
 - When did the event occur?
 - What type of event was it?
 - What are the details of how the event unfolded?
 - How was the community impacted?
 - Damages
 - Closures
 - Injuries/deaths





HAZARD EVENT HISTORY

- ✓ Fill out contact information.
- ✓ Provide a summary of damages/impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.
- ✓ Identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc



WORKSHEET A – HAZARD EVENT HISTORY



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet A – Hazard Event History

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by November 23rd, 2022.
Email: cynthia.bianco@tetratech.com

Municipality: Town of Bolton

Name and Title of Individual Completing Worksheet: _____

Warren County has frequently experienced natural hazard events. Please complete the table below to summarize specific loss and damages experienced during hazard events since the last hazard mitigation plan update (January 1, 2017). Information already populated in the table below is based on County-wide events that resulted in significant damages and losses.

Please update the table to provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
April 27-28, 2011	Severe Storms, Flooding, Tornadoes and Straight-Line Winds (DR-1993)	Yes	Flooding occurred along the Hudson River in Warren County from North River southward to the Saratoga County line. Numerous reports of flooding. The County had approximately \$676,000 in damages. Nearly two-thirds of the County was damaged. In the Town of Bolton, River Rd. and Highway Roads were closed from flooding. The Town brought in six loads of #4 fill to fix both roads. In addition, there was one washout on Highway Rd., which the Town used two loads of #4 fill to fix.	
May 27 – June 2, 2011	Flooding "Memorial Day Storm"	N/A	Flooding occurred in the County and there was severe damage along a thin line through the County (Stony Creek, Thurman, Warrensburg, Highway and Bolton) that resulted in \$13.125 million in damages. Extensive flood damage to transportation infrastructure occurred throughout the Town of Bolton, including Combs Road Bridge which was washed out. A 30' deep x 50' wide segment of Hendricks Road washed out. Snye Farm Road was completely washed out, along with sections of Trout Falls and Highway Roads. A 4' x 60' culvert on Ricer Rd. was also washed out.	
August 27-29, 2011	Hurricane Irene (DR-4020)	Yes	There was severe wind and flooding damage throughout the County. Very little damage occurred in the Town of Bolton. A few trees came down. The Town Highway Crew worked 15 overtime hours. Highway and Parks Departments kept all the culverts cleaned out.	

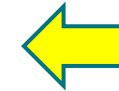


Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet A – Hazard Event History

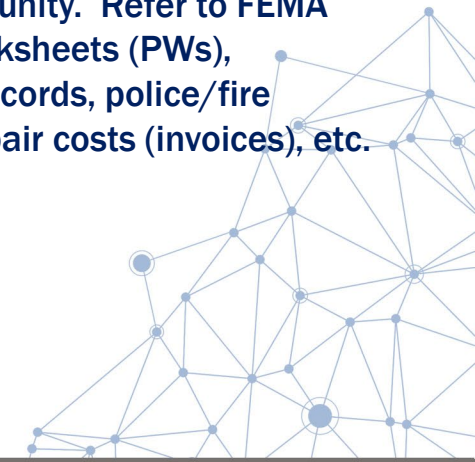
May 29, 2012	Hail and Wind	N/A	Debris removal occurred in the County as a result of this event. A generator at a fire station, a patrol car, and the canopy of a patrol boat were all damaged. Very little damage occurred in the Town of Bolton. Clean up was needed for a few downed trees. Highway crews swept debris from roadways.	
October 29, 2012	Hurricane Sandy (EM-8351)	Yes	Heavy rain fell throughout the County. In the Town of Bolton, trees came down in Cotton Point. Highway crews swept debris from roadways.	
October 31 – November 1, 2019	Severe Storms, Straight-line winds, Flooding (DR-4472) "Halloween Storm"	Yes	A strengthening <u>low-pressure</u> system moving from Ohio to Lake Ontario drew anomalous warmth and moisture northward on Halloween, with temperatures surging into the 60s and 70s over eastern New York and western New England. Showers across the southern Adirondacks and Mohawk Valley became steadier and heavier during the evening ahead of a strong cold front as the low continued to strengthen. Strong winds aloft mixed down to the surface as an intense line of showers developed along the front resulting in sporadic wind damage and scattered power outages over eastern New York.	A large swath of rainfall totaling 2-5 inches, with isolated areas as high as 7 inches, occurred over the Mohawk Valley and southern Adirondacks, resulting in reports of flash flooding. The runoff caused rapid rises on area creeks and streams, with river gauges reaching record levels along the Mohawk River at Little Falls, the West Canada Creek at Hrnckley and Kast Bridge, and the Sacandaga River at Hope.
January 20, 2020	Covid-19 (EM-3434)	Yes	As of November 2022, Warren County has experienced over 20,000 positive cases of Covid-19	

Please identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc.

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses



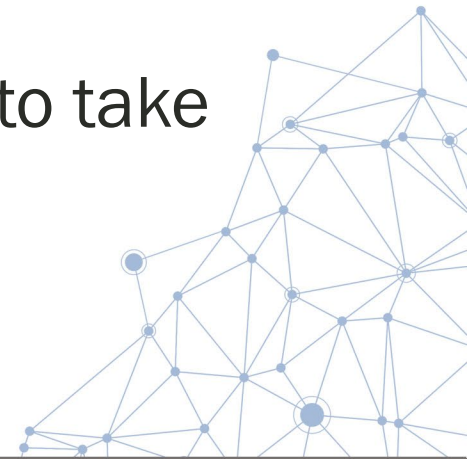
- ✓ Fill out contact information.
- ✓ Provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.
- ✓ Identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc.





Recent and Expected Future Development

- List the number of building permits for **NEW construction** issued since 2017
 - Do not include redevelopments or improvements
- List and describe recent **MAJOR DEVELOPMENT** (housing developments, hotels, commercial or industrial development, etc.) that has taken place since 2017
- List and describe **ANTICIPATED MAJOR DEVELOPMENT** likely to take place in the next 5 years.



WORKSHEET E – RECENT DEVELOPMENT (BUILDING PERMITS)



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet E – Building Permits

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version by November 23rd, 2022 to:
Cynthia Bianco, Tetra Tech | cynthia.bianco@tetrattech.com



Municipality: Town of Bolton

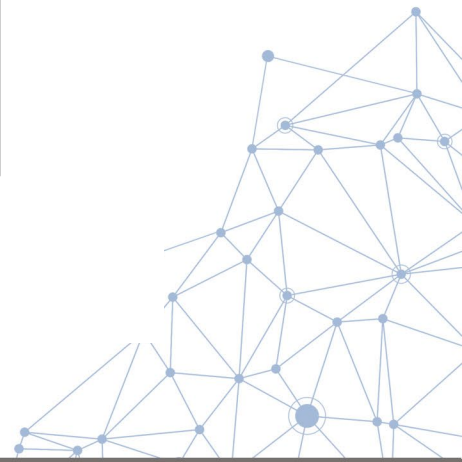
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: The Building Department, Planning Department, and NFIP Floodplain Administrator



Type of Development	2017		2018		2019		2020		2021		2022	
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)												
Single Family												
Multi-Family												
Other (commercial, mixed-use, etc.)												
Total New Construction Permits Issued												

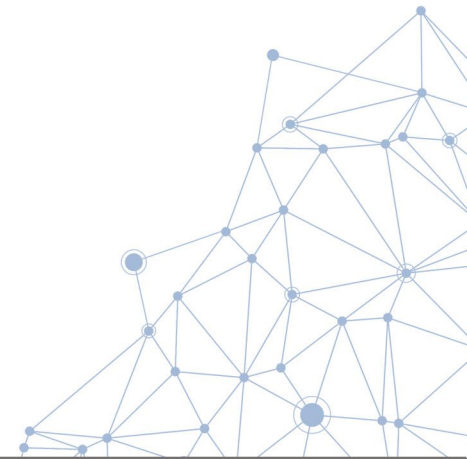
SFHA *Special Flood Hazard Area (1% annual chance flood event)*
* Only location-specific hazard zones or vulnerabilities identified.





National Flood Insurance Program

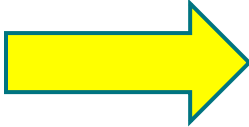
- This section should worksheet to be filled Floodplain Administrator for your community.
- Answer the questions regarding NFIP participation and implementation of floodplain administration.
- Provide details where necessary



WORKSHEET C – FLOODPLAIN ADMINISTRATION QUESTIONNAIRE



Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to
 Cynthia Bianco by November 23rd, 2022
 Email: cynthia.bianco@tetrattech.com



Municipality: Town of Bolton

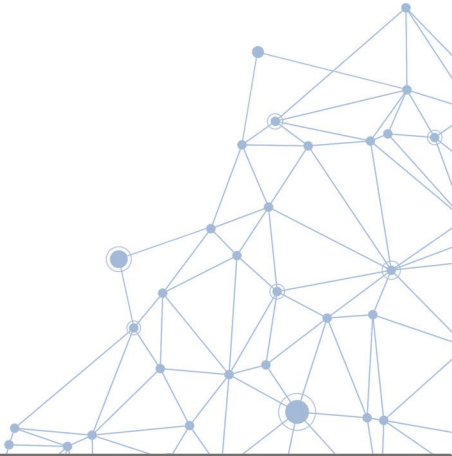
NFIP Floodplain Administrator Name/Title: _____



Who can assist with completing this table: NFIP Floodplain Administrator – as identified by role/title in your Flood Damage Prevention Ordinance.



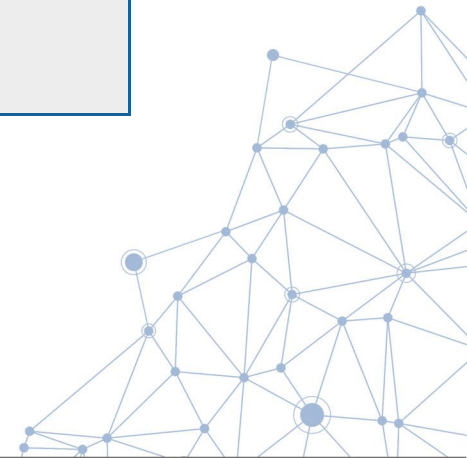
NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? 	No
Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. 	-
How do you make Substantial Damage determinations? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? 	No
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> If there are mitigation properties, how were the projects funded? 	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	



WORKSHEET C – FLOODPLAIN ADMINISTRATION QUESTIONNAIRE



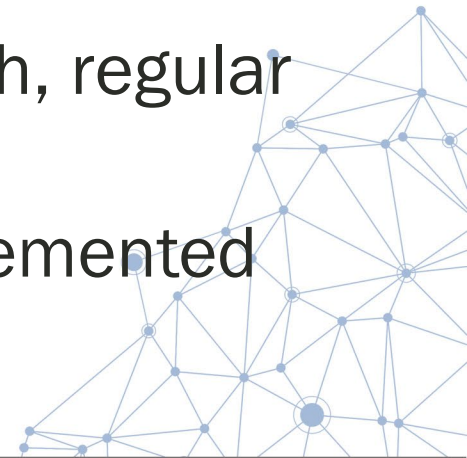
<p>• If not, state why.</p> <p>NFIP Compliance</p>	
What local department is responsible for floodplain management?	
Are any certified floodplain managers on staff in your jurisdiction?	Yes – Floodplain Administrator
Do you have access to resources to determine possible future flooding conditions from climate change?	Unknown
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	





Status of Previous HMP Mitigation Actions

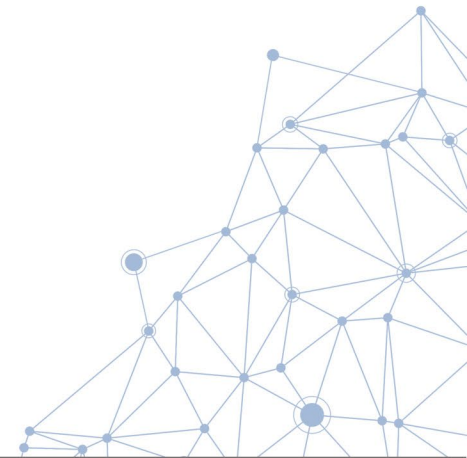
- Report on the status of previous mitigation actions from the 2017 plan.
 - **In Progress:** The action has been started but has not been completed to date.
 - **No Progress:** The action has not been started
 - **Ongoing Capability:** The action has been started and is now part of the municipality's regular or annual operations
 - Examples: Regular stormwater cleaning, annual outreach, regular trainings for staff
 - **Complete:** The action has been 100% completed and implemented





Status of Previous HMP Mitigation Actions

- Indicate if this action should be included in the 2023
 - In progress actions should be carried over
 - If identified as an ongoing capability, we will include it in the integration section of the annex but not as a 2023 action
 - Completed actions will not be carried over as actions in the 2023 HMP update



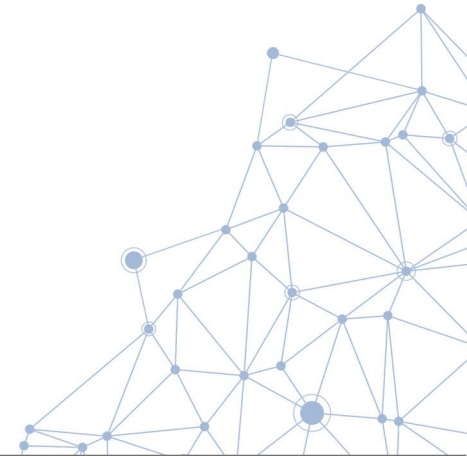
WORKSHEET D – 2017 MITIGATION ACTION OR PROJECT REVIEW



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet D - Mitigation Action Review Town of Bolton



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2023 HMP or Discontinue 2. If including action in the 2023 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
1	Develop a Hamlet-wide Stormwater Drainage System plan for the Hamlet of Bolton	Flood		Planning, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
2	Adopt and implement the Local Waterfront Revitalization Plan (draft released in July , 2014).	All Hazards		Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
3	Edgecomb Pond Dam Auxiliary Spillover Development Project: Install an auxiliary spillway for the dam which provides water to hamlet (built-up) area. Drainage easements have been acquired in area where new spillway would be built.	Flood		Bolton Water District, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.
4	Edgecomb Pond Dam Upgrades: Make structural upgrades and improvements of the existing Edgecomb Pond Dam as called for by the upcoming structural evaluation. The Dam (owned by Bolton Water District) is in need of some improvements. The Town is in the process of contracting for a	Flood		Bolton Water District, Town Board	Choose an item.	Cost	Level of Protection	Choose an item.





Status of Previous Mitigation Actions

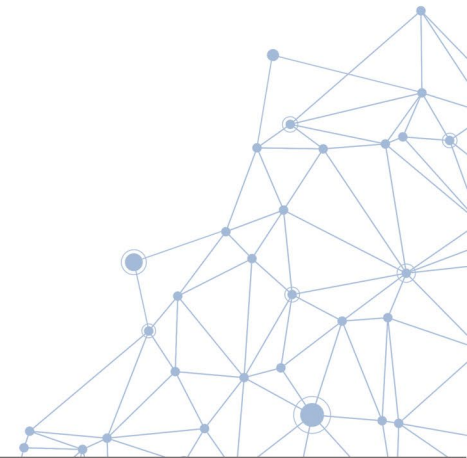
- List any mitigation actions or measures taken since the 2017 plan that were not part of the 2017 mitigation strategy
 - Did you install generators at critical facilities?
 - Upsize culverts or drainage pipes to reduce flooding?



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet D - Mitigation Action Review
Town of Bolton



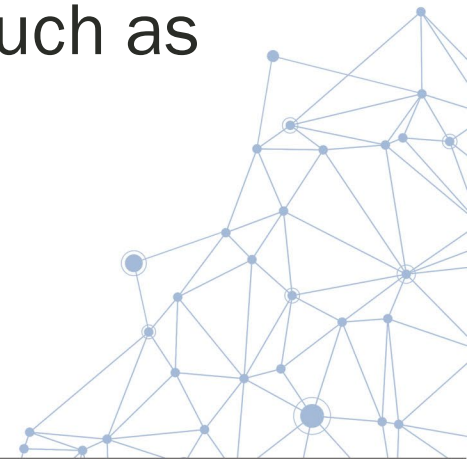
Have you completed, or are there any in-progress or proposed mitigation or resilience projects that are not included in the table above since 2017? If yes, please provide the project details, what the project is mitigating and who is implementing below.





Identified Issues

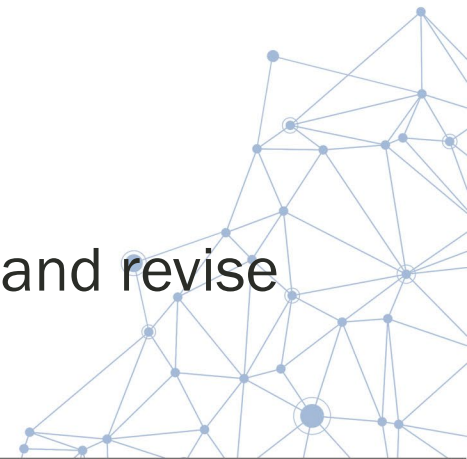
- Where are the problem areas in your community related to damages due to natural hazards?
 - What problems need solving?
 - What solutions need implementation?
 - What projects need funding?
- Tell us about floodprone locations outside of the floodplain such as stormwater/urban flooding areas
- Tell us about areas that experience damages.





Planning, Legal, and Regulatory Capability

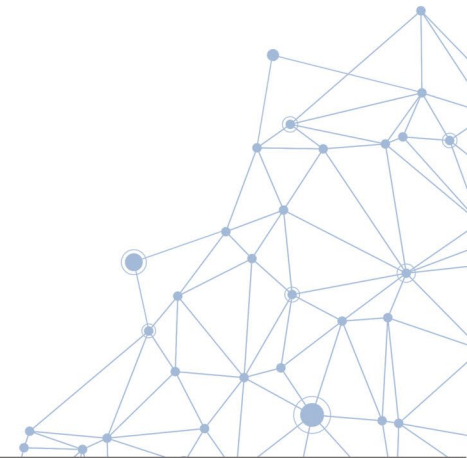
- This table reviews our codes, ordinances, & requirements; planning documents; and response/recovery planning
- Indicate if you have the plan/ordinance/requirement
- Indicate if it already integrates hazard mitigation
 - Tetra Tech has reviewed a majority of your plans, codes and ordinances and updated this section. Please review and revise accordingly.
- Describe the plan/ordinance/requirement
 - Who is in charge of implementation?
 - When was it adopted/updated?
 - How does it integrate hazard mitigation/emergency response?
 - Again, Tetra Tech addressed this during our review. Please review and revise accordingly.





Hazard Mitigation Planning Team

- Update contact information if necessary
 - Primary Point of Contact
 - Alternate Point of Contact
 - NFIP Floodplain Administrator
- **Remember**, this is a public document so your contact information will also be public.

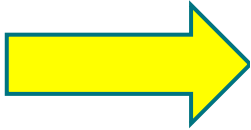


WORKSHEET B – CAPABILITY ASSESSMENT



Hazard Mitigation Plan 2023 Update
WARREN COUNTY, NY
Worksheet B – Capability Assessment

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version to Cynthia Bianco (Tetra Tech) by **November 23, 2022**.
Email: cynthia.bianco@tetratech.com



Municipality: Town of Bolton
Name and Title of Individual Completing Worksheet: _____

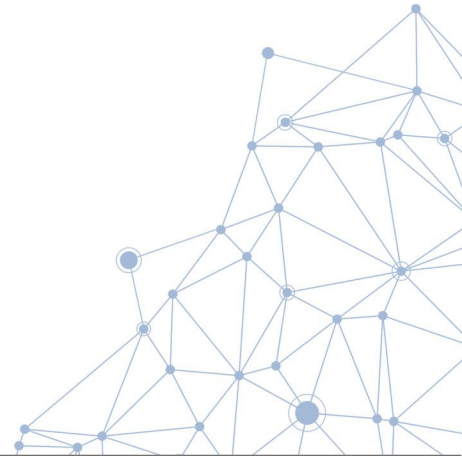
Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Administrator, Chief Fiscal Officer

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to your community, what is present in the jurisdiction, and code citation and date. For existing regulatory tools, note how it reduces risk to hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Table 9.1-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code	Yes	NYS Property Maintenance Code	State and Local	Town Building Inspector
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Town of Bolton adopted the New York State Property Maintenance Code in December 2021.				
Zoning/Land Use Code	Yes	Chapter 200 – Zoning	Local	Zoning and Planning
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Zoning Ordinance is in place to promote the health, safety, and general welfare of the community and to protect the property values and aesthetics of the community by channeling and directing growth and by regulating and restricting the height, number of stories and size of buildings and other structures, the percentage of lot that may be occupied, the size of yard, courts and other open spaces, the density of population and the location and use of buildings, structures and land for trade, industry, residence and other purposes, to the maximum extent permissible within the proper exercise of the police power as delegated by the Town Law.				
Consider the following:				
<ul style="list-style-type: none"> • Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? • Does it contain natural overlay zones that set conditions? • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? 				
Subdivision Ordinance	Yes	Chapter 150 – Subdivision of Land	Local	Zoning and Planning
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				



Brainstorm New Mitigation Actions for the 2023 HMP Update



- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- Tips for the 2023 update:
 - One action for each hazard of concern
 - Quality NOT quantity
 - Specific not general
 - What can realistically be accomplished in 5 years?



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.



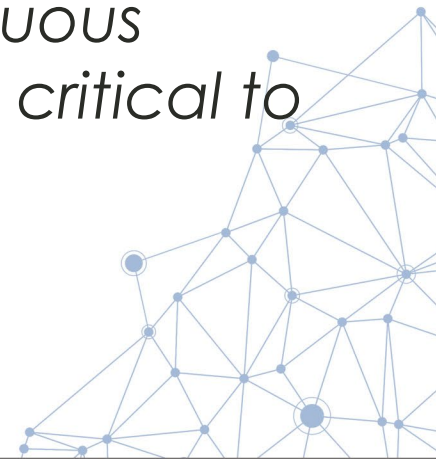
"At the first sign of a flood, you just push this little button."





Critical Facilities and Lifelines

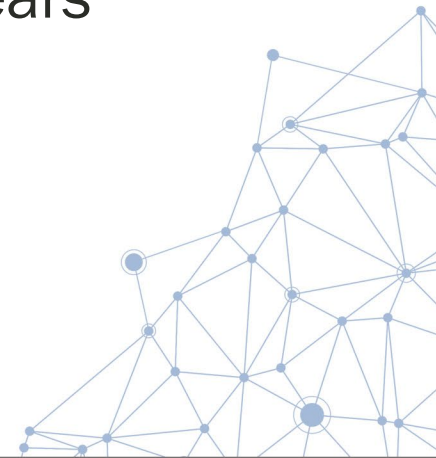
- ✓ **Critical Facilities** are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard
 - ✓ Include essential facilities to ensure a full recovery following the occurrence of a hazard event, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.
- ✓ **Lifelines** provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security





Critical Facilities and Lifelines

- Tetra Tech will send out the Critical Facilities list to your community for your review – we push back the deadline as necessary (originally October 14th)
- Ensure the list is complete
 - Add new critical facilities that have been built/established in the last 5 years
 - Omit critical facilities that have been decommissioned in the last 5 years






We Need YOU Engaged and Involved!

- *Update your Municipal webpage and link to County's HMP webpage at <https://www.warrencountynewyorkhmp.com>*
 - Social Media Blasts – Tetra Tech will provide you with content and graphics
 - Local Announcements of HMP Update – local papers, newsletters, etc.
 - Local public meetings
 - Draft Plan Review
 - Document *each and every time* you share and engage!
- **Why conduct outreach?**
 - Informs and educates about hazards and risks
 - Invites interested parties to contribute their views and ideas for mitigation
 - Identifies conflicts and incorporates different perspectives and priorities early in the process
 - Provides data and information that improves overall quality and accuracy of the plan
 - Ensures transparency and builds trust
 - Maximizes opportunities for implementation through greater consensus and acceptance

Remember to Document Your In-Kind Services!



 **Warren County HMP - In-Kind Tracker**

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetrattech.com | 973.630.8044).

* Name

* Title

* Jurisdiction

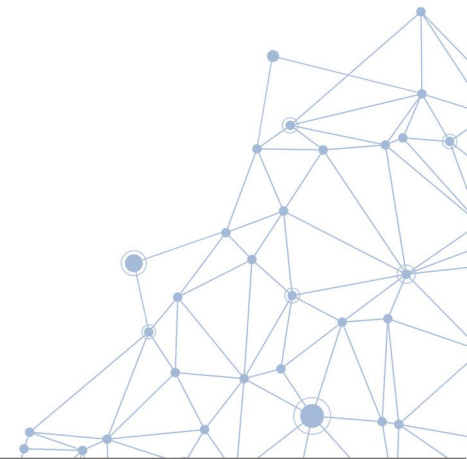
Please document your time spent working on the HMP:

Date	<input type="text"/>
# Hours	<input type="text"/>
Task Description	<input type="text"/>
Comments	<input type="text"/>

Please document your time spent working on the HMP:

Date	<input type="text"/>
# Hours	<input type="text"/>

- Use the on-line survey to document your in-kind hours worked on the hazard mitigation plan:
<https://www.surveymonkey.com/r/WarrenNYHMPInKind>



Schedule

- Planning Process
 - Confirm critical facility/lifeline inventory by December 9th
 - Worksheets due November 23rd
 - Worksheet Workshop – today!
 - Update Risk Assessment
 - Begin vulnerability assessment
 - Risk Assessment Meeting – February 2023
- Public Involvement Strategy – ongoing throughout the planning process
 - Mitigation Strategy
 - Mitigation Strategy Workshop
 - Draft Plan to Steering Committee by May 2023
 - Final draft plan to NYSDHSES and FEMA by August 2023




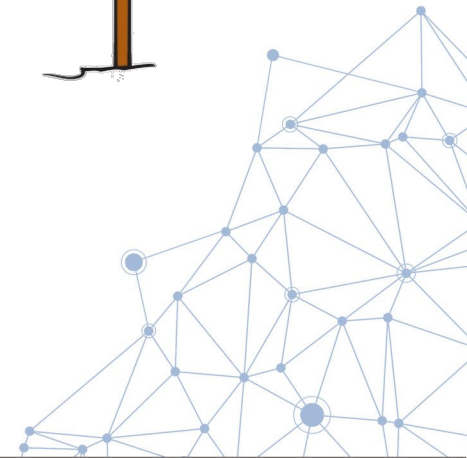
Savage Chickens

by Doug Savage



Next Steps

- COMPLETE THE WORKSHEETS
 - Use Tetra Tech to answer any questions you may have!
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for NYSDHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan  Increase Resilience!



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC, District Manager
jiml@warrenswcd.org

Ann Marie Mason, Emergency Services Director
masona@warrencountyny.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #2 – AGENDA
MEETING DATE/TIME: December 14, 2022 – 10:00 am



Remote – MS Teams Link [Click here to join the meeting](#) (preferred for screen sharing)

Remote – Dial-in by phone (audio only) - [+1 518-300-1367](tel:+15183001367),,[503640440#](tel:+15183001367) United States, Albany; Phone Conference ID: 503 640 440#

- Welcome
- Committee Responsibilities
- Progress Report
- Public and Stakeholder Outreach
- Data Collection - Plans and Reports
- Critical Facilities and Lifelines Review
- Confirmation of Hazards of Concern
- Goals and Objectives Updates
- SWOO (Strengths, Weaknesses, Obstacles, Opportunities)
- In-Kind Services Tracking
- Schedule
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Teleconference Teams Meeting
Date of Meeting:	December 14, 2022, 10:00 am

Attendees:

Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Sandy LeBarron	Finch Pruyn, Director of Environmental Health, and Safety
Tammie DeLorenzo	Warren County Administrators Office
James Schrammel	City of Glens Falls, Fire Chief
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Don Lehman	Warren County Public Information Officer
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to confirm Hazards of Concern, Update Mission Statement, Goals and Objectives, and facilitate a SWOO.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. The process is on track for plan submittal to FEMA in August 2023. Tetra Tech will begin the vulnerability analysis once the final municipal critical facility input is received from the local jurisdictions. Steering committee responsibilities include guiding the planning process and confirming the hazards of concern to include in the plan as well as the updated goals and objectives. GIS data collection is complete with support from the County GIS staff. The steering committee was provided with a list of plans gathered to date and requested to provide any additional relevant plans. 	Committee to review the list of plans collected to date and provide any additional relevant plans.
2	<p>Outreach</p> <ul style="list-style-type: none"> The HMP website is now live at https://www.warrencountynewyorkhmp.com and public outreach materials are available for distribution. All communities in the county have confirmed their intent to participate in the planning process. The county sent out a press release this month and a couple of local weekly newspapers published articles regarding the mitigation plan and provided access to the public survey. 	<ul style="list-style-type: none"> Tt to provide a social media package to municipalities to enable further online outreach. Tt to contact Warren County (WC) Chamber of Commerce for business email distribution lists.



Warren County
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Meeting Notes



	<ul style="list-style-type: none"> One citizen has contacted Warren County Soil & Water Conservation District (WCSWCD) to discuss concerns related to hazard mitigation and will meet with Mr. Lieberum to discuss. Tt requested email lists to support the stakeholder outreach and distribution of surveys to agencies including health services, police, fire, EMS, etc. WC Emergency Services, Glens Falls Hospital will provide available information. Tt to contact the Chamber of Commerce to distribute surveys to county businesses. 	
3	<p>Hazards of Concern</p> <ul style="list-style-type: none"> The committee confirmed that the following hazard of concern pose significant risk to the county and its communities: <ul style="list-style-type: none"> Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) Earthquake Extreme Temperatures Flood High Hazard Potential Dams Infestation Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms) Wildfire <p>These hazards will be profiled for the plan to provide a basis for the vulnerability assessment and the development of mitigation actions.</p>	
4	<p>Goals and Objectives</p> <ul style="list-style-type: none"> Ms. Addonizio-Bianco shared the goals and objectives from the last HMP noting updates to include changes identified in the last committee meeting as well as additional edits to align with current priorities. During the discussion additional edits were made and are available in the attached document. The updated mission statement, goals and objectives will guide the plan update. 	
5	<p>Strengths, Weaknesses, Obstacles, and Opportunities (SWOO)</p> <ul style="list-style-type: none"> Tt provided an overview of the purpose of the SWOO which is to review the hazards of concern to identify areas that the county and communities do well and can improve upon, and to further understand obstacles to implementing policy, actions, and projects to mitigate the effects of the hazards – all with the intent of identifying actions or projects to support resilience. The committee reviewed examples related to the flood hazard and participated in a discussion of county-specific issues. The committee members were requested to access and respond to the SWOO survey to document their input. Attached is the SWOO survey input received as of the date of this meeting. 	<ul style="list-style-type: none"> The committee is requested to provide input to the SWOO survey to assist in identifying problem areas and mitigation actions.
6	<p>Upcoming Meetings</p>	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">● Dates for the following meetings will be confirmed and shared with the committee in January:<ul style="list-style-type: none">○ Risk Assessment Meeting – February 2023○ Planning Partnership Risk Assessment Meeting – February 2023 (tentative)○ Mitigation Strategy Workshop – March 2023	
7	<p>Next Steps</p> <ul style="list-style-type: none">● Provide input via Strengths, Weaknesses, Obstacles and Opportunities (SWOO) survey● Review Hazard Profiles● Review Risk Assessment Results● Identify Problems and Problem Areas● Develop Mitigation Strategy● Review Draft Plan● Submit Draft Plan for NYSDHSES/FEMA Review● Adopt FEMA-Approved Plan● Implement Projects and Maintain the Plan and Increase Resilience	
7	<p>Conclusion - The meeting concluded at 11:25 am.</p>	



Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #2 Meeting | December 14, 2022 | 10:00 – 11:30 AM

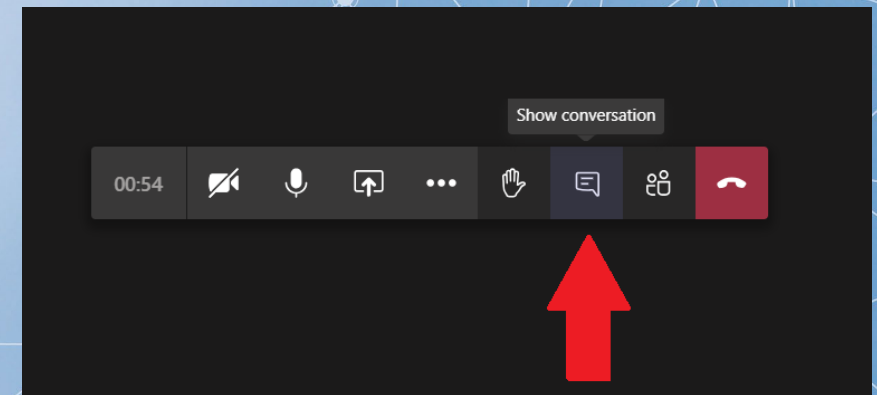
WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.

Click “Show Conversation” and type in your information.

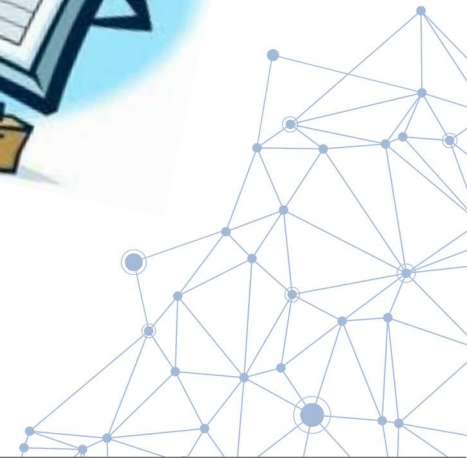
This will assist in our attendance documentation.

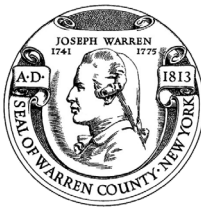




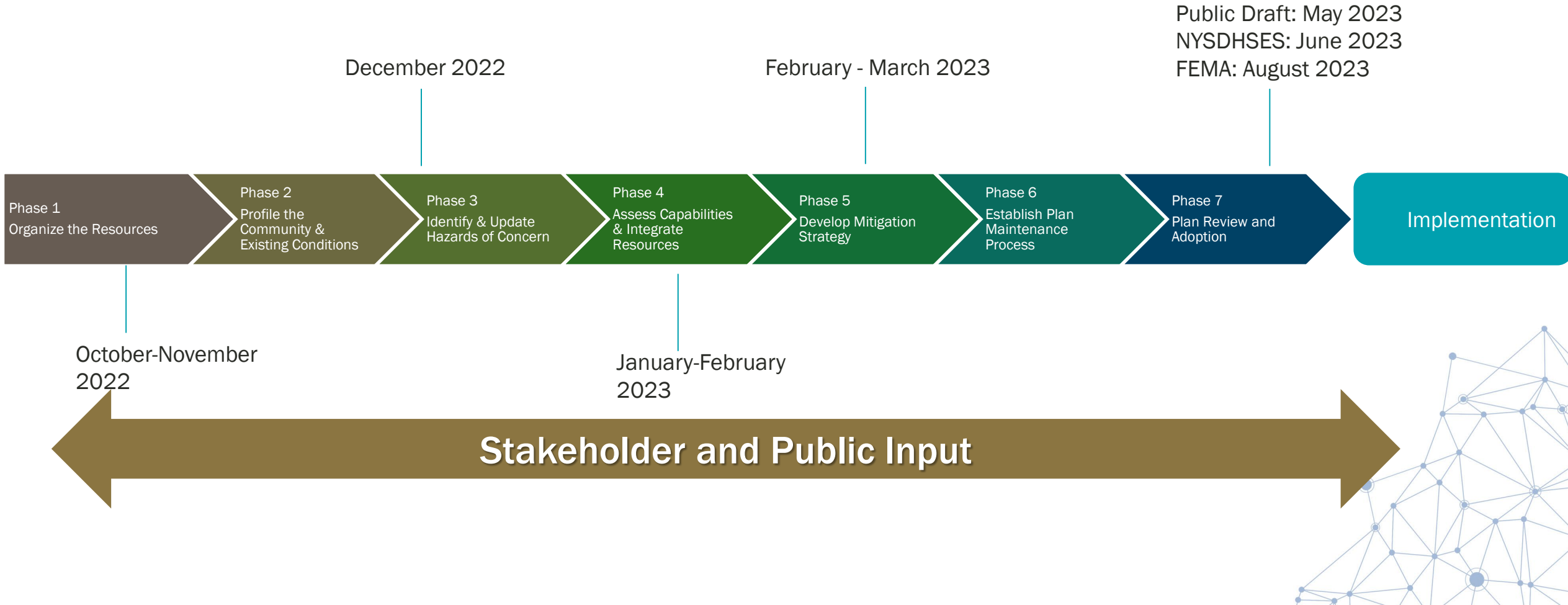
Agenda

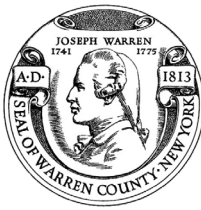
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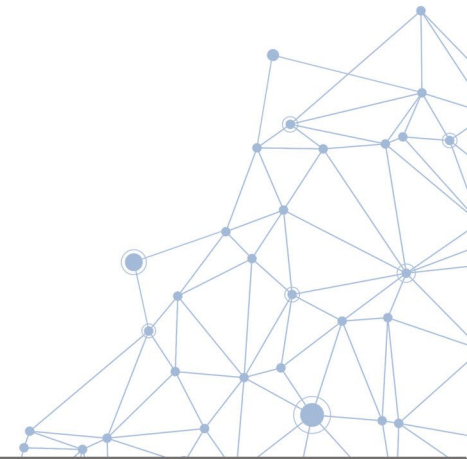
Where are we in the Process?





Steering Committee Responsibilities

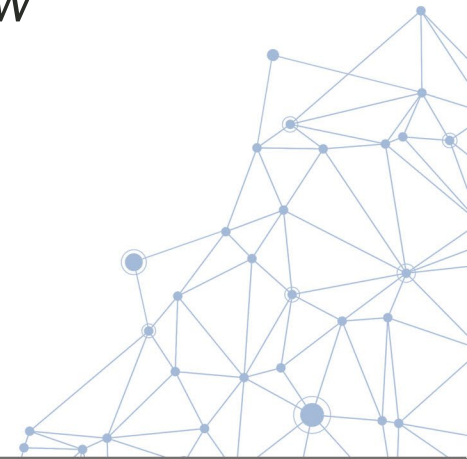
- ✓ Guide the Planning Partnership through the planning process
- ✓ Identify the natural hazards of concern
- ✓ Develop mitigation goals and objectives
- ✓ Develop public and stakeholder outreach strategy
- ✓ Support the development of the county-level mitigation strategy
- ✓ Review plan documents

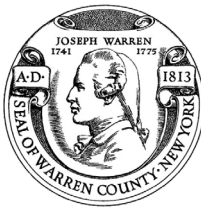




Progress

- Requested NFIP Data
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *In progress*
- Review of Hazards of Concern/Input by Steering Committee – *Today*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *For Steering Committee Review*
- Planning Partnership Participation – 100%



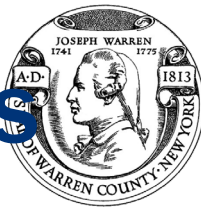


Data Collection Status

Jurisdiction	Worksheet A - Hazard Event History	Worksheet B - Capability Assessment	Worksheet C - NFIP	Worksheet D - Action Review	Worksheet E - Building Permits
Warren County	X	X	N/A	X	X
Town of Bolton	X	X	X	X	
Town of Chester	X	X	X	X	X
City of Glens Falls					
Town of Hague	X	X	X	X	X
Town of Horicon					
Town of Johnsbury	X	X	X	X	X
Town of Lake George	X	X	X	X	X
Village of Lake George	X	X	X	X	X
Town of Lake Luzerne	X	X	X	X	X
Town of Queensbury	X	X	X	X	X
Town of Stony Creek	X	X	X	X	X
Town of Thurman	X	X	X	X	X
Town of Warrensburg	X	X	X	X	X



Relevant County and Regional Plans and Studies



Name of Plan/Document	Date of Plan	Jurisdiction
Excessive Heat Plan	2022	Countywide
Schroon Lake Watershed Management Plan Addendum	2019	Chester (T)
Lake Champlain Watershed Roadside Erosion Assessment	-	Bolton (T), Hague (T), Lake George (T), Queensbury (T)
Upper Hudson River Watershed Management Plan	2020	Countywide
Friends Lake Watershed Assessment	2017	Chester (T)
LC Nonpoint Source Pollution Watershed Assessment and Management Plan	2018	Countywide
LG HAB Plan 2022 Update	2022	Lake George (T), Bolton (T)
Loon Lake Watershed Report	2021	Loon Lake, Chester (T)
Warren County - Dam Risk into Local HMG Plans	2021	Countywide

- *Summary matrix including local plans sent to committee for review .*



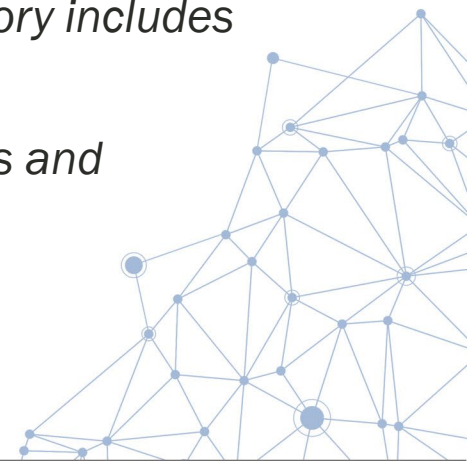
Critical Facilities and Community Lifelines

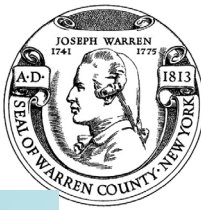
- Municipalities to review the updated critical facility inventory to ensure complete
- Critical facility survey distributed to communities on 12/8 with input due on or before 12/21/22.

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include **essential facilities**, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of lifelines that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category includes police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security





Identifying Hazards of Concern

- The 2017 plan included:
 - Disease Outbreak (Influenza, Ebola, Zika)
 - Earthquake
 - Flood
 - Infestation
 - **Landslide**
 - Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
 - Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
 - Wildfire
- In review...
 - Have additional hazards impacted the County since 2017?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to minimize number or required actions?
 - Should additional hazards be included?

2023 Hazards to Consider

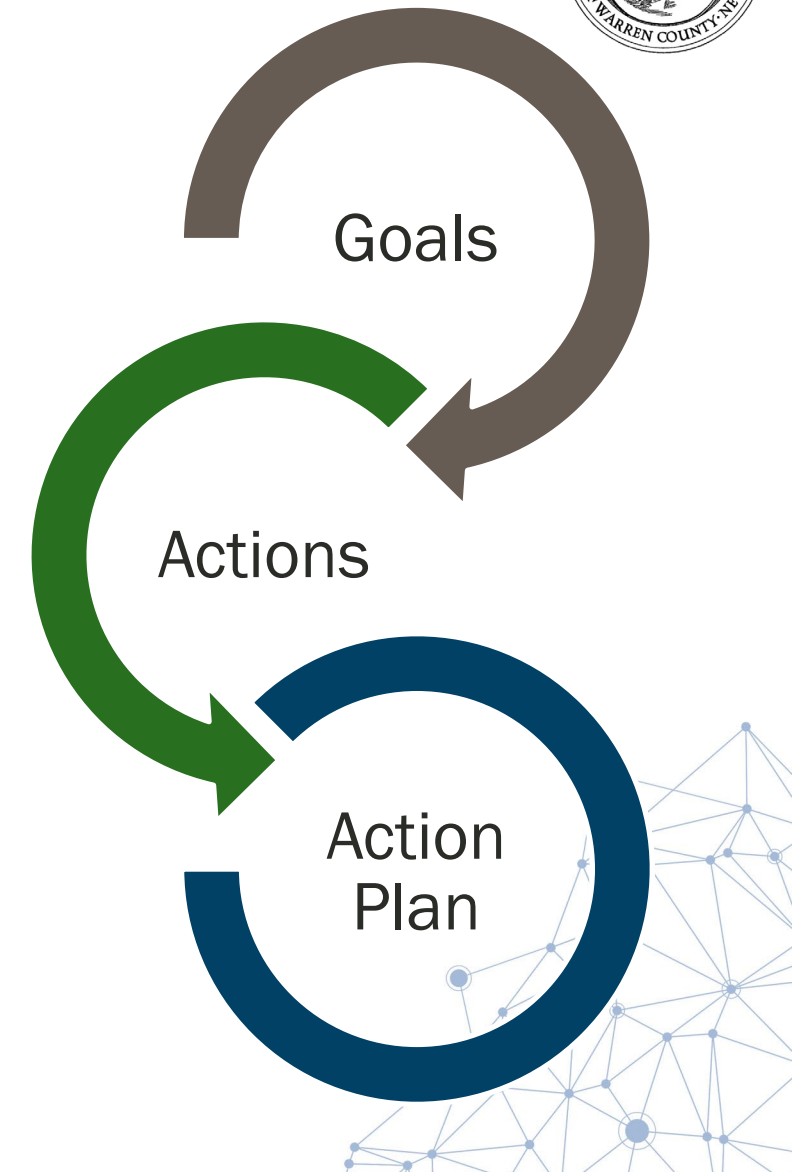
- **Disease Outbreak**
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

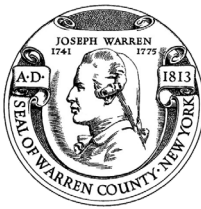




Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?



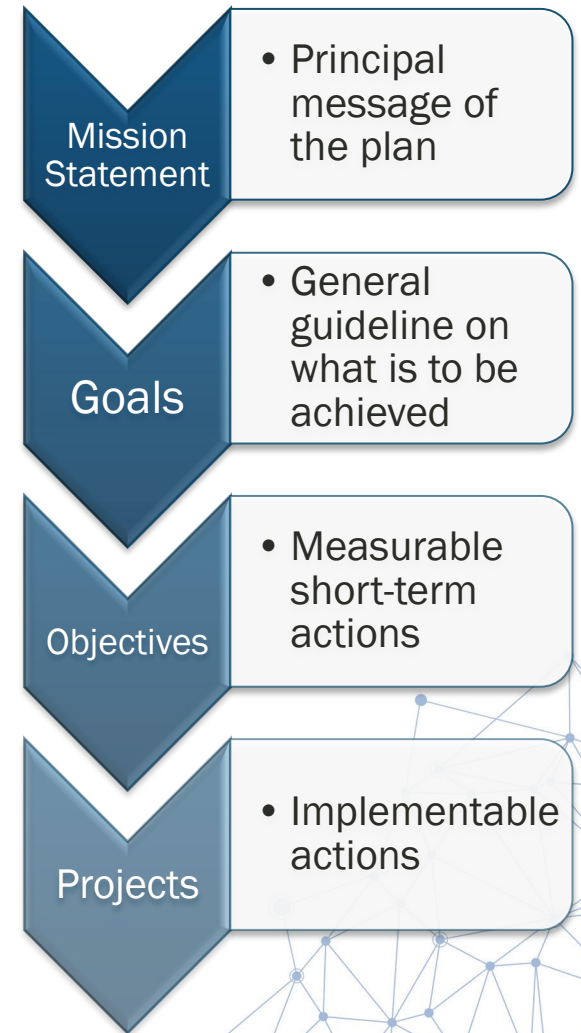


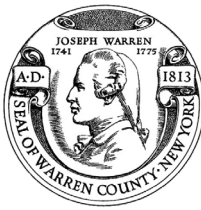
Update Mission Statement?

As part the of the 2017 update process, the Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as noted below. At this time, the committee is requested to review the Mission Statement to update to align with current County, state, and local policy. The committee is requested to consider adding the concept of equity and inclusiveness of socially vulnerable populations to the mission statement and the goals and objectives as well as additional adjustments to align with count, state, and local policy.

HMP Mission Statement

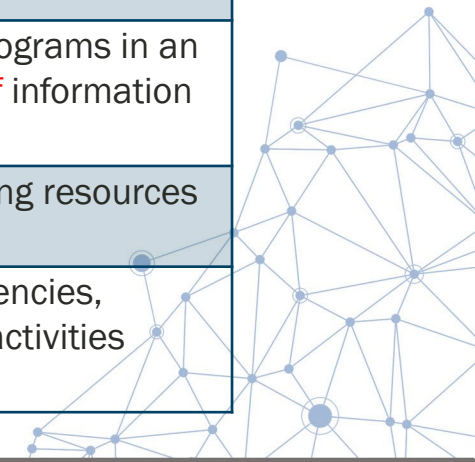
*To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations, **socially vulnerable populations** and the public to eliminate or reduce risks and adverse impacts from natural, **technological** and human-caused hazards .*

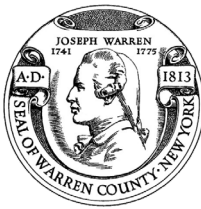




Goals and Objectives Review and Update

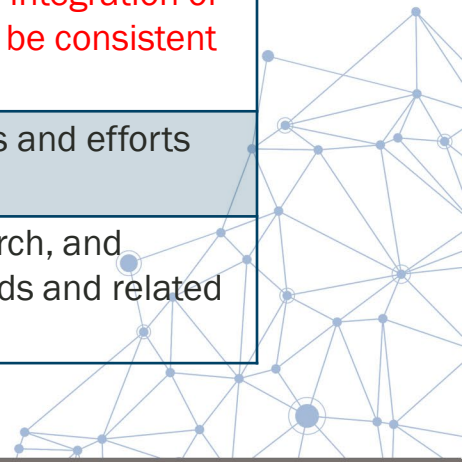
Goal	Objective
<p><u>Goal 1:</u></p> <p>Protect Life and Property.</p>	<p>1.1: Introduce mitigation and adaptation activities that will make homes, businesses and critical facilities and infrastructure more hazard resistant and to increase resilience.</p>
	<p>1.2: In areas vulnerable to hazards, encourage businesses and homeowners to take preventive actions when possible and in an equitable manner.</p>
	<p>1.3: Periodically review existing building codes, safety procedures, municipal and county ordinances to update recent standards for building protection.</p>
	<p>1.4: Immediately enforce existing building codes, zoning ordinances, and floodplain development review and permitting within the jurisdictions.</p>
	<p>1.5: Encourage owners of home and businesses and renters to purchase appropriate insurance coverage for potential damages from hazards.</p>
<p><u>Goal 2:</u></p> <p>Increase Public Awareness</p>	<p>2.1: Continue developing and integrating education and outreach programs in an effort to enhance public awareness of the hazards, and availability of information on specific activities for individuals in anticipation of a hazard event .</p>
	<p>2.2: Provide information on current government programs and funding resources to assist with mitigation and resilience.</p>
	<p>2.3: Strengthen communication and cooperation between public agencies, citizens, non-profit groups, and businesses to implement mitigation activities effectively.</p>

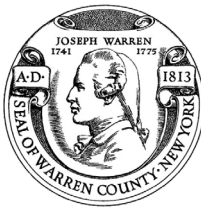




Goals and Objectives Review and Update

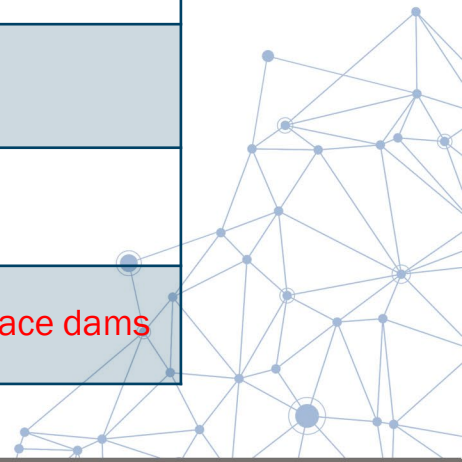
Goal	Objective
<p>Goal 3: Provide for Emergency Services</p>	<p>3.1: Coordinate hazard mitigation activities with existing local emergency plans.</p> <p>3.2: Identify and plan for acquiring any specific emergency services and equipment needed to improve response capabilities for specific hazards.</p> <p>3.3: Review emergency traffic routes, making changes as needed, and educating the public as to the routes including use of mass notification systems and real-time storm and problem area reporting.</p>
<p>Goal 4: Support comprehensive county and local mitigation through the integration of hazard mitigation planning into related state, regional, county and local plans and programs.</p>	<p>4.1: Promote land use planning to encourage resilient and sustainable efforts throughout statewide and regional programs that address zoning, building codes, capital improvement programs, open space preservation, nature-based solutions, and storm water management regulations. Encourage integration of mitigation via review and update of local planning documents to be consistent with and relevant to the Hazard Mitigation Plan.</p> <p>4.2: Continue to participate in state, regional and local programs and efforts that focus on practices that support or enhance resiliency.</p> <p>4.3: Improve hazard data through participation in studies, research, and mapping to enhance information related to the impacts of hazards and related risks, vulnerability, and losses.</p>

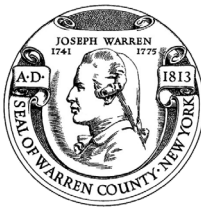




Goals and Objectives Review and Update

Goal	Objective
<p>Goal 5:</p> <p>Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.</p>	5.1: Encourage the use of green and natural infrastructure, low impact development, and nature-based solutions.
	5.2: Provide technical assistance to communities and stakeholders in the application and implementation of mitigation projects that preserve or restore natural systems.
	5.3: Maintain and encourage ongoing relationships between state agencies and partners to play an active and vital role in preservation and restoration of vulnerable natural systems.
	5.4: Promote climate change adaption strategies that protect against long-term effects on the environment and incorporate into a county-wide climate action plan.
<p>Goal 6:</p> <p>Address Long-Term Vulnerabilities from High Hazard Dams</p>	6.1: Ensure dam infrastructure is maintained
	6.2: Ensure Emergency Action Plans are developed and updated
	6.3: Support the identification and access to funding to repair/replace dams



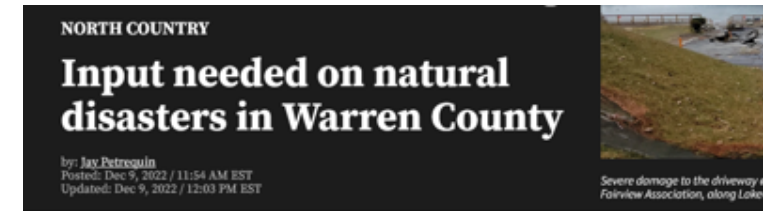


Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey



SHARE    ...

WARREN COUNTY, N.Y. (NEWS10) – It's important to know and understand what potential hazards could come with where one lives, and what different weather conditions can bring to those areas. Warren County is looking for public input as it makes updates to its plan to curb natural disaster danger for county residents.

[Get the latest news, weather, sports and community events delivered right to your inbox!](#)

The county's Multi-Jurisdictional Hazard Mitigation Plan is up for revision – and a survey gives residents a chance to weigh in on it. The plan is a document that can be used by the county to reduce the impact and damage from natural disasters, especially targeted at prevention and



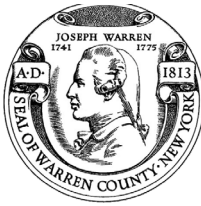
"Public participation and feedback are a vital part of the hazard mitigation planning process," said Warren County Emergency Services Director Ann Marie Mason. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

The survey asks for residents to report what types of natural disasters they have seen and experienced in Warren County over the last decade, such as flooding, drought and climate change impacts. It also seeks information such as concern for future disasters, and how residents get their disaster information.

[ARPA lets Glens Falls Hospital's crisis unit grow](#)

The Hazard Mitigation Plan is updated every five years. The plan is used for communities to make risk-based decisions that can lead to fewer lives being lost, or less property being damaged, in the event of a disaster. The process going forward will also involve voices from nonprofits, community partners and the private sector. The plan will analyze how best to protect essential community facilities, transportation systems, lifeline utilities and hazardous material facilities.





Strengths, Weaknesses, Obstacles, and Opportunities (SWOO)

The purpose of the SWOO is to identify mitigation strategies and capabilities that will meet the goals and objectives of the plan update.

It is also used to develop potential mitigation actions for the participating jurisdictions.

- Strengths – what we do well
- Weaknesses – what could we do better
- Obstacles – things that stand in the way, and either prevents you from doing something or something that need to be overcome
- Opportunities – used to develop mitigation strategies

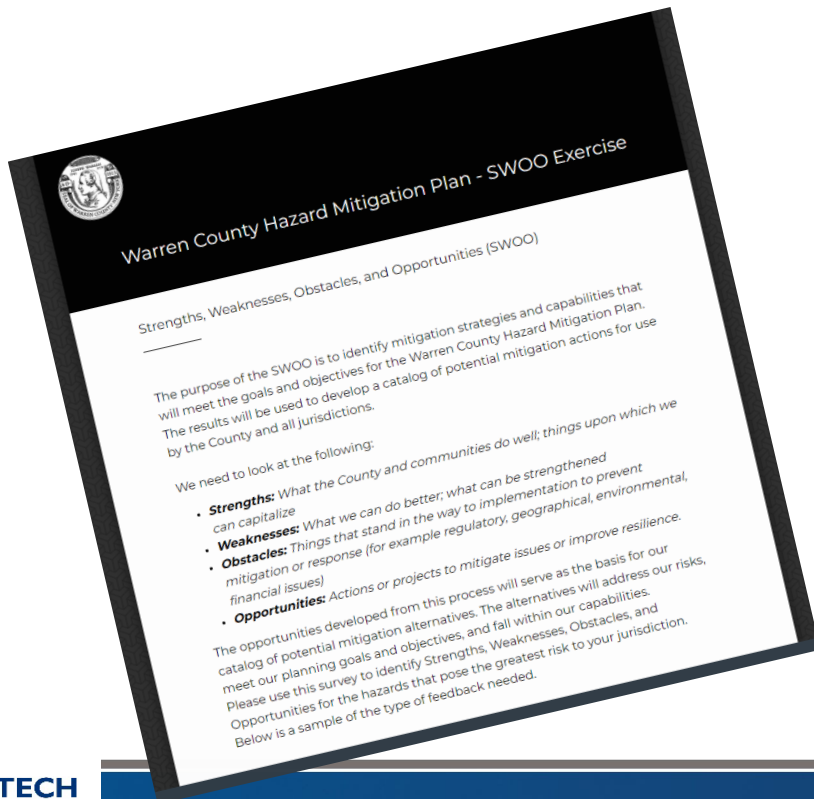


SWOO EXERCISE

Strengths, Weaknesses, Obstacles and Opportunities

Thinking about hazards of concern and any new hazards for this update...what are some strengths, weaknesses, obstacles and opportunities the County has for each? Complete the form.

Here are some examples to help brainstorm:

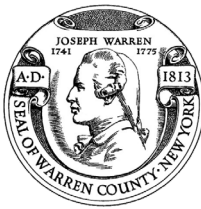


Hazard: Flood	
S	Minimal exposure to flood risk
W	Silt and debris buildup in streams can lead to localized flooding
Ob	Funding for culvert and catch basin maintenance
Opps	Installing stream gages

Hazard: Severe Storms	
S	Tree trimming programs are in place
W	Aging infrastructure; lack of underground utilities
Ob	Cost to retrofit existing utility infrastructure
Opps	Underground utilities; enhance public outreach program

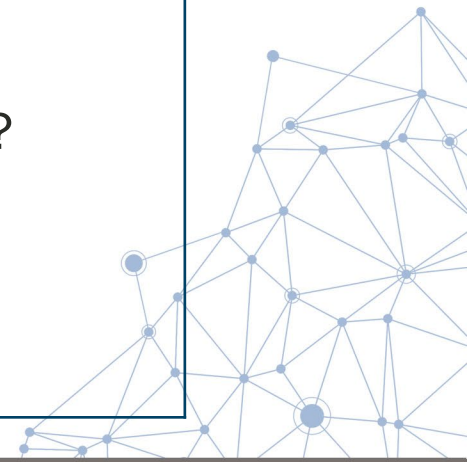
Hazard: Severe Winter Storm	
S	Municipalities have the resources and experience to deal with winter weather
W	Aging equipment
Ob	Funding; limited staff for prolonged events
Opps	Shared services

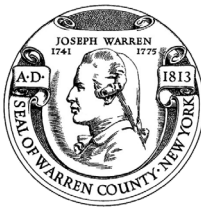




2020 SW00 Discussion/Example

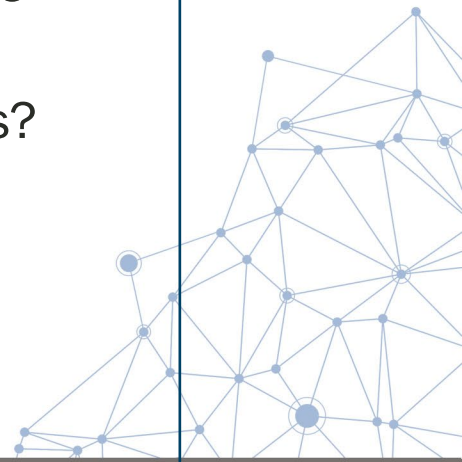
Flood	
Strengths	Weaknesses
<p>What do the County/Communities do well in terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?	<p>What can the County/Communities do better or what are identified gaps in terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?

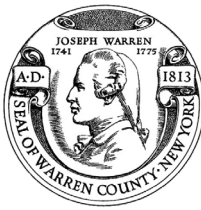




2020 SW00 Discussion/Example

Flood	
Obstacles	Opportunities
<p>What is preventing the County/Communities to implement:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?	<p>What can the County/Communities implement terms of:</p> <ul style="list-style-type: none">➤ Plans and Regulations<ul style="list-style-type: none">➤ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans➤ Structure and Infrastructure Projects➤ Natural Systems Protection➤ Education and Awareness Programs?➤ Preparedness➤ Others?



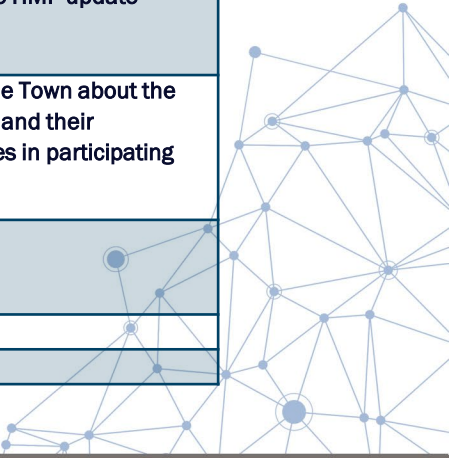


In-Kind Services

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member: _____

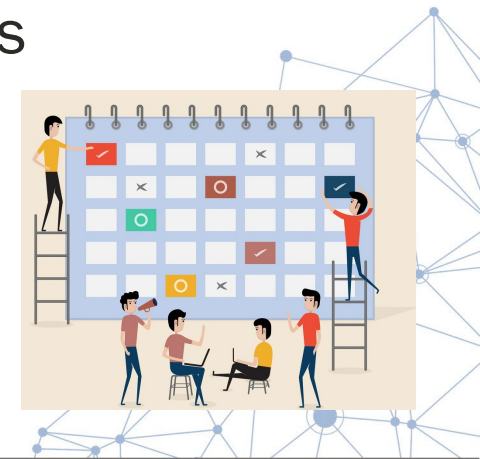
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes – sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ??phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	





Schedule

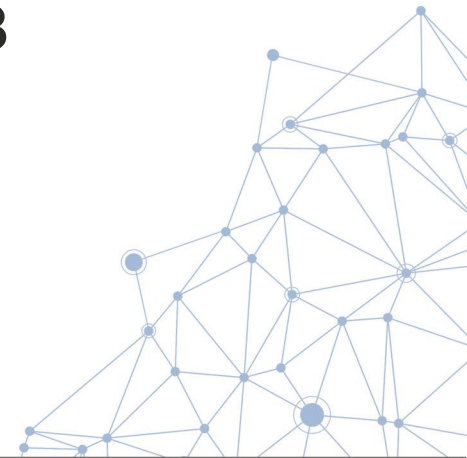
- Planning Process
 - Steering Committee #2 to identify hazards of concern for County and finalize goals– TODAY!
- Update Risk Assessment
 - Data collection is underway; confirm local critical facilities inventory by December 21, 2022
 - Begin vulnerability assessment
 - Risk Assessment Meetings: February (Steering Committee and Planning Partnership)
- Public Involvement Strategy – ongoing throughout the planning process





Schedule

- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 2023**
- Draft Plan to Steering Committee in **May-June 2023** (*as sections are ready*)
- Public Review Period (30 days) – **June 2023**
- Final draft plan to NYSDHSES by June 2023 and FEMA by **August 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #3 – AGENDA
MEETING DATE/TIME: February 10, 2023 – 10:00 am



- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	February 8, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ethan Gaddy	Warren County Planning Department, CSC
Aaron Frankenfeld	Director, Adirondack/Glens Falls Transportation Council
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Jennifer Ramsey	Warren County Office of Emergency Services
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a project status update and the preliminary county level hazards of concern relative risk rankings; to obtain input or adjustments of the rankings to incorporate local data.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. The process continues to be on track for plan submittal to FEMA in August 2023. The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. The table of contents and draft sections of the plan are being posted as available on the project Teams site to enable steering committee members to access and review to enable input prior to sharing the drafts with the public. Tt requested the steering committee to review the documents and provide comments via 'track changes'. 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<p>to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements.</p> <ul style="list-style-type: none"> The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. Surveys to target the public, neighboring counties, agencies, and businesses have been distributed and will be used to provide additional input to the plan to support the identification of mitigation actions. 	
3	<p>Risk Assessment Overview</p> <ul style="list-style-type: none"> It reviewed the methodology to calculate the relative risk of the county’s identified hazards of concern and shared the preliminary risk rankings. The ranks of Low, Medium, and High for each hazard will serve as a guide in identifying impactful mitigation actions to reduce damages and increase resilience. After review and adjustment by the core group, the preliminary county level ranks are as follows: <ul style="list-style-type: none"> Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) - Medium Earthquake - Medium Extreme Temperatures - Medium Flood - High Dams Failure - High Infestation - Medium Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) – High Severe Winter Storm (Heavy Snow, Blizzards, Ice Storms) - High Wildfire - High <p>The county ranks indicate the highest municipal risk rather than the calculated regional risk. The Steering Committee was tasked to review the information provided in the presentation (see attached) to provide any additional input to revisit and potentially further adjust the rankings.</p> <p>Discussion included clarification that vulnerability assessment included only projected damages to general building stock and not potential infrastructure damages which are not modeled in Hazus-MH. These damages are an example of why the rankings should be adjusted, in particular, the flood ranking as it should include the risk posed by unmapped, localized flood areas evidenced by washouts and culvert failures. Capturing these floodprone areas was suggested as county and local level mitigation actions and could be documented in part using the ReadyWarren app.</p> <p>The public sharing of dam inundation areas was also discussed and will be addressed by Emergency Services staff.</p>	<p>Steering Committee members to email any input regarding adjusted risk ranking on or before 2/14/23.</p> <p>Emergency Services to review the level of detail provided to the public regarding dam inundation areas.</p> <p>Emergency Services, County GIS and SWCD to consider options to collect and map localized flood areas.</p>



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">• These rankings will be presented to the Planning Partnership during a meeting on February 15th.	
6	Upcoming Meetings <ul style="list-style-type: none">• Planning Partnership Risk Assessment Meeting – February 15, 2023 <i>(Optional for Steering Committee members not affiliated with a municipality.)</i>• Mitigation Strategy Workshop – March 15, 2023 <i>(Optional for Steering Committee members not affiliated with a municipality.)</i>	
7	Next Steps <ul style="list-style-type: none">• Update Risk Assessment including adjustments as noted by Steering Committee• Present to planning partners• Populate adjusted results municipal annexes• Planning Partnership Risk Assessment Meeting: February 15, 2023• Continue to engage the public• Begin working with the municipalities to develop mitigation strategy/actions: February 2023• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	Conclusion - The meeting concluded at 11:15 am.	



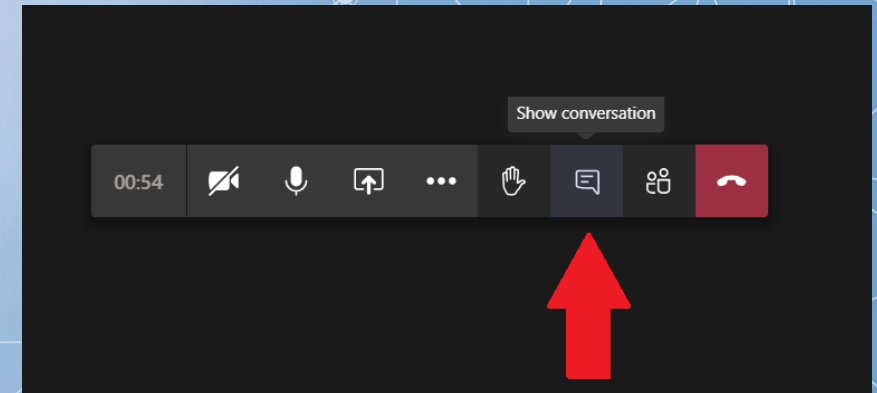
Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #3 Meeting | February 10, 2023 | 10:00 – 11:30 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.

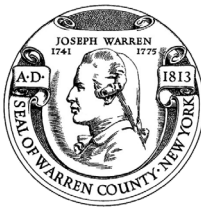




Agenda

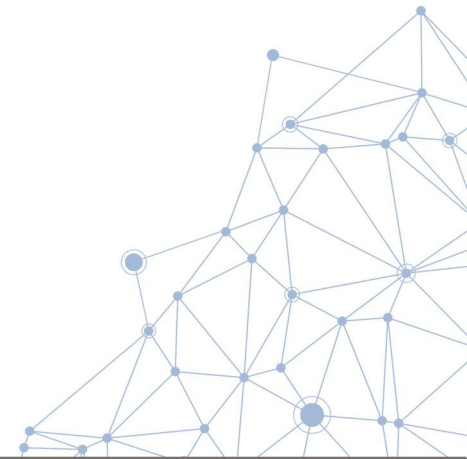
- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up





Project Schedule Review

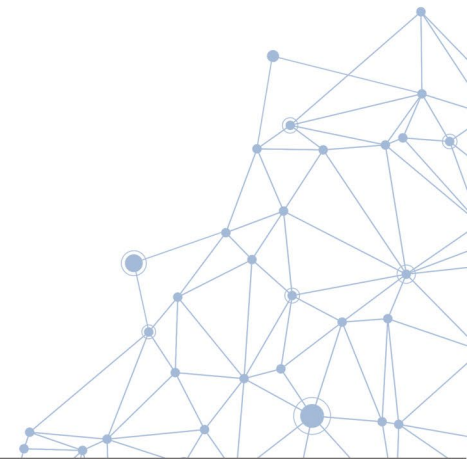
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ☐ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |





Progress

- Requested NFIP Data – *Data pending*
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *Complete*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *Complete*
- Planning Partnership Participation – 100%





Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes

My files > Warren County (NY) HMP

Name	Modified	Modified By	File size	Sharing
GIS	November 14, 2022	frankenfelds@warrencoun	4 items	Shared
Letters of Intent to Participate	September 16, 2022	Bianco, Cynthia	14 items	Shared
Outreach Materials	November 30, 2022	Bianco, Cynthia	10 items	Shared
Steering Committee	January 24	Bianco, Cynthia	1 item	Shared
Survey				
SWCD				

My files > Warren County (NY) HMP > Steering Committee > Documents for Review

Name	Modified	Modified By	File size
Old	January 31	Bianco, Cynthia	6 items
Warren_TOC.docx	January 25	Bianco, Cynthia	205 KB
5.2 - HOC ID_Warren_rev.docx	6 days ago	Bianco, Cynthia	422 KB
Section 1-Introduction_rev.docx	6 days ago	Bianco, Cynthia	1.05 MB
Section 2-Plan Adoption.docx	January 25	masona@warrencountyny	360 KB
Section 5.1_Methodology_rev.docx	6 days ago	Bianco, Cynthia	517 KB

My files > Warren County (NY) HMP > Steering Committee

Name	Modified	Modified By	File size	Sharing
Documents for Review	January 24	Bianco, Cynthia	6 items	Shared



In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

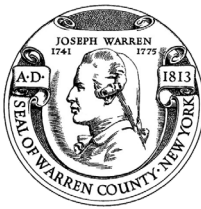
* Jurisdiction

Please document your time spent working on the HMP:

Date

Hours





Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Public Survey
- Stakeholder Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey

WARREN COUNTY HAZARD MITIGATION PLAN 2023 UPDATE

Home About What is Mitigation Meetings Calendar Explore the Plan Additional Information

Warren County Hazard Mitigation Plan 2023 Update

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

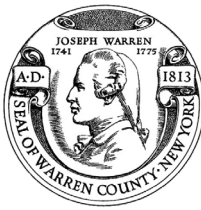
The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee has developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update. This survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in February 2023

List Month Week Day February 2023 Go < Today >



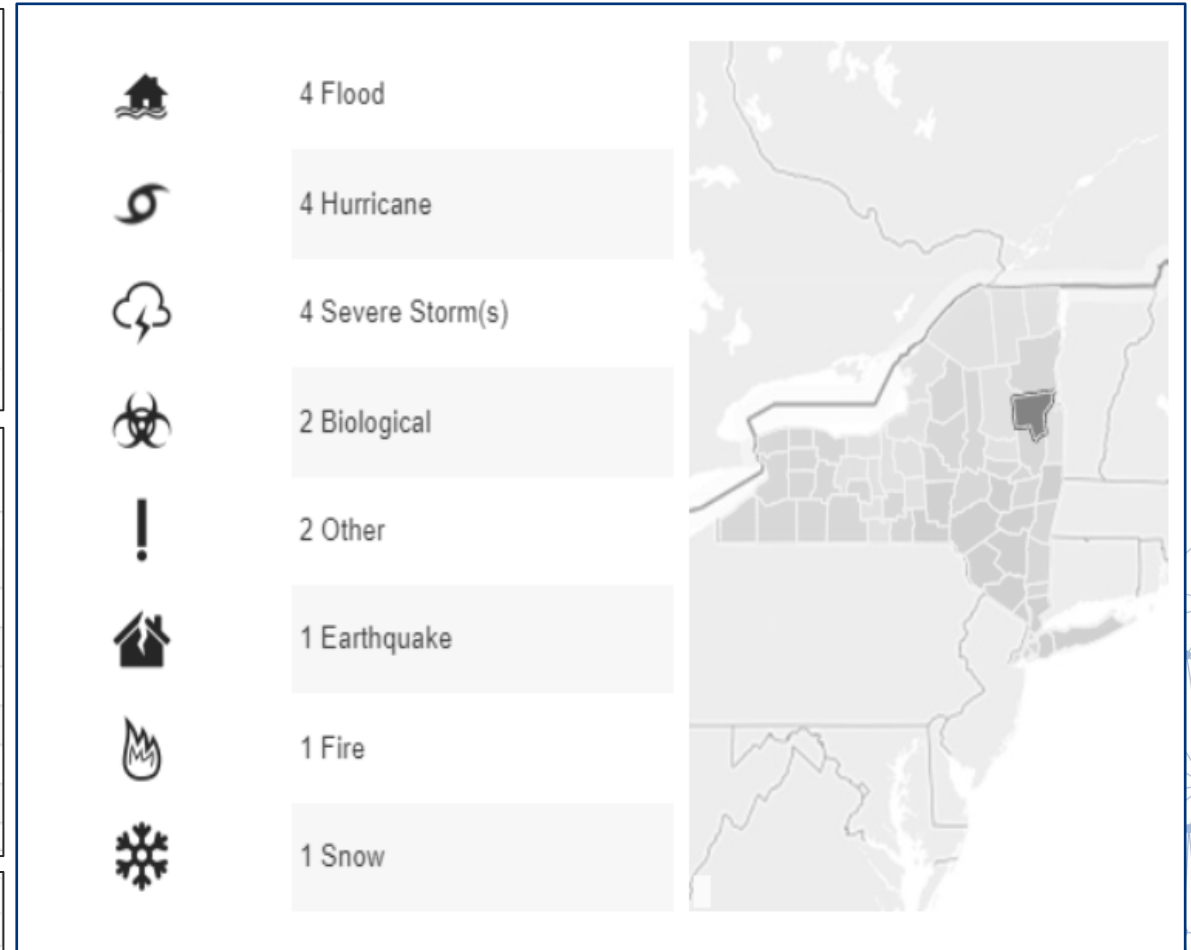
Hazard Mitigation – What’s at Risk?

- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472

2020	COVID-19	3434
	COVID-19 PANDEMIC	4480





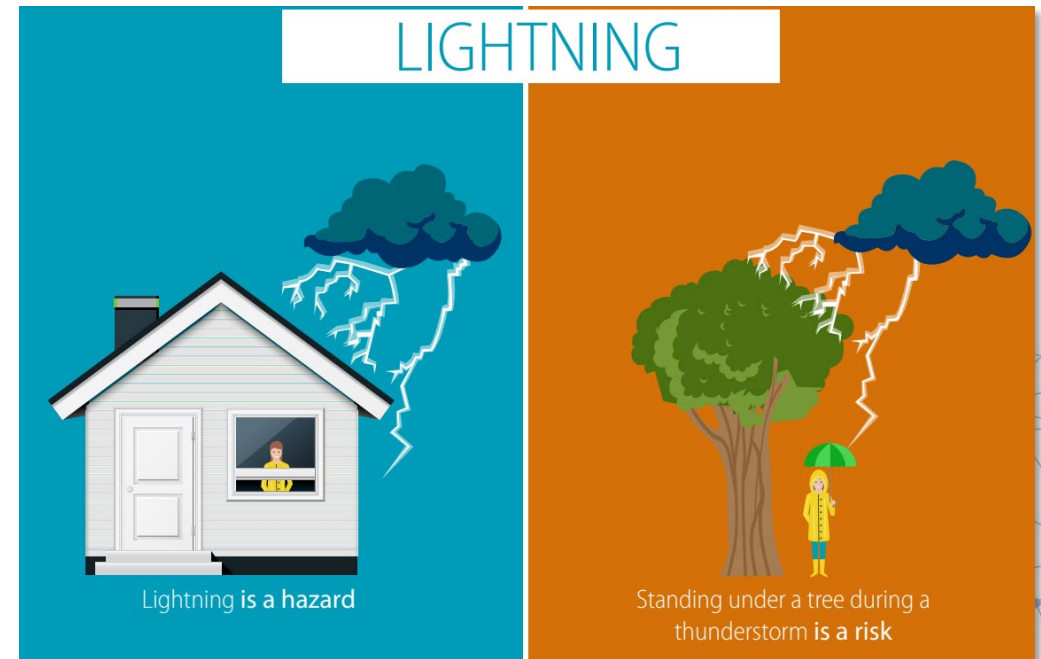
2023 HMP Hazards of Concern

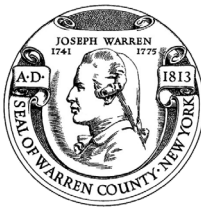
- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire



What is Risk?

