Section III - Risk Assessment 201.6(c)(2)

A. Program and Method

Yates County conducted the risk assessment and all-hazard analysis using the New York State Emergency Management Office 'Hazard Analysis New York' (HAZNY) program. The HAZNY included the participation and input of each of the County's political subdivisions, was conducted as a single countywide workshop and is summarized in a consolidated HAZNY report (Appendix 3) for the County that addresses shared and specific risks for each jurisdiction.

The HAZNY program identified which hazards pose the greatest risks and planning impacts for Yates County.

The following factors were considered in analyzing potential hazards:

1) **Where could the hazard occur -** the options available were:

   a) a large region (affecting an area greater than half of the municipality),
   b) a small region (affecting an area one third to one half the municipality),
   c) several individual locations or
   d) a single location.

For large-scale hazards such as weather related incidents, large or small regions were generally chosen as weather can encompass larger areas such as a municipality or an entire county. For several hazards, such as hazardous materials release in transit, a small region was chosen as it was decided the hazard could happen anywhere along a transportation corridor. For some hazards, such as hazardous materials release from a fixed location, either a single location or several individual locations were chosen as the hazard was only possible at certain locations.

2) **How often does the hazard occur -** historical data was analyzed to determine how often a hazard occurred in the municipality. The options available were

   a) a rare event (less than once every fifty years), an infrequent event (once every eight to fifty years),

   b) a regular event (once a year to once every seven years) and

   c) a frequent event (more than once a year).

3) **What are the cascade effects -** the HAZNY asked "Could this trigger another hazard". For example, a flood can trigger a hazardous materials release, or a severe storm will result in a power outage.

4) **How will the hazard impact the population, private property and public infrastructure -** This series of questions looked at the following possible outcomes.

   a) serious injury or death is unlikely,
   b) likely but not in large numbers,
   c) likely in large numbers, or
   d) likely to extremely large numbers.

"Not in large numbers" was defined as the number of victims that would not overwhelm the four Yates County area hospitals.

Large numbers was defined as the number of victims that would require an activation of the hospitals' emergency plans.

Extremely large numbers was defined as requiring the transport of victims to hospitals outside Yates county.

Damage options for private and public property are considered little, moderate or severe:

1) 'Little' is defined as either …
   a) a significant number of structures still habitable or useable but in need of minor repair, or
   b) severe damage to a very limited number of structures;
2) 'Moderate' is defined as not property is not habitable or useable but able to be repaired, or is further defined as damage to a sizeable number (a quarter) of structures,
3) 'Severe' as a total loss and a sizeable number of structures must be replaced.

How much warning will you receive - options included:

   a) no warning,
   b) several hours,
   c) one day,
   d) several days,
   e) more than a week.

How long will the hazard remain active - options included:

   f) less than one day,
   g) one day,
   h) two to three days,
   i) four days to a week,
   j) more than one week.

The "hazard remains active" was defined as the actual hazard duration, such as a blizzard that could be two to three days, or flooding that could be more than a week. However, a hazard such as an explosion is considered less than one day as it is an instantaneous event.

- **How long will emergency operations continue -** options included:

  a) less than one day,
  b) one to two days,
  c) three days to a week,
  d) one to two weeks,
  e) more than two weeks.

"Emergency operations" is defined as operations "above and beyond normal work duties" i.e. an emergency crew operating around the clock or special crews that are needed to respond to the hazard such that the hazard does not pose a public threat. Debris cleanup after a storm during normal work hours is not considered emergency operations.

In addition to the HAZNY, historical data of disaster declarations and damages due to natural and man made disasters has been compiled and was analyzed during each session. National Weather Service statistics from the National Climate Data Center were obtained and used to determine frequency and timing of weather related incidents. Each municipality supplied the name of a contact or long time resident that could recall incidents or events. The dates, times, etc. were verified through media coverage, municipal documents such as highway records for damages and repairs, documentation from local, state, and federal disaster declarations, and documentation from state and federal agencies such as spill reports from the NYS Department of Environmental Conservation.

The analysis indicates that Yates County and its municipalities have several reoccurring hazards, or imminent hazards, that must be addressed through a coordinated Hazard Mitigation Plan. For weather related events, the small size of Yates County means there is a high probability that all or most of the county will be impacted. The Yates County HAZNY evaluated all thirty-five potential hazards.

B. Hazard Definitions 201.6(c)(2)(i)

Listed below are the definitions of potential hazards as identified in the New York State Hazard Mitigation Plan, used in the New York State HAZNY program and as endorsed by representatives of the National Weather Service (NWS) who participated in the HAZNY. The HAZNY was conducted in August 2009. Included with each definition is the HAZNY hazard ranking for Yates County.

Tsunami (44): A large sea wave produced by subocean earth movement, earthquake, or volcanic eruption; historically very rare in the Atlantic Ocean.

Mine Collapse (107): The folding, caving-in or sudden implosion of an underground cavity. Such an event would threaten persons inside the cavity and/or persons, property and structures on the surface.

Radiological - Fixed Site (107): A release or threat of release of radioactive material from a nuclear power generating station or research reactor or other stationary source of radioactivity.

Radiological – In Transit (107): A release or threat of release of radioactive material from a transportation vehicle including truck, rail, air, and marine vehicle.

Avalanche (117): A mass of sliding snow, which usually occurs in mountainous terrain where snow is deposited on slopes of 20 degrees or more.

Terrorism (122): The threat or use of violence to achieve political/social ends usually associated with community disruption and/or multiple injuries or deaths.

Civil Unrest (133): An individual or collective action causing serious interference with the peace, security, and/or functioning of a community (e.g., riot).

Air contamination (138): This is pollution caused by atmospheric conditions, (as opposed to a chemical spill or release type of situation) such as a temperature inversion induced smoggy condition sufficiently serious to create some danger to human health.

Ice Jam (138): Large accumulation of ice in rivers or streams interrupting the normal flow of water and often leading to flooding conditions and/or damage to structures.

Drought (139): A prolonged period of limited precipitation affecting the supply and quality of water.

Earthquake (143): A sudden motion of the ground caused by release of subterranean strain energy, due to plate tectonics, resulting in surface faulting (ground rupture), ground shaking, or ground failure (collapse).

Structural Collapse (162): A sudden structural failing, partial or fully, of buildings, bridges or tunnels, threatening human life and health.

Food Shortage (163): A situation where the normal distribution pattern and/or the timely delivery of foodstuffs to retail establishments for normal consumer demand is interrupted for a substantial period of time.

Epidemic (168): The occurrence or outbreak of disease to an unusual number of individuals or proportion of the population, human or animal.

