

**Section V Vulnerability Assessment**

201.6(c)(2)(ii)

**A. Vulnerability Overview**

The purpose of the vulnerability assessment is to identify and characterize property and populations at risk from potential hazards. The types of hazards that impact a community and the potential scope or intensity of the hazard combine with the vulnerability of people, property, facilities and services to define the overall threat and outcomes of a disaster. The vulnerability assessment for Yates County looks at the following six factors to determine potential vulnerability to the communities, people, infrastructure, facilities and services.

- Vulnerable Populations
- Impact on Improved Property
- Evaluation of Repetitive Loss Properties
- Vulnerability of Critical Facilities, Infrastructure and Services
- Potential Disaster Costs and Losses
- Consideration of Future Growth and Development

**B. Vulnerable Populations**

**Table 5-1 Vulnerable Populations**

Yates County - Vulnerable Population Groups						
Jurisdiction	2007 Population	15 years of age and under	65 years of age and over	Persons below poverty level*	Persons age 5 and over with a disability *	Houses using private heating fuel source*
Barrington	1404	365 26%	207 15%	225 16%	222 18%	93%
Benton	2685	631 23%	510 19%	322 12%	300 13%	61%
Italy	1037	197 19%	104 10%	135 13%	188 18%	95%
Jerusalem	4731	752 16%	709 15%	426 9%	771 18%	69%
Middlesex	1329	286 21%	173 13%	89 7%	238 18%	90%
Milo	7026	1517 22%	1229 17%	970 14%	1375 21%	25%
Potter	1729	501 29%	138 8%	173 10%	299 18%	73%
Starkey	3355	795 24%	536 16%	647 19%	778 25%	44%
Torrey	1285	266 21%	193 15%	156 12%	235 19%	68%

Yates County - Vulnerable Population Groups						
Jurisdiction	2007 Population	15 years of age and under	65 years of age and over	Persons below poverty level*	Persons age 5 and over with a disability *	Houses using private heating fuel source*
Dresden	288	45 16%	47 16%	17 6%	88 27%	38%
Dundee	1592	360 23%	274 17%	271 17%	428 28%	5%
Penn Yan	5156	1011 20%	1131 22%	665 13%	1051 23%	4%

Source: U.S. Census Bureau

- \* The U.S. Department of Health and Human Services calculated the 2008-2009 poverty level to be \$10,830 annually for a single person household and \$22,050 for a family of four.
- \* 2000 data for non-institutional population. Includes persons 5 years and older that report having a long-lasting sensory, physical, mental or self-care disability; and those that report difficulty going outside the home or have difficulty working at a job because of a physical, mental or emotional condition.
- \* 2000 data for households not served by public utility supply; primarily those using tank or bottled gas/propane, LP, fuel oil, kerosene, wood or other private on-site fuel sources.

### C. Improved Property

**Table 5-2 2009 Parcel Counts by Broad Use Property Class Code**

County of Yates		
Broad Use Category	Description	Parcel Count
100	Agricultural Properties	1,229
200	Residential Properties	10,211
300	Vacant Land	2,916
400	Commercial Properties	538
500	Recreation and Entertainment Properties	49
600	Community Service Properties	338
700	Industrial Properties	49
800	Public Service Properties	322
900	Public Parks, Wild, Forested and Conservation Properties	160
<b>Total Parcels in All Broad Use Categories</b>		<b>15,812</b>

Source: Yates County Real Property Department

**Table 5-3 Improved Property - Parcel Counts and Assessed Values**

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Barrington		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	98	\$18,624,600
Residential	759	\$194,028,400
Commercial	22	\$15,306,200
Recreation / Entertainment	1	\$95,000
Community Service	13	\$1,431,300
Industrial	4	\$714,995
Public Service	26	\$14,469,151
Parks / Conservation	1	\$20,000

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Benton		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	242	\$78,296,700
Residential	839	\$100,204,100
Commercial	17	\$3,648,800
Recreation / Entertainment	0	0
Community Service	29	\$2,307,900
Industrial	8	\$84,300
Public Service	42	\$21,670,034
Parks / Conservation	3	\$35,100

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Italy		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	24	\$3,823,700
Residential	618	\$55,040,550
Commercial	7	\$1,298,800
Recreation / Entertainment	3	\$118,200
Community Service	28	\$777,500
Industrial	1	\$40,000
Public Service	31	\$4,869,580
Parks / Conservation	100	\$5,885,200

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Jerusalem		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	148	\$32,867,300
Residential	2367	\$581,208,503
Commercial	45	\$23,928,400
Recreation / Entertainment	8	\$8,303,700
Community Service	58	\$79,128,556
Industrial	5	\$3,119,140
Public Service	33	\$21,370,310
Parks / Conservation	23	\$14,790,722

**Table 5-3 Improved Property - Parcel Counts and Assessed Values (continued)**

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Middlesex (Rushville not included)		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	40	\$9,374,300
Residential	796	\$126,555,000
Commercial	15	\$5,029,800
Recreation / Entertainment	2	\$496,200
Community Service	25	\$4,808,600
Industrial	0	0
Public Service	17	\$4,684,203
Parks / Conservation	15	\$661,500

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Milo		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	194	\$47,407,000
Residential	1017	\$245,665,300
Commercial	38	\$20,468,000
Recreation / Entertainment	6	\$4,307,100
Community Service	30	\$3,833,000
Industrial	4	\$1,257,000
Public Service	34	\$18,359,127
Parks / Conservation	13	\$694,900

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Potter		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	221	\$40,035,700
Residential	535	\$47,102,400
Commercial	19	\$1,417,400
Recreation / Entertainment	3	\$550,400
Community Service	29	\$3,068,300
Industrial	1	\$41,300
Public Service	22	\$3,016,854
Parks / Conservation	2	\$19,000

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Starkey		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	120	\$25,334,300
Residential	821	\$116,302,900
Commercial	31	\$11,428,600
Recreation / Entertainment	1	\$180,000
Community Service	17	\$7,933,000
Industrial	5	\$1,559,300
Public Service	26	\$7,132,300
Parks / Conservation	0	0

**Table 5-3 Improved Property - Parcel Counts and Assessed Values (continued)**

2009 Parcel Counts and Assessment by Broad Use Property Class Code Town of Torrey		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	120	\$39,526,400
Residential	500	\$98,977,900
Commercial	18	\$3,688,600
Recreation / Entertainment	7	\$10,388,400
Community Service	12	\$518,800
Industrial	4	\$2,963,600
Public Service	23	\$107,053,619
Parks / Conservation	1	\$182,200

2009 Parcel Counts and Assessment by Broad Use Property Class Code Village of Dundee		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	5	\$122,300
Residential	443	\$29,564,000
Commercial	63	\$8,248,600
Recreation / Entertainment	3	\$165,000
Community Service	25	\$21,553,100
Industrial	1	\$950,000
Public Service	16	\$3,461,100
Parks / Conservation	0	0

2009 Parcel Counts and Assessment by Broad Use Property Class Code Village of Dresden		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	1	\$11,400
Residential	133	\$11,841,500
Commercial	6	\$568,500
Recreation / Entertainment	1	\$39,700
Community Service	9	\$1,332,200
Industrial	1	\$329,400
Public Service	9	\$589,941
Parks / Conservation	1	\$182,200

2009 Parcel Counts and Assessment by Broad Use Property Class Code Village of Penn Yan		
Property Use	Number of Parcels	Total Assessed Value
Agriculture	1	\$20,100
Residential	1380	\$131,003,900
Commercial	256	\$49,992,030
Recreation / Entertainment	14	\$3,348,600
Community Service	56	\$70,451,500
Industrial	15	\$11,359,635
Public Service	42	\$11,111,773
Parks / Conservation	2	\$14,600

Source: Yates County Real Property Department

Note: The Town of Starkey collects tax revenues for the Village of Dundee, as the Town of Torrey does for the Village of Dresden and the Town of Middlesex does for a portion of the Village of Rushville. The Towns of Benton, Jerusalem and Milo collect tax revenues for respective portions of the Village of Penn Yan. Data for these towns in the preceding tables include only those properties in the township and data for the villages is listed separately.