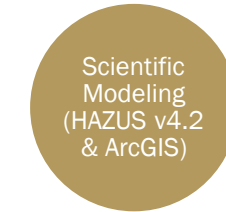
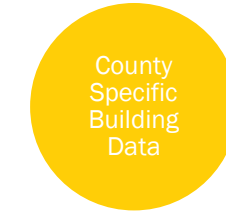
- ✓ Hazard
 - Source of potential danger or adverse condition
- ✓ Exposure
 - Manmade or natural features that are exposed to the hazard
- ✓ Vulnerability
 - Damage susceptibility of the exposed features
- ✓ Adaptive Capacity (or capability)
 - Plans/policies
 - Response/recovery
 - Financial resources
- ✓ Climate Change





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



Preliminary Hazard Ranking

How are the rankings calculated?

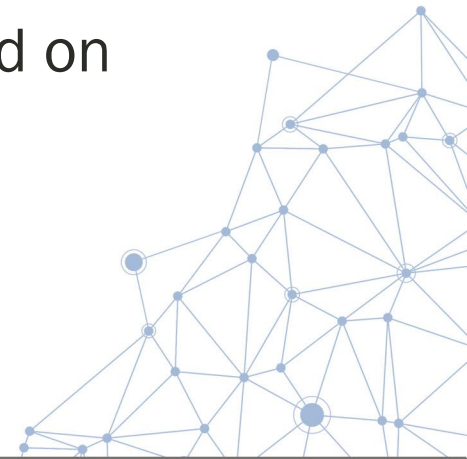




Preliminary Hazard Ranking Methodology

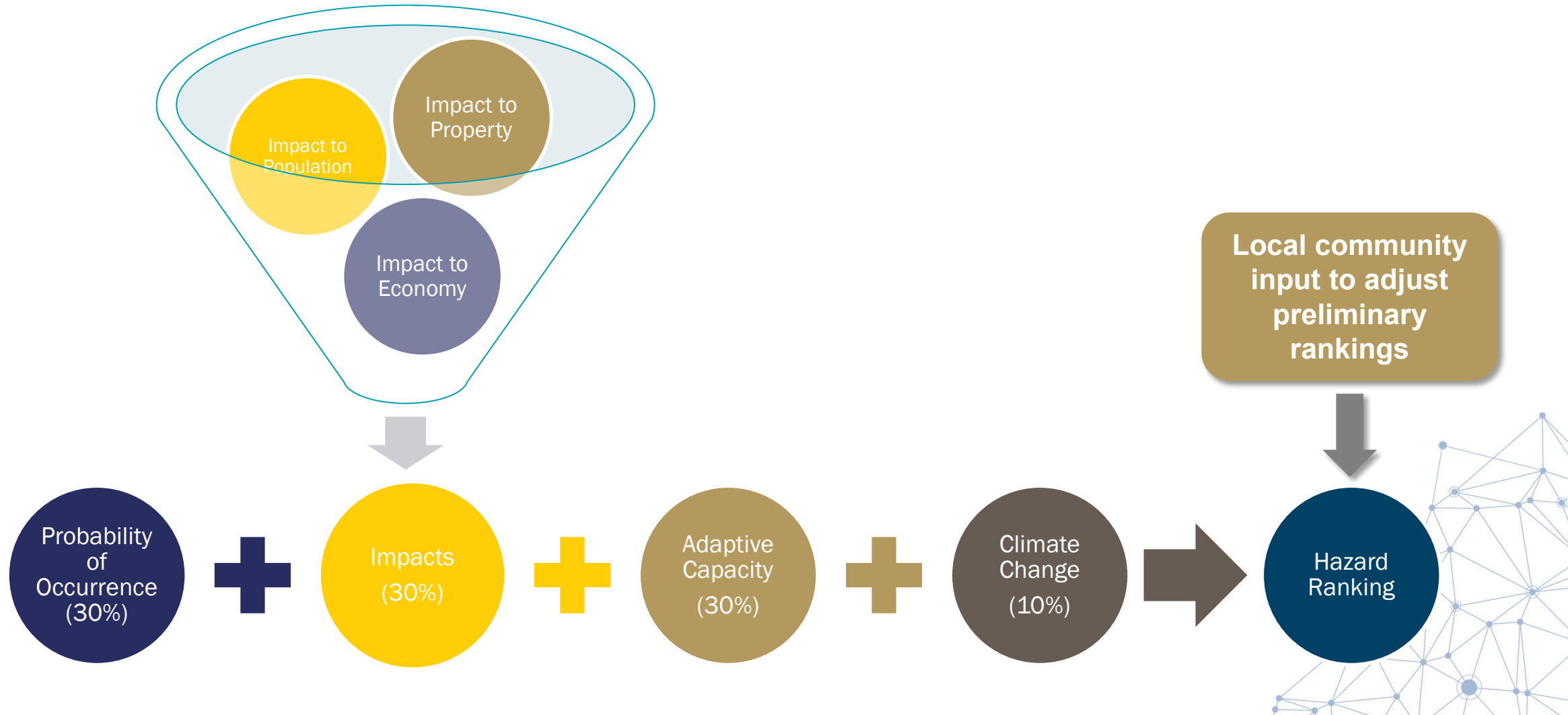
Hazard Ranking is determined by quantitative and qualitative factors including:

- 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.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.





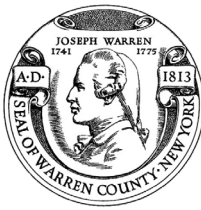
Hazard Ranking Formula



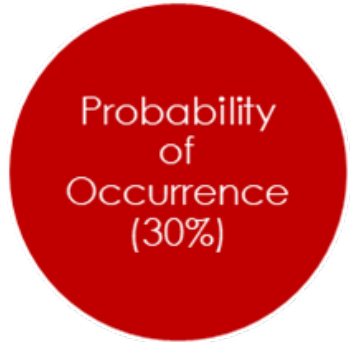
Ranking the Hazards of Concern

What information plays a role in determining the risk rankings?

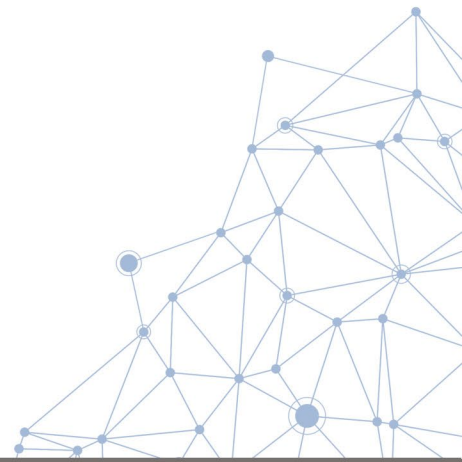




Probability Of Occurrence



- **Unlikely**
 - Not likely to occur or less than 1% annual chance of occurring
- **Rare**
 - Between 1 and 10% annual chance of occurring
- **Occasional**
 - Between 10 and 100% annual chance of occurring
- **Frequent**
 - 100% chance occurring; occurs multiple times a year





Hazard Ranking Input

Impact on Population – Function of population exposed

- ✓ Low – 14% or less population exposed
- ✓ Medium – 15%-29% population exposed
- ✓ High – 30%+ population exposed

Impact on property – Function of structures exposed

- ✓ Low – 14% or less structures exposed
- ✓ Medium – 15%-29% structures exposed
- ✓ High – 30%+ structures exposed

Impact on economy – Function of damages to building stock

- ✓ Low – 9% or less loss estimate of total replacement cost
- ✓ Medium – 10%-19% loss estimate of total replacement cost
- ✓ High – 19%+ loss estimate of total replacement cost

Capability – Function of level of planning, policies, enforcement

- ✓ Weak – outdated policies; limited to no deployable resources; limited capabilities to respond; long recovery
- ✓ Moderate – minimum requirements; mitigation strategies identified but not implemented; moderate county capabilities
- ✓ Strong – exceed requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high

Climate Change – Function of climate predictions

- ✓ Low - No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence)
- ✓ Medium - Studies and modeling projections indicate a potential for exacerbated conditions due to climate change
- ✓ High - Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change



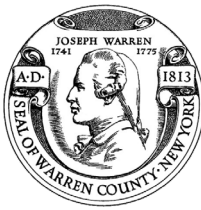


Preliminary Overall Risk Ranking

Hazard of Concern	2021 CEPA Ranking	2023 Calculated Risk Ranking	2017 Risk Ranking	2023 Adjusted Ranking
Earthquake	Low	Low	High	Medium
Extreme Temperature	-	Medium	-	Medium
Flood	Very High	Low	Medium	High
Severe Storm	Medium	High	High	High
Severe Winter Storm	High	High	High	High
Wildfire	Medium	High	High	High
Infestation	-	Medium	Medium	Medium
Dam Failure	-	High	-	High
Disease Outbreak/Pandemic	Medium	Low	Medium	Medium

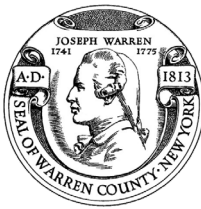
* Potential adjustments

Municipal Level Risk Ranking (Preliminary)



Hazard Ranking									
Municipality	Earthquake	Extreme Temps	Flood	Severe Storm	Severe Winter Storm	Wildfire	Infestation	Dam Failure	Disease Outbreak
Bolton (T)	Low	Medium	Low	High	High	Medium	Medium	High	Medium
Chester (T)	Low	Medium	Low	High	High	Low	Medium	High	Low
Glens Falls (C)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Hague (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Horicon (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Johnsburg (T)	Low	Medium	Low	High	High	Low	Medium	High	Medium
Lake George (T)	Low	Medium	Low	High	High	High	Medium	Medium	Medium
Lake George (V)	Low	Medium	Low	High	High	High	Medium	Low	Low
Lake Luzerne (T)	Medium	Medium	Low	High	High	Medium	Medium	Medium	Low
Queensbury (T)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Stony Creek (T)	Medium	Low	Low	High	High	Low	Medium	Medium	Low
Thurman (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Warrensburg (T)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Warren County	Medium	Medium	Low	High	High	High	Medium	High	Low

* To be adjusted



Sample Risk Analysis Input (Flood)

Warren County Municipality	Probability		Impact on Population				
	Impact	Index	Population (2020 Decennial)	1-Percent Annual Chance Flood Event Population Exposed	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Impact	Numeric Value x3
Bolton (T)	Frequent	3	2,012	132	6.5%	L	3
Chester (T)	Frequent	3	3,086	262	8.5%	L	3
Glens Falls (C)	Frequent	3	14,830	0	0.0%	L	3
Hague (T)	Frequent	3	633	45	7.1%	L	3
Horicon (T)	Frequent	3	1,471	77	5.2%	L	3
Johnsburg (T)	Frequent	3	2,143	49	2.3%	L	3
Lake George (T)	Frequent	3	2,494	65	2.6%	L	3
Lake George (V)	Frequent	3	1,008	2	0.2%	L	3
Lake Luzerne (T)	Frequent	3	3,079	200	6.5%	L	3
Queensbury (T)	Frequent	3	29,169	376	1.3%	L	3
Stony Creek (T)	Frequent	3	758	23	3.0%	L	3
Thurman (T)	Frequent	3	1,095	8	0.7%	L	3
Warrensburg (T)	Frequent	3	3,959	147	3.7%	L	3
Warren County	Frequent	3	65,737	1,385	2.1%	L	3

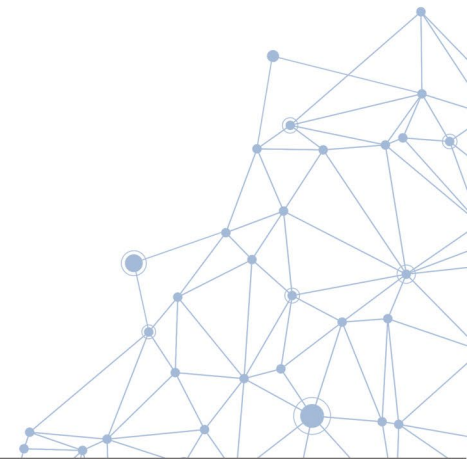


Earthquake

- Number of Events

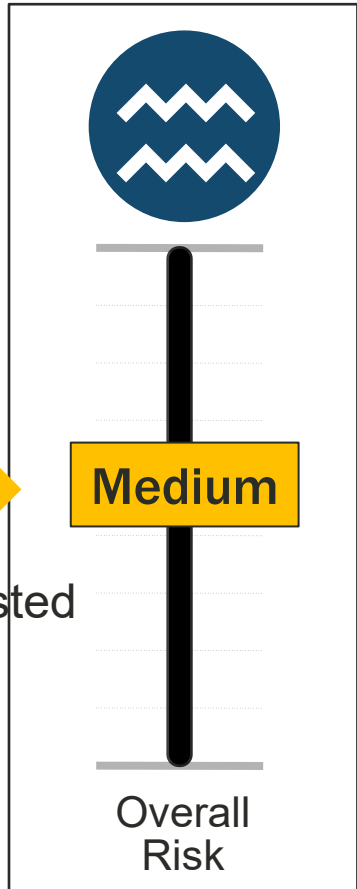
- 189 earthquakes epicentered in NYS with 4 epicentered in Warren County, per 2015 NYS HMP, between 1973 and 2014
- Faults are located within the County
- Individual Assistance (IA) declared for EMA declarations DR-1415 in Warren County (5/16/2002)
- Impacts
 - 2 earthquake scenarios: 500-yr and 2500-yr events
 - People and structures located in areas with soils more susceptible to earthquakes

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Earthquake



Probability of Occurrence: Rare



Impact on Population: Medium

65.6% of population is exposed and vulnerable (NEHRP D & E soils)



Impact on Property: High

48.7% of County building stock is exposed and vulnerable (NEHRP D & E soils)



Impact on Economy: Low

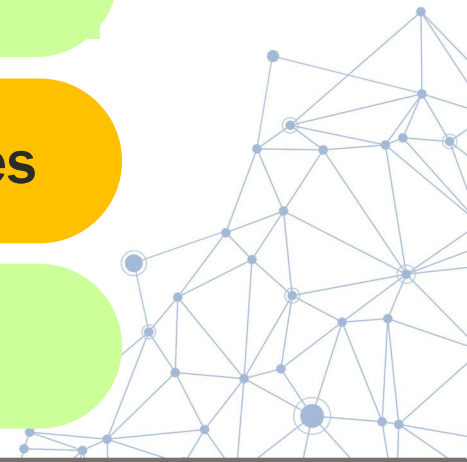
\$1.9% of Structural Replacement Cost Value damaged

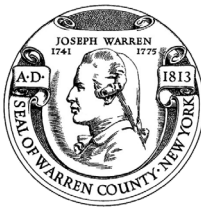


Adaptive Capacity: Medium for all municipalities

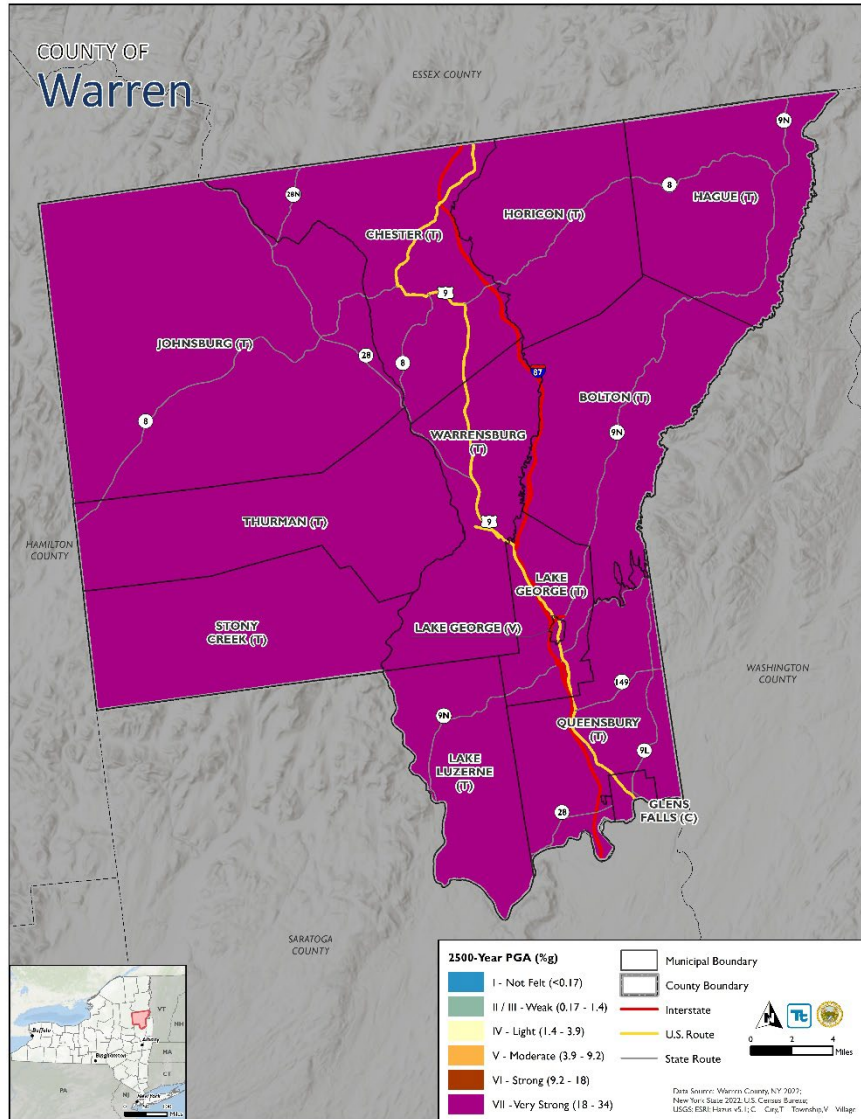


Climate Change: Low for all municipalities

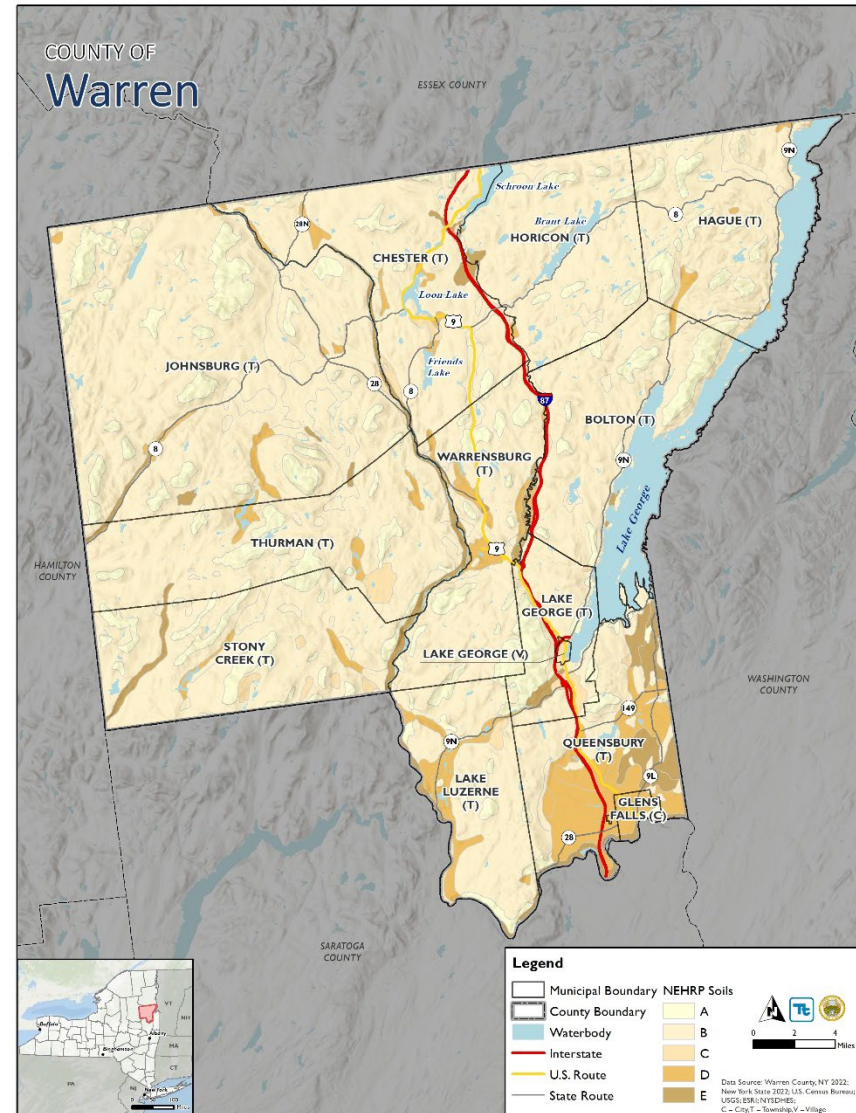


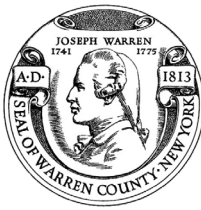


Peak Ground Acceleration



NEHRP Soil Class

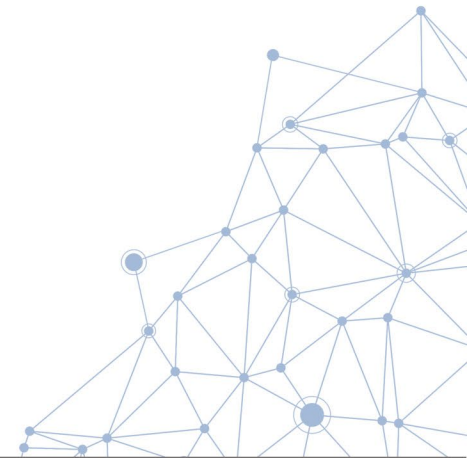




Flood

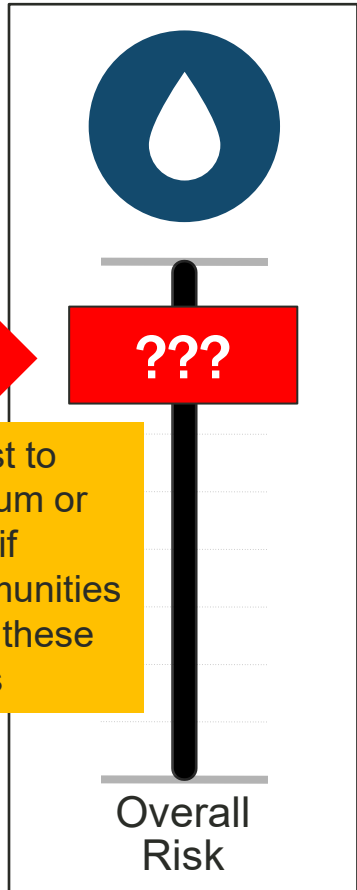
- Previous Events
 - Riverine, flash, and stormwater flooding
 - Between 2000 and 2022, Warren County included in 2 FEMA flood-related declarations.
 - FEMA-DR-1993 (Severe Storms Tornadoes, Winds and Flooding) – April 26, 2011
 - FEMA-DR-4129 (Severe Storms, and Flooding) – July 2013
- Exposure
 - People and property located in the 1% annual chance flood area







Warren County
Ranking
LOW

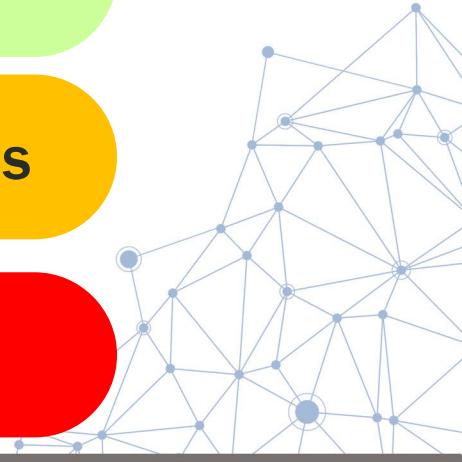




Countywide Preliminary Risk Ranking: Flood



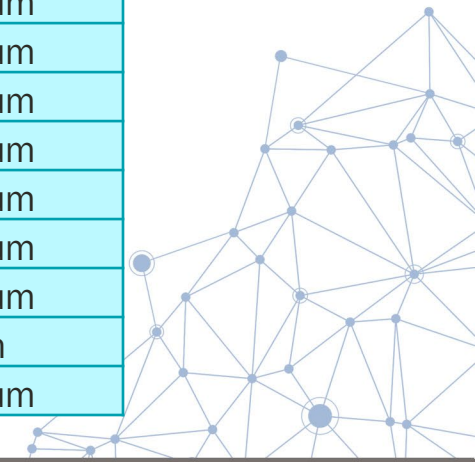
-  **Probability of Occurrence: Frequent**
-  **Impact on Population: Low**
1,385 people (2.1% of the population) in the SFHA
-  **Impact on Property: Low**
1,252 buildings (3.1% of total County buildings) in the SFHA; 1 Rep Loss
-  **Impact on Economy: Low**
\$721 M Replacement Cost Value (RCV) (3% of County total RCV) located in the Regulatory Floodplain
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**



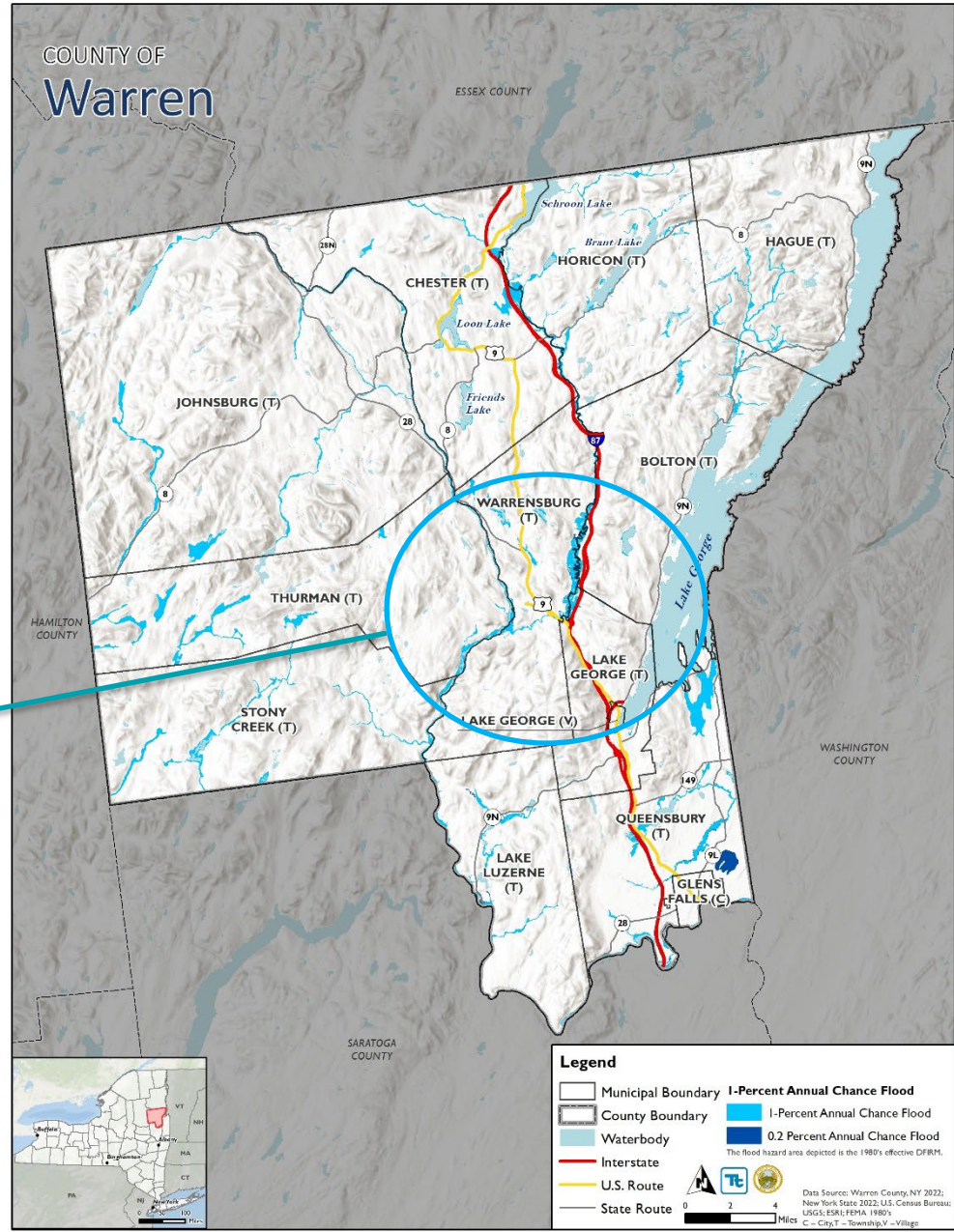


2023 vs. 2017 Rankings (Flood)

Warren County Municipality	IMPACT ON POPULATION	IMPACT ON PROPERTY	IMPACT ON ECONOMY	RISK RANKING	RISK RANKING
	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Percent of Total Buildings in 1% Flood Area	Percent of Total GBS RCV	2023 Estimated	2017
Bolton (T)	6.5%	6.6%	6.5%	Low	Medium
Chester (T)	8.5%	8.2%	7.6%	Low	Medium
Glens Falls (C)	0.0%	0.1%	1.0%	Low	Medium
Hague (T)	7.1%	7.0%	3.2%	Low	Medium
Horicon (T)	5.2%	5.2%	7.2%	Low	Medium
Johnsburg (T)	2.3%	2.4%	3.8%	Low	Medium
Lake George (T)	2.6%	2.5%	1.0%	Low	Medium
Lake George (V)	0.2%	1.1%	1.2%	Low	Medium
Lake Luzerne (T)	6.5%	6.3%	3.6%	Low	Medium
Queensbury (T)	1.3%	1.4%	2.1%	Low	Medium
Stony Creek (T)	3.0%	3.2%	3.8%	Low	Medium
Thurman (T)	0.7%	0.8%	0.5%	Low	Medium
Warrensburg (T)	3.7%	3.9%	2.7%	Low	High
Warren County	2.1%	3.1%	3.0%	Low	Medium



Flood Hazard Areas



Legend

- Municipal Boundary
- County Boundary
- Waterbody
- Interstate
- U.S. Route
- State Route
- 1-Percent Annual Chance Flood
- 0.2 Percent Annual Chance Flood

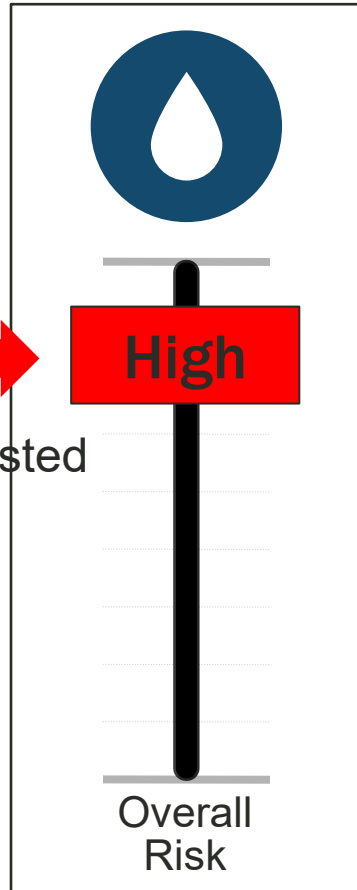
The flood hazard area depicted is the 1980's effective DFRM.

Data Source: Warren County, NY 2022;
New York State 2022; U.S. Census Bureau;
USGS; ESRI; FEMA 1980's
C - City, T - Township, V - Village





Countywide Preliminary Risk Ranking: Dam Failure



 **Probability of Occurrence: Rare**

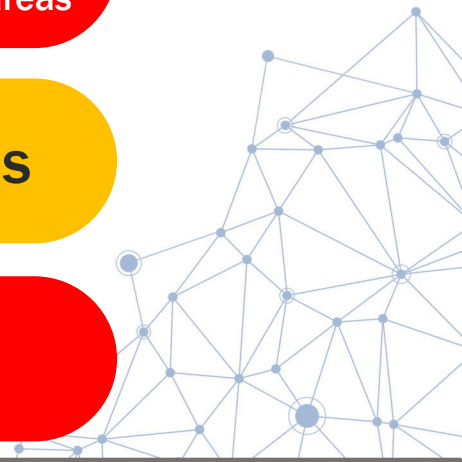
 **Impact on Population: High**
216 people in inundation areas

 **Impact on Property: High**
254 buildings (0.6% of total County buildings) located in inundation areas

 **Impact on Economy: High**
\$130 M Replacement Cost Value (RCV) (0.5% of County total RCV) in inundation areas

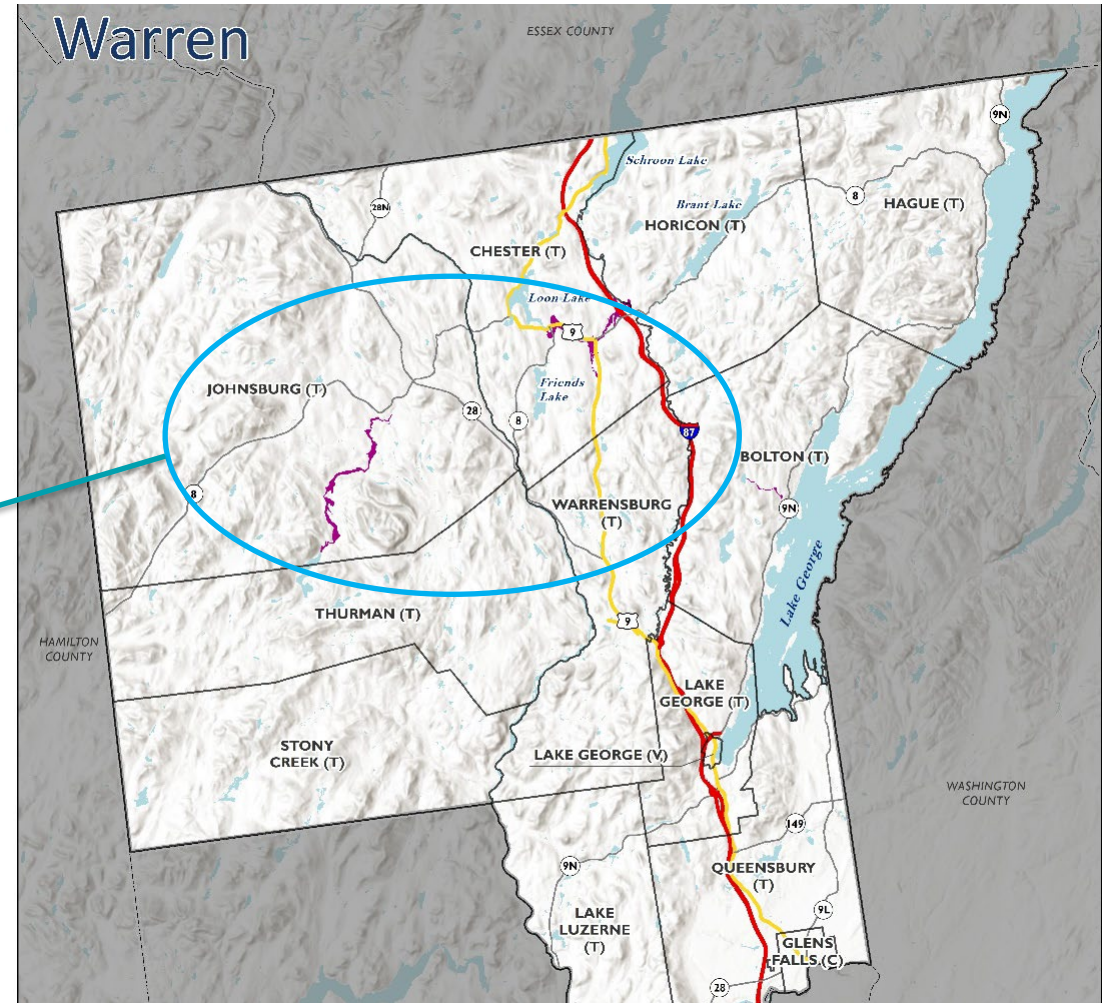
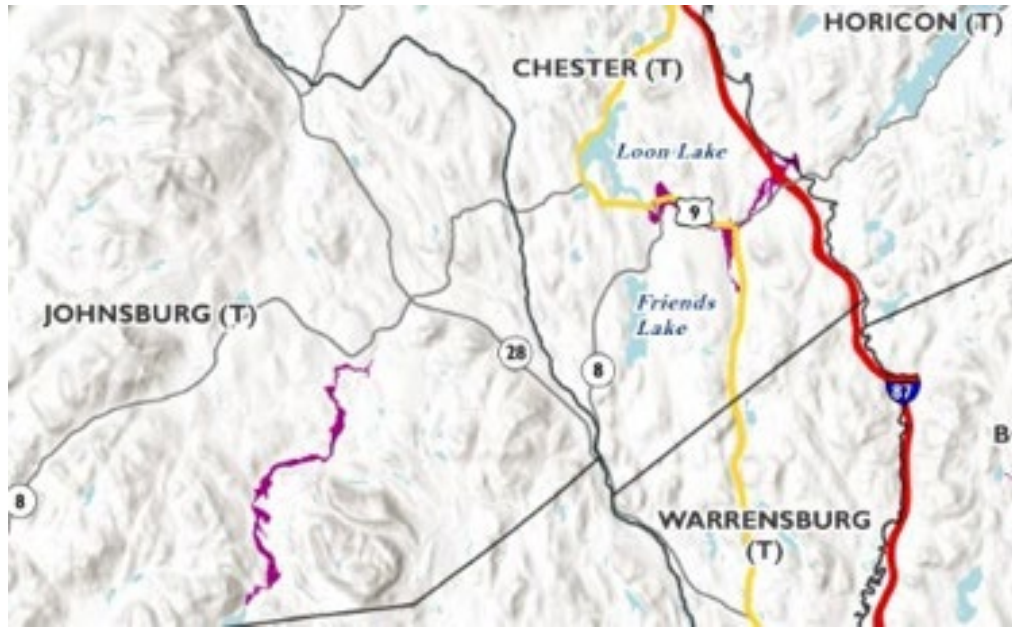
 **Adaptive Capacity: Medium for all municipalities**

 **Climate Change: High for all municipalities**





Dam Inundation Areas





Severe Storm

- Previous Events

- Hazard includes lightning, hail, and windstorms
- FEMA-DR-4472 (Severe Storms, Straight-line Winds and Flooding) – October 2019
- Between 2016 and 2022, Warren County was included in 1 FEMA severe storm-related declaration.
- According to the NOAA, 5 tornado events took place in Warren County between 1950 and 2022

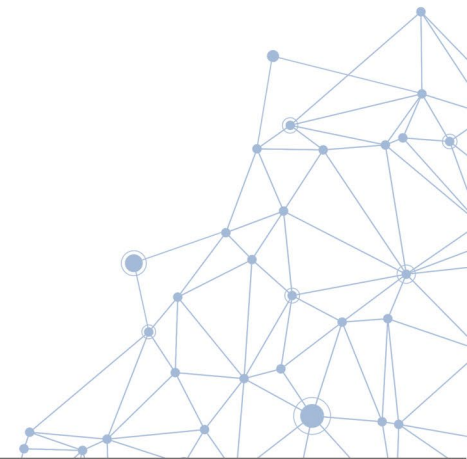
- Exposure

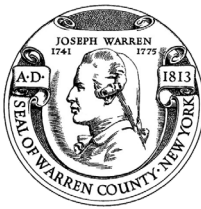
- Population and property exposed to 100-year peak wind gusts (Tropical Storm-39 to 73 mph) and 500-year (Tropical Storm speeds)
- All people and property exposed and vulnerable

- Potential Impacts

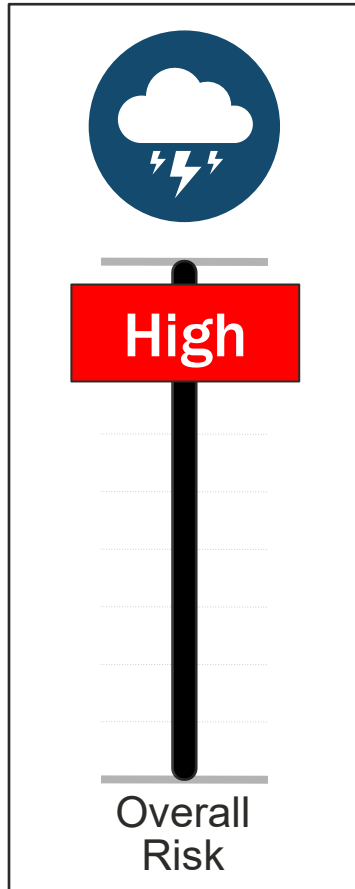
- Power outages
- Critical facility and infrastructure damage

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable



Impact on Economy: Low

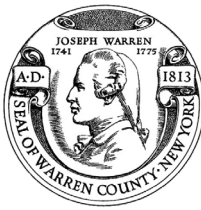
\$4.8 M (less than 1%) general building stock loss for a 500-year event



Adaptive Capacity: High for all municipalities



Climate Change: High for all municipalities

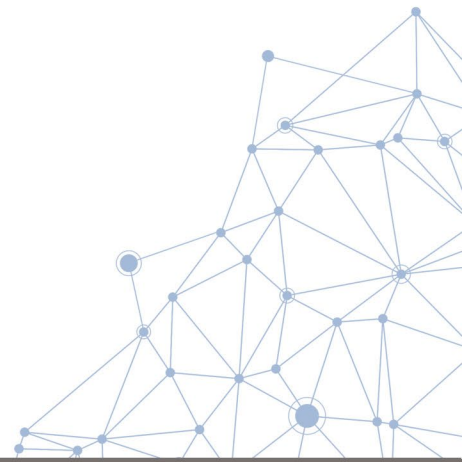


Wildfire

- Previous Events

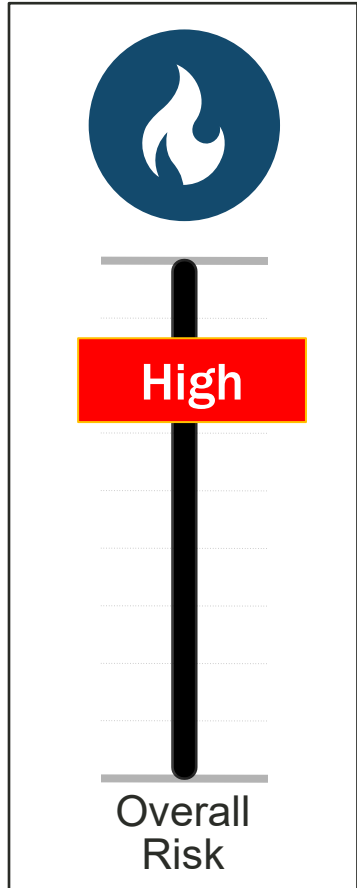
- The NYS HMP identified wildfire as a hazard of concern for New York State, however the daily probability of a wildfire event for the state is .09 percent.
- Warren County was included in one FEMA fire declaration; however, it was a manmade terrorist attack.
- According to the 2020 Warren County CEPA, the wildfire hazard is ranked medium.
- Exposure
- People and property located in Wildfire Urban Interface WUI.







Warren County
Ranking
HIGH

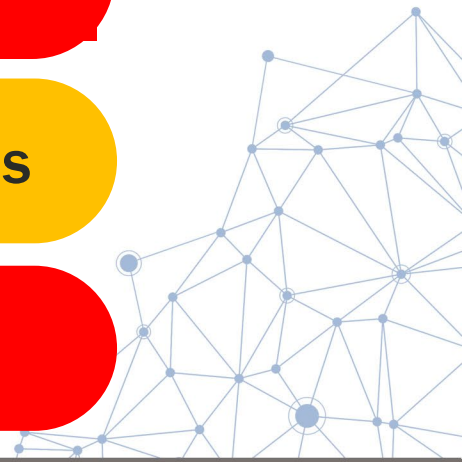




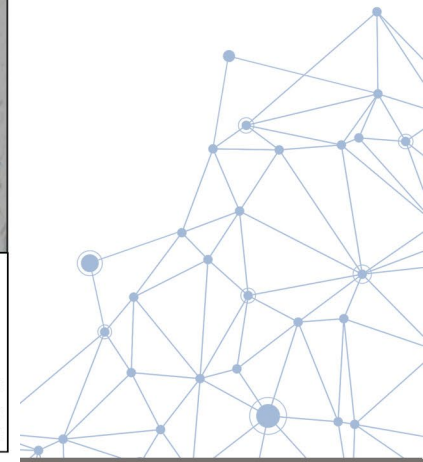
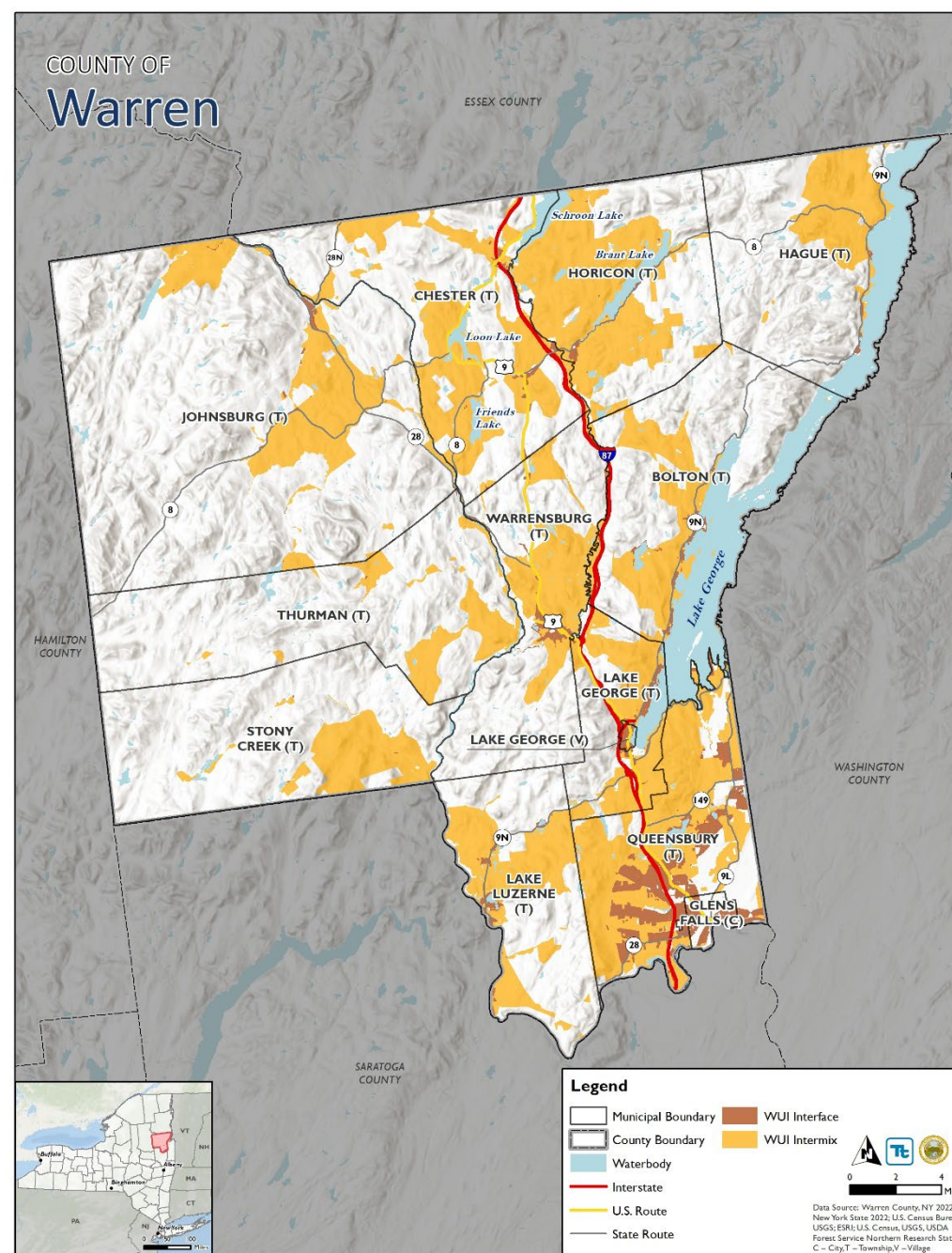
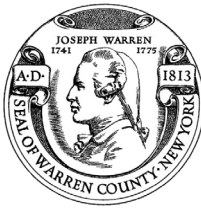
Countywide Preliminary Risk Ranking: Wildfire

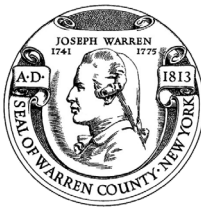


-  **Probability of Occurrence: Occasional**
-  **Impact on Population: High**
44.4% of population exposed to the WUI Interface
-  **Impact on Property: High**
14,488 buildings (35.9 % of County total) exposed to WUI Interface
-  **Impact on Economy: High**
\$8.6M in RCV 35.4% of County total) exposed to WUI Interface
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**



Wildland Urban Interface/ Intermix Area

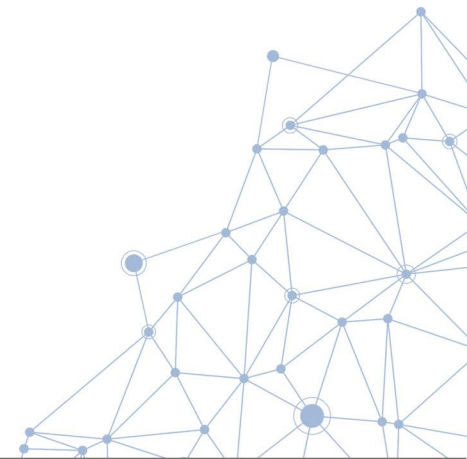




Severe Winter Storm

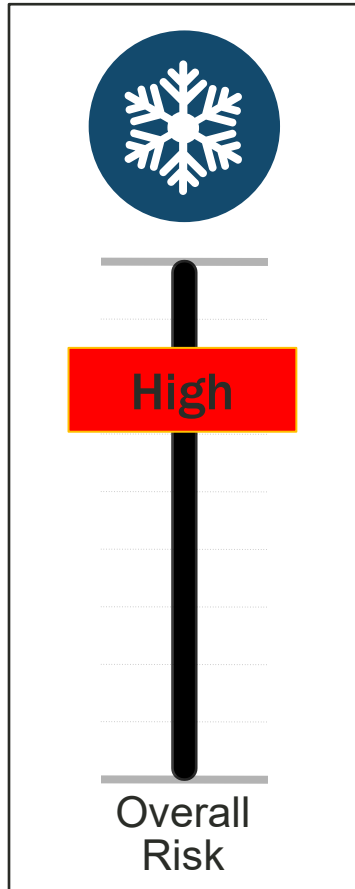
- Hazard includes heavy snow, blizzards, ice storms
- Previous Events
 - FEMA included Warren County in one winter storm-related disaster declaration
 - FEMA-EM-3107 (Severe Blizzard) – March 1993
- Exposure
 - All people and property exposed and vulnerable
- Potential Impacts
 - Power outages
 - Critical facility and infrastructure damage
 - Transportation interruptions/accidents

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Winter Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable; however, impacts are minimal



Impact on Economy: Low

\$1.2M (5%) potential losses to building stock



Adaptive Capacity: High for all municipalities



Climate Change: Medium for all municipalities

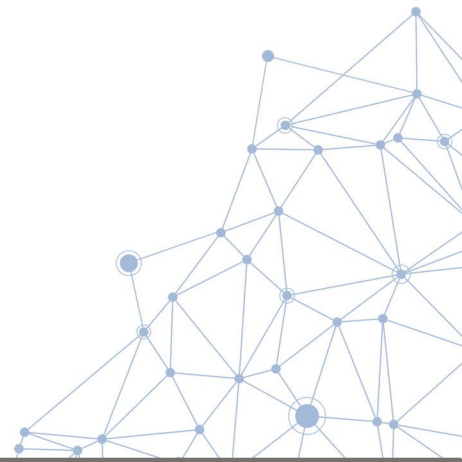


Disease Outbreak/Pandemic

- Previous Events

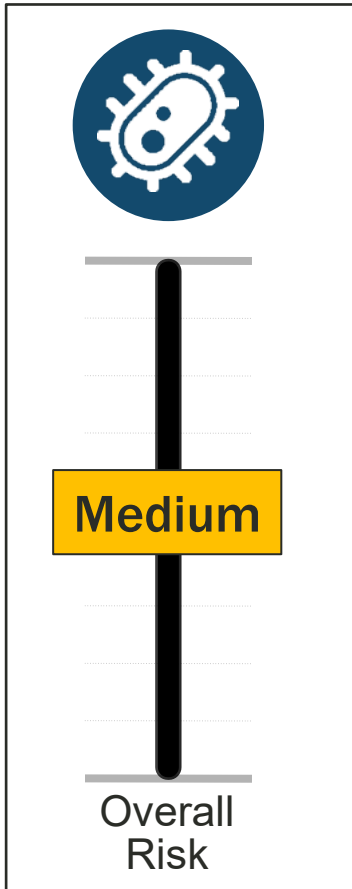
- According to the 2020 Warren County CEPA, the pandemic hazard is ranked medium.
- The County has been impacted by the COVID-19 pandemic (DR-4480).
- The County has been impacted by various diseases (COVID-19, West Nile Virus, Lyme disease)
- Exposure
 - Entire County is exposed and vulnerable; however, not occurring multiple times a year with significant impacts
 - Severe events can lead to staffing and bed shortages in hospitals

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Disease Outbreak



Probability of Occurrence: Occasional



Impact on Population: Medium

(14,754 County residents are 65+ years and 2,850 >5 years (26.8 % of County population))



Impact on Property: Low



Impact on Economy: Medium

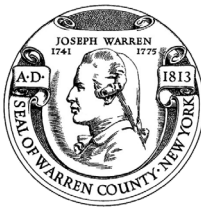


Adaptive Capacity: Medium for all municipalities



Climate Change: Medium for all municipalities

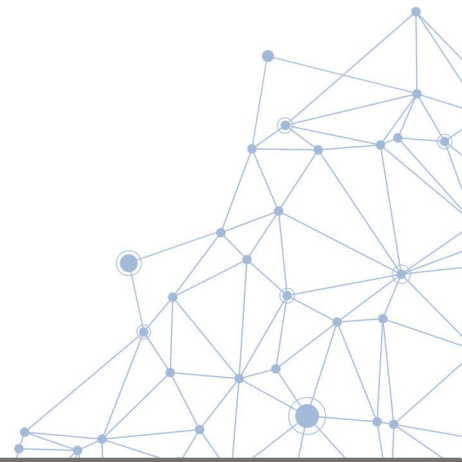


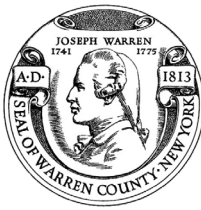


Extreme Temperature

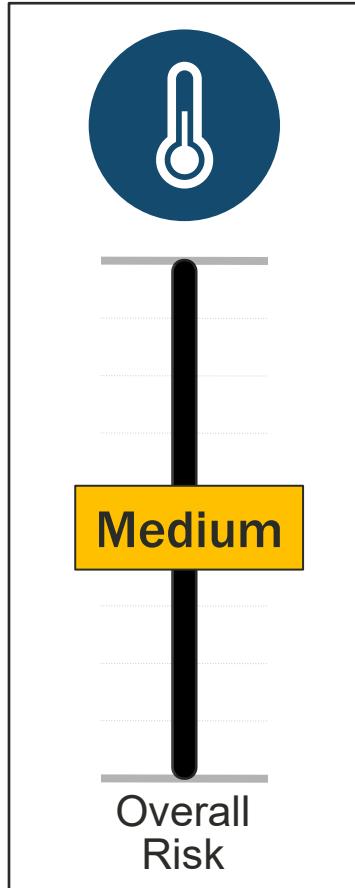
- Previous Events
 - Hot and cold events
- Exposure
 - Entire County is vulnerable
 - Increased vulnerability to populations at higher risk (65+ / <5 years old)
- Potential impacts:
 - Increased wildfire/brush fire risk
 - Impacts to agriculture/farms
 - Long-periods of warm temperatures can lead to drought conditions

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Extreme Temps



Probability of Occurrence: Occasional



Impact on Population: Medium

17,604 County residents are 65+ years old or >5 years (26.8% of County population)



Impact on Property: Low



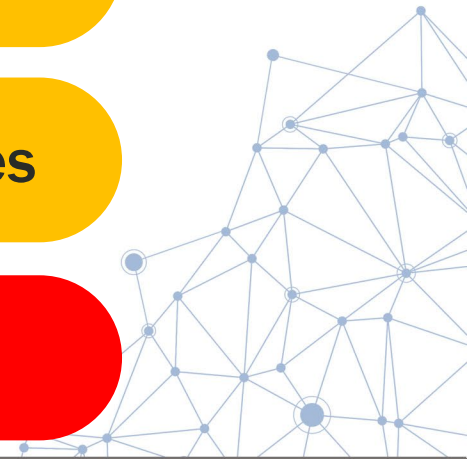
Impact on Economy: Medium



Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Infestation and Invasive Species

- Previous Events

- Beaver Dam Failure, March 2022
- Hemlock Woolly Adelgid, Lake George, 2017
- Emerald Ash Borer (EAB), Shroon River, 2022

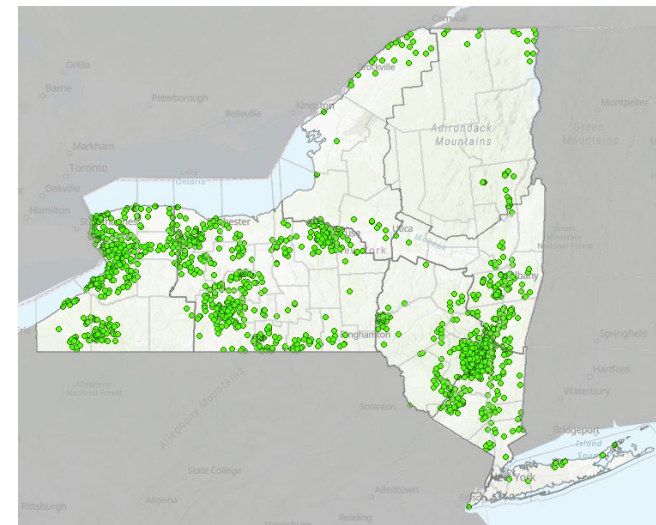
- Exposure

- Entire County is vulnerable

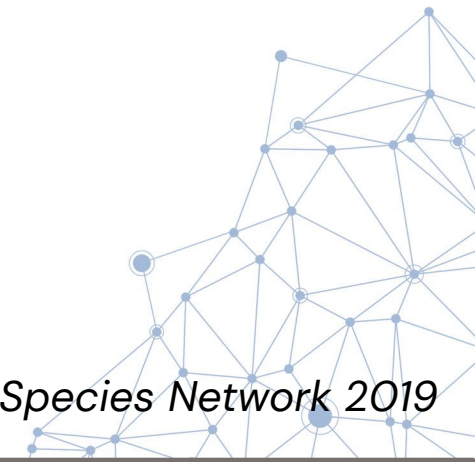
- Potential impacts:

- Soil destabilization
- Increased wildfire risk
- Impacts to agriculture/farms

Warren County
Ranking
MEDIUM

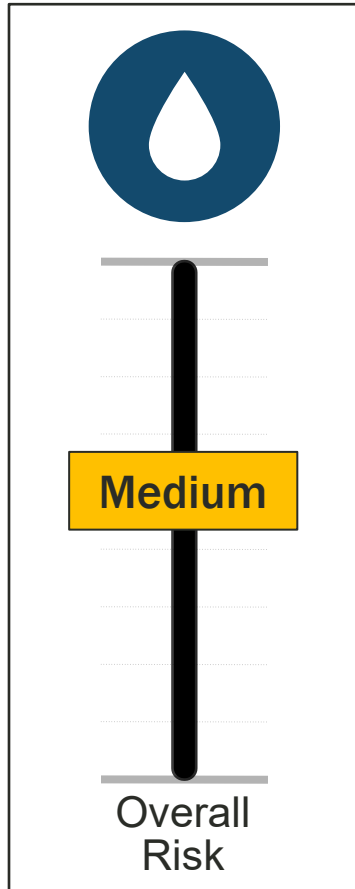








EAB - Source: New York Invasive Species Network 2019

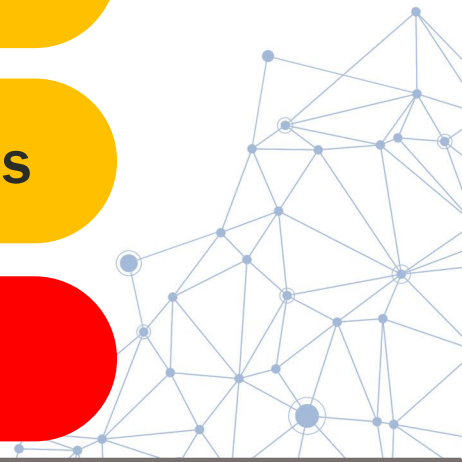


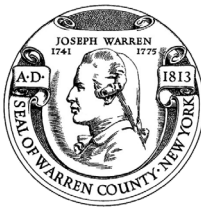


Countywide Preliminary Risk Ranking: Infestation



-  **Probability of Occurrence: Occasional**
-  **Impact on Population: Medium**
-  **Impact on Property: Medium**
-  **Impact on Economy: Medium**
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**





Next Steps

- Update Risk Assessment
 - Prepare results to present to planning partners
 - Populate adjusted results municipal annexes
 - Planning Partnership Risk Assessment Meeting: February 15, 2023
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #3 – AGENDA
MEETING DATE/TIME: February 15, 2023 – 10:00 am



- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Planning Partnership Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	February 15, 2023, 10:00 am

Attendees:

Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Jessica Leerkes*	Engineer, Town of Chester
Dan Barusch*	Town/Village Lake George, Planner
Dave Duell*	Town of Queensbury Highway Superintendent
Mark DeMers	Deputy Highway Superintendent
Craig Leggett*	Supervisor, Town of Chester
Debra Runyan*	Town of Thurman Supervisor
Tammie DeLorenzo*	Assistant to the County Administrator, Warren County
Michael Geraci*	Supervisor, Town of Horicon
Frank E. Thomas*	Supervisor, Town of Stoney Creek
Khristopher Kassay	Town of Lake Luzerne
Erin Putney	Town of Lake Luzerne, Zoning Officer
Laura Moore*	Planner, Town of Queensbury
Westfall, Josh*	Planner, Town of Bolton
James Hull	Code Enforcement Officer, Town of Warrensburg
Mike Dunkley	Deputy Highway Superintendent, Town of Johnsbury
Ernie Dunkley	Safety Officer, Town of Johnsbury
Keith Lanfear	Superintendent of Public Works, Village of Lake George
William Norton	Superintendent, Water & Sewer, City of Glens Falls
John Strough	Supervisor, Town of Queensbury
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a project status update and the preliminary municipal level hazards of concern relative risk rankings; to prepare the Planning Partners to review municipal rankings and adjust as necessary to take into account local data or undocumented issues.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> Meeting started at 10:05 am Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. Warren County (Jim Lieberum, Warren County Soil & Water Conservation District) provided an overview of the importance of the plan in identifying projects to reduce risk and encouraged municipal 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<p>teams supporting the plan to include public works, fire department, emergency management, and law enforcement staff to provide information on past events and problem areas to support the development mitigation projects.</p> <ul style="list-style-type: none"> • The process continues to be on track for plan submittal to FEMA in August 2023. • The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> • Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • Warren County reminded municipalities to submit documentation of in-kind hours to support the obligations related to the planning grant funding. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. • Surveys to target the public, neighboring counties, agencies, and businesses have been distributed and will be used to provide additional input to the plan to support the identification of mitigation actions. 	<p>Action: All staff to submit documentation of hours spent supporting the mitigation planning process, including hours spent to provide data, review documents, provide updates to communities.</p>
3	<p>Risk Assessment Overview</p> <ul style="list-style-type: none"> • Tt reviewed the methodology to calculate the relative risk of the county’s identified hazards of concern and shared the preliminary risk rankings. The ranks of Low, Medium, and High for each hazard will serve as a guide in identifying impactful mitigation actions to reduce damages and increase resilience. After review and adjustment by the core group, the preliminary county level ranks are as follows: <ul style="list-style-type: none"> ○ Disease Outbreak (including Covid-19, influenza, and tick-borne illnesses) - Medium ○ Earthquake - Medium ○ Extreme Temperatures - Medium ○ Flood - High ○ Dams Failure - High ○ Infestation - Medium ○ Severe Storm (Windstorm, Thunderstorm, Hail, Tornado) – High ○ Severe Winter Storm (Heavy Snow, Blizzards, Ice Storms) - High ○ Wildfire - High <p>The county ranks indicate the highest municipal risk rather than the calculated regional risk. The Steering Committee was tasked to review the information provided in the presentation (see attached) to provide</p>	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<p>any additional input to revisit and potentially further adjust the rankings.</p> <p>Discussion included clarification that vulnerability assessment included only projected damages to general building stock and not potential infrastructure damages which are not modeled in Hazus-MH. These damages are an example of why the rankings should be adjusted, in particular, the flood ranking as it should include the risk posed by unmapped, localized flood areas evidenced by washouts and culvert failures.</p> <p>The public sharing of dam inundation areas was also discussed and will be addressed by Emergency Services staff.</p> <ul style="list-style-type: none">• It will distribute municipal specific rankings of the hazard of concern to the Planning Partnership the week of 2/20/23. The Planning Partnership to review and adjust ranks for the hazards of concern to incorporate local hazard history and undocumented data, if necessary.	
6	<p>Upcoming Meeting</p> <ul style="list-style-type: none">• Mitigation Strategy Workshop – March 15, 2023.	
7	<p>Next Steps</p> <ul style="list-style-type: none">• Update municipal level risk ranking as necessary• Address data gaps in municipal annexes• Continue to engage the public• Develop mitigation strategy/actions: February 2023• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	<p>Conclusion - The meeting concluded at 10:55 am.</p>	



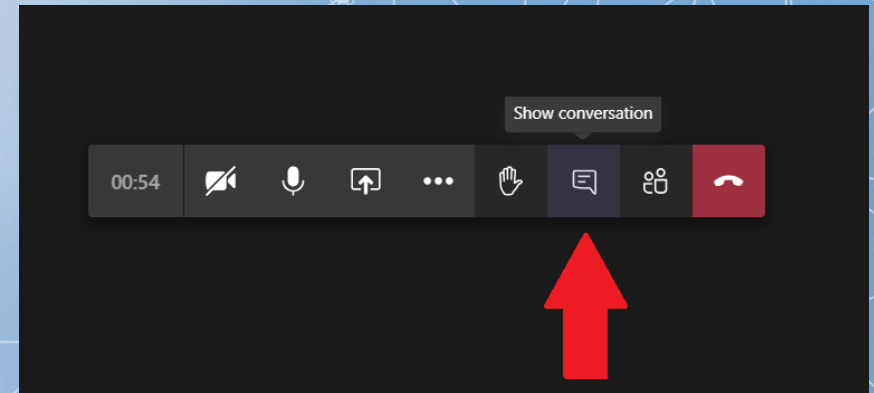
Warren County, New York Hazard Mitigation Plan – 2023 Update

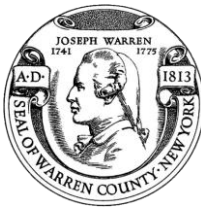
Planning Partnership #2 Meeting | February 15, 2023 | 10:00 – 11:00 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.

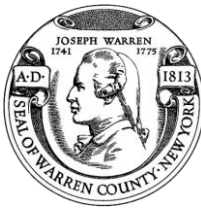




Agenda

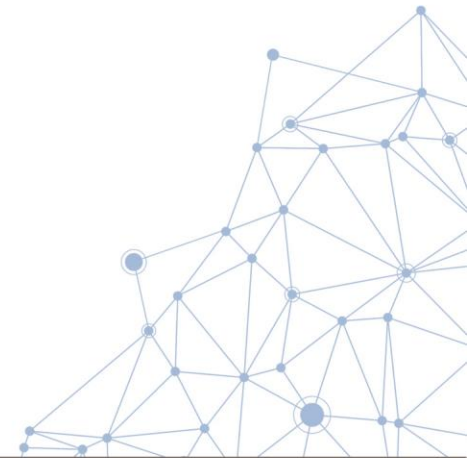
- Welcome
- Progress Report
- In-Kind Services Tracking
- Public and Stakeholder Outreach
- Risk Assessment Overview
- Next Steps/ Questions/ Wrap Up

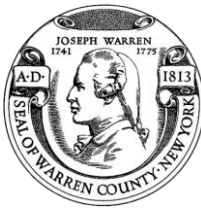




Project Schedule Review

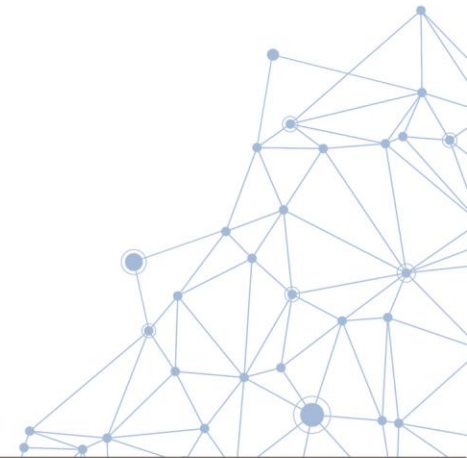
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ☐ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |

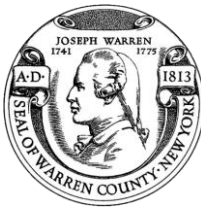




Progress

- Requested NFIP Data – *Data pending*
- GIS Data Collection - *Complete*
- Critical Facility Survey for Municipal Input – *Complete*
- HMP website, HMP Fact Sheet, Citizen Survey, Agency Surveys - *Complete*
- County-Level/Regional Plan Collection – *Complete*
- Planning Partnership Participation – 100%





In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

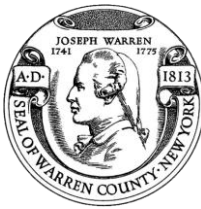
* Jurisdiction

Please document your time spent working on the HMP:

Date

Hours





Public and Stakeholder Outreach

- HMP website is LIVE!

<https://www.warrencountynewyorkhmp.com>

- Social Media
- Public Survey
- Stakeholder Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey

WARREN COUNTY HAZARD MITIGATION PLAN
2023 UPDATE

Home About What is Mitigation Meetings Calendar Explore the Plan Additional Information

Warren County Hazard Mitigation Plan 2023 Update

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

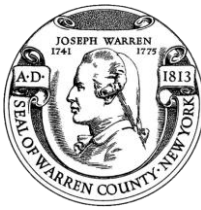
The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee has developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update. This survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in February 2023

List Month Week Day February 2023 Go < Today >



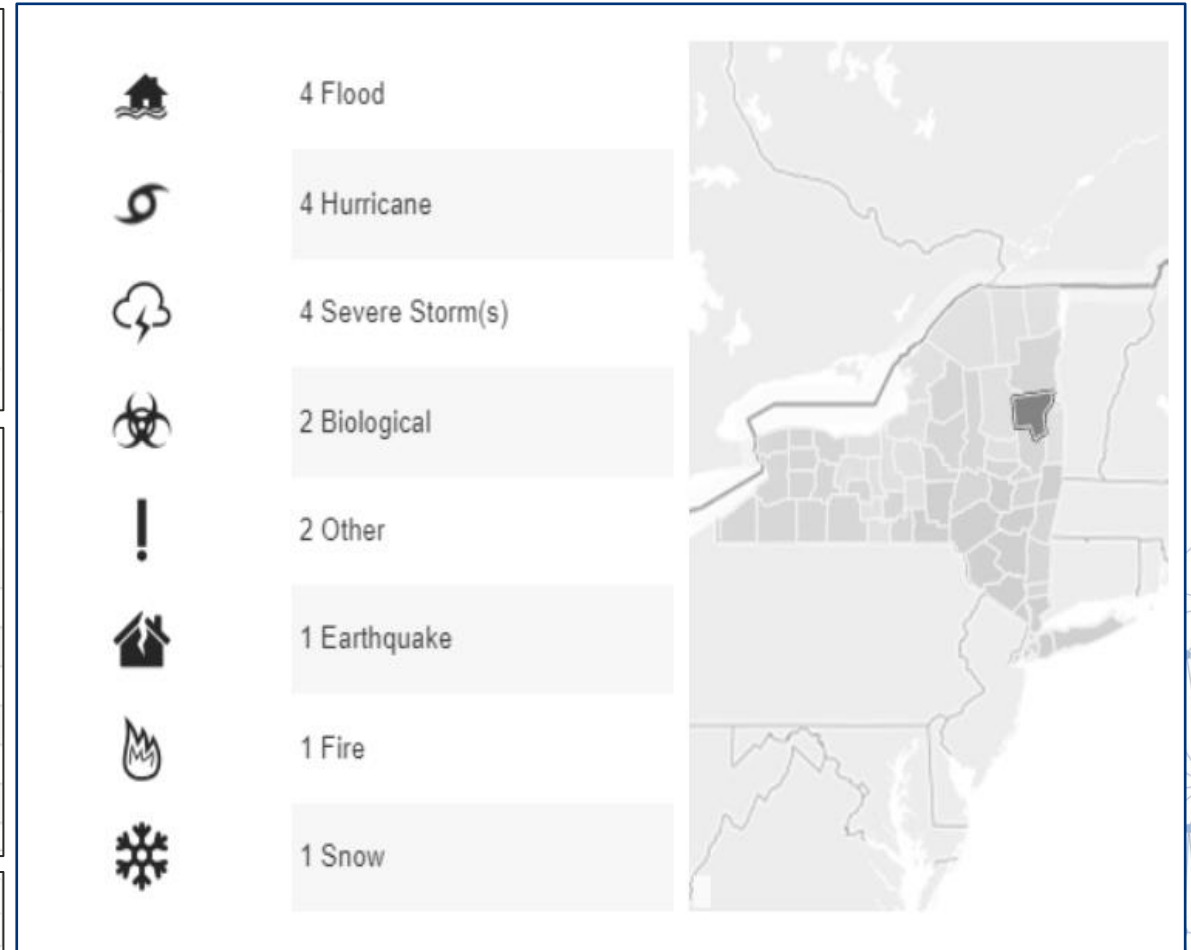
Hazard Mitigation – What’s at Risk?

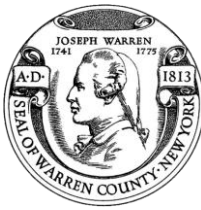
- FEMA Disaster Declarations

Year of Declaration Date	Declaration Title	Disaster Number
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
1999	HURRICANE FLOYD MAJOR DISASTER DECLARATIONS	1296
2000	WEST NILE VIRUS	3155
2001	FIRES AND EXPLOSIONS	1391
2002	EARTHQUAKE	1415
2003	POWER OUTAGE	3186

Year of Declaration Date	Declaration Title	Disaster Number
2004	SEVERE STORMS AND FLOODING	1534
		1564
2005	HURRICANE KATRINA EVACUATION	3262
2010	SEVERE STORMS AND FLOODING	1899
2011	HURRICANE IRENE	4020
	SEVERE STORMS, FLOODING, TORNADOES, AND STRAIGHT-...	1993
2012	HURRICANE SANDY	3351
2013	SEVERE STORMS AND FLOODING	4129
2019	SEVERE STORMS, STRAIGHT-LINE WINDS, AND FLOODING	4472

2020	COVID-19	3434
	COVID-19 PANDEMIC	4480

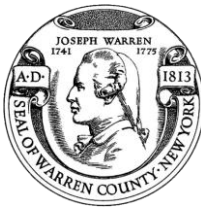




2023 HMP Hazards of Concern

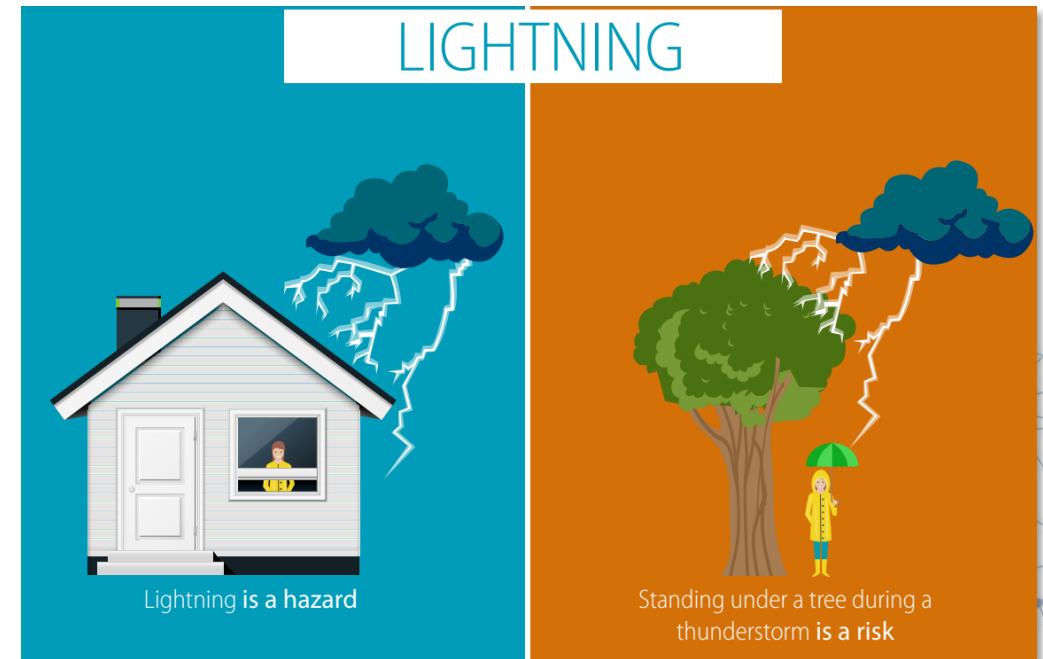
- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- High Hazard Potential Dams
- Infestation
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

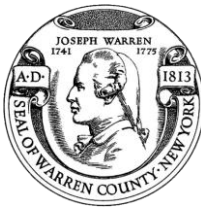




What is Risk?