Fuel Shortage (170): A situation in which the normal quantity and/or timely delivery of fuel supplies to distributors and retail establishments are interrupted.

Hazardous Materials - Fixed Sites (176): The uncontrolled release of material from a stationary facility, which when released can result in death or injury to people and/or damage to property and the environment through the material's flammability, toxicity, corrosiveness, chemical instability and/or combustibility.

Water Supply Contamination (178): The contamination or potential contamination of surface or subsurface public water supply by chemical or biological materials that results in restricted or diminished ability to use the water source.

Explosions (178): The threat or actual detonation of an explosive device or material with the potential of inflicting serious injury to people or damage to property.

Dam Failure (178): Structural deterioration, either gradual or sudden, resulting in the facility's inability to control impounded water as designed, and posing a danger to people and/or property in the potential inundation area.

Infestation (180): Excessive populations of insects, rodents or other animals requiring control measures due to their potential to carry diseases, destroy crops or harm the environment.

Blight (184): A disease of agricultural crops or non-agricultural plants resulting in withering, lack of growth, and death of its parts without rotting.

Wildfire (195): An uncontrollable combustion of trees, brush, or grass involving a substantial land area that has the potential for threatening human life and property

Extreme Temperature (198): Extreme Heat is sustained periods when the heat index is 100 degrees or greater, or when sustained nighttime temperatures exceed 80 degrees. Sustained periods when the windchill is minus 20 degrees or colder. **Extreme Cold** is sustained periods with windchills of minus-20 degrees and colder.

Tornado (198): A local atmospheric storm, generally of short duration, formed by winds rotating at very high speeds, usually in a counterclockwise direction. The vortex, up to several hundred yards wide, is visible to the observer as a whirlpool-like column of winds rotating about a hollow cavity of funnel. Winds have been estimated to be as high as 400 miles per hour.

Transportation Accidents (200): A mishap involving one or more conveyances on land, sea, and/or air that results in mass casualties and/or substantial loss of property.

Oil Spill (203): Uncontrolled or accidental discharge of petroleum products to water or land.

Hazardous Materials - In Transit (206): The uncontrolled release of materials during transport, which when released can result in death or injury to people and/or damage to property and the environment through the material's flammability, toxicity, corrosiveness, chemical instability and/or combustibility.

Winter Storm - Severe (216): When there is a storm or extended periods and amounts of freezing or frozen precipitation (freezing rain, sleet, snow), or the combined effects of winter precipitation and strong winds. Includes snowfalls of 6 inches or more in 12 hours, or 8 inches or more in 24 hours. Also includes blizzards where sustained winds or frequent gusts of 35 mph or greater are combined with snow or blowing snow and visibility is reduced to 1/4 mile or less for a period of three hours or more, and sleet accumulating ½ inch or more.

Landslide (218): The downward and outward movement of slope-forming materials reacting to the force of gravity. Slide materials may be composed of natural rock, soil, artificial fill, or combinations of these materials. The term landslide is generalized and includes rockfalls, rockslides, creep, block glides, debris slides, earth-flow, mudflow, slump, and other similar terms.

Fire (218): Uncontrolled burning or fire hazards in developed areas, or where populations and structures are at risk.

Hurricane / Tropical Storms - Severe (229): Tropical cyclones, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center or "eye." Circulation is counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Ice Storms (234): Freezing rain that accumulates as a substantial glaze or heavy layer of ice ¼ inch or greater.

Flooding (262): Flooding usually is a natural, cyclic occurrence in existing water bodies. When a water body overflows its 'normal' banks, a potentially violent and/or destructive waterway can form. A flash flood is a sudden transformation of a small stream into a violent waterway after heavy rain and/or rapid snowmelt.

Severe Storm (266): A thunderstorm which can produce damaging tornadoes, lightning and hail 0.75 inches or more in diameter, and/or winds of 58 mph or more. Structural wind damage may imply the occurrence of a severe thunderstorm.

Utility Failure/Long term power outages (306): Any sustained, long-term interruption or loss of electrical, natural gas, telecommunications and/or water supply service; caused by accident, sabotage, natural hazards, technological or equipment failure.

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C. Hazard Analysis 201.6(c)(2)(i)

In conducting the hazard analysis for Yates County, the HAZNY program provides a numerical value for each hazard from 0 – 400. The HAZNY then ranks each hazard, where higher values are assigned to those hazards considered more serious. Hazards are then divided into four groups based on their value.

Table 3-1 HAZNY Hazard Values

High Hazard	321 to 400
Moderately High Hazard	241 to 320
Moderately Low Hazard	161 to 240
Low Hazard	44 to 160

Hazards with a 'Low Hazard' Ranking

The Hazard Analysis determined that eleven (11) hazards had a HAZNY ranking of 44 to 143, indicating they have a low or no probability of occurrence or serious impact.

Table 3-1a HAZNY 'Low Hazard' Ranking

Ranking	Hazard
44	Tsunami
107	Radiological – In Transit
107	Radiological – Fixed Site
107	Mine Collapse
117	Avalanche
122	Terrorism
133	Civil Unrest
138	Ice Jam
138	Air Contamination
139	Drought
143	Earthquake

Hazards with a 'Moderately Low Hazard' Ranking

It was determined that twenty-one (21) **Moderately Low Hazards** exist with a HAZNY ranking between 162 and 234.

Table 3-1b HAZNY 'Moderately Low Hazard' Ranking

Ranking	Hazard
162	Structural Collapse
163	Food Shortage
168	Epidemic
170	Fuel Shortage
176	Hazardous Materials – Fixed Site
178	Water Supply Contamination
178	Explosion
178	Dam Failure
180	Infestation
184	Blight
195	Wildfire
196	Extreme Temperatures
198	Tornado
200	Transportation Accident
203	Oil Spill
206	Hazardous Materials – In Transit
216	Severe Winter Storm
216	Fire
218	Landslide
229	Hurricane / Tropical Storm
234	Ice Storm

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Hazards with a 'Moderately High Hazard' Ranking

It was determined there are three (3) **Moderately High Hazards** with a HAZNY ranking from 262 to 306.

Table 3-1c HAZNY 'Moderately High Hazard' Ranking

Ranking	Hazard
262	Flood
266	Severe Storm
306	Utility Failure

Based on the HAZNY criteria described in section III.A above, none of the hazards were classified as a **High Hazard** with a ranking of 321 or greater.

D. Evaluation of Hazards and Planning Priorities

Based on the results of the HAZNY for Yates County, the following summary evaluation is provided for the eleven (11) hazards ranked as **Low** hazards**.** A similar evaluation of certain **Moderately Low** hazards, and a more detailed evaluation of other **Moderately Low** and all **Moderately High** hazards follows.