**D. Repetitive Loss Properties**

201.6(c)(2)(ii)

Yates County  
Community Participation in the National Flood Insurance Program

Data available through July, 2005

- All Yates County jurisdictions participate in NFIP
- There are no Repetitive Loss properties in Yates County
- No Repetitive Loss claims have been paid in any community
- There is a total of 153 properties countywide with A Zone coverage

**Table 5-4 NFIP Policies and Coverage**

CID	Community	# of Policies	A Zone Policies	Coverage in Force	Claims since 1978	Claims paid since 1978
360953	Barrington	19	9	\$3,275,900	8	\$5,969
360955	Benton	15	10	\$2,044,200	0	0
360958	Italy	10	6	\$1,114,000	2	0
360959	Jerusalem	92	61	\$13,135,800	25	\$98,590
360960	Middlesex	7	3	\$566,500	1	0
360961	Milo	34	20	\$6,146,300	14	\$40,947
360963	Potter	2	0	\$410,500	0	0
360965	Starkey	17	13	\$2,302,400	11	\$18,369
360966	Torrey	12	8	\$1,566,700	2	\$4,409
360956	Dresden	1	1	\$104,300	4	\$3,063
360957	Dundee	1	1	\$65,000	8	\$11,312
360962	Penn Yan	27	21	\$1,926,400	12	\$19,352

**Zone A** - Areas with a 1% chance of flooding each year, and a 26% chance of flooding over the life of a 30-year mortgage. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to improved properties in Zone A.

**Table 5-5 NFIP Statistics and Properties**

**NATIONAL FLOOD INSURANCE DATA**

FULL NAME	Population 2000	Pop Estimate July 1, 2005	Pop Change 2000 - 2005	SWIS	CID	Repetitive Loss #s	Repetitive Loss Paid	# of Policies	TOTAL COVER
BARRINGTON, TOWN OF	1,398	1,429	33	572000	380953	0	\$0	19	\$3,275,900
BENTON, TOWN OF	2,640	2,729	89	572200	380955	0	\$0	15	\$2,044,200
DRESDEN, VILLAGE OF	307	297	-10	573601	380958	0	\$0	1	\$104,300
DUNDEE, VILLAGE OF	1,890	1,845	-45	573401	380957	0	\$0	1	\$85,000
ITALY, TOWN OF	1,087	1,071	-16	572400	380958	0	\$0	10	\$1,114,400
JERUSALEM, TOWN OF	4,525	4,588	81	572800	380959	0	\$0	92	\$13,135,800
MIDDLESEX, TOWN OF	1,345	1,354	9	572800	380980	0	\$0	7	\$586,500
MILO, TOWN OF	7,028	7,004	-22	573000	380981	0	\$0	34	\$8,146,300
PENN YAN, VILLAGE OF	5,219	4,590	-60	572201	380982	0	\$0	27	\$1,926,400
PENN YAN, VILLAGE OF	0	507	9	572201	380982	0	\$0	27	\$1,926,400
PENN YAN, VILLAGE OF	0	73	2	572201	380982	0	\$0	27	\$1,926,400
POTTER, TOWN OF	1,830	1,843	13	573200	380983	0	\$0	2	\$410,500
RUSHVILLE, VILLAGE OF	0	431	-12	323201	380984	0	\$0	3	\$350,000
STARKEY, TOWN OF	3,485	3,441	-24	573400	380985	0	\$0	17	\$2,302,400
TORREY, TOWN OF	1,307	1,299	-8	573600	380988	0	\$0	12	\$1,586,700
YATES COUNTY	31,837	32,289	19	8,342,008	0	0	0	294	38,881,200

- continued -

**E. Critical Facilities, Infrastructure and Services**

201.6(c)(2)(ii)(A)

**Table 5-6 Yates County Emergency Facilities**

Note: The following table refers to facilities or structures that could be vulnerable or exposed to hazards and does not address service or coverage areas.

Yates County Emergency Facilities						
Location	Fire Stations	Police Stations	EMS / Ambulance Stations	Hospitals	Emergency Communications	Military / Other
Barrington	None*	None*	None*	None	None*	None
Benton	Benton FD Bellona FD	None*	Benton First Responders Bellona First Responders	None	Sherman Hollow Nextel Tower Havens Corners Tower	None
Italy	Naples FD Substation	None*	None*	None	Italy Hill Tower Parrish Hill Tower	None
Jerusalem	Branchport and Keuka Park Fire Stations	YC Sheriff substation Keuka College	Branchport/Keuka Park First Responders	None	Repeater Tower Skyline Drive Verizon Cell Tower Skyline Drive	None
Middlesex	Middlesex FD	YC Sheriff substation	Middlesex Ambulance	None	South Hill Tower	None
Milo	None* See Penn Yan	See Penn Yan	None* See Penn Yan	None	None	None
Potter	Potter FD	None*	Potter First Responders	None	None*	None
Starkey	None* See Dundee	YC Sheriff Substation	None* See Dundee	None	Dundee Tower Pre-Emption Road Verizon Cell Tower Pre-Emption Road Cable Tower Comm Chambers Road	None
Torrey	None*	None*	None* See Dresden	None	Angus Point Repeater	None



**Table 5-6 Yates County Emergency Facilities (continued)**

Yates County Emergency Facilities						
Location	Fire Stations	Police Stations	EMS / Ambulance Stations	Hospitals	Emergency Communications	Military / Other
Dresden	Dresden FD	None*	Dresden First Responder	None	None*	NUSL System Measurement Branch
Dundee	Dundee FD	NYSP 16 Union St Dundee, NY	Dundee Ambulance 12 Union St Dundee, NY	Marquis Jones Family Health Center	None*	None
Penn Yan	Penn Yan FD	Penn Yan Police Dept  Yates County Sheriff Dept	Penn Yan Area Volunteer Ambulance Corps	Soldiers and Sailors Hospital	YC Public Safety Bldg  Yates County EOC 417 Main Street	US Army Dept of 770 <sup>th</sup> Engineer Co Cornwell St

Note: All communities have service coverage from neighboring organizations, but may not have facilities or structures located in the jurisdiction.

**Table 5-7 Shelters and Feeding Sites**

Community Shelters and Feeding Sites Organized by the Red Cross*				
Jurisdiction	Reception, Food and Shelter Sites	Short-Term Reception Sites	Food and Clothing Suppliers	Number of Agreements with Restaurants and Caterers
Barrington	See Dundee and Penn Yan			
Benton	See Penn Yan and Dresden			
Italy	See Middlesex, Jerusalem and Penn Yan			
Jerusalem	Bluff Point United Methodist Branchport United Methodist Also See Penn Yan	Branchport Fire Dept		3
Middlesex	Marcus Whitman Schools Middlesex Valley Elementary Rushville Elementary			
Milo	See Penn Yan			
Potter	See Middlesex and Penn Yan			
Starkey	See Dundee			
Torrey	See Dresden and Penn Yan			
Dresden	Dresden United Methodist			1
Dundee	Dundee Schools	Dundee Fire Dept	Giles Shurfine Belle's	5
Penn Yan	Penn Yan Academy Penn Yan Middle Penn Yan Elementary St Paul's Lutheran First Baptist Church St Michael Catholic St Mark's Episcopal Penn Yan United Methodist First Presbyterian	Penn Yan Fire Dept	Morgan's Tops	18
* Most provide regional coverage to serve neighboring communities				