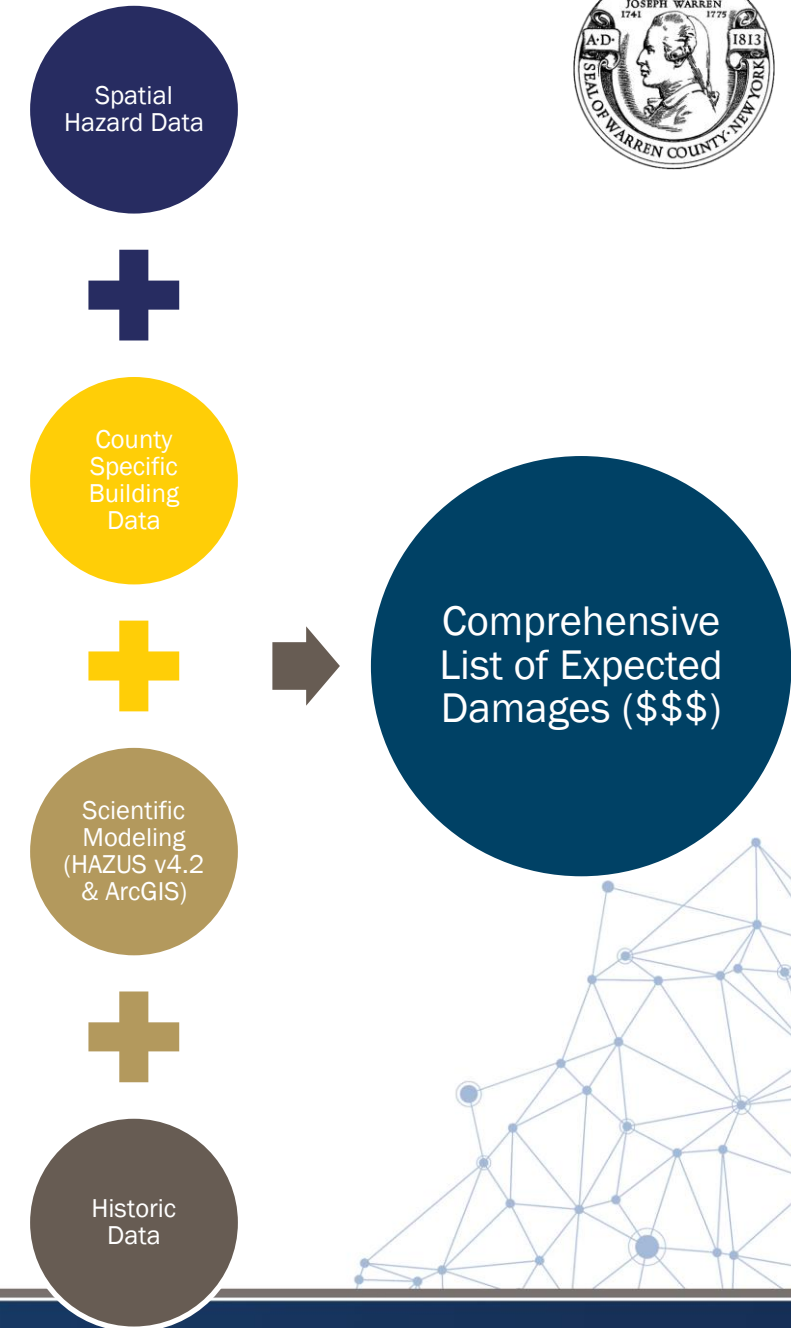
- ✓ Hazard
 - Source of potential danger or adverse condition
- ✓ Exposure
 - Manmade or natural features that are exposed to the hazard
- ✓ Vulnerability
 - Damage susceptibility of the exposed features
- ✓ Adaptive Capacity (or capability)
 - Plans/policies
 - Response/recovery
 - Financial resources
- ✓ Climate Change





Purpose of the Risk Assessment

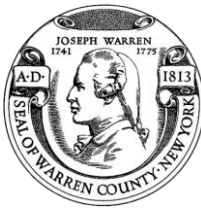
- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- Local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



Preliminary Hazard Ranking

How are the rankings calculated?

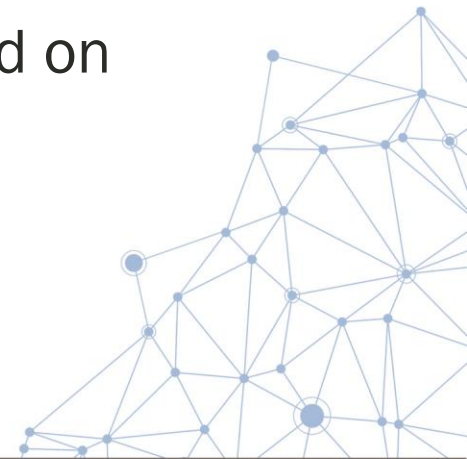


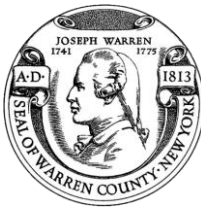


Preliminary Hazard Ranking Methodology

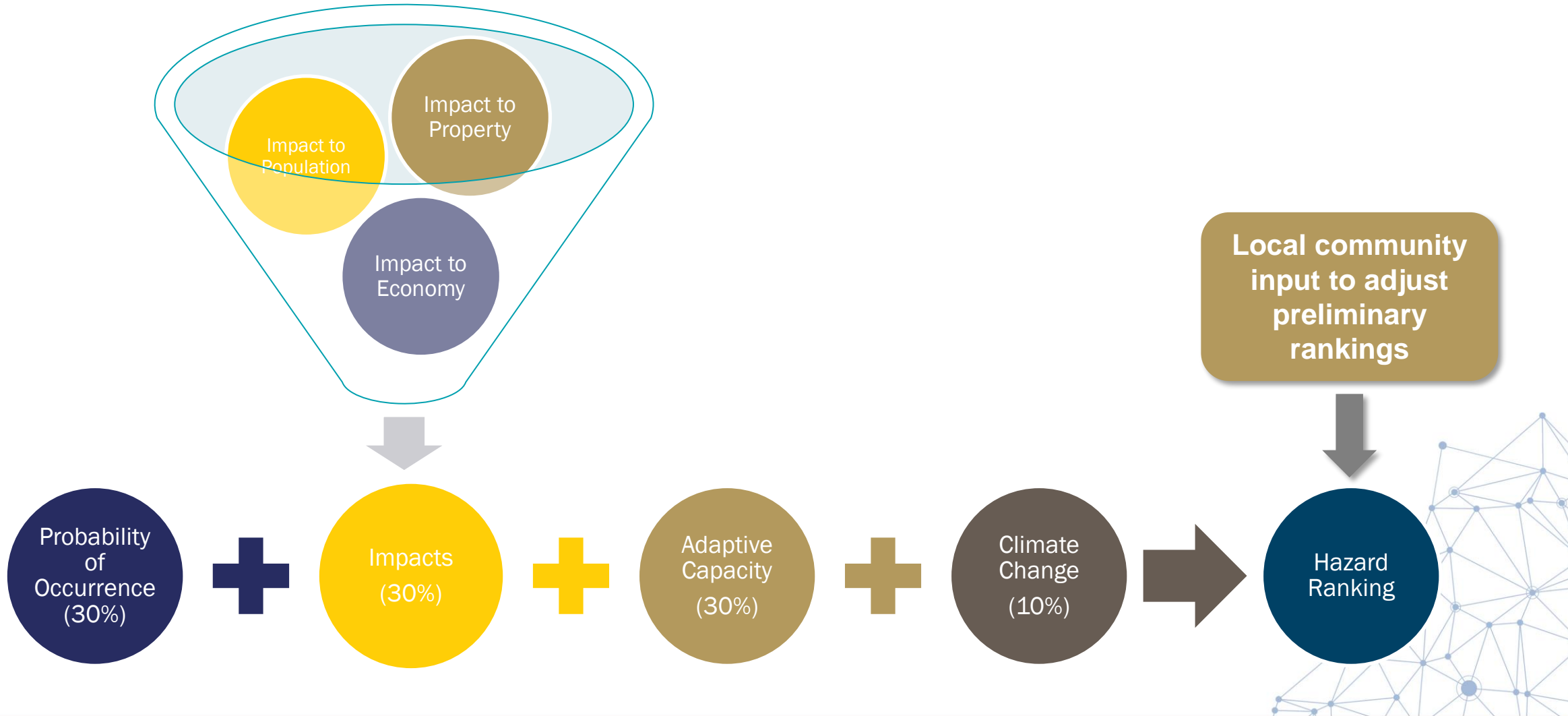
Hazard Ranking is determined by quantitative and qualitative factors including:

- 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.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.





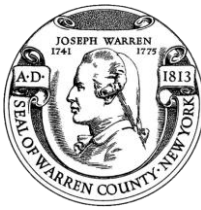
Hazard Ranking Formula



Ranking the Hazards of Concern

What information plays a role in determining the risk rankings?

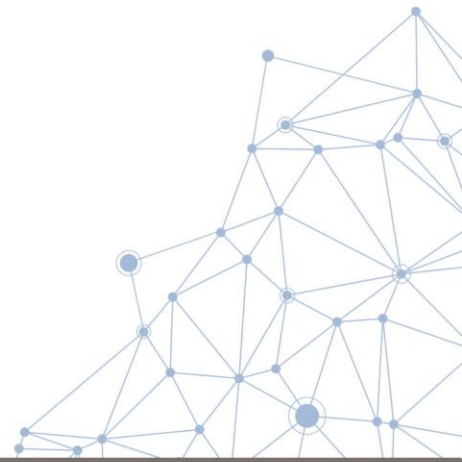


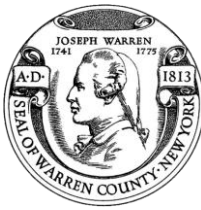


Probability Of Occurrence



- **Unlikely**
 - Not likely to occur or less than 1% annual chance of occurring
- **Rare**
 - Between 1 and 10% annual chance of occurring
- **Occasional**
 - Between 10 and 100% annual chance of occurring
- **Frequent**
 - 100% chance occurring; occurs multiple times a year





Hazard Ranking Input

Impact on Population – Function of population exposed

- ✓ Low – 14% or less population exposed
- ✓ Medium – 15%-29% population exposed
- ✓ High – 30%+ population exposed

Impact on property – Function of structures exposed

- ✓ Low – 14% or less structures exposed
- ✓ Medium – 15%-29% structures exposed
- ✓ High – 30%+ structures exposed

Impact on economy – Function of damages to building stock

- ✓ Low – 9% or less loss estimate of total replacement cost
- ✓ Medium – 10%-19% loss estimate of total replacement cost
- ✓ High – 19%+ loss estimate of total replacement cost

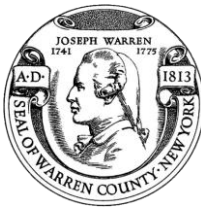
Capability – Function of level of planning, policies, enforcement

- ✓ Weak – outdated policies; limited to no deployable resources; limited capabilities to respond; long recovery
- ✓ Moderate – minimum requirements; mitigation strategies identified but not implemented; moderate county capabilities
- ✓ Strong – exceed requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high

Climate Change – Function of climate predictions

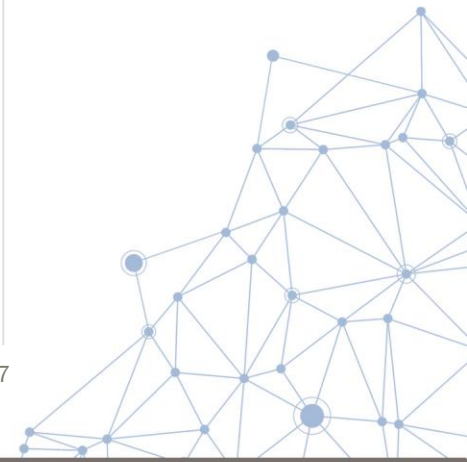
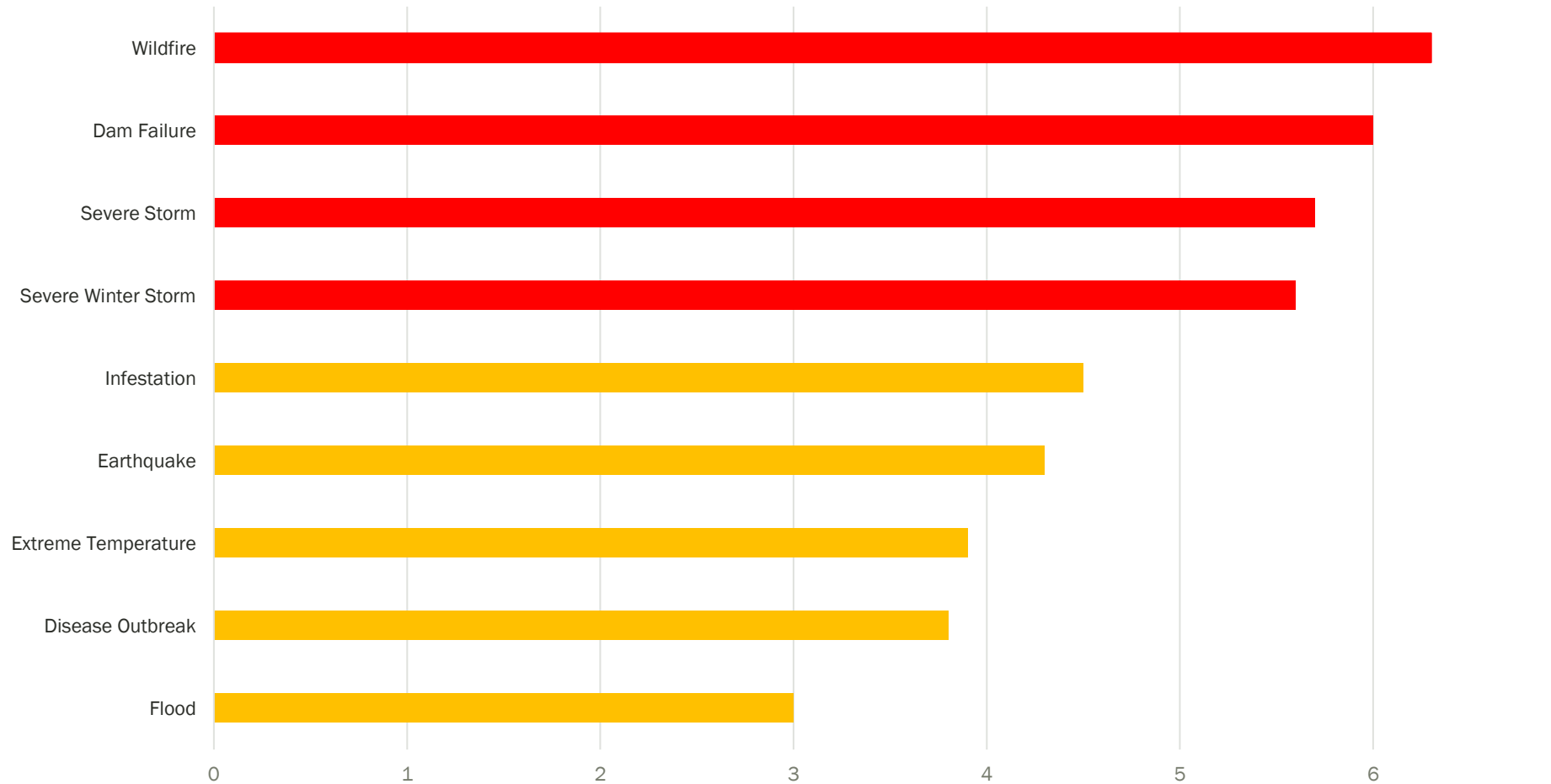
- ✓ Low - No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence)
- ✓ Medium - Studies and modeling projections indicate a potential for exacerbated conditions due to climate change
- ✓ High - Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change

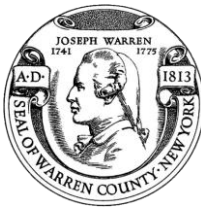




Preliminary County Overall Risk Ranking

County Preliminary Relative Risk Rankings





Preliminary County Overall Risk Ranking

Hazard of Concern	2021 CEPA Ranking	2023 Calculated Risk Ranking	2017 Risk Ranking	2023 Adjusted Ranking
Earthquake	Low	Low	High	Medium
Extreme Temperature	-	Medium	-	Medium
Flood	Very High	Low	Medium	Medium
Severe Storm	Medium	High	High	High
Severe Winter Storm	High	High	High	High
Wildfire	Medium	High	High	High
Infestation	-	Medium	Medium	Medium
Dam Failure	-	High	-	High
Disease Outbreak/Pandemic	Medium	Low	Medium	Medium

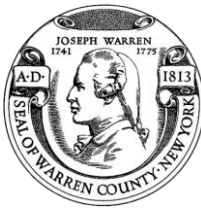
* Potential adjustments

Municipal Level Risk Ranking (Preliminary)



Hazard Ranking									
Municipality	Earthquake	Extreme Temps	Flood	Severe Storm	Severe Winter Storm	Wildfire	Infestation	Dam Failure	Disease Outbreak
Bolton (T)	Low	Medium	Low	High	High	Medium	Medium	High	Medium
Chester (T)	Low	Medium	Medium	High	High	Low	Medium	High	Low
Glens Falls (C)	Medium	Medium	Low	High	High	High	Medium	Medium	Low
Hague (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Horicon (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Johnsburg (T)	Low	Medium	Low	High	High	Low	Medium	High	Medium
Lake George (T)	Low	Medium	Low	High	High	High	Medium	Medium	Medium
Lake George (V)	Low	Medium	Low	High	High	High	Medium	Low	Low
Lake Luzerne (T)	Medium	Medium	Medium	High	High	Medium	Medium	Medium	Low
Queensbury (T)	Medium	Medium	Medium	High	High	High	Medium	Medium	Low
Stony Creek (T)	Medium	Low	Low	High	High	Low	Medium	Medium	Low
Thurman (T)	Low	Medium	Low	High	High	Low	Medium	Medium	Medium
Warrensburg (T)	Medium	Medium	Medium	High	High	High	Medium	Medium	Low
Warren County	Medium	Medium	Medium	High	High	High	Medium	High	Medium

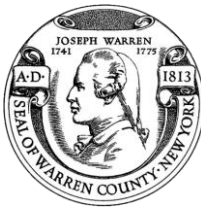
* adjusted



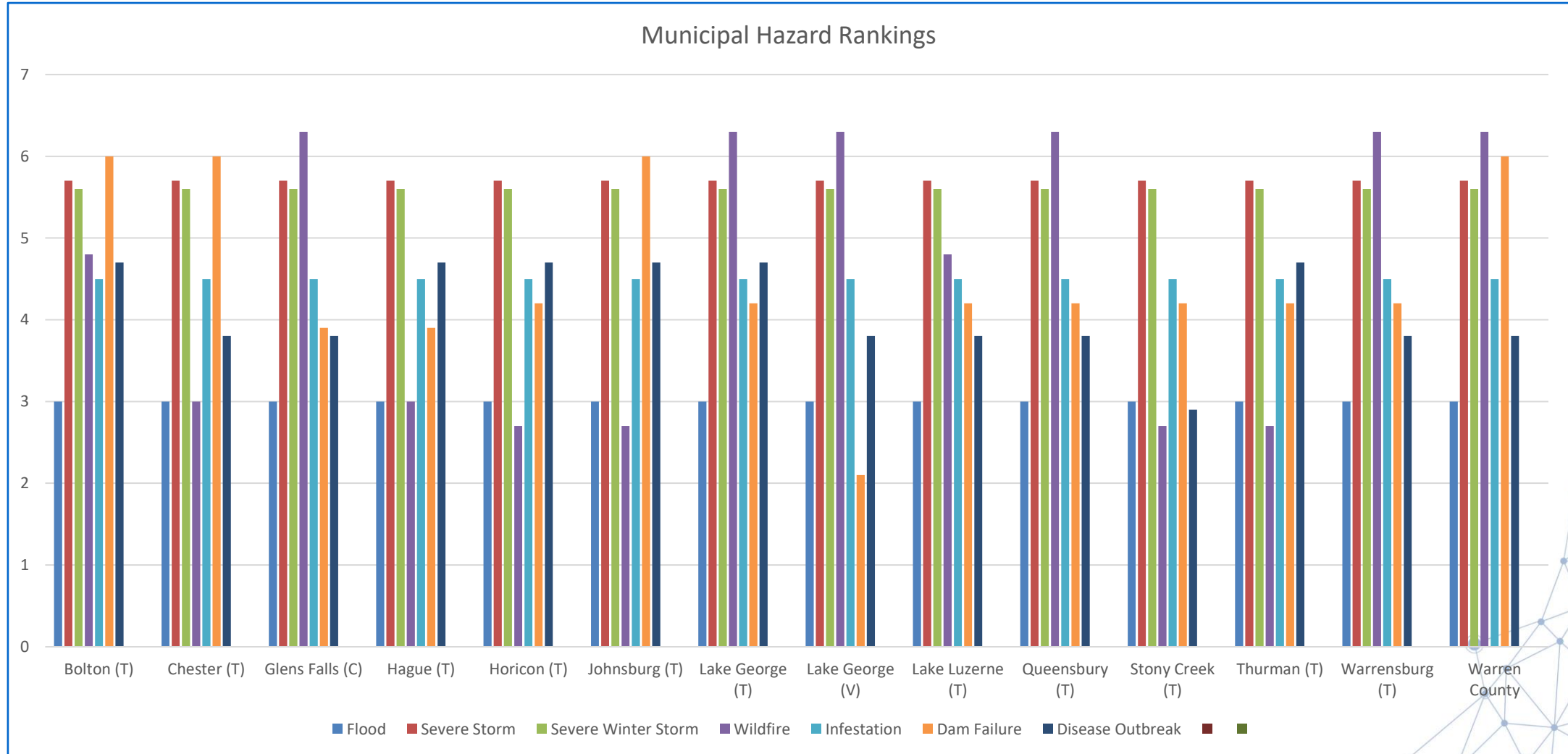
Public Input: Flood Hazard Events

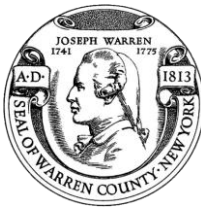
In the past 10 years, which of the following hazard events have you experienced in Warren County? Check all that apply.





Preliminary Hazard Ranking – Warren County



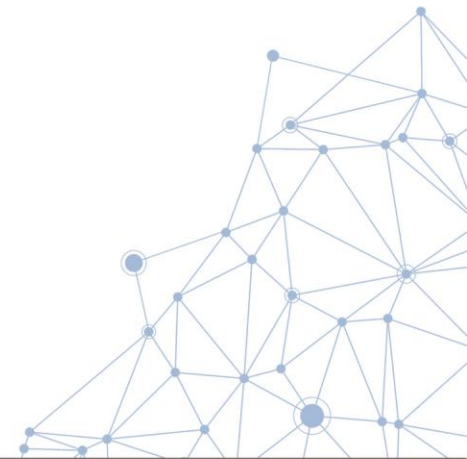


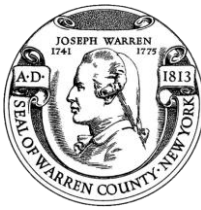
Earthquake

- Number of Events

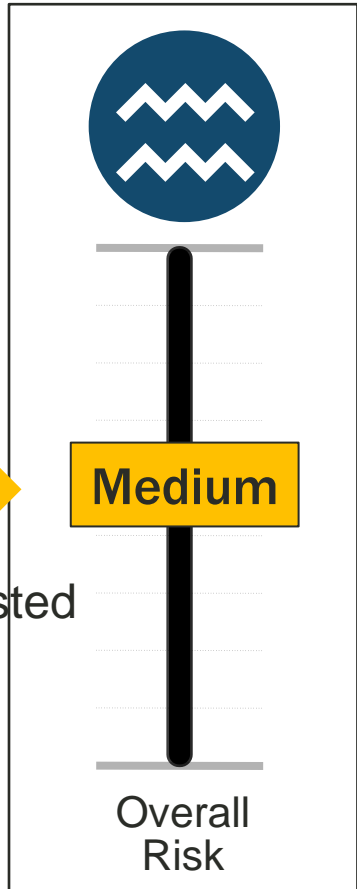
- 189 earthquakes epicentered in NYS with 4 epicentered in Warren County, per 2015 NYS HMP, between 1973 and 2014
- Faults are located within the County
- Individual Assistance (IA) declared for EMA declarations DR-1415 in Warren County (5/16/2002)
- Impacts
- 2 earthquake scenarios: 500-yr and 2500-yr events
- People and structures located in areas with soils more susceptible to earthquakes

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Earthquake



Probability of Occurrence: Rare



Impact on Population: Medium

65.6% of population is exposed and vulnerable (NEHRP D & E soils)



Impact on Property: High

48.7% of County building stock is exposed and vulnerable (NEHRP D & E soils)



Impact on Economy: Low

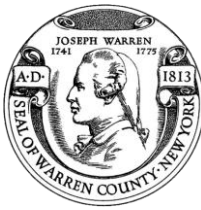
\$1.9% of Structural Replacement Cost Value damaged



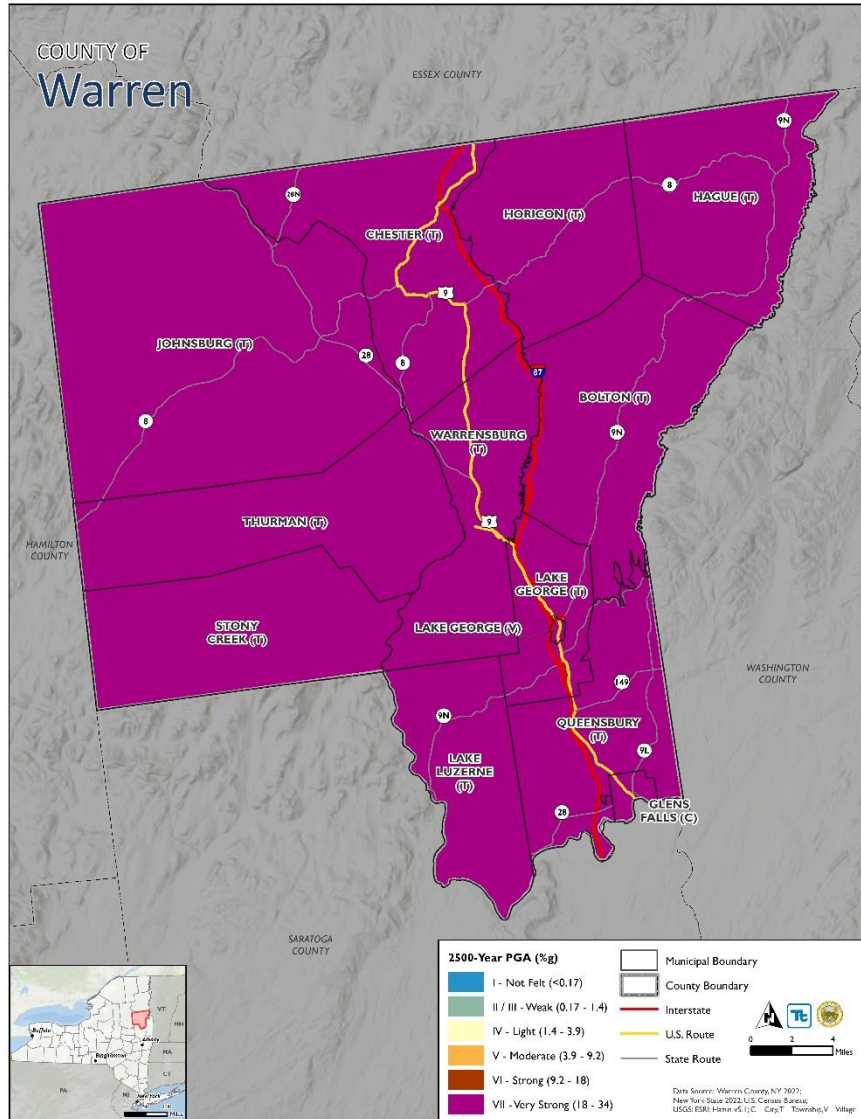
Adaptive Capacity: Medium for all municipalities



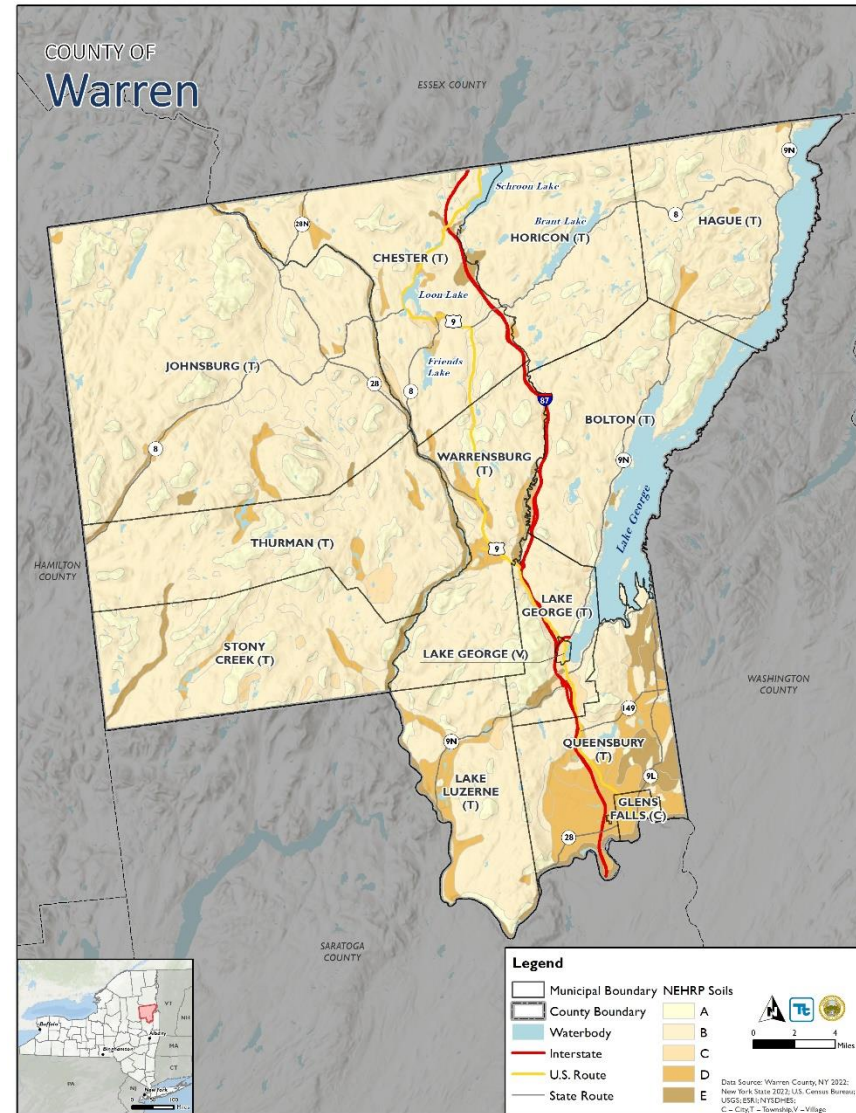
Climate Change: Low for all municipalities

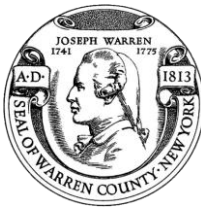


Peak Ground Acceleration



NEHRP Soil Class

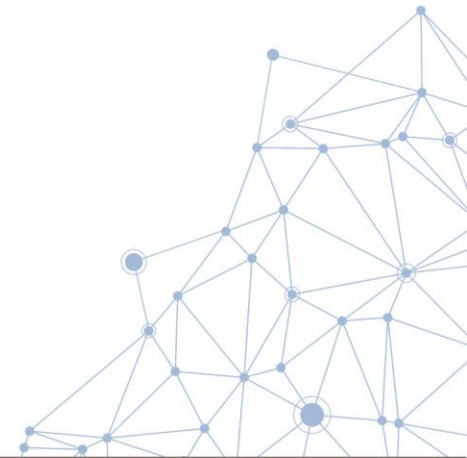


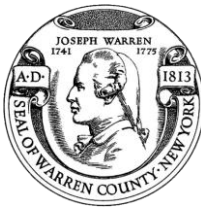


Flood

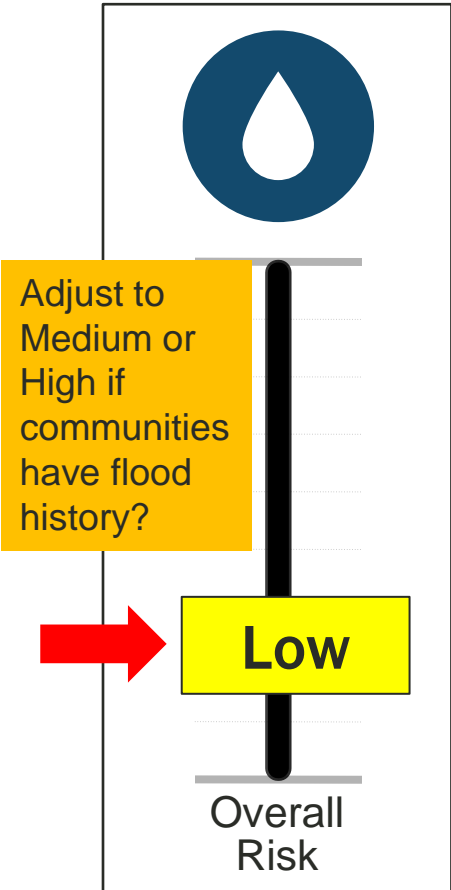
- Previous Events
 - Riverine, flash, and stormwater flooding
 - Between 2000 and 2022, Warren County included in 2 FEMA flood-related declarations.
 - FEMA-DR-1993 (Severe Storms Tornadoes, Winds and Flooding) – April 26, 2011
 - FEMA-DR-4129 (Severe Storms, and Flooding) – July 2013
- Exposure
 - People and property located in the 1% annual chance flood area

Warren County
Ranking
LOW








Countywide Preliminary Risk Ranking: Flood



 **Probability of Occurrence: Occasional or Frequent**

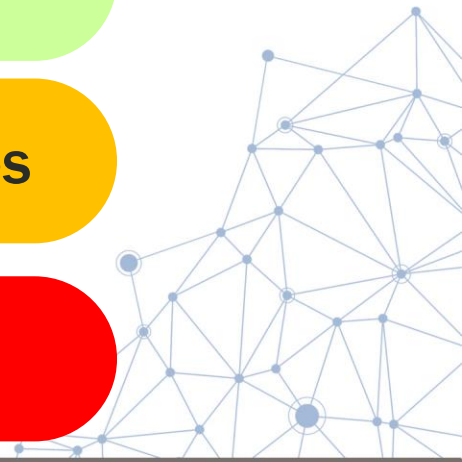
 **Impact on Population: Low**
1,385 people (2.1% of the population) in the SFHA

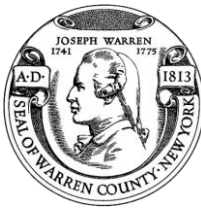
 **Impact on Property: Low**
1,252 buildings (3.1% of total County buildings) in the SFHA; 1 Rep Loss

 **Impact on Economy: Low**
\$721 M Replacement Cost Value (RCV) (3% of County total RCV) located in the Regulatory Floodplain

 **Adaptive Capacity: Medium for all municipalities**

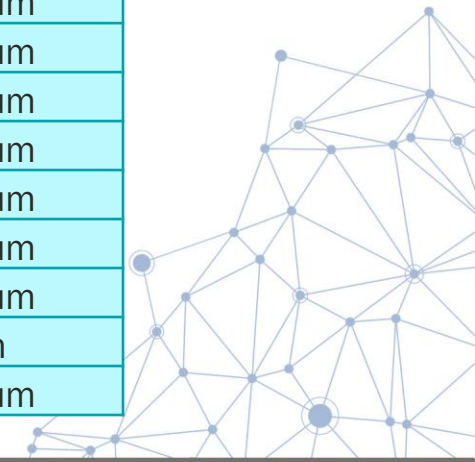
 **Climate Change: High for all municipalities**



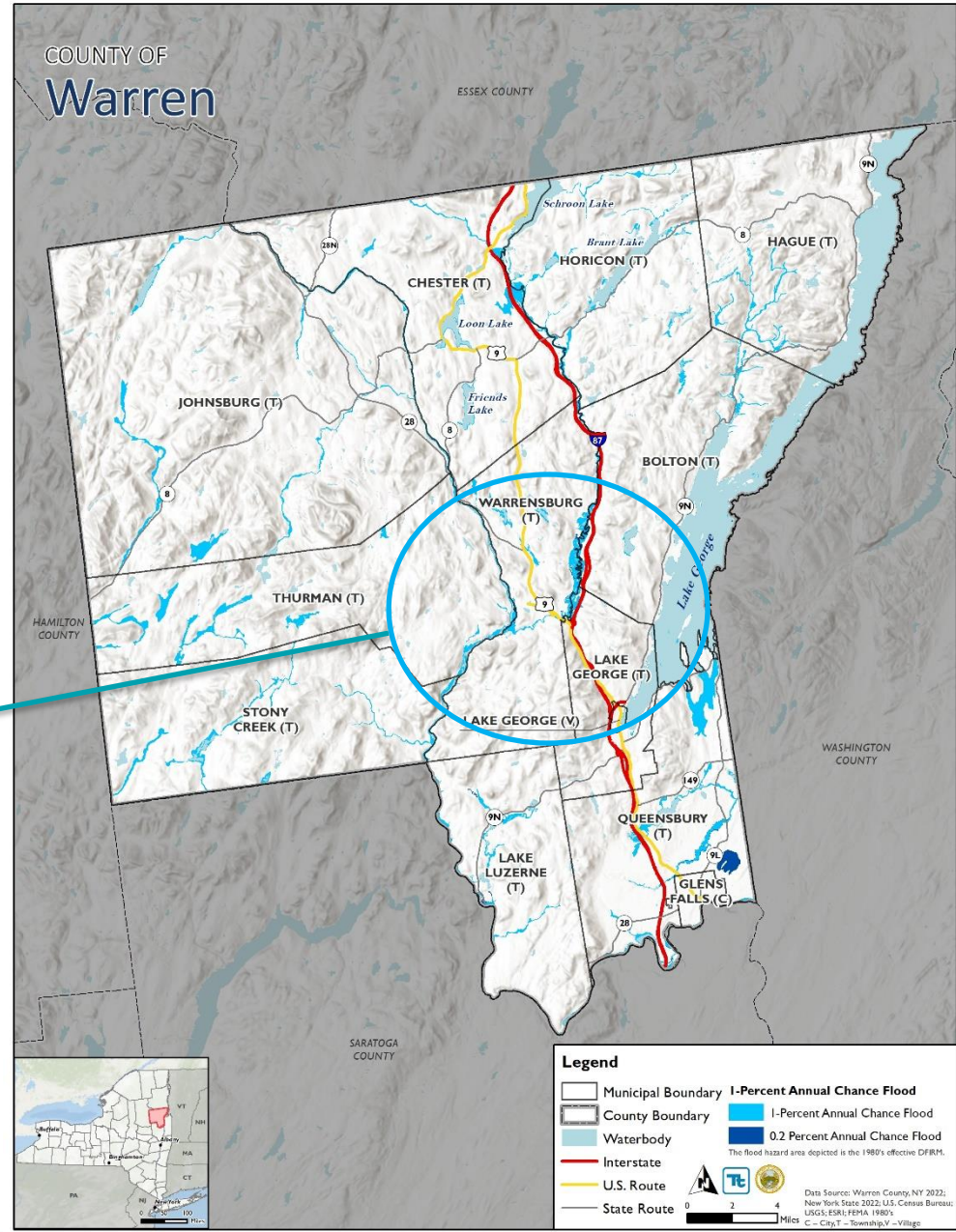


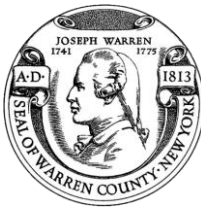
Preliminary 2023 vs. 2017 Rankings (Flood)

Warren County Municipality	IMPACT ON POPULATION	IMPACT ON PROPERTY	IMPACT ON ECONOMY	RISK RANKING	RISK RANKING
	Percent Population Exposed (1-Percent Annual Chance Flood Event)	Percent of Total Buildings in 1% Flood Area	Percent of Total GBS RCV	2023 Estimated	2017
Bolton (T)	6.5%	6.6%	6.5%	Low	Medium
Chester (T)	8.5%	8.2%	7.6%	Low	Medium
Glens Falls (C)	0.0%	0.1%	1.0%	Low	Medium
Hague (T)	7.1%	7.0%	3.2%	Low	Medium
Horicon (T)	5.2%	5.2%	7.2%	Low	Medium
Johnsburg (T)	2.3%	2.4%	3.8%	Low	Medium
Lake George (T)	2.6%	2.5%	1.0%	Low	Medium
Lake George (V)	0.2%	1.1%	1.2%	Low	Medium
Lake Luzerne (T)	6.5%	6.3%	3.6%	Low	Medium
Queensbury (T)	1.3%	1.4%	2.1%	Low	Medium
Stony Creek (T)	3.0%	3.2%	3.8%	Low	Medium
Thurman (T)	0.7%	0.8%	0.5%	Low	Medium
Warrensburg (T)	3.7%	3.9%	2.7%	Low	High
Warren County	2.1%	3.1%	3.0%	Low	Medium

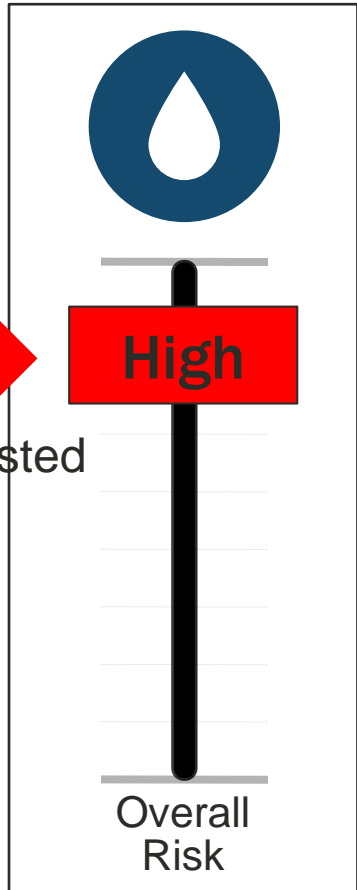



Flood Hazard Areas





Countywide Preliminary Risk Ranking: Dam Failure



 **Probability of Occurrence: Rare**

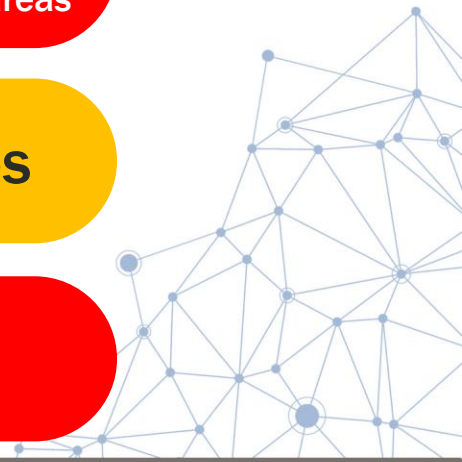
 **Impact on Population: High**
216 people in inundation areas

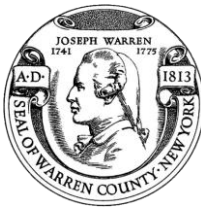
 **Impact on Property: High**
254 buildings (0.6% of total County buildings) located in inundation areas

 **Impact on Economy: High**
\$130 M Replacement Cost Value (RCV) (0.5% of County total RCV) in inundation areas

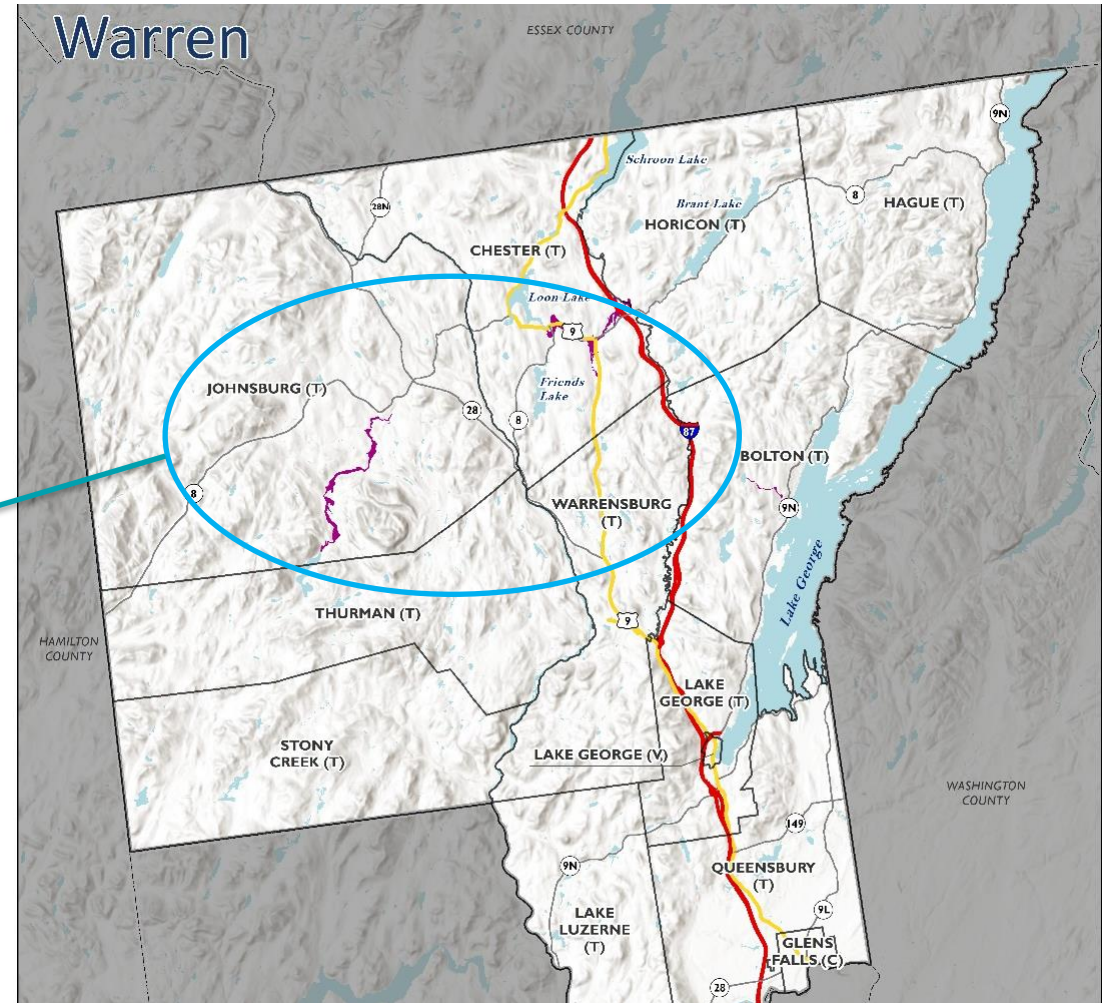
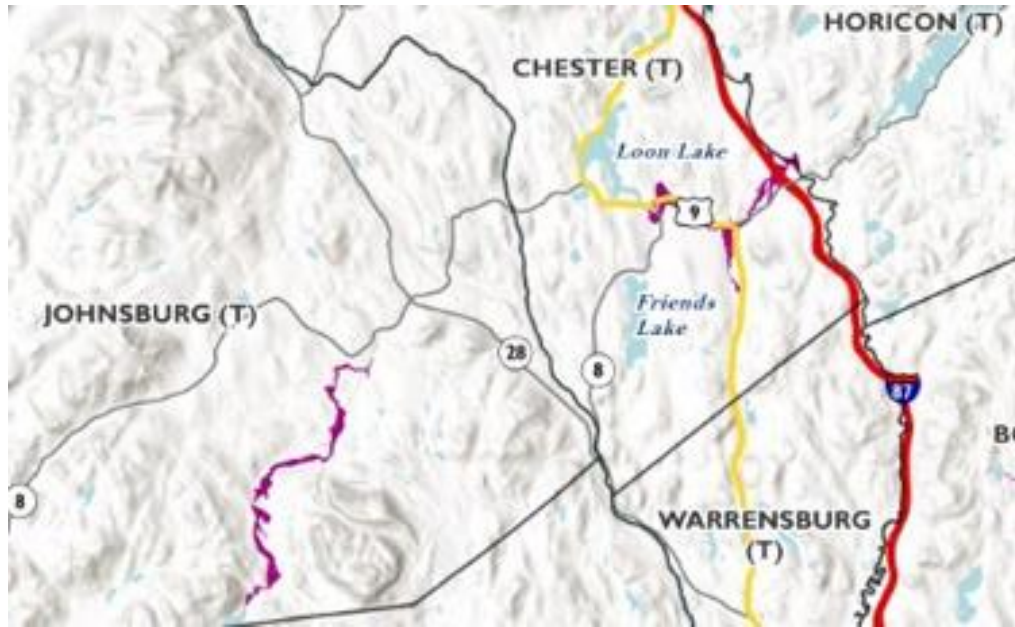
 **Adaptive Capacity: Medium for all municipalities**

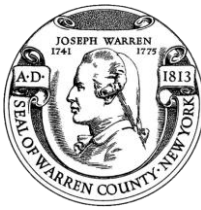
 **Climate Change: High for all municipalities**





Dam Inundation Areas





Severe Storm

- Previous Events

- Hazard includes lightning, hail, and windstorms
- FEMA-DR-4472 (Severe Storms, Straight-line Winds and Flooding) – October 2019
- Between 2016 and 2022, Warren County was included in 1 FEMA severe storm-related declaration.
- According to the NOAA, 5 tornado events took place in Warren County between 1950 and 2022

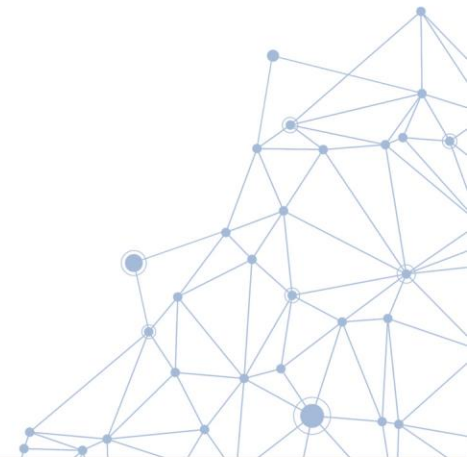
- Exposure

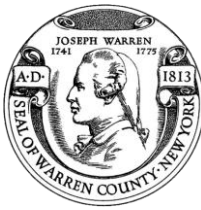
- Population and property exposed to 100-year peak wind gusts (Tropical Storm-39 to 73 mph) and 500-year (Tropical Storm speeds)
- All people and property exposed and vulnerable

- Potential Impacts

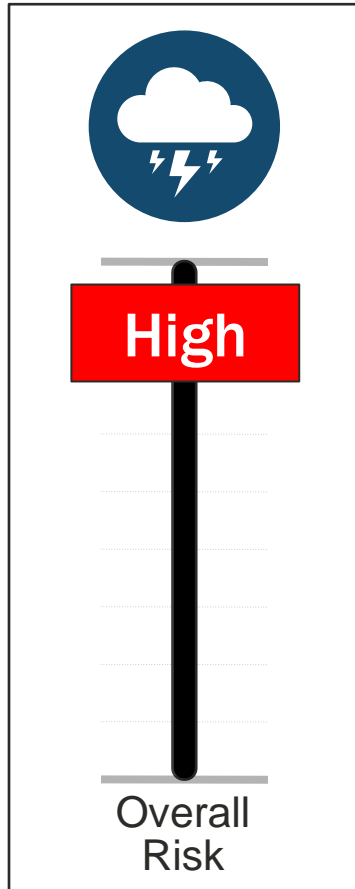
- Power outages
- Critical facility and infrastructure damage

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable



Impact on Economy: Low

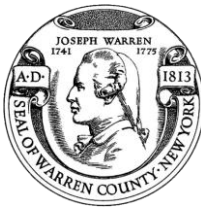
\$4.8 M (less than 1%) general building stock loss for a 500-year event



Adaptive Capacity: High for all municipalities



Climate Change: High for all municipalities

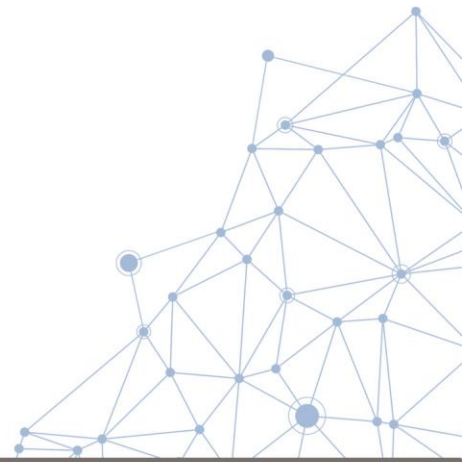


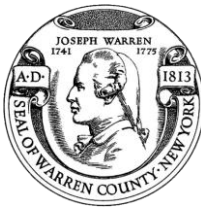
Wildfire

- Previous Events

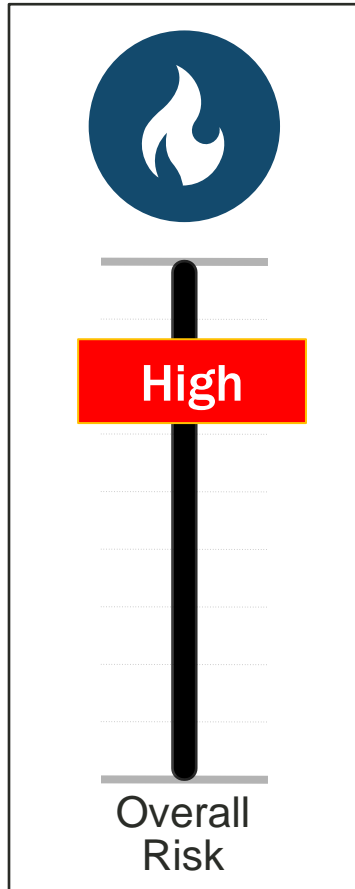
- The NYS HMP identified wildfire as a hazard of concern for New York State, however the daily probability of a wildfire event for the state is .09 percent.
- Warren County was included in one FEMA fire declaration; however, it was a manmade terrorist attack.
- According to the 2020 Warren County CEPA, the wildfire hazard is ranked medium.
- Exposure
- People and property located in Wildfire Urban Interface WUI.







Warren County
Ranking
HIGH

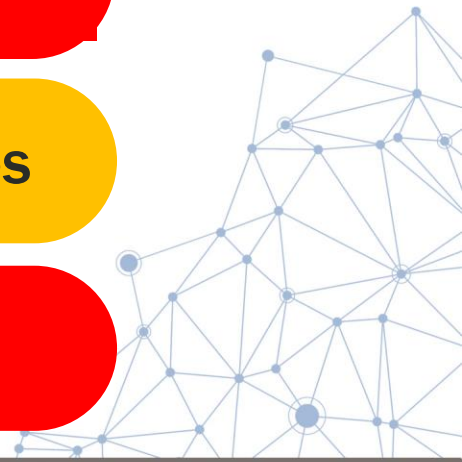




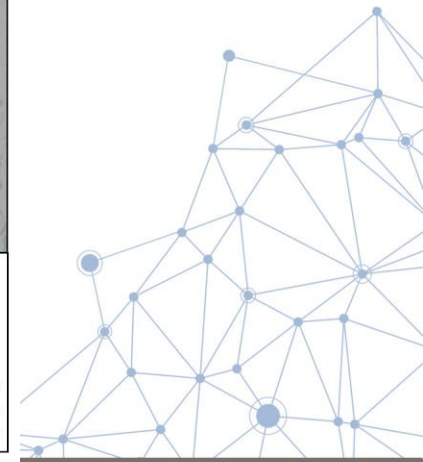
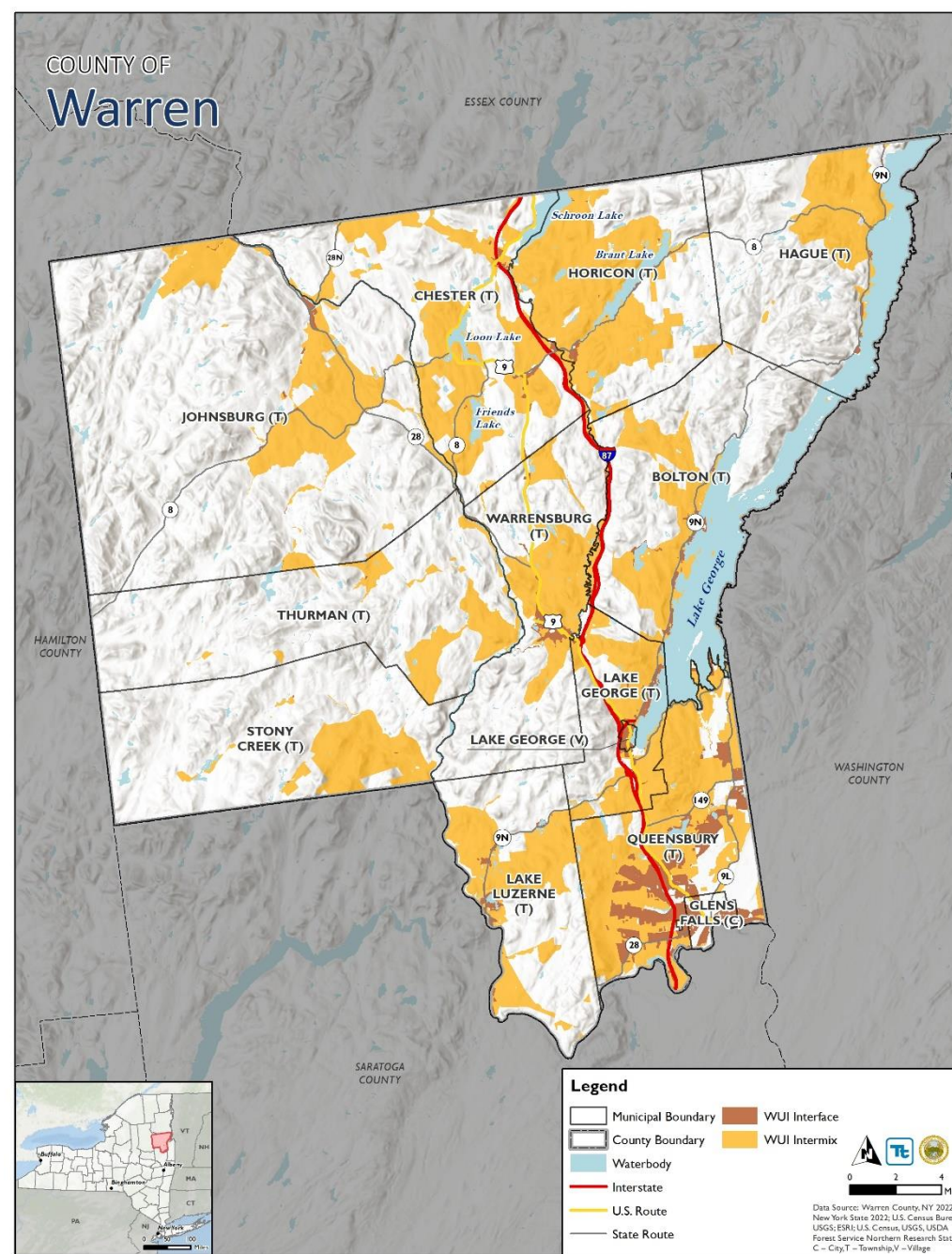
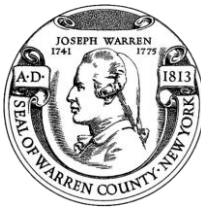
Countywide Preliminary Risk Ranking: Wildfire

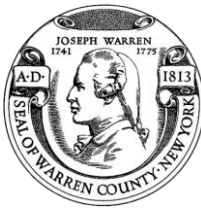


-  **Probability of Occurrence: Occasional**
-  **Impact on Population: High**
44.4% of population exposed to the WUI Interface
-  **Impact on Property: High**
14,488 buildings (35.9 % of County total) exposed to WUI Interface
-  **Impact on Economy: High**
\$8.6M in RCV 35.4% of County total) exposed to WUI Interface
-  **Adaptive Capacity: Medium for all municipalities**
-  **Climate Change: High for all municipalities**



Wildland Urban Interface/ Intermix Area

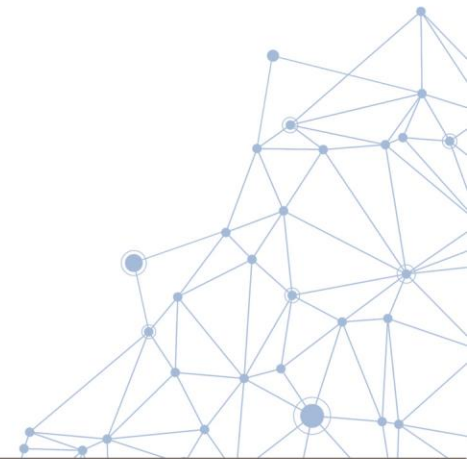


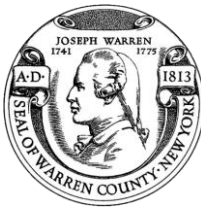


Severe Winter Storm

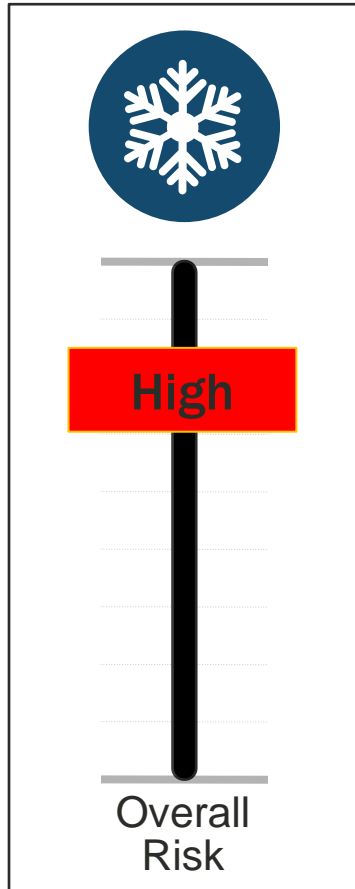
- Hazard includes heavy snow, blizzards, ice storms
- Previous Events
 - FEMA included Warren County in one winter storm-related disaster declaration
 - FEMA-EM-3107 (Severe Blizzard) – March 1993
- Exposure
 - All people and property exposed and vulnerable
- Potential Impacts
 - Power outages
 - Critical facility and infrastructure damage
 - Transportation interruptions/accidents

Warren County
Ranking
HIGH





Countywide Preliminary Risk Ranking: Severe Winter Storm



Probability of Occurrence: Frequent



Impact on Population: High

Entire population is exposed and vulnerable



Impact on Property: High

Entire building stock is exposed and vulnerable; however, impacts are minimal



Impact on Economy: Low

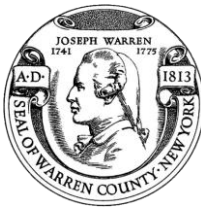
\$1.2M (5%) potential losses to building stock



Adaptive Capacity: High for all municipalities



Climate Change: Medium for all municipalities

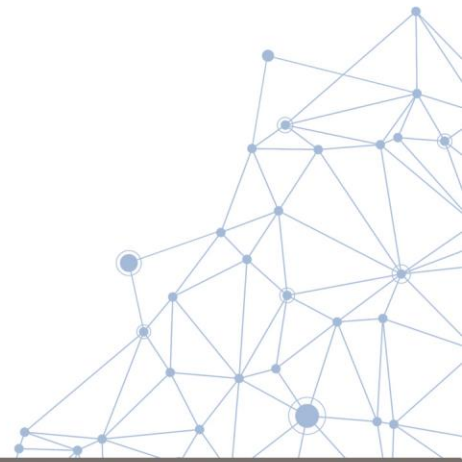


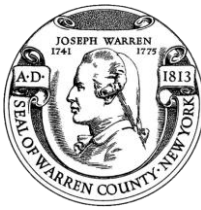
Disease Outbreak/Pandemic

- Previous Events

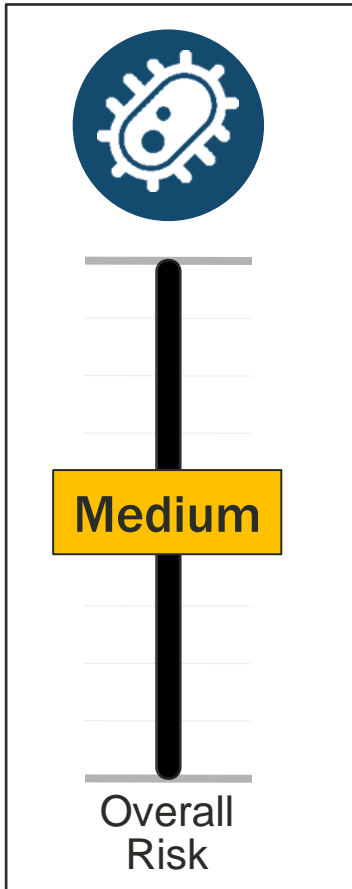
- According to the 2020 Warren County CEPA, the pandemic hazard is ranked medium.
- The County has been impacted by the COVID-19 pandemic (DR-4480).
- The County has been impacted by various diseases (COVID-19, West Nile Virus, Lyme disease)
- Exposure
 - Entire County is exposed and vulnerable; however, not occurring multiple times a year with significant impacts
 - Severe events can lead to staffing and bed shortages in hospitals

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Disease Outbreak



Probability of Occurrence: Occasional



Impact on Population: Medium

(14,754 County residents are 65+ years and 2,850 >5 years (26.8 % of County population))



Impact on Property: Low



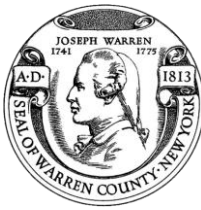
Impact on Economy: Medium



Adaptive Capacity: Medium for all municipalities



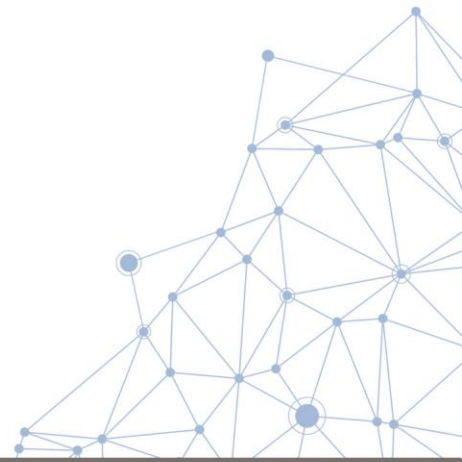
Climate Change: Medium for all municipalities

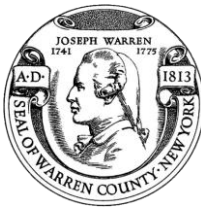


Extreme Temperature

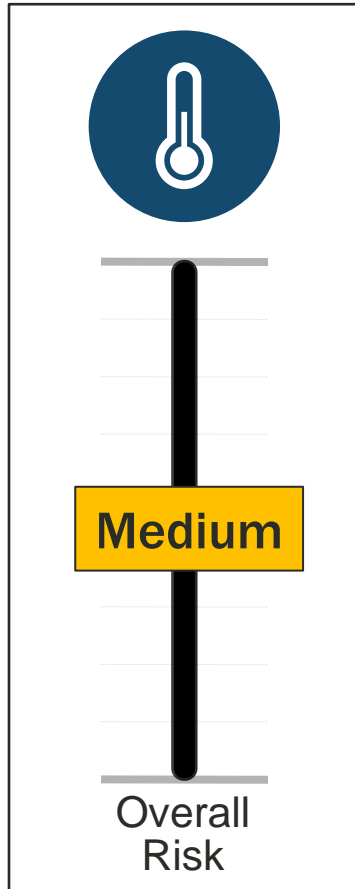
- Previous Events
 - Hot and cold events
- Exposure
 - Entire County is vulnerable
 - Increased vulnerability to populations at higher risk (65+ / <5 years old)
- Potential impacts:
 - Increased wildfire/brush fire risk
 - Impacts to agriculture/farms
 - Long-periods of warm temperatures can lead to drought conditions

Warren County
Ranking
MEDIUM





Countywide Preliminary Risk Ranking: Extreme Temps



Probability of Occurrence: Occasional



Impact on Population: Medium

17,604 County residents are 65+ years old or >5 years (26.8% of County population)



Impact on Property: Low



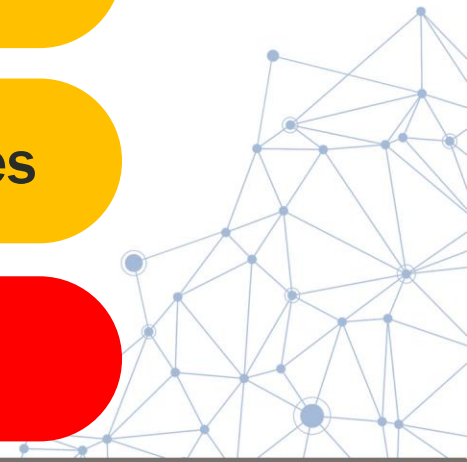
Impact on Economy: Medium

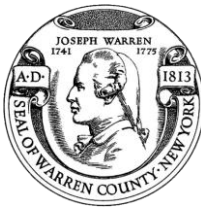


Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Infestation and Invasive Species

- Previous Events

- Beaver Dam Failure, March 2022
- Hemlock Woolly Adelgid, Lake George, 2017
- Emerald Ash Borer (EAB), Shroon River, 2022

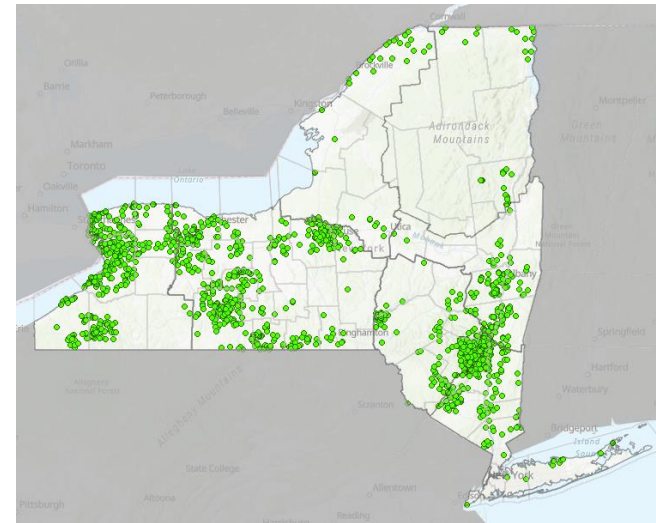
- Exposure

- Entire County is vulnerable

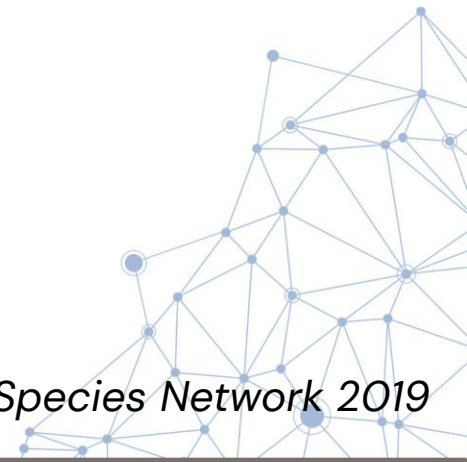
- Potential impacts:

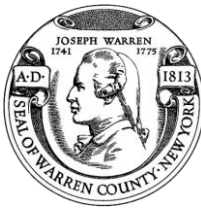
- Soil destabilization
- Increased wildfire risk
- Impacts to agriculture/farms

Warren County
Ranking
MEDIUM

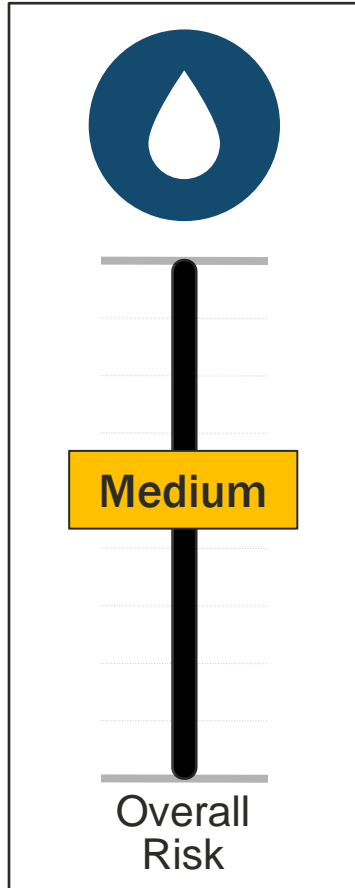


EAB – Source: New York Invasive Species Network 2019





Countywide Preliminary Risk Ranking: Infestation



Probability of Occurrence: Occasional



Impact on Population: Medium



Impact on Property: Medium



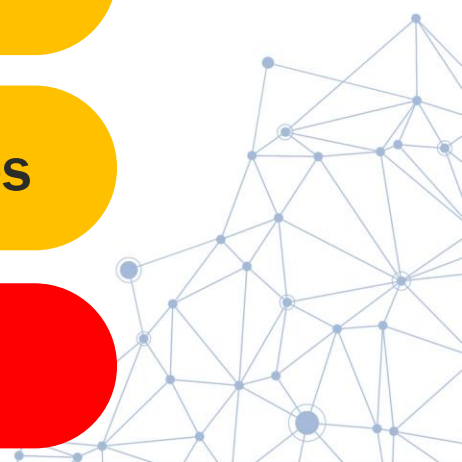
Impact on Economy: Medium

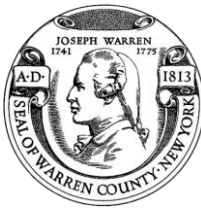


Adaptive Capacity: Medium for all municipalities



Climate Change: High for all municipalities





Next Steps

- Update Risk Assessment
 - Prepare results to present to planning partners
 - Populate adjusted results municipal annexes
 - Planning Partnership Risk Assessment Meeting: February 15, 2023
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

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jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



WARREN COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee #4 – AGENDA
MEETING DATE/TIME: March 8, 2023 – 10:00 am



- Welcome
- Progress Report
- Pending Action Items
- Public and Stakeholder Outreach
- Other Items
- Next Steps/ Questions/ Wrap Up



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	March 8, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services (OES)
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Sara Frankenfeld	GIS Coordinator, Warren County
Laura Moore	Town of Queensbury, Land Use Planner
Dan Barusch	Town/Village Lake George, Planner
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Don Lehman	Warren County Public Information Officer
Sandra LeBarron	Director of Environmental Health and Safety, Finch Pruyn
Cynthia Addonizio-Bianco	Tetra Tech, Inc.

Agenda Summary: Purpose to provide a brief progress report and address pending action items.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:05 am • Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items and she provided a progress update as summarized in the attached PowerPoint presentation. • The process continues to be on track for plan submittal to FEMA in August 2023. • The majority of data to support the hazard mitigation plan (HMP) development has been received, with the receipt of the National Flood Insurance Program (NFIP) data pending processing by FEMA. 	
2	<p>Progress Report</p> <ul style="list-style-type: none"> • Risk Ranking worksheets due today. To date the communities that have submitted include: <ul style="list-style-type: none"> ○ Town of Lake George ○ Village of Lake George <ul style="list-style-type: none"> ○ Town of Hague - In progress ○ Town of Lake Luzerne - Requested clarification and noted worksheets in progress ○ Town of Chester - Complete and awaiting supervisor review ○ Town of Queensbury - In progress 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> • Assistance offered to the following communities via Mr. John Gibb: <ul style="list-style-type: none"> ○ Town of Chester ○ Town of Glens Falls ○ Town of Horicon ○ Town of Johnsburg ○ Town of Queensbury. 	
3	<p>Pending Action Items</p> <ul style="list-style-type: none"> • High Hazard Dam Information. Warren County OEs confirmed that dam inundation areas will be deemed confidential information and available at the Office of Emergency Services on an as needed basis. • Collection of localized flooding information. Warren County SWCD, OES, and GIS affirmed that the collection of localized flood impacts will be a collaborative mitigation action to be included in the hazard mitigation plan. • Receipt of National Flood Insurance information. Warren County OES confirmed that FEMA has provided this information. This will be incorporated into the hazard mitigation plan to assist with the identification of mitigation strategies. • Surveys targeting the public, neighboring counties, agencies, and businesses are live and will be used to provide additional input to the plan to support the identification of mitigation actions. Warren County PIO will perform another media blast to support a robust response to the surveys. To date sixty-nine responses have been received for the public survey. This represents an 87% completion rate with an average of 9 minutes to complete the survey. Respondents identified thirty areas vulnerable to hazard of concern. • Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. • Tetra Tech reminded steering committee members to access the project OneDrive site to review draft plan sections and to provide input, as necessary. 	<p>Warren County Public Information Officer to</p> <p>Tetra Tech to analyze NFIP data for inclusion in the HMP process and plan.</p>
6	<p>Upcoming Meeting</p> <ul style="list-style-type: none"> • Mitigation Strategy Workshop – March 15, 2023 (<i>Optional for Steering Committee members not affiliated with a municipality.</i>) 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



7	Next Steps <ul style="list-style-type: none">• Populate adjusted results municipal annexes• Planning Partnership Risk Assessment Meeting: February 15, 2023• Continue to engage the public• Work with the municipalities to develop mitigation strategy/actions• Mitigation Strategy Workshop with FEMA and NYSDHSES – March 15, 2023	
7	Conclusion - The meeting concluded at 10:38 am.	