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Table 3-2 Evaluation of Low Ranked Hazards

Hazard	HAZNY Evaluation	
	History	Determining Factors
Tsunami	None	No coastal exposure. The lowest elevation in Yates County is 445 feet above sea level.
Radiological In Transit	None	There is no transportation of high exposure, high-risk radiological materials in Yates County. Transportation is limited to low-level radiological sources used for medical and industrial purposes. Any incident would involve minor risk and exposure and would be handled as a hazardous materials response, or possibly as a terrorist event if related to criminal activity.
Radiological Fixed Site	None	The northern portion of Yates County is in the 50-mile ingestion pathway for the Ginna nuclear facility in Wayne County. The county participates with the state in planning for a possible event, but it is not expected that an incident would have significant impact in Yates County beyond the agricultural community.
Mine Collapse	None	Yates County has one abandoned salt mine. The entrances were capped off with concrete and it is not considered a risk. No incidents are expected in the future.
Avalanche	None	The steeply sloped areas of Yates County are heavily treed and vegetated, which along with climatic factors associated with the Finger Lakes and local topography, tend to minimize the kind of snow pack and risk associated with an avalanche.
Terrorism	None	Due to the rural nature of Yates County and because its economic base is primarily agriculture and tourism, there are few high-risk targets or vulnerable facilities in the county. The county does not have the kind of dense population, high profile facilities, transportation networks, industrial sites, universities or media focus that would pose significant terrorist threats.
Civil Unrest	1 minor event	There was a minor civil unrest incident at Keuka College decades ago. There are no facilities or high profile activities in Yates County that make civil unrest a serious threat. Most incidents of this type can be handled using a local or regional law enforcement response.
Air Contamination	Rare	The rural character of Yates County minimizes any serious threat or community impacts.
Ice Jam	1 event over 30 years	Steep, hilly terrain in the south and west of the county, and more gently sloping terrain to the east and north both work to move runoff and prevent the accumulation of ice. The US Army Corps of Engineers analysis of ice jams on rivers in New York does not report any ice jams for Yates County.

Figure 3-1 Ice Jam Incidents on Rivers in New York

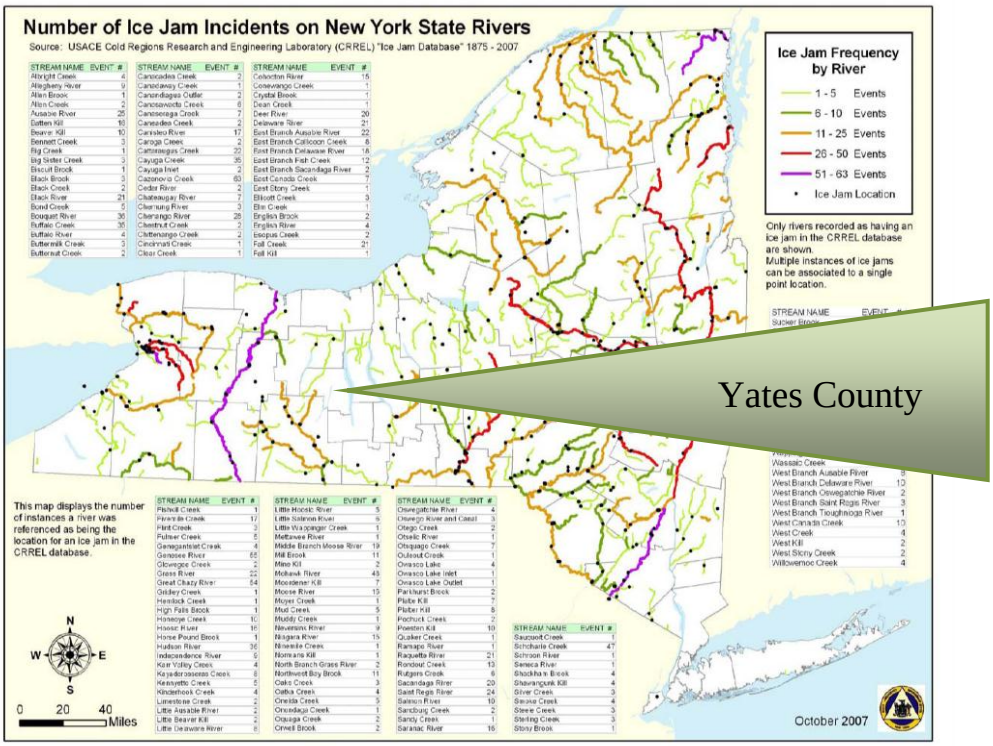

Table 3-2 Evaluation of Low Ranked Hazards (continued)

Hazard	HAZNY Evaluation	
	History	**Determining Factors**
Drought	1 event, late summer 1999 Impacts primarily on agriculture	Droughts are generally not a serious situation for Yates County. The county has adequate natural and locally situated water supplies among the Finger Lakes, deep wells, many ponds and tributaries. Water supply is also more sustainable due to climatic factors in the Finger Lakes that promote a temperate, balanced climate. The County's sparse population and the ability to share limited resources when shortages occur make it less vulnerable to droughts