**Table 5-8 Critical Infrastructure and Services**

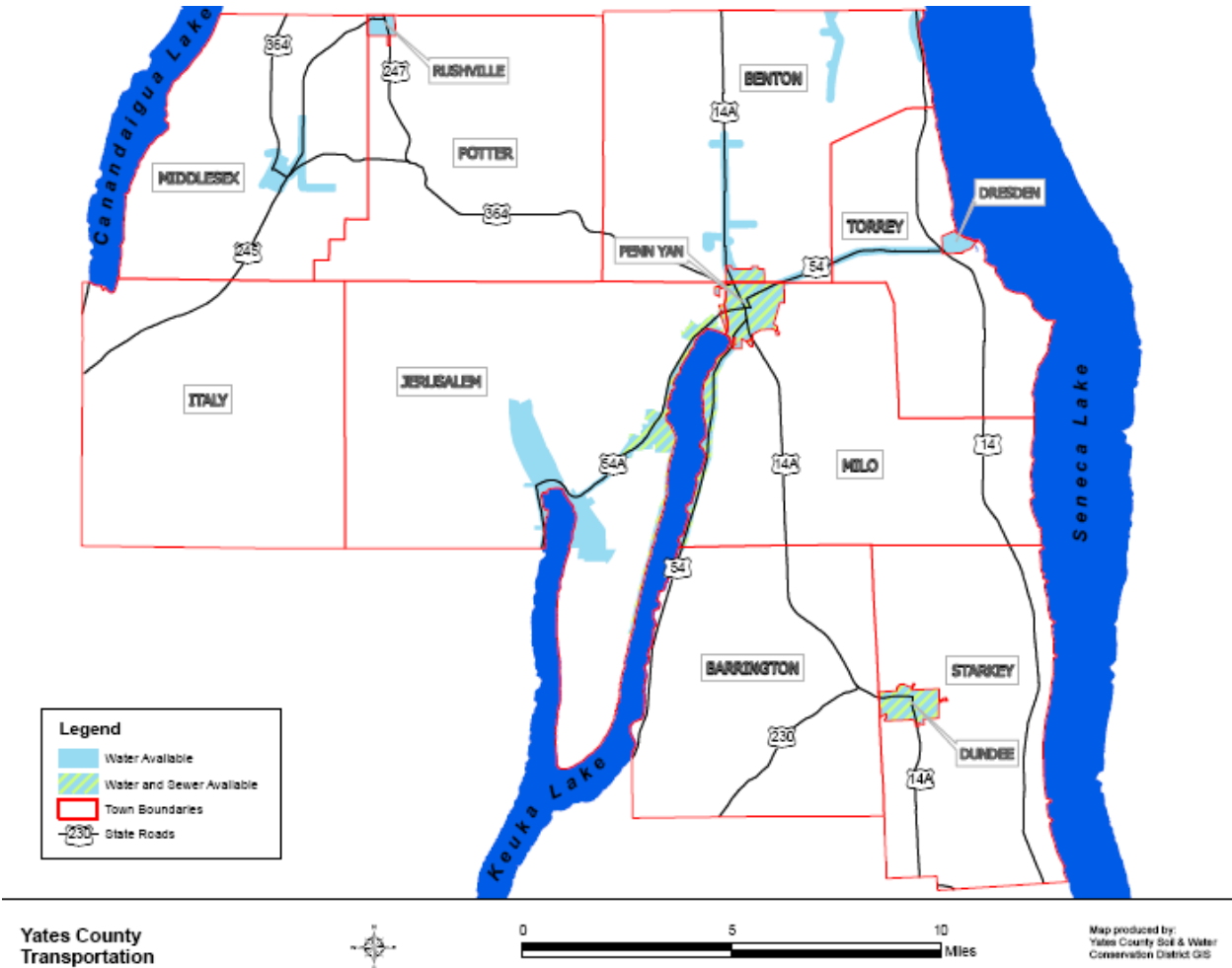
Yates County – Municipal Infrastructure, Utilities and Services						
Jurisdiction	2007 Population	Highway Miles*	Bridges*	Municipal Water* Population Served Supply/Source	Municipal Sewer	Public Works Facilities
Barrington	1404	86.6	7	None	None	Barrington Town Barn 4424 Bath Rd
Benton	2685	91.6	4	997  District 1: 308 supplied from Town of Geneva  District 2: 360 supplied from Penn Yan  District 3: 329 supplied from town of Seneca from Penn Yan	None	Benton Highway Dept. 1412 Rt. 14A  Yates County Highway Dept. 939 Rt. 14A
Italy	1037	71.1	5	None	None	Italy Town Barn 915 Italy Valley Rd
Jerusalem	4731 ----- Summer 6000	151.3	5	3000  Consolidated Keuka Park Water District: Supplied from Penn Yan	Partial municipal service along the East Branch of Keuka Lake Treated at Penn Yan	Jerusalem Town Barn 2672 Guyanoga Rd
Middlesex	1329	69.5	8	480 Town of Middlesex Water Dept.	None	Middlesex Town Barn 734 Rt. 245
Milo	7026	87.6	5	875  3 Districts are supplied from Penn Yan  Himrod has a local municipal well supply	Partial municipal service in the Keuka lakeshore area Treated at Penn Yan	Milo Town Barn 1991 Second Milo Rd

**Table 5-8 Critical Infrastructure and Services (continued)**

Yates County – Municipal Infrastructure, Utilities and Services						
Jurisdiction	2007 Population	Highway Miles*	Bridges*	Municipal Water* Population Served Supply/Source	Municipal Sewer	Public Works Facilities
Potter	1799	76.6	6	None	None	Potter Town Barn 1226 Phelps Rd
Starkey	3385	81.3	5	None	None	Starkey Town Barn 21 Union St
Torrey	1285	54.0	1	Limited service on Route 54 Supply from Dresden/Penn Yan	None	Torrey Town Barn 1364 Anthony Rd
Dresden	288	4.0	2	700 Supply from Penn Yan	None	Village of Dresden Highway Barn 56 Geneva St
Dundee	1592	8.0	2	1638	Municipal	Village of Dundee Highway 25 Spring St
Penn Yan	5156	24.7	4	5248	Municipal service to most village properties, except Horizon Park annex	Village of Penn Yan Highway 396 Elm St

Highway Miles – total centerline mileage includes state, county and local - Source: NYSDOT  
 Bridges\* - Source: NYS Department of Transportation Highway Bridge Data  
 Municipal Water\* - Source: NYS Department of Health

**Figure 5-1 Water & Sewer Districts**



Note: Maps with greater detail of the Water and Sewer Districts in Jerusalem and Milo can be found in their Comprehensive Community Master Plans available on their Town websites.