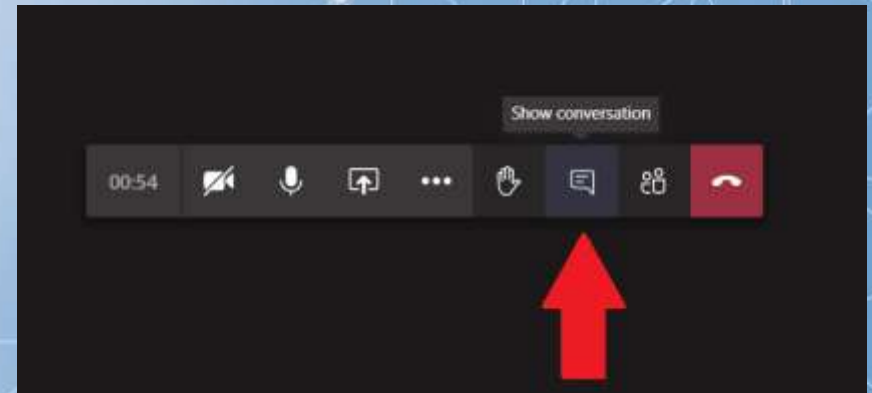
Warren County, New York Hazard Mitigation Plan – 2023 Update

Steering Committee #4 Meeting | March 8, 2023 | 10:00 – 11:00 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.





Agenda

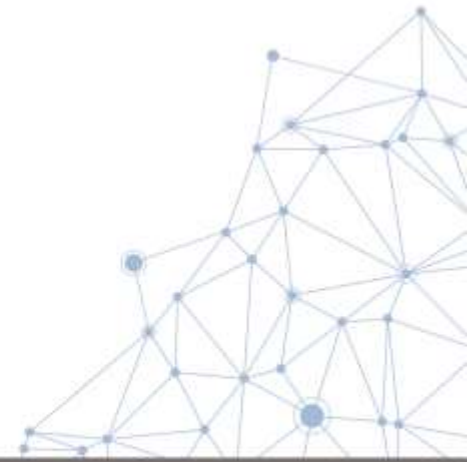
- Welcome
- Progress Report
- Pending Action Items
- Public and Stakeholder Outreach
- Other Items
- Next Steps/ Questions/ Wrap Up





Project Schedule Review

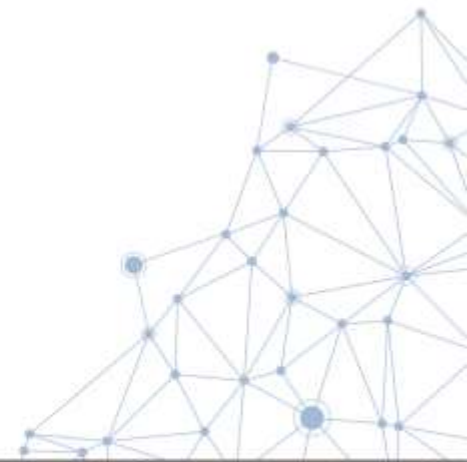
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ✓ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ☐ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | May 2023 | Review draft plan |
| ☐ | July/August 2023 | Submit plan to NYSDHSES and FEMA |





Progress Report

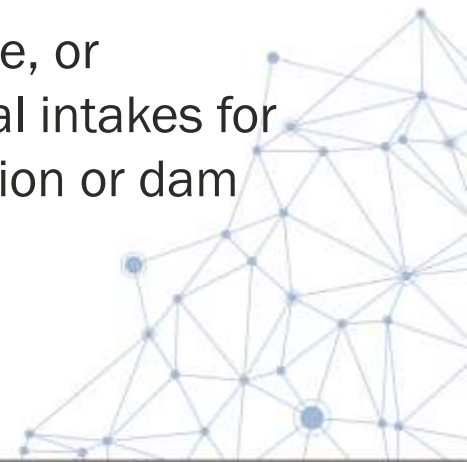
- Requested NFIP Data – *Data pending*
- Risk Ranking Worksheets due today.
 - To date these communities have submitted:
 - Town of Lake George
 - Village of Lake George
 - Town of Hague
 - In progress
 - Town of Lake Luzerne asked for clarification and noted worksheets in progress
 - Town of Chester, complete and awaiting supervisor review
 - Town of Queensbury, in progress
 - Assistance offered via Mr. John Gibb to:
 - Town of Chester
 - Town of Glens Falls
 - Town of Horicon
 - Town of Johnsbury
 - Town of Queensbury





Pending Action Items

- Pending action items:
 - Emergency Services to review the level of detail provided to the public regarding dam inundation areas.
 - Emergency Services, County GIS and SWCD to consider options to collect and map localized flood areas.
 - NFIP information receipt
- Information Request
 - Input regarding history of damages for disease outbreak, extreme heat, dam failure, or infestation hazards is requested. Examples include data/metrics regarding hospital intakes for related illnesses, impacts on workforce, or localized information regarding infestation or dam failure.

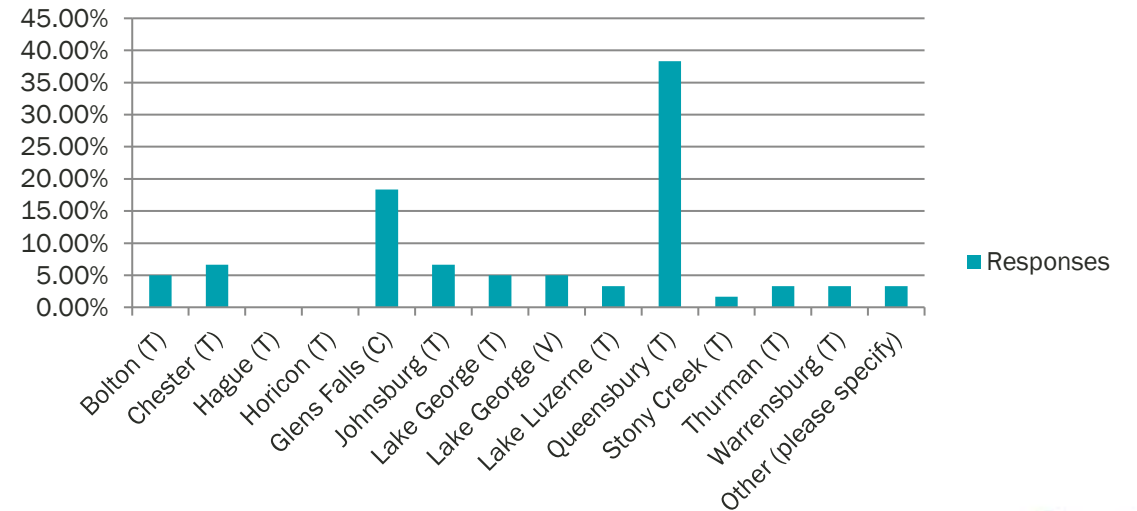




Public Survey Results

- 69 Responses
- 87% Completion Rate
- 9 Minutes to Complete (Avg)
- ~30 identified vulnerable areas/items

Please indicate the municipality in which you live:

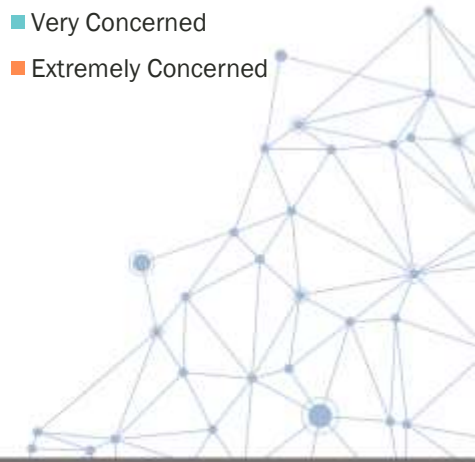
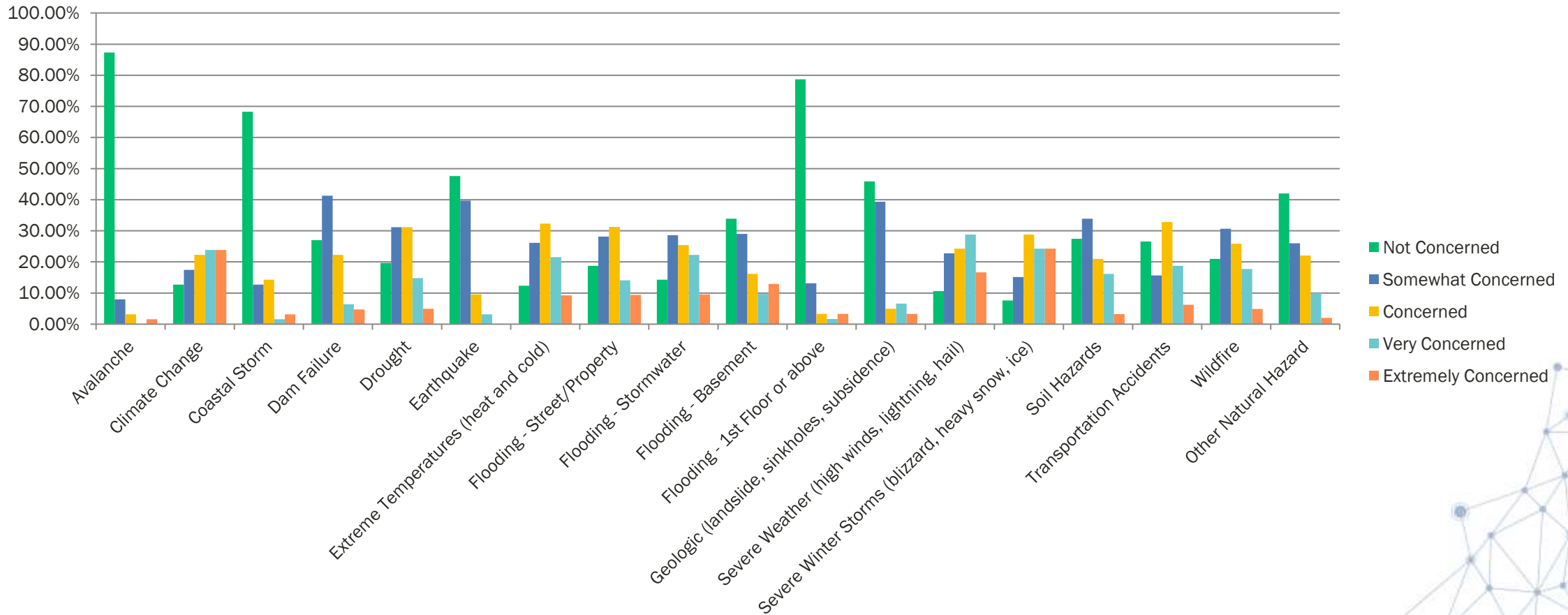


County streets Lake property Glens Falls Rd water due Road River
flood drainage trees Hudson River None ice



Public Survey Results - Hazard Concerns

How concerned are you about the following hazards in Warren County? Please check one for each hazard.





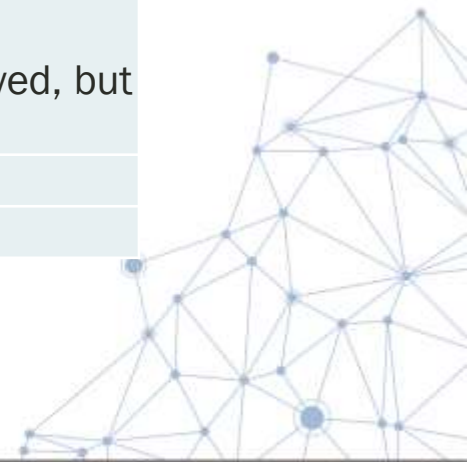
Problem Areas

- Prone to power outages from trees on lines
- General back-up power, snow/ice blockage on highways
- Floodprone area on Meadowbrook Road @ Halfway Brook
- Low water levels in Kattskill Bay Lake George due to water management practices
- Apartment building for disabled and retired with all electric heat. No on demand generator. Located at 10 Manor Rd.
- 13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.
- Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)
- Water Tank control panel without power backup
- Ice jamming on Hudson River at 418 Bridge. Flooding on River Road
- Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.
- Numerous roads and stream crossings could be subject to flood/storm damage.
- East End in Glens Falls is known for being a high water table area
- North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.
- Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.
- Lack of municipal sewer and water
- Poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.
- My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored
- C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD Johnsburg
- Loon Lake Dam, Rt 8/9, Chestertown
- ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.
- Hudson River Basin Lake Luzerne to Corinth
- We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.



Problem Areas

- Queensbury - Halfway Brook Area/flooding
Warrensburg - Schroon River Area/flooding
Chester & Horicon - Schroon River Area/flooding
- Meadowbrook rd, Qby - Flooding
- Lakeview Circle Drive Town of Lake George
- GFWWTP releasing sewage into Hudson after every heavy rainstorm.
Inadequate storm drainage on streets
- Still ZERO fragrance-free emergency shelters - I would not be able to survive in an emergency shelter due to respiratory distress when exposed to fragranced / scented products (body, laundry, cleaning, etc.)
- Power cybersecurity concern
- Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River, and includes part of the town North Creek at the train station where Teddy Roosevelt learned McKinley had died from his wound, and he was now President. The historic Train station has been preserved, but flooding of the Hudson in the spring has caused concern a number of years in the past ten.
- Thurman bridge
- Downtown Warrensburg from Schroon River flooding





In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/ Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

* Jurisdiction

Please document your time spent working on the HMP:

Date

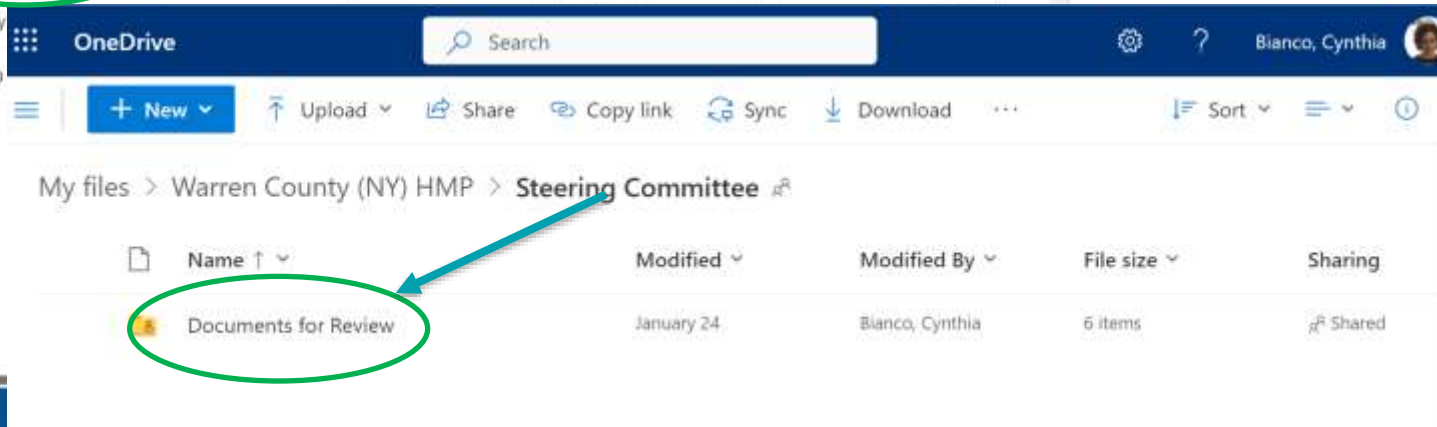
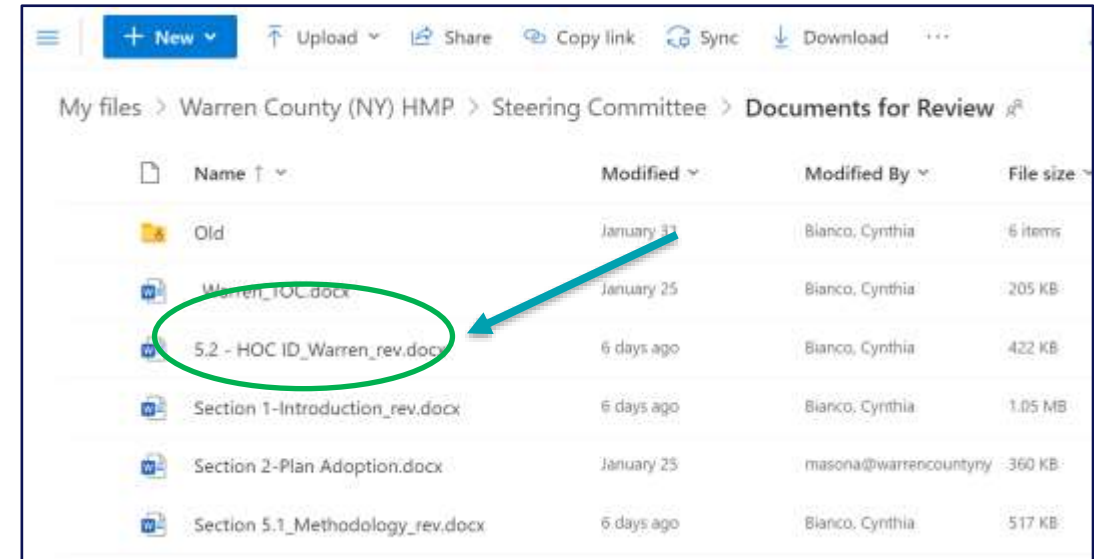
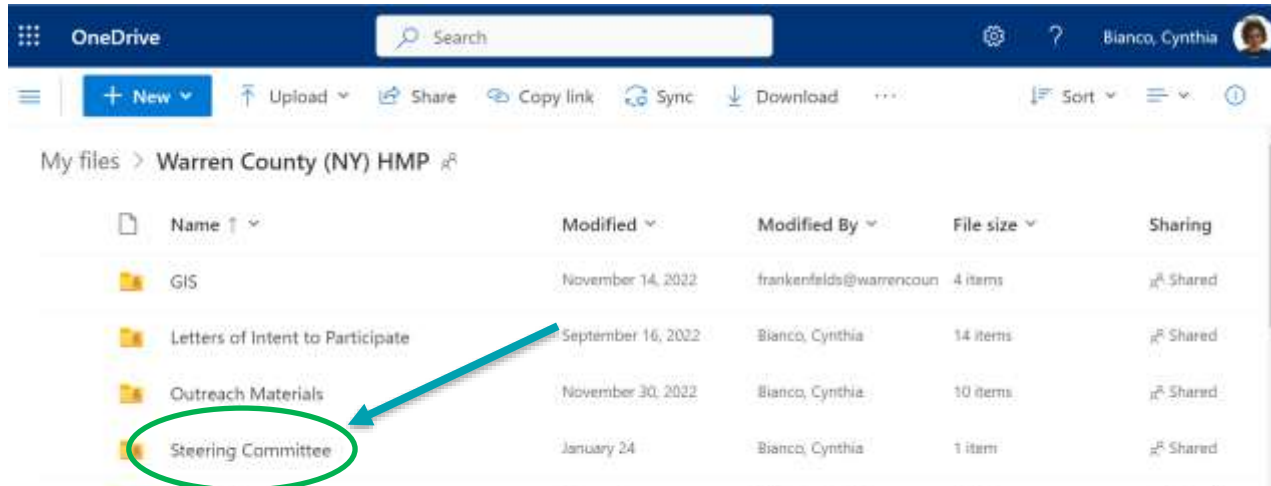
#Hours





Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes





Next Steps

- Update Risk Assessment
 - Populate adjusted results municipal annexes to support project identification
 - Public Involvement Strategy – ongoing throughout the planning process
- Mitigation Strategy
 - Begin working with the municipalities to develop mitigation strategy/actions: **February 2023**
 - Mitigation Strategy Workshop with FEMA and NYSDHSES – **March 15, 2023**



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
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Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Mitigation Strategy Workshop
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	March 15, 2023, 10:00 am

Attendees:

Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Ann Marie Mason	Director, Warren County Emergency Services
Jessica Leerkes	Engineer, Town of Chester
Dan Barusch	Town/Village Lake George, Planner
Keith Lanfear	Village of Lake George
Craig Leggett	Supervisor, Town of Chester
Tammie DeLorenzo	Assistant to the County Administrator, Warren County
Michael Geraci	Supervisor, Town of Horicon
Khristopher Kassay	Town of Lake Luzerne
Karen Putney	Town of Lake Luzerne, Zoning Officer
James Hull	Code Enforcement Officer, Town of Warrensburg
Ernie Dunkley	Safety Officer, Town of Johnsbury
Danae Tucker	Town of Johnsbury
John Strough	Supervisor, Town of Queensbury
Laura Moore	Planner, Town of Queensbury
Mindy Conway	Town Clerk, Town of Chester
Betsy Parmerter	NYSDHSES
Elizabeth O'Reilly	NYSDHSES
Edna Frasier	Supervisor, Town of Hague
Cathy Clark	Town of Hague
Sheila Mender	City of Glens Falls
Don Lehman	Warren County Public Information
Kevin Clapp	NYSDHSES
John Gibb	CMCG
Roland Paperman	NYSDHSES
Laura Stebbins	Glens Falls
John Wilkerson	NYSDHSES
Paul Hoole	FEMA
Ethan Gaddy	Warren County
Chris Huch	Tetra Tech, Inc.
Cynthia Addonizio-Bianco	Tetra Tech, Inc.



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Agenda Summary: Purpose to provide guidance on identifying mitigation actions and developing a mitigation strategy

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:05 am • 	
2	<p>In-Kind Services Tracking/Outreach</p> <ul style="list-style-type: none"> • Mr. Lieberum reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. • Warren County reminded municipalities to submit documentation of in-kind hours to support the obligations related to the planning grant funding. • The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. 	<p>Action: Submit documentation of hours spent supporting the mitigation planning process, including hours spent to provide data, review documents, provide updates to communities.</p>
3	<p>Developing Mitigation Strategies</p> <ul style="list-style-type: none"> • Tetra Tech reviewed risk reduction strategies as included in the presentation (attached). • Regarding mitigation project details, in addition to the mitigation project matrix, Tetra Tech recommends at least two action worksheets for grant eligible projects. If a community has repetitive or severe repetitive loss properties, these should be addressed with an action worksheet. • Tetra Tech distributed brainstorming worksheets to kick-start the development of problem statements. In addition, they provided all communities with pre-populated Action Worksheets for some initial projects. 	
4	<p>Development of Actions and Action Worksheets. Tetra Tech reviewed the following guidelines for the content of Action Worksheets:</p> <ul style="list-style-type: none"> • Projects should have a strong connection to the risk assessment • Projects should be specific in time, place, and location • Projects should be diverse in nature • Communities have been provided a Mitigation Catalog • Project descriptions to include consideration of priorities, integration with existing programs, timelines, benefits, and costs• 	
5	<p>Next Steps</p>	<p>Schedule a support meeting with Tetra Tech to complete your community annex.</p>



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none">• To enable those who could not participate, a video of the presentation is available online for review here: Warren County Mitigation Workshop Video• Continue to engage the public• Develop mitigation strategy/actions: March 2023• Email chris.huch@ttratech.com to schedule a support meeting with Tetra Tech to complete your community annex.	
6	Conclusion - The meeting concluded at 11:14 am.	



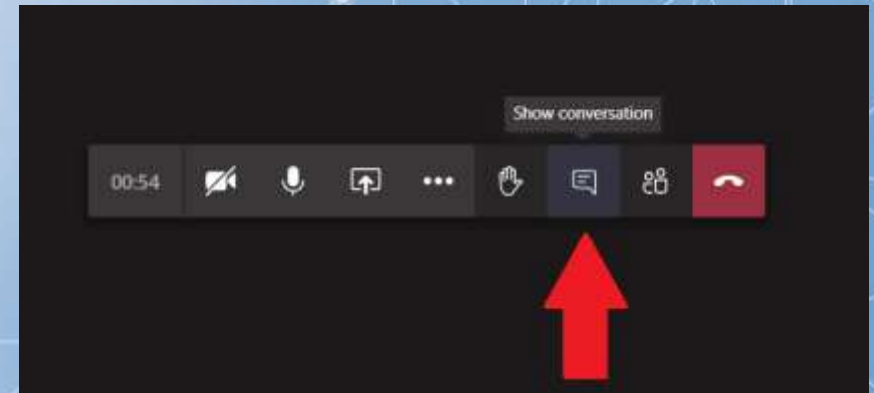
Warren County, New York Hazard Mitigation Plan – 2023 Update

Mitigation Workshop | March 15, 2023 | 10:00 – 11:30 AM

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

This will assist in our attendance documentation.





Agenda

1. Introductions
2. In-Kind Tracking Reminder
3. Hazard Mitigation Refresher
4. Project Status
5. Developing Mitigation Strategies – NYS DHSES, FEMA
6. Updating Previous Actions
7. Using Mitigation Development Worksheets to Select Your Actions
8. Action Worksheets
9. Next Steps





In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jim1@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

* Jurisdiction

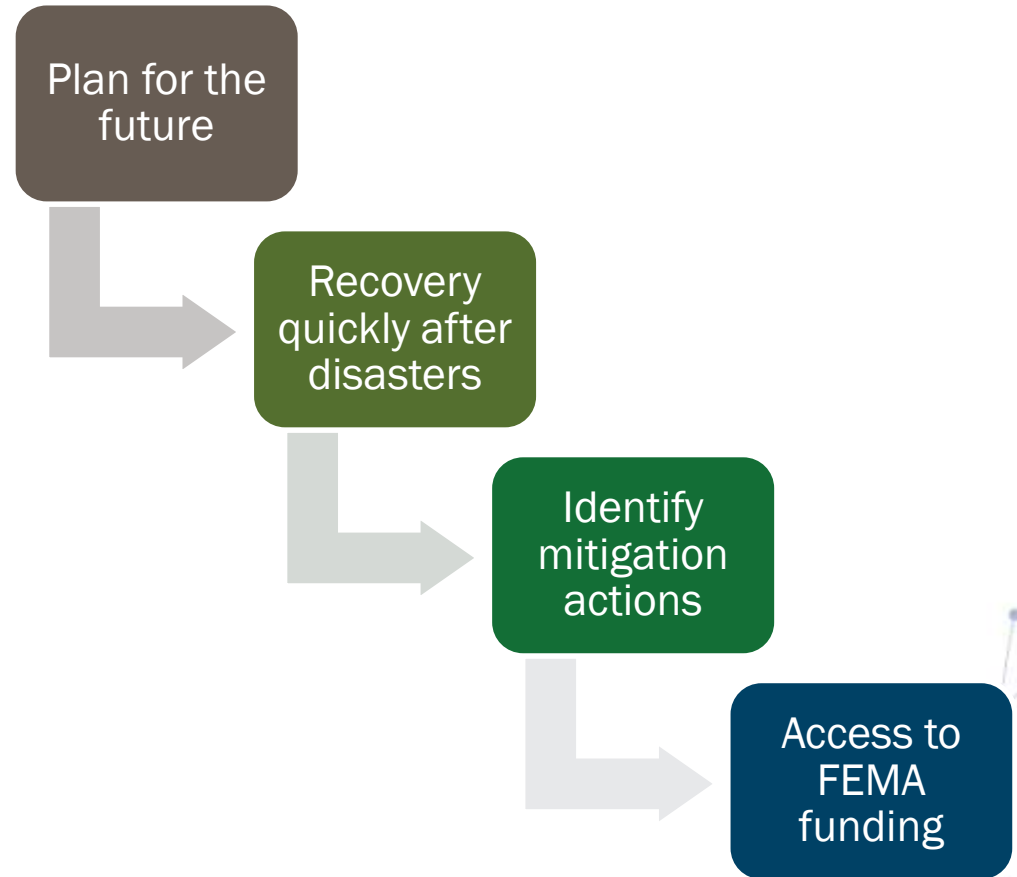
Please document your time spent working on the HMP:

Date

#Hours



Hazard Mitigation – What is it?





Why are we spending valuable time on this?

Hazard Mitigation Works!

- For every \$1 spent on hazard mitigation, saves the U.S. \$6 in future disaster costs!
- More than just money – it could prevent 600 deaths and 1 million non-fatal injuries!

**More Mitigation Measures,
More Savings**



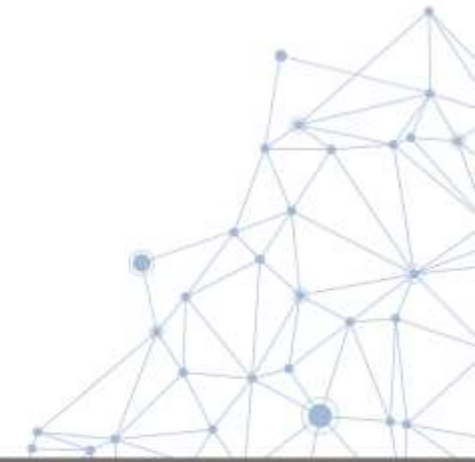
**One dollar invested in mitigation =
six dollars U.S. saves in future costs**





Our Schedule

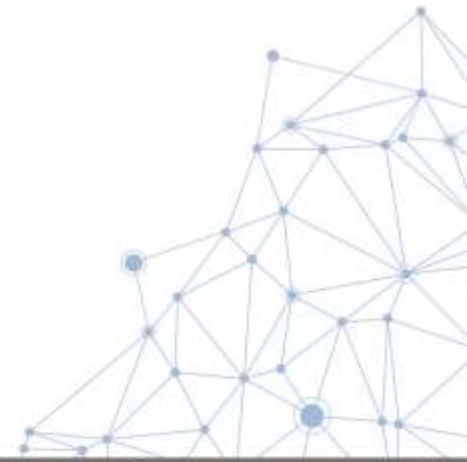
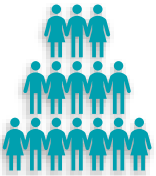
Task	Date
Data Collection	Complete
Update Hazard Profiles	Complete
Risk Assessment	Complete
Risk Results Presentation	Complete
Mitigation Strategy Workshop	March 15, 2023 – TODAY!
Review Draft Plan	May 2023
Public Review of Plan	June/July
Submit to NYSDHSES	July/August
Submit to FEMA	September/October 2023





Public Outreach and Engagement

- Check out the HMP website - <https://www.warrencountynewyorkhmp.com/>
- Post links on social media and department/agency websites
- Citizen, stakeholder and neighboring county surveys distributed, as of 3/10/23:
 - Citizen Survey: 71 responses
 - Stakeholder Survey: 9 responses
 - Neighboring County Survey: 1 response
 - *All responses relating to your jurisdiction are included in your updated Annex*



Mitigation Strategy





2023 HMP Hazards of Concern

- Disease Outbreak
- Earthquake
- Extreme Temperatures
- Flood
- Dam Failure
- Infestation and Invasive Species
- Severe Storm (Windstorm, Thunderstorm, Hail, Tornado)
- Severe Winter Weather (Heavy Snow, Blizzards, Ice Storms)
- Wildfire

A community must include at least one mitigation action for each hazard that is deemed to have a significant impact on the community.

For hazards with minimal or no perceived impact to a community, a statement must be included in the annex to indicate why the community has not address any hazards with a mitigation action.



Risk Reduction Examples

To Reduce Risk:

- **Manipulate the Hazard:**
 - Structural flood control
- **Reduce/Eliminate Exposure:**
 - Property acquisition
- **Reduce Vulnerability:**
 - Retrofit existing structures
- **Increase Capability:**
 - Preparation, technical assistance, planning, enforcement





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
- 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 of the plan.
TWO of your actions must be detailed on Action Worksheets



FEMA Mitigation Action Types



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



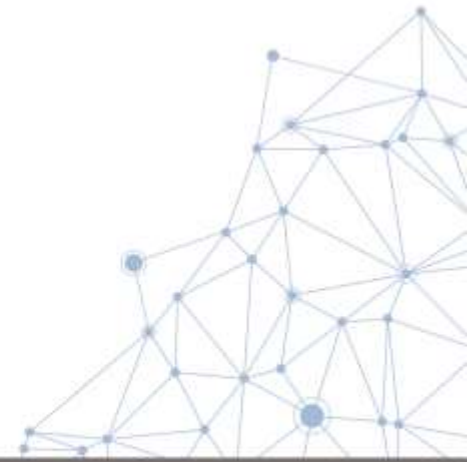
Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.





NYS Requirements for Mitigation Strategy Update

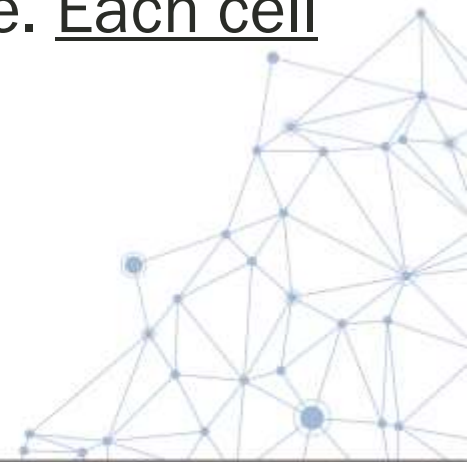
- **Need to develop at least 2 Action Worksheets**
- **If jurisdiction has a regulatory floodplain then one worksheet must address flooding**
 - [if the jurisdiction has Repetitive and Severe Repetitive Loss Properties - it is good practice to include action with details (street or neighborhood names)]
- **Critical facilities in the 100-year floodplain – must be protected to the 500-year flood event**
 - If already protected, we must note how
 - If not protected, a mitigation action must be developed
- **Plan for Climate Change and propose actions to address**





NYS Requirements for Mitigation Strategy Update

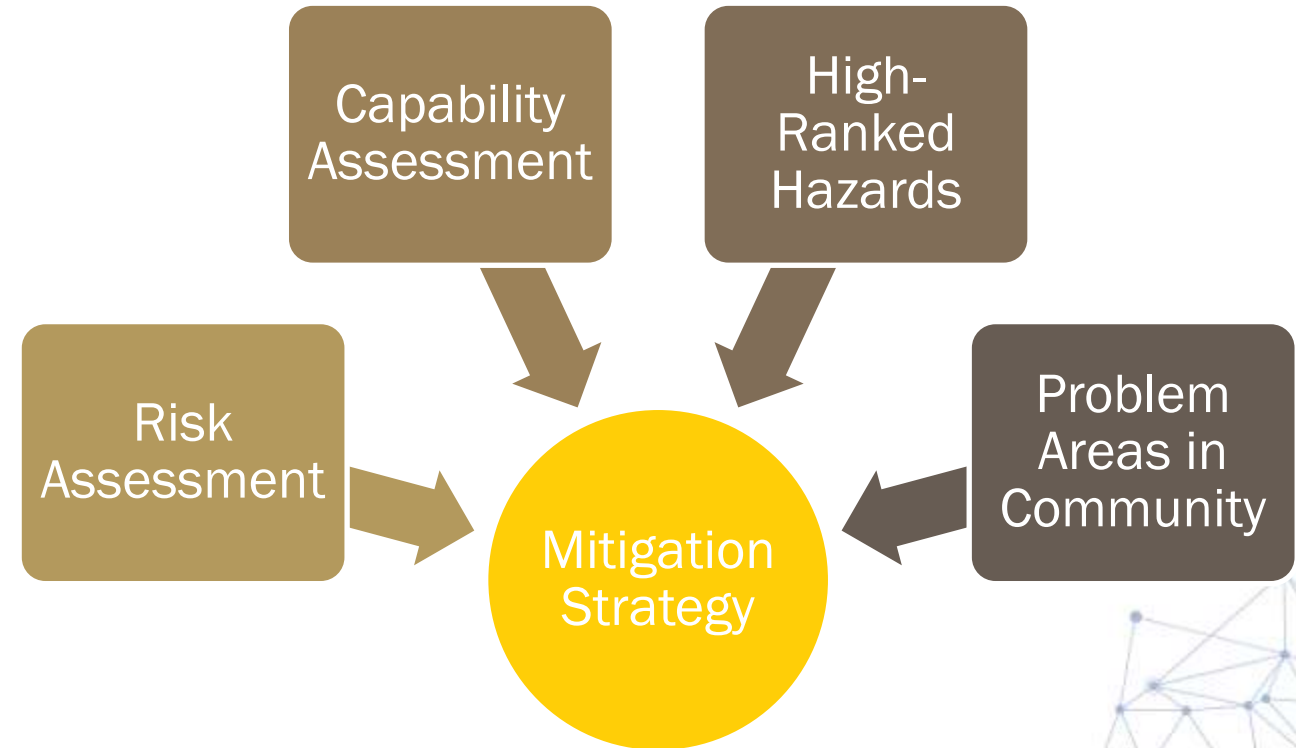
- Proposed actions MUST have specific information identified including:
 - Project lead
 - Estimated cost
 - Timeline
 - Whether the action involves a critical facility
- All required items are identified within the proposed action table. Each cell of the table MUST be filled out!



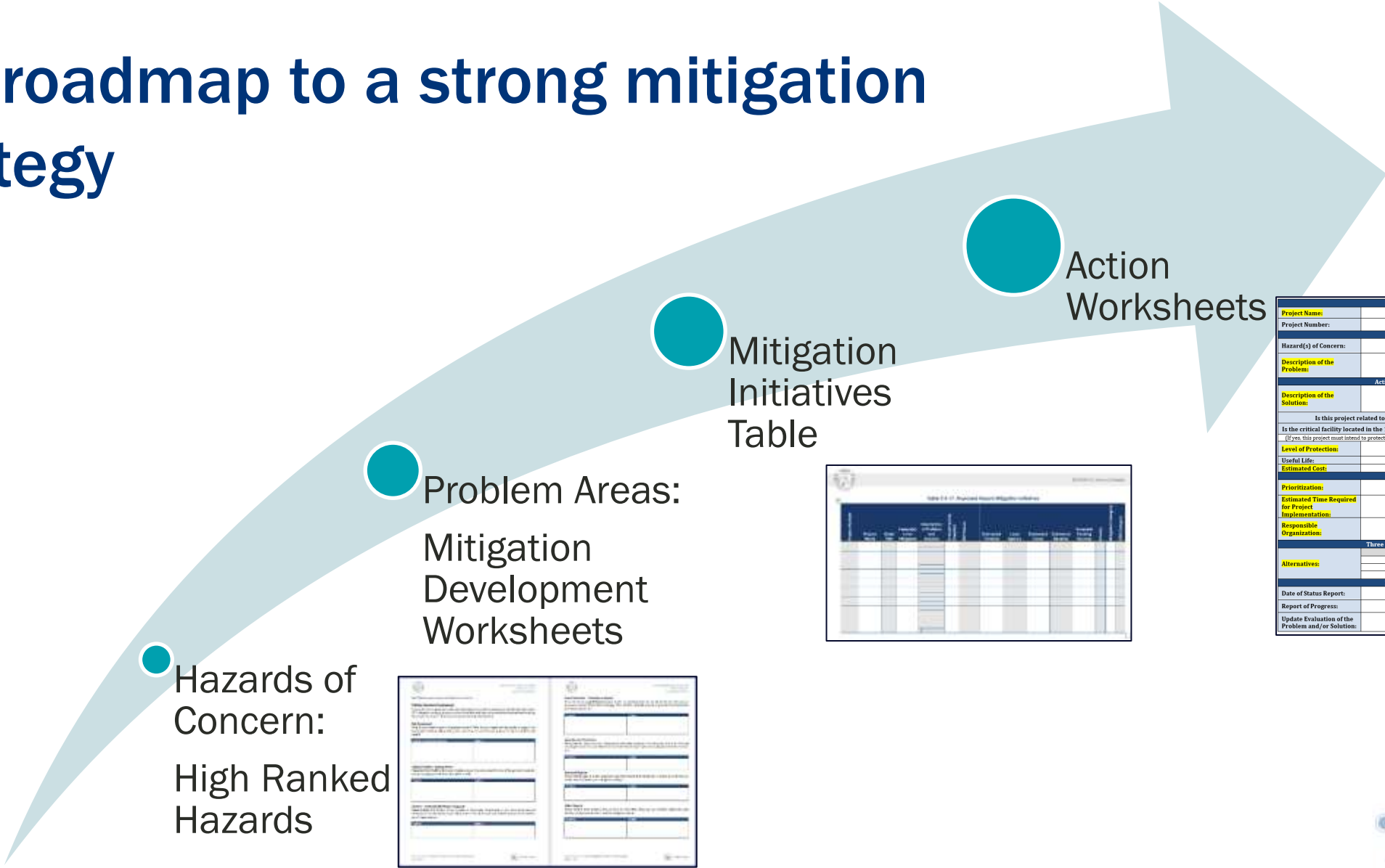


Connecting to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges/opportunities for the mitigation strategy as well.
- Provides the factual basis for activities proposed in the mitigation strategy.



The roadmap to a strong mitigation strategy



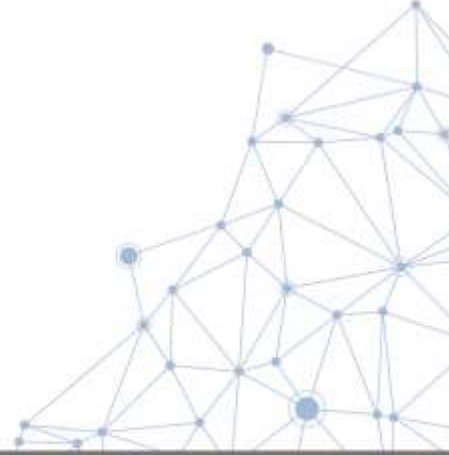
Hazards of Concern:
High Ranked Hazards

Problem Areas:
Mitigation Development Worksheets

Mitigation Initiatives Table

Action Worksheets

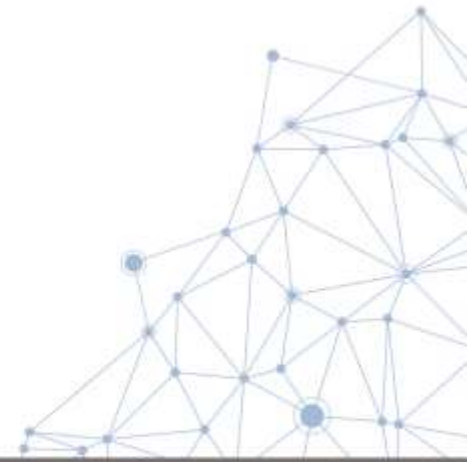
Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is the critical facility located in the 1% annual chance flood area? Yes <input type="checkbox"/> No <input type="checkbox"/>			
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:	Estimated Benefits		
Useful Life:	Goals Met:		
Estimated Cost:	Mitigation Action Type:		
Prioritization:	Desired Timeframe for Implementation:		
Estimated Time Required for Project Implementation:	Potential Funding Source:		
Responsible Organization:	Local Planning Mechanisms to be Used in Implementation if any:		
Three Alternatives Considered (Including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





What are we focusing on for our mitigation strategy?

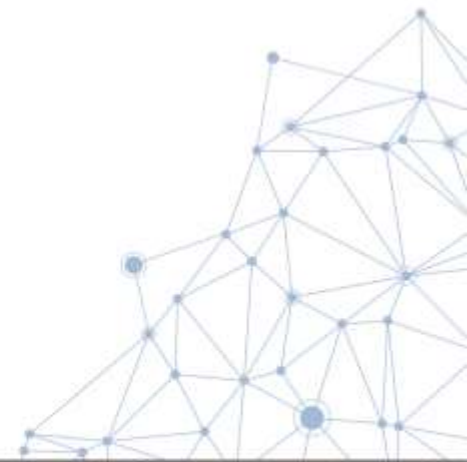
- **Stronger connection between the risk assessment and mitigation strategy**
 - At least one action is needed to address each hazard of concern
- **More specific actions**
 - Specific projects, in specific locations, in a specific timeframe
- **Diverse actions**
 - Include a variety in the types of actions





Update the Mitigation Strategy

- Review our Goals and Objectives
- Start with Problems (many identified on your Worksheets)
 - Areas that have been impacted by hazard events
 - Recurring issues
 - Critical/Lifeline facilities in the floodplain
 - RL/SRL properties need mitigating
 - Evacuation routes and sheltering needs

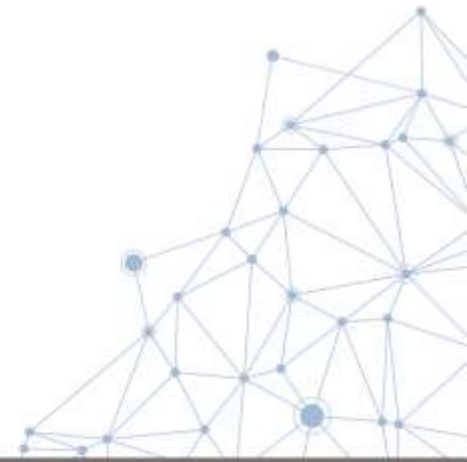




Update the Mitigation Strategy

- Identify New Mitigation Actions/Projects
- Modify 'Carry-Over' projects from the previous HMP -more specific or address different aspect of original problem

Quality Over Quantity!!



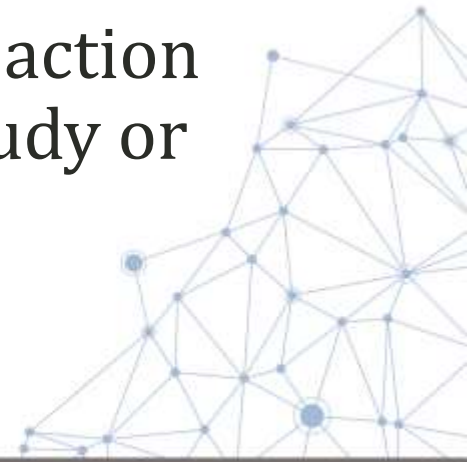
Making Previous Actions More Specific





Why we must update our actions...

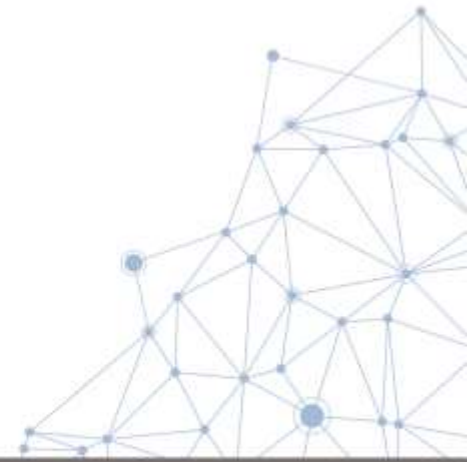
- Actions in the previous plan often were general and did not include detailed information.
- Detailed information is needed to support FEMA grant applications for funding support.
- Focus on updating previous actions to include the necessary level of detailed information.
- If detailed information is not available, note a phase in the action that will gather this information such as an engineering study or feasibility assessment.
- Use the same level of detail for new actions as well!





Example: Previous problem and action

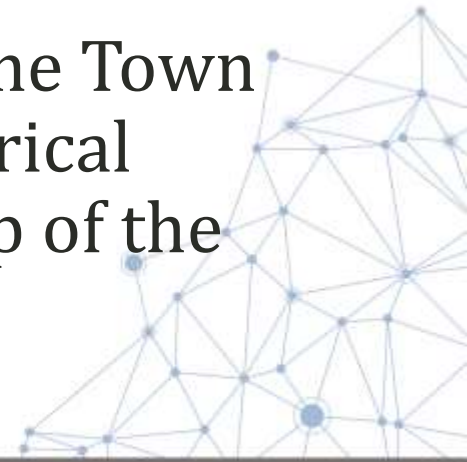
- **Problem:** Critical facilities require backup power.
- **Solution:** Acquire backup power for critical facilities.





Example: Improved problem and action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase the appropriately sized backup generator for the Town Hall. The Town DPW will install the backup generator and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.





Example: EVEN MORE Improved problem and action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter **for approximately 100 people**. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase **a 75 kW** generator for the Town Hall. The Town DPW will install the backup generator **on the roof of the Town Hall** and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.

Mitigation Development Worksheet





Use Your Worksheet to Identify Mitigation Actions



Hazard Mitigation Plan 2023 Update
Warren County, NY
Hazard Ranking Review

Note: *Adaptive capacity was assumed Moderate for all hazards.

Problem Statement Development

Utilizing the results gathered to date (i.e., risk assessment, capability assessment, identified problem areas, 2017 mitigation strategy), please review the identified problems and potential solutions and add anything that may be missing to inform your mitigation strategy development.

Risk Assessment

What is your hazard concern of greatest concern? Refer to your hazard ranking results on page 1 (ex: stormwater flooding, falling trees, power loss, etc.). Do you have any projects in mind to address that hazard?

Problem / High-Ranked Hazards	Solution

Critical Facilities - Backup Power

Please list critical facilities that require backup power. If you have specifics (size of the generator, potential cost, etc.), please provide that information as well.

Problem	Solution

Culverts - Undersized/In Need of Upgrade

Please indicate the location of any culverts or stormwater components in your community that are undersized or are damaged from past flood events. Then note if you would like to add a project to address any of these locations.

Problem	Solution



Hazard Mitigation Plan 2023 Update
Warren County, NY
Hazard Ranking Review

Flood Protection – Elevation or Buyout

Please identify any **repetitive loss areas**, homes, or neighborhoods that would benefit from elevation or buyout to prevent future flood damages. Then identify potential projects to provide flood protection (elevation, buyout, etc.)

Problem	Solution

Infrastructure Protection

Please identify roads and other infrastructure that needs protection from flooding, storms, etc. Provide any projects where you would like to include protection measures (elevate roadway, harden infrastructure, etc.)

Problem	Solution

Outreach Projects

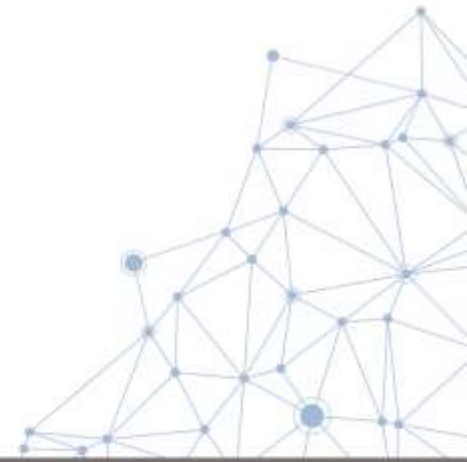
Please identify gaps in public awareness regarding hazards and identify any outreach projects that you would like to include in your mitigation strategy.

Problem	Solution

Other Projects

Please identify other projects that you have in mind after reviewing your problem statements, past actions, risk assessment results, and the mitigation catalog.

Problem	Solution

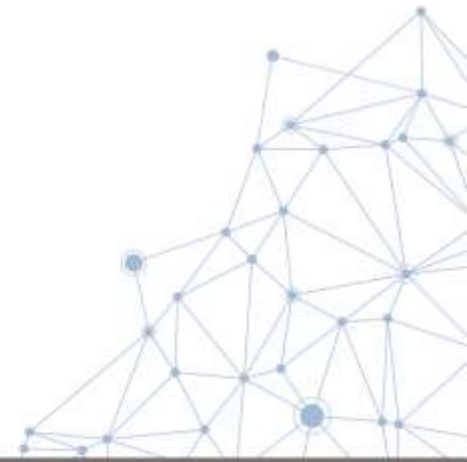




How do you fill in the Worksheet?

The worksheet asks a series of questions to help you think about vulnerabilities within your community.

- Critical Facilities/Lifelines – backup power
- Critical Facilities/Lifelines – flood protection
- Culverts – undersized/in need of upgrades
- Flood Protection – elevations/buyouts; think about the RL/SRL properties – if you have RL/SRLs you need an action related to this
- Infrastructure Protection – what needs protection from flooding, storms, etc.?
- Anything else?





How do you fill in the Worksheet?

- Review the pre-populated information on your worksheet
 - Information from worksheets submitted to date
 - Input from public/stakeholder surveys
 - Risk assessment results
- Determine the problems that you will pursue solutions for
- Add as much detail as possible to the problems and develop detailed solutions
- Return worksheet to your Tetra Tech planner for discussion during your annex development meeting

Schedule your meeting with your Tetra Tech planner ASAP!

Proposed Action Table





Proposed Action Table

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
2020-Muni-001				Problem:										
				Solution:										
2020-Muni-002				Problem:										
				Solution:										
2020-Muni-003				Problem:										
				Solution:										
2020-Muni-004				Problem:										
				Solution:										
2020-Muni-005				Problem:										
				Solution:										

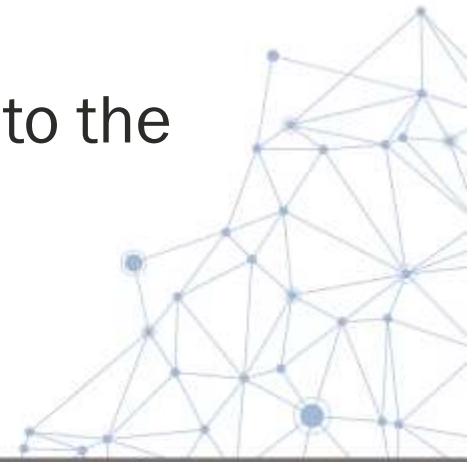
Action Worksheets





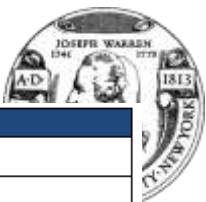
Action Worksheets

- Each jurisdiction must develop at least 2 Action Worksheets
- Should also develop additional Action Worksheets for projects you plan to apply for FEMA funding support for within the next 5 years
- Not every action requires an Action Worksheet to be developed but the same sort of information about those actions are still needed in the Proposed Actions table of the annex
- If jurisdiction has a regulatory floodplain then one worksheet must address flooding
- Critical facilities in the 100-year floodplain – must be protected to the 500-year flood event
- Plan for Climate Change and propose actions to address



Action Worksheet

- Description of the Problem
 - What is the problem?
 - What is the risk?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past damages?
 - How frequently does the problem occur?



Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet

- Description of the Solution
 - How do you propose to solve or mitigate the problem?
 - What are the design specifications?
 - Height and length of a floodwall
 - kW for backup generators
 - Number of structures to be bought out or elevated
 - Etc.
 - Who is responsible for what aspects of the project?



Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
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<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
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Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet

➤ Level of Protection

- What level event is the project being designed to protect to?
 - For flood protection: 100-year flood, 500-year flood
 - For stormwater improvements: 5 year, 10 year rain events
- If not a specific level, include brief description of what protections are
 - For generators: Prevents power loss



Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
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Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
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Estimated Time Required for Project Implementation:		Potential Funding Sources:	
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Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet

- Estimated cost
- What will the project cost?
- If project includes phases or components, what will each phase or component cost?
 - New generator: \$25K, elevation platform for generator: \$1K

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet

- Estimated Benefits
- Provide a description of the estimated benefits, either quantitative and/or qualitative
- Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet

- Prioritization
- High, Medium, or Low
- Use the second page of Action Worksheet to evaluate each action and assist in the determination of priority (to be discussed shortly)



Action Worksheet					
Project Name:					
Project Number:					
Risk / Vulnerability					
Hazard(s) of Concern:					
Description of the Problem:					
Action or Project Intended for Implementation					
Description of the Solution:					
Is this project related to a Critical Facility?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)					
Level of Protection:		Estimated Benefits (losses avoided):			
Useful Life:		Goals Met:			
Estimated Cost:		Mitigation Action Type:			
Plan for Implementation					
Prioritization:		Desired Timeframe for Implementation:			
Estimated Time Required for Project Implementation:		Potential Funding Sources:			
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:			
Three Alternatives Considered (including No Action)					
Alternatives:	Action	Estimated Cost	Evaluation		
	No Action	\$0	Current problem continues		
Progress Report (for plan maintenance)					
Date of Status Report:					
Report of Progress:					
Update Evaluation of the Problem and/or Solution:					





Action Worksheet

- Responsible Organization
- Identify the lead organization/department/individual for the project
- Identify any supporting organizations/departments/ individuals for the project.

Action Worksheet					
Project Name:					
Project Number:					
Risk / Vulnerability					
Hazard(s) of Concern:					
Description of the Problem:					
Action or Project Intended for Implementation					
Description of the Solution:					
Is this project related to a Critical Facility?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>					
Level of Protection:		Estimated Benefits (losses avoided):			
Useful Life:		Goals Met:			
Estimated Cost:		Mitigation Action Type:			
Plan for Implementation					
Prioritization:		Desired Timeframe for Implementation:			
Estimated Time Required for Project Implementation:		Potential Funding Sources:			
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:			
Three Alternatives Considered (including No Action)					
Alternatives:	Action	Estimated Cost	Evaluation		
	No Action	\$0	Current problem continues		
Progress Report (for plan maintenance)					
Date of Status Report:					
Report of Progress:					
Update Evaluation of the Problem and/or Solution:					





Action Worksheet

- Estimated Time Required for Project Implementation
- Provide the estimated time required to complete the project from start to finish.

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet

- Alternatives
- Three alternatives are needed for each action worksheet.
 - 1st alternative can be no action
 - 2nd and 3rd alternatives – include estimate cost and a description of the pros/cons of the alternatives

Action Worksheet			
Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard(s) of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)</small>			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:		Goals Met:	
Estimated Cost:		Mitigation Action Type:	
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	Current problem continues
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Evaluation of Actions

- Consider the benefits and costs
- Consider the implementation timeline
- Consider the areas/problems of greatest need
- Consider the funding sources
- High/Medium/Low priority

1 = highlight effective or feasible

0 = neutral

-1 = ineffective or not feasible

Evaluation and Prioritization		
Project Name:		
Project Number:		
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
Total		
Priority (High/Med/Low)		



Important Actions

- **Municipalities with high hazard potential dams with a condition rating of unsafe or unsound** should include an action to address the deficiencies, using the High Hazard Potential Dam (HHPD) grant program for funding.
- **Municipalities with repetitive loss properties** need to include an action to address repetitive loss (elevation and/or acquisition). Tetra Tech has emailed the communities that have repetitive loss properties.

High Hazard Potential Dam (HHPD) Worksheet
A job aid for Municipalities Preparing /Amending Mitigation Plans¹
Complete a Separate Worksheet for each² state regulated HHPD in your community.

Name of the Mitigation Plan:	Point of Contact for this Worksheet Name: _____ Email: _____
Municipality where dam is located:	Name of Dam: _____
Name of the Dam Owner:	NYS Dam ID #: _____

Dams are critical infrastructure that can be impacted by natural hazards and if they fail to operate as designed, there could be cascading consequences downstream in the inundation area and potentially to a larger area if the use of the pooled reservoir is lost or diminished.

This worksheet, when completed, will:

1. Describe the process followed for assessing the risks to /from the identified high hazard potential dam located in the municipality.
2. Describe the risks to the dam from natural hazards, and from the dam should it fail to operate as designed.
3. Describe the mitigation plan goal that covers addressing the vulnerabilities to/from HHPDs.
4. Describe one or more planned mitigation actions / projects related to a high hazard potential dam, be it with a HHPD grant or other FEMA hazard mitigation grant programs.

This worksheet is designed to be placed in the annex of the municipality with jurisdiction over the area where the dam is located. Use of this worksheet will ensure no HHPD requirement has been overlooked for the dam being assessed. Completing worksheets for each of the HHPDs in the municipality will allow FEMA to quickly confirm the municipality has a hazard mitigation plan that included all dam risks.

It is highly recommended that when the dam owner is another municipality, the worksheet should also be added to the other municipality's mitigation plan. Doing so will ensure the other municipality meets Element B3-a and C4-b for approval of their mitigation plan under the Stafford Act requirements.

General or generic discussion of high hazard dams and their risks is welcomed content in a mitigation plan. However, it is not a substitute meeting HHPD requirements 1 thru 4, as covered by this worksheet.

¹ Source: Local Mitigation Planning Policy Guide (pages 34-35 and 57), Released April 19, 2023

² This change, to include all state regulated HHPDs, per the Policy Guide went into effect with the release of the release of the Rehabilitation of High Hazard Potential Dams Grant Program Fiscal Year 2022 Notice of Funding Opportunity.

1



Schedule

- Complete Mitigation Development Worksheet and Schedule Meeting with your Tetra Tech Planner **Before March 31st**
- Work with Tetra Tech Planner to Complete Actions and Annex following meeting
- Draft Plan to Steering Committee by middle of May
- Final draft plan to NYS DHSES and FEMA – August/September 2023



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



Warren County
Hazard Mitigation Plan Update
Meeting Notes



Purpose of Meeting:	Steering Committee Meeting
Location of Meeting:	Virtual Teams Meeting
Date of Meeting:	June 7, 2023, 10:00 am

Attendees:

Ann Marie Mason	Director, Warren County Office of Emergency Services (OES)
Jim Lieberum	Warren County SWCD, District Manager, HM Coordinator
Laura Moore	Town of Queensbury, Land Use Planner
Kevin Hajos	Warren County Department of Public Works
Ashley Rivers	Warren County Office of Emergency Services
John Gibb	Contingency Management Consulting Group
Laura Stebbins	Director of Emergency Preparedness, Glens Falls Hospital
Sandra LeBarron	Director of Environmental Health and Safety, Finch Pruyn
Elizabeth O'Reilly	NYSDHSES

Agenda Summary: Purpose to provide a brief progress report and address pending action items. To re-convene the Steering Committee meeting to review the plan status and agenda items below.

Item No.	Description	Action item(s):
1	<p>Opening Remarks/Progress Report</p> <ul style="list-style-type: none"> • Meeting started at 10:00 am • Cynthia Addonizio-Bianco, Tetra Tech (Tt), welcomed participants and noted the key agenda items as summarized in the attached PowerPoint presentation. • The Steering Committee is requested to access the draft plan documents on the project OneDrive to review and provide any comments or feedback to be incorporated into the plan before posting for public review. 	
2	<p>Progress Report</p> <ul style="list-style-type: none"> • The process continues to be on track for plan submittal to FEMA in August 2023. • Upcoming milestones <ul style="list-style-type: none"> ○ Steering Committee Review of Draft Plan (through July 12th) ○ Draft plan posted for public comment (August 1st – August 31st) ○ Plan submittal to NYSDHSES/FEMA (September) 	
3	<p>Draft Plan Review (refer to attached presentation for details)</p> <ul style="list-style-type: none"> • Survey Results • Section-by-section content review • Maintenance procedure review 	



Warren County
Hazard Mitigation Plan Update
Meeting Notes



	<ul style="list-style-type: none"> Steering Committee Review guidelines 	
4	<p>Discussion</p> <ul style="list-style-type: none"> Mr. Hajos reviewed and discussed mitigation actions included in the draft county annex to support finalization of the mitigation strategy. This input will be included in the draft annex. 	
5	<p>Pending Action Items</p> <ul style="list-style-type: none"> Tt reminded committee members to document any time spent to attend HMP meetings, to provide input, or to provide information to their constituencies to ensure their efforts are included in the documentation to comply with grant requirements. The public HMP website (https://www.warrencountynewyorkhmp.com) has been updated with meeting dates and meeting documentation. The public draft will be located on this site for public review. Tetra Tech reminded steering committee members to access the project OneDrive site to review draft plan sections and to provide input, as necessary. 	<p>Steering Committee members to access plan on project OneDrive and provide comments as needed by July 12th.</p> <p>Tt to send OneDrive access links and review guidance to committee members.</p>
6	<p>Next Steps</p> <ul style="list-style-type: none"> Steering Committee members to access plan on project OneDrive and provide comments as needed by July 12th. Tt to update draft plan to include committee feedback and post plan for public review in August. 	
7	<p>Conclusion - The meeting concluded at 11:07 am.</p>	



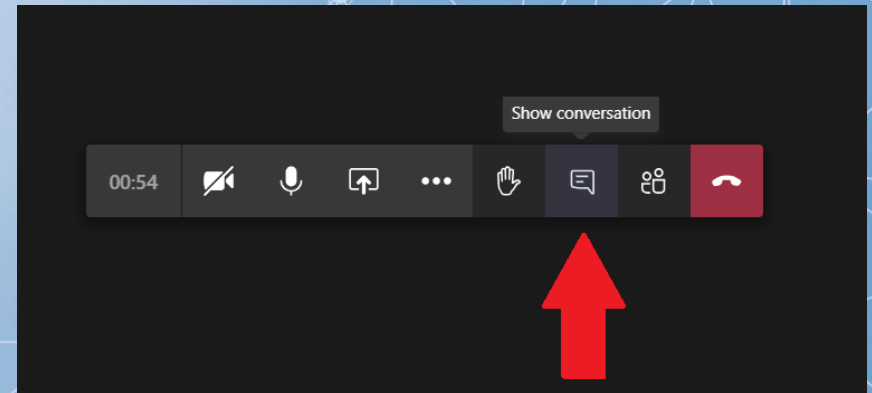
Warren County, New York Hazard Mitigation Plan – 2023 Update

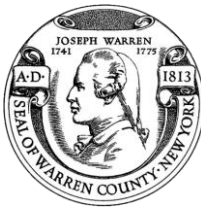
Steering Committee #5 Meeting | June 7, 2023 | 10:00 – 11:00 AM
Draft Plan Review

WELCOME!

If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat box.

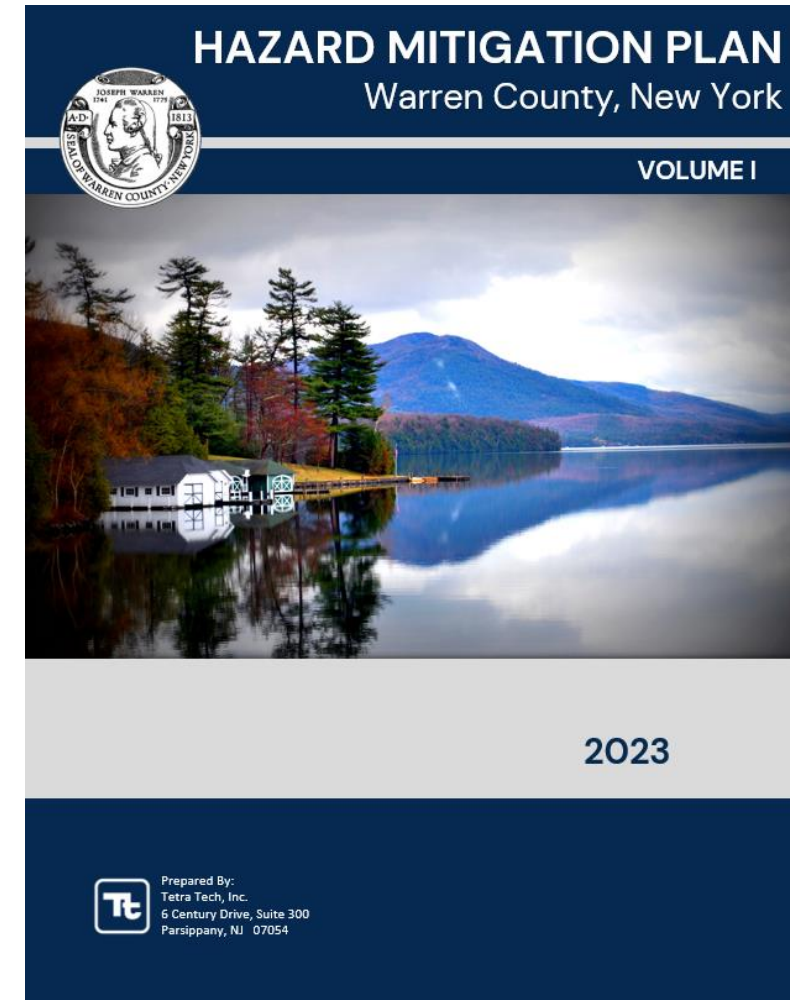
This will assist in our attendance documentation.

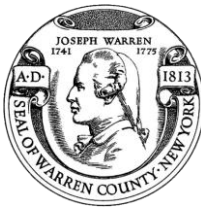




Agenda

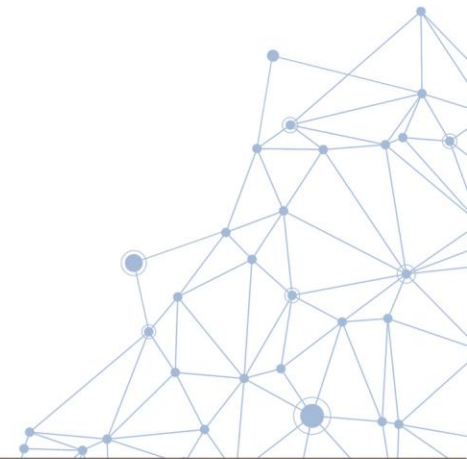
1. Introductions
2. Project Schedule
3. Draft Plan Review
 - What is New?
 - Survey Results
 - Section-by-Section Content Overview
 - Review Guidelines
 - Finalizing the Plan
 - County Mitigation Actions Discussion
4. Next Steps
5. Q&A

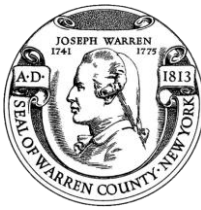




Project Schedule Review

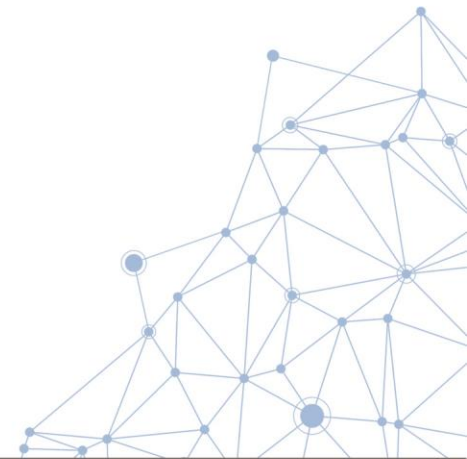
- | | | |
|---|-------------------------|--|
| ✓ | November 2, 2022 | Municipal Kick-Off Meeting |
| ✓ | November – December | Data Collection |
| ✓ | January 2023 – February | Update hazard profiles |
| ✓ | February 15, 2023 | Risk Assessment Presentation to Planning Partnership |
| ✓ | March 15, 2023 | Mitigation Strategy Workshop |
| ☐ | June/July 2023 | Review draft plan |
| ☐ | September 2023 | Submit plan to NYSDHSES and FEMA |

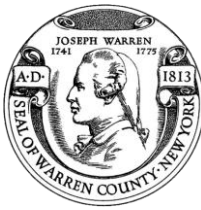




What is new in the 2023 Update?

- Review of hazard impacts since last plan.
- Updated critical facility inventory, including Community Lifelines
- Updated annexes to align with new FEMA and NYSDHSES Guidance
- Supplementary information appendix to support policy and planning
- Climate Change impacts and Adaptive Capacity to reduce vulnerability used in hazard ranking





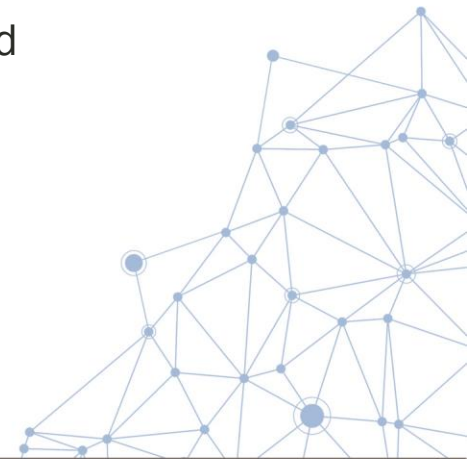
Neighboring County Survey Results

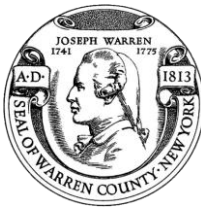
- **Saratoga (2 responses)**

- Indicated mutual agreements to deploy staff for emergency evacuations/disaster response
- Warren County was instrumental in helping us to develop many of our plans. They are a partner that could be asked for assistance in a variety of disasters.
- Emergency Managers work together to respond to incidents and may work together to mitigate against incidents along shared vulnerabilities.
- Shared hazards of concern: Flooding along the Hudson - which serves as the boundary between a good portion our counties. Additionally, various incidents along the Northway. Also, large scale incidents (e.g .brush fire) along our rural border; All dams/flooding along common county borders.
- Information shared with Saratoga communities by the hazard mitigation plan, intercommunity communication often by the highway department leadership.
- Multi-county evacuations would require collaboration. Historically we have collaborated on shared hazards/events

- **No response**

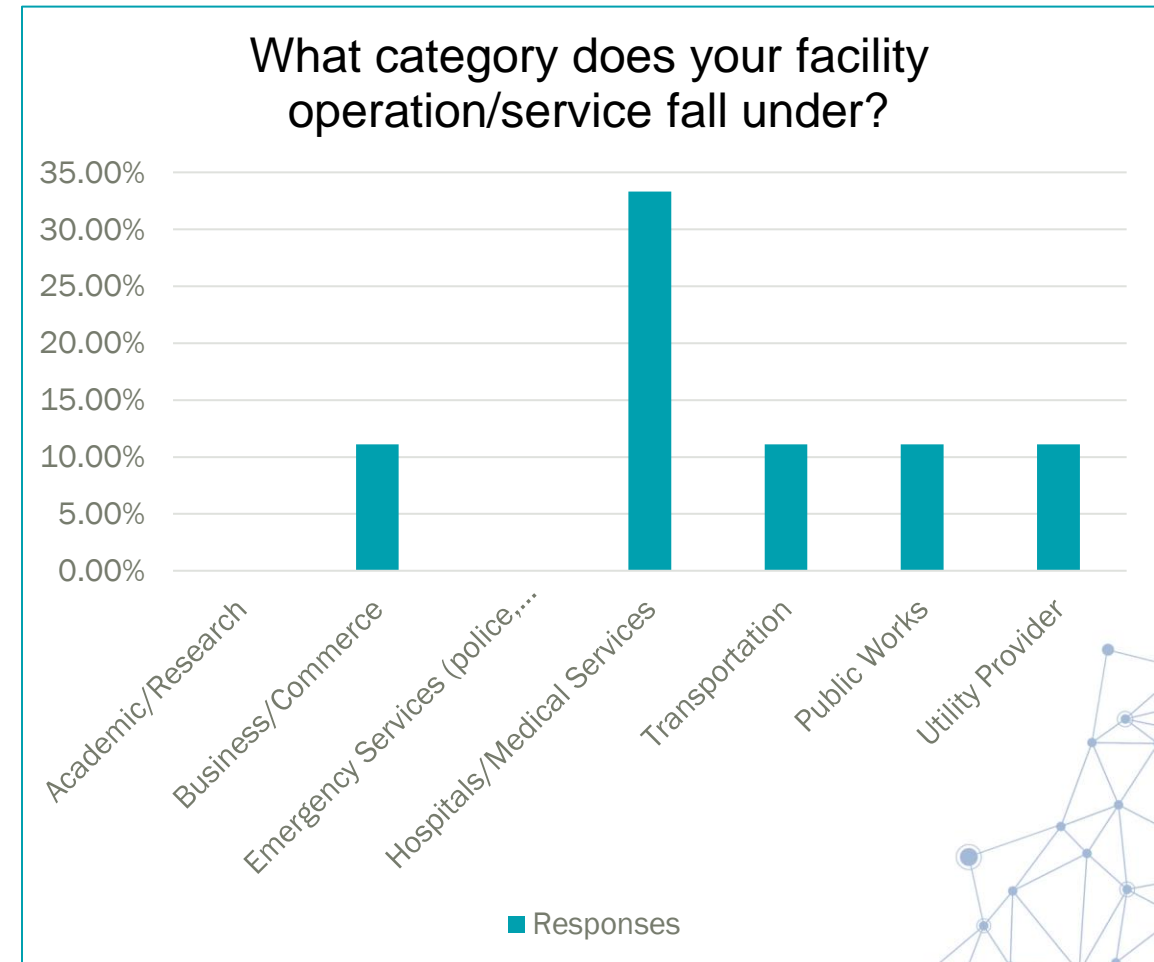
- Essex accessed survey (No data-will contact to discuss)
- Hamilton County
- Washington County

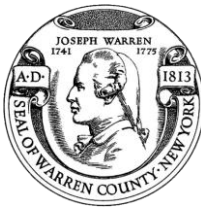




Agency Survey Results

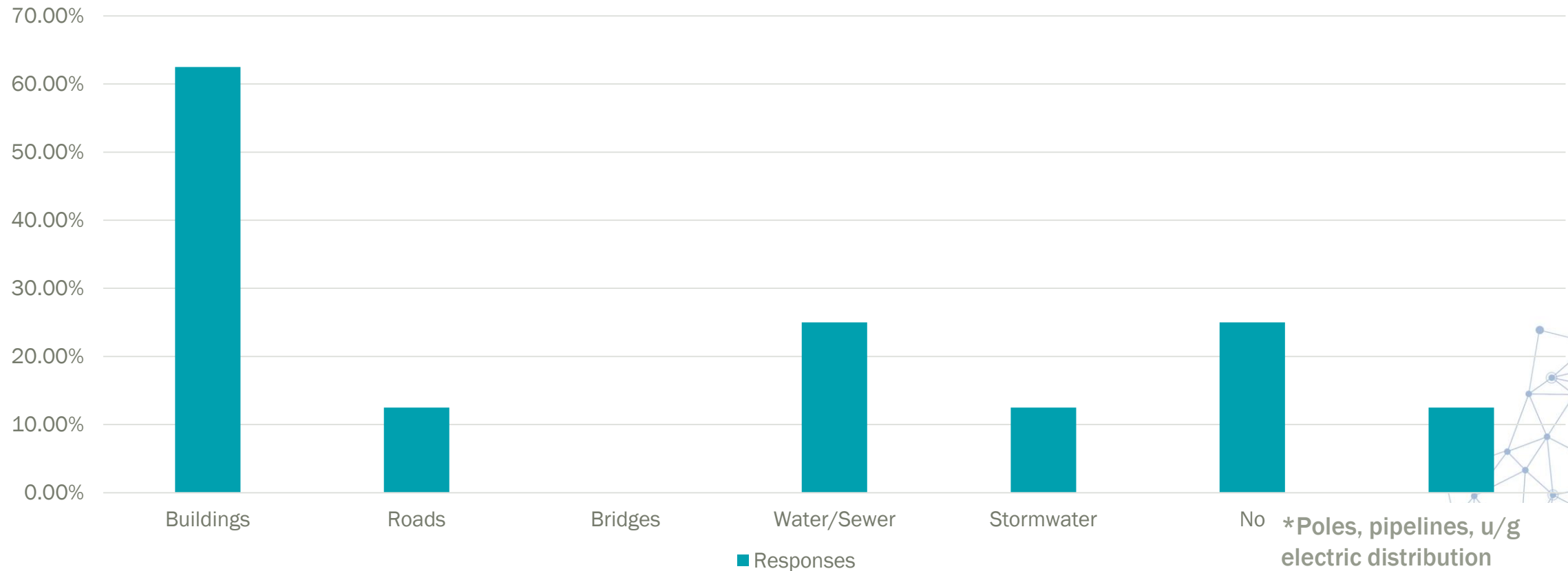
- 9 Respondents
 - National Grid
 - Warren County Health Services
 - SAIL
 - NYS Department of Health Glens Falls District Office
 - Lake George Regional Chamber of Commerce & CVB
 - Southern Adirondack Independent Living
 - Glens Falls Hospital
 - Greater Glens Falls Transit
 - Glens Falls Common Council



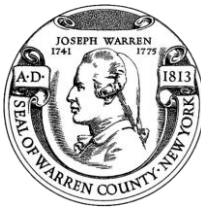


Agency Survey Results

Does your organization maintain or manage any of the following within your designated service area?