Figure 3-2 Drought Hazard Areas

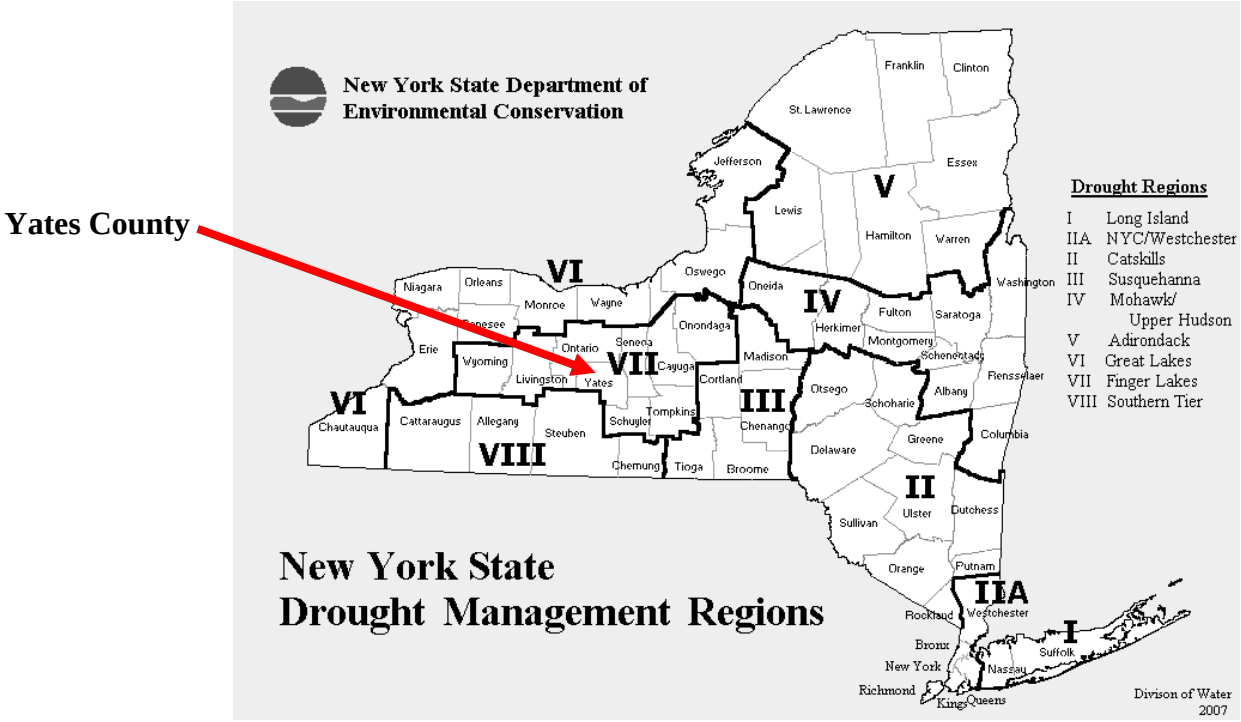

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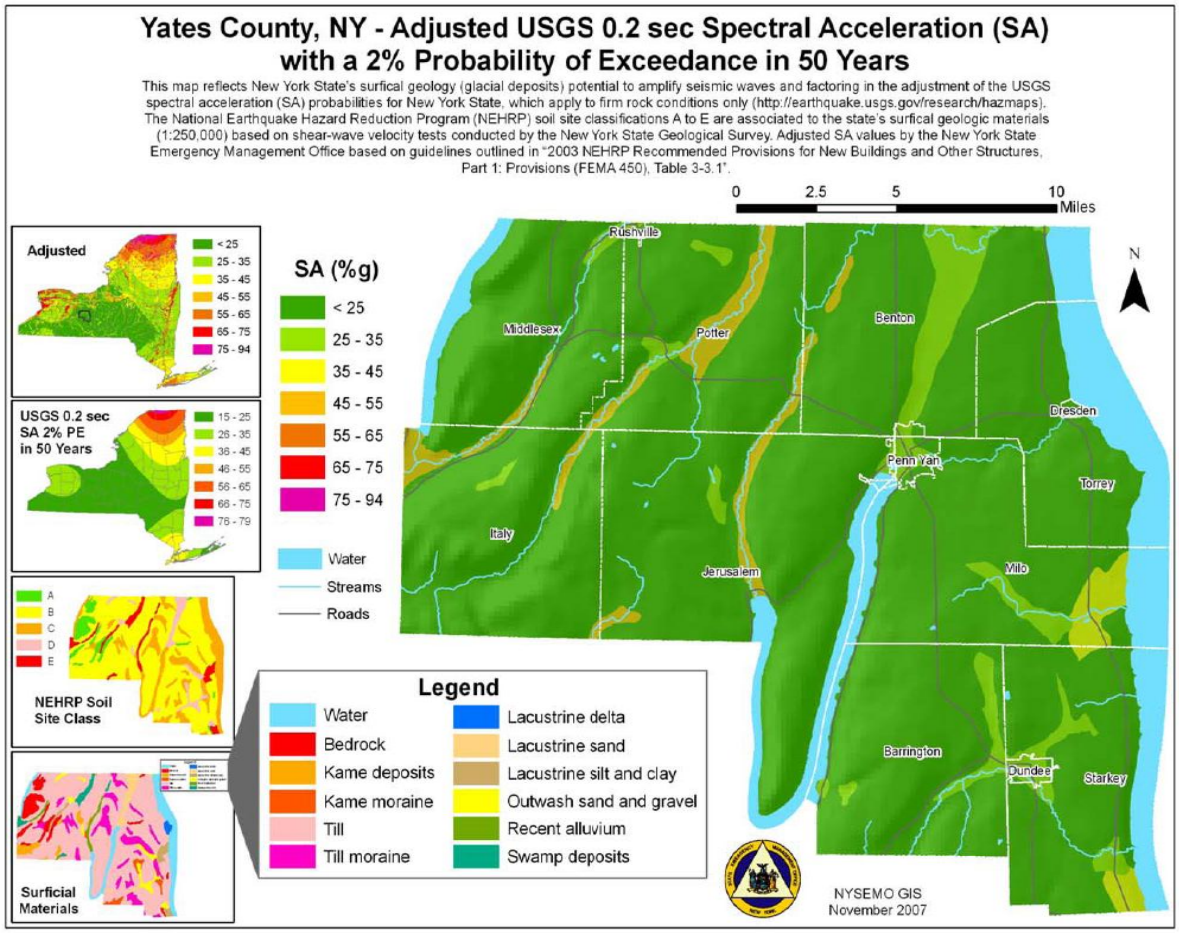
Table 3-2 Evaluation of Low Ranked Hazards (continued)

Hazard	HAZNY Evaluation	
	History	**Determining Factors**
Earthquake	None	The New York State Emergency Management Office and New York Geological Survey report there have been four earthquakes in New York State with magnitudes greater than 5.0 in the last 100 years, the largest was a 5.8 in Massena in 1944. Earthquakes of these magnitudes are considered "moderate size," falling in the range between magnitudes 5.0 to 6.0 on the Richter scale. A magnitude 5.0 earthquake in June 2010 was centered north of Ottawa, Canada and felt through all of New York State, but did not result in any damage. In contrast, minor earthquakes with magnitudes less than 3.0 are common in New York State and occur on average, about one a week. These low magnitude earthquakes often go unfelt, or are only felt by citizens in the immediate vicinity of the epicenter. Even in a moderate size earthquake, there is a relatively low probability of building collapse for typical structures, but a moderate earthquake could cause significant damage, particularly to poorly maintained masonry walls, chimneys, foundations, plaster, as well as compounding problems such as gas and water line leaks and falling objects. Damages can easily run to tens of thousands of dollars for affected structures. According to USGS maps, the probability of a serious earthquake in Yates County is less than most other areas of New York State and there is no record of a serious earthquake occurring in Yates County. Yates County has 12,064 residential structures, and 39% or 4,746 were built before 1939, so there are older stone and masonry structures throughout the county. Very few structures in the county are more than three stories high, however, and only 537 housing units (4%) are in structures that contain 5 or more housing units. With the County's low-density building profile and sparse population (US Census data: 73 people per square mile), a moderate earthquake could have costly structural impacts for those owning vulnerable buildings, but the overall impacts to the population and essential services would not exceed the resources or capabilities of the community.