[www.townofmilo.com](http://www.townofmilo.com)  
[www.jerusalem-ny.org](http://www.jerusalem-ny.org)

**Table 5-9 Public Utilities & Services**

Yates County – Public Utilities and Services					
Location	Electric Distribution	Natural Gas Service	Households heating with public gas or electric (NYSEG)	Power Generating Station	Airports
Barrington	NYSEG		7%	None	None
Benton		NYSEG Pump House Pre-Emption Rd	39%	None	None
Italy			5%	None	None
Jerusalem		NYSEG Indian Pines, E Bluff Drive	31%	None	None
Middlesex			10%	None	Middlesex Valley Airport 1078 Lincoln Ave
Milo		NYSEG	75%	None	Penn Yan Airport Old Bath Road  Seneca Flight Old Bath Road
Potter			27%	None	None
Starkey		NYSEG	55%	None	None
Torrey		NYSEG Route54	32%	AES Grenich Plant Rd Dresden, NY	None
Dresden		NYSEG	62%	None	None
Dundee		NYSEG	95%	None	None
Penn Yan	Municipal Electric	NYSEG	96%	None	None

F. Schools and Colleges

**Table 5-10 Yates County Schools and Colleges**

Yates County – Schools and Colleges				
Location	Public Schools	Private/ Parochial Schools	Mennonite Schools	Colleges
Barrington			Pine Glenn Sunny View Creekside Scenic Valley	
Benton			Brookside Sunny Haven Benton Kashong Townline	
Italy		Italy Naples Baptist Church		
Jerusalem		Keuka Lake School	Pine Grove Westwood	Keuka College
Middlesex	Middlesex Valley Elementary			
Milo			Milo Center Chubb Hollow Wood Corner Crossroads	
Potter			Flint Creek Windy Hill Fields Corners Valley View	
Starkey		Freedom Village Rt. 14	Gravel Run Grape Country Meadow Lane Walnut View Spring Hill	
Torrey			Torrey Ridge New Conquest	
Dresden				

**Table 5-10 Yates County Schools and Colleges (continued)**

Yates County – Schools and Colleges				
Location	Public Schools	Private/ Parochial Schools	Mennonite Schools	Colleges
Dundee	Dundee Central School 55 Water St Dundee, NY	Dundee Head Start	Crystal Valley	
Penn Yan	Penn Yan High School  Penn Yan Elementary  PY Middle School	Emanuel Baptist  St. Michael's  Penn Yan Head Start		

**G. Historic and Cultural Resources**

**Table 5-11 National Registry of Historic Sites**

Sites on National Registry of Historic Places		
Jurisdiction	Historic Sites	Historic Districts
Barrington	1	<p><b>Crooked Lake Outlet Historic District</b> (Penn Yan, Torrey, Dresden)</p> <p><b>Penn Yan Historic District</b></p> <p><b>Yates County Courthouse Park District</b> (Penn Yan)</p>
Benton	6	
Italy	3	
Jerusalem	19	
Middlesex	6	
Milo	5	
Potter	3	
Starkey	6	
Torrey	1	
Dresden	2	
Dundee	4	
Penn Yan	8	
County Total	64	



**H. Estimate of Potential Losses**

201.6(c)(2)(ii)(B)

This section describes hazard vulnerability based on potential dollar losses for each hazard related to improved property, community infrastructure, facilities and services. An estimate of potential losses follows for each of the 12 hazards identified in Section III, where it was determined the hazard poses a significant risk, or a serious occurrence could have major impacts for improved property in Yates County.

*Extreme Temperatures*

Extreme temperatures are not expected to pose significant losses to improved property or infrastructure, where costs would primarily be associated with damaged water lines, frost heaving in concrete drives and roadways, plus fire damage linked to reduced or disrupted water supply. Costs associated with extreme temperatures would be more directly related to emergency services and health care for people at risk to extreme heat or cold, temporary heating facilities, impacts on water supply and losses to the agricultural community.

The National Weather Service (NWS) reports that 16 extreme temperature events are recorded for Yates County from 1993 to 2010. Specific loss estimates for Yates County were not available, but the average property damage loss is about \$3,000 per county, per event across the group of counties or region affected. Property damage losses from the most severe temperature event in 2004 were estimated at \$220,000, which covered 21 counties or an average of \$10,500 for any county. The National Oceanographic and Atmospheric Administration (NOAA) estimated in 2005 that the average hospitalization costs to treat a victim of extreme heat or cold was \$16,741 for a typical 3.5 days stay.

*Tornado*

An F1 tornado struck the Town of Middlesex, Yates County in 1996 and property damage was estimated to be \$75,000.

An F1 tornado in Corfu, Genesee County in 2009 resulted in power outages, damage to 30 homes, two businesses, a farm and barn, and several vehicles. Property damage, clean up and municipal costs in two affected municipalities totaled \$2 million, although the greatest impacts and costs were in the Village of Corfu.

One of the most serious tornados in New York State was the 1998 F3 tornado in Mechanicville, Saratoga County. It resulted in \$60 million in property damage across nine towns and villages. There were 70 injuries, 55 homes were destroyed and 280 homes and businesses were damaged. Several farms were damaged and 25 cows were lost when a barn collapsed. Local governments incurred emergency service and debris cleanup costs that ranged from a few thousand to more than \$1 million.

Many of the communities across New York that were affected by these tornados are similar in size and profile, and also have the same risk of tornado occurrence, as jurisdictions in Yates County. Potential tornado losses to communities in Yates County could be similar to any of

these events. Since tornados tend to concentrate damages in defined areas or paths where they touchdown or pass, villages and towns that have population centers or areas of greater structural density have an increased potential for loss.

All structures in Yates County are at risk of tornado damage, although only certain areas would be affected by any single tornado or event. The U.S. Census Bureau estimated the 2008 median home value in Yates County is \$113,577. If any jurisdiction in Yates County sustained tornado losses similar to the 1998 F3 tornado in Mechanicville, Saratoga County, and 55 homes were destroyed, the potential loss to property in that town or village could be \$6.2 million. And, if an additional 280 homes had 20 % damage, the loss total could more than double to \$12.6 million.

### Transportation Accidents

Property damage associated with transportation accidents would usually be localized or concentrated at an accident site and costs are commonly born by the responsible party or insurer. The most significant impact of transportation accidents is the potential for multiple deaths and injuries and the costs of emergency response, medical care, security and investigative services.

Given the traffic and transportation profile of Yates County, the greatest potential for a serious accident is associated with school and tour bus transportation, where vehicles carry up to 50 passengers. Response to an accident of this type could cost the local community and response agencies thousands of dollars, and would be a demanding organizational and emotional challenge, but much of the cost would be spread across several mutual-aid departments and services, and it can be expected that some costs would be recovered through responsible parties and insurers. For local governments and agencies, there may also be potential costs associated with liability claims, but only if it is determined that local infrastructure, facilities or maintenance were contributing factors to the accident.

Airports and railways in Yates County provide only limited local service that involves small numbers of passengers and freight, and there are no interstate highways in the county. An accident involving a small plane, local freight extensions or the tourism railway could damage properties and community infrastructure at or adjacent to an accident site, and would demand the response of multiple agencies and services, but property damage would not be widespread.

A rare and unlikely, but credible worst-case transportation threat would be a commercial airplane accident similar to the 2009 Colgan air crash in the small town of Clarence Center, near Buffalo, New York where there were 50 casualties. Another example would be an event similar to the hijacked 9-11, United Flight 93 that crashed in rural Pennsylvania killing 44. The 2009 Colgan disaster destroyed two homes and the 9-11 Flight 93 crashed on a reclaimed coal mine. In the Colgan air crash, the Town of Clarence and local response agencies have submitted claims to the airline for reimbursement of \$1.2 million in costs, while Erie County is seeking reimbursement of \$750,000. Major costs involved recovery of victims and remains, security, medical examiner and autopsy expenses, firefighting, safety measures and monitoring, equipment rental, repairs to streets and sidewalks and incident management.

### Oil Spill

There are 139 sites throughout Yates County that have NYDEC petroleum bulk storage permits; where they primarily transport, transfer and/or store gasoline, fuel oil and related petroleum products. There is an average of 23 oil spills in Yates County each year (see Appendix 8). Most are minor and costs are commonly covered by the property owner, facility operator or transportation company that is responsible for the spilled product. There can be response costs to local governments and fire departments, which are sometimes reimbursed by the party responsible for the spill, or the costs may be minimal and are considered a common and regular cost of emergency response operations.

Aside from emergency operations costs, a large or more widespread oil spill could result in major costs for environmental protection and clean up. Damage to homes or improved property might not be a factor, but a spill that seriously impacts water supplies, or a severe spill affecting recreational waterways could pose significant costs for businesses, the local economy and tourism. Local governments in Yates County do not have the resources and could not absorb the costs associated with a major oil spill. Action by the responsible party or support from state and/federal agencies would be essential to response and recovery from any serious spill.