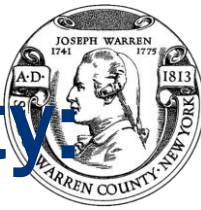


Agency Survey - Hazard Vulnerability:



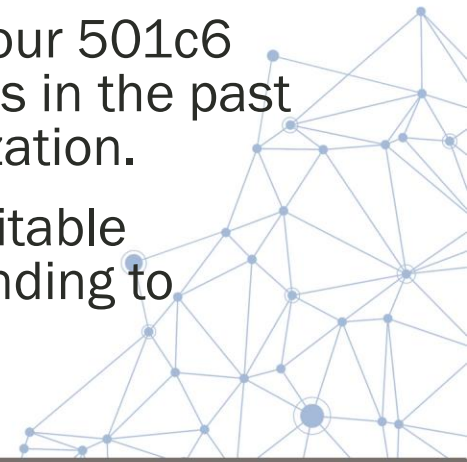
- Electric Substations and gas regulating stations. As we've all seen in the news with the recent vandalism with electric utility equipment, it is high on the priority list for our security teams.
- Salt mitigation to protect the lake. We currently use sand on the backside of our building/parking area and salt/sand mixture on the front. No other hazards as of this writing.
- Reliance on pre-identified municipal buildings and locations that are owned and maintained by City/Town municipalities for many of our activities.
- Our hub is the County Municipal Center. Vulnerabilities include fire, severe weather impacting the facility, loss of internet and utilities caused by weather or man-made factors"
- Road hazards - downed trees, winter driving conditions
- Industry along the river and watershed

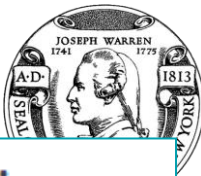




Agency Survey - Programs to Reduce Vulnerability

- Tree Trimming program - each of our circuits are trimmed on 5-year cycles, that means every 5 years ""Main St in Queensbury"" will be inspected for danger trees and trimmed by one of our tree contractors.
- **"Computapole"** program. This is a program that has us inspect and get eyes on every piece of National Grid electric infrastructure throughout our territory. We identify potential hazards like rotting poles, broken or unbonded guy wires, blown lightning arrestors, or broken cross arms. Once they are reported, the issues are then sent to the field workers for repairs. This is also done in 5-year cycles for each of our circuits.
- We have a similar program for our gas distribution system regarding our Leak Prone Pipe program where we are replacing old cast iron mains and services with plastic. We have a gas corrosion team that inspects our pipelines to make sure they are still in spec.
- We were able to take advantage of the second round of PPP funding because of our 501c6 corporate status that helped us through the pandemic financially. Other strategies in the past have been to cut programs and not people to stay financially stable as an organization.
- Upgrading work from home opportunities if the facility is unusable, ensuring a suitable secondary location is available for staff that have to be in the office, providing funding to ensure IT and other equipment necessary to maintain operations is provided
- Sewage treatment plant power project





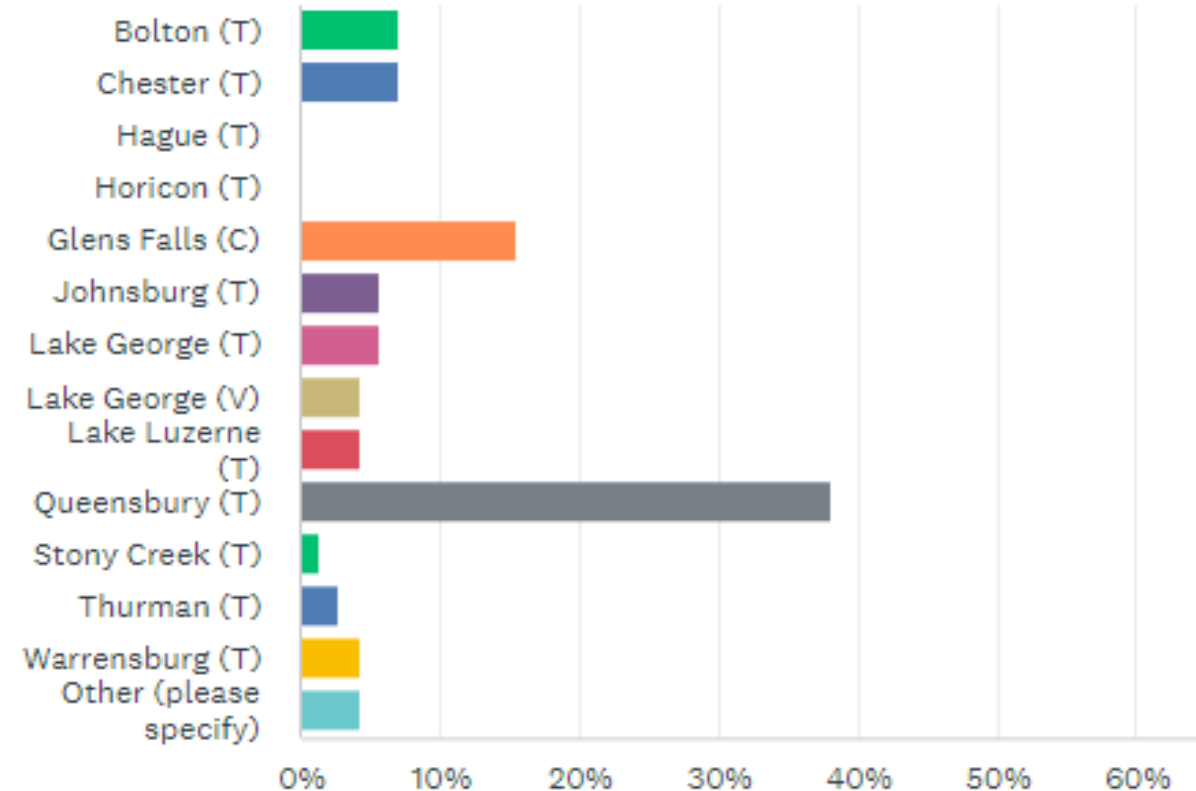
Public Survey Results

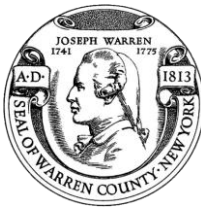
- 81 Responses
- 64% Completion Rate
- 8 Minutes to Complete (Avg)
- ~39 identified vulnerable areas/items

County streets Lake property Glens Falls Rd water due Road River
flood drainage trees Hudson River None ice

Please indicate the municipality in which you live:

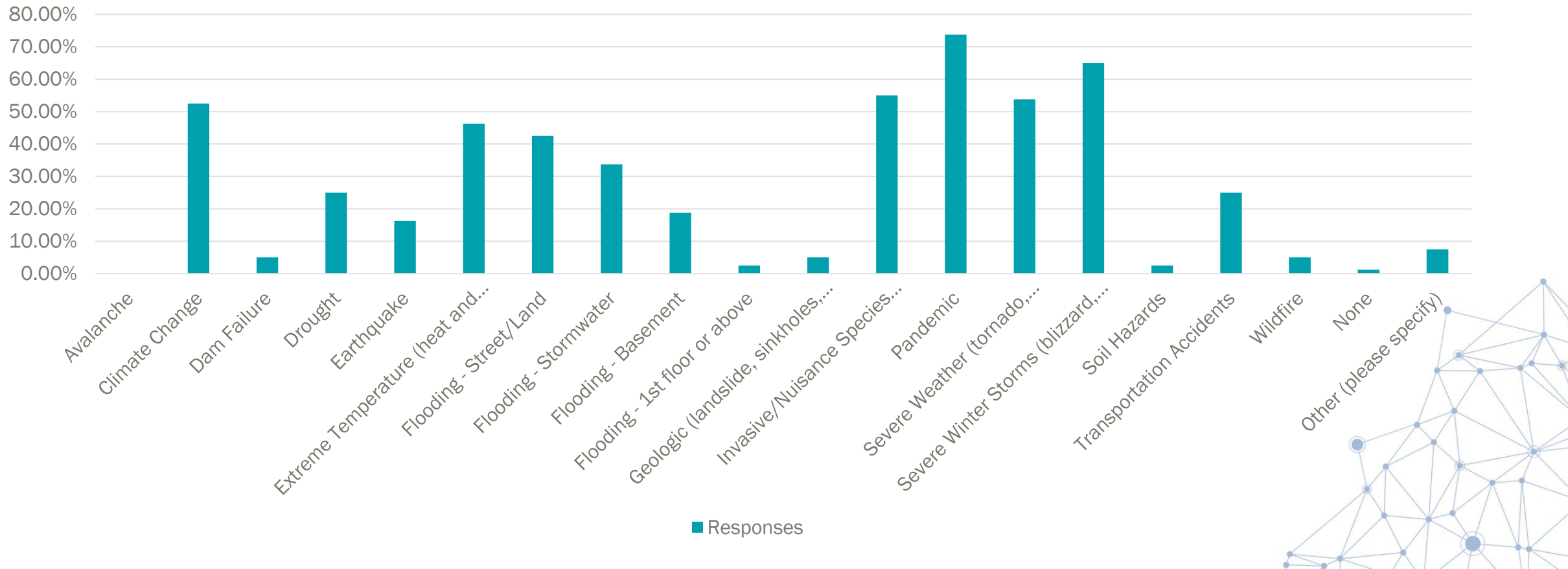
Answered: 71 Skipped: 10

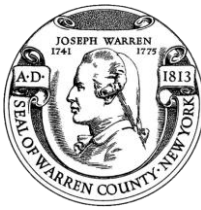




Public Survey Results: Hazards Experienced

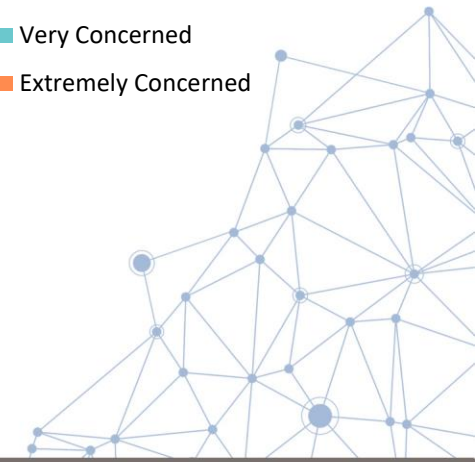
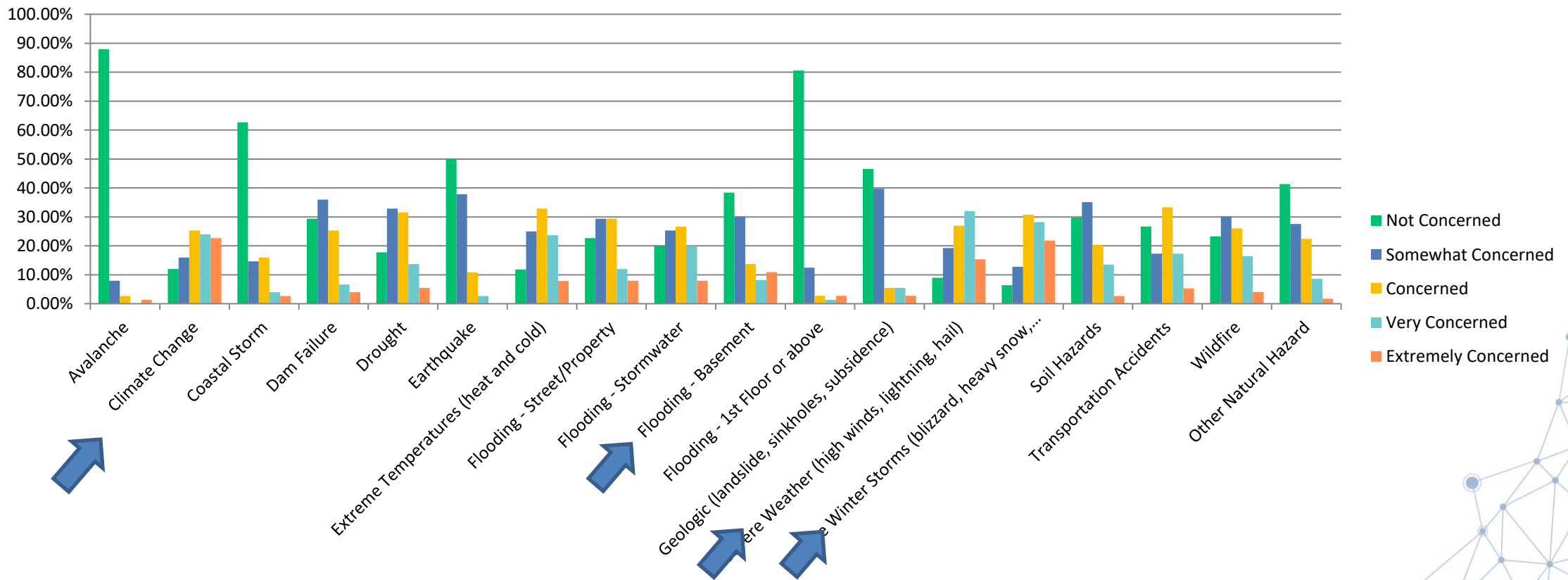
In the past 10 years, which of the following hazard events have you experienced in Warren County?

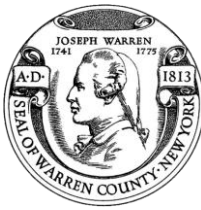




Public Survey Results - Hazard Concerns

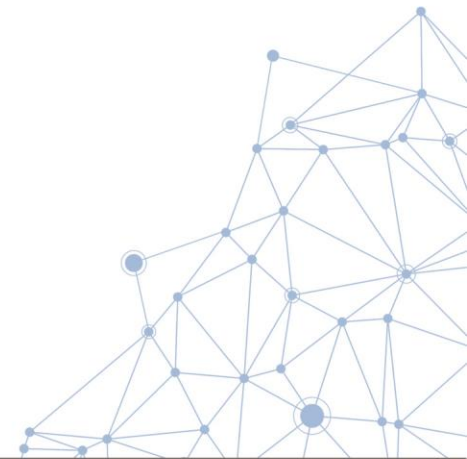
How concerned are you about the following hazards in Warren County? Please check one for each hazard.

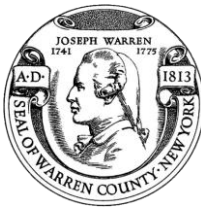




Problem Areas

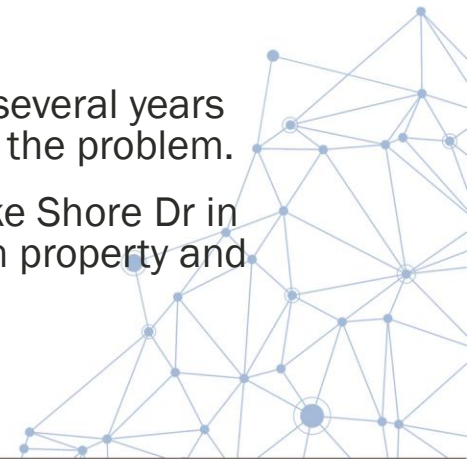
- Pine Tree Lane Diamond Point
- Always having power outages when others don't. They can last up to four days.
- Lack of back up power
- Loon Lake Dam Failure.
- Power outages due to lack of appropriate tree removal along power lines.
- Poor cell service. Lake Luzerne
- Queensbury boat launch, Glen Lake, Lake George, Hudson
- Susceptibility to flooding, poorly maintained dams owned by city of Glens Falls.
- Schools lack of back up power in the event power goes out and lack heating elements. Trees along residential roads that aren't cut back. Power drainage on roadways.
- Prone to power outages from trees on lines
- General back-up power, snow/ice blockage on highways
- Floodprone area on Meadowbrook Road @ Halfway Brook
- Low water levels in Kattskill by Lake George due to water management practices
- Apartment building for disabled and retired with all electric heat. No on demand generator.
- Located at 10 Manor Rd.

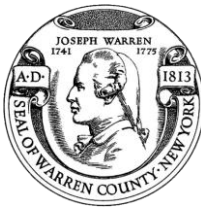




Problem Areas, continued

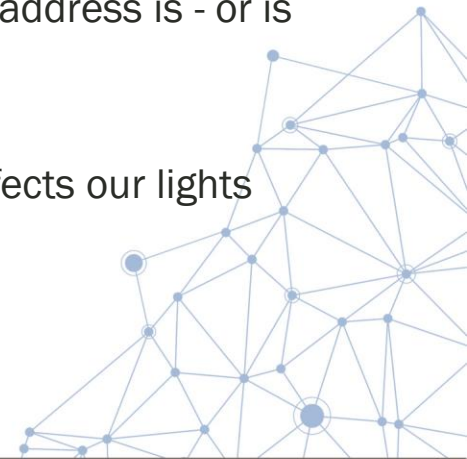
- 13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.
- Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)
- Water Tank control panel without power backup
- Ice jamming on Hudson River at 418 Bridge.
- Flooding on River Road
- Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.
- Numerous roads and stream crossings could be subject to flood/storm damage.
- East End in Glens Falls is known for being a high water table area
- North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.
- Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.

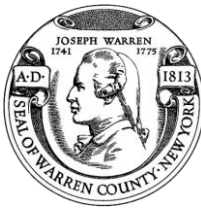




Problem Areas, continued

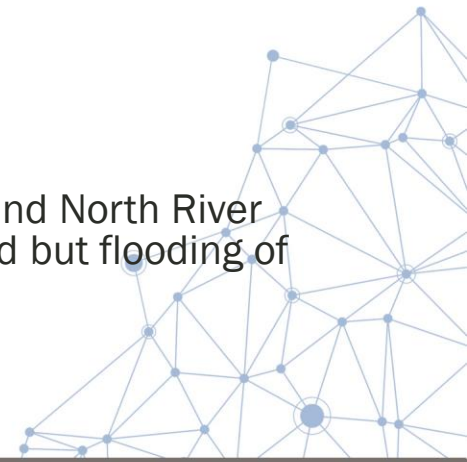
- Lack of municipal sewer and water
- Poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.
- My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored
- C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD
Johnsburg
- Loon Lake Dam, Rt 8/9, Chestertown
- ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.
- Hudson River Basin Lake Luzerne to Corinth
- We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.
- Electric
- Glens Falls dams on West Mountain

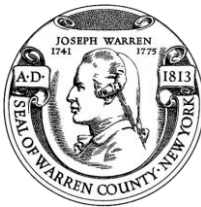




Problem Areas, continued

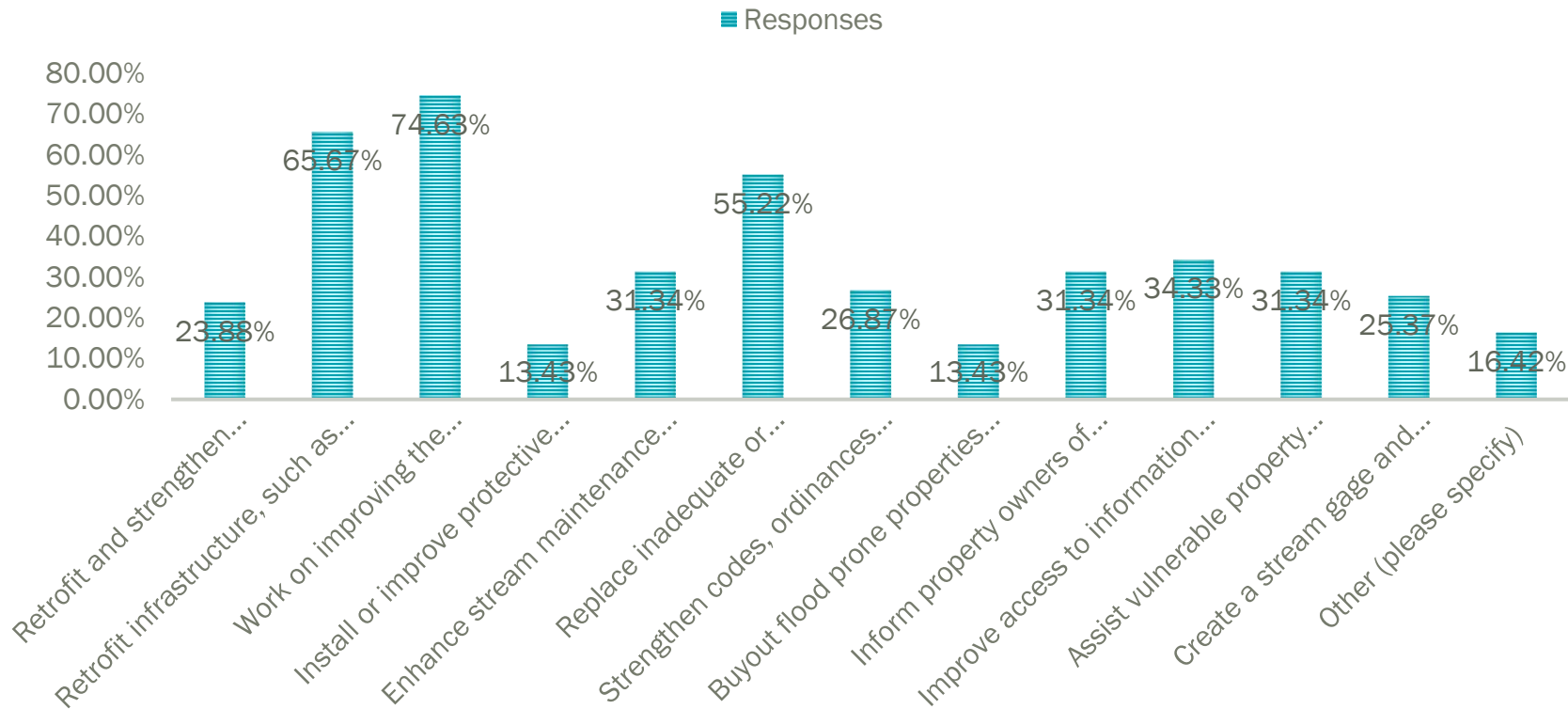
- Federal Hill Rd
- Areas along Hudson River and Schroon River are flooded frequently
- Lack of internet service in rural areas.
- Queensbury - Halfway Brook Area/flooding
- Warrensburg - Schroon River Area/flooding
- Chester & Horicon - Schroon River Area/flooding
- Meadowbrook Road, Queensbury - Flooding
- Lakeview Circle Drive Town of Lake George
- GFWWTP releasing sewage into Hudson after every heavy rainstorm.
- Inadequate storm drainage on streets
- Power cybersecurity concerns
- Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River and includes part of the town North Creek at the train station. The historic Train station has been preserved but flooding of the Hudson in the spring has caused concern a number of years in the past ten.
- Thurman bridge
- Downtown Warrensburg from Schroon River flooding





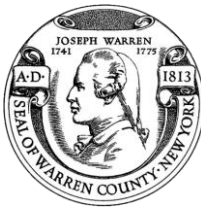
Priority Projects

What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Warren County?



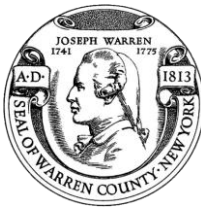
Top 3 project types to fund:

- 74.8% - Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)
- 65.6% - Retrofit infrastructure, such as elevating roadways and improving drainage systems
- 55.2% - Replace inadequate or vulnerable bridges and causeways



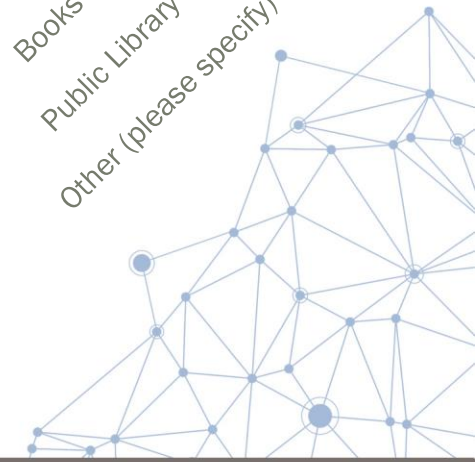
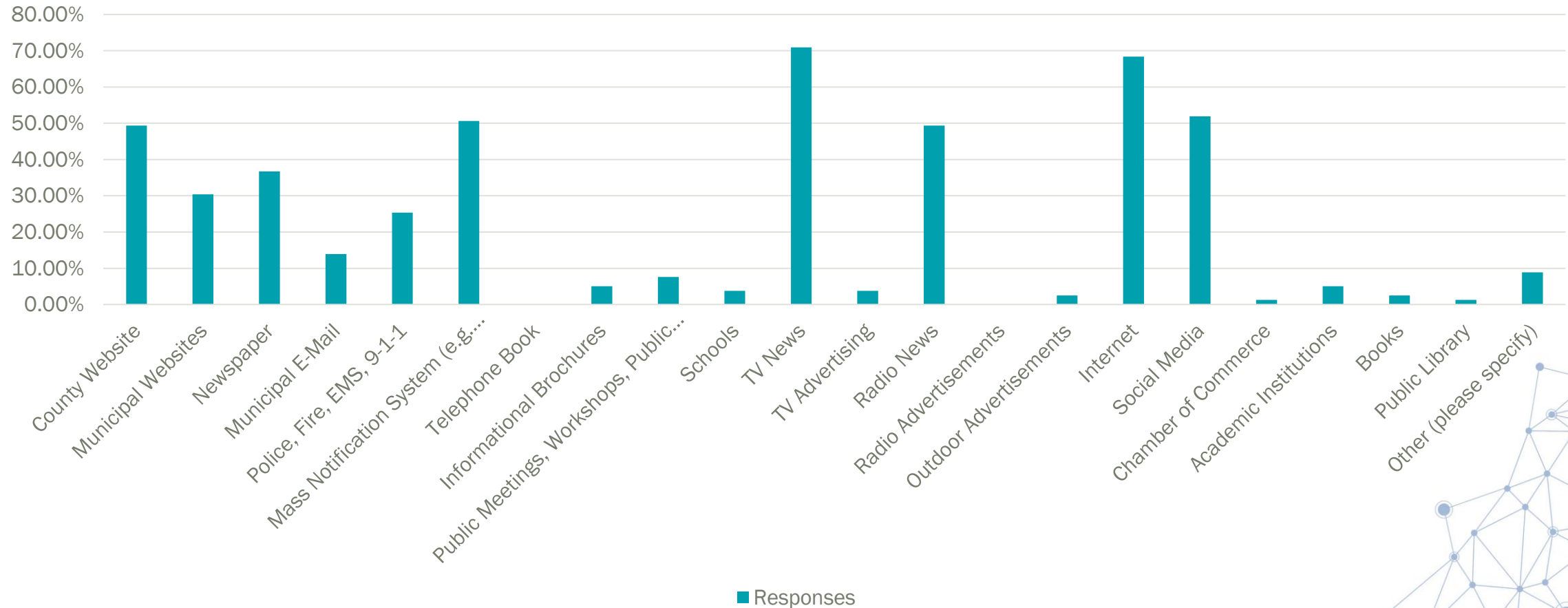
Concerns

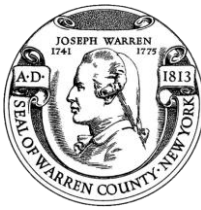
- Inadequate shelters in case of emergencies
- Remove tree limbs that hang over the 9L road before someone gets seriously injured
- I would appreciate receiving real time alerts from Warren County similarly to FEMA
- Each municipal government should be required to participate in this process. They should assess their community for potential hazards and develop a mitigation plan.
- Warren County needs to fix the drainage issue it CAUSED.
- I see that climate change is affecting us. One problem that we never experienced until recent years is algae blooms.
- I see climate change as one of the biggest concerns now and in the future that could and would impact a lot of weather -related hazard events. I think more projects that focus on taking care of our environment, like adopt a highway and stream clean up days, as a good thing to consider.
- Annual preparedness training at senior centers, at schools and in locations that citizens are encouraged to attend. create a citizen team to work with Emergency Management for Warren County
- Vastly improve ACCESSIBILITY for disabled people and Disaster Planning to include INPUT from disabled people with various disabilities; including respiratory
- During severe winter storms, county buildings need to close or open late as employees travel long distances to get to Warren County Municipal Center and should not have to use personal time in case of extreme weather.
- Extreme weather (heavy downpours and sudden storms) have increased greatly. Review of runoff areas should be reviewed.



Effective Messaging Resources

How do you receive your information concerning a disaster? Check all that apply.





Document Review on Sharepoint

- Access for document review
- Review in “desktop app” in track changes

My files > Warren County (NY) HMP

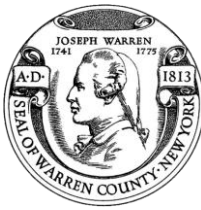
Name ↑	Modified	Modified By	File size	Sharing
GIS	November 14, 2022	frankenfelds@warrencoun	4 items	Shared
Letters of Intent to Participate	September 16, 2022	Bianco, Cynthia	14 items	Shared
Outreach Materials	November 30, 2022	Bianco, Cynthia	10 items	Shared
Steering Committee	January 24	Bianco, Cynthia	1 item	Shared
Survey				
SWCD				

My files > Warren County (NY) HMP > Steering Committee > Documents for Review

Name ↑	Modified	Modified By	File size
Old	January 31	Bianco, Cynthia	6 items
Warren_TOC.docx	January 25	Bianco, Cynthia	205 KB
5.2 - HOC ID_Warren_rev.docx	6 days ago	Bianco, Cynthia	422 KB
Section 1-Introduction_rev.docx	6 days ago	Bianco, Cynthia	1.05 MB
Section 2-Plan Adoption.docx	January 25	masona@warrencountyny	360 KB
Section 5.1_Methodology_rev.docx	6 days ago	Bianco, Cynthia	517 KB

My files > Warren County (NY) HMP > Steering Committee

Name ↑	Modified	Modified By	File size	Sharing
Documents for Review	January 24	Bianco, Cynthia	6 items	Shared



Draft Plan Review – Section Contents

Volume I

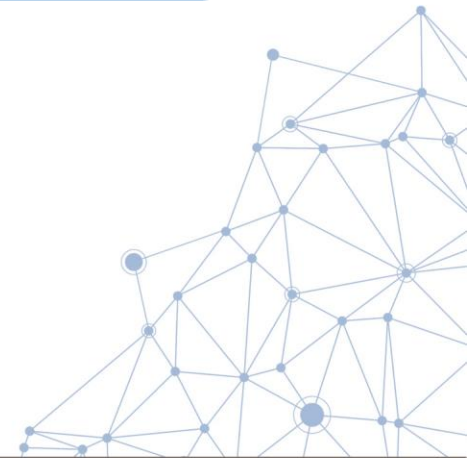
- **Section 1 – Introduction**
 - Mitigation Planning Overview
 - Participating Jurisdictions
 - 2023 Updates
- **Section 2 – Plan Adoption**
 - Adoption Process
- **Section 3 – Planning Process**
 - Participants
 - Activities
 - Ongoing Process

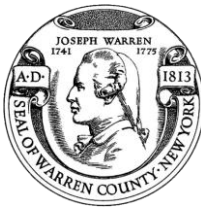


HAZUS-MH was applied to

- Identify Hazards (Phase 2)
- Profile Hazards (Phase 2)
- Perform a Vulnerability Assessment (Phase 2) including:
 - Inventory Assets
 - Estimate Losses
 - Evaluate Development Trends
 - Present Results of Risk Assessment

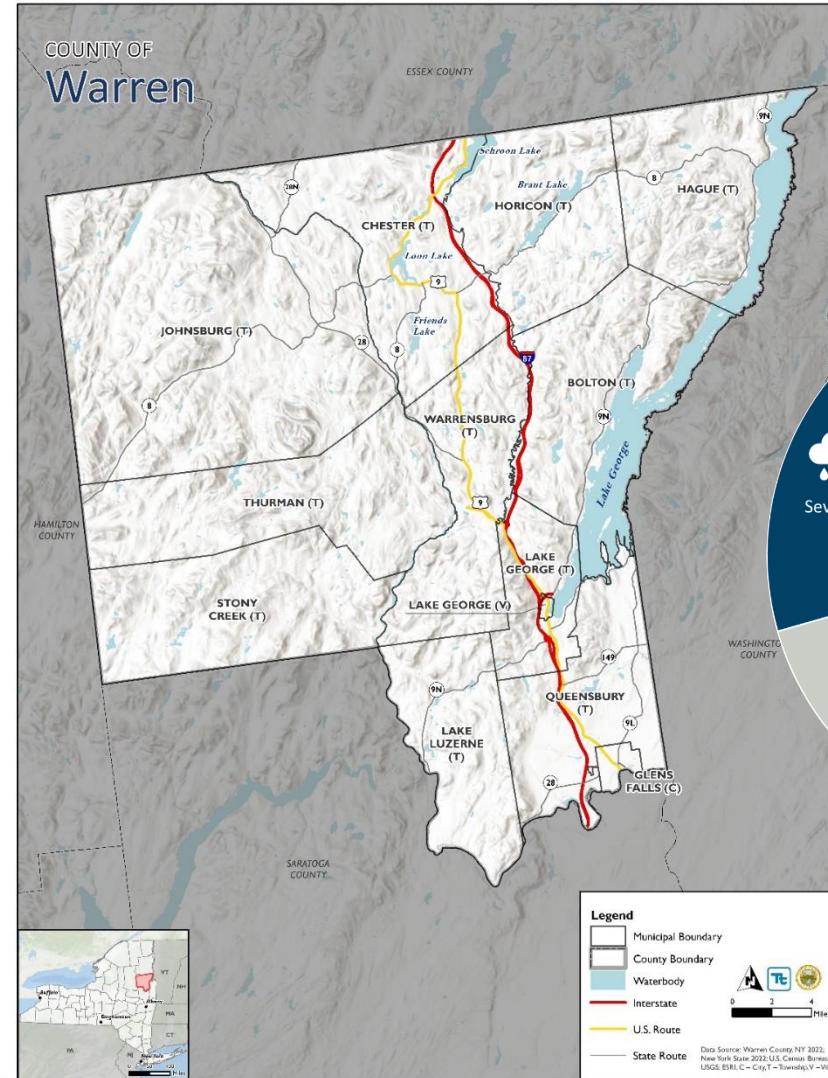
These results provide an input to Phase 3.



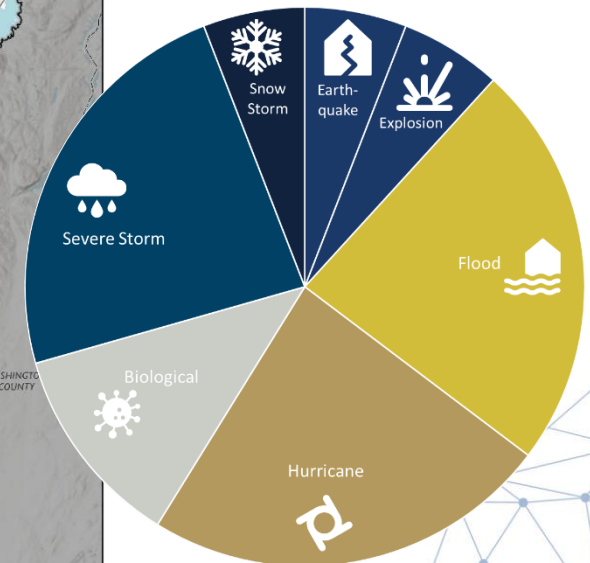


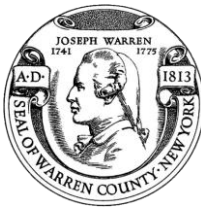
Draft Plan Review – Section Contents

- **Section 4 – County Profile**
 - History & Physical Setting
 - Population and Demographics
 - Major Hazard Event History
 - General Building Stock
 - Land Use and Population Trends
 - Critical Facilities & Lifelines
- **Section 5 – Risk Assessment**
 - Hazards of Concern
 - Hazard Ranking
 - Hazard Profiles

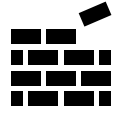


Warren County Hazard Events





Hazards Profiles – Section 5.4



- Dam Failure



- Disease Outbreak



- Earthquake



- Extreme Temperature



- Flood



- Infestation and Invasive Species



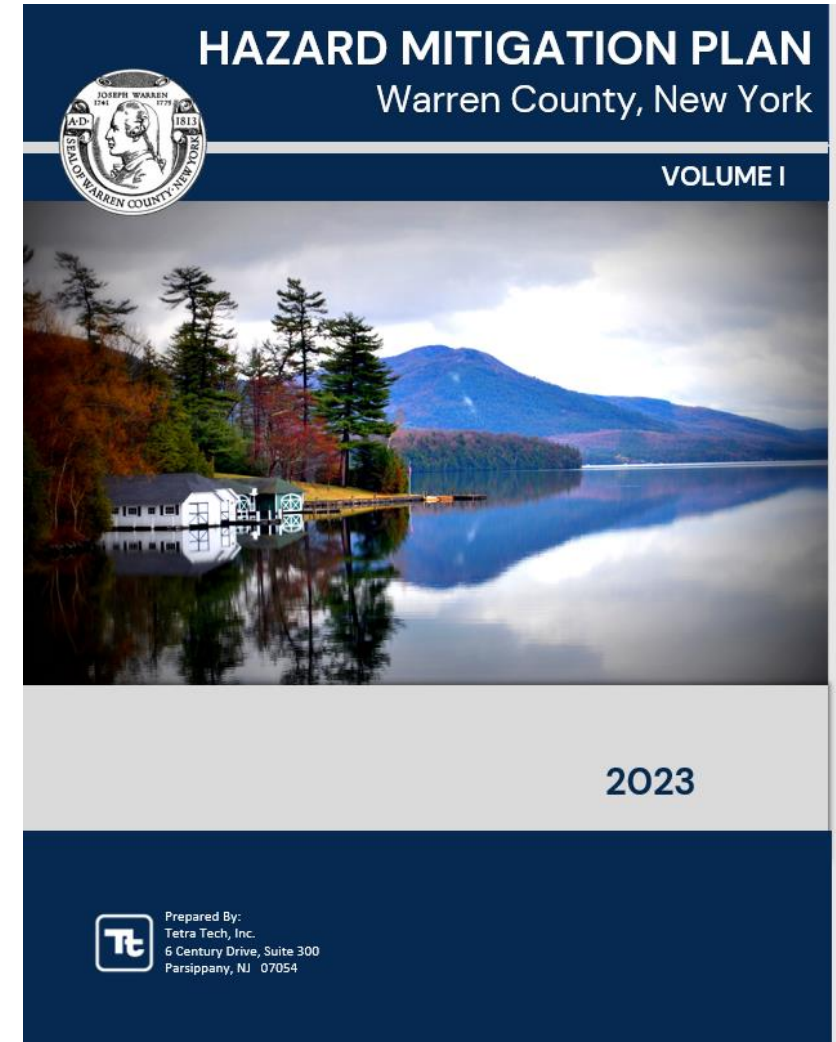
- Severe Storm

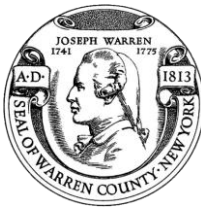


- Severe Winter Storm



- Wildfire



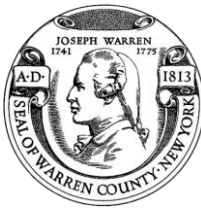


Draft Plan Review – Section Contents

- Section 6 – Mitigation Strategies
 - Past accomplishments
 - Goals and Objectives
 - Capability Assessment
 - Available plans, programs, & resources
 - Administrative and technical capabilities
 - Fiscal capabilities
 - Mitigation strategy development and update
 - Action identification
 - Evaluation and prioritization
 - Benefit/cost review

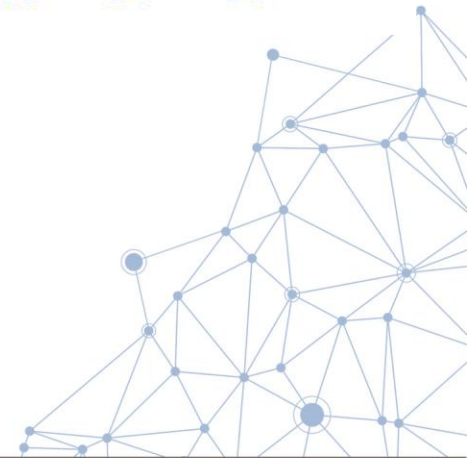
*To create communities whose daily activities reflect a comprehensive commitment by government, business, non-profit organizations, socially vulnerable populations, and the public to eliminate or reduce risks and adverse impacts from natural, **and human-caused** hazards.*

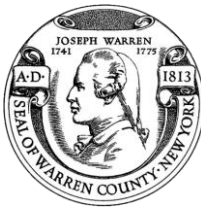
Discussion item: Omit human-caused hazards to align with FEMA HMP focus.



Draft Plan Review – Section Contents

- Section 7 – Plan Maintenance
 - HMP Coordinator
 - Ongoing Planning Committee
 - Monitoring
 - Continuous evaluation and progress reports
 - FEMA Worksheets and BAToolSM
 - Updating
 - Integration of hazard mitigation with existing and future programs
 - Continued public involvement





BAToolSM

- Online progress reporting for individual mitigation actions – pre-populated by Tetra Tech

Prev Action * Action ID: TPQ - 1 [Next Action](#)

[Add New Action](#)

[View Update History](#)

Please review and update this action by following the steps below and updating any/all fields (as needed).

Step 1: Enter your name as the 'Reviewer' (then step 2 will be enabled for selection).

* Reviewer:

Step 2: Update the 'Action Status' field. Please continue to review and update all other fields, as needed.

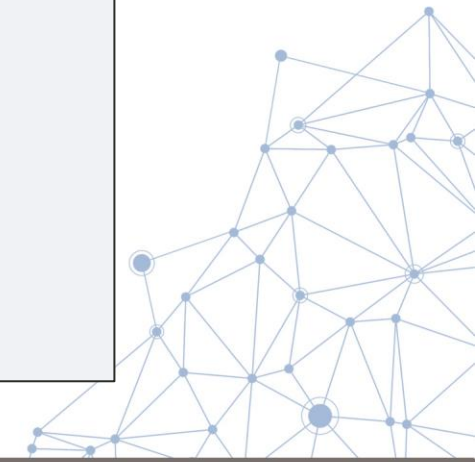
Previous Action Status:

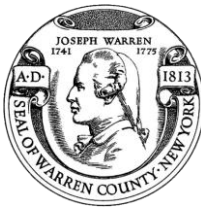
- No Progress
- In Progress
- Completed
- Discontinued
- Ongoing Capability
-

Project/Action Status Comments:

* Description of the Action:

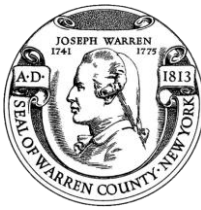
Specific Problem Mitigated:





Plan Maintenance Matrix

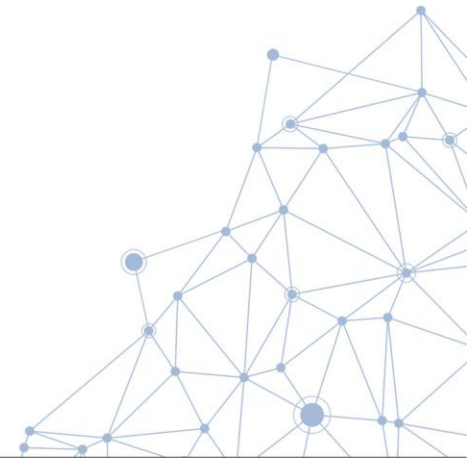
Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Preparation of status updates and action implementation tracking as part of submission for Annual Progress Report.	January or upon major update to Comprehensive Plan or major disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet (see 7.1.2 below) for annual review and update by all participating jurisdictions.	January each year with interim email reminders to address integration in county and municipal activities.	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions as submitted by the monitoring task lead and support to assess the effectiveness of the plan; compile and finalize the Annual Progress Report	Finalized progress report completed by January 15 of each year	Steering Committee; Plan Maintenance element	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)
Update	Reconvene the planning partners , at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive Plan or major disaster	Warren County HMP Coordinator	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)

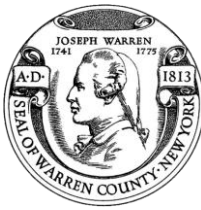


Draft Plan Review – Section Contents

Volume II

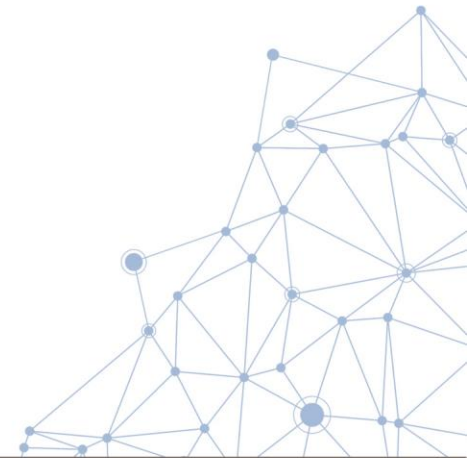
- **Section 8 – Planning Partnership**
 - Participating jurisdictions
 - Introduce jurisdictional annexes
- **Section 9 – Municipal Annexes**
 - Point of Contact
 - Municipal Profile
 - Capabilities
 - NFIP Participation
 - Risk Assessment
 - Critical Facilities
 - Status of Past Mitigation Actions
 - Current Mitigation Actions
 - Future Needs

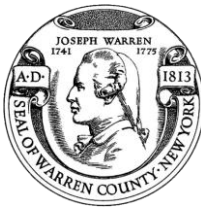




Draft Plan Review – Section Contents

- Appendices
 - Appendix A – Plan Adoption
 - Appendix B – Participation Matrix
 - Appendix C – Meeting Documentation
 - Appendix D – Public and Stakeholder Outreach Documentation
 - Appendix E – County Profile and Risk Assessment Supplementary Data
 - Appendix F – Critical Facilities
 - Appendix G – FEMA Plan Review Tools
 - Appendix H – NYS DHSES 2017 Mitigation Planning Standards

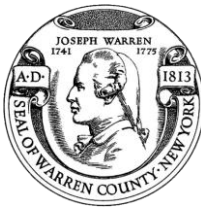




Steering Committee Review Guidance

- Documents posted on OneDrive for collaborative review
 - OneDrive guidance will provide direction on how to edit/comment
- Input requested
 - Provide additional or specific information
 - Correct errors or omissions
- All feedback requested on or before July 12th
 - Feedback will be incorporated as appropriate before Public Review
- Plan sections to be posted on the Warren HMP website for a 30-day review period
- Public feedback to be incorporated as appropriate prior to submittal to NYSDHSES/FEMA for agency review





Plan Adoption and Timeline

- Information on the planning process is available here: (<https://www.warrencountynewyorkhmp.com>)
- Draft plan sections will be posted for public review and comment beginning August 1st for 30 days
- The plan will be submitted for review and approval by NYSDHSES and FEMA in November
- Adoption of the plan by the community is required to be deemed **APPROVED** by FEMA.

**WARREN COUNTY HAZARD MITIGATION PLAN
2023 UPDATE**

Home About What is Mitigation Meetings Calendar Explore the Plan Additional Information

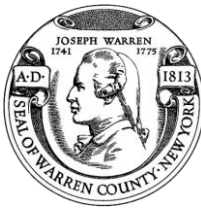
Explore the Plan

2023 Warren County Hazard Mitigation Plan Update

Sections of the 2023 Warren County HMP update will be posted as available.

Municipal Annexes

- 9.02_Town of Bolton [Download](#)
- 9.03_Town of Chester [Download](#)
- 9.04_City of Glens Falls [Download](#)
- 9.05_Town of Hague [Download](#)
- 9.06_Town of Horicon [Download](#)
- 9.07_Town of Johnsbury [Download](#)
- 9.08_Town of Lake George [Download](#)
- 9.09_Village of Lake George [Download](#)
- 9.10_Town of Lake Luzerne [Download](#)



In-Kind Services Tracking

- Use on-line survey: <https://www.surveymonkey.com/r/WarrenNYHMPIInKind>
- Submit form to Jim Lieberum at jimli@warrenswcd.org

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting					Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting						Discussed the HMP update
Phone Call	Town of ?? phone call					No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting					Yes - agenda	

Warren County HMP - In-Kind Tracker

Warren County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.

Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.

If you have any questions, please reach out to Cynthia Bianco (cynthia.bianco@tetratech.com | 973.630.8044).

* Name

* Title

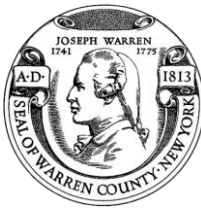
* Jurisdiction

Please document your time spent working on the HMP:

Date

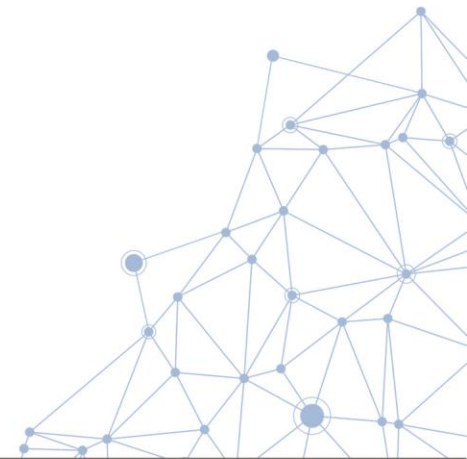
Hours





Next Steps

- Finalize Jurisdictional Annexes – in progress, drafts posted on OneDrive and www.warren
- Steering Committee Plan Review – Now through July 12th
- Update Plan Based on Steering Committee Feedback
- Draft Posted for Public Review and Comment – August 1st – 30 Days
- Submit to NYS DHSES and FEMA – September 2023
 - Estimated 45-day review period
- BAToolSM Webinar to Review Plan Maintenance
- Plan Adoption by County and Participating Municipalities



Questions?



Warren County Emergency Services Project Contacts

Jim Lieberum, CPESC
jiml@warrenswcd.org

Ann Marie Mason
Emergency Services Director
masona@WarrenCountyNY.gov

Tetra Tech Project Contacts

Cynthia Addonizio-Bianco, Project Manager
(973) 630-8044 | cynthia.bianco@tetrattech.com

Heather Apgar, CFM, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



APPENDIX D. PUBLIC AND STAKEHOLDER OUTREACH

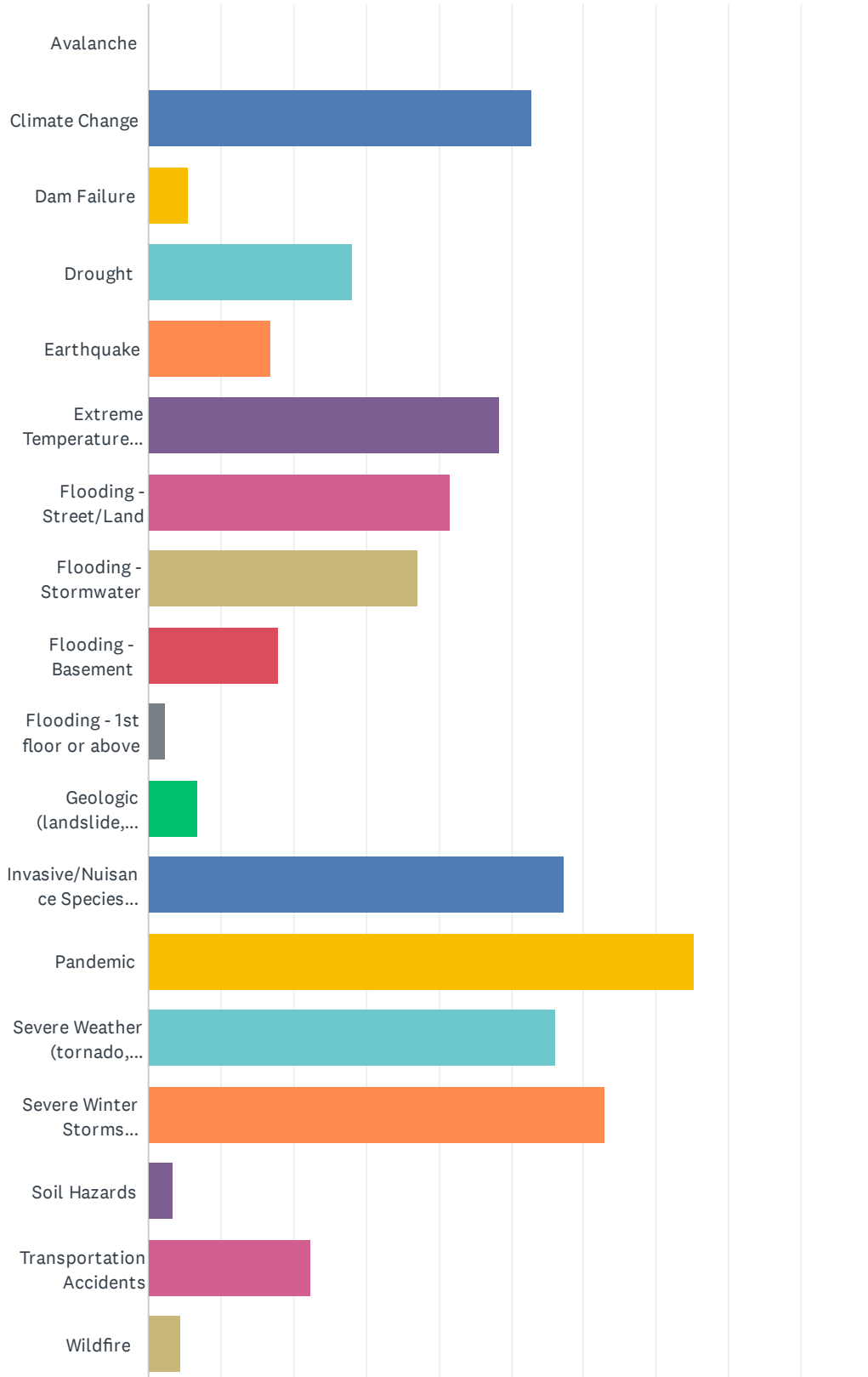
This appendix provides documentation of public and stakeholder outreach. Stakeholder involvement in this planning process was broad and productive as discussed and further documented in Section 3 (Planning Process). Public and stakeholder input has been incorporated throughout this HMP as appropriate, as identified in Section 3 and the References section, as well as within specific mitigation initiatives identified within the jurisdictional annexes (Section 9). Respondent feedback filtered by jurisdiction is included in each jurisdictional annex as available to provide an indication of community resident concerns related to natural hazards.

D.1 WARREN COUNTY CITIZEN SURVEY RESULTS

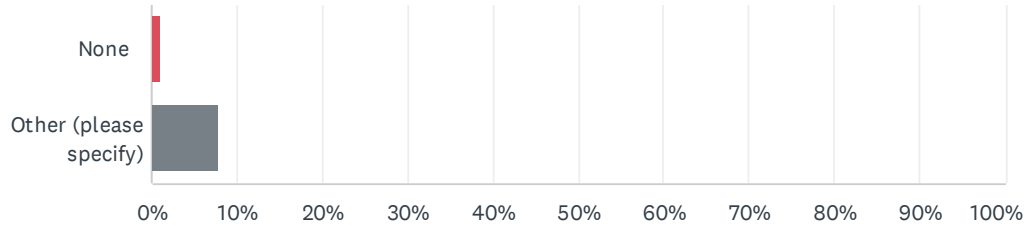
This section contains information and results gathered from the Warren County Citizen Survey. The main objective of this survey was to gather information from citizens regarding their level of knowledge regarding hazard vulnerability and knowledge of hazard mitigation information for their local communities. Over 90 respondents completed this survey over a period of 12 months during the planning process. The survey was available on Warren County website and the HMP website at: <https://www.warrencountynewyorkhmp.com>. The survey results are provided in the following pages, with personal information redacted.

Q1 In the past 10 years, which of the following hazard events have you experienced in Warren County? Check all that apply.

Answered: 89 Skipped: 1



Warren County Hazard Mitigation Plan Update - Public Survey



ANSWER CHOICES	RESPONSES	
Avalanche	0.00%	0
Climate Change	52.81%	47
Dam Failure	5.62%	5
Drought	28.09%	25
Earthquake	16.85%	15
Extreme Temperature (heat and cold)	48.31%	43
Flooding - Street/Land	41.57%	37
Flooding - Stormwater	37.08%	33
Flooding - Basement	17.98%	16
Flooding - 1st floor or above	2.25%	2
Geologic (landslide, sinkholes, subsidence)	6.74%	6
Invasive/Nuisance Species (harmful algal bloom, spotted lanternfly, etc.)	57.30%	51
Pandemic	75.28%	67
Severe Weather (tornado, thunderstorm, hail)	56.18%	50
Severe Winter Storms (blizzard, heavy snow, ice)	62.92%	56
Soil Hazards	3.37%	3
Transportation Accidents	22.47%	20
Wildfire	4.49%	4
None	1.12%	1
Other (please specify)	7.87%	7
Total Respondents: 89		

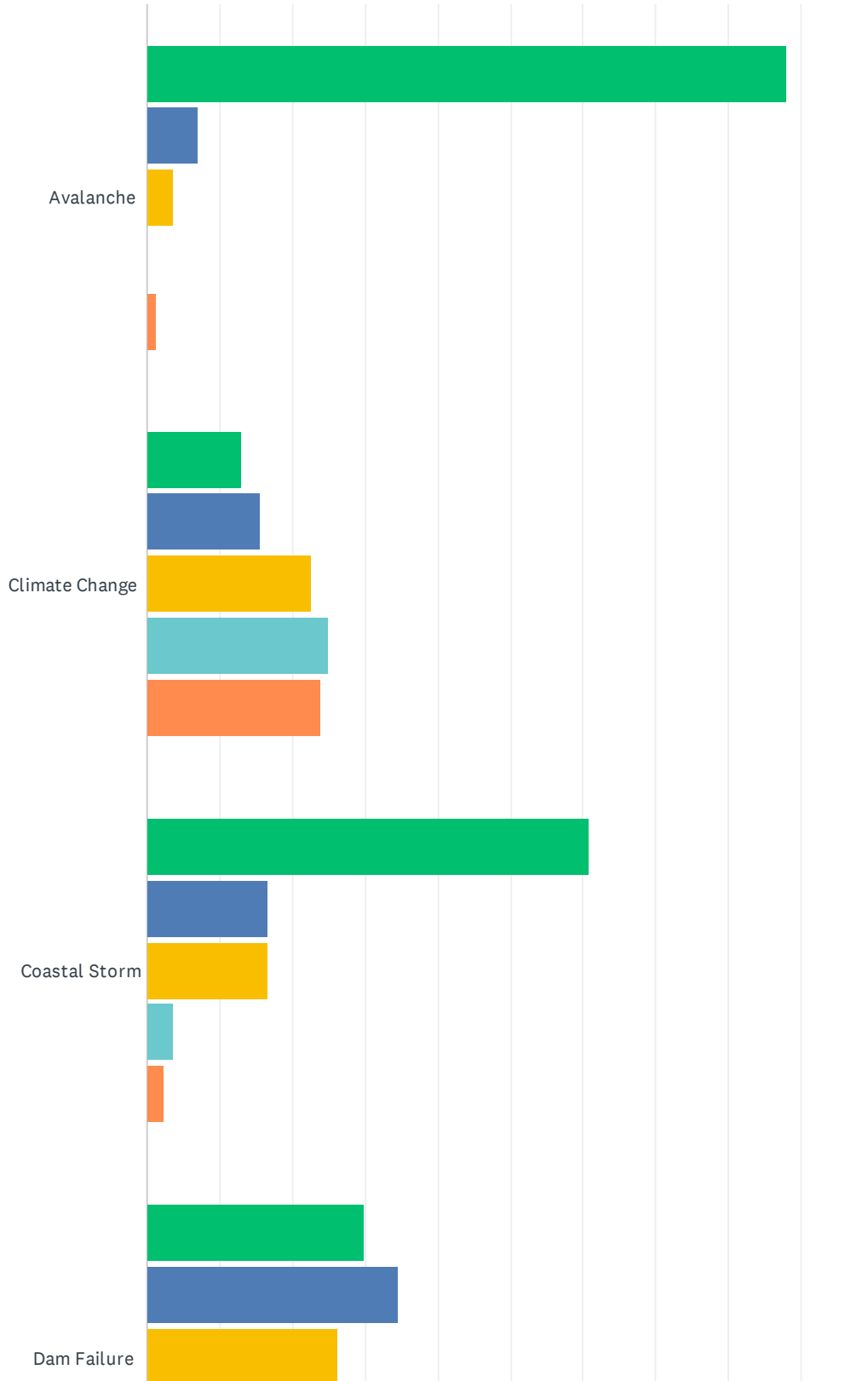
#	OTHER (PLEASE SPECIFY)	DATE
1	Air Quality Danger from Canadian Wildfires	8/2/2023 8:24 AM
2	Spongy Moths	12/21/2022 10:17 AM
3	salt runoff into my private well near Church Hill Road in Bolton Landing	12/11/2022 10:06 AM
4	high winds; raw sewage releases into the Hudson River	12/10/2022 11:36 AM
5	Tree failures. Blocking the road	12/10/2022 8:19 AM

Warren County Hazard Mitigation Plan Update - Public Survey

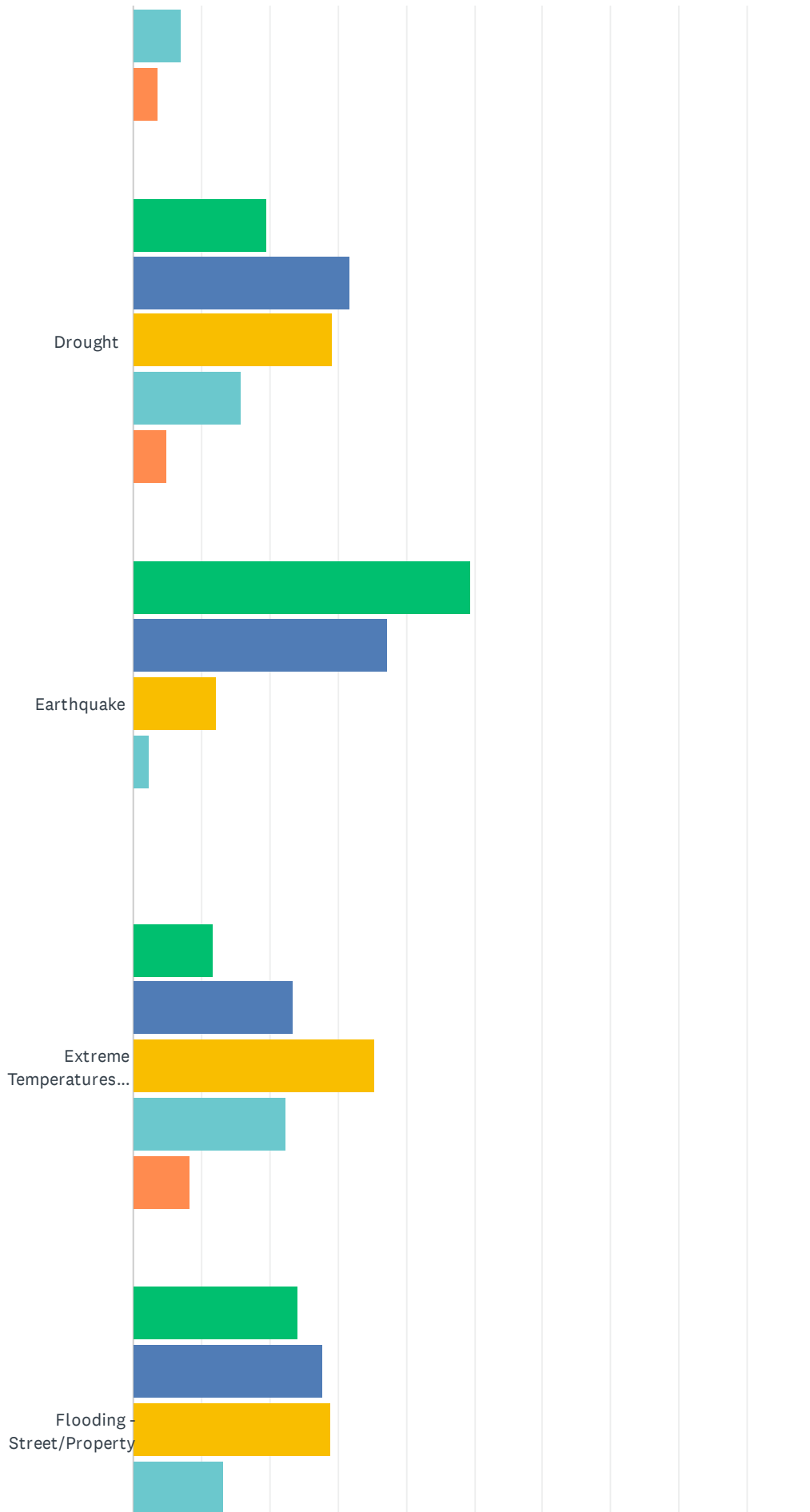
6	Sewage backup from street to basement, sewage gas fumes in HVAC floor vents	12/9/2022 9:35 PM
7	tree fell on house	12/9/2022 8:50 PM

Q2 How concerned are you about the following hazards in Warren County? Please check one for each hazard.

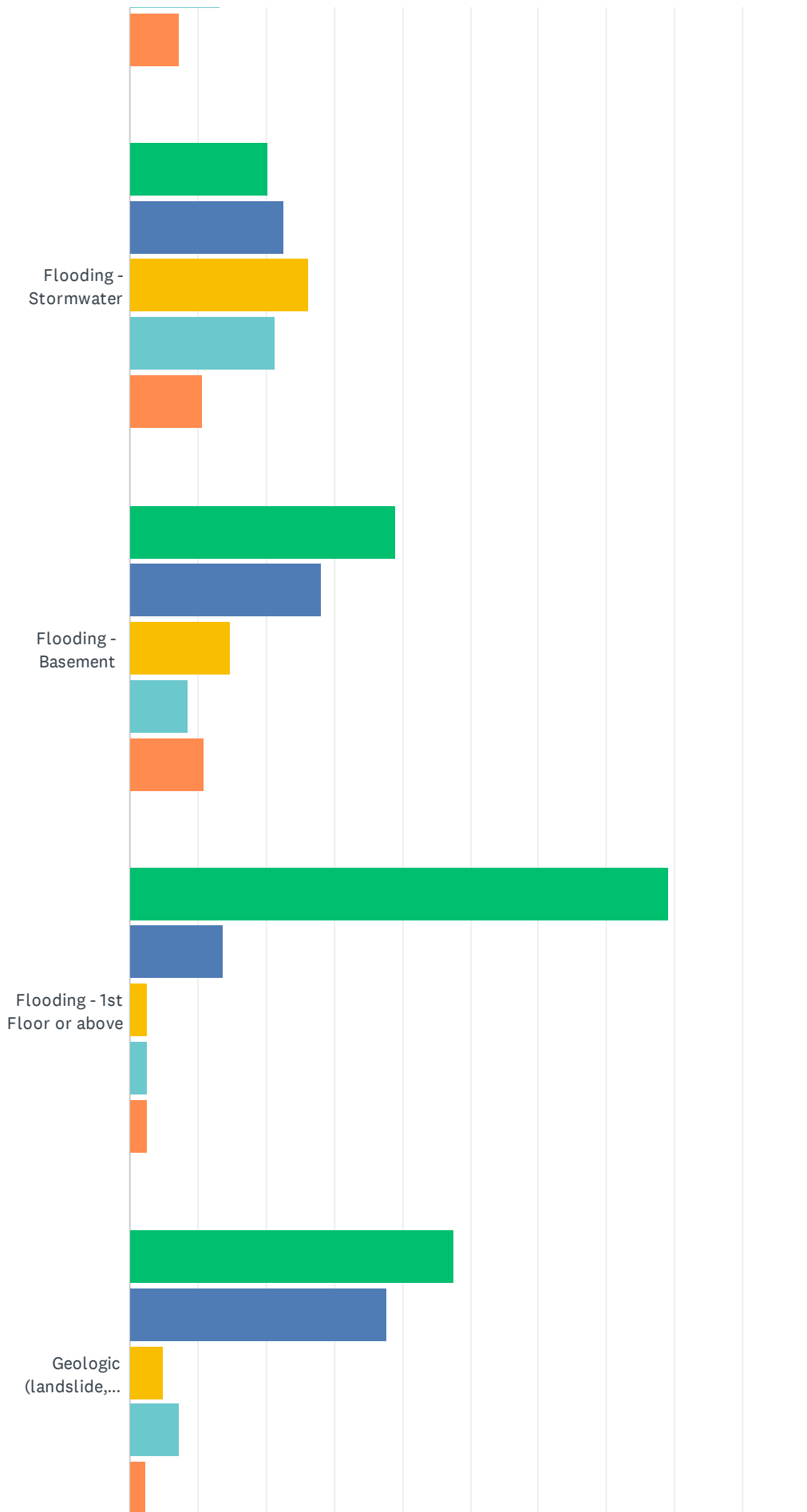
Answered: 89 Skipped: 1



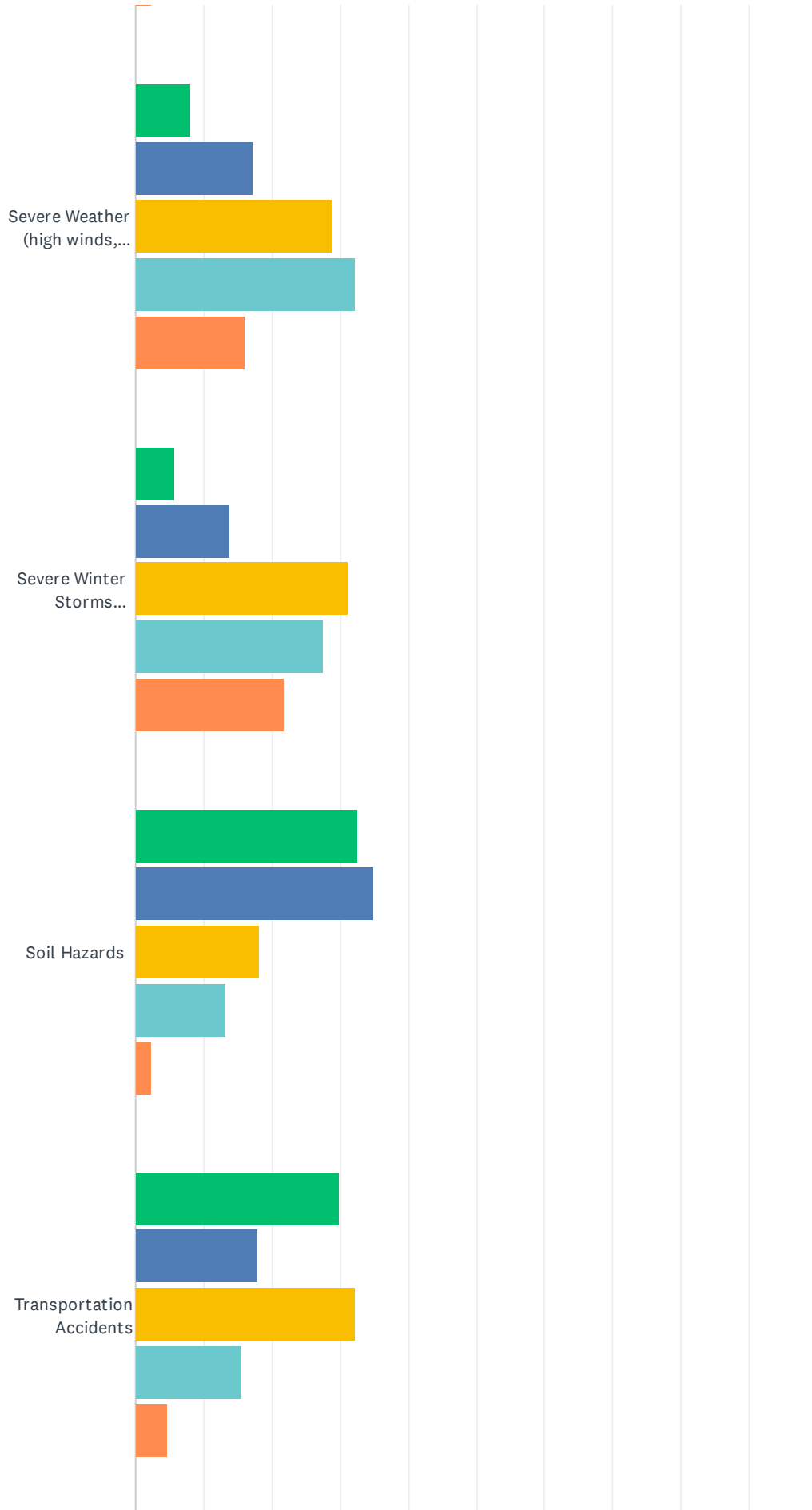
Warren County Hazard Mitigation Plan Update - Public Survey



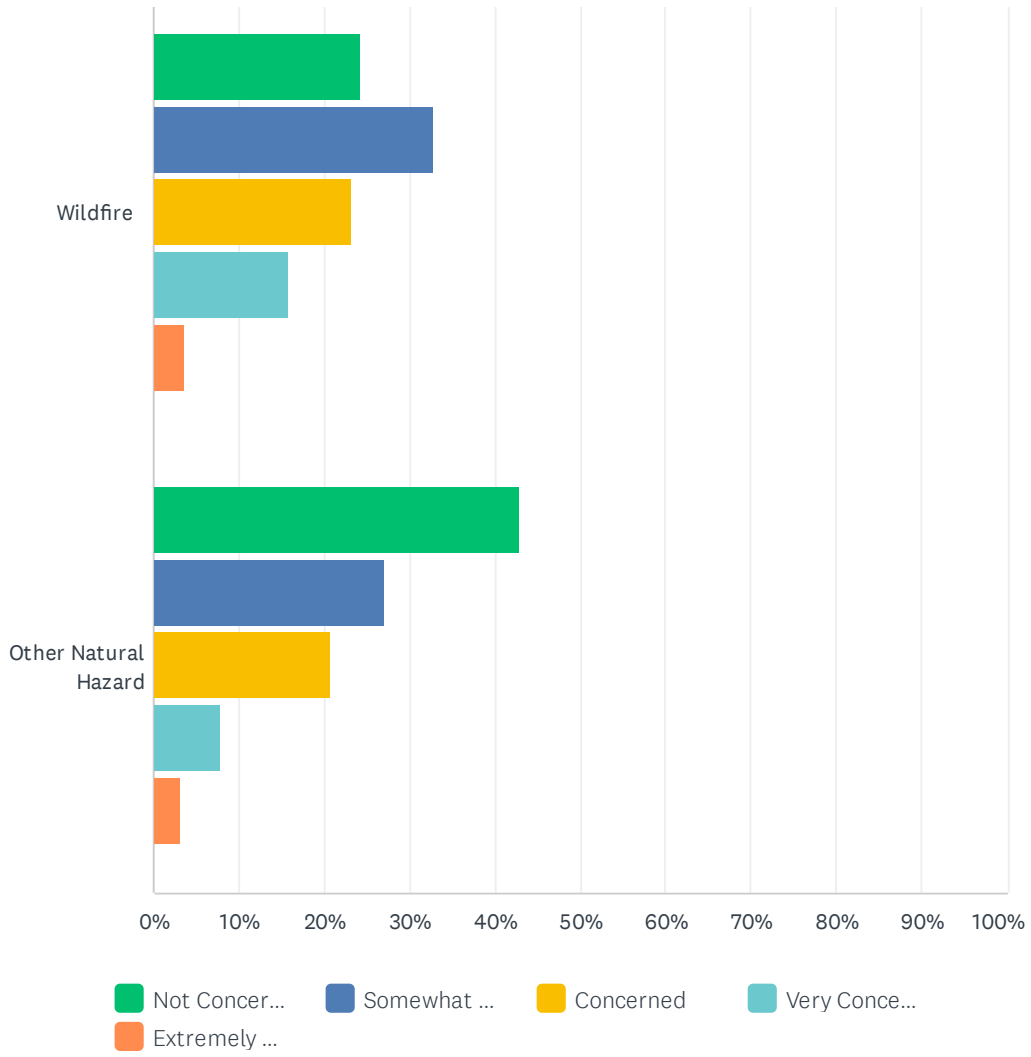
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	NOT CONCERNED	SOMEWHAT CONCERNED	CONCERNED	VERY CONCERNED	EXTREMELY CONCERNED	TOTAL RESPONDENTS
Avalanche	88.10% 74	7.14% 6	3.57% 3	0.00% 0	1.19% 1	84
Climate Change	13.10% 11	15.48% 13	22.62% 19	25.00% 21	23.81% 20	84
Coastal Storm	60.71% 51	16.67% 14	16.67% 14	3.57% 3	2.38% 2	84
Dam Failure	29.76% 25	34.52% 29	26.19% 22	7.14% 6	3.57% 3	84
Drought	19.51% 16	31.71% 26	29.27% 24	15.85% 13	4.88% 4	82
Earthquake	49.40% 41	37.35% 31	12.05% 10	2.41% 2	0.00% 0	83
Extreme Temperatures (heat and cold)	11.76% 10	23.53% 20	35.29% 30	22.35% 19	8.24% 7	85
Flooding - Street/Property	24.10% 20	27.71% 23	28.92% 24	13.25% 11	7.23% 6	83
Flooding - Stormwater	20.24% 17	22.62% 19	26.19% 22	21.43% 18	10.71% 9	84
Flooding - Basement	39.02% 32	28.05% 23	14.63% 12	8.54% 7	10.98% 9	82
Flooding - 1st Floor or above	79.01% 64	13.58% 11	2.47% 2	2.47% 2	2.47% 2	81
Geologic (landslide, sinkholes, subsidence)	47.56% 39	37.80% 31	4.88% 4	7.32% 6	2.44% 2	82
Severe Weather (high winds, lightning, hail)	8.05% 7	17.24% 15	28.74% 25	32.18% 28	16.09% 14	87
Severe Winter Storms (blizzard, heavy snow, ice)	5.75% 5	13.79% 12	31.03% 27	27.59% 24	21.84% 19	87
Soil Hazards	32.53% 27	34.94% 29	18.07% 15	13.25% 11	2.41% 2	83
Transportation Accidents	29.76% 25	17.86% 15	32.14% 27	15.48% 13	4.76% 4	84
Wildfire	24.39% 20	32.93% 27	23.17% 19	15.85% 13	3.66% 3	82
Other Natural Hazard	42.86% 27	26.98% 17	20.63% 13	7.94% 5	3.17% 2	63

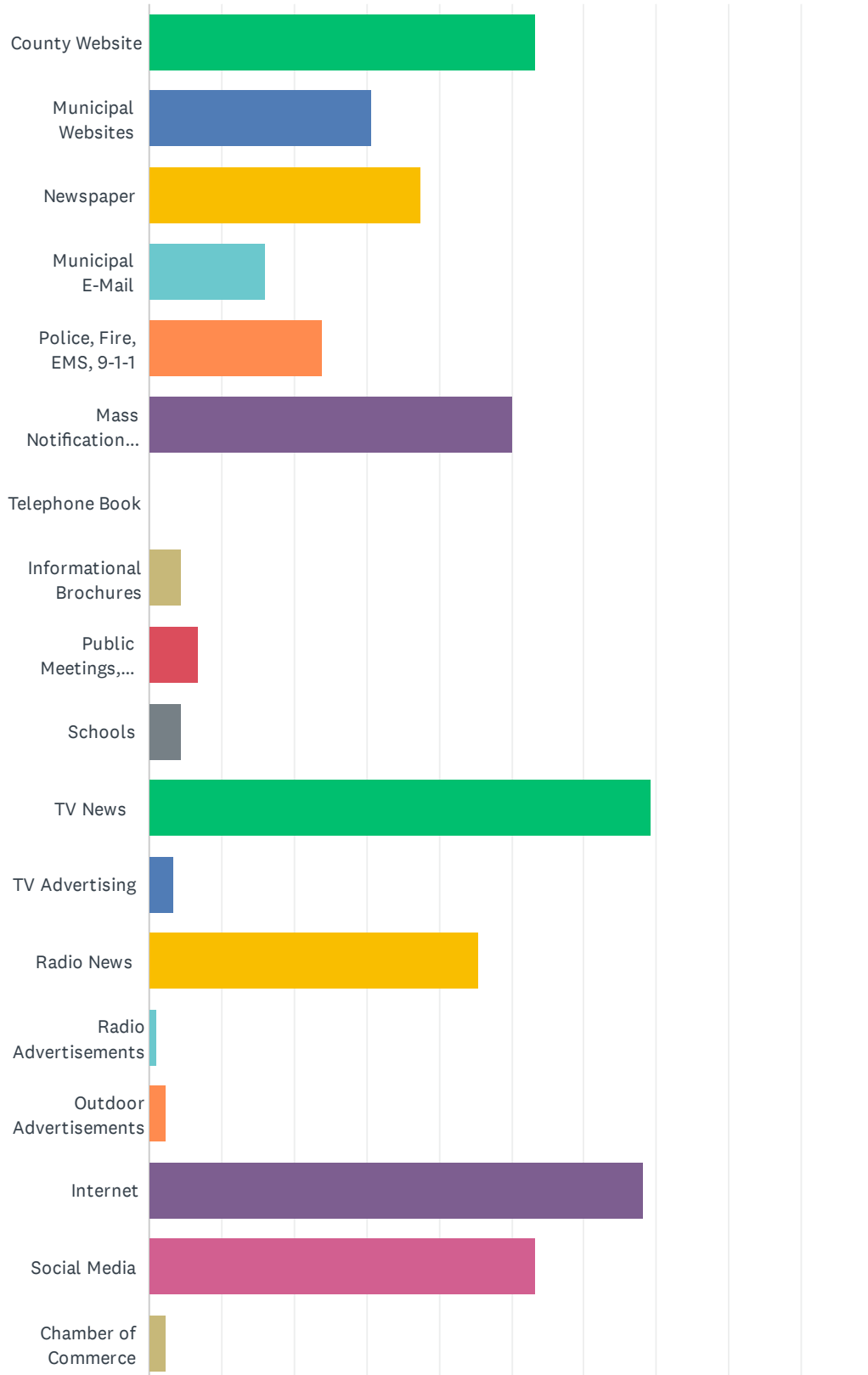
#	OTHER (PLEASE SPECIFY)	DATE
1	Air Quality Dangers	8/2/2023 8:24 AM
2	invasive species ie ash borers	3/15/2023 8:40 AM
3	mass shootings	3/11/2023 6:56 AM
4	Invasive species	3/10/2023 9:13 PM
5	G E and Finch landfills, Hudson River	3/10/2023 7:41 PM
6	Invasive insect forest destruction, power grid failure	1/12/2023 1:43 PM

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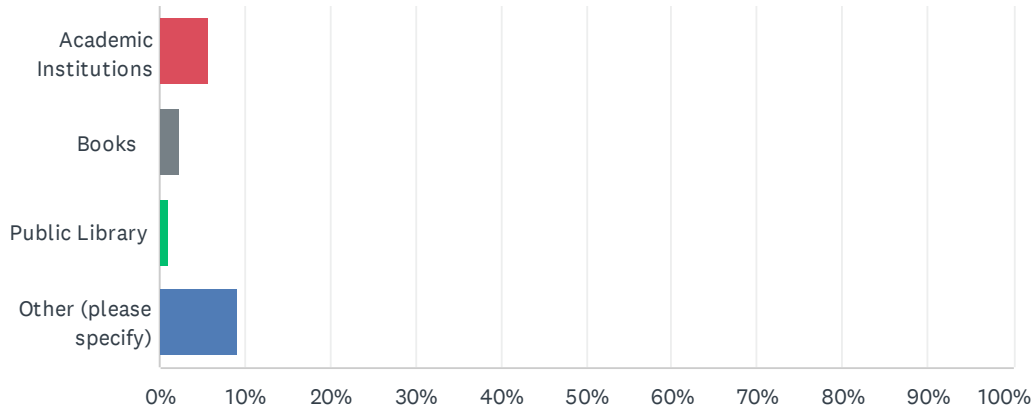
7	Aging Infrastructure	12/27/2022 7:03 AM
8	Invasive species impacts	12/21/2022 10:17 AM
9	Invasive insects	12/20/2022 1:35 PM
10	oil/gas/antifreeze seepage from dock storage at North Bolton Road/Church Hill Road into my pond/catch-basin	12/11/2022 10:06 AM
11	algae blooms	12/10/2022 11:45 AM
12	Power service interruptions should be on your list as they are a very big concern.	12/10/2022 6:52 AM
13	aquifer drainage by Just Water. Toxic air pollution by Finch Pruyn etc	12/9/2022 10:21 PM
14	Tornado	12/9/2022 9:35 PM
15	Invasive species	12/6/2022 10:16 AM

Q3 How do you receive your information concerning a disaster? Check all that apply.