Figure 3-3 Earthquake Spectral Acceleration



The NYS Hazard Mitigation Plan (2008) prepared a statewide assessment that evaluates and ranks counties most vulnerable to earthquake hazards using FEMA's **HAZUS®*M*** software. The ranking is derived by combining an evaluation of the probability of a damaging earthquake affecting a county or area with an assessment of the potential cost or losses relative to the value of property in the county. Yates County's earthquake exposure ranked 60th of 62 counties in the state, with 59 counties ranked as having greater exposure or vulnerability and only two counties, Hamilton and Schuyler, having less vulnerability.

Table 3-2a HAZUS-MH Earthquake Annualized Loss Estimation and Rank (NY)

	Total Exposure (X $1,000)	Annualized Total Losses (X $1,000)	Annualized Loss Per Capita (in dollars)	Exposure Rank
Yates	1,680,925	30	1.22	**60**

Source: NYS Hazard Mitigation Plan - Table 3-60

The following is a summary evaluation of twelve (12) of twenty-one (21) **Moderately Low** hazards. A more detailed evaluation of the remaining nine (9) **Moderately Low** hazards and all the **Moderately High** hazards follows.

Table 3-3 Evaluation of Hazards Ranked Moderately Low

Hazard	HAZNY Evaluation	
	History	**Determining Factors**
Structural Collapse	Rare	Due to the rural character and low-density development that exists in Yates County, plus the predominantly low profile of structures, a collapse would not be expected to have significant community impact. Few structures in the county are more than three stories high and only 537 housing units (4%) are in structures that contain 5 or more housing units. Public activities that draw large numbers of people are seasonal and held outdoors. Athletic events at schools using bleacher seating attract several hundred spectators, but facilities have been upgraded in recent years to meet modern safety standards.
Food Shortage	Infrequent	Yates County is rural community with an independent population that is largely dedicated to agricultural production and maintains many alternate food sources
Epidemic	Rare	Most communicable disease activity is managed with existing county, regional and state public health resources. Significant efforts are in-place locally to manage disease spread and vulnerability of the population. The Yates County Health Department maintains plans and partners with the state and other counties in the region to monitor and manage disease threats. Yates County works with the NYS Health Department, Erie and Westchester counties to maintain testing and laboratory capabilities. Health officials also conduct regular surveillance of the local hospitals through the NYSDOH Communicable Reporting System for unusual diseases or clusters of disease that may indicate bioterrorism activity or emergence of a new exposure threat. The threat associated with this hazard is considered to be similar to that of other rural upstate communities in New York State.
Fuel Shortage	Infrequent	The sparse and self-sufficient population of Yates County and the existence of alternate supplies and multiple transport routes limit vulnerabilities from this hazard. The county could be exposed to major supply disruptions of regional, national or global significance, which could result in major costs and disruption locally, but such events would not be a serious threat to life and property in Yates County.
Hazardous Materials **Fixed Site**	Rare	Yates County has eleven (11) sites that maintain DEC Bulk Storage Permits, but only three (3) that use threshold quantities of regulated chemicals subject to off-site planning. Preparedness and mitigation actions have been implemented at these sites to reduce risk and large segments of the population are not exposed. There are three (3) regional underground gas pipelines that traverse the County in rural, sparsely populated areas. Operators monitor and maintain response plans and resources, there have been no incidents and large segments of the population are not exposed.