### Hazardous Materials – In Transit

Risks and costs associated with hazardous materials transportation accidents are potentially highest in the Towns of Barrington, Benton, Milo, Starkey, Torrey, and the Villages of Dresden, Dundee and Penn Yan – where they are traversed by Route 14 and Route 14A - the primary transport and shipping routes for materials passing through Yates County. The eleven (11) facilities that maintain chemical bulk storage permits with NYSDEC are all located in these jurisdictions, as are the three (3) Tier II reporting facilities having threshold quantities of regulated chemicals which make them subject to community disaster planning (see Appendix 9).

From 1994 to 2009, there were 18 hazardous material releases or spills in Yates County that were reported to the National Response Center (NRC). Most were oil spills, only 6 involved hazardous materials other than oil or petroleum products -- 2 were transportation related and four were at fixed sites. The two involved environmental, water or ground contamination; no property damage or significant costs to local governments or response agencies were noted. One event required flushing of the municipal sewer, another resulted in the placement of booms and absorbent materials and another required soil remediation. Historically, hazardous materials incident costs have not been a significant burden for local governments in Yates County, but the potential for serious threats exist that could impact public health, damage homes, improved property and infrastructure.

Severe Winter Storm

Structural losses associated with winter storms are most often related to damages caused by wind, heavy snow loads, water damage and freezing pipes. Communities also experience extraordinary expenses for health and emergency services, snow removal and debris disposal; and there are significant economic impacts when there are power outages, transportation is disrupted and schools and businesses are closed.

In 2007, the Insurance Information Institute reported that the average homeowners claim for wind damage was \$3,500, and if the claim included water and freezing damage, the average increased to \$5,095.

**Table 5-12 Residential Property at Risk to Storm Loss**

Value of Residential Property at Risk to Storm Wind Damage			
Jurisdiction	Properties at Risk	Potential Value at Risk - Average \$3,500 per property \$ in millions	Potential Value at Risk - Average \$5,095 per property \$ in millions
Barrington	759	2.7	3.9
Benton	852	3.0	4.3
Italy	618	2.2	3.1
Jerusalem	2393	8.4	12.2
Middlesex	796	2.8	4.1
Milo	2360	8.3	12.0
Potter	535	1.9	2.7
Starkey	1265	4.4	6.4
Torrey	633	2.2	3.2
Dundee	443	1.6	2.3
Dresden	133	0.5	0.7
Penn Yan	1380	4.8	7.0

Structures built in compliance with NYS building codes would be designed to withstand expected snow loads, so those at greatest risk would be older or non-compliant structures. While local communities have applied building codes for decades, the New York State Uniform Fire Prevention and Building Code went into effect in 1984 to apply statewide standards. The number of structures built prior to enactment of modern building codes is outlined in the table below, but using such data to estimate structural quality and the number of older structures at risk would be unreliable, since many older structures, particularly in rural farming communities, were built in a way that they are actually as strong or more stable than those built using today's standards.

**Table 5-12a Residential Construction – Year Built**

Residential Construction – Year Built				
Jurisdiction	Number of Homes 2000	Median Year of Homes Built	Homes Built Prior to 1980	Percent Built Prior to 1980
Barrington	914	1969	617	68%
Benton	969	1945	716	74%
Italy	578	1974	349	60%
Jerusalem	2532	1964	1747	69%
Middlesex	732	1959	546	75%
Milo	3377	1944	2911	86%
Potter	626	1970	405	65%
Starkey	1638	1950	1331	81%
Torrey	699	1954	553	79%
Dresden	149	1939	145	97%
Dundee	716	1939	608	85%
Penn Yan	2281	1939	2123	93%

Source: U.S. Census Bureau

A severe winter storm in Buffalo and Erie County, NY in 2001 accumulated 7-feet of heavy snow over five days and there were 22 structures with collapsed roofs, some totally destroyed and others with partial damage. There was also widespread damage to carports, porch roofs and accessory structures, which are often not reinforced as strongly as residential or commercial construction. The National Weather Service notes the maximum record snowfall in Yates County was 29 inches or about 2.5 feet; and structural densities are also much less in Yates County than in Buffalo and Erie. The U.S. Census Bureau estimated the 2008 median home value in Yates County is \$113,577, so if one-half the jurisdictions in Yates County were exposed to a heavy snow-load storm that destroyed one-half as many residences or eleven (11) homes, the potential cost could be about \$280,000 in each jurisdiction.

Landslide

The greatest landslide risk in Yates County is concentrated in the higher elevations and slopes adjacent to Canandaigua and Keuka lakes, particularly in the towns of Barrington, Italy, Jerusalem, Middlesex and Milo. The USGS estimates these areas have a ‘moderate’ risk of landslide where 1.5 to 15 % of the areas could be at risk. USGS records note only one serious landslide has ever occurred in Yates County and it is marked on USGS maps as an event in neighboring Ontario County, which was also impacted. Landslide incidents associated with heavy rain and runoff do occur in these areas every few years, although they commonly affect very specific and localized sites that involve small sections of road or infrastructure and only a few properties. These landslides have not caused serious residential damage, but the washouts do result in costly damage affecting natural drainage-ways and channels, sections of local roads, culverts and related infrastructure. There is also concern that increased development over the past 20 years has heightened the overall risk by placing more structures in the hazard zone, which contributes to greater runoff, erosion and drainage threats. It has been well established that construction on steep slopes increases the risk of landslides (source: Yates County Soil and Water Conservation District (SWCD)).

**Table 5-13 Residential Property Value at Risk to Landslide**

Value of Residential Property at Risk to Landslide			
Town	Total Residential Value (see Section V - Table 5-3)	Property Value at Risk	
		Landslide Affecting 1.5 % of Home Values	Landslide Affecting 15 % of Home Values
Barrington	\$194,028,400	\$2,910,426	\$29,104,260
Italy	\$55,040,550	\$825,608	\$8,256,082
Jerusalem	\$581,208,503	\$8,718,127	\$87,181,275
Middlesex	\$126,555,000	\$1,898,325	\$18,983,250
Milo	\$245,665,300	\$3,684,980	\$36,849,795

Heavy rain and runoff on steep slopes in Yates County typically result in municipal infrastructure damage to local roads, roadside culverts and drainage, and crossing or intersecting drainage structures. Design and maintenance of roads and infrastructure in steep terrain that has many natural, but small and potentially high velocity gullies and discharge channels, is challenging and costly. Damage in a severe storm most commonly occurs in one or more pockets or vulnerable sties, which often vary depending on local conditions and volume and intensity of the storm, rainfall and runoff. For example a recent storm damaged about 2000 feet of roadway and associated drainage on Sunnyside Road in the Town of Italy. In the Town of Middlesex, storms and heavy rain over the past several years have resulted in damages of similar scope at multiple sites along South Lake Road. Temporary repairs must often be undertaken before permanent restoration can be designed and funded.

In 2009, Erie County, NY completed the restoration of 750 feet of a flood damaged rural roadway that included drainage and slope reinforcement. The cost was approximately \$2 million, or about \$14.1 million per mile.

**Table 5-14 Estimated Highway Infrastructure Landslide Repair**

Potential Highway Infrastructure Repair Costs for a Landslide					
Town	Total Road Miles (See Table 5-8)	Estimated Road Miles in Steep Slope Areas	Estimated Per Mile Repair	Potential Highway Infrastructure Repair Cost	
				Landslide Affecting 1.5 % of Steep Slope Roads	Landslide Affecting 15 % of Steep Slope Roads
Barrington	86.6	15%	\$14.1 million	\$2.8 million	\$27.5 million
Italy	71.1			\$2.3 million	\$22.6 million
Jerusalem	151.3			\$4.8 million	\$48.0 million
Middlesex	69.5			\$2.2 million	\$22.0 million
Milo	87.6			\$2.8 million	\$27.8 million

Hurricane and Tropical Storm

For estimates of hurricane and tropical storm losses, see sections for Severe Storms and Flooding. Once a hurricane moves inland and remnants reach upstate New York and Yates County, they become tropical or severe storms and result in high winds and/or flooding.