Answered: 88 Skipped: 2



Warren County Hazard Mitigation Plan Update - Public Survey



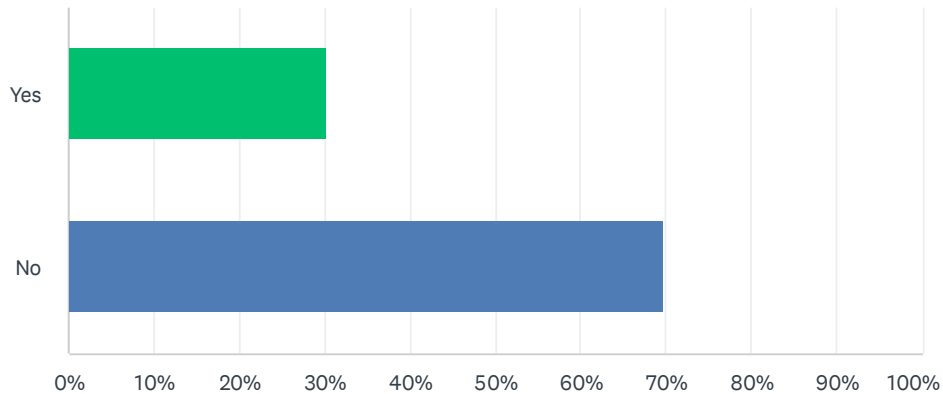
ANSWER CHOICES	RESPONSES	
County Website	53.41%	47
Municipal Websites	30.68%	27
Newspaper	37.50%	33
Municipal E-Mail	15.91%	14
Police, Fire, EMS, 9-1-1	23.86%	21
Mass Notification System (e.g. NYAlert)	50.00%	44
Telephone Book	0.00%	0
Informational Brochures	4.55%	4
Public Meetings, Workshops, Public Awareness Events	6.82%	6
Schools	4.55%	4
TV News	69.32%	61
TV Advertising	3.41%	3
Radio News	45.45%	40
Radio Advertisements	1.14%	1
Outdoor Advertisements	2.27%	2
Internet	68.18%	60
Social Media	53.41%	47
Chamber of Commerce	2.27%	2
Academic Institutions	5.68%	5
Books	2.27%	2
Public Library	1.14%	1
Other (please specify)	9.09%	8
Total Respondents: 88		

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#	OTHER (PLEASE SPECIFY)	DATE
1	Google phone alerts	7/13/2023 9:20 AM
2	Word of mouth	3/9/2023 6:24 AM
3	Phone/text communication w/ colleagues, friends, family	1/12/2023 1:05 PM
4	Utility Company Alerts (National Grid/Spectrum)	1/8/2023 4:40 PM
5	I am responding	12/14/2022 8:12 AM
6	NY.gov text alerts	12/12/2022 12:02 PM
7	National Grid notifications (Town of Bolton & Warren County do not send emails)	12/11/2022 10:06 AM
8	Friends who work in the fields	12/9/2022 9:35 PM

Q4 In the past, has your home been damaged by a hazard event? For example, the basement of your home flooded and damaged the hot water heater.

Answered: 86 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	30.23%	26
No	69.77%	60
TOTAL		86

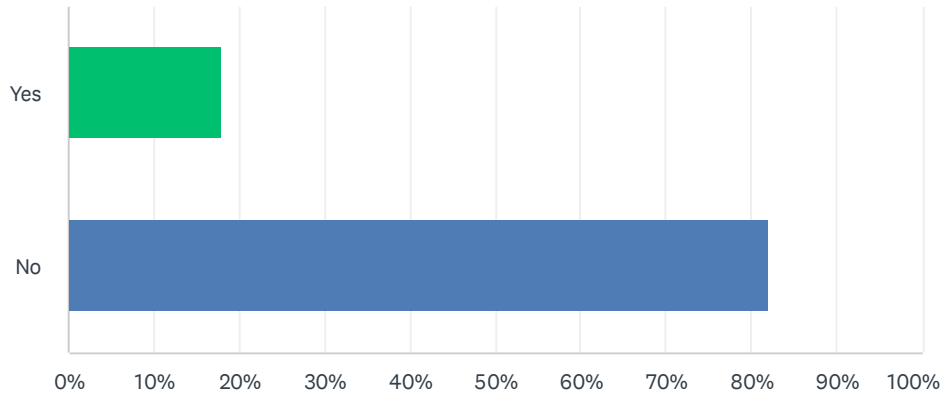
#	PLEASE EXPLAIN THE TYPE OF DAMAGE SUSTAINED AND WHEN IT OCCURRED.	DATE
1	Severe storm with lightening damage. Furnace, Door Opener, Elec Damage.	7/24/2023 9:37 AM
2	Extreme cold, frozen water pipes	7/13/2023 7:58 AM
3	roof shingles torn off in wind event in summer 2022	7/12/2023 4:26 PM
4	Wind damage to roof, water damage to ceilings, ice damage, electric system damage from lightning strike	7/11/2023 2:16 PM
5	Tree fell on house	3/11/2023 3:55 AM
6	Wind damage to roof and eaves	3/10/2023 9:13 PM
7	Wind damaged roof, lightning hit tree and traveled into house, damaging electrical system	3/9/2023 1:37 PM
8	Trees falling, high winds	3/9/2023 6:24 AM
9	We had severe rain and driving winds and our basement floor had water soaked through the concrete foundation; this was in the past year. About 3-4 years ago, we had an earthquake which caused some cracking in our house walls and shifting so the interior doors didn't close correctly anymore.	2/15/2023 1:01 PM
10	Sewer backup flooded into basement after a storm event.	1/12/2023 1:05 PM
11	I did have some flooding from a recent severe rain storm and my contractor was able to fix the roof issue that happened due to severe rain and then immediate 40 mph winds.	1/8/2023 4:40 PM
12	Basement flooded	12/20/2022 1:35 PM
13	Basement flood caused furnace outage and resulted in frozen pipes	12/14/2022 7:24 AM

Warren County Hazard Mitigation Plan Update - Public Survey

14	Basement in home flooded from ice storm causing flooring and walls needing to be replaced.	12/12/2022 12:02 PM
15	Due to the constant flooding from climate change and no longer just the spring thaw my basement floors have cracked and pieces of the concrete flooring are eroding/chipping and white mold has appeared	12/12/2022 9:31 AM
16	There's a county storm drain underneath Brook St, in the town of Bolton, that shoots huge volumes of water onto three other properties including mine, with it, we receive rocks, raw sewage, sand, glass, soil from upstream tributaries, and road debris. This is in addition to the widened culvert drain pipe running under Brook and Stewart Ave.	12/11/2022 5:05 PM
17	My garage is sinking because Warren County raised the road ~5 feet at the brook so my garage is now the lowest point on North Bolton Road at the foot of Church Hill Road. This resulted in NO drainage from the west side to east side of the road, almost no drainage north-to-south from garage to brook. This causes flooding in the road (as well as my former garden area and my garage foundation) all spring and summer AND ice all winter across North Bolton Road. Repeated requests for drainage solutions have been repulsed.	12/11/2022 10:06 AM
18	Storm drainage system failure in 30" CMP, caused wash out and beach failure. From the washout silts and stones washed into lake George causing a delta of sand and stone and asphalt	12/11/2022 7:50 AM
19	Basement flood	12/10/2022 2:31 PM
20	high winds have caused tree branches to come down and hit the house; roof shingle damage	12/10/2022 11:36 AM
21	Roof damage and leak from strong wind thunderstorm resulted in interior damage	12/10/2022 7:27 AM
22	Broken sewer line backed up into the basement with sewer gas fumes into my HVAC floor vents a few months ago. I developed both polycythemia and obstructive sleep apnea that may be related to previously diagnosed rare autoimmune neuromuscular disease OR the sewer line may have contributed	12/9/2022 9:35 PM
23	Tree fell on house in high wind - 2016 & 2022 Crawl space flooded - 2011	12/9/2022 8:50 PM
24	hot water heater	12/9/2022 4:50 PM
25	Hail storm. House roof had to be replaced. Additionally, car needed major (auto body) repair.	12/9/2022 2:14 PM
26	Severe thunderstorms, roof damage.	12/6/2022 10:16 AM

Q5 If you answered 'yes' above, did you report the damages to your local police or fire departments or to an emergency management agency?

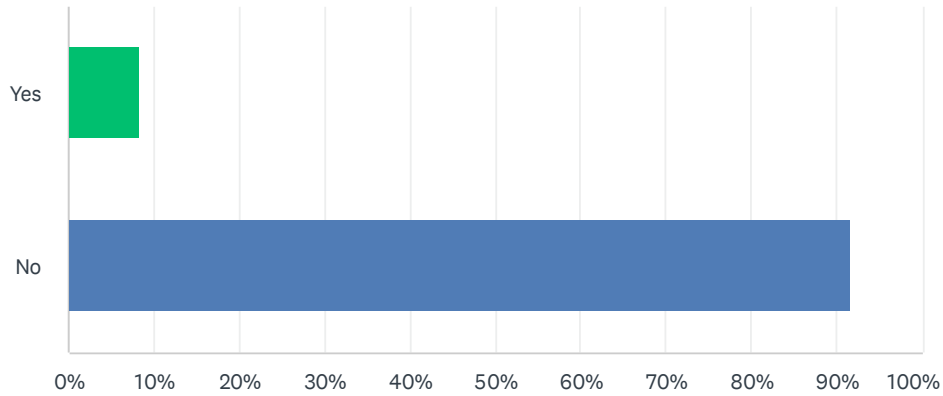
Answered: 56 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	17.86%	10
No	82.14%	46
TOTAL		56

Q6 To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

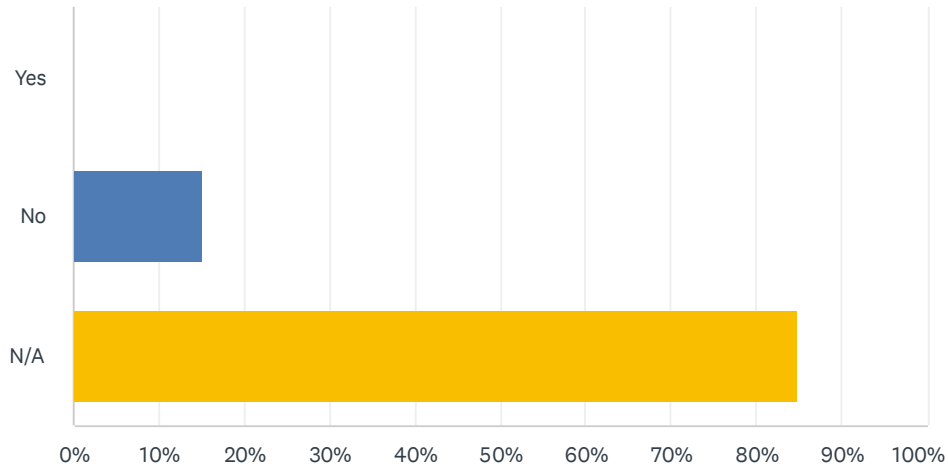
Answered: 85 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	8.24%	7
No	91.76%	78
TOTAL		85

Q7 If your property is in the floodplain, do you have flood insurance?

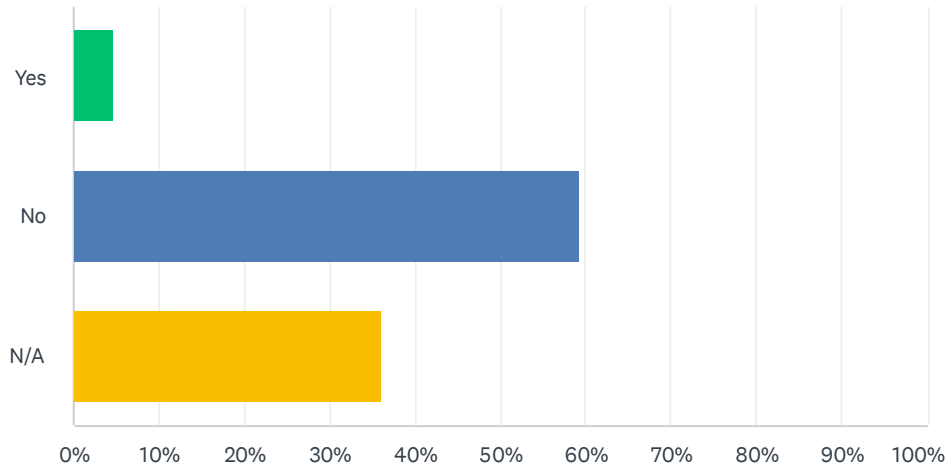
Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	15.19%	12
N/A	84.81%	67
TOTAL		79

Q8 If your property is located outside of the floodplain, do you have flood insurance?

Answered: 86 Skipped: 4



ANSWER CHOICES	RESPONSES
Yes	4.65% 4
No	59.30% 51
N/A	36.05% 31
TOTAL	86

Q9 Please identify any specific vulnerabilities that you are aware of in your city/town/village (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 45 Skipped: 45

#	RESPONSES	DATE
1	All of Warren County is susceptible to air quality dangers, as recently experienced from the Canadian Wildfires. The Hazard Mitigation plan is critically deficient regarding this danger.	8/2/2023 8:29 AM
2	13th Lake Road, North River, NY - 1st mile gabion wall.	7/14/2023 12:32 PM
3	The above-ground electric poles along Bloody Pond Road (and elsewhere in LG) are prone to outages due to wind and snow. Buried lines would be safer.	7/13/2023 9:23 AM
4	Thurman Bridge Spring Ice Jam 418	7/13/2023 8:02 AM
5	Stormwater washing out roads	7/12/2023 4:33 PM
6	Glens Falls watershed dams had concerns. Stormwater basins frequently overflow in Queensbury	7/11/2023 2:18 PM
7	Pine Tree Lane Diamond Point Always having power outages when others don't. They can last up to four days.	3/11/2023 10:56 AM
8	lack of back up power	3/11/2023 8:36 AM
9	Loon Lake Dam Failure. Power outages due to lack of appropriate tree removal along power lines.	3/11/2023 7:01 AM
10	Poor cell service. Lake Luzerne	3/10/2023 8:44 PM
11	Queensbury boat launch, Glen Lake, Lake George, Hudson	3/10/2023 7:45 PM
12	Susceptibility to flooding, poorly maintained dams owned by city of Glens Falls.	3/9/2023 1:38 PM
13	Schools lack of back up power in the event power goes out and lack heating elements. Trees along residential roads that aren't cut back. Power drainage on road ways.	3/9/2023 6:32 AM
14	I only work in Warren County; I live in Saratoga County. I don't believe this question is applicable to me.	2/24/2023 8:55 AM
15	prone to power outages from trees on lines	2/16/2023 2:05 PM
16	general back-up power, snow/ice blockage on highways	2/15/2023 1:58 PM
17	Floodprone area on Meadowbrook Road @ Halfway Brook	2/15/2023 1:34 PM
18	low water levels in kattskill bay lake george due to water management practices	2/15/2023 1:33 PM
19	None that I'm	2/15/2023 12:41 PM
20	n/a	2/15/2023 12:40 PM
21	None known	1/15/2023 10:53 PM
22	Apartment building for disabled and retired with all electric heat. No on demand generator. Located at 10 Manor Rd.	1/13/2023 2:03 PM
23	13th Lake Road, North River. The gabion walls are pushed out and look like they will give at any time. Also rocks fall in the middle of the road all the time.	1/12/2023 3:57 PM
24	Flooding - 9N S/Hidden Valley Drive (Tubby Tubes-Lake Luzerne, NY 12846), due to a sewer	1/8/2023 4:44 PM

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drain that doesn't handle all the water, causing back up and ice/danger in winter. Trees down in my property from recent high winds (1275 Lake Avenue, Lake Luzerne, 12846)

25	Water Tank control panel without power backup	12/27/2022 7:07 AM
26	None	12/23/2022 3:24 PM
27	Ice jamming on Hudson River at 418 Bridge. Flooding on River Road	12/21/2022 10:22 AM
28	See initial list of environmental threats experienced in this region	12/14/2022 3:47 PM
29	Lake George sewage treatment plant has minimal security and is vulnerable to walk up attacks on infrastructure.	12/14/2022 7:27 AM
30	None	12/14/2022 6:49 AM
31	Numerous roads and stream crossings could be subject to flood/storm damage.	12/14/2022 6:03 AM
32	East End in Glens Falls is known for being a high water table area	12/12/2022 9:33 AM
33	North Bolton Road at the foot of Church Hill Road is continually flooded due to the road having been raised several years ago. Raising the road removed all drainage possibilities and County officials refuse to do anything to correct the problem.	12/11/2022 10:09 AM
34	Storm Drainage system that runs down the Lakeview Circle drive in the town of lake George and crosses Lake Shore Dr in the town of lake George and continues down to the lakefront between the Fairview Improvement association property and the lake view terrace property.	12/11/2022 8:00 AM
35	Lack of municipal sewer and water	12/10/2022 2:32 PM
36	na	12/10/2022 11:49 AM
37	poor drainage for city streets (most streets in Glens Falls); raw sewage releases into the Hudson River (sometimes even if it only rains briefly); Poor tree maintenance causes downed branches in the high winds we now get for many months of the year.	12/10/2022 11:44 AM
38	My road is collapsing into a stream. Many dead trees along the road. So called protected land around the watershed is not protected or monitored	12/10/2022 8:22 AM
39	C/Glens Falls flood prone streets. Warren St, Mohican St, CR 19 T/Chester. SR 418 bridge & River Rd, Barton Mines RD Johnsbury	12/10/2022 7:39 AM
40	Loon Lake Dam, Rt 8/9, Chestertown	12/10/2022 6:57 AM
41	ZERO fragrance-free emergency shelters! Acute respiratory response / reactive airways when exposed for perfumes, scented products (ubiquitous), etc. ALSO: FEMA Flood Map makes ZERO sense! Unable to determine if my address is - or is not - in a flood plain: Fredella Avenue, Glens Falls, NY.	12/9/2022 9:47 PM
42	Hudson River Basin Lake Luzerne to Corinth	12/9/2022 8:54 PM
43	We have experienced power outages for as lengthy as 5 days. being on a deep well, the outage not only effects our lights and heat, but water as well.	12/9/2022 7:25 PM
44	Electric	12/9/2022 12:13 PM
45	Glens Falls dams on West Mountain	12/9/2022 9:03 AM

Q10 Please identify any specific vulnerable areas outside of your city/town/village (e.g. flood-prone areas or specific properties, critical facilities that lack backup power, etc.). Please list the city/town/village, street names, and other specific identifiers if possible.

Answered: 33 Skipped: 57

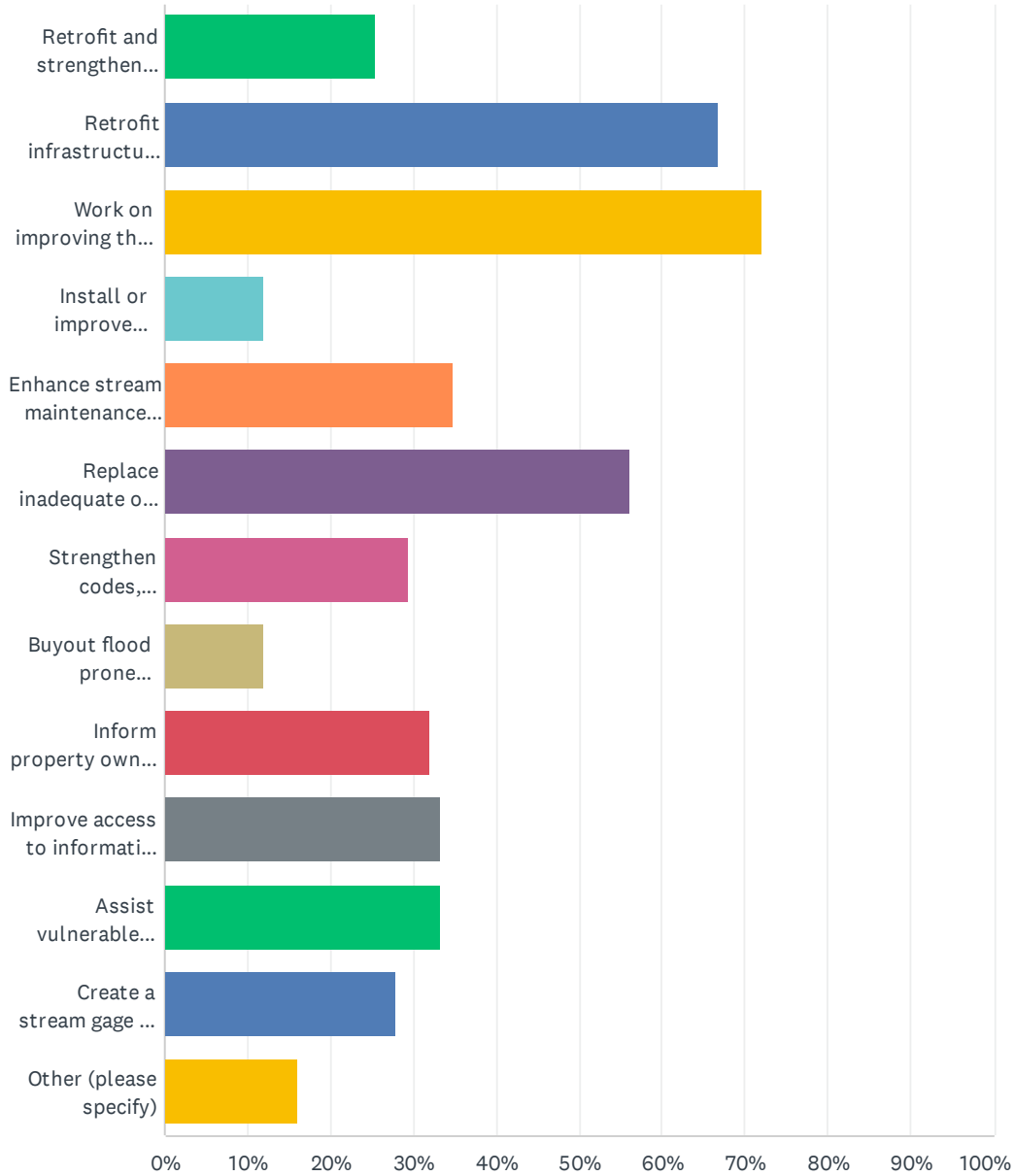
#	RESPONSES	DATE
1	n/a	8/2/2023 8:29 AM
2	n/a	7/13/2023 9:23 AM
3	Post office is located on Number 9 Brook.	7/13/2023 8:14 AM
4	Hague Brook flooding	7/12/2023 4:33 PM
5	Schroon and Hudson Rivers flooding	7/11/2023 2:18 PM
6	Federal Hill Rd	3/11/2023 8:36 AM
7	See above	3/10/2023 7:45 PM
8	Areas along Hudson River and Schroon River are flooded frequently	3/9/2023 1:38 PM
9	Lack of internet service in rural areas.	3/9/2023 6:32 AM
10	I only work in Warren County. I live in Saratoga County.	2/24/2023 8:55 AM
11	Queensbury - Halfway Brook Area/flooding Warrensburg - Schroon River Area/flooding Chester&Horicon - Schroon River Area/flooding	2/16/2023 2:05 PM
12	same	2/15/2023 1:58 PM
13	na	2/15/2023 1:33 PM
14	None that I'm aware of	2/15/2023 12:41 PM
15	n/a	2/15/2023 12:40 PM
16	Unknown	1/15/2023 10:53 PM
17	None I can think of	1/13/2023 2:03 PM
18	Meadowbrook rd, Qby - Flooding	1/12/2023 1:24 PM
19	Unsure.	1/8/2023 4:44 PM
20	None	12/23/2022 3:24 PM
21	Unaware	12/14/2022 3:47 PM
22	None.	12/14/2022 7:27 AM
23	None	12/14/2022 6:49 AM
24	None known of	12/11/2022 10:09 AM
25	Lakeview Circle Drive Town of Lake George	12/11/2022 8:00 AM
26	na	12/10/2022 11:49 AM
27	don't know.	12/10/2022 11:44 AM
28	GFWWTP releasing sewage into Hudson after every heavy rainstorm. Inadequate storm drainage on streets	12/9/2022 10:31 PM

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29	Still ZERO fragrance-free emergency shelters - I would not be able to survive in an emergency shelter due to respiratory distress when exposed to fragranced / scented products (body, laundry, cleaning, etc.)	12/9/2022 9:47 PM
30	Power cybersecurity concern	12/9/2022 8:10 PM
31	Flooding of the Hudson River in the spring occasionally that affects the State rt. 28 between North Creek and North River, and includes part of the town North Creek at the train station where Teddy Roosevelt learned McKinley had died from his wound, and he was now President. The historic Train station has been preserved, but flooding of the Hudson in the spring has caused concern a number of years in the past ten.	12/9/2022 7:25 PM
32	Thurman bridge	12/9/2022 12:13 PM
33	Downtown Warrensburg from Schroon River flooding	12/9/2022 9:03 AM

Q11 What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Warren County? Select your top three choices.

Answered: 75 Skipped: 15



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ANSWER CHOICES	RESPONSES	
Retrofit and strengthen essential facilities such as police, schools, and hospitals	25.33%	19
Retrofit infrastructure, such as elevating roadways and improving drainage systems	66.67%	50
Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)	72.00%	54
Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks	12.00%	9
Enhance stream maintenance programs/projects	34.67%	26
Replace inadequate or vulnerable bridges and causeways	56.00%	42
Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas	29.33%	22
Buyout flood prone properties and maintain as open space	12.00%	9
Inform property owners of ways they can mitigate damage to their properties	32.00%	24
Improve access to information about hazard risks and high-hazard areas	33.33%	25
Assist vulnerable property owners with securing funding to mitigate their properties	33.33%	25
Create a stream gage and weather monitoring program to provide more accurate data and warnings	28.00%	21
Other (please specify)	16.00%	12
Total Respondents: 75		

#	OTHER (PLEASE SPECIFY)	DATE
1	Install PurpleAir air monitoring sensors in the Northern & Western areas of Warren County to improve the Air Quality Forecasts provided by the EPA and NYS DEC.	8/2/2023 8:29 AM
2	Require power companies to be more proactive in maintain power lines from tree damage, put power source lines underground	3/11/2023 8:36 AM
3	Underground utilities!	3/10/2023 7:45 PM
4	Burying utilities and power lines to prevent damage from storms, and accidents	3/9/2023 6:32 AM
5	Encourage all property owners to assist with capturing & infiltrating stormwater.	1/12/2023 1:24 PM
6	I think some of the projects listed here are already being mitigated/worked on.	1/8/2023 4:44 PM
7	None	12/14/2022 6:49 AM
8	Retrofit infrastructure by LOWERING North Bolton Road at the foot of Church Hill Road to where it was years ago when drainage was NEVER A PROBLEM.	12/11/2022 10:09 AM
9	Infrastructure improvements drainage	12/11/2022 8:00 AM
10	Assist utilities in ROW acquisition on bridge projects and to support new critical ethic redundancy projects	12/10/2022 7:39 AM
11	emergency preparedness training for natural disasters for citizens, and in schools	12/9/2022 10:31 PM
12	Ensure town's have emergency plans and backup or mobile power	12/9/2022 2:25 PM

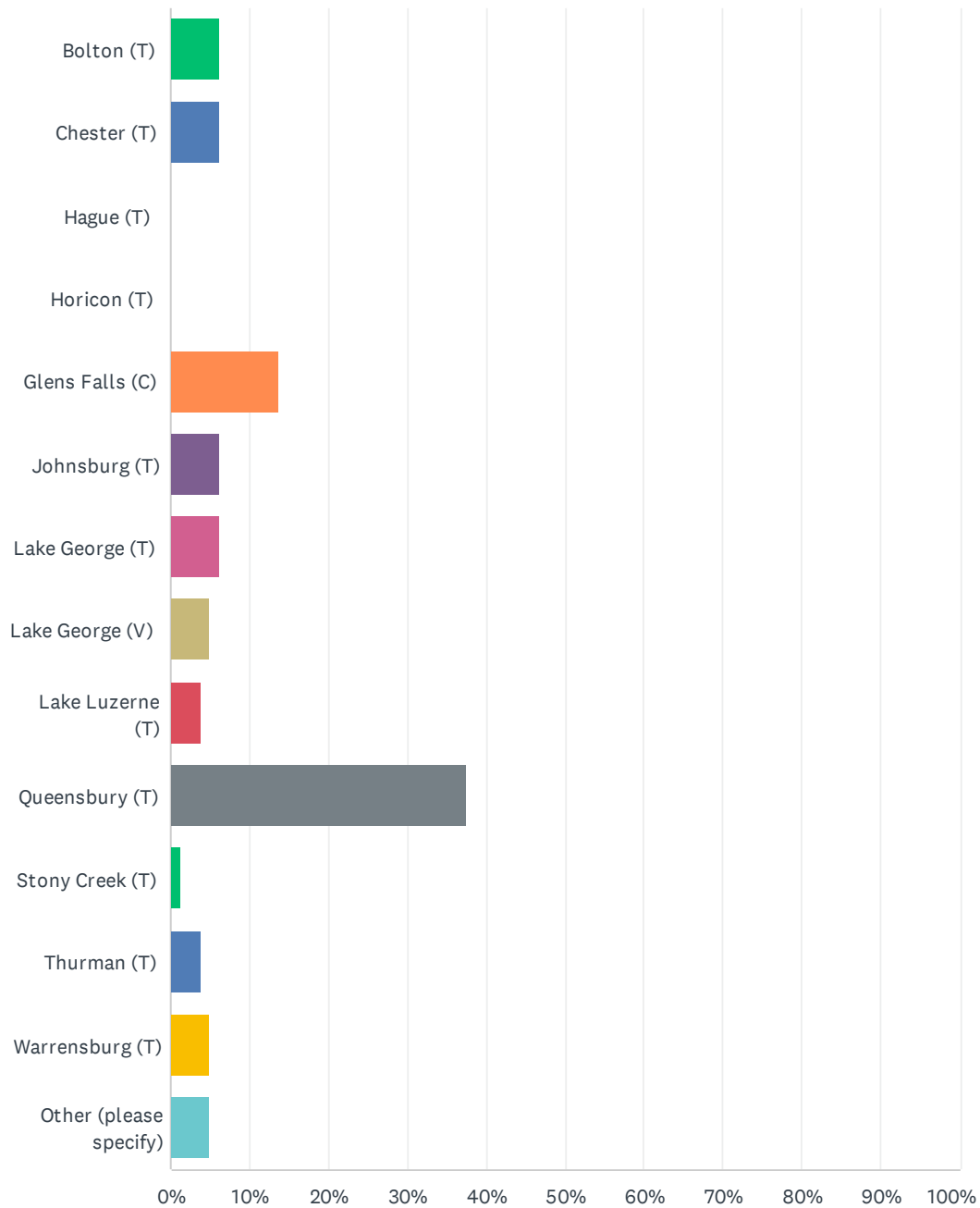
Q12 Do you have any other comments, questions, or concerns regarding hazard mitigation in Warren County?

Answered: 23 Skipped: 67

#	RESPONSES	DATE
1	Air Quality emergencies must be incorporated into this hazard mitigation plan. This plan is critically deficient without this obvious hazard.	8/2/2023 8:29 AM
2	Inadequate shelters in case of emergencies	3/11/2023 7:01 AM
3	Use the health Dept	3/10/2023 7:45 PM
4	no	3/9/2023 1:38 PM
5	no	2/24/2023 8:55 AM
6	no, thanks	2/15/2023 1:58 PM
7	remove tree limbs that hang over the 9L road before someone gets seriously injured	2/15/2023 1:33 PM
8	I see climate change as one of the biggest concerns now and in the future that could and would impact a lot of weather related hazard events. I think more projects that focus on taking care of our environment, like adopt a highway and stream clean up days, as a good thing to consider.	2/15/2023 12:41 PM
9	No	1/13/2023 2:03 PM
10	Looking forward to the outcomes of these surveys.	1/8/2023 4:44 PM
11	Nope	12/23/2022 3:24 PM
12	I would appreciate receiving real time alerts from Warren County similarly to FEMA	12/14/2022 3:47 PM
13	The area looks pretty safe to me!!!....JMO	12/14/2022 6:49 AM
14	Each municipal government should be required to participate in this process. They should assess their community for potential hazards and develop a mitigation plan.	12/14/2022 6:03 AM
15	Warren County needs to fix the drainage issue it CAUSED.	12/11/2022 10:09 AM
16	Funding	12/11/2022 8:00 AM
17	I see that climate change is affecting us. One problem that we never experienced until recent years is algae blooms.	12/10/2022 11:49 AM
18	Until now, I've never heard of it.	12/10/2022 8:22 AM
19	No	12/10/2022 6:57 AM
20	Annual preparedness training at senior centers, at schools and in locations that citizens are encouraged to attend. create a citizen team to work with Emergency Management for Warren County	12/9/2022 10:31 PM
21	Vastly improve ACCESSIBILITY for disabled people and Disaster Planning to include INPUT from disabled people with various disabilities; including respiratory	12/9/2022 9:47 PM
22	during severe winter storms, county buildings need to close or open late as employees travel long distances to get to Warren County Municipal Center and should not have to use personal time in case of extreme weather.	12/9/2022 4:54 PM
23	Extreme weather (heavy downpours and sudden storms) have increased greatly. Review of runoff areas should be reviewed.	12/9/2022 2:25 PM

Q13 Please indicate the municipality in which you live:

Answered: 80 Skipped: 10



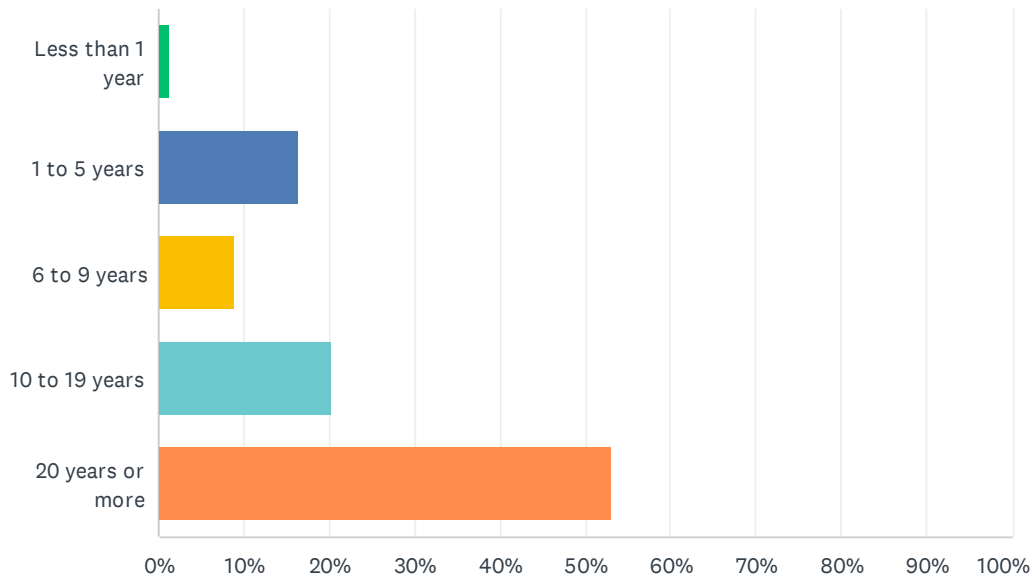
Warren County Hazard Mitigation Plan Update - Public Survey

ANSWER CHOICES	RESPONSES	
Bolton (T)	6.25%	5
Chester (T)	6.25%	5
Hague (T)	0.00%	0
Horicon (T)	0.00%	0
Glens Falls (C)	13.75%	11
Johnsburg (T)	6.25%	5
Lake George (T)	6.25%	5
Lake George (V)	5.00%	4
Lake Luzerne (T)	3.75%	3
Queensbury (T)	37.50%	30
Stony Creek (T)	1.25%	1
Thurman (T)	3.75%	3
Warrensburg (T)	5.00%	4
Other (please specify)	5.00%	4
Total Respondents: 80		

#	OTHER (PLEASE SPECIFY)	DATE
1	live outside Warren County in Ticonderoga but work in Hague	7/12/2023 4:35 PM
2	Hadley	3/15/2023 8:42 AM
3	Corinth	2/24/2023 8:56 AM
4	Ticonderoga, but work in Queensbury	2/15/2023 1:34 PM

Q14 How long have you lived here?

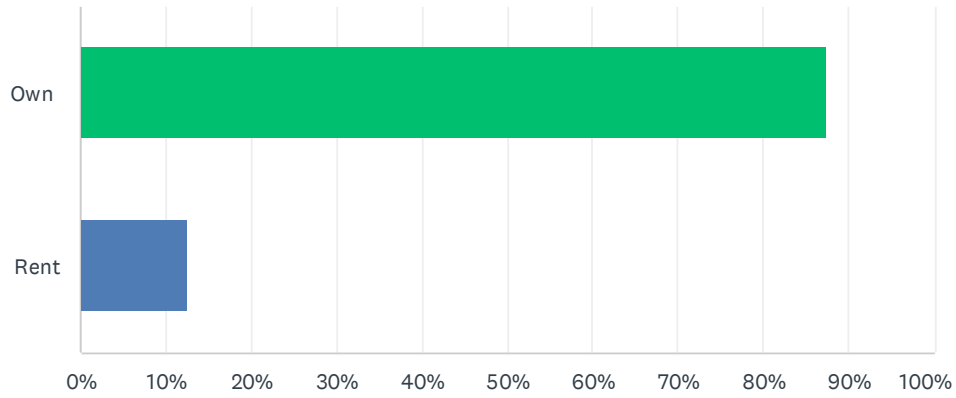
Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Less than 1 year	1.27%	1
1 to 5 years	16.46%	13
6 to 9 years	8.86%	7
10 to 19 years	20.25%	16
20 years or more	53.16%	42
TOTAL		79

Q15 Do you own or rent your place of residence?

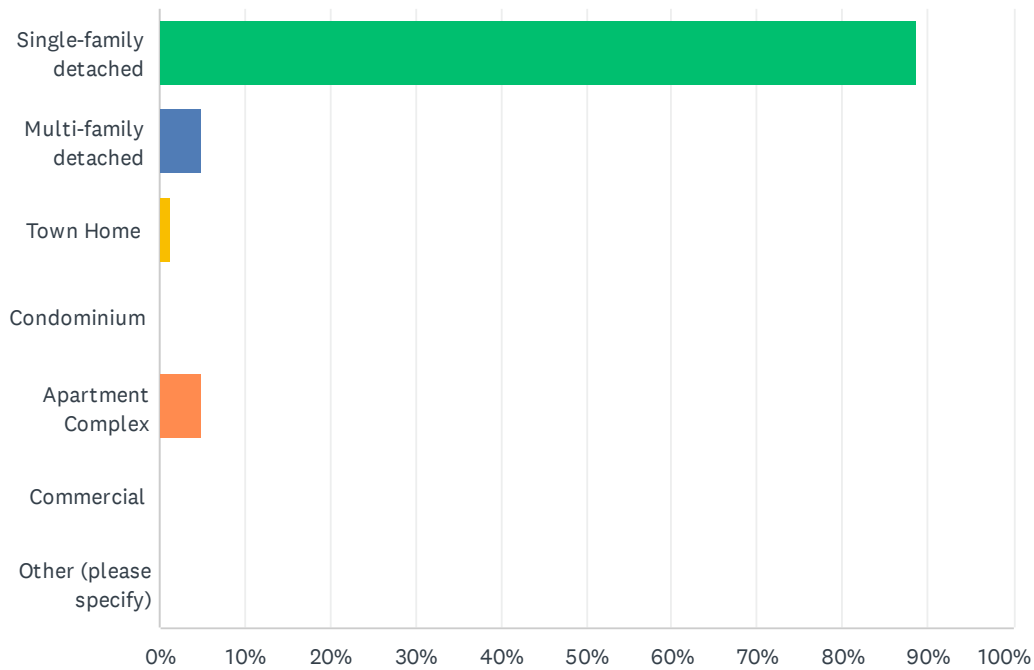
Answered: 80 Skipped: 10



ANSWER CHOICES	RESPONSES	
Own	87.50%	70
Rent	12.50%	10
TOTAL		80

Q16 What type of residence do you live in?

Answered: 80 Skipped: 10



ANSWER CHOICES	RESPONSES	
Single-family detached	88.75%	71
Multi-family detached	5.00%	4
Town Home	1.25%	1
Condominium	0.00%	0
Apartment Complex	5.00%	4
Commercial	0.00%	0
Other (please specify)	0.00%	0
TOTAL		80

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q17 What is the address of your property? (optional, will be kept confidential - only used to identify hazard areas such as flooding)

Answered: 40 Skipped: 50

#	RESPONSES	
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Warren County Hazard Mitigation Plan Update - Public Survey

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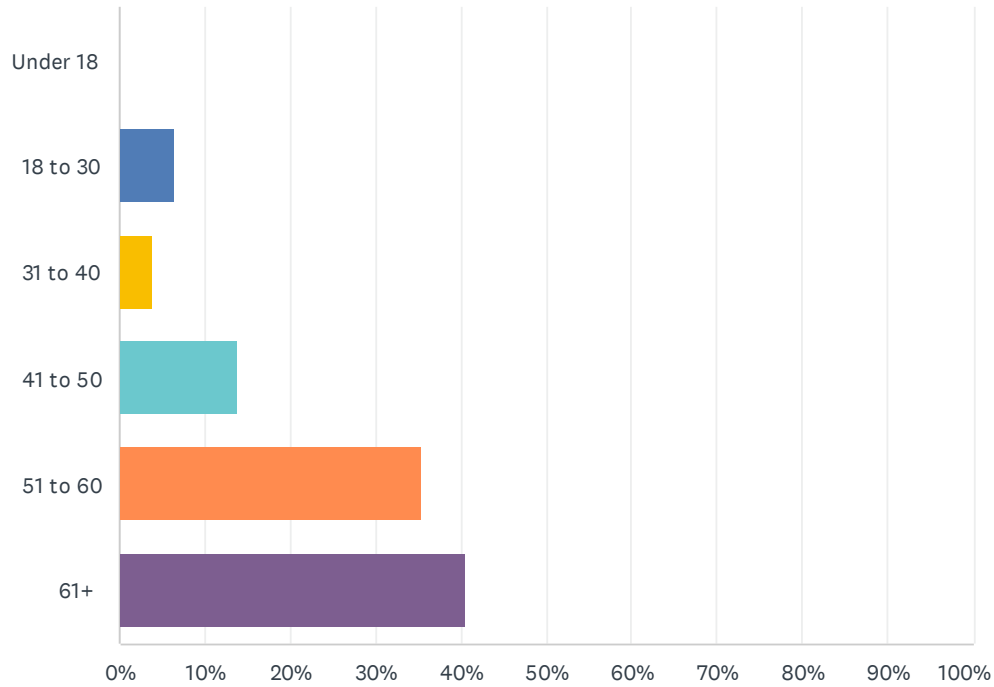
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Q18 Please indicate your age range:

Answered: 79 Skipped: 11



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 to 30	6.33%	5
31 to 40	3.80%	3
41 to 50	13.92%	11
51 to 60	35.44%	28
61+	40.51%	32
TOTAL		79



D.2 STAKEHOLDER SURVEYS

In addition to collecting information from residents of Warren County, surveys were developed for the agencies and stakeholders in the county. Unlike steering committee or planning partnership members, stakeholders may not be involved in all stages of the planning process, but they may have information or input to provide. In order to gather that information, the surveys were sent to the following stakeholders: law enforcement, firefighters, emergency medical services, highway and public works, business and commerce, hospitals and health care providers, and utilities. Results of the surveys are provided in the following pages, with personal information redacted.

Q1 Name of your department/office/institution

Answered: 15 Skipped: 0

#	RESPONSES	DATE
1	Glens Falls City School District	7/24/2023 2:55 PM
2	Warren/Hamilton Counties OFA	7/13/2023 3:09 PM
3	Silver Bay YMCA	7/13/2023 1:18 PM
4	Glens Falls Police Department	7/13/2023 11:05 AM
5	Center for Disability Services , Prospect School	7/13/2023 7:36 AM
6	Warren County Parks Recreation & Railroad	7/13/2023 7:22 AM
7	National Grid	1/18/2023 8:39 AM
8	WARREN COUNTY HEALTH SERVICES	1/9/2023 10:39 AM
9	NYS Department of Health Glens Falls District Office	1/9/2023 9:28 AM
10	Lake George Regional Chamber of Commerce & CVB	1/8/2023 4:26 PM
11	Southern Adirondack Independent Living	1/6/2023 8:13 AM
12	Health Services	1/6/2023 8:08 AM
13	Glens Falls Hospital	1/5/2023 4:55 PM
14	Greater Glens Falls Transit	1/5/2023 4:26 PM
15	Glens Falls common council	12/14/2022 7:26 PM

Q2 Name of Respondent

Answered: 15 Skipped: 0

#	RESPONSES	DATE
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Q3 What is your position/title/role with your department/office/institution?

Answered: 15 Skipped: 0

#	RESPONSES	DATE
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15		

Q4 Please provide your contact information.

Answered: 15 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	15
Phone Number	93.33%	14

#	NAME	DATE
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There are no responses.

#	COMPANY	DATE
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There are no responses.

#	ADDRESS	DATE
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There are no responses.

#	ADDRESS 2	DATE
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There are no responses.

#	CITY/TOWN	DATE
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There are no responses.

#	STATE/PROVINCE	DATE
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There are no responses.

#	ZIP/POSTAL CODE	DATE
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There are no responses.

#	COUNTRY	DATE
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There are no responses.

#	EMAIL ADDRESS	DATE
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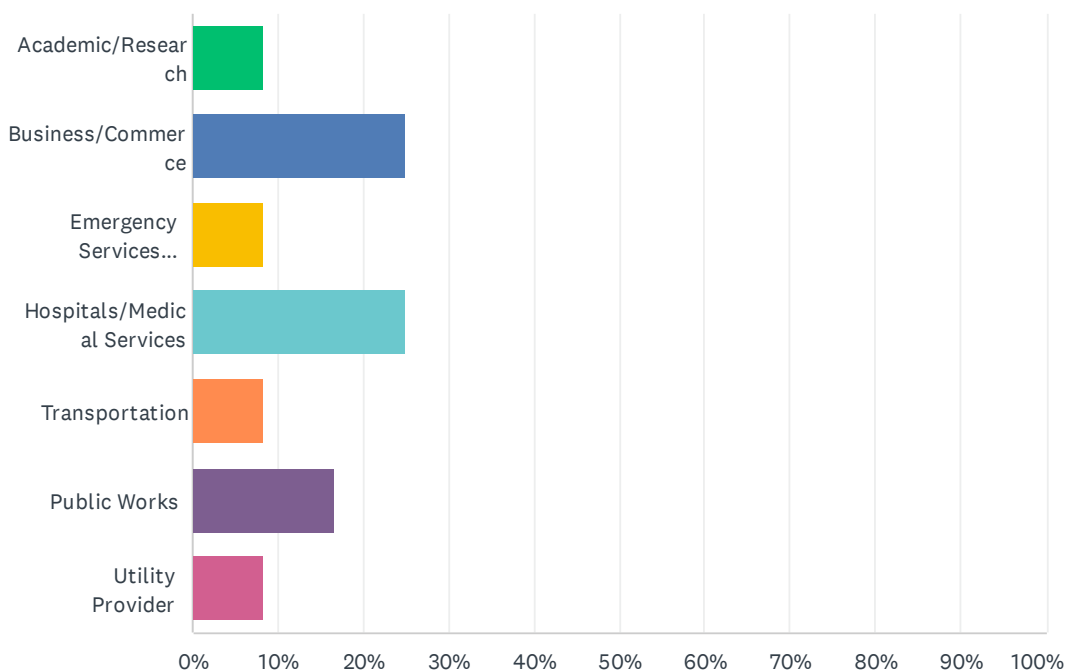
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Warren County Hazard Mitigation Plan - Stakeholder Survey

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Q5 What category does your facility operation/service fall under?

Answered: 12 Skipped: 3



ANSWER CHOICES	RESPONSES
Academic/Research	8.33% 1
Business/Commerce	25.00% 3
Emergency Services (police, fire, EMS)	8.33% 1
Hospitals/Medical Services	25.00% 3
Transportation	8.33% 1
Public Works	16.67% 2
Utility Provider	8.33% 1
TOTAL	12

#	OTHER (PLEASE SPECIFY)	DATE
1	School	7/13/2023 7:38 AM
2	Environmental Health	1/9/2023 9:32 AM
3	We work with more than 460 hospitality focused businesses to ensure our economic vitality throughout Warren County and beyond. We also promote Warren County as the destination of choice for group (business/association/bus tours/reunions/weddings) business. Lastly, we operate the Adirondacks Welcome Center TasteNY / Tourism programs.	1/8/2023 4:30 PM
4	Local Health Department	1/6/2023 8:18 AM

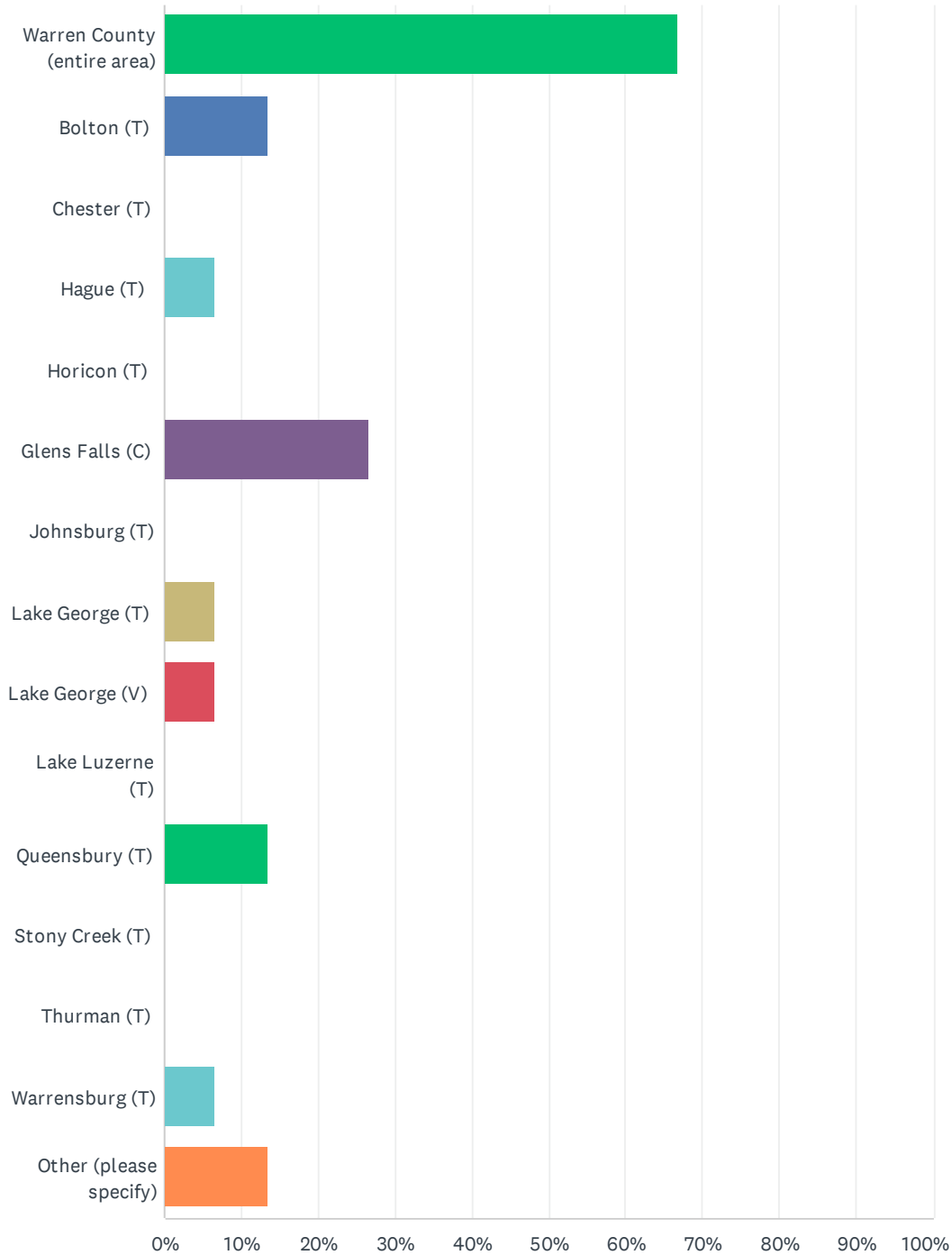
Q6 Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Answered: 14 Skipped: 1

#	RESPONSES	DATE
1	Public School	7/24/2023 2:58 PM
2	Office for the Aging - provide assistance to seniors	7/13/2023 3:11 PM
3	YMCA Family Retreat and Conference Center offers lodging, hospitality services, meals, programs and indoor and outdoor recreation to visitors and community members.	7/13/2023 1:21 PM
4	Police	7/13/2023 11:06 AM
5	We provide educational services for school age children	7/13/2023 7:38 AM
6	We manage and maintain the Warren County Fish Hatchery, Bikeway, Fairgrounds, Canoe access sites and Up Yonda Farm Environmental Education Center	7/13/2023 7:27 AM
7	Electricity and Natural Gas Utility.	1/18/2023 8:41 AM
8	MEDICAL ASSITANCE TO THE ILL AND ELDERLY, VACCINATIONS, RABIES CLINICS	1/9/2023 10:40 AM
9	Provide environmental health oversight of facilities permitted and regulated by our office.	1/9/2023 9:32 AM
10	We offer information outreach, tourism marketing/promotional activities, direct contact with visitors and community partners.	1/8/2023 4:30 PM
11	we are responsible for completing the requirements of NYSDOH Article 6 General Public Health Work Program which includes completing a Community Health Assessment & Improvement Plann every 3 years, chronic disease prevention (CVD, cancer, diabetes, obesity, tobacco prevention), communicable disease surveilliance and control, vector borne disease monitoring and control, rabies control, lead poisoning prevention, and family health. In addition to the Article 6 programs we are also responsible for public health emergency preparedness planning which includes pandemic planning and response, isolation and quarantine protocols, medical countermeasures distribution and dispensing, participation in mass shelter/casualty/fatality planning and more.	1/6/2023 8:18 AM
12	SAIL is a non-profit organization that helps people live more independently through an array of programs and services.	1/6/2023 8:14 AM
13	Operates public transportation services in Glens Falls, Queensbury, Lake George (T & V), Bolton	1/5/2023 4:28 PM
14	Legislative	12/14/2022 7:27 PM

Q7 Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or “Warren County (entire area) ” if your service area is county-wide:

Answered: 15 Skipped: 0



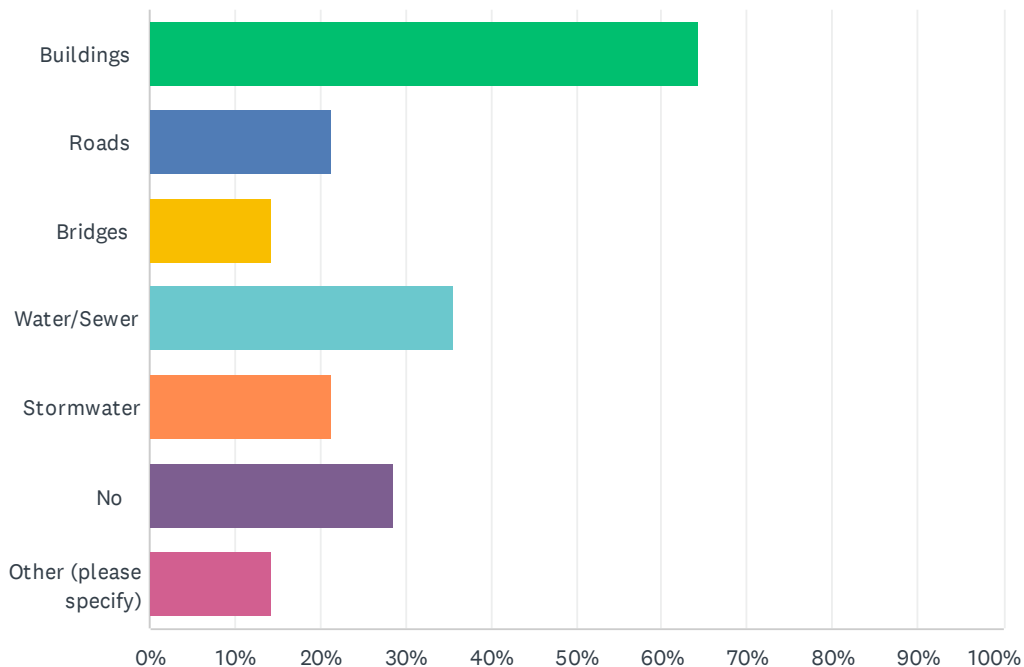
Warren County Hazard Mitigation Plan - Stakeholder Survey

ANSWER CHOICES	RESPONSES	
Warren County (entire area)	66.67%	10
Bolton (T)	13.33%	2
Chester (T)	0.00%	0
Hague (T)	6.67%	1
Horicon (T)	0.00%	0
Glens Falls (C)	26.67%	4
Johnsburg (T)	0.00%	0
Lake George (T)	6.67%	1
Lake George (V)	6.67%	1
Lake Luzerne (T)	0.00%	0
Queensbury (T)	13.33%	2
Stony Creek (T)	0.00%	0
Thurman (T)	0.00%	0
Warrensburg (T)	6.67%	1
Other (please specify)	13.33%	2
Total Respondents: 15		

#	OTHER (PLEASE SPECIFY)	DATE
1	Hamilton County	7/13/2023 3:11 PM
2	Other partners throughout the Adirondacks as well as statewide.	1/8/2023 4:30 PM

Q8 Does your organization maintain or manage any of the following within your designated service area? If not, answer “No” at the bottom, otherwise check all that apply.

Answered: 14 Skipped: 1

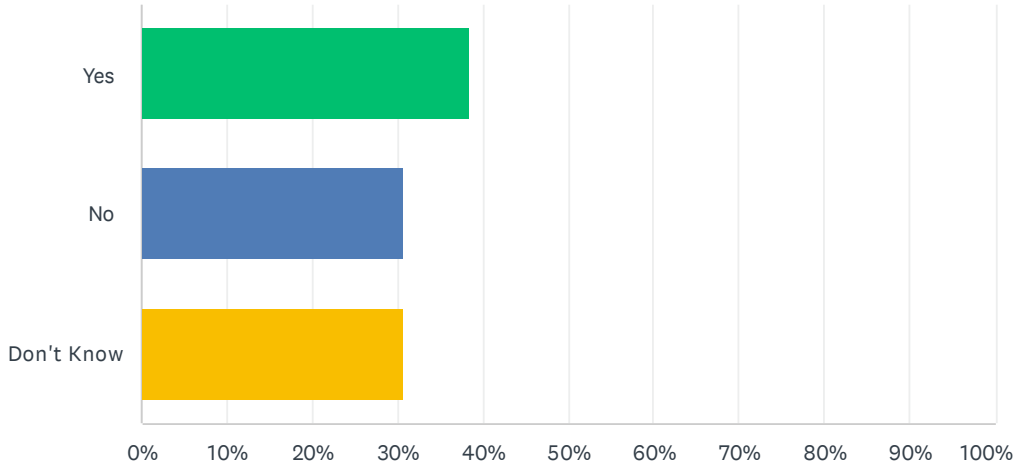


ANSWER CHOICES	RESPONSES
Buildings	64.29% 9
Roads	21.43% 3
Bridges	14.29% 2
Water/Sewer	35.71% 5
Stormwater	21.43% 3
No	28.57% 4
Other (please specify)	14.29% 2
Total Respondents: 14	

#	OTHER (PLEASE SPECIFY)	DATE
1	Bikeway path	7/13/2023 7:27 AM
2	Utility Poles, pipelines, underground electric distribution facilities.	1/18/2023 8:41 AM

Q9 Looking back at previous hazard events, have buildings/facilities/structures you have worked in and/ or are responsible for been impacted by a hazard (ex. damage/closures/etc.)?

Answered: 13 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	38.46%	5
No	30.77%	4
Don't Know	30.77%	4
TOTAL		13

Q10 If you answered “Yes” to the above question, please describe the event that caused or is causing (if recurring) damage and loss of service/property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

Answered: 7 Skipped: 8

#	RESPONSES	DATE
1	Sewage back up in Middle School when storm water was visible in the streets (not draining).	7/24/2023 3:08 PM
2	Road Closure; Power Outages; Telephone Outages	7/13/2023 3:13 PM
3	Significant rain event washed out road	7/13/2023 1:25 PM
4	Flooding and tree hazards along bikeway. Power outages at Up Yonda Farm, flooding at the Fish Hatchery. Blocked culverts on railroad, due to beaver activity.	7/13/2023 7:35 AM
5	N/A	1/9/2023 9:32 AM
6	Fire in the municipal center	1/6/2023 8:22 AM
7	NA	1/5/2023 4:30 PM

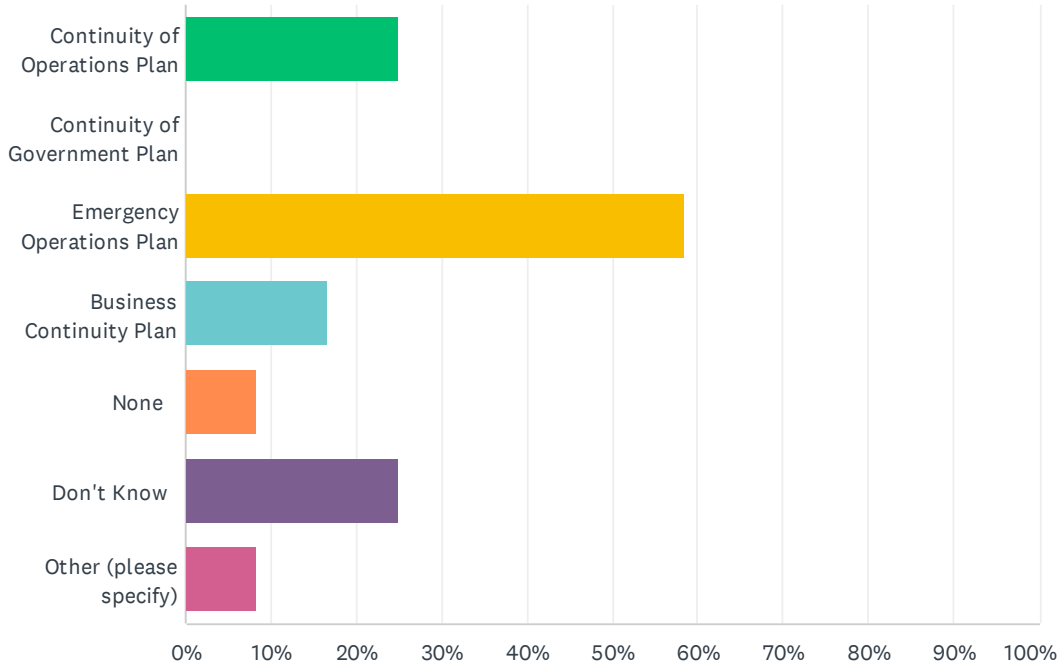
Q11 Looking at where your facilities or services are located in Warren County, what areas do you believe to be the most vulnerable to hazards? What are these hazards? (please explain).

Answered: 12 Skipped: 3

#	RESPONSES	DATE
1	The streets around the Middle and High Schools, Administrative Offices on Quade St, West Notre Dame, and Shippey Ave regularly have standing storm water.	7/24/2023 3:08 PM
2	North Country near bodies of water; Areas with significant snow storms, wind storms; Rainfall	7/13/2023 3:13 PM
3	Power outages, fallen trees, stormwater washing out roads, water supply (Lake George)	7/13/2023 1:25 PM
4	City Hall/Police Station Possible Fire	7/13/2023 11:07 AM
5	severe storms	7/13/2023 7:39 AM
6	The bikeway constantly has issues with trees down or blocking the bikeway. At the Fish Hatchery, every spring we need to be prepared for ice jams and flooding.	7/13/2023 7:35 AM
7	Electric Substations and gas regulating stations. As we've all seen in the news with the recent vandalism with electric utility equipment, it is high on the priority list for our security teams.	1/18/2023 9:13 AM
8	N/A	1/9/2023 9:32 AM
9	Salt mitigation to protect the lake. We currently use sand on the backside of our building/parking area and salt/sand mixture on the front. No other hazards as of this writing.	1/8/2023 4:31 PM
10	We rely on pre-identified municipal buildings and locations that are owned and maintained by City/Town municipalities for many of our activities. Our hub is the County Municipal Center. Vulnerabilities include fire, severe weather impacting the facility, loss of internet and utilities caused by weather or man made factors	1/6/2023 8:22 AM
11	Road hazards - downed trees, winter driving conditions	1/5/2023 4:30 PM
12	Industry along the river and watershed	12/14/2022 7:28 PM

Q12 Is your organization covered by any of the following plans? Check all that apply

Answered: 12 Skipped: 3

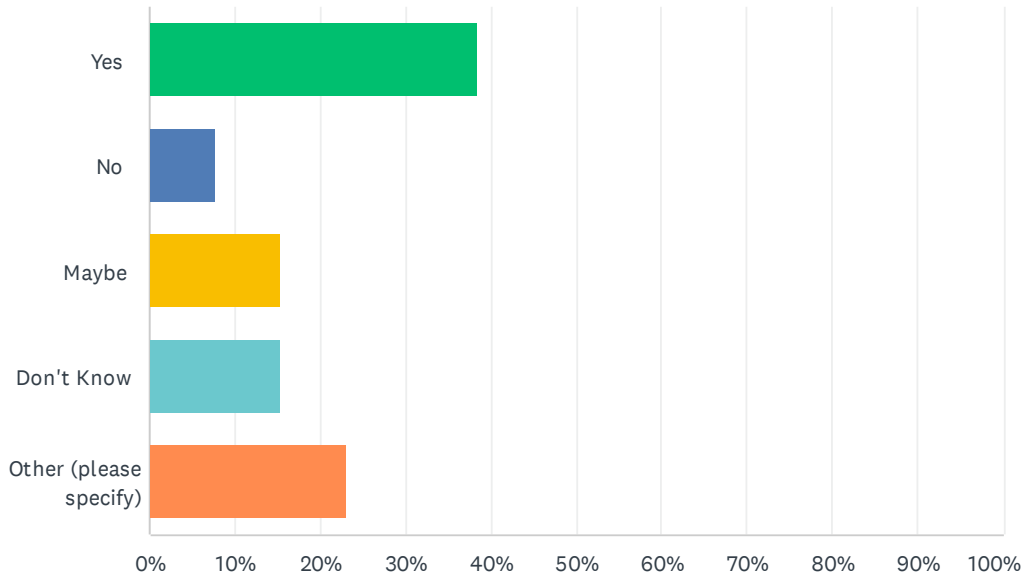


ANSWER CHOICES	RESPONSES
Continuity of Operations Plan	25.00% 3
Continuity of Government Plan	0.00% 0
Emergency Operations Plan	58.33% 7
Business Continuity Plan	16.67% 2
None	8.33% 1
Don't Know	25.00% 3
Other (please specify)	8.33% 1
Total Respondents: 12	

#	OTHER (PLEASE SPECIFY)	DATE
1	GFSD Safety Plan	7/24/2023 3:08 PM

Q13 Do you believe the facilities and infrastructure for your organization are equipped to handle a disaster and/or resilient to damages?

Answered: 13 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	38.46%	5
No	7.69%	1
Maybe	15.38%	2
Don't Know	15.38%	2
Other (please specify)	23.08%	3
TOTAL		13

#	OTHER (PLEASE SPECIFY)	DATE
1	Some are and some not as well	7/13/2023 7:39 AM
2	We have systems in place to maintain our infrastructure while also performing continuous improvement projects for storm hardening/reliability on our networks.	1/18/2023 9:13 AM
3	We were able to operate successfully throughout the pandemic shutdown and help our community overcome the challenges for economic success. Unsure about other potential disasters as we haven't had them other than economic downturns (2008-2010, 1990's).	1/8/2023 4:33 PM

Q14 Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Answered: 9 Skipped: 6

#	RESPONSES	DATE
1	No	7/24/2023 3:11 PM
2	Improved stormwater management, additional power generators,	7/13/2023 1:33 PM
3	Frequent inspections of facilities and regular maintenance	7/13/2023 7:52 AM
4	We have an emergency plan in place for fire, natural disasters and man made disasters and we conduct drills	7/13/2023 7:41 AM
5	Tree Trimming program - each of our circuits are trimmed on 5 year cycles, that means every 5 years "Main St in Queensbury" will be inspected for danger trees and trimmed by one of our tree contractors. "Computapole" program. This is a program that has us inspect and get eyes on every piece of National Grid electric infrastructure throughout our territory. We identify potential hazards like rotting poles, broken or unbonded guy wires, blown lightening arrestors, or broken cross arms. Once they are reported, the issues are then sent to the field workers for repairs. This is also done in 5 year cycles for each of our circuits. We have a similar program for our gas distribution system in regards to our Leak Prone Pipe program where we are replacing old cast iron mains and services with plastic. We have a gas corrosion team that inspects our pipe lines to make sure they are still in spec.	1/18/2023 9:13 AM
6	N/A	1/9/2023 9:33 AM
7	We were able to take advantage of the second round of PPP funding because of our 501c6 corporate status that helped us through the pandemic financially. Other strategies in the past have been to cut programs and not people to stay financially stable as an organization.	1/8/2023 4:36 PM
8	Upgrading work from home opportunities if the facility is unusable, ensuring a suitable secondary location is available for staff that have to be in the office, providing funding to ensure IT and other equipment necessary to maintain operations is provided	1/6/2023 8:32 AM
9	Sewage treatment plant power project	12/14/2022 7:29 PM

Q15 Can you identify projects or programs that have been recently been implemented to reduce your facility's/organization's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Answered: 12 Skipped: 3

#	RESPONSES	DATE
1	No	7/24/2023 3:11 PM
2	Warren County Continuity of Operations Plan implemented by Amy Hirsch; Response to COVID	7/13/2023 3:14 PM
3	Installed manmade wetland to help manage stormwater, installed limited number of generators to offset power losses	7/13/2023 1:33 PM
4	Frequent inspections of facilities and regular maintenance	7/13/2023 7:52 AM
5	Drilling our disaster plan	7/13/2023 7:41 AM
6	See Above.	1/18/2023 9:13 AM
7	N/A	1/9/2023 9:33 AM
8	We are reworking our strategic plan and have begun a five year financial look-back and a five year forecast CAGR - (compound annual growth rate).	1/8/2023 4:36 PM
9	none at a County level. Public Health initiatives to mitigate the impacts of a disaster have been undertaken as a requirement of the NYSDOH Office of Health Emergency Preparedness annual core deliverables which must be completed to receive funding from NYSDOH for the Warren County Public Health Emergency Preparedness program	1/6/2023 8:32 AM
10	SAIL has an internal emergency preparedness plan that we will exercise in the event of an emergency.	1/6/2023 8:16 AM
11	Installation of an emergency back-up generator	1/5/2023 4:31 PM
12	Storm water and sewage decoupling projects	12/14/2022 7:29 PM

Q16 Do you have any questions or comments for Warren County?