Figure 3-4 Hazardous Materials Sites

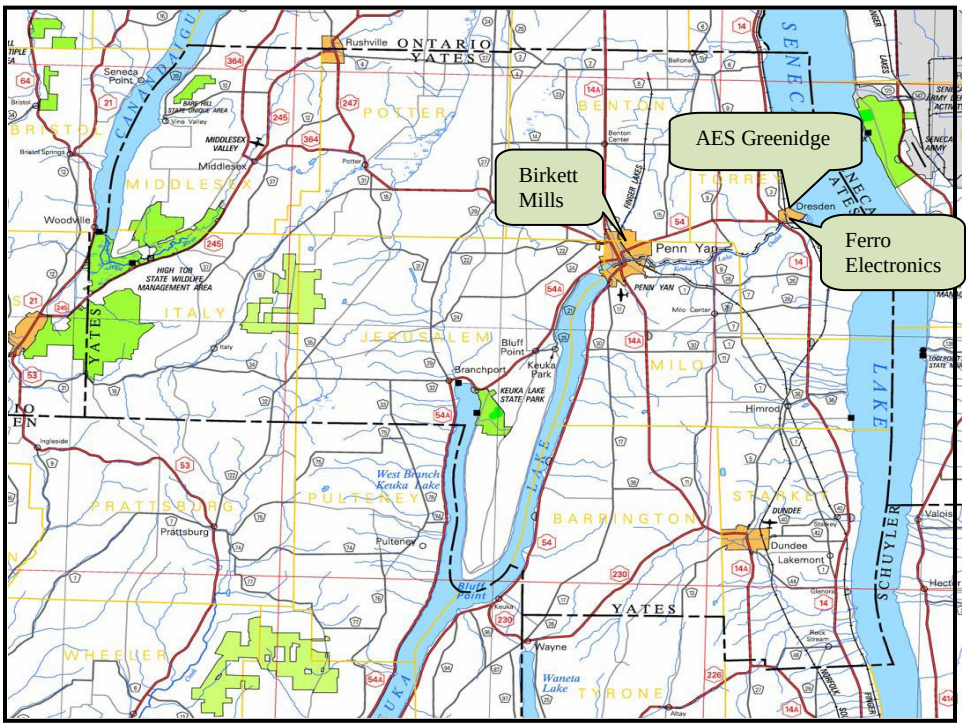


Figure 3-5 Regional Gas Transmission Lines

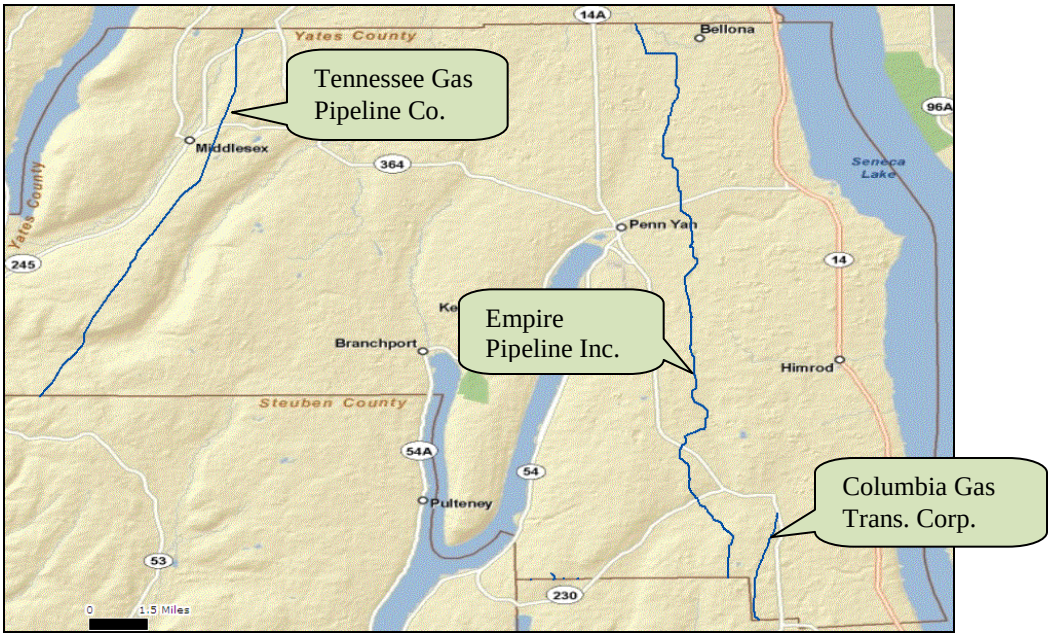


Table 3-3 Evaluation of Hazards Ranked Moderately Low (continued)

Hazard	HAZNY Evaluation	
	History	Determining Factors
Water Supply Contamination	Rare	Yates County communities use the Finger Lakes or private wells for their water supply. There are minor and temporary disruptions of supply associated with flooding, freezing water mains and breaks in aging and deteriorating pipes. The systems are monitored and regulated by the NYS Department of Health. Alternative local water supplies are available, and because local municipal systems are concentrated in villages and a few densely populated areas, problems can generally be isolated and contained. Many of the hazard mitigation goals cited later in this plan address concerns with flooding and drainage, but they also would benefit stormwater management and environmental quality, that will reinforce efforts to protect both public (the lakes) and private (wells) water supply sources.

Figure 3-6 Municipal Water Supplies

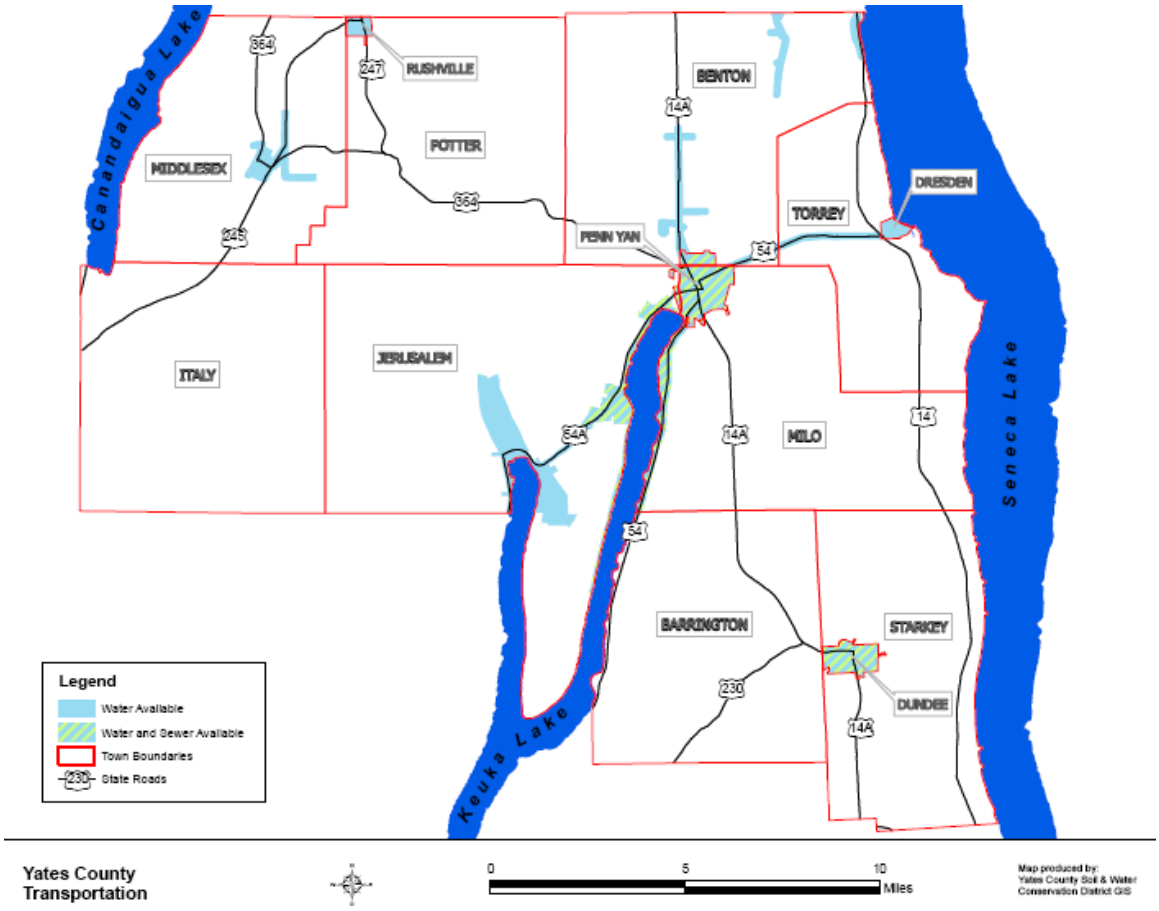


Table 3-3 Evaluation of Hazards Ranked Moderately Low (continued)

Hazard	HAZNY Evaluation	
	History	Determining Factors
Explosions	Infrequent	Many threats that previously would have caused serious community damage or impacts have been mitigated, reduced or eliminated through enforcement of modern fire protection codes and hazardous materials regulation. Due to the county's rural character, limited industrial activity and low terrorist threat, this is not considered a significant risk.
Dam Failure	Rare	The NYS DEC Dam Inventory records 52 dams located in Yates County. One, the Keuka Lake Outlet Dam, is a Hazard Code: C or High Hazard Dam. The Emerson Produce Reservoir Dam and Dike on West River in the Town of Middlesex is a Hazard Code: B or Intermediate Hazard Dam. 12 others are rated by the state inventory as Hazard Code: A Low Hazard, and 38 are Hazard Code: D Negligible or No Hazard. The two dams identified as Intermediate and High Hazards in Yates County are already designed to standards intended to limit or prevent severe impacts on the community. Regulatory oversight and monitoring, preparedness and mitigation are in place for these sites, and they are not considered a significant threat to the community.