Ice Storm

An ice storm can result in property and infrastructure damage, particularly when there are downed trees and limbs, or when problems associated with lack of power and heat contribute to equipment failure, water damage and structure fires. The most significant costs of ice storms are usually the economic impacts linked to power outages, utility restoration and the disruption of transportation that affects commerce and closes businesses and schools. Costs of debris clean-up, emergency power, food spoilage, sheltering and emergency services are also significant. Two of the most costly natural disasters in New York were the 1991 ice storm in Rochester and portions of the Finger Lakes and the 1998 North Country ice storm.

In 2007, the Insurance Information Institute reported that the average homeowners claim for wind damage was \$3,500, and if the claim included water and freezing damage, the average increased to \$5,095. Potential losses for wind and water damage associated with an ice storm would be similar to that estimated in the section above for Severe Storms - see the table 'Value of Residential Property at Risk to Storm Wind Damage'.

The potential costs of a prolonged power outage following a severe ice storm would be similar to the losses estimated for power outages that can occur from many other hazards and are estimated below in the section ‘Utility Failure / Power Outages’.

The most significant costs to local governments in an ice storm are related to debris clearance and disposal, emergency services, sheltering and temporary emergency power. Data provided by the New York State Emergency Management Office shows that debris disposal costs for small, rural local governments affected by a declared disaster involving significant amounts of downed debris can typically range from a few thousand to \$150,000.

The NYS Hazard Mitigation Plan (2008) prepared a statewide assessment that evaluates and ranks county vulnerability to ice storms. A rating score is derived by combining an evaluation of the number of ice storm disasters that occurred in a county, the population density per square mile in the county and the total number of structures in the county. The ice storm rating for Yates County’s was 6, on a scale of 1 (least vulnerable) to 9 (most vulnerable). Nine counties in the state had a higher ice storm rating or vulnerability, four others had the same rating of 6 (Cayuga, Clinton, Livingston and Steuben) and 47 counties had a lower rating or vulnerability to ice storms.

**Table 5-15 Jurisdictions Most Threatened and Vulnerable to Ice Storm Loss (New York)**

County	Rating Score	# of Ice Storm disasters	Total # of Structures
Yates	6	3	9542

Source: NYS Hazard Mitigation Plan - Table 3-38

Flooding

Nationally and in New York State, flooding is the most common and costliest natural disaster. To determine the number and value of properties at risk to flooding in a community, an analysis of properties in the special flood hazard zones is typically undertaken, usually the A zones on local flood maps or what is also called the 100-year flood zone. This assessment is best done using GIS mapping technology, although such a review is beyond the scope of this project. A GIS evaluation is more challenging in Yates County because FEMA ‘Q3’ digital flood mapping has not been completed for the county, as it has in many other communities in New York State. An assessment of potential flood impacts that is based only on properties in the high-risk flood zones can help in comparing flood vulnerabilities for one community to another, but it may not be the most accurate method of evaluating the number of properties at risk in a community, because FEMA emphasizes that as many as 25% of the properties damaged by flooding are in lower risk flood zones outside the 100-year floodplain.



The term ‘100-year floodplain’ can be misleading. It does not mean that a flood will occur every 100 years, rather it means there is a 1% chance a flood will occur in any year, and in the 100-year floodplain there is a 26% chance a property will be flooded over the period of a 30-year mortgage (more than once in 100 years), which FEMA notes is about five times higher than the risk for a severe fire.

Homeowners and businesses in the Zone A 100-year flood zone are required to purchase and maintain flood insurance, but it is recommended that property owners outside these areas also obtain flood insurance. As noted above, serious flooding can occur outside the 100-year floodplain, even where the risk is considered much lower. Properties on steep hills and gentle slopes can experience flooding when heavy, inundating rains produce sheets of water that overwhelm natural gullies and swales; and in flat terrain away from streams and creeks, ditches and drainage paths can quickly be overtaken when drenching rains occur. This is a particular problem in villages and developed areas when channeled drainage, catch basins and storm sewers swell beyond capacity. Floodplains and flood risk will also change over time as development up and downstream, natural stream and runoff patterns and debris build-up transform the hydrology.

Severe flooding is common in rural upstate New York communities, including many areas that are similar in size and profile to the towns and villages of Yates County. In 2009, flooding in Chautauqua, Cattaraugus and southern Erie counties affected several rural villages and small towns. In the Chautauqua County village of Silver Creek and four nearby towns, 43 homes were destroyed and 325 were damaged. In the village of Gowanda that borders Cattaraugus and Erie counties, one-third of the village’s 1000 homes were damaged in the same flood.

Factors that affect the severity of flooding in the two regions differ, just as there are similarities. Communities in Yates County are not situated on major creeks with a history of such devastating floods, as are Gowanda and Silver Creek, and in Yates there are fewer properties in the high risk flood zones, but flooding in towns outside Gowanda and Silver Creek was on smaller streams and tributaries of the type that exist in Yates and most areas of New York. The value of residential property that could be impacted by a flood that damages even 15%, or 1 % of the properties in Yates County is outlined in the following table.

--continued on the next page --

**Table 5-16 Potential Flood Losses to Residential Property**

Value of Potential Flood Damage to Residential Properties				
Jurisdiction	Number of Residential Properties	Total Residential Property Value	1 % of Properties Damaged	15 % of Properties Damaged
			Potential Value of Damage	Potential Value of Damage
Barrington	759	\$194,028,400	8 \$1.9 million	114 \$29.1 million
Benton	839	\$100,204,100	8 \$1.0 million	276 \$15 million
Italy	618	\$55,040,550	6 \$550,400	93 \$8.3 million
Jerusalem	2367	\$581,208,503	24 \$5.8 million	355 \$87.2 million
Middlesex	796	\$126,555,000	8 \$1.3 million	119 \$19.0 million
Milo	1017	\$245,665,300	10 \$2.5 million	153 \$36.8 million
Potter	535	\$47,102,400	5 \$471,000	80 \$7.1 million
Starkey	821	\$116,302,900	8 \$1.2 million	123 \$17.4 million
Torrey	500	\$98,977,900	5 \$990,000	75 \$14.8 million
Dundee	443	\$29,564,000	4 \$296,000	66 \$4.4 million
Dresden	133	\$11,841,500	1 or 2 \$118,400	20 \$1.8 million
Penn Yan	1380	\$131,003,900	14 \$1.3 million	207 \$20.0 million

The NYS Hazard Mitigation Plan (2008) prepared a statewide assessment that evaluates and ranks county vulnerability to losses from flooding. The state plan prepared two flood assessments, one that included FEMA Q3 Digital\* flood data, for those counties where it is available, and another excluding Q3 data, since Q3 data is not available for Yates and 21 other counties. In the statewide analysis that excludes Q3 data, all counties are ranked relative to their vulnerability for flood losses, which is a combined rating that factors the history of flooding, density of the population and the potential loss or cost based on the value of property covered under NFIP policies.

The flood loss rating for Yates County was 10, on a scale where the least vulnerability to flood loss was 7 and the greatest vulnerability was 32. Yates shared the #10 rating with 5 other upstate counties (Orleans, Warren, Washington, Wayne and Wyoming). There were 6 counties that had a rating less than 10 (Hamilton, Lewis, Schuyler, St. Lawrence, Franklin and Seneca), indicating there is less vulnerability to flood loss in those counties than in Yates. Fifty (50) counties ranked higher than Yates, indicating increased vulnerability. The rating or score does not represent the

risk of flooding, since all counties have flooding, rather it shows how a greater density of population and increased numbers of properties in high risk flood zones increases vulnerability.