Answered: 8 Skipped: 7

#	RESPONSES	DATE
1	No	7/24/2023 3:12 PM
2	NO	7/13/2023 7:52 AM
3	no	7/13/2023 7:41 AM
4	Warren County has been a great partner in National Grid's restoration and community efforts. I look forward to working with you for years to come.	1/18/2023 9:13 AM
5	No	1/9/2023 9:33 AM
6	None as of this writing.	1/8/2023 4:36 PM
7	What steps are being taken to prepare for the impacts of climate change? NYSDOH is making that a priority in Public Health Emergency Preparedness Planning? Also what steps are being taken to identify populations within Warren County with access and functional needs so planning considerations can be made and gaps can be filled as funding becomes available. Is there a plan to create or does one exist for a work pool for County workers if a department temporarily needs extra help to respond to and recovery from a disaster? Are the elected leaders in Warren County required to attend emergency preparedness trainings and participate in the hazard mitigation planning process?	1/6/2023 8:38 AM
8	None	1/6/2023 8:16 AM

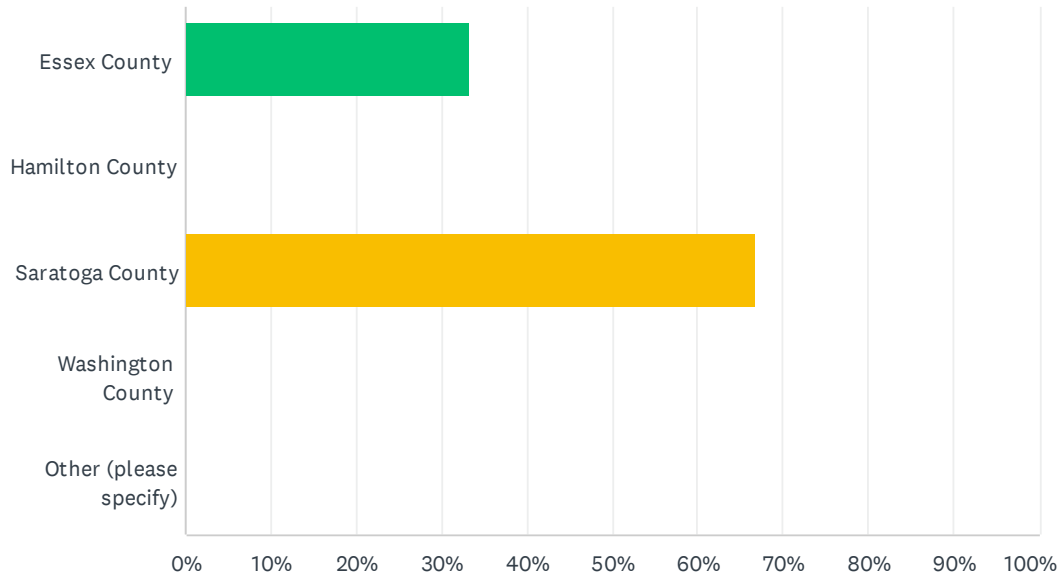


D.3 NEIGHBORING COUNTY SURVEY

A neighboring county survey was sent to the surrounding counties of Warren due to their proximity to the County and because the effects of hazard events that impact Warren County would be similar to that of their neighbors. A summary of the results are included on the following pages.

Q1 Please indicate the community in which you represent

Answered: 3 Skipped: 0



ANSWER CHOICES	RESPONSES	
Essex County	33.33%	1
Hamilton County	0.00%	0
Saratoga County	66.67%	2
Washington County	0.00%	0
Other (please specify)	0.00%	0
TOTAL		3

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q2 Name and Title of Respondent

Answered: 3 Skipped: 0

#	RESPONSES	DATE
1		
2		
3		

Q3 What department do you represent?

Answered: 3 Skipped: 0

#	RESPONSES	DATE
1	Saratoga County Emergency Management	5/1/2023 10:28 AM
2	Essex County Emergency Services	5/1/2023 8:14 AM
3	OEM	1/9/2023 2:35 PM

Q4 Please provide your contact information.

Answered: 3 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	3
Phone Number	100.00%	3

#	NAME	DATE
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There are no responses.

#	COMPANY	DATE
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There are no responses.

#	ADDRESS	DATE
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There are no responses.

#	ADDRESS 2	DATE
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There are no responses.

#	CITY/TOWN	DATE
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There are no responses.

#	STATE/PROVINCE	DATE
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There are no responses.

#	ZIP/POSTAL CODE	DATE
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There are no responses.

#	COUNTRY	DATE
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There are no responses.

#	EMAIL ADDRESS	DATE
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Warren County Hazard Mitigation Plan - Neighboring Community Survey

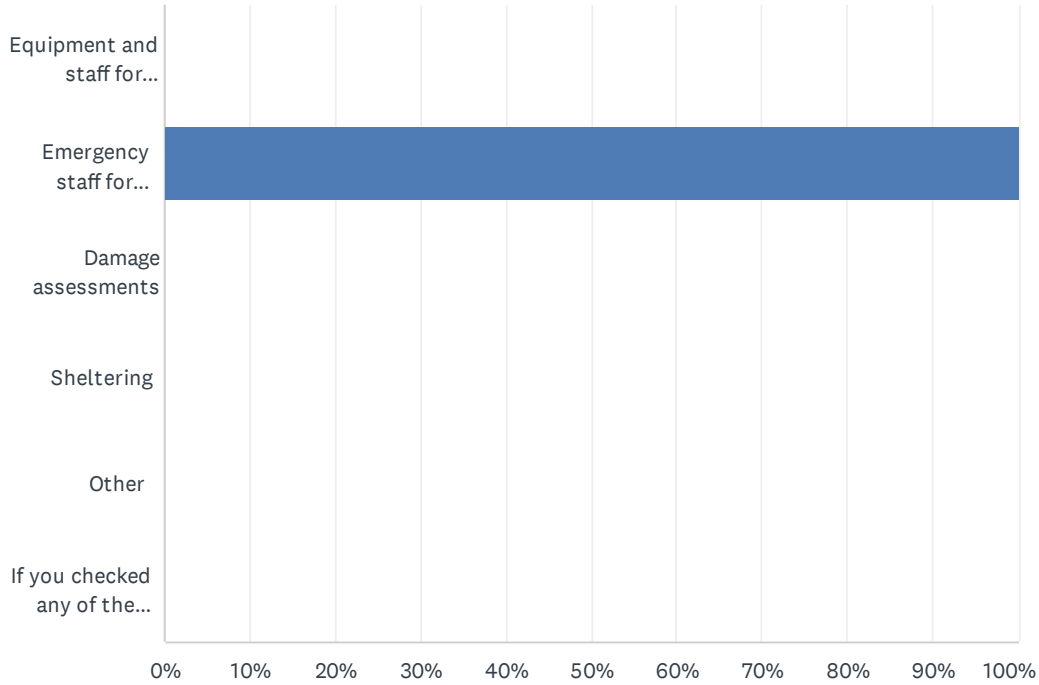
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Q5 Do you have any shared service agreements or mutual aid agreements in place with Warren County for the following?

Answered: 1 Skipped: 2

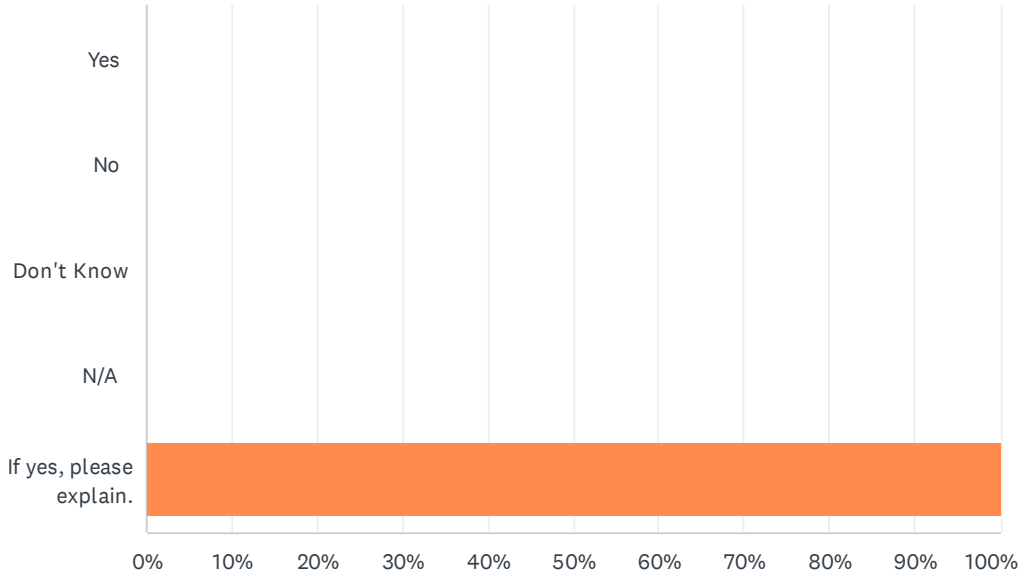


ANSWER CHOICES	RESPONSES	
Equipment and staff for debris cleanup and removal	0.00%	0
Emergency staff for evacuations/disaster response	100.00%	1
Damage assessments	0.00%	0
Sheltering	0.00%	0
Other	0.00%	0
If you checked any of the above, please explain.	0.00%	0
Total Respondents: 1		

#	IF YOU CHECKED ANY OF THE ABOVE, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q6 Is Warren County involved in your community's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 2 Skipped: 1

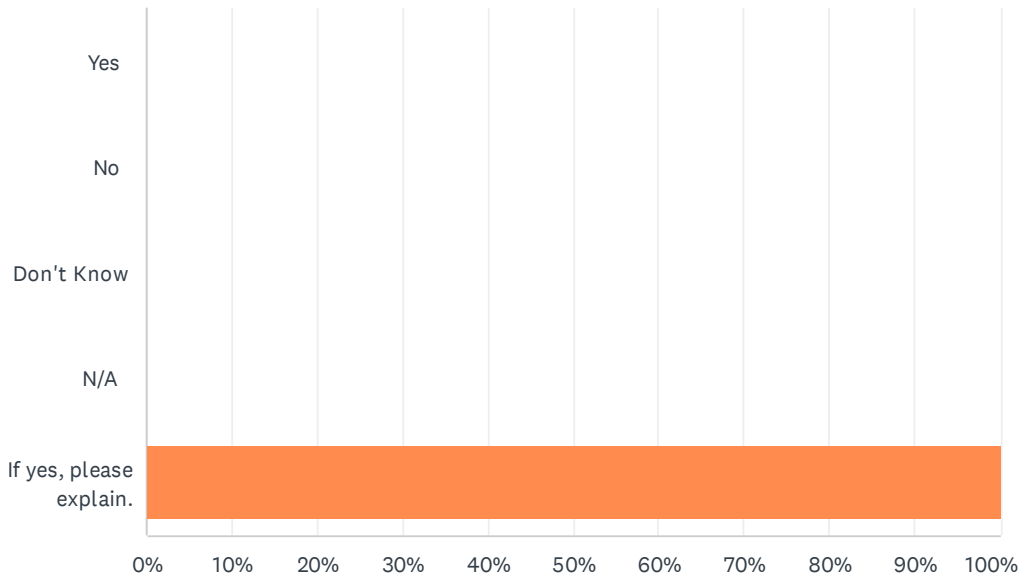


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	100.00% 2
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Fire/EMS mutual aid plans	5/1/2023 3:10 PM
2	Warren County was instrumental in helping us to develop many of our plans. They are a partner that could be asked for assistance in a variety of disasters	1/9/2023 2:38 PM

Q7 Is your community involved in Warren County's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 2 Skipped: 1

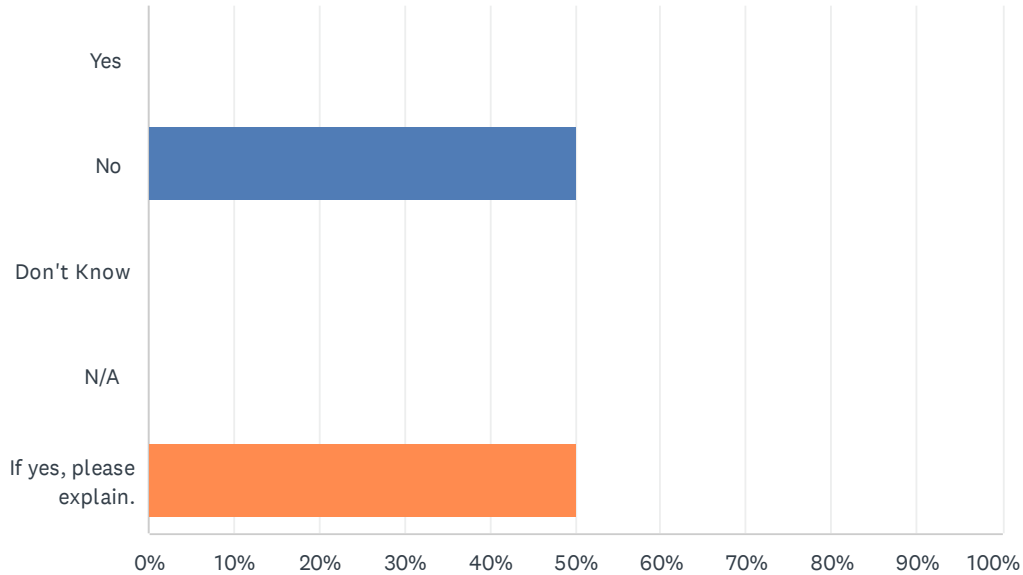


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	100.00% 2
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Fire/EMS mutual aid plans	5/1/2023 3:10 PM
2	Same as above	1/9/2023 2:38 PM

Q8 Is Warren County involved in your community’s Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of your community's essential functions for a period of time?

Answered: 2 Skipped: 1

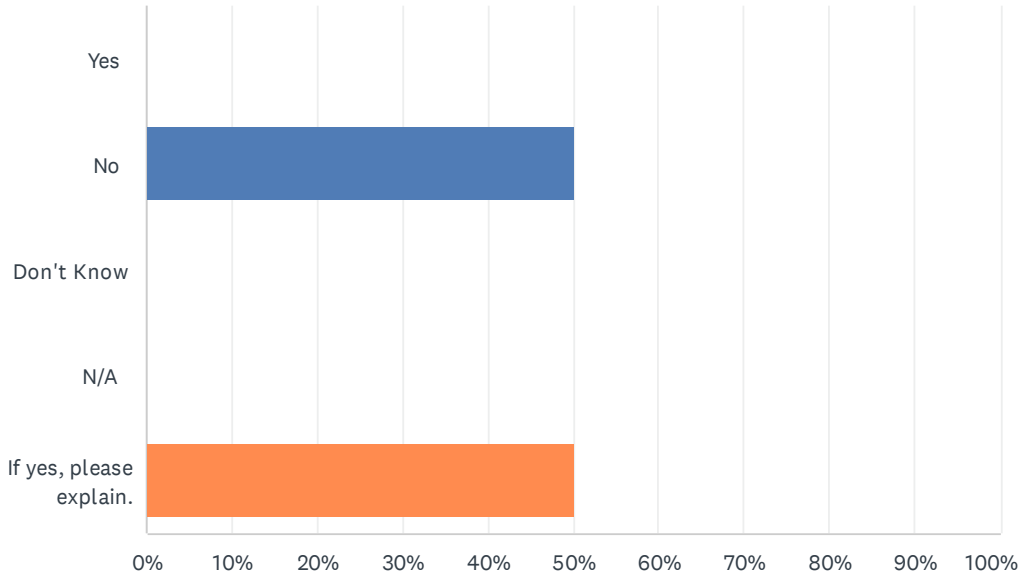


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Mutual aid plans Fire/EMS/Law	1/9/2023 2:38 PM

Q9 Is your community involved in Warren County's Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of Warren County's essential functions for a period of time?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Mutual aid plans Fire/EMS/Law	1/9/2023 2:38 PM

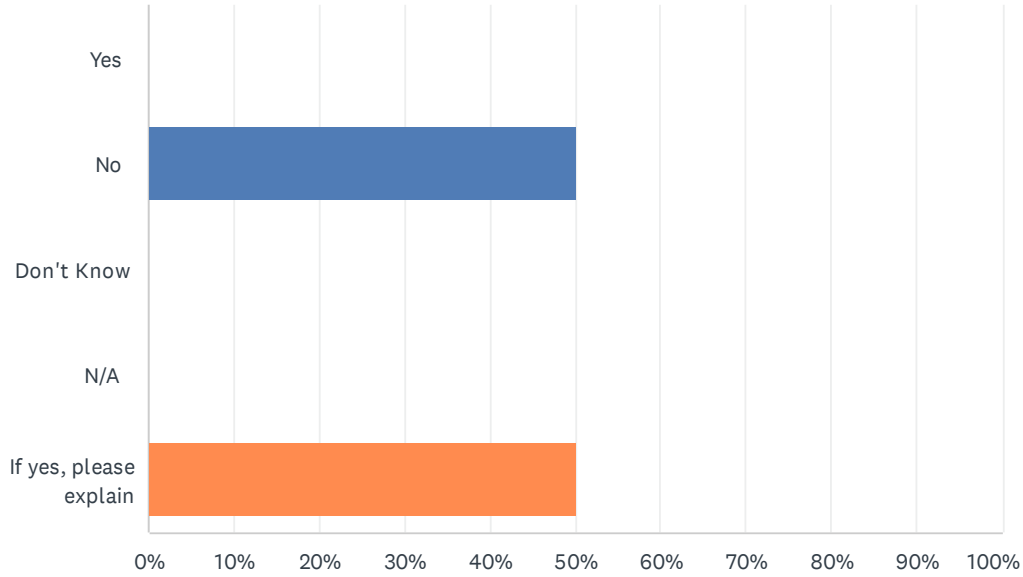
Q10 Thinking about emergency operations and disaster response, please explain how these actions are communicated between communities.

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Phone, email, NY Responds	5/1/2023 3:10 PM
2	Emergency Managers work together to respond to incidents and may work together to mitigate against incidents along shared vulnerabilities.	1/9/2023 2:38 PM

Q11 Does your community share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Warren County?

Answered: 2 Skipped: 1

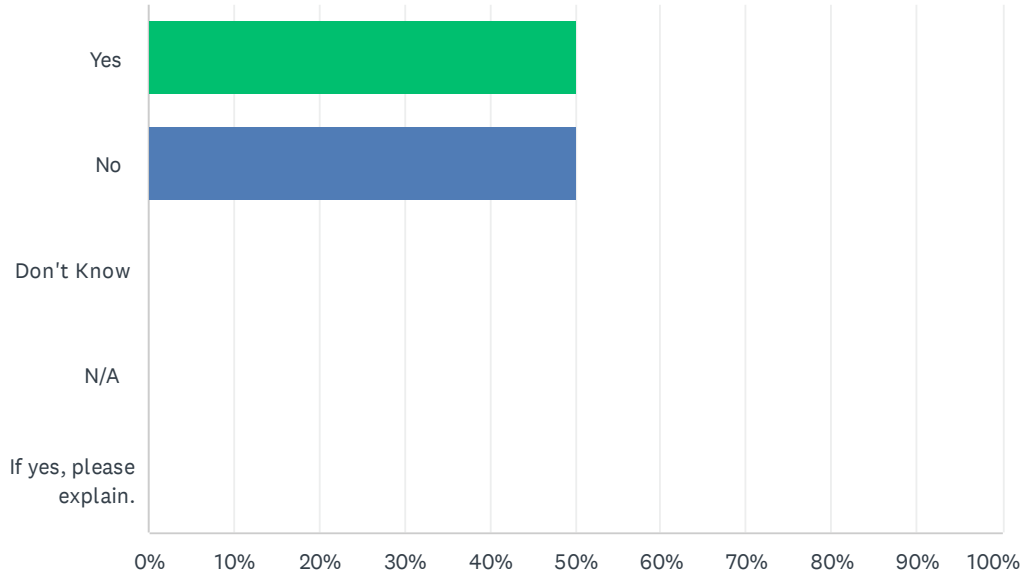


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN	DATE
1	Flood mapping	5/1/2023 3:11 PM

Q12 Do you collaborate with Warren County on establishing evacuation routes and alternate evacuation routes?

Answered: 2 Skipped: 1

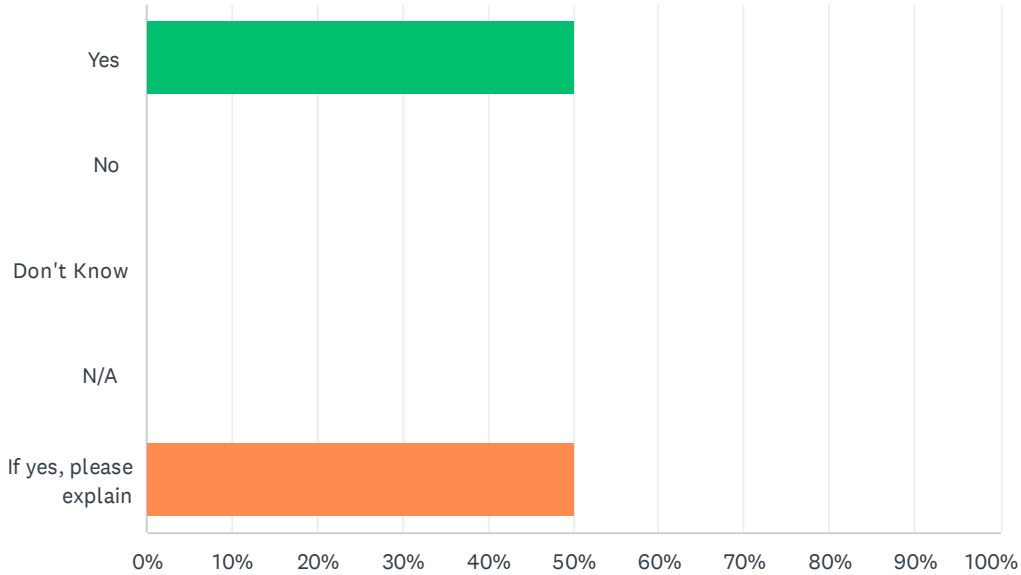


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	50.00% 1
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q13 Do you and Warren County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring jurisdictions)?

Answered: 2 Skipped: 1

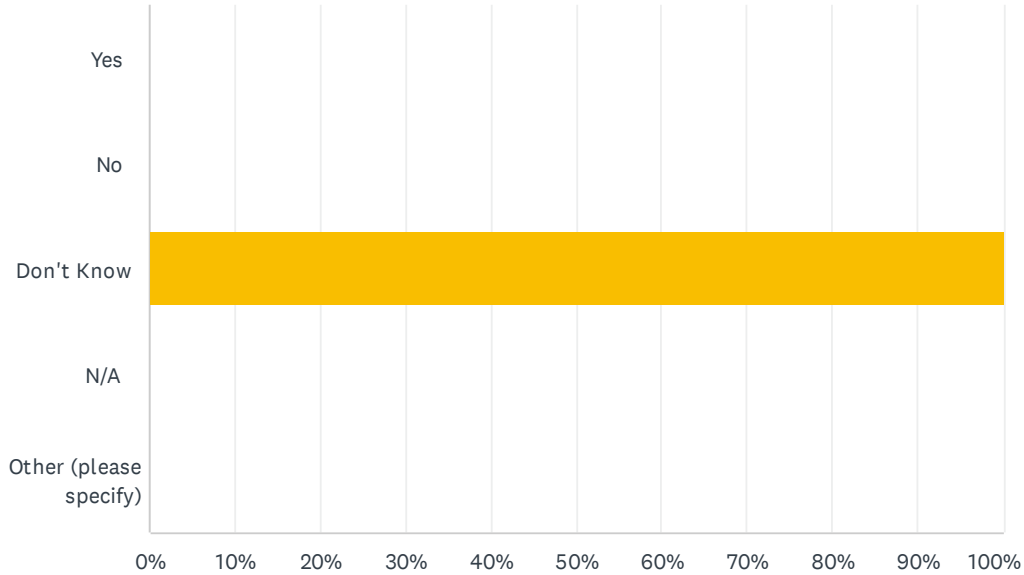


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN	DATE
1	Multi-county evacuations would require collaboration	5/1/2023 3:14 PM

Q14 Are evacuation routes maintained to the same level of protection across jurisdictional lines?

Answered: 2 Skipped: 1

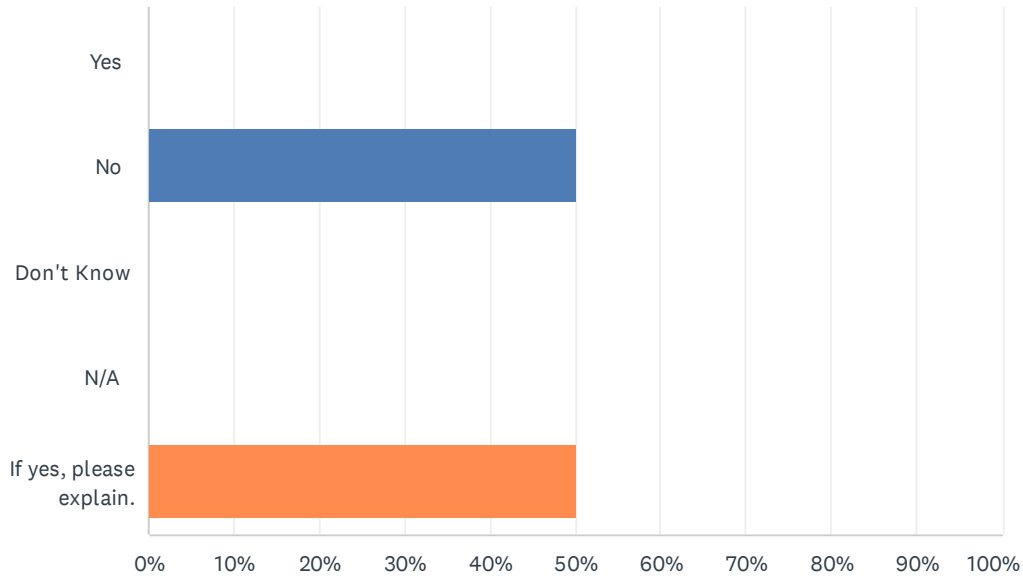


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	100.00% 2
N/A	0.00% 0
Other (please specify)	0.00% 0
TOTAL	2

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q15 Do you collaborate with Warren County on establishing shelters?

Answered: 2 Skipped: 1

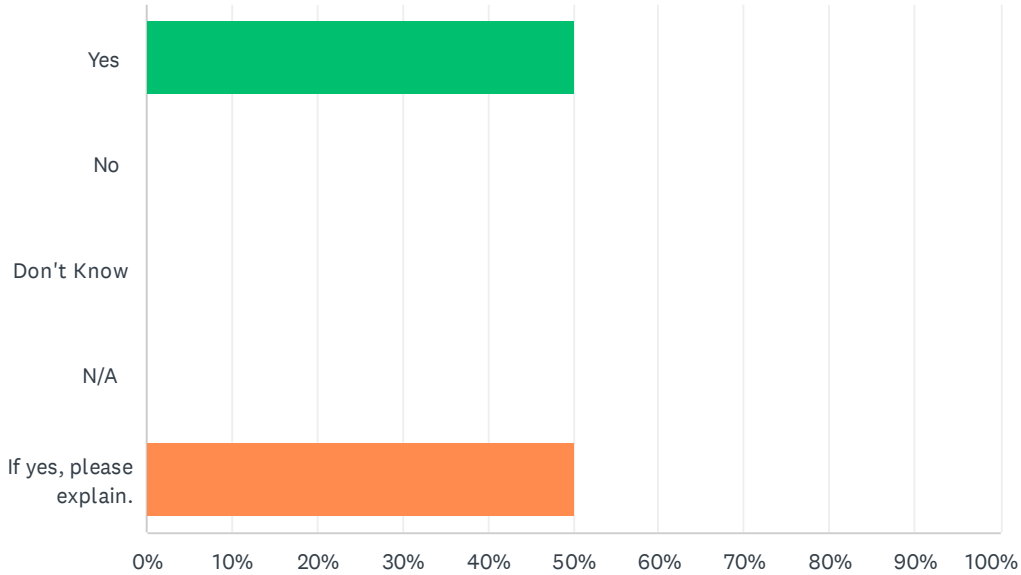


ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	50.00%	1
Don't Know	0.00%	0
N/A	0.00%	0
If yes, please explain.	50.00%	1
TOTAL		2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Historically we have collaborated on shared hazards/events	5/1/2023 3:14 PM

Q16 Do you and Warren County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring communities)?

Answered: 2 Skipped: 1

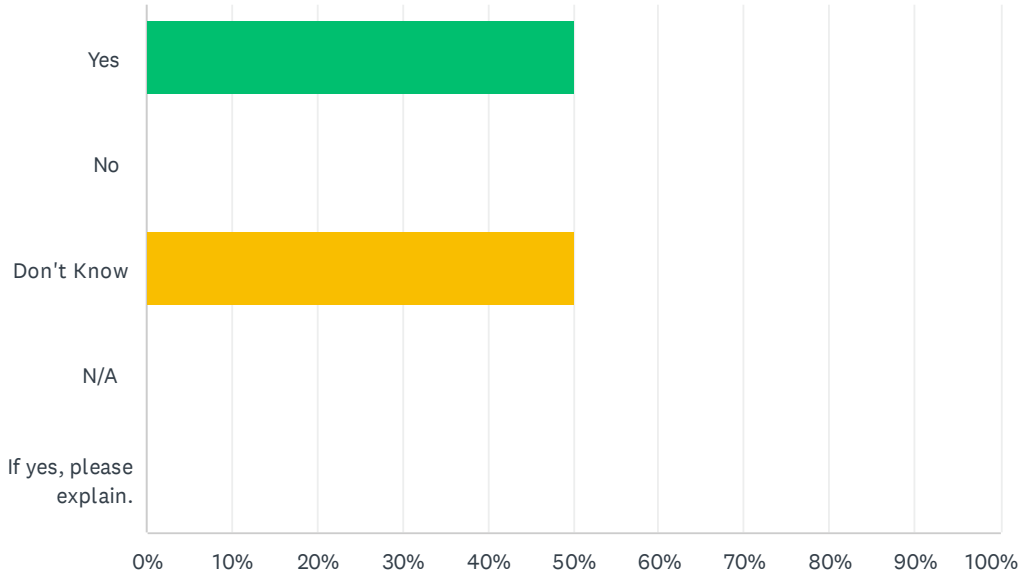


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	By phone/email	5/1/2023 3:14 PM

Q17 Do you and Warren County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

Answered: 2 Skipped: 1

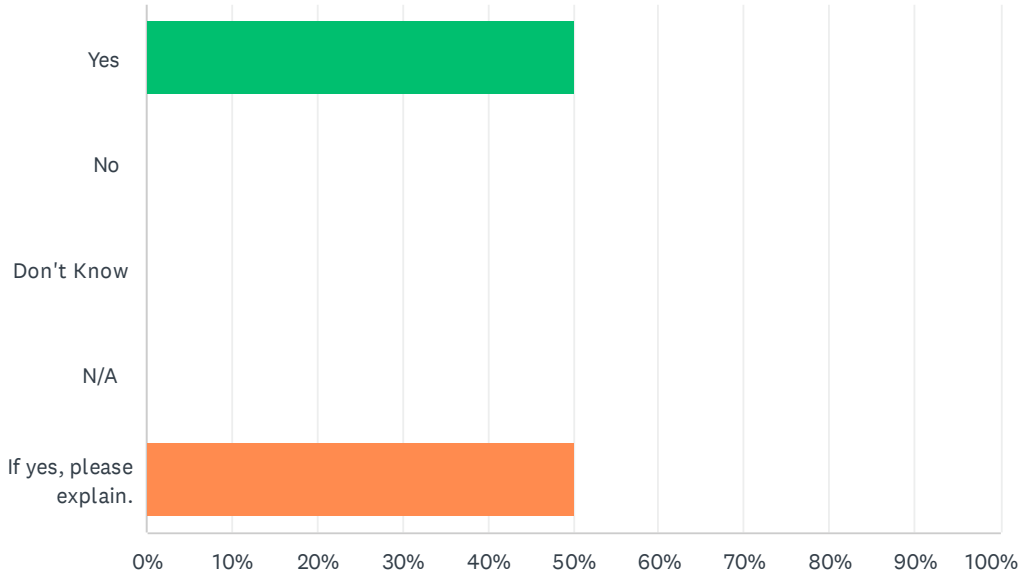


ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q18 Does your community have access to contact information for Warren County's emergency operation centers?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	50.00% 1
No	0.00% 0
Don't Know	0.00% 0
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Phone/email	5/1/2023 3:22 PM

Q19 Please describe any situations or hazards that are of concern to both your community and Warren County. For example, would flooding along a particular waterway impact both jurisdictions, or are there any facilities or infrastructure that would affect both jurisdictions if it/they failed?

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	All dams/flooding along common county borders	5/1/2023 3:22 PM
2	Flooding along the Hudson - which serves as the boundary between a good portion our counties. Additionally, various incidents along the northway. Also, large scale incidents (eg brush fire) along our rural border.	1/9/2023 2:51 PM

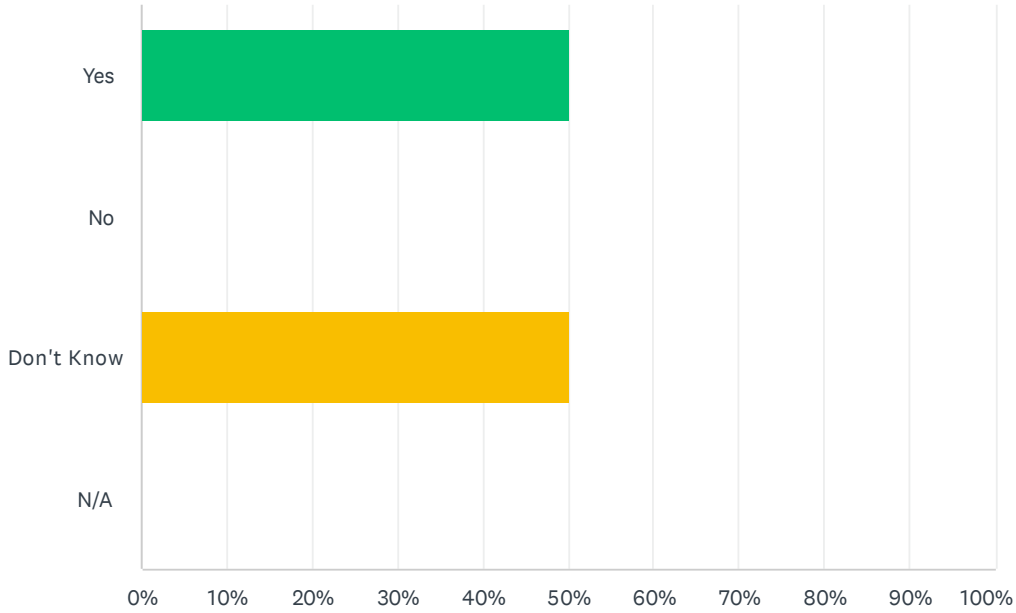
Q20 Please explain how information is shared between communities regarding mitigation projects.

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Phone/email	5/1/2023 3:22 PM
2	The hazard mitigation plan, intercommunity communication often by the highway department leadership	1/9/2023 2:51 PM

Q21 Is information regarding mitigation shared during the planning and implementation phases of the projects?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	50.00%	1
No	0.00%	0
Don't Know	50.00%	1
N/A	0.00%	0
TOTAL		2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q22 Are you aware of any projects for the following that requires cross-collaboration between jurisdictional boundaries?

Answered: 0 Skipped: 3

 No matching responses.

ANSWER CHOICES	RESPONSES	
Stormwater projects	0.00%	0
Watershed projects or planning	0.00%	0
Floodplain projects or planning	0.00%	0
Connected roadway improvements	0.00%	0
Natural infrastructure restoration	0.00%	0
Outreach (education and outreach campaigns, programs for public information, etc.)	0.00%	0
Other (please specify)	0.00%	0
Total Respondents: 0		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

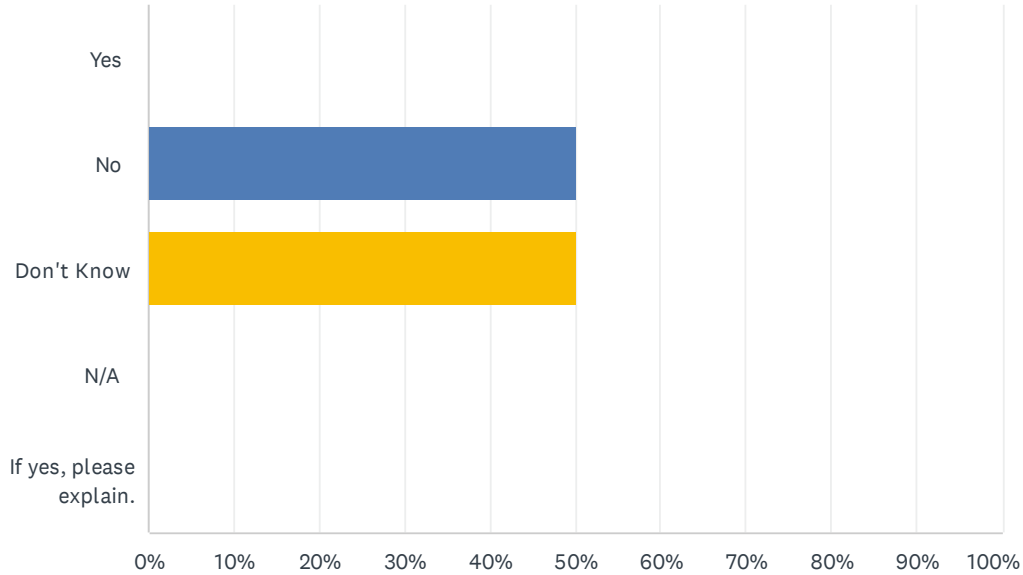
Q23 If you selected anything above, please explain.

Answered: 0 Skipped: 3

#	RESPONSES	DATE
	There are no responses.	

Q24 Have your community and Warren County collaborated on grant applications?

Answered: 2 Skipped: 1

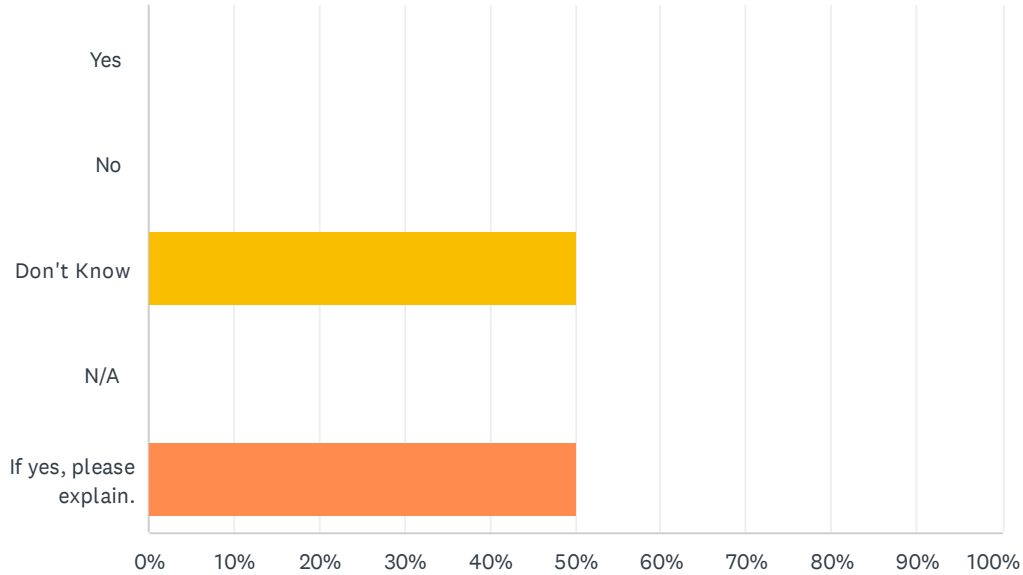


ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	50.00% 1
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	0.00% 0
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q25 Are you aware of any organizations that carry out education and outreach regarding hazards in both your community and Warren County?

Answered: 2 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Don't Know	50.00% 1
N/A	0.00% 0
If yes, please explain.	50.00% 1
TOTAL	2

#	IF YES, PLEASE EXPLAIN.	DATE
1	Dam operators	5/1/2023 3:24 PM

Q26 What are opportunities or ideas to optimize cooperation with Warren County on emergency management operations and hazard mitigation projects?

Answered: 2 Skipped: 1

#	RESPONSES	DATE
1	Open communication when planning cross-jurisdictional projects	5/1/2023 3:24 PM
2	Corresponding HAZMIT Plans/Projects	1/9/2023 2:52 PM

Q27 Do you have any relevant questions or comments for Warren County?

Answered: 1 Skipped: 2

#	RESPONSES	DATE
1	We will be going through a HAZMIT plan update later this year as well	1/9/2023 2:52 PM



D.4 WEBSITE AND SOCIAL MEDIA POSTS

The following provides screenshots of the informational fact sheet, website, news articles, and social media posts.



WARREN COUNTY HAZARD MITIGATION PLAN

2023 Update

What is a Hazard Mitigation?

Hazard mitigation is an action to help reduce long-term risks caused by hazards or disasters, such as flooding, earthquakes, or wildfires. The purpose of hazard mitigation is to protect people and structures, and minimize the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policies, education, and environmental protection.

Proactive mitigation leads to more cost-effective projects. By contrast, reactive mitigation, tends to lead to severe damage and often more costly fixes; it simply costs too much to address the effects of disasters only after they happen. A surprising amount of damage can be prevented if we can anticipate where and how disasters occur, and take steps to prevent those damages.

What is a Hazard Mitigation Plan?

Hazard Mitigation Plans (HMP) are prepared and adopted by counties and municipalities with the primary purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events. HMPs are most effective when they are based on a comprehensive, long-term plans developed before a disaster occurs.

Effective mitigation planning can break the cycle of disaster damage, reconstruction, and repeated damage. There are four key elements of an HMP: 1) a risk assessment, 2) capability assessment, 3) mitigation strategy, and 4) plan maintenance procedures.

The purpose of mitigation planning is to identify local policies and actions that can be implemented over the long term to reduce risk and future losses from hazards. These mitigation policies and actions are identified based on an assessment of hazards, vulnerabilities, and risks and the participation of a wide range of stakeholders and the public in the planning process.

Purpose

The Warren County Soil and Water Conservation District is leading the update of the Warren County HMP. This plan is an opportunity to detail a variety of potential hazards that could affect some or all of the residents and will also allow the county and participating municipalities to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA).

The goal of the plan is to identify projects that can reduce damages from future hazards. The plan will include a risk assessment and a hazard mitigation strategy. The primary hazards of concern in the counties include: Dam Failure, Disease Outbreak, Earthquake, Flood, Infestation, Severe Storm, Severe Winter Storm, and Wildfire.

The study will focus on existing buildings and potential future development, infrastructure, and lifelines that might be impacted. Lifelines include but are not limited to municipal buildings and infrastructure such as power-generation facilities, water utilities, roadways, railroads and communication systems.



What are the benefits of Hazard Mitigation?

Mitigation planning will help the county and the participating jurisdictions prepare for disasters, before they happen, to reduce impacts when a disaster occurs. Benefits include:

- Identifying actions for risk reduction that are agreed upon by stakeholders and the public,
- Focusing resources on the greatest risks and vulnerabilities,
- Building partnerships by involving citizens, organizations, and businesses,
- Increasing education and awareness of threats and hazards, as well as their risks,
- Communicating priorities to state and federal officials, and
- Aligning risk reduction with other community objectives.

What is required in a Hazard Mitigation Plan?

FEMA regulations require that the public must be engaged in all phases of the plan's development. The HMP should review and incorporate existing plans and programs that can support or enhance hazard mitigation. The plan must assess the risk to natural hazards that may impact the planning area and identify and prioritize mitigation actions that can be taken. The HMP must also include a strategy for maintaining the plan, which must be updated every 5 years.

FAQs

What is mitigation? Any sustained action taken to reduce/ eliminate long-term risk to life and property from a hazard event.

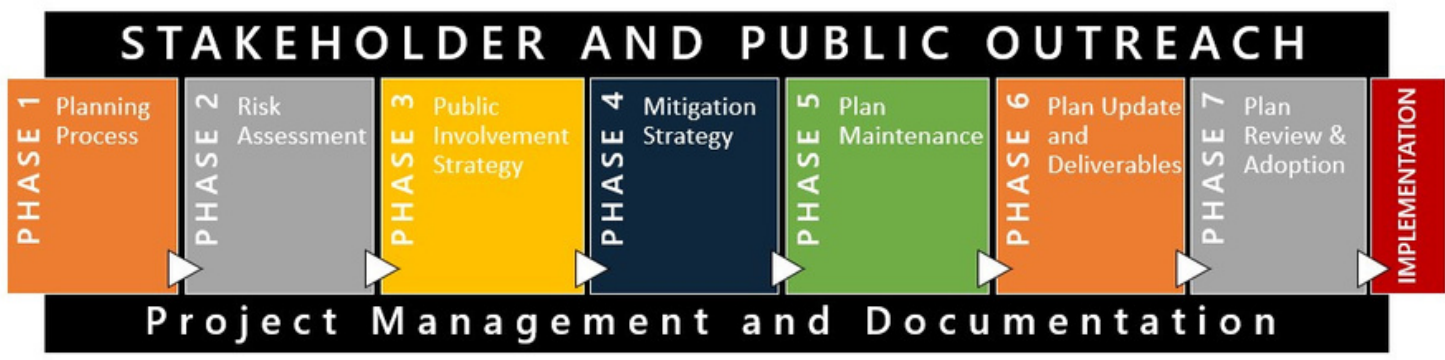
How can you reduce/eliminate risk? Identify mitigation actions/ projects/activities or processes that can include 1) Local plans and regulations; 2) Structure and infrastructure projects; 3) Natural systems protection; 4) Education and awareness programs.

What grant funding is available? FEMA Hazard Mitigation Assistance grant funding is available with a FEMA-approved Hazard Mitigation Plan (annual and post-disaster opportunities).

How can I support the plan? Take the public survey! This will help us obtain input and get a better understanding of public preparedness for hazard events.

Where can I see the 2023 plan? Sections of the draft plan will be available late-2022 for download, review and comment on the Warren County HMP website at: <https://www.warrencountynewyorkhmp.com/>

Planning Process



For more information, please visit our website:
<https://www.warrencountynewyorkhmp.com/>

Live or work in Warren County? Take our survey!
<https://www.surveymonkey.com/r/WarrenNYHMPPublic>

For more information about this process, please contact:

-or-

scan the QR code to complete the survey



WARREN COUNTY HAZARD MITIGATION PLAN 2023 UPDATE

[Home](#)[About](#)[What is Mitigation](#)[Meetings](#)[Calendar](#)[Explore the Plan](#)[Additional Information](#)

Warren County Hazard Mitigation Plan 2023 Update

The draft Warren County Hazard Mitigation Plan is available for public review. This plan will be available for public review through September 2nd, 2023.

Welcome to the Warren County Hazard Mitigation Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

The goal of the project is to save lives and property through the reduction of hazard vulnerability for Warren County and its municipalities. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Warren County HMP Steering Committee developed a mitigation survey to assist in providing the public an outlet to contribute to the Warren County HMP update which was active through June 8, 2023. The results of the survey will be used to develop portions of the HMP.

If you have any questions or comments regarding the HMP or planning process, please complete this form, and someone from the Planning Partnership will be in touch.

Events in August 2023–July 2024

WARREN COUNTY

2023 HAZARD MITIGATION PLAN UPDATE

**When natural hazards occur, how are you prepared?
Let us know in this survey as part of Warren County's
Hazard Mitigation Plan update.**

<https://www.warrencountynewyorkhmp.com/>



For more information, please contact Warren County Soil
and Water Conservation District:
(518) 623-3119



Boost post



HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note this ...

March 9, 2023 at 6:11 AM
ID: 555241586795063

Interactions

0 reactions

0 comments

5 shares

- Overview
- Performance
- Feed preview

Performance

Reach ⓘ

Total	964
Organic	964 (100%)
Paid	0 (0%)

Engagements ⓘ

Reactions	0
Comments	0
Shares	5

View details

Negative interactions ⓘ

Total	0
Unique	0

Feed preview



Warren County, New York

March 9 · 🌐

HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note



Boost post



HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note this ...

January 12, 2023 at 6:21 AM
ID: 519354607050428

Interactions

2 reactions 0 comments 2 shares

- Overview
- Performance
- Feed preview

Performance






















Reach ⓘ		Engagements ⓘ		Negative interactions ⓘ	
Total	928	Reactions	2	Total	0
Organic	928 (100%)	Comments	0	Unique	0
Paid	0 (0%)	Shares	2		

[View details](#)

Feed preview

Warren County, New York
January 12 · 🌐

HELP US COMPLETE OUR HAZARD MITIGATION PLAN -- Please note


	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Thu Mar 9, 6:11am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Thu Jan 12, 6:21am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Sat Jan 7, 10:19am	 	-- Distribution				0:00 Average minutes
	HELP US COMPLETE OUR HAZ... Warren County, New York	View insights	...	Dec 22, 2022	 	-- Distribution	0 Minutes viewed	0 3-second video views	0 1-Minute video views	0:00 Average minutes
	Good advice from Warren Coun... Warren County, New York	View insights	...	Dec 20, 2022	 	-- Distribution	0 Minutes viewed	0 3-second video views	0 1-Minute video views	0:00 Average minutes
	Warren County is looking for p... warrencountynewyork	View insights	...	Dec 9, 2022	 	--	--	--	--	--
	Warren County and its partners... Warren County, New York	View insights	...	Dec 9, 2022	 	-- Distribution	0 Minutes viewed	0 3-second video views	0 1-Minute video views	0:00 Average minutes

-- your other posts within 21+ days of publishing.

- ↓ 399,999,999.0x less Impressions
- ↓ 399,999,999.0x less Link clicks
- ↓ 399,999,999.0x less Reactions

Understand your Distribution

Impressions is the metric that's likely having the biggest effect on the distribution of this post.



https://poststar.com/news/local/warren-county-seeks-input-to-update-hazard-mitigation-plan/article_beb98a44-7b21-11ed-a710-b7a678f9a3f7.html

Warren County seeks input to update hazard mitigation plan

Post-Star staff report

Dec 13, 2022

Warren County is looking for public input as it updates its Multi-Jurisdictional Hazard Mitigation Plan, a document that details the potential hazards, such as storm-related conditions, that could affect residents and visitors.

The plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Ann Marie Mason, Warren County's director of emergency services, said that updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said in a news release. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

People are also reading...

- 1 **South Glens Falls may sue to have electrical box fixed**
 - 2 **Mr. Shatner goes to Ticonderoga**
 - 3 **Glens Falls Windy Hill residents react to possible Quaker Road development**
 - 4 **Reminder: New print edition, schedule this week**
-

The survey can be found here:

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

The plan identifies projects that can reduce damages from future natural hazards. It also creates a framework for risk-based decision making to reduce damages to lives, property and the economy from future disasters.

The county will involve the private sector, nonprofit organizations and other community partners in the planning process.

The approach is consistent with a “Whole Community Approach” that seeks to involve the entire community in disaster and hazard planning, according to Jim Lieberum, district manager of Warren County Soil and Water Conservation District, one of the planning partners.

The plan will include a risk assessment and a hazard mitigation strategy. It will focus on existing buildings and potential future development, infrastructure, and critical facilities that might be impacted. Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard, and include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities and hazardous material facilities.

The update of the plan allows the county and participating jurisdictions to continue to be eligible for grant-funded projects such as home acquisitions or elevations to either remove houses located in the floodplain to generate open space and increase flood storage or to raise their first floor above the FEMA base flood elevation and local flood control measures.

For more information or to get involved in this project, contact Lieberum at 518.623.3119 or **jiml@warrenswcd.org**.

To stay informed about the project, visit:

<https://www.warrencountynewyorkhmp.com>.

Input needed on natural disasters in Warren County

by: [Jay Petrequin](#)
Posted: Dec 9, 2022 / 11:54 AM EST
Updated: Dec 9, 2022 / 12:03 PM EST



Severe damage to the driveway and parking lot of the Lakeview Terrace Hotel and the Fairview Association, along Lake George, N.Y. (Photo: Jay Petrequin)

SHARE

WARREN COUNTY, N.Y. (NEWS10) – It’s important to know and understand what potential hazards could come with where one lives, and what different weather conditions can bring to those areas. Warren County is looking for public input as it makes updates to its plan to curb natural disaster danger for county residents.

[Get the latest news, weather, sports and community events delivered right to your inbox!](#)

The county’s Multi-Jurisdictional Hazard Mitigation Plan is up for revision – and a [survey](#) gives residents a chance to weigh in on it. The plan is a document that can be used by the county to reduce the impact and damage from natural disasters, especially targeted at preventing and

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“Public participation and feedback are a vital part of the hazard mitigation planning process,” said Warren County Emergency Services Director Ann Marie Mason. “We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made.”

The [survey asks for residents](#) to report what types of natural disasters they have seen and experienced in Warren County over the last decade, such as flooding, drought and climate change impacts. It also seeks information such as concern for future disasters, and how residents get their disaster information.

[ARPA lets Glens Falls Hospital’s crisis unit grow](#)

The Hazard Minitagition Plan is updated every five years. The plan is used for communities to make risk-based decisions that can lead to fewer lives being lost, or less property being damaged, in the event of a disaster. The process going forward will also involve voices from nonprofits, community partners and the private sector. The plan will analyze how best to protect essential community facilities, transportation systems, lifeline utilities and hazardous material facilities.



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Women’s sneaker



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\$2.88

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Warren County seeks input to update hazard mitigation plan

Post-Star staff report Dec 13, 2022 0



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Warren County is looking for public input as it updates its Multi-Jurisdictional Hazard Mitigation Plan, a document that details the potential hazards, such as storm-related conditions, that could affect residents and visitors.

The plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Ann Marie Mason, Warren County's director of emergency services, said that updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said in a news release. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

WARREN COUNTY, NY -- Warren County is looking for public input as it updates its **Multi-Jurisdictional Hazard Mitigation Plan**, a document that details the potential hazards, such as storm-related conditions, that could affect Warren County's residents and visitors.

This updated plan is an opportunity to detail a variety of potential hazards that might affect those who live in and visit Warren County. Updating the plan allows the county and participating jurisdictions to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA), explained **Ann Marie Mason, Warren County Director of Emergency Services**.

"Public participation and feedback are a vital part of the hazard mitigation planning process," Mason said. "We ask that those who live in or visit Warren County take the brief online survey to detail any instances where they have experienced disaster or noted vulnerabilities, and their thoughts on changes that should be made."

The survey can be found here: <https://www.surveymonkey.com/r/WarrenNYHMPPublic>.

What is a Hazard Mitigation Plan (HMP)?

A Hazard Mitigation Plan is a document that communities use to identify projects that can reduce damages from future natural hazards. HMPs form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The plan is updated every 5 years.

HMPs also create a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters. During the planning process, organizations in the Warren County HMP Planning Partnership will actively involve private sector, non-profit, and other community partners in the planning process.

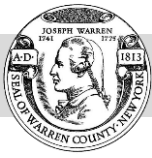
The approach is consistent with a "Whole Community Approach," that seeks to involve the entire community in disaster and hazard planning, said **Jim Lieberum, District Manager of [Warren County Soil and Water Conservation District](#)**, one of the planning partners.

The plan will include a risk assessment and a hazard mitigation strategy. It will focus on existing buildings and potential future development, infrastructure, and critical facilities that might be impacted. Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard, and include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

The update of the plan allows the county and participating jurisdictions to continue to be eligible for grant-funded projects such as home acquisitions or elevations – to either remove houses located in the floodplain to generate open space and increase flood storage or to raise their first floor above the FEMA base flood elevation – and local flood control measures. Ultimately, these actions reduce vulnerability, and communities are able to recover more quickly from disasters.

If you would like more information on how to get involved in this project, contact Lieberum at 518.623.3119 or jiml@warrenswcd.org.

To stay informed about the project, visit: <https://www.warrencountynewyorkhmp.com>.



APPENDIX E SUPPLEMENTARY DATA

This appendix contains information and details to support information provided in Section 5 (Risk Assessment).

E.1 HISTORY OF HAZARD EVENTS WITHIN THE COUNTY

To supplement the information provided in this plan, events prior to the update of this plan are included below by hazard of concern type. Many sources provided historical information regarding previous occurrences and losses associated with hazards throughout New York and Warren County. It is noted that, with a number of sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the sources.

For more information on past events and impacts, refer to the 2017 Warren County Hazard Mitigation Plan.

E.1.1 Earthquake

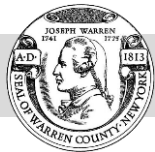
Known earthquakes events that have impacted New York State and Warren County between 1916 and 2023 are identified in Table E.1. Many sources were researched for historical information regarding earthquake events in Warren County; therefore, Table E.1 may not include all earthquake events that have impacted the County.

Table E.1. Earthquake History in New York State, 1916-2023

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
February 3, 1916	Earthquake 4.1	Galway, NY	N/A	N/A	No reference and/or no damage reported.
March 18, 1928	Earthquake 4.1	Paul Smiths, NY	N/A	N/A	No reference and/or no damage reported.
August 12, 1929	Earthquake 4.7	Corfu, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 1931	Earthquake 4.7	Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
April 15, 1934	Earthquake 4.5	Dannemora, NY	N/A	N/A	No reference and/or no damage reported.
January 1, 1966	Earthquake 4.3	Attica, NY	N/A	N/A	No reference and/or no damage reported.
June 13, 1967	Earthquake 4.1	Attica, NY	N/A	N/A	No reference and/or no damage reported.
July 15, 1973	Earthquake 3.4	Long Lake, NY	N/A	N/A	No reference and/or no damage reported.
June 7, 1974	Earthquake 3.3	Wappingers Falls, NY	N/A	N/A	No reference and/or no damage reported.
June 9, 1975	Earthquake 4.2	Altona, NY	N/A	N/A	No reference and/or no damage reported.
November 3, 1975	Earthquake 4.0	Long Lake, NY	N/A	N/A	No reference and/or no damage reported.



Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
September 28, 1977	Earthquake 3.1	Wilmington, NY	N/A	N/A	No reference and/or no damage reported.
April 5, 1978	Earthquake 2.6	Newcomb, NY	N/A	N/A	No reference and/or no damage reported.
August 21, 1978	Earthquake 3.1	Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
December 30, 1979	Earthquake 2.5	North Castle, NY	N/A	N/A	No reference and/or no damage reported.
June 6, 1980	Earthquake 3.5	Port Leyden, NY	N/A	N/A	No reference and/or no damage reported.
August 31, 1982	Earthquake 2.7	Northville, NY	N/A	N/A	No reference and/or no damage reported.
February 26, 1983	Earthquake 3.0	Pawling, NY	N/A	N/A	No reference and/or no damage reported.
October 7, 1983	Earthquake 5.1	Newcomb, NY	N/A	N/A	At Blue Mountain Lake, one old chimney collapsed, about 20 tombstones slid or rotated, and some minor cracks formed in plaster walls. Several landslides were reported. Light damage also occurred at several other towns in the area, but the most common effects were cracked chimneys, broken dishes or glassware and overturned or fallen objects. Although this earthquake caused only minor damage, it was felt over a wide region, including two Provinces in Canada and 12 States.
August 20, 1984	Earthquake 3.2	Chazy, NY	N/A	N/A	No reference and/or no damage reported.
October 19, 1985	Earthquake 3.6	Greenville, NY	N/A	N/A	No reference and/or no damage reported.
September 26, 1987	Earthquake 3.8	Tupper Lake, NY	N/A	N/A	No reference and/or no damage reported.
August 9, 1988	Earthquake 3.5	Massena, NY	N/A	N/A	No reference and/or no damage reported.
June 17, 1991	Earthquake 4.0	Worcester, NY	N/A	N/A	Felt (V) at Carlisle, Charlotteville, Cobleskill, Fly Creek, Fultonham, Herkimer, Howes Cave, Ilion, Morris, New Kingston, New York Mills, Portlandville, Rensselaerville, Seward and Worcester. Felt throughout much of New York from Rochester to Rockland and Westchester Counties. Also felt in northern New Jersey, western Connecticut, western Massachusetts and in parts of New Hampshire, Pennsylvania and Vermont.
March 2, 1995	Earthquake 3.0	Tupper Lake, NY	N/A	N/A	No reference and/or no damage reported.
July 31, 1997	Earthquake 3.2	Lyons Falls, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 2000	Earthquake 3.8	Newcomb, NY	N/A	N/A	Felt at Clifton Park, Crown Point, Greenwich, Ilion, Indian Lake, Lake Bonaparte, Newcomb, Northville, Queensbury, Saranac Lake, Tupper Lake, Vermontville and Wells. Felt at Keene and Swanzey, New Hampshire; Addison, Moretown, Montpelier and Northfield, Vermont. Also felt at Brigham and Sherbrooke, Quebec, Canada.



Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
February 3, 2001	Earthquake 3.2	Bath, NY	N/A	N/A	No reference and/or no damage reported.
April 20, 2002	Earthquake 5.1	Au Sable Forks, NY	DR-1415	Yes	Approximately 12 residents throughout the County reported specific damage to WCDER, including cracked foundations and walls, structural damage, broken doors and windows, and septic system and other utility damage.
July 24, 2007	Earthquake 3.1	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 27, 2008	Earthquake 2.7	Howes Cave, NY	N/A	N/A	No reference and/or no damage reported.
February 18, 2009	Earthquake 2.7	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 20, 2009	Earthquake 2.7	Berne, NY	N/A	N/A	No reference and/or no damage reported.
February 23, 2009	Earthquake 2.1	Berne, NY	N/A	N/A	No reference and/or no damage reported.
March 22, 2009	Earthquake 2.8	Berne, NY	N/A	N/A	No reference and/or no damage reported.
May 18, 2009	Earthquake 3.0	Berne, NY	N/A	N/A	No reference and/or no damage reported.
October 21, 2009	Earthquake 2.9	East Berne, NY	N/A	N/A	No reference and/or no damage reported.
December 13, 2009	Earthquake 3.1	Berne, NY	N/A	N/A	No reference and/or no damage reported.
June 24, 2010	Earthquake	Ottawa, Canada	N/A	N/A	An earthquake centered north of Ottawa, Canada was felt in the Hudson Valley and elsewhere in New York State and across a wide swath of the northeast United States. There were reports of people having felt the event in Warren County, New York. Chestertown residents reported having felt it. There were no reports of injuries or damages in the County.
August 23, 2011	Earthquake 5.8	Mineral, Virginia	DR-4044 (Washington D.C.) DR-4022 (Virginia)	No	A 5.8 earthquake occurred during the afternoon of August 23 rd when a fault near Mineral, VA ruptured. It damaged older buildings, shut down much of Washington D.C. and impacted people from New England to the Carolinas. Many buildings in Virginia and Washington D.C. were damaged as a result of this event.
January 23, 2012	Earthquake 2.3	New York	N/A	N/A	No reference and/or no damage reported.
August 25, 2013	Earthquake 2.7	6 miles S/SE of Warrensburg, NY	N/A	N/A	The USGS confirmed a minor earthquake occurred in the Glens Falls area on the morning of August 25 th . The 2.7 earthquake was centered approximately 6 miles south/southeast of Warrensburg. Residents of Glens Falls, Queensbury, Lake George, and Lake



Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
					Luzerne area all reported having felt the earthquake.
July 24, 2014	Earthquake 1.6	9 miles NW of Hadley, NY	N/A	N/A	No reference and/or no damage reported.
November 13, 2014	Earthquake 1.6	13 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
February 2, 2015	Earthquake 1.9	19 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
May 25, 2015	Earthquake 1.3	19 miles NW of Warrensburg, NY	N/A	N/A	No reference and/or no damage reported.
July 11, 2017	Earthquake 2.5	7 miles NW of Barker, NY	N/A	N/A	No reference and/or no damage reported.
March 21, 2018	Earthquake 2.7	6 miles NW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
May 31, 2019	Earthquake 2.6	4 miles NW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
March 11, 2020	Earthquake 3.1	South Glens Falls, NY	N/A	N/A	No reference and/or no damage reported.
March 29, 2020	Earthquake 2.6	7 miles N of Lyndonville, NY	N/A	N/A	No reference and/or no damage reported.
July 14, 2021	Earthquake 2.8	5 miles NW of Massena, NY	N/A	N/A	No reference and/or no damage reported.
March 15, 2022	Earthquake 2.6	3 miles SW of Warsaw, NY	N/A	N/A	No reference and/or no damage reported.
July 27, 2022	Earthquake 2.5	1 mile SW of Saint Regis Falls, NY	N/A	N/A	No reference and/or no damage reported.
February 6, 2023	Earthquake 3.8	0.5 miles NE of West Seneca, NY	N/A	N/A	No reference and/or no damage reported.

Source(s): NYS DHSES 2014; USGS 2023; FEMA 2016

DR Major Disaster Declaration (FEMA)
 FEMA Federal Emergency Management Agency
 N/A Not Applicable
 NY New York
 USGS U.S. Geological Survey

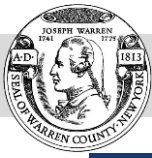


E.1.2 Extreme Temperature

Information regarding specific details of temperature extremes in Warren County is scarce; therefore, previous occurrences and losses associated with extreme temperature events are limited. Table H.2 summarizes the extreme temperature events in the County from 2000 through 2023.

Table E.2. Extreme Temperature Events between 2000 and 2023

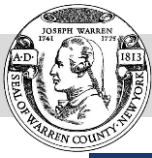
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
March 8, 2000	Excessive Heat	N/A	N/A	The season's first Bermuda type high pumped unseasonably warm air into eastern New York on March 8 and March 9. Temperatures soared well into the 60s at most locations, and touched 70 in a few spots. Even across the Adirondacks, readings climbed well into the 50s to near 60. At the Albany International Airport, the high on March 8 of 66 degrees, eclipsed the old record of 64 set in 1942. On March 9, the high reached 68 degrees, replacing the old record of 66 established in 1977.
January 28-29, 2009	Winter Storm	N/A	N/A	A winter storm spread a significant wintry mix of precipitation across eastern New York State, with heavy snow and sleet across much of the southern Adirondacks into the Lake George Saratoga region. Snow and sleet amounts ranged from 8 to 12 inches across the southern Adirondacks and the Lake George Saratoga region. This wintry mix resulted in the closure of numerous schools and businesses across east central New York for both Wednesday and Thursday mornings, and also created treacherous travel conditions. Snowfall totals in Warren County ranged from 8 to 9 inches in the city of Glens Falls.
February 18, 2009	Winter Weather	N/A	N/A	Winter storm system swept northeast across eastern New York State early Thursday morning, preceded and accompanied by moderate to locally heavy wet snow. The snow began Wednesday afternoon and tapered off early Thursday morning. The heaviest snowfall amounts occurred across the Lake George Saratoga region, where 6 to 10 inches fell.
February 23, 2010	Heavy Snow	N/A	N/A	A powerful storm impacted the region, the second in just a couple of days bringing heavy rainfall and a heavy wet snow to the local area. The heavy wet snow resulted in additional and continued widespread power outages across east central New York, downed trees and power lines, treacherous travel, road closures, train delays, building collapses and snow emergencies. In Warren County, up to 2 feet of snow fell in the west portion of the county in the higher elevations. Route 9N at Pinewoods Road in the Town of Lake Luzerne was reported closed for a couple of hours late Tuesday evening, February 23rd, due to downed power lines. No property damages were reported. Snowfall totals in Warren County ranged from 10.5 inches in



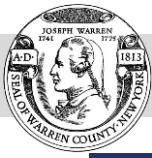
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>the City of Glens Falls to 21.3 inches at the Town of Lake Luzerne.</p>
February 25, 2010	Winter Storm	N/A	N/A	<p>This storm system produced a widespread swath of heavy wet snow across the greater Capital District and surrounding area, the Lake George Saratoga region, the Mohawk River Valley, Schoharie Valley and southern Adirondacks during the day Friday. Snowfall rates of 1 to 2 inches per hour occurred, beginning during the early morning hours, and persisting until late afternoon.</p> <p>Snowfall amounts reached 12 to 15 inches across northern portions of the Capital Region extending into the east central Mohawk River Valley and Lake George Saratoga region. The heavy snow created treacherous travel conditions for the morning and evening commutes on Friday, with numerous accidents reported, including along portions of the Adirondack Northway, as well as Interstate 90. The heavy wet snow also led to numerous school and business closings across much of eastern New York on Friday.</p> <p>Snowfall totals in Warren County ranged from 4 inches at Warrensburg to 24 inches at Garnet Hill in North River hamlet.</p>
July 21, 2011	Excessive Heat	N/A	N/A	<p>Bermuda high pressure dominated the region with broad southwest flow aloft. This flow ushered in hot and humid air. Temperatures across much of east central New York warmed well into the 90s with some locations reaching the century mark in the mid Hudson Valley. On Friday July 22nd in Dutchess County, Rhinebeck reached 104 degrees, Dutchess County Airport in Poughkeepsie reached 102 degrees and Mills Norre State Park came in with 100 degrees. In Columbia County, 101 degrees was reported in Hudson at the Columbia County Airport. The most oppressive day was Thursday, July 21st, due to very high dew points in the 70s. The high humidity, combined with temperatures in the 90s, resulted in heat indices of 105 to 110 degrees up the Hudson River Valley. The New York Independent System Operator (NYISO) reported that New York State's power consumption on the 21st peaked between 4 pm and 5 pm EDT and was the third highest peak on record. A weak boundary marked by a shift in winds and lower dew points moved southward across east central New York on Friday, July 22nd. Dew points dropped into the 50s in the wake of the boundary. However, the boundary did not reach the mid Hudson Valley until late in the day, and this was too late to bring any relief to the oppressive heat and humidity. The boundary dissipated across the area Friday evening. On Saturday July 23rd, temperatures warmed in the 90s, and with dew points in the upper 60s and lower 70s, resulted in heat indices of 100 to 104 degrees across the</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				Capital District, mid Hudson Valley, southern Taconics and southeastern Catskills.
December 10-11, 2013	Winter Weather	N/A	N/A	As very cold air passed over the relatively warm water of Lake Ontario, a heavy, long-lasting band of lake effect snow developed on the evening of the 10 th , extending east across the entire western and southern Adirondacks. By the time the band ended late in the evening of December 11 th , over one foot of snow was common across the western Adirondacks. Snowfall totals included 4.5 inches at Gore Mountain in Warren County.
December 14-15, 2013	Winter Storm	N/A	N/A	A light snow slowly spread across New York State from southwest to northeast during the day on December 14 th , followed by a steadier and heavier snowfall moved across the region during the evening hours and into the overnight. Snow fell at rates in excess of one inch per hour over much of the region and snow rates locally were as high as up to three inches per hour at times. The bulk of the accumulating snow was finished by the late overnight hours, but light snow showers and flurries continued into the mid-morning hours, especially across the Adirondacks and Capital Region. By the end of the storm, many places around the eastern Catskills, Capital Region and Lake George Saratoga Region received around a foot of snowfall. Snowfall totals in Warren County ranged from 9 inches at Brant Lake hamlet to 12.2 inches at the Town of Lake Luzerne.
February 13-14, 2014	Heavy Snow	N/A	N/A	<p>An exceptional winter storm impacted all of eastern New York between Thursday, February 13th and the morning of Friday, February 14th. The snow began falling in the morning hours at rates of up to three inches per hour, causing significant travel issues across the region. After a late afternoon break in the snowfall, heavy precipitation returned in the late evening hours. Once again, the snow fell at significant rates of up to 3 inches per hour. In addition, lightning and thunder accompanied the snow across far southern and eastern areas at times as well. By the time snow ended, between one and two feet of snow fell across much of the Lake George Saratoga Region, with lower amounts of 4 to 10 inches across the Adirondacks. Very strong winds, gusting as high as 40 mph, occurred as the storm pulled away. This led to significant blowing and drifting of the snowfall through the entire day on February 14th.</p> <p>As a result of the storm, Governor Andrew M. Cuomo declared a state of emergency for the Mid-Hudson as well other counties, including Warren, across east central New York. Restrictions were put on travel. Many towns and cities had difficulty with snow removal, as much of the snowfall also remained from a recent early February snowstorm as well. The</p>



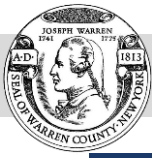
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>weight of snow caused a few roof collapses and power outages across the region.</p> <p>Snowfall totals in Warren County ranged from 6 inches at North Creek hamlet to 12 inches at the Town of Lake Luzerne.</p>
November 26-27, 2014	Nor'Easter / Snowstorm	DR-4204	No	<p>An early season winter storm impacted eastern New York State during Thanksgiving. The storm began the morning of the 26th and once the snow began, it increased in intensity, falling at rates at or greater than one inch per hour. Temperatures dropped to or below freezing across the entire region. There were heavy bands of snow occurring in some locations, especially across the Taconics, Mohawk Valley and southeastern Adirondacks. Snowfall totals ranged from six to 12 inches, with up to 15 inches in the southeastern Adirondacks. The weight of the snow caused power outages in the area, especially across the mid-Hudson Valley. Warren County DPW reported numerous damages, including automobile damages from falling trees and icy conditions, transportation blockages, and phone wires falling on and entangling a truck. Snowfall totals in Warren County ranged from 10 inches at the City of Glens Falls to 14.5 inches at North Creek hamlet.</p>
January 7, 2015	Extreme Cold/Wind Chill	N/A	N/A	<p>Behind an arctic cold front, bitter cold air moved into the region for the night of Wednesday, January 7th. Overnight lows were below zero in most areas, with temperatures as low as -10 to -30 degrees over the Adirondacks and the Lake George and Saratoga Region.</p> <p>With strong northwesterly winds in place, this allowed for winds chill values to be as low as -40 degrees during the late-night hours into the morning hours on Thursday, January 8th. Due to the dangerously cold temperatures, many towns and cities opened shelters and warming stations for residents who needed a place to stay overnight. Many school districts also delayed the start of school due to the extremely cold temperatures and low wind chill values.</p>
February 15, 2015	Extreme Cold/Wind Chill	N/A	N/A	<p>Behind a rapidly developing coastal storm, an extremely frigid Arctic air mass pour into the region from the north, beginning during the late morning hours on Sunday, February 15th. With the developing storm just east of the region, a strong pressure gradient allowed for very strong winds. Northwest winds frequently gusted over 30 MPH, with some gusts as high as 46 MPH through the evening hours.</p> <p>Temperatures fell quickly through the day and dropped below zero for Sunday night into the morning of Monday, February 16th. Some temperatures were as cold as 30 degrees below zero. With winds continuing to be gusty during the overnight and morning hours, wind chill values dropped as low as 15 to 45 degrees below zero.</p>



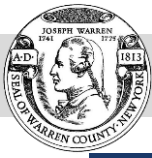
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>With much of the month experiencing cold temperatures, many towns and cities continued to keep warming shelters open.</p>
February 13, 2016	Extreme Cold/Wind Chill	N/A	N/A	<p>Behind an Arctic cold front, very cold temperatures poured into the region upon brisk northwesterly winds. Temperatures dropped through the day on Saturday, February 13th, reaching lows of 8 to 33 degrees below zero across eastern New York on Saturday night. Along with winds gusting 20 to 40 MPH, wind chill values reached 15 to 45 degrees below zero for Saturday night into Sunday morning.</p> <p>The cold temperatures and low wind chills resulted in several water main breaks across the region. About 60 residents of an elderly care facility in Hoosick had to spend the night at a fire station as a result of a burst water pipe. In addition, the Red Cross responded to 17 emergency calls over the weekend, including for house fires in Albany, Schodack and Gilboa. Around \$3000 of aid was given to families affected by these fires.</p>
February 12, 2017	Extreme Cold/Wind Chill	N/A	N/A	<p>Two low pressure systems approached the northeastern US on Sunday, February 12, with snowfall breaking out over the local area around sunrise. The snow was heavy during the morning and early afternoon, with accumulation rates of 1 to locally 2 inches per hour at times. The snow was wet and dense and readily clung to trees.</p> <p>In total, 7 to 12 inches of snowfall occurred through most of the local area, with lesser totals over southern portions of the region where sleet occurred. Car accidents were reported, and snow emergencies were in effect throughout the region, and Route 28 in Herkimer County was closed for a time due to several accidents. On February 13, strong winds developed on the back side of the system. The strongest winds targeted the Catskills and Mid-Hudson Valley, where several trees were downed and over 14,000 power outages were reported. Dutchess County Airport in Poughkeepsie recorded a 59 mph wind gust.</p>
December 22, 2017	Winter Storm	N/A	N/A	<p>A complex storm system brought snow and a wintry mix to the region on Friday, December 22nd through Saturday, December 23rd, 2017. The precipitation started out as snow on Friday, but transitioned to a wintry mix by Friday night. Freezing rain lingered through the day Saturday as a warm front lifted through the region, especially for sheltered mountain valley areas. Snowfall totals ranged from a trace in the Mid-Hudson Valley up to 8.5 inches in the Adirondacks (Hamilton county) along with light icing as well. A few spots in the Mohawk Valley and Saratoga Region saw up to two tenths of an inch of ice.</p>
February 7, 2018	Winter Storm	N/A	N/A	<p>A winter storm brought mixed wintry precipitation to the region. Precipitation began as snow during the morning hours but changed to a mix of sleet, freezing rain and snow during</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>the afternoon hours, mixing as far north as the town of Schenectady. Precipitation transitioned back to snow during the evening hours before exiting the region northwest to southeast. Snowfall and sleet totals ranged from 1 inch to 12 inches, with the higher totals generally north and west of the Greater Capital District.</p>
July 1, 2018	Excessive Heat	N/A	N/A	<p>A hot and humid airmass brought excessively high heat indices to eastern New York from the beginning of July through the Independence Day holiday. Temperatures soared as high as 99 degrees on July 1st, the hottest day of the stretch. Combined with dewpoints in the mid-70s, heat indices reached near 110 degrees in the warmest valleys. July 5th marked the sixth consecutive day reaching a temperature of 90 degrees at Albany and Glens Falls, and a seventh consecutive day at Poughkeepsie. In addition to the hot daytime temperatures, overnight low temperatures only falling into the 70s was common, which exacerbated heat-related problems. The extensive heat prompted the opening of many cooling centers across the region.</p>
November 15, 2018	Winter Storm	N/A	N/A	<p>A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to eastern New York. The Mid-Hudson Valley and eastern Catskills were hit hardest with 8 to 14 inches of snow, most of which occurred during the evening hours. The snow spread in during the evening rush hour with one to three inches per hour accumulation, snarling traffic and resulting in numerous accidents. The southern Adirondacks also saw 6 to 12 inches of snowfall, while totals for the remainder of eastern New York generally ranged from 4 to 8 inches. The snow changed to sleet and freezing rain overnight in many areas with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending.</p>
January 19, 2019	Winter Storm	N/A	N/A	<p>The largest snowstorm to date in the 2018-19 winter occurred on January 19th and 20th across eastern New York. Low pressure formed over the lower Mississippi Valley and lifted northeast across the Tennessee Valley during the night of the 19th before moving along the Mason-Dixon line on the 20th. Strong rising motion occurred as southerly winds aloft transported moist air northward, which was lifted over the cold airmass in place over eastern New York. Snowfall broke out during the afternoon of the 19th, continuing heavy at times into the evening and overnight hours before ending during the morning of the 20th. The strong southerly flow brought above-freezing air aloft into the region, causing the snow to turn to sleet as far north as the Capital District and northern Catskills for a time before turning back to snow. Further south, the air aloft was warm enough to turn the</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				precipitation to freezing rain with ice accretion of one to three tenths of an inch over portions of the southeast Catskills, Mid-Hudson Valley, and southern Taconics.
July 20, 2019	Excessive Heat	N/A	N/A	<p>A heat wave gripped eastern New York from July 19th through the 21st. Temperatures soared into the low to mid-90s with dewpoints in the low to mid-70s. This resulted in heat index values in the 100 to 110 range in the warmest spots of the Hudson Valley. Saturday, July 20th was the hottest day for most areas. Due to the excessive heat, area cities extended hours for pools and cooling centers, and Saturday's races at the Saratoga Race Course were cancelled due to the heat for the first time since August 2006.</p> <p>The hot and humid airmass provided fuel for thunderstorms that formed along the Lake Ontario shoreline during the late afternoon of the 20th. Two clusters of storms moved from the Mohawk Valley through the Capital District and into the Taconics during the evening, resulting in several reports of wind damage. The storms knocked out power to over 1,700 customers in Schenectady and Saratoga Counties.</p>
December 29, 2019	Winter Storm	N/A	N/A	A complex winter storm brought a mix of rain, snow, sleet and freezing rain to the region from the evening of Sunday, December 29th, lingering through the morning of Tuesday, December 31st, 2019. Heavy accumulations of ice impacted portions of the eastern Catskills, Mohawk Valley and the southern Adirondacks during this time frame. There were approximately 10,000 people without power across the state due to a combination of icy conditions and strong winds bringing down trees and power lines.
March 23, 2020	Winter Storm	N/A	N/A	A late season snowfall impacted the region on Monday, March 23rd, 2020. This was brought on by an anomalously cold air mass interacting with a coastal low pressure system. Snowfall totals ranged from an inch in the Mid-Hudson valley up to almost 10 inches in the southern Adirondacks and northern Lake George Saratoga region. The lower amounts were mainly confined to the Lower Hudson Valley due to a rain and snow mix throughout much of the day. Snow intensity increased during the late afternoon and early evening hours impacting the evening commute. As a result, a tractor trailer crashed on Interstate 87 South prompting portions of the interstate to be closed.
February 3, 2022	Winter Storm	N/A	N/A	A prolific winter storm began on Thursday, February 3 and continued into Friday, February 4. Precipitation began as rain for most areas on February 3 with the exception of the Adirondacks which began as a mix of rain and snow. Colder air gradually pushed southward into the overnight and early morning hours of February 4 resulting in a changeover to a wintry mix of sleet, freezing rain and snow. Most locations picked up 1 to 2 inches of liquid equivalent precipitation from



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>this event with the majority of it falling as one or multiple types of frozen precipitation. Precipitation ended during the afternoon hours on February 4. Utility companies noted that more than 50,000 customers lost power from the storm across the Hudson Valley, most of them in eastern Ulster County. At least 44 utility poles broke and more than 900 power lines came down as a result of the snow and ice with more than 500 individual damage locations.</p>
November 18, 2022	Severe Winter Storm	EM-3589	N/A	<p>Following the passage of a strong cold front, bands of lake effect snow developed off Lake Ontario impacting portions of the Adirondacks and Mohawk Valley and also extending into the Hudson Valley. This resulted in multiple car accidents across the Hudson Valley with one occurring Sunday morning and the others Sunday evening. Additionally, the band of lake effect snow over Herkimer County resulted in several inches of accumulation over parts of the county. In addition to the snows, it was also blustery with winds gusting between 25-45 mph over the area.</p>
December 23, 2022	Severe Winter Storm	EM-3590	N/A	<p>Two separate frontal systems merged to form a powerful winter storm over the Great Lakes from December 22 to December 24 bringing multiple hazards to the region including heavy rain, snow, strong winds and a very cold air mass in its wake. Widespread rainfall amounts of 1 to 3 inches were observed with some localized amounts of 4 inches. The combination of the rain and snowmelt in some places resulted in some flooding and some creeks to overflow their banks. Strong pre-frontal and post-frontal winds occurred with this event with widespread wind gusts of 40 to 55 mph. Such winds resulted in some downed trees and power lines as well as minor damage to some structures. A few power outages occurred as a result. Snow showers in the wake of the cold front brought mainly light accumulations. However, a pocket of more moderate snow occurred across the northern and central Taconics with snowfall amounts in the 4-to-8-inch range. Much colder air built into the region in the wake of the front which, combined with the strong winds, led to wind chill values as low as 15 to 25 degrees below zero in some areas.</p>
January 22, 2023	Winter Storm	N/A	N/A	<p>With eastern New York in the cold sector of a coastal low pressure system, a swath of moderate to heavy snow fell across a good portion of the area Sunday evening/night into Monday before ending Monday afternoon. The winter storm proved impactful resulting in car crashes and power outages. Some schools and businesses also closed as a result of the storm.</p>
March 13, 2023	Winter Storm	N/A	N/A	<p>A powerful Nor'Easter resulted in widespread moderate to heavy wet snow and gusty winds across eastern New York March 13-March 15, 2023. Anywhere from 15 to 30 inches of snow with locally higher amounts in excess of 30 inches fell</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				over the SW Adirondacks and eastern Catskills. Valley locations received lesser amounts with totals generally ranging between 7 to 15 inches. A few locations across the western Mohawk Valley and mid-Hudson Valley received less than 6 inches of snow. Numerous downed trees and powerlines resulted in widespread power outages. According to the National Grid, approximately 141,000 customers lost power within the state of New York with most occurring within our county warning area. Some locations were without power for at least 1 or 2 days.