The NYS DEC Hazard Classifications for dams are assigned based on the particular physical characteristics of a dam, its location and potential hazards and is not necessarily related to the size of the dam.

Class "A" or "Low Hazard" A dam failure is unlikely to result in damage to anything more than isolated or unoccupied buildings, undeveloped lands, minor roads such as town or county roads; is unlikely to result in the interruption of important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise unlikely to pose the threat of personal injury, substantial economic loss or substantial environmental damage.

Class "B" or "Intermediate Hazard" A dam failure may result in damage to isolated homes, main highways, and minor railroads; may result in the interruption of important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise likely to pose the threat of personal injury and/or substantial economic loss or substantial environmental damage. Loss of human life is not expected.

Class "C" or "High Hazard" A dam failure may result in widespread or serious damage to home(s); damage to main highways, industrial or commercial buildings, railroads, and/or important utilities, including water supply, sewage treatment, fuel, power, cable or telephone

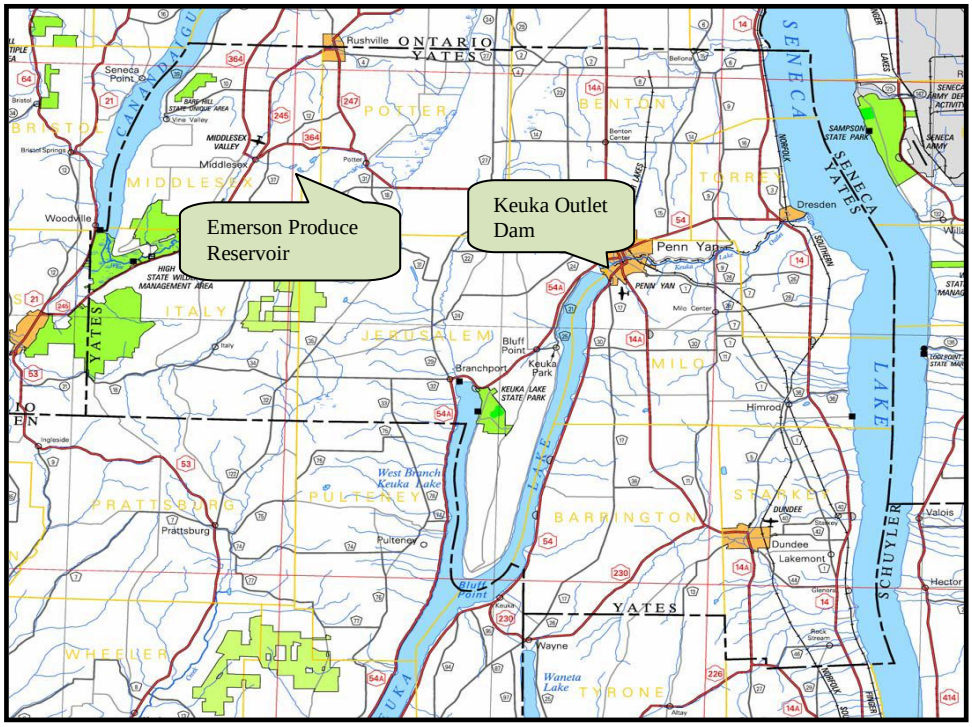
infrastructure; or substantial environmental damage; such that the loss of human life or widespread substantial economic loss is likely.

Class "D" or "Negligible or No Hazard" A dam that has been breached or removed, or has failed or otherwise no longer materially impounds waters, or a dam that was planned but never constructed. Class "0" dams are considered to be defunct dams posing negligible or no hazard. The department may retain pertinent records regarding such dams.

Table 3-3a Yates County Dam Inventory

NYS DEC Dam Inventory for Yates County, Hazard Codes A, B and C					
NYSDEC ID Number	**Name**	**Location**	**Hazard Code**	**Type**	**Purpose**
053-0613	Keuka Lake Outlet	Milo Keuka Outlet	**C**	Concrete Gravity	Flood Control/ Recreation
047-3040	Emerson Produce Reservoir	Middlesex West River	**B**	Earth	Recreation
053-32-7	MS Abbey/ Paul Emerson	Middlesex Flint Creek	A		
047-3260	Stuart Mitchell Pond	Middlesex West River	A	Earth	Recreation
053-3688	Sanford Emerson Pond	Middlesex Flint Creek	A	Earth	Recreation
047-5462	Whaleback Dam	Middlesex	A	Earth	
053-3421	Grant Pealer Pond	Benton Sugar Creek	A	Earth	Recreation
053-1370	Moravac Dam	Milo Keuka Outlet	A	Earth	
059-4219	Morton Salt Lagoon	Milo Plum Point	A	Earth	Irrigation
059-3685	Robert Angle Pond	Starkey Big Stream	A	Earth	Recreation
053-2427	Lamont Campbell Pond	Barrington Hollow Creek	A	Earth	Recreation
053-0674	Frank Meeks Dam	Chubb Hollow Creek	A	Earth	
053-4151	Edward Bauer Dam	Barrington Keuka Lake	A	Earth	
060-2744	George Bossard Dam	Barrington Big Stream	A	Earth	

Figure 3-7 Keuka Outlet Dam and Emerson Produce Reservoir



NYS DEC Dam Safety Regulations:

Owners of Class C - High Hazard dams are required to:

- Submit an Annual Certification to DEC
- Have an Emergency Action Plan prepared by a Professional Engineer and submit the plan to DEC.
- Develop and implement an Inspection and Maintenance Plan.
- Have an Engineering Assessment (EA) conducted by a Professional Engineer and submit the Report to DEC every 10 years.
- Have a Safety Inspection conducted by a Professional Engineer on a regular schedule as defined in the Inspection and Maintenance Plan.
- Report flows in erodible auxiliary spillways to DEC within 5 days.