**Table 5-17 Jurisdictions Most Threatened and Vulnerable to Flood Loss (New York)**

County	Rating Score	Total NFIP Policy Coverage	# of Repetitive Flood Loss Properties	# of Flood Disasters	Population Density Per Square Mile
Nassau	32 Greatest Vulnerability	\$ 7,483,162,800.	1332	4	4,637
Yates	10	\$ 33,008,400.	0	6	66
Franklin	7 Least Vulnerability	\$ 14,156,400.	0	3	30

Source: NYS Hazard Mitigation Plan - Table 3-17 (excludes Q3 Data)

\* Q3 Flood Data is a digital representation of certain features of FEMA's Flood Insurance Rate Maps, intended for use with desktop mapping and Geographic Information Systems technology.

Costs to municipalities for restoration of flood damaged infrastructure, emergency response and clean-up can range widely depending on the scope of the flooding, the extent and types of facilities damaged and the size of the community. Based on data from the New York State Emergency Management Office for recent floods, costs to local jurisdictions in rural upstate communities range from several thousand dollars to more than \$16 million. In the August 2009 flood in Cattaraugus County, expenses in the Village of Gowanda (population: 2,600) amounted to \$16.6 million, and in the Town of Perrysburg (population: 1,771) the cost was \$5.2 million. In addition to clean-up costs and road repair, both these areas had extensive damage to municipal water systems, bridges, schools or hospitals. Costs in the Village of Perrysburg (population: 408) were \$2 million, and in Yorkshire (population: 4,210) and East Otto (population: 1,105) they were \$1.2 million each. These latter communities primarily had flood losses associated with repair of roads, drainage, parks and public grounds, debris clean-up and emergency response costs.

### Severe Storms

For severe storm wind damage, see *Severe Winter Storms*, for flooding associated with severe storms, see *Flooding*.

### Utility Failure / Power Outage

Disruption of electrical service is the most common utility interruption and usually the result of severe storms, ice storms, high winds, equipment and technological failure, terrorist or criminal activity, fires and accidents. Natural gas service can be affected by supply disruptions, equipment or technical failure, terrorism or sabotage, fires and accidents. Communication services are also at risk to severe weather, storms, high winds, equipment or technical failure, terrorism or criminal activity, fires and accidents.

Damages and costs to improved property and municipal infrastructure associated with utility outages are most often related to surges that damage electrical services, equipment and appliances. Damaged equipment and structural impacts can also occur when heat and power loss cause freezing and water damage. Fires are a further concern when there are electrical malfunctions or gas leaks, and when alternate heating sources and generators are misused during outages.

While not directly affecting improved property and infrastructure, there are many other utility and power outage costs that impact the community. Spoiled food and the replacement cost of food, emergency response and sheltering, and health care costs linked to increased injuries, loss of heat and air conditioning are common. The most costly impacts to the community from a sustained, widespread power outage can be economic and include the closing of businesses and schools, disruption of commerce, suspension of transportation and public services and unemployment. Agricultural operations typically experience significant losses as well when there are utility failures.

The most power sensitive facilities and customers typically include:

- Mission-critical computer systems
- Industrial processing companies
- High-tech manufacturing facilities and clean rooms
- Financial institutions
- Digital communication facilities (phone, television, satellite)
- Military operations
- Wastewater treatment facilities
- Hospitals and other health care facilities

Power outages or service interruptions impose direct costs on facilities and customers in the following ways:

- Damaged facility equipment
- Diminished or off-specification product and output
- Extra maintenance costs
- Cost for replacement or repair of failed components
- Loss of revenue due to downtime that cannot be made up
- Costs for idle labor
- Liability for safety/health

The U.S. Environmental Protection Agency (EPA) maintains data that estimates electric power reliability and the associated costs that customers experience when there is an interruption of power (*USEPA, Calculating Reliability Benefits, last updated, July 2009*). Their analysis estimated the cost of outages per kilowatt hour for Pacific Gas and Electric (PG&E) customers.

**Table 5-18 Costs of Power Interruption**

Customer Class	\$/kWh un-served
Industrial	\$12.70 - \$424.80
Commercial	\$40.60 - \$68.20
Agricultural	\$11.50 - \$11.70
Residential	\$5.10 - \$8.50

Note: A kilowatt hour is a unit of energy equal to 1000 watt hours. A heater rated at 1000 watts (1 kilowatt), operating for one hour uses one kilowatt hour of energy. Using a 60 watt light bulb for one hour consumes 0.06 kilowatt hours of electricity, or using a 60 watt light bulb for one thousand hours consumes 60 kilowatt hours of electricity.

The U.S. Energy Information Administration (EIA) estimated in 2008 that residential customers in New York State used an average of 19.7 kilowatt hours of electricity per day. Using the EPA and EIA estimates, residential customers in Yates County would have costs that range from \$100 to \$167 each day there is an outage. If electric service is disrupted throughout an entire town or village, the cost to all residents in each town are outlined in the following table.

**Table 5-18a Power Outage - Daily Cost to Residents**

Potential Residential Power Outage Costs Per Day			
Jurisdiction	Number of Residences	Average Cost Per Day	Total Daily Cost Per Jurisdiction
Barrington	759	\$133	\$100,947
Benton	839		\$111,587
Italy	618		\$82,194
Jerusalem	2367		\$314,811
Middlesex	796		\$105,868
Milo	1017		\$135,261
Potter	535		\$71,155
Starkey	821		\$109,193
Torrey	500		\$66,500
Dundee	443		\$58,919
Dresden	133		\$17,689
Penn Yan	1380		\$183,540

**I. Analysis of Development Trends**

201.6(c)(2)(ii)(C)

1. Development Management Tools

The primary planning documents that analyze development trends in Yates County and local communities include the following.

- Comprehensive Master Plans prepared by most of the county’s towns and villages (see table 5-17 below)
- Yates County Looking Ahead – A Planning and Design Guide (1990)
- Route 14A Corridor Study (2006)
- Waterfront Revitalization Program (2008)
- Keuka Lake Watershed Land Use Guide (2009) and Keuka Lake Outlet Study (2005)
- Yates County Agricultural Development and Farmland Enhancement Plan (2004)

Communities in Yates County use the following plans, local laws and regulatory tools to manage growth and development.

-- see next page --

**Table 5-19 Local Development Policies**

Summary of Relevant Plans, Regulations and Zoning					
Jurisdiction	Comprehensive Master Plan	Zoning Law	Site Plan Review Requirements	Steep Slopes Ordinance	Floodplain Management Regulation
<b>Barrington</b>	Adopted, 2008	Amended, 1996 Under Revision		Under Review	
<b>Benton</b>	Adopted, 1991 Amended, 2001	Yes	Yes	No	Local Law
<b>Italy</b>	Adopted, 2004 Amended, 2005 Amended, 2010	Yes	Yes	Under Review	No
<b>Jerusalem</b>	Adopted, 2006	Yes, Updated as needed	Yes	Adopted, 2008 Updated, 2010	
<b>Middlesex</b>	Updating 1999 Plan	Yes	Adopted, 2009	Drafted, 2010 Pending Adoption	
<b>Milo</b>	Adopted, 2009	Town Code, Chapter 140		Pending Adoption 2010	
<b>Potter</b>	Yes	Yes		Yes	
<b>Starkey</b>	Yes	Yes	Yes	Under Review	
<b>Torrey</b>	Adopted and Update in progress	Yes Reviewed, 2010	Yes	Yes	Local Law – Flood Damage Prevention
<b>Dresden</b>	Adopted, 2006	Yes		NA	
<b>Dundee</b>	Adopted, 2006-2007	Yes			
<b>Penn Yan</b>	Adopted, 2000	Village Law, chapter 202, 1991	Village Law, Chapter 162		

-- continued on the next page --

## 2. Population Trends

Overall population growth and associated development in Yates County will not significantly influence hazard mitigation goals and priorities in the years ahead. As noted by the 2010 U.S. Census, Yates County experienced modest population growth, primarily in Barrington and Jerusalem, over the last decade.