Sources: NYS DHSES 2014; USGS 2023; FEMA 2016

NOAA-NCDC National Oceanic Atmospheric Administration – National Climatic Data Center

NWS National Weather Service

NYS New York State

E.1.3 Flood

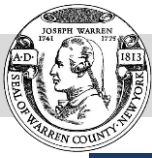
Known flooding events that occurred from 1996 to 2022 are identified in Table E.3. With flooding documentation for New York State and Warren County being so extensive, not all sources have been identified or researched. Therefore, Table E.3 may not include all events that have occurred in the County.

Table E.3. Flooding Events in Warren County Between 1996 and 2022

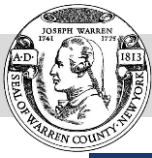
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 19, 1996	Flooding	N/A	N/A	In Lake George Village widespread flooding occurred and seven families had to be evacuated. Many roads were closed throughout the county due to flooding including 16 county roads. Significant damage was also incurred to many state roads. Routes 9 and 9N were closed from Lake George north. Route 418 was closed at the Hudson River Bridge and along route 8 a 150 foot section was washed out between Brant Lake and Hague.
January 8, 1998	Flooding	N/A	N/A	From January 8 to January 12, the Hudson River flooded from its headwaters to where it crosses into Greene and Columbia Counties, due to a combination of significant rain and snowmelt. In Hamilton and Warren Counties, the river rose to heights that came close to the flood of record. Flood damage in this area was kept to a minimum due to its flow through undeveloped areas and vacation property which was secured for the winter.
April 1, 1998	Flooding	N/A	N/A	Due to rapid snowmelt at the end of March and beginning of April, rather severe flooding continued along the Schroon River in Warren County. The flood waters affected river front homes, State Highway 418 between Warrensburg and Thurman Station and forced the closure of a bridge at Starbuckville. The river at Riverbank crested at 9.3 feet during the afternoon of April 2.
February 28, 2000	Flooding	N/A	N/A	A warmup at the end of February, began melting the winter snowpack fairly quickly and helped break up an extensive ice pack on the upper Hudson and Mohawk Rivers. As a result, ice jams developed on the Mohawk and Hudson rivers. During the night of February 27 and 28, rainfall accumulated between one half and one inch and a half across eastern New York. The rains



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				exacerbated the runoff, which resulted in the flooding of the Mohawk and Hudson rivers, as well as some smaller streams. Most of the flooding was minor. There were no casualties directly related to this flooding, reported to the National Weather Service.
April 16, 2001	Flooding	N/A	N/A	he runoff from rapid snowmelt, caused the Schroon River in Warren County to rise out of its banks around midday, on April 16th. The gage at Riverbank reached the flood stage of 7.0 feet at that time. The river continued to swell, and did not crest until the gauge reached 10.1 feet, early on April 24. This was the highest level recorded in 50 years. Portions of Route 413 became inundated, as did many homes in the towns of Chester, Pottersville, Horicon and Warrensburg. A number of residents had to be evacuated and a few bridges were closed.
March 30, 2003	Flooding	N/A	N/A	An area of low pressure, moving along a slow moving cold front on March 29 and 30, produce 1 to 2 inches of rainfall across eastern New York. The rain, combined with seasonably mild temperatures, melted most of the remaining snow pack across much of eastern New York. The combination of the rain and mild temperatures, produced another significant runoff which caused some additional minor flooding.
April 2, 2004	Flooding	N/A	N/A	As much as three inches of rain fell between March 31 through April 2 across eastern New York. This rain combined with the last of the snow melt to produce an excessive runoff of water. As a result, the Schroon River in Warren County briefly reached above flood stage on the evening of April 2. No problems were reported to the National Weather Service as a result of this flooding.
May 1, 2006	Flooding	N/A	N/A	On May 1, at Riverbank, the Schroon River had some lingering flooding from heavy rainfall during the last week in April. The water level dropped below the 7-foot Riverbank flood stage at 18:45 EST.
April 20, 2007	Flooding	N/A	N/A	Warm temperatures from April 19th to April 24th led to rapid melting of a deep snowpack across much of the Adirondacks. Antecedent water equivalent in the snow pack ranged from 6 to 16 inches. This rapid melting led to flooding of many rivers that drain the Adirondacks. In addition, releases from Sacandaga Lake perpetuated the flooding on some rivers through the end of the month.
March 5, 2008	Flooding	N/A	N/A	A low-pressure system tracked northeast from the lower Ohio Valley on Tuesday March 4th, into south central New York State by Wednesday morning on March 5th. Abundant moisture was associated with this system, which led to widespread heavy rainfall across much of east central New York and western New England, which began late Tuesday night, and persisted into early Wednesday afternoon. Rainfall amounts of 1 to 3 inches fell during this event. This heavy rainfall, in combination with frozen ground and snowmelt led to flooding in many areas within the Capital Region, as well as within the Lake George and Saratoga region, the Schoharie Valley, the eastern Catskills and mid Hudson Valley.
April 9, 2008	Flooding	N/A	N/A	he melting of a deep snowpack led to moderate or higher river flooding across portions of the upper Hudson River basin, including the Schroon River, Lake Champlain, and the Great Sacandaga Lake. Snow water equivalents of nearly one foot began to melt during a warm period beginning around April 10th,



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				and led to river flooding which persisted through the end of April. Along the Schroon River, at least one permanent home, along with a few summer camps were flooded. On the Hudson River near Schuylerville, a sod farm suffered estimated losses of \$225,000 due to prolonged submersion of sod in Hudson River flood waters. In addition, the New York State Canal Corporation was unable to open the Hudson-Champlain Canal in April due to high water levels.
March 31, 2010	Severe Storms and Flooding	DR-1899	Yes	Moderate to heavy rain fell across east-central New York State. The ground was already nearly saturated from recent snow melt, causing rivers and streams to run high. Flooding from this event caused damage to numerous roads in the northern section of Warren County. In the Town of Johnsbury, a bridge was reported washed out on Harrington Road due to a possible beaver dam break along Johnson Brook. Overall, the County had approximately \$25,000 in property damage from this event.
October 1, 2010	Flooding (Remnants of Tropical Storm Nicole)	N/A	N/A	The remnants of Tropical Storm Nicole brought very heavy rains to east-central New York State. Rainfall totals from this storm ranged from three to nine inches, resulting in widespread river and small stream and urban flooding, including water in basements. In Warren County, there was standing water reported in the City of Glens Falls at the intersection of Sherman Avenue and Elm Street due to the heavy rains.
March 8-12, 2011	Ice Jam	N/A	N/A	An ice jam began to form on March 7 th near the Route 28N bridge in the hamlet of North Creek (Town of Johnsbury). The water that backed up from the ice jam began flooding Old River Road on March 10 th , prompting the evacuation of some residents and forced the closing of the road. The water began to recede on March 13 th when the ice jam release and moved downstream. As the ice jam moved down the river, it ripped trees from the river bank and then became lodged along the Route 418 bridge in the Town of Thurman on the evening of March 13 th . Overall, damage was reported at the County fish hatchery in the Town of Warrensburg and damage to a recreational property from North Creek downstream to Lake Luzerne.
April 28-30, 2011	Severe Storms, Flooding, Tornadoes, and Straight-Line Winds	DR-1993	Yes	Heavy showers and thunderstorms impacted the western and central Mohawk Valley, Adirondack region, and the Upper Hudson River Valley, including the Lake George Region (Warren County). Thunderstorms produced severe weather and very heavy rainfall. The combination of the rainfall and rapid snowmelt due to warm temperatures led to increased runoff and rapid river rises. In Warren County, flooding from this event covered nearly two-thirds of the County. Flooding occurred along the Hudson River in the County from North River southward to the Saratoga County line. Numerous municipalities reported flooding of roadways, houses, and riverside camps. Some properties had several feet of water in them. Many major roadways were closed



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>in the County due to flooding. The North Creek Trailer Park on Route 28 in the Town of Johnsbury was evacuated because water from the Hudson River entered the park. A mudslide in excess of 200 feet occurred on 13th Lake Road in North River/North Creek.</p> <p>In the hamlet of North Creek (Town of Johnsbury), a couple hundred feet of railway tracks were reported under two to five feet of water with several buildings at the train station being flooded as well. In the Town of Stony Creek, the 1,000 Acres Golf Course was flooded with the 9th green under eight feet of water.</p> <p>Flood water receded through April 30th. The County had approximately \$676,000 in property damage from this event.</p>
May 27 – June 2, 2011	Flooding	N/A	N/A	<p>Flooding caused severe damage along a thin line through the County and impacted the Towns of Stony Creek, Thurman, Warrensburg, Horicon, and Bolton. The County had \$13.125 million in damages from this event.</p>
August 28-30, 2011	Hurricane Irene	DR-4020	Yes	<p>The greatest impact of Irene in eastern New York State was heavy to extreme rainfall which resulted in catastrophic flooding across portions of the region. Rainfall amounts averaged between four and eight inches with amounts of up to 12 inches falling in the eastern Catskills and Schoharie Valley. Three to six inches were common across the Lake George and Saratoga regions. The rainfall resulted in widespread flash flooding and river flooding across eastern New York State. Bridges were closed on major roadways in this area of the State.</p> <p>In Warren County, there was severe wind and flood damage throughout. In the Town of Lake George, Route 9N was flooded from the Route 9/9N spilt south to the ramp for Exit 21 for the Northway. Route 9L was also flooded between Route 9N and Bay Road. Two of the seven docks in the Village of Lake George floated off and were crushed.</p>
October 27 – November 8, 2012	Hurricane Sandy	EM-3351	Yes	<p>Hurricane Sandy moved up the east coast of the United States during the last week of October 2012. As the storm made landfall in southern New Jersey, bands of rain moved across eastern New York State. Rainfall totals in this part of the State were minimal and did not cause any flooding. The storm did bring strong and gusty winds to the area, bringing down trees and power lines across the region. Wind gusts ranged from 40 to 60 mph.</p> <p>In Warren County, wind gusts of 65 mph pushed down the length of Lake George, creating waves that threatened to spill over the shoreline. Some of the docks along the Lake were damaged but flooding did not occur. In Glens Falls, trees and wires were knocked down from the winds.</p>
February 1, 2013	Ice Jam	N/A	N/A	<p>Massive ice chunks of up to 10 feet thick in spots, broke off near North Creek in Warren County. This created an ice jam on the upper Hudson River near the Town of Thurman. As the ice</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				chunks became lodged, they caused the water behind them to jump the banks, with more than 100 yards of River Road in Thurman over 10 feet of ice chunks. The water receded by midday and the town highway department had to use loaders and backhoes to remove the ice from the roadway.
June 28, 2013	Severe Storms and Flooding	DR-4129	Yes	<p>Heavy rain fell across the Mohawk Valley and western Adirondacks with rates of one inch per hour with three to five inches of rain falling in total. This event, with the combination of a previous rainfall event, led to significant flash flooding across both the Mohawk Valley and Adirondacks. Many roads were washed out and closed. Urbanized areas along the Mohawk River experienced flooding as well. Many communities declared state of emergencies and President Obama signed a major disaster declaration for New York State which included Herkimer, Montgomery and Warren Counties.</p> <p>In Warren County, the Town of Johnsbury experienced severe flooding from this event. Flash flooding occurred in the Bakers Mill section of the Town. Water rescue teams were deployed to several homes that were threatened by flooding. A state of emergency was declared for the Town as a result of flooding.</p>
January 12, 2014	Ice Jam	N/A	N/A	Harrington Road in the Town of Thurman had ice up to scraper banks in some locations and Glen Creek Road was closed due to flooding caused by an ice jam on the Hudson River.
April 13-21, 2014	Flooding	N/A	N/A	<p>Significant snow pack began to melt as a result of an extended period of warm weather. Up to 10 inches of liquid equivalent started melting between April 8th and April 15th. The snow melt caused many rivers and streams in and around the Adirondacks to become very high with a few reaching flood stages just from the snow melt.</p> <p>Heavy rain began to fall in the region on April 15th, bringing up to two inches of rain in the area. The rainfall, combined with the snow melt, caused many rivers to reach moderate flood stage. By April 21st, all rivers in the area were below flood stages.</p> <p>In Warren County, the Schroon River reached major flood stage and remained at this stage for several days. The flooding caused several private roads of homes and vacation properties to be impacted by water. Roads were closed due to flooding in the County.</p>
May 13-22, 2014	Flooding	N/A	N/A	A culvert was washed out in the County.
January 13, 2018	Flooding	N/A	N/A	After a frigid end of December and beginning of January, an unseasonably warm airmass was pumped into New York on January 12th on southerly winds. The temperatures reached the 50s and 60s during the day. Showers also developed in the warm



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				airmass ahead of a cold front and were heavy at times, with some locations receiving one to three inches of rainfall. The combination of warm temperatures and heavy rainfall caused river ice to dislodge and resulted in ice jams in spots. Flooding occurred due to a combination of ice jam movement and heavy rainfall. Several roads were closed or damaged and a water rescue had to be performed near the Hoosic River in Rensselaer County. After the strong cold front passed, many ice jams and their associated flooding froze back in place, resulting in road closures continuing for several days in some areas.
February 22, 2018	Flood	N/A	N/A	A large ice jam remained in place on the Mohawk River for much of the month of February and was one of the biggest ice jam seen in decades, according to Union College professor John Garver. The ice jam stretched up to 17 miles from Rexford to Crane Hollow throughout the month in February. The ice jam mainly remained in place into late February and received a large amount of media and government attention. Albany County was concerned about impacts downstream if the jam were to give way quickly. Temperatures skyrocketing into the 60s and 70s on February 20-21 coupled with around 0.50-1.00 rainfall on the 19th over the Mohawk basin allowed river levels to rise and flooding occurred by the 21st within the Stockade neighborhood of Schenectady and across the river in Scotia, as well as backwater flooding of the Alplaus Kill. A substantial portion of the ice jam gave way during the early morning hours of the 22nd, leading to concern for flooding in the downstream communities, but it turned out that impacts were minimal. There were some road closures in the Rotterdam Junction and Schenectady area due to the ice jam movement and breakage. The remainder of the jam gradually broke up over the next week or so with little impact.
April 20, 2019	Flood	N/A	N/A	Heavy rain, combined with snow melt from the Adirondacks, caused the Schroon River at Riverbank to rise above flood stage for several days. River levels reached moderate flood stage on Saturday, April 20th and remained there through Thursday, April 25th. The high water levels resulted in water making its way into numerous homes and onto several roads across northern Warren county. No homes were evacuated.
November 1, 2019	Flood	N/A	N/A	The Hudson River at Hadley reached moderate flood stage at 1000EST 1 November, rising to a crest of 17.96 feet at 1545EST. It fell below moderate flood stage buy 0118EST 2 November. The floodwaters reached some riverside streets in the Lake Luzerne area, including Stephen Lane where residents were evacuated. A residence on East River Drive sustained damage to basement walls as a result of the flooding.
February 18, 2022	Flood	N/A	N/A	A storm system pushed across the region during February 17-18, 2022. Warm air pushed northward into the region along with periods of rainfall before a cold front brought the return of windy



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				and colder weather. A convective line of gusty showers also accompanied the cold frontal passage. Some locations picked up over 1 inch of rainfall which led to minor flooding in a few locations.
April 8, 2022	Flood	N/A	N/A	A slow-moving frontal system produced widespread heavy rainfall and flooding across eastern New York from April 7-8, 2022. Rainfall amounts between 1.50 and 3.00 inches were common, though a few localized areas received upwards of 4.50 inches. Periods of light to moderate rainfall began during the daytime hours on April 7 with the steadiest and heaviest rainfall arriving during the evening hours on April 7 into the overnight hours on April 8 before ending. This heavy rainfall led to over a dozen rivers to exceed minor flood stage with a few rivers reaching moderate flood stage. For some, it took days after the event for waters to recede. In addition to the heavy rainfall and widespread flooding, strong winds developed across portions of the Taconics with peak gusts in the 35-50 mph range. The combination of rain and wind led to only sporadic power outages.

Source: NYSDEC 2015; FEMA 2015; NOAA-NCDC 2015; NWS 2015

Note (1): Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of increased U.S. Inflation Rates.

- DR Federal Disaster Declaration
- EM Federal Emergency Declaration
- FEMA Federal Emergency Management Agency
- IA Individual Assistance
- K Thousand (\$)
- M Million (\$)
- N/A Not applicable
- NCDC National Climate Data Center
- NOAA National Oceanic Atmospheric Administration
- NWS National Weather Service
- NYS DHSES New York State Division of Homeland Security & Emergency Services
- PA Public Assistance
- SHELDUS Spatial Hazard Events and Losses Database for the U.S.
- USACE U.S. Army Corps of Engineer

E.1.4 Severe Storm

Known severe storm events that occurred from 1978 to 2013 are identified in Table H.4. As severe storm documentation for New York State and Warren County is extensive, not all sources have been identified or researched. Therefore, Table H.7 may not include all events that have occurred in the County.

Table E.4. Severe Storm Events between 1978 and 2013

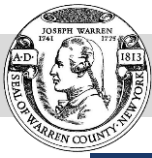
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
May 9, 1978	Tornado	N/A	N/A	F1 tornado traveled a distance of approximately 1.2 miles in an area between Lake Luzerne and Glens Falls



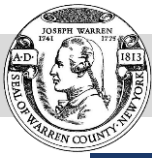
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
April 18, 1985	Tornado	N/A	N/A	F0 tornado was spotted between Route 149 and French Mountain Road. The total path of the storm was about 2 to 2.5 miles. Due to sparse population and hilly terrain, damage was limited. Some debris was found a mile or two from its original site.
July 19, 1989	Thunderstorm Wind	N/A	N/A	An early morning wave of thunderstorms produced hail and strong gusty winds. Wind damage caused downed trees, tree limbs, and power lines. Two persons were injured when a tree fell onto a vehicle during high thunderstorm winds.
July 6, 1999	Thunderstorm Wind	N/A	N/A	A cold front moved from the Great Lakes eastward across New York State on July 6. With sultry air in place, and favorable strong winds aloft, this front triggered the largest outbreak of severe weather in eastern New York since May 31st, 1998. A squall line developed around midday ahead of the front and produced the most damage. However, more thunderstorm cells continued developing and some of these became severe into the evening hours. Nearly every county in eastern New York experienced some wind damage. Rensselaer, Warren, Washington, Herkimer, Saratoga and Schenectady Counties were especially hard -hit. Powerful thunderstorms brought down trees and power lines in many localities. Unfortunately, a falling tree killed a camper located on Uncas Island on Lake George. Two other individuals were injured as they lost control of their car avoiding a falling tree at Diamond Point near Lake George.
August 9, 2001	Thunderstorm Wind	N/A	N/A	A lake breeze front off Lake Ontario, interacted with a hot and humid air mass, to trigger a thunderstorm cluster in western New York during the late afternoon of August 9. As the thunderstorm complex reached the Mohawk Valley, it evolved into a supercell. The supercell then developed into a mesoscale convective system (MCS) as it move into the Lake George / Saratoga region and into the northern Taconics. Wind damage then spread into Warren County, as power lines were blown down in both the villages of Lake Luzerne and Lake George.
June 6, 2005	Thunderstorm Wind	N/A	N/A	Trees and power lines down county-wide. A tree crashed through house in Queensbury. Part of Bay Road and Route 149 closed by downed trees or limbs. Additional trees fell on homes in Fort Edward, Granville, Queensbury and Argyle.
September 27, 2007	Thunderstorm Wind	N/A	N/A	A nearly stationary frontal boundary across central New York State gradually moved east during Thursday afternoon on September 27th. With a very warm, moist and unstable air mass in place to the east of this boundary, scattered strong to isolated severe thunderstorms developed across portions of eastern New York State Thursday afternoon and evening.
March 13 – 31, 2010	Severe Storms and Flooding	DR-1899	Yes	A low pressure system tracked northeast over northeastern United States on March 23rd, bringing a moderate to heavy rainfall to east central New York. The ground was already



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>nearly saturated from recent snow melt, causing rivers and streams to run high. In Warren County, a bridge was reported washed out on Harrington Road in the Town of Johnsbury due to a possible beaver dam break along Johnson Brook. The County reported a total of \$25,000 in property damage.</p>
October 1, 2010	Flooding (Remnants of Tropical Storm Nicole)	N/A	N/A	<p>The remnants of Tropical Storm Nicole brought very heavy rains to east-central New York State. Rainfall totals from this storm ranged from three to nine inches, resulting in widespread river and small stream and urban flooding, including water in basements. In Warren County, there was standing water reported in the City of Glens Falls at the intersection of Sherman Avenue and Elm Street due to the heavy rains.</p>
April 28-30, 2011	Severe Storms, Flooding, Tornadoes, and Straight-Line Winds	DR-1993	Yes	<p>Heavy showers and thunderstorms impacted the western and central Mohawk Valley, Adirondack region, and the Upper Hudson River Valley, including the Lake George Region (Warren County). Thunderstorms produced severe weather and very heavy rainfall. The combination of the rainfall and rapid snowmelt due to warm temperatures led to increased runoff and rapid river rises.</p> <p>In Warren County, flooding from this event covered nearly two-thirds of the County. Flooding occurred along the Hudson River in the County from North River southward to the Saratoga County line. Numerous municipalities reported flooding of roadways, houses, and riverside camps. Some properties had several feet of water in them. Many major roadways were closed in the County due to flooding. The North Creek Trailer Park on Route 28 in the Town of Johnsbury was evacuated because water from the Hudson River entered the park. A mudslide in excess of 200 feet occurred on 13th Lake Road in North River/North Creek. In the hamlet of North Creek (Town of Johnsbury), a couple hundred feet of railway tracks were reported under two to five feet of water with several buildings at the train station being flooded as well. In the Town of Stony Creek, the 1,000 Acres Golf Course was flooded with the 9th green under eight feet of water. Flood water receded through April 30th. The County had approximately \$676,000 in property damage from this event.</p>
May 27 – June 2, 2011	Flooding, Thunderstorm Wind, Hail (Memorial Day Storm)	N/A	N/A	<p>A combination of individual storms caused severe damage along a thin line through the County and impacted the Towns of Stony Creek, Thurman, Warrensburg, Horicon, and Bolton. A swath of heavy rainfall which fell in just a few hours causing flash flooding, resulting in road closures with significant damage to many roadways, washed-out culverts and a least a couple of washed-out bridges. In addition, a few of the storms</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>were severe producing large hail up to the size of a golf ball and some trees were downed by strong thunderstorm winds. It was reported that seven area fire departments, three EMS crews, the Warren County Sheriff's Office, State Police, along with state, county and local highway departments all responded to the flooding.</p> <p>Numerous trees were reported down on wires in Chestertown, as well as in Thurman, and Warrensburg. Nickel size hail was reported in Chestertown and Stony Creek, quarter size hail was reported in Hague, ping-pong ball size hail was reported in Thurman, and golf ball size hail was reported in Warrensburg.</p> <p>The County had \$13.125 million in damages from this event.</p>
August 28-30, 2011	Hurricane Irene	DR-4020	Yes	<p>The greatest impact of Irene in eastern New York State was heavy to extreme rainfall which resulted in catastrophic flooding across portions of the region. Rainfall amounts averaged between four and eight inches with amounts of up to 12 inches falling in the eastern Catskills and Schoharie Valley. Three to six inches were common across the Lake George and Saratoga regions. The rainfall resulted in widespread flash flooding and river flooding across eastern New York State. Bridges were closed on major roadways in this area of the State.</p> <p>In Warren County, wind and flood damage occurred throughout the county. The most severe was limited to the Lake Champlain Watershed area, located on the eastern side of the County, and in the Lake George and West Mountain areas. In the Town of Lake George, Route 9N was flooded from the Route 9/9N spilt south to the ramp for Exit 21 for the Northway. Route 9L was also flooded between Route 9N and Bay Road. Two of the seven docks in the Village of Lake George floated off and were crushed.</p>
October 27 – November 8, 2012	Hurricane Sandy	EM-3351	Yes	<p>Hurricane Sandy moved up the east coast of the United States during the last week of October 2012. As the storm made landfall in southern New Jersey, bands of rain moved across eastern New York State. Rainfall totals in this part of the State were minimal and did not cause any flooding. The storm did bring strong and gusty winds to the area, bringing down trees and power lines across the region. Wind gusts ranged from 40 to 60 mph.</p> <p>In Warren County, wind gusts of 65 mph pushed down the length of Lake George, creating waves that threatened to spill over the shoreline. Some of the docks along the Lake were damaged but flooding did not occur. Numerous private boats were sunk or damaged. In Glens Falls, trees and wires were knocked down from the winds.</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
June 28, 2013	Severe Storms and Flooding	DR-4129	Yes	<p>Heavy rain fell across the Mohawk Valley and western Adirondacks with rates of one inch per hour with three to five inches of rain falling in total. This event, with the combination of a previous rainfall event, led to significant flash flooding across both the Mohawk Valley and Adirondacks. Many roads were washed out and closed. Urbanized areas along the Mohawk River experienced flooding as well. Many communities declared state of emergencies and President Obama signed a major disaster declaration for New York State which included Herkimer, Montgomery and Warren Counties.</p> <p>In Warren County, the Town of Johnsbury experienced severe flooding from this event. Flash flooding occurred in the Bakers Mill section of the Town. Water rescue teams were deployed to several homes that were threatened by flooding. A state of emergency was declared for the Town as a result of flooding.</p>
July 8, 2014	Tornado	N/A	N/A	<p>A very warm and humid air mass was in place over the region on Tuesday, July 8th. The region was ahead of a strong cold front that was moving eastward from the Great Lakes Region. Aided by a strong jet streak aloft and a potent upper-level shortwave trough, the cold front triggered a line of thunderstorms that produced damaging winds across western and central New York. It continued to produce strong winds, which caused damage across the Adirondacks and Mohawk Valley and eventually into the Saratoga area, Capital Region and Hudson Valley as well. In addition, a weak, brief tornado also occurred in the southeastern Adirondacks in North Creek. The line of thunderstorms moved eastward and weakened as they reached the border with New England by the late evening hours.</p>
May 29, 2020	Tornado	N/A	N/A	<p>A couple of rounds of strong to severe thunderstorms impacted eastern New York during the afternoon and evening of the 29th. The first was a couple of isolated cells that produced sporadic wind damage from portions of the Capital District into the Glens Falls area. The second was a broken line of storms that produced a more widespread swath of wind damage in the greater Saratoga-Glens Falls area. An EF1 tornado formed within this line, impacting the area from Lake Luzerne to Glens Falls. Low-hanging wires resulted in the closure of Interstate 87 between exits 17 and 19. More than 8,000 customers lost power in Warren and northern Saratoga Counties due to the storms.</p>
August 29, 2020	Tornado	N/A	N/A	<p>Thunderstorms developed over portions of eastern New York during the afternoon of the 29th. A couple of these storms produced hail up to ping pong ball size. They later spawned two EF1 tornadoes in the towns of Stillwater and Schaghticoke, with damage to a couple of residences and a</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				high school. An EFO tornado briefly touched down in southwestern Warren County. Sporadic wind damage was noted elsewhere.

Sources: FEMA 2015; NYSDEC; Robinson 1999

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

- DR Federal Disaster Declaration
- EM Federal Emergency Declaration
- FEMA Federal Emergency Management Agency
- NCDC National Climate Data Center
- NOAA National Oceanic Atmospheric Administration
- NYS New York State
- NWS National Weather Service
- PA Public Assistance
- SHELDUS Spatial Hazard Events and Losses Database for the U.S.
- TSTM Thunderstorms

E.1.5 Severe Winter Storm

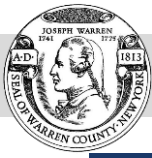
Known severe winter storm events that occurred in Warren County between 1996 and 2023 are identified in Table E.5. With severe winter storm documentation for New York State and Warren County being so extensive, not all sources have been identified or researched. Therefore, Table E.5 may not include all events that have occurred in the County.

Table E.5. Winter Storm Events Between 1996 and 2023

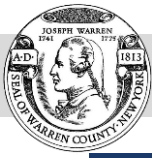
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
November 26, 1996	Winter Storm	N/A	N/A	On November 26, a low pressure system brought a combination of snow and freezing rain to parts of eastern New York. Over Warren and Washington Counties, snow and heavy freezing rain downed trees and power lines and caused numerous accidents. In Washington County, approximately 3,000 customers lost power.
January 24, 1997	Winter Storm	N/A	N/A	On January 24 and 25, low pressure moved from northern Indiana northeast to the Saint Lawrence Valley. The winter storm produced heavy snow over the southern Adirondacks, which occasionally mixed with sleet and freezing rain. Snowfall totals in Warren, Hamilton and northern Herkimer Counties ranged from 5 to 7 inches. Toward the end of the storm, the precipitation changed to a mix of freezing rain and sleet which caused icing on top of the snow pack.
March 14, 1997	Winter Storm	N/A	N/A	On March 14, a complex area of low pressure tracked from northern Ohio northeast to southern Ontario Canada. This system produced several hours of heavy snow across the southern Adirondacks, Catskills,



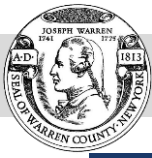
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				northern Saratoga County, Washington County and parts of the Mohawk Valley. The snow changed to sleet and eventually to freezing rain which caused significant icing. Snowfall totals generally ranged from 2 to 5 inches with up to 8 inches in Hamilton County. The icing resulted in treacherous driving conditions along with downed trees and power lines. Scattered power outages occurred across this region.
January 2, 1999	Winter Storm	N/A	N/A	<p>A deep area of low pressure moved from the Mississippi Valley into the central Great Lakes Region during the night of January 2 and January 3. With arctic air in place over New York State, a wintry mix of heavy sleet and freezing rain resulted. This mix of precipitation resulted in significant accumulations of ice across the region. Total melted precipitation exceeded an inch across the Mid-Hudson Valley.</p> <p>The storm resulted in hundreds of vehicular accidents or vehicles sliding off roadways. Two highways in Greene County (Route 23 and route 23A) were temporarily closed due to very slick conditions. Ice buildup downed power lines which caused 2,500 residents to be without power in the Mid-Hudson Valley and an additional 1200 customers without power in the Saratoga region.</p>
January 14, 1999	Winter Storm	N/A	N/A	<p>Extremely cold arctic air moved into Eastern New York on January 13 and January 14. At the same time an area of low pressure formed in Kentucky. This low tracked east into northern Virginia then turned north and moved through the Hudson Valley late on January 14 through January 15. The storm dumped heavy snow on the region followed by an extended period of sleet and freezing rain. The onset of the snow was accompanied by dangerously cold conditions with temperatures as low as 9 below zero. Snowfall amounts included 11 inches at both the Albany International Airport and Little Falls in Herkimer County. 15 inches of snow fell at Gloversville in Fulton County. In addition to the usual traffic disruptions, the weight of the snow and ice caused a roof to cave in at a bowling alley in Rotterdam in Schenectady county. A roof also collapsed at a farm in Mayfield Fulton county which killed a cow and injured several others. The Adirondack Northway was closed between Exits 17 and 23 from 10AM through 7PM on Friday the 15th due to very icy conditions.</p>
January 31, 2000	Winter Storm	N/A	N/A	<p>Low pressure formed in the Gulf States on January 29. There was a disparity of snowfall with this system. To the south, sleet and freezing rain mixed in, which held accumulations to the 4 to 7 inch range across the Mid Hudson Valley and southern Catskills. Six to 10 inch</p>



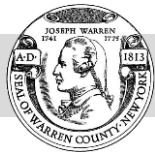
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>snowfall accumulations were common in the immediate Capital District. However, in the Mohawk Valley, just west of Amsterdam, and throughout the Western Adirondacks as well as the Lake George region, snow accumulated a foot or more. Most of the snow fell during the overnight hours on Sunday into Monday morning. To the west of Albany, snow fell heavily, at times in excess of 3 inches per hour.</p> <p>Specific accumulations included 7 inches at Albany, while East Caroga Lake got buried with 21, and 18 inches fell at Gloversville, both located in Fulton county. 17 inches fell at Fort Plain, Montgomery county and 16 at North Creek, Warren county. The storm once again closed many schools and some businesses. The snow removal effort was made more difficult due to the large amount of snow still left from previous storms.</p>
February 14, 2000	Winter Storm	N/A	N/A	<p>A low-pressure area developed over the Oklahoma panhandle early on February 13. This storm tracked northeast, reaching the Ohio Valley early on February 14, then across Pennsylvania and off the coast of Long Island by late in the day.</p> <p>The storm brought a potpourri of wintry weather to eastern New York, including snow, sleet, rain and freezing rain. A swath of 6 to 14 inches of snow fell across the Western Adirondacks, including 13 inches at Stillwater, and 7.5 inches at Indian Lake, both located in Herkimer county. Lesser amounts of snow fell across the remainder of the area. However, significant ice accumulated across the Saratoga-Lake George area. In this area, up to 3/4 of an inch of ice accretion was noted. The ice brought down some power lines near Scotia and Duanesburg in western Schenectady county. There were spotty power outages reported as well as some school and business closings.</p>
April 9, 2000	Winter Storm	N/A	N/A	<p>A strong cold front moved across eastern New York, then stalled to the east, over the Connecticut River valley late on April 8. Low pressure developed along this front, off Cape Hatteras. This storm strengthened as it moved due north along the front during the early morning hours of the 9th. Ample moisture was supplied by the warm air mass over eastern New England. Enough cold air was both advected into the region as well as brought downward by heavy precipitation to change the rain over to snow, and produce an unusually late season snowstorm. Snow, falling at the rate of 2 inches per hour, was common at the height of the storm. Gusty winds to near 35 mph produced near blizzard conditions at times, including both some blowing and drifting of the</p>



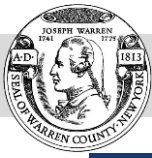
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>snow. A mantle of 8 to locally more than 16 inches of snow buried the Schoharie and Mohawk valleys, Greater Capital District, Western Adirondacks as well as the Lake George Saratoga region. Further south, 4 to 8 inches of snow covered portions of the Mid Hudson Valley. The official reading of 13.3 inches at Albany was the second heaviest April snowstorm on record, second only to a 17.7 inch storm during 1982.</p> <p>Since the storm happened on a Sunday, disruptions from it were minimized. However, some business were closed or delayed in opening. The biggest damage from the storm was due to the heavy wet nature of the snow, which resulted in many damaged or downed limbs and trees, especially north of the Mohawk River. Up to 35,000 customers in eastern New York were without power during the height of the storm.</p>
<p>March 21, 2001</p>				<p>Low pressure, from eastern Georgia, moved to eastern North Carolina by the morning of March 21. The storm then tracked off the Virginia coastline and up the eastern seaboard, to become the third nor'easter of the month. By the morning of March 23, the storm center had slowly progressed to the Gulf of Maine. Although not all that powerful, the storm had both Gulf and Atlantic moisture to work with. Heavy wet snow fell, accumulating 5 to 10 inches across the higher terrain of eastern New York, with most valley locations getting little or no slushy accumulation. This snow was heavy and wet enough to bring down limbs across the region. Wires and trees were reported down in Middelburgh, Schoharie county. Trees also fell across portions of Warren county. Specific snowfall amounts included 7 inches at Windham, Greene County, 10.5 inches at Indian Lake, Hamilton County, 8.7 inches at Summit, Schoharie County, 8.5 inches at Stillwater in Herkimer County and 7.6 inches in Warrensburg, Warren County.</p> <p>An estimated 1,500 homes over the higher terrain across eastern New York state, were without power. Service was disrupted to about 100 phone customers in Warren County.</p>
<p>November 17, 2002</p>	<p>Winter Storm</p>	<p>N/A</p>	<p>N/A</p>	<p>A strong nor'easter developed off Cape Hatteras on Saturday, November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. The air was cold enough to produce a heavy wintery mix of precipitation during a good portion of the storm across eastern New York. Initially, the precipitation fell as snow, or snow and sleet mixed. A 1-3 inch swath of snow was</p>



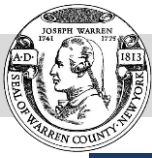
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>observed from about Albany southward. A 3-6 inch swath of snow fell north of Albany. As warmer air worked in aloft, the snow changed to sleet, then freezing rain. Freezing rain was more extensive south of Albany, where up to 58,000 customers lost power in the Mid Hudson Valley. Ice accretion was between one-half and one inch. Western Ulster County was especially hard hit where in addition to the ice, winds frequently gusted to 30 mph and, with lingering leaves on the trees, brought many trees and power lines down. Further north, the combination of snow, sleet and freezing rain still caused up to 1,000 customers in the Lake George Saratoga region to lose power, and spotty power losses elsewhere in the Capital District. In addition, there was a loss of significant limbs on trees and dangerous travel conditions.</p>
December 14, 2003	Winter Storm	N/A	N/A	<p>A low pressure area formed in the Gulf States early on December 14. This storm hugged the coast line as it tracked northward to become the second nor'easter of the winter season. This storm moved a little quicker than its predecessor. Also different from the last storm, enough warm air moved in aloft to change the snow to sleet and freezing rain, especially from Albany south. Snow began falling during the morning hours to the south of Albany, into the Capital District around noon, and further north during the afternoon. The sleet and freezing rain began mixing in during the evening hours. Meanwhile, the precipitation stayed all snow from about Glens Falls northward. By the time the storm was east of Cape Cod, early on Monday, a swath of 4 to 8 inches of snow, mixed with sleet, had fallen from Albany southward. To the north, 8 to 16 inches of mostly snow fell with locally higher amounts across the Adirondacks. Officially, 7.2 inches of snow fell at Albany, while up to 20.8 inches of snow, the most in eastern New York, was reported at Old Forge in Herkimer County. The storm closed most school districts on Monday and resulted in some vehicular accidents.</p>
April 12, 2007	Winter Storm	N/A	N/A	<p>Low pressure moved from the mid Mississippi Valley on Wednesday April 11th into the southern Great Lakes by Thursday morning on April 12th, spreading a swath of heavy wet snow across the higher elevations of the southern Adirondacks and eastern Mohawk Valley from early Thursday morning into early Thursday afternoon. Snowfall amounts were greatest across the higher elevations above 1500 feet, where 6 to 12 inches fell. Some snowfall totals included 10.5 inches at Speculator, 10.3 inches at Wells, 8 inches at Caroga Lake and</p>



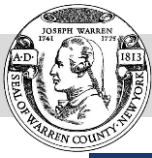
Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				Stratford, 8 inches at Middle Grove, 12 inches at North Creek at an elevation of 3600 feet, and 10 inches at Bakers Mills. The heavy wet snowfall led to downed tree limbs and power lines, which led to numerous power outages across the affected region during Thursday afternoon.
February 6, 2008	Winter Storm	N/A	N/A	<p>A low-pressure system tracked east northeast from the lower Ohio Valley on Wednesday morning, February 6th, to just south of Cape Cod by Thursday morning on February 7th. This storm system spread a swath of moderate to locally heavy snow, sleet and freezing rain across portions of east central New York and adjacent western New England from Wednesday morning into Thursday morning.</p> <p>Snow and sleet amounts ranged from 6 to 12 inches across portions of the southern and western Adirondacks, with generally under 3 inches elsewhere. However, ice accretion from freezing rain ranged between one quarter, to just under one half of an inch, with the greatest amounts across the higher elevations of the central and southern Taconics, as well as across the Lake George and Saratoga region. The ice accretion led to scattered power outages as a result of downed tree limbs on power lines.</p>
January 28-29, 2009	Winter Storm	N/A	N/A	<p>A winter storm spread a significant wintry mix of precipitation across eastern New York State, with heavy snow and sleet across much of the southern Adirondacks into the Lake George Saratoga region. Snow and sleet amounts ranged from 8 to 12 inches across the southern Adirondacks and the Lake George Saratoga region. This wintry mix resulted in the closure of numerous schools and businesses across east central New York for both Wednesday and Thursday mornings, and also created treacherous travel conditions. Snowfall totals in Warren County ranged from 8 to 9 inches in the city of Glens Falls.</p>
February 18, 2009	Winter Weather	N/A	N/A	<p>Winter storm system swept northeast across eastern New York State early Thursday morning, preceded and accompanied by moderate to locally heavy wet snow. The snow began Wednesday afternoon, and tapered off early Thursday morning. The heaviest snowfall amounts occurred across the Lake George Saratoga region, where 6 to 10 inches fell.</p>
February 23, 2010	Heavy Snow	N/A	N/A	<p>A powerful storm impacted the region, the second in just a couple of days bringing heavy rainfall and a heavy wet snow to the local area. The heavy wet snow resulted in additional and continued widespread power outages across east central New York, downed trees and power</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>lines, treacherous travel, road closures, train delays, building collapses and snow emergencies.</p> <p>In Warren County, up to 2 feet of snow fell in the west portion of the county in the higher elevations. Route 9N at Pinewoods Road in the Town of Lake Luzerne was reported closed for a couple of hours late Tuesday evening, February 23rd, due to downed power lines. No property damages were reported. Snowfall totals in Warren County ranged from 10.5 inches in the City of Glens Falls to 21.3 inches at the Town of Lake Luzerne.</p>
February 25, 2010	Winter Storm	N/A	N/A	<p>This storm system produced a widespread swath of heavy wet snow across the greater Capital District and surrounding area, the Lake George Saratoga region, the Mohawk River Valley, Schoharie Valley and southern Adirondacks during the day Friday. Snowfall rates of 1 to 2 inches per hour occurred, beginning during the early morning hours, and persisting until late afternoon.</p> <p>Snowfall amounts reached 12 to 15 inches across northern portions of the Capital Region extending into the east central Mohawk River Valley and Lake George Saratoga region. The heavy snow created treacherous travel conditions for the morning and evening commutes on Friday, with numerous accidents reported, including along portions of the Adirondack Northway, as well as Interstate 90. The heavy wet snow also led to numerous school and business closings across much of eastern New York on Friday.</p> <p>Snowfall totals in Warren County ranged from 4 inches at Warrensburg to 24 inches at Garnet Hill in North River hamlet.</p>
December 10-11, 2013	Winter Weather	N/A	N/A	<p>As very cold air passed over the relatively warm water of Lake Ontario, a heavy, long-lasting band of lake effect snow developed on the evening of the 10th, extending east across the entire western and southern Adirondacks. By the time the band ended late in the evening of December 11th, over one foot of snow was common across the western Adirondacks. Snowfall totals included 4.5 inches at Gore Mountain in Warren County.</p>
December 14-15, 2013	Winter Storm	N/A	N/A	<p>A light snow slowly spread across New York State from southwest to northeast during the day on December 14th, followed by a steadier and heavier snowfall moved across the region during the evening hours and into the overnight. Snow fell at rates in excess of one inch per hour over much of the region and snow rates locally were as high as up to three inches per hour at times. The bulk of the accumulating snow was finished by the late overnight hours, but light snow showers and flurries</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>continued into the mid-morning hours, especially across the Adirondacks and Capital Region. By the end of the storm, many places around the eastern Catskills, Capital Region and Lake George Saratoga Region received around a foot of snowfall. Snowfall totals in Warren County ranged from 9 inches at Brant Lake hamlet to 12.2 inches at the Town of Lake Luzerne.</p>
February 13-14, 2014	Heavy Snow	N/A	N/A	<p>An exceptional winter storm impacted all of eastern New York between Thursday, February 13th and the morning of Friday, February 14th. The snow began falling in the morning hours at rates of up to three inches per hour, causing significant travel issues across the region. After a late afternoon break in the snowfall, heavy precipitation returned in the late evening hours. Once again, the snow fell at significant rates of up to 3 inches per hour. In addition, lightning and thunder accompanied the snow across far southern and eastern areas at times as well. By the time snow ended, between one and two feet of snow fell across much of the Lake George Saratoga Region, with lower amounts of 4 to 10 inches across the Adirondacks. Very strong winds, gusting as high as 40 mph, occurred as the storm pulled away. This led to significant blowing and drifting of the snowfall through the entire day on February 14th.</p> <p>As a result of the storm, Governor Andrew M. Cuomo declared a state of emergency for the Mid-Hudson as well other counties, including Warren, across east central New York. Restrictions were put on travel. Many towns and cities had difficulty with snow removal, as much of the snowfall also remained from a recent early February snowstorm as well. The weight of snow caused a few roof collapses and power outages across the region.</p> <p>Snowfall totals in Warren County ranged from 6 inches at North Creek hamlet to 12 inches at the Town of Lake Luzerne.</p>
November 26-27, 2014	Nor'Easter / Snowstorm	DR-4204	No	<p>An early season winter storm impacted eastern New York State during Thanksgiving. The storm began the morning of the 26th and once the snow began, it increased in intensity, falling at rates at or greater than one inch per hour. Temperatures dropped to or below freezing across the entire region. There were heavy bands of snow occurring in some locations, especially across the Taconics, Mohawk Valley and southeastern Adirondacks. Snowfall totals ranged from six to 12 inches, with up to 15 inches in the southeastern Adirondacks. The weight of the snow caused power outages in the area, especially across the mid-Hudson</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				<p>Valley. Warren County DPW reported numerous damages, including automobile damages from falling trees and icy conditions, transportation blockages, and phone wires falling on and entangling a truck. Snowfall totals in Warren County ranged from 10 inches at the City of Glens Falls to 14.5 inches at North Creek hamlet.</p>
February 12, 2017	Winter Storm	N/A	N/A	<p>Two low pressure systems approached the northeastern US on Sunday, February 12, with snowfall breaking out over the local area around sunrise. The snow was heavy during the morning and early afternoon, with accumulation rates of 1 to locally 2 inches per hour at times. The snow was wet and dense and readily clung to trees. During the afternoon, warmer air resulted in precipitation changing to sleet for portions of the mid-Hudson Valley and Catskills, which cut down snowfall totals in those locales. The snowfall diminished Sunday evening, except over the higher terrain areas of the Adirondacks as well as the Mohawk Valley. In those locations, accumulating snowfall persisted through the night and into Monday before diminishing Monday afternoon.</p>
December 22, 2017	Winter Storm	N/A	N/A	<p>A complex storm system brought snow and a wintry mix to the region on Friday, December 22nd through Saturday, December 23rd, 2017. The precipitation started out as snow on Friday but transitioned to a wintry mix by Friday night. Freezing rain lingered through the day Saturday as a warm front lifted through the region, especially for sheltered mountain valley areas. Snowfall totals ranged from a trace in the Mid-Hudson Valley up to 8.5 inches in the Adirondacks (Hamilton county) along with light icing as well. A few spots in the Mohawk Valley and Saratoga Region saw up to two tenths of an inch of ice.</p>
January 19, 2019	Winter Storm	N/A	N/A	<p>The largest snowstorm to date in the 2018-19 winter occurred on January 19th and 20th across eastern New York. Low pressure formed over the lower Mississippi Valley and lifted northeast across the Tennessee Valley during the night of the 19th before moving along the Mason-Dixon line on the 20th. Strong rising motion occurred as southerly winds aloft transported moist air northward, which was lifted over the cold airmass in place over eastern New York. Snowfall broke out during the afternoon of the 19th, continuing heavy at times into the evening and overnight hours before ending during the morning of the 20th. The strong southerly flow brought above-freezing air aloft into the region, causing the snow to turn to sleet as far north as the Capital District and northern Catskills for a time before turning</p>



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				back to snow. Further south, the air aloft was warm enough to turn the precipitation to freezing rain with ice accretion of one to three tenths of an inch over portions of the southeast Catskills, Mid-Hudson Valley, and southern Taconics.
March 23, 2020	Winter Storm	N/A	N/A	A late season snowfall impacted the region on Monday, March 23rd, 2020. This was brought on by an anomalously cold air mass interacting with a coastal low pressure system. Snowfall totals ranged from an inch in the Mid-Hudson valley up to almost 10 inches in the southern Adirondacks and northern Lake George Saratoga region. The lower amounts were mainly confined to the Lower Hudson Valley due to a rain and snow mix throughout much of the day. Snow intensity increased during the late afternoon and early evening hours impacting the evening commute. As a result, a tractor trailer crashed on Interstate 87 South prompting portions of the interstate to be closed.
January 17, 2022	Winter Storm	N/A	N/A	A winter storm dumped 7-14 inches over eastern New York January 16-17. It was also windy with gusts generally between 30-45 mph. There were a few gusts that topped 50 and 60 mph. Snow emergencies were put in place in the Utica/Dolgeville area.
March 13, 2023	Winter Storm	N/A	N/A	A powerful Nor'Easter resulted in widespread moderate to heavy wet snow and gusty winds across eastern New York March 13-March 15, 2023. Anywhere from 15 to 30 inches of snow with locally higher amounts in excess of 30 inches fell over the SW Adirondacks and eastern Catskills. Valley locations received lesser amounts with totals generally ranging between 7 to 15 inches. A few locations across the western Mohawk Valley and mid-Hudson Valley received less than 6 inches of snow. Numerous downed trees and powerlines resulted in widespread power outages. According to the National Grid, approximately 141,000 customers lost power within the state of New York with most occurring within our county warning area. Some locations were without power for at least 1 or 2 days.

Sources: NYSDEC, NWS, NYS DHSES, NOAA-NCDC, FEMA

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

- DR Disaster Declaration
- EM Emergency Declaration
- FEMA Federal Emergency Management Agency
- HMP Hazard Mitigation Plan
- N/A Not Applicable
- NCDC National Climatic Data Center
- NOAA National Oceanic and Atmospheric Administration
- NWS National Weather Service

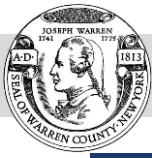


E.1.6 Wildfire

Known wildfire events that have impacted Warren County from 2002 to 2015 are identified in Table E.6. Fire departments throughout the County respond to small brush fires each year. However, many of these fires are so small that little information is available. Therefore, Table E.6 may not include a complete record of all wildfire events that have occurred within the county.

Table E.6. Wildfire Events in Warren County, 2002 to 2015

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 5, 2002	Wildfire	N/A	N/A	Smoke, from many forest fires across the Nemiscau region of northern Quebec, became trapped under a subsidence inversion, and was transported south across eastern New York from the evening hours of July 5, to the late evening of July 7. The forest fires were sparked by exceptionally hot and dry weather over that part of Canada followed by an unusual amount of thunderstorm activity, resulting in many lightning strikes. The circulation between high pressure over Hudsons Bay and a low pressure off the Canadian Maritimes transported the smoke southward. The smoke obscured the sky, and even reduced surface visibilities to as low as one mile, especially on the early morning of July 7. Advisories were issued warning people with respiratory problems to remain indoors and all individuals to curb outside activity. No major problems were reported to the National Weather Service as a result of this smoke.
April 30 – May 7, 2009	Wildfire - Tongue Mtn 1	N/A	NYS-2009-0133	A lightning strike started a forest fire in a forest preserve in the Town of Hague, resulting in 13 acres burned.
May 16 – 27, 2013	Wildfire - Pine Mountain Fire	N/A	NYS-2013-0099	A lightning strike started a forest fire in a forest preserve in the Town of Warrensburg, resulting in 16.8 acres burned.
November 4-10, 2014	Wildfire	N/A	NYS-2014-0139	In 2014, the largest wildfire to occur in New York State was the 173-acre Darling Mountain Fire in the Town of Queensbury that



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				began on November 4. This fire occurred on private land and spread quickly because of strong winds blowing fallen leaves. Smoke from the fire triggered automatic alarm systems six miles away in the City of Glens Falls. Little mop up was needed for this surface fire, and it was declared out three days later. This fire was caused by hunters leaving an unextinguished campfire.
May 8 – 17, 2015	Wildfire	N/A	NYS-2015-0105	A campfire in the Town of Queensbury was reported to spark forest fires on private property, resulting in 14 acres burned.

Sources: NYSDEC 2013; NYSDEC 2015; NOAA-NCDC

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or following the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

FEMA Federal Emergency Management Agency

K Thousand (\$)

M Million (\$)

N/A Not applicable



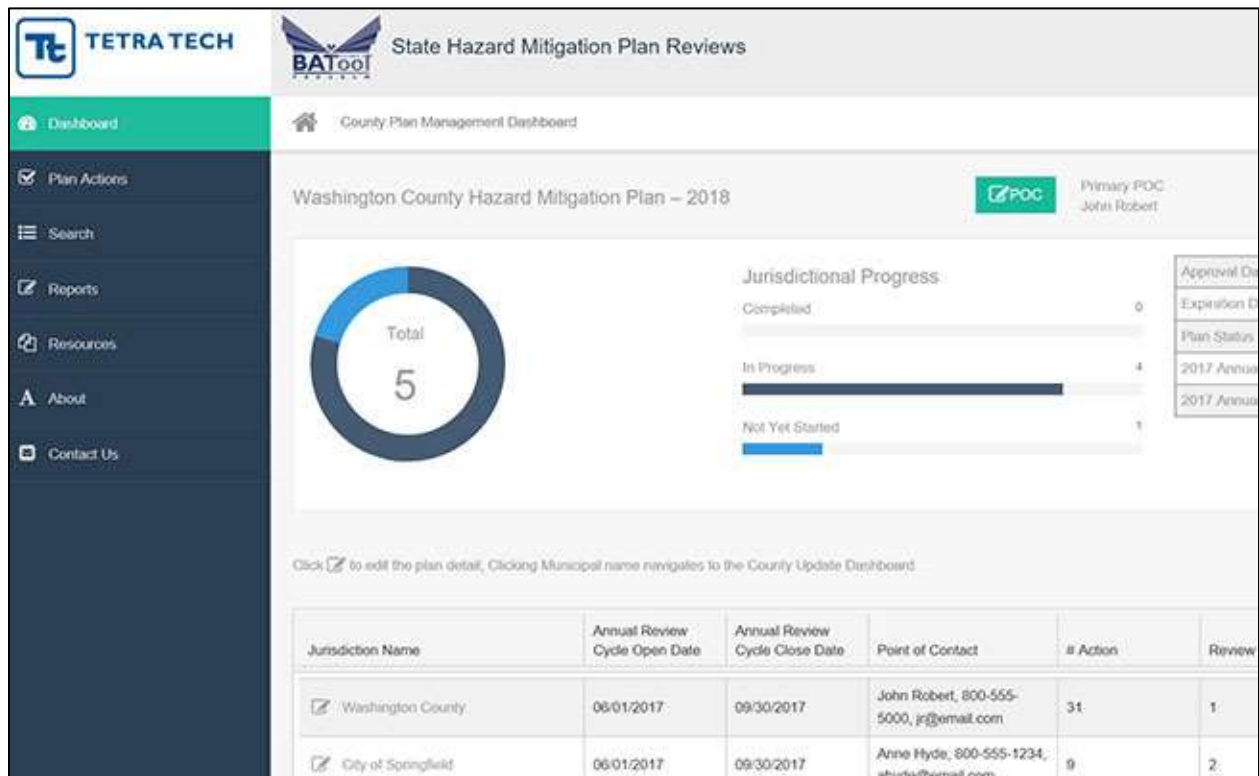
APPENDIX F. PLAN MAINTENANCE TOOLS

This appendix includes tools and worksheets to facilitate plan maintenance and review by the Warren County Steering and Planning Committees.

In the first year of the performance period, an online performance progress reporting system, the BAToolSM will provide municipal and county representatives direct access to their mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, add or delete projects to maintain mitigation project implementation. This online program will capture information and roll all input into a report to summarize mitigation strategy progress.



Figure G-1. BAToolSM Screenshot



The FEMA 386-4 guidance worksheets are also available to assist with progress reporting. These worksheets are provided in this section for ease of access to the HMP Coordinator and Planning Partnership to maintain the 2023 HMP throughout its period of performance.



Plan Goal(s)/Objective(s) Addressed:

Goal: _____

Objective: _____

Indicator of Success (e.g., losses avoided as a result of the acquisition program):

In most cases, you will list losses avoided as the indicator. In cases where it is difficult to quantify the benefits in dollar amounts, you will use other indicators, such as the number of people who now know about mitigation or who are taking mitigation actions to reduce their vulnerability to hazards.

Status (Please check pertinent information and provide explanations for items with an asterisk. For completed or canceled projects, see Worksheet #2 — to complete a project evaluation):

Project Status

Project on schedule

Project completed

Project delayed*

*explain: _____

Project canceled

Project Cost Status

Cost unchanged

Cost overrun*

*explain: _____

Cost underrun*

*explain: _____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

B. What obstacles, problems, or delays did you encounter, if any?

C. How was each problem resolved?



Next Steps: What is/are the next step(s) to be accomplished over the next reporting period?

Lined area for writing next steps.

Other comments:

Lined area for writing other comments.

Adapted from the North Carolina HMGP Progress Report Form at http://www.dem.dcc.state.nc.us/mitigation/document_index.htm.



Worksheet #2 Evaluate Your Planning Team step **3**

When gearing up for the plan evaluation, the planning team should reassess its composition and ask the following questions:

	YES	NO
Have there been local staffing changes that would warrant inviting different members to the planning team?		
Comments/Proposed Action:		
Are there organizations that have been invaluable to the planning process or to project implementation that should be represented on the planning team?		
Comments/Proposed Action:		
Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the planning team?		
Comments/Proposed Action:		
Are there procedures (e.g., signing of MOAs, commenting on submitted progress reports, distributing meeting minutes, etc.) that can be done more efficiently?		
Comments/Proposed Action:		
Are there ways to gain more diverse and widespread cooperation?		
Comments/Proposed Action:		
Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?		
Comments/Proposed Action:		

If the planning team determines the answer to any of these questions is "yes," some changes may be necessary.



Worksheet #3 Evaluate Your Project Results

step 3

page 1 of 2

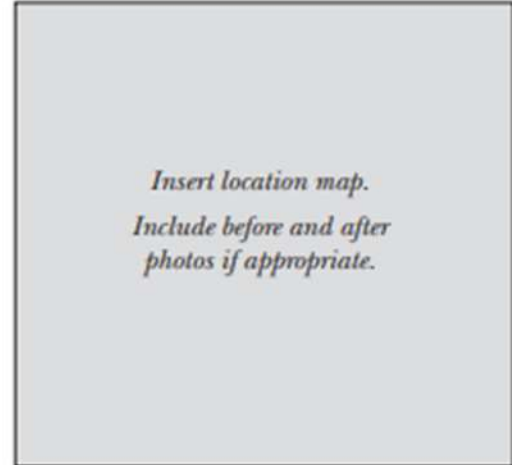
Project Name and Number: _____

Project Budget: _____

Project Description: _____

Associated Goal and Objective(s): _____

Indicator of Success (e.g., losses avoided): _____



Was the action implemented? YES NO



Why not?

Was there political support for the action?

Were enough funds available?

Were workloads equitably or realistically distributed?

Was new information discovered about the risks or community that made implementation difficult or no longer sensible?

Was the estimated time of implementation reasonable?

Were sufficient resources (for example staff and technical assistance) available?

YES NO



What were the results of the implemented action? _____



page 2 of 2

	YES	NO
Were the outcomes as expected? If No, please explain:		
Did the results achieve the goal and objective(s)? Explain how:		
Was the action cost-effective? Explain how or how not:		
What were the losses avoided after having completed the project?		
If it was a structural project, how did it change the hazard profile?		
Additional comments or other outcomes:		

Date: _____

Prepared by: _____



Worksheet #4 Revisit Your Risk Assessment **step 4**

Risk Assessment Steps	Questions	YES	NO	COMMENTS
Identify hazards	Are there new hazards that can affect your community?			
Profile hazard events	Are new historical records available?			
	Are additional maps or new hazard studies available?			
	Have chances of future events (along with their magnitude, extent, etc.) changed?			
	Have recent and future development in the community been checked for their effect on hazard areas?			
Inventory assets	Have inventories of existing structures in hazard areas been updated?			
	Is future land development accounted for in the inventories?			
	Are there any new special high-risk populations?			
Estimate losses	Have loss estimates been updated to account for recent changes?			

If you answered "Yes" to any of the above questions, review your data and update your risk assessment information accordingly.



Worksheet #5

Revise the Plan

step 4

page 1 of 4

Prepare to update the plan.

When preparing to update the plan:

Check the box when addressed:

1. Gather information, including project evaluation worksheets, progress reports, studies, related plans, etc.	
Comments:	
2. Reconvene the planning team, making changes to the team composition as necessary (see results from Worksheet #2).	
Comments:	

Consider the results of the evaluation and new strategies for the future.

When examining the community consider:

Check the box when addressed:

1. The results of the planning and outreach efforts.	
Comments:	
2. The results of the mitigation efforts.	
Comments:	



3. Shifts in development trends.	
Comments:	
4. Areas affected by recent disasters.	
Comments:	
5. The recent magnitude, location, and type of the most recent hazard or disaster.	
Comments:	
6. New studies or technologies.	
Comments:	
7. Changes in local, state, or federal laws, policies, plans, priorities, or funding.	
Comments:	



8. Changes in the socioeconomic fabric of the community.	
Comments:	
9. Other changing conditions.	
Comments:	

Incorporate your findings into the plan.

When examining the plan consider:

Check the box when addressed:

1. Revisit the risk assessment. <i>(See Worksheet #4)</i>	
Comments:	
2. Update your goals and strategies.	
Comments:	
3. Recalculate benefit-cost analyses of projects to prioritize action items.	
Comments:	



Use the following criteria to evaluate the plan:

Criteria	YES	NO	Solution
Are the goals still applicable?			
Have any changes in the state or community made the goals obsolete or irrelevant?			
Do existing actions need to be reprioritized for implementation?			
Do the plan's priorities correspond with state priorities?			
Can actions be implemented with available resources?			

Comments:



APPENDIX G. CRITICAL FACILITY INVENTORY

G.1 OVERVIEW

This section contains information and details to support information provided in Section 4 – County Profile which provides the distribution of critical facilities located within Warren County and its municipalities. Due to the sensitive nature of this information, details have been redacted. Contact the HMP Coordinator, for more information contact Ann Marie Mason Director, Warren County Office of Emergency Services at masona@warrencountyny.gov.



APPENDIX H. PLANNING GUIDANCE

This appendix includes the 2022 NYS DHSES planning standards and guidelines for hazard mitigation planning, as well as FEMA guidance for classifying Lifelines within a community.



2022 New York State Hazard Mitigation Planning Standards (Supersedes the 2017 NYS Hazard Mitigation Planning Standards)

Congratulations on taking the first steps to update a multi-hazard mitigation plan for your community!

The goal of both the New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA is that all jurisdictions develop robust mitigation plans and tangible mitigation actions that will contribute to long-term risk reduction.

The 2022 NYS Hazard Mitigation Planning Standards reduce the 2017 Hazard Mitigation Planning Standards. Any plan currently in development, regardless of date funded, will be held *only* to these reduced standards.

PLEASE NOTE:

On April 19, 2023, FEMA's new Local Mitigation Planning Policy will take effect. Plans approved on or after this date **must meet requirements** as outlined in the linked [Policy Guide](#).

https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf

The additional state requirements detailed below are intended to improve the quality of hazard mitigation plans and encourage the development of the most appropriate and effective mitigation projects for your community. It is recognized that many jurisdictions have inherent constraints and certain information may be difficult to provide. NYS DHSES and FEMA will work with you throughout the entire planning process to ensure the successful development of your community's hazard mitigation plan.

There are a multitude of resources that exist to provide guidance and support throughout the planning process, developed by Federal and State agencies, as well as private and research-based groups. We urge you to contact us so that we may direct you to additional resources and provide you with the most comprehensive technical assistance possible.

For questions and comments, please call our offices at 518-292-2304.

Additional contact information will be provided to sub-recipients for more direct assistance.



Please note:

Jurisdiction is used to describe all government entities within the boundaries set forth in the Multi-Jurisdictional Plan (typically County-wide), including the County itself, as well as cities, towns, villages and potentially tribes that choose to join a multi-jurisdictional plan.

Special Flood Hazard Area (SFHA) is defined as the area that will be inundated by the flood event having a 1-percent change of being equaled or exceeded in a given year (previously known as the 100-year flood event).

1. Assess Critical Facilities

Critical facilities must remain accessible and functional before, during and after disasters to meet the jurisdictions Continuity of Government (COG) and Continuity of Operations (COOP) standards, and to support important emergency, government and sheltering functions.

Jurisdictions must identify all critical facilities, assess their vulnerabilities, and evaluate and ensure they are protected to a 0.02% chance (500-year) flood event. Critical facilities that are located in an SFHA and/or have been previously flooded, must be protected against a repeat of that flood or to the 0.02% chance flood event, which ever provides the greater protection.

- The plan must document the name of facility, type of facility, jurisdictional location, and exposure to a 1% (100-year) and 0.02% chance event.
- The plan must document those critical facilities are protected to a 0.02% flood event, or previous worst case flood event. For those that do not meet this level of protection, the plan must include an action to meet or go beyond this criterion or explain why it is not feasible to do so. Going beyond this criterion is optional but may be wise to protect against a future worst case due to climate change.

2. Include Jurisdictional Annexes

Jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction.

The plan must be organized so that there is an annex for every jurisdiction within the county's borders, including the County.

- The plan must include a table in the Introduction section clearly identifying all jurisdictions and which are seeking FEMA approval.
- The annex for each jurisdiction seeking FEMA approval must include the following:
 - Contact Information;
 - Jurisdiction Profile;
 - Hazard Identification (specific to the jurisdiction);
 - Hazard Event History;
 - National Flood Insurance Program (NFIP) Summary (to meet Federal Standards);
 - Critical Facilities Information (to meet F1);
 - Jurisdiction/public identified vulnerabilities;
 - Additional public involvement;
 - Capabilities Assessment;
 - Mitigation Strategy:
 - All identified previous mitigation activities with current status;
 - All proposed mitigation activities (both new and carried forward, to meet F3)
- The annex for each non-participating jurisdiction (those not seeking FEMA approval at this time), must include a cover sheet and should include as much information as is available.



3. Develop Mitigation Actions

Projects that are well developed and documented in one place are more quickly identifiable for selection when grants become available, making implementation that much more likely.

Within each jurisdictional annex, jurisdictions must develop a minimum of two (2) new or carryover (not started) proposed mitigation actions that include all information requested in the NYS DHSES LHMP Proposed Action spreadsheet. For jurisdictions containing an SFHA, one (1) of these actions must be for a project that addresses flooding.

4. Post Draft Plan Online

Allowing the public to comment on the draft plan increases awareness about how mitigation saves lives and reduces risk and allows a final opportunity for public input.

The public must have an opportunity to view and comment on the draft plan prior to submittal.

- The draft plan must be posted in full (except for discretionary sensitive information) on an existing county/jurisdiction website, or one created for the purpose of soliciting comments, for 30 days or the time prescribed by local law, whichever is greater, and the plan must describe efforts made to solicit public comments from potentially underserved areas where residents may not have access to a computer to view the website. The website must clearly identify how the public can comment on the plan, to include either specific contact information to send comments or a user-friendly form or survey.

After NYS DHSES and FEMA Approval

- Once designated Approvable Pending Adoption (APA) or Approved by FEMA, the final plan must be placed on the same website (cited above) in its entirety (except for discretionary sensitive information).
- Final payment will occur only after 50% of the participating jurisdictions have adopted the plan and provided adoption resolutions to NYS DHSES. For county-led hazard mitigation planning efforts, the county must be one of the adopting jurisdictions.

The chart below shows the requirements as they appear on the plan review tool used by NYS DHSES and FEMA Region II to determine whether a submitted plan meets federal and state requirements.

1. REGULATION CHECKLIST	Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)		
ELEMENT F. ADDITIONAL STATE REQUIREMENTS – NYS HAZARD MITIGATION PLANNING STANDARDS			
These are required actions for plans developed with NYS DHSES-administered funds.			
H1. Do jurisdictions identify critical facilities, assess vulnerabilities, and ensure protection to a 0.02% flood event or worst-case scenario?			
H2. Does the plan include an annex for every jurisdiction within the County’s boundaries?			
H3. Within each jurisdictional annex, are projects developed in accordance with the NYS DHSES Proposed Projects Table?			
H4. Was the draft plan posted for public comment?			
Note: The applicant is required to address the 2022 NYS Hazard Mitigation Planning Standards as required actions for a hazard mitigation plan developed with funds administered by NYS DHSES.			
ELEMENT H: REQUIRED REVISIONS			
<i>Please see opportunities for improvement</i>			



APPENDIX I. DAM FAILURE (CONFIDENTIAL)

This is a confidential appendix that summarizes the quantitative vulnerability assessment conducted for the dam failure hazard in Warren County. This section contains information and details to support information provided in Section 5.4.1 – Dam Failure Profile which provides the information regarding dam failure in Warren County. Due to the sensitive nature of this information, details have been redacted. Contact the HMP Coordinator, for more information contact Ann Marie Mason Director, Warren County Office of Emergency Services at masona@warrencountyny.gov.



APPENDIX J. PUBLIC COMMENT

This appendix provides documentation of public comment received following public review of the draft Warren County Hazard Mitigation Plan. Public feedback on the draft plan is an important part of the hazard mitigation planning process. Public comments have been addressed throughout the HMP as appropriate.

J.1 PUBLIC COMMENTS ON THE DRAFT PLAN

This section contains the public comment responses from the public review of the draft Warren County Hazard Mitigation plan. Comments were received from four residents for the entire plan and for specific sections. The public comments are provided in the following summary, with personal information removed.

J.1.1 Comments on the Entire Plan

- **Comment 1:** Request for a way to search the entire document for keywords.
 - **Response:** The final plan will be one searchable document.
- **Comment 2:** Expressed concern with recommending backup generators that use fossil fuels. Recommended using battery power backup systems, especially for powering facilities with vulnerable populations.
 - **Response:** Warren County will evaluate the use of power storage batteries to provide backup power instead of fuel powered generators, where possible.
- **Comment 3:** Recommended web based educational and outreach webinars to allow for remote participation for residents.
 - **Response:** Live Citizen Preparedness Training is available through NYSDHSES in conjunction with the National Guard and hosted by the County. Similar training is offered by the state offers and is available on YouTube in 13 languages at this link: <https://www.dhSES.ny.gov/citizen-preparedness-corps>.

J.1.2 Comments on Section 4

- **Comment 4.1:** Suggest adding a map showing the over 65 years old population in the county.
 - **Response:** The over 65 population group is discussed in detail in the vulnerability section of the plan.
- **Comment 4.2:** Recommend that the plan emphasize that seniors are more vulnerable to disease within the mitigation goals regarding public health guidance.



- **Response:** Information was added to the plan about vulnerability for seniors in Section 4 in order to emphasize the mitigation recommendations.

J.1.3 Comments on Section 5

- **Comment 5.1:** Suggested that more needs to be done to coordinate the use of generators for senior citizens during winter power outages.
 - **Response:** The County action item #2 addresses backup power for critical facilities which includes those that support senior citizens.

J.1.4 Comments on Section 9

- **Comment 9.1:** Recommend that the adaptive capacity for disease needs to be strong in Queensbury and elsewhere.
 - **Response:** The adaptive capacity ranks were developed through a stakeholder review by the Hazard Mitigation Plan Steering Committee and each participating community as part of the planning process. This is a factor in determining the relative risk presented by each hazard of concern. A higher adaptive capacity will result in a reduction in the relative hazard ranking and may be discussed with each community as needed to support the prioritization of projects.
- **Comment 9.2:** Highlighted that more needs to be done to control the Schroon River as it continues to flood more every year.

- **Response 9.2:**

The Schroon River in Warren County is impounded in the Town of Horicon by the Starbuckville Dam. The original dam was developed for the purpose of commerce of logs to paper and pulp mills in Glens Falls and further downstream on the Hudson River. The dam was rebuilt in 2005. This dam creates a pool elevation that has been established and is controlled by the dam. Dam sluices may be open, closed or in a combination of, to maintain the established water level.

The Schroon River in Warren County has a large watershed that begins in Essex County at Elk Lake. With such a large watershed, the Schroon is susceptible to flooding at any time of the year, but generally springtime during runoff and early-late summer with spring rains. As stated, flooding may occur at any time of the year based on existing hydrologic and meteorological conditions.

Floodplains associated with the Schroon River are often inundated during spring and high flow events. The vast majority of these areas are fields or forested areas. Development such as homes and commercial ventures have been established in existing floodplains or flood prone areas.



FEMA is currently redeveloping floodplain maps for Warren County and this updated and more accurate information will be used to determine what steps the county and its municipalities may take to reduce flooding impacts for landowners, while maintaining the ability of the river flow and utilize its floodplains when necessary.

- **Comment 9.3:** Recommend that the maps for Queensbury are revised to be easier to read.
 - **Response:** Users may zoom into digital maps to enable better readability.