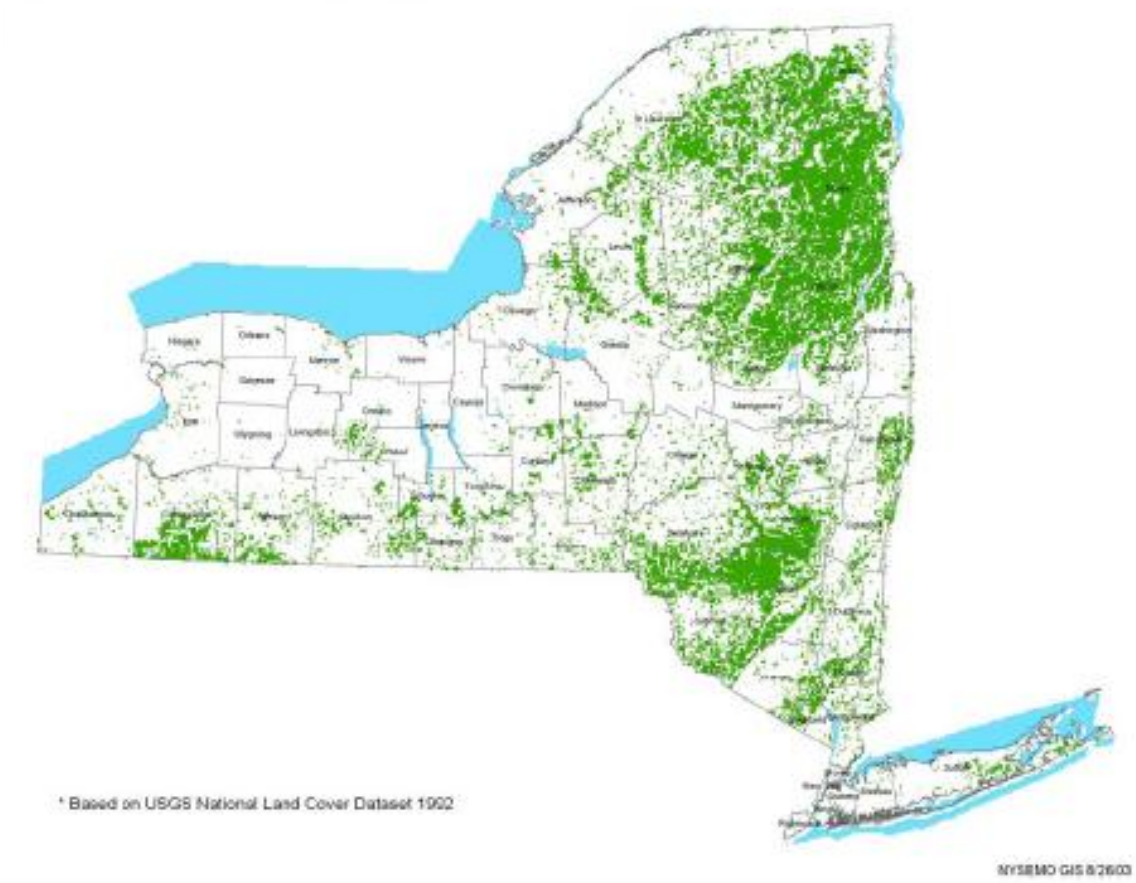
Owners of Class B - Intermediate Hazard dams are required to:

- Submit an Annual Certification to the DEC.
- Develop and submit to DEC an Emergency Action Plan (EAP).
- Develop and implement an Inspection and Maintenance Plan.
- Have an Engineering Assessment (EA) conducted by a Professional Engineer and submit the Report to DEC every 10 years.
- Have a Safety Inspection conducted by a Professional Engineer on a regular schedule as defined in the Inspection and Maintenance Plan.
- Report flows in erodible auxiliary spillways to DEC within 5 days.

Table 3-3 Evaluation of Hazards Ranked Moderately Low (continued)

Hazard	HAZNY Evaluation	
	History	Determining Factors
Infestation	Infrequent	The rural, low-density environment of Yates County minimizes threats associated with this hazard. Modern agricultural management practices also emphasize infestation monitoring and prevention, further limiting risks.
Blight	Infrequent	Modern agricultural management practices emphasize blight monitoring and prevention, which limits threats associated with this hazard. An incident of this type could have significant production and economic impacts on the agricultural community, but would not result in a threat to life and improved property.
Wildfire	Infrequent	Sparse development in Yates County and no history of uncontrolled wildfires limit threats from this hazard. There are more heavily forested areas in the west of the county around Keuka Lake, but the more temperate climate of the Finger Lakes, abundant moisture and water supplies, and limited development reduce wildfire risk in the county.
Fire (uncontrolled fire)	Infrequent	While structure fires are common, the rural character and low-density development that define Yates County minimize the threat of major fires that would result in widespread property loss. Even in the villages and more densely populated areas, properties are predominantly low profile and the maximum height is five stories. Excellent fire protection and implementation of modern fire protection codes, prevention, training and equipment all serve to limit risks associated with a major fire.

Figure 3-8 Forested Areas of New York State



A Review of the HAZNY has determined that the Hazard Mitigation Plan should address nine (9) of the twenty-one (21) **Moderately Low** hazards because of their low to medium probability, and each of the three (3) **Moderately High** hazards. This includes those in the following table, and these hazards of greater concern are addressed more fully in the next part of this plan, Section IV, Hazard Profiles.

Table 3-4 Moderately Low and Moderately High Hazards of Significant Concern

(See Section IV - Hazard Profiles for Detail and Evaluation)

Hazard	Determining Factors	Impact Area
Extreme Temperature	Large portions of the population can be impacted	Countywide
Tornado	Impacts could be severe in areas affected	Countywide
Transportation Accidents	Potential for multiple casualties	Countywide
Oil Spill	Widespread potential for impacts to the community and environment	Countywide
Hazardous Materials In Transit	Potential for severe impacts throughout the county	Countywide, but a greater threat on major state highways through Benton, Torrey, Penn Yan, Milo, Barrington, Starkey and Dresden. Also near facilities in the Town of Torrey that use and transport hazardous materials.
Severe Winter Storm	Potential for storms of significant impact	Countywide
Landslide	Threats exist to roads and properties	Primarily those communities bordering Canandaigua and Keuka lakes, including the Towns of Barrington, Italy, Jerusalem, Middlesex and Milo
Hurricane / Tropical Storms	Potential for widespread flooding and wind damage	Countywide
Ice Storms	Impacts on the community could be severe, prolonged and widespread	Countywide
Flooding	Regular occurrences and severe impacts damage property and infrastructure	Countywide
Severe Storm **Thunderstorms, Hail, & Wind**	Regular occurrences and severe impacts can damage property	Countywide
Utility Failure / Power Outage	Common occurrences, a severe and prolonged outage could have serious and disruptive impacts to the community	Countywide