Significant population growth and related development are not foreseen because of the following factors.

- Economic and employment growth will primarily be linked to tourism and small business development, where modest increases or changes in job patterns are not expected to significantly offset adjustments or losses in other employment sectors.
- Communities are not planning expansion of water and sewer services (except in the Village of Penn Yan Horizon Business Park development), which limits opportunities for residential growth and development. In fact, some towns have expressed opposition to water and sewer expansion in their master plans because it would encourage growth that is not consistent with goals for preserving the agricultural, natural resource and rural character of their communities.
- Most plans recommend that residential expansion occur in proximity to the villages and hamlets, to take advantage of the associated infrastructure and services already provided, and to reduce development pressure on areas dedicated to agriculture, natural resources and rural uses.
- The existing transportation infrastructure does not support or encourage larger scale commercial and industrial development. There is no immediate access to interstate highways in the county, existing state routes are not thru roads and do not directly link the county to major markets, railroads provide limited local service and major commercial airports are a distance away.

-- continued on the next page --



**Table 5-20 Population Trends**

Yates County - Population Trends					
Jurisdiction	2000 Population	2007 Population	2009 Population Estimate	Change 2000 to 2009	Projected Population 2040
Barrington	1396	1404	1412	+ 1 %	1720
Benton	2640	2685	2659	+ 1 %	3040
Italy	1087	1037	1032	- 5 %	1365
Jerusalem	4525	4731	4689	+ 3.6 %	5488
Middlesex	1345	1329	1319	- 2 %	1722
Milo	7026	7026	6925	- 1.4 %	7464
Potter	1830	1729	1809	- 1 %	1698
Starkey	3465	3355	3351	- 3.3 %	3389
Torrey	1307	1285	1286	- 1.6%	1520
Dresden	307	288	285	-7.2 %	280
Dundee	1690	1592	1582	- 6.4 %	1240
Penn Yan	5219	5156	5093	- 2.4 %	5201

Source: U.S. Census Bureau

2010 U.S. Census data was becoming available as this plan was being prepared and has been used in some sections of this plan, but the kind of detail needed for this analysis was not yet published.

3. Development Priorities

Most of the development and master plans prepared by Yates County, local municipalities and area resource management groups call for applying a sustainable development approach that balances modest growth with the protection of agriculture, preservation of the community’s rural and small town features and conservation of natural resources.

*Tourism and Cultural Resources*

Yates County is situated among three of New York’s Finger Lakes and is the second largest producer of grapes in New York State. These natural resources have combined to generate a significant tourism industry in the county centered on the many vineyards, wineries, rural markets, beautiful vistas, outdoor recreation, water resources, culture and history.

Efforts are focused on developing gateway access that will welcome and orient visitors, making it easier for tourists and visitors to access Yates County using state routes that connect the county to interstates and urban centers. There is also interest in promoting year-round tourism and greater development of cultural and historical resources.

### *Agricultural Preservation*

The history and economy of Yates County are closely linked to its agricultural roots and the dominant rural character of the area is a key feature that attracts visitors, tourists and new residents.

There is widespread support for retention and promotion of the agriculture economy, the preservation of farms and rural activities. The quiet and sparse rural settings of Yates County, combined with the lakes, forested areas and sloping vistas are significant attractions that appeal to visitors, vacationers, second home buyers and new residents who seek the country and small town settings.

### *Residential Development*

There is not a widespread demand for concentrated residential expansion, but lakeside communities - particularly Barrington, Italy, Jerusalem, Middlesex and Milo - with waterfronts and sloping vistas are experiencing pressure to build or expand residential structures on prime property. This has led communities to adopt or consider strengthening local zoning, codes and steep slope ordinances to restrict or regulate growth in these sensitive areas. Most communities emphasize that residential expansion should take place in or near the villages and hamlets with existing water and sewer services.

### *Commercial Development and Services*

Local planning calls for the development of commerce and commercial services in proximity to the villages and hamlets of Yates County, and there is general acceptance that pressure for commercial growth along the Route 14A corridor should be concentrated in pockets where business activity has already established a foothold.

The Village of Penn Yan acquired the Horizon Industrial Park where they plan to promote industrial and small business growth in an area accessible to water, sewer and other services. Recent plans developed by most communities emphasize that any commercial growth should take place in or near areas of existing water and sewer services.

Any railway expansion would be linked to existing tourism uses and development of the Horizon Park site. Expansion and improvements of the Penn Yan Airport were recently completed and further airport development would be linked to future commercial demands.

### *Development while Protecting Natural Resources*

The Village of Penn Yan has plans to improve public access and use of its waterfront, and other municipalities that border the county's water resources are partners in coordinated efforts to preserve the Keuka Lake watershed and outlet. Planning is focused on ways to enhance public access, tourism and recreational uses of the waterfronts, conservation areas and other natural resources. At the same time, however, development must protect these natural resources; including forestlands, wetlands, conservation areas, slopes, vistas and water quality. Plans

further emphasize that industrial uses should be located away from these natural resources and that development must consider stormwater management.

#### *Route 14A Corridor*

The Route 14A thoroughfare links many of the villages and much of the population, tourist activity and commerce of Yates County to the major routes and interstates that connect to neighboring regions and urban centers to the north and south of Yates County. A plan is in place to help address traffic, safety and development pressure on this primary route through the County.

#### 4. Hazard Mitigation Considerations

Many of the proposed mitigation strategies that follow in Section VI are intended to complement and enhance the development priorities outlined in local master plans and related policies.

- Based on planning started many years ago, communities have enacted or are considering steep slope ordinances that will regulate residential densities and development in areas along the lakeshores. These actions will reduce hazards and impacts from flooding and storms and provide protection for water quality, natural landscapes, vistas, stormwater management and soil erosion. The Town of Milo Comprehensive Master Plan outlines the kinds of strategies that are recommended for managing development on steep slopes and the types of regulations that can be implemented with a Steep Slopes ordinance. These strategies and recommendations are included in Appendix 5 of this Hazard Mitigation Plan.\*
- Stormwater management projects continue to be a priority for most communities in Yates County. Improvements will provide significant protection for residences and improved property, and they are a key strategy for communities in protecting local roads and infrastructure from flood and storm damage. A primary goal for many communities is to prevent or reduce flooding by improving stormwater management infrastructure on local road and culverts. Solutions local governments can consider to manage stormwater and prevent flooding on private property include; limiting the percentage or amount of area that structures and impervious pavement can cover on a property or lot, requiring site area reviews on all construction, extending or connecting to existing sanitary sewers where possible, and requiring erosion control technologies such as retention systems, sand filters, and use of permeable materials for paving.
- Plans and related discussions also encourage communities to establish or strengthen local flood plain management ordinances.

- Community planning and grant funding sources over the past decade have prompted many jurisdictions in Yates County to update master plans and zoning laws, which provide a platform and interest among community leaders to incorporate development tools that promote effective hazard mitigation actions.
- Hazard Mitigation actions that protect natural resources and manage development not only reduce vulnerability and losses associated with natural and man-made hazards, but have mutual and far-reaching benefits in meeting other community priorities related to natural resource protection, commercial and business development, agricultural protection and promotion of tourism.

\* Note: To read more about comprehensive efforts to protect natural resources in the Finger Lakes and issues related to steep slopes, stormwater management and development in sensitive areas; see the publication *'A Vision for the Canandaigua Lake Watershed'* by Kevin Olvany, et.al.