Livingston County Multi-Jurisdictional All-Hazard Mitigation Plan

FINAL DRAFT

December 2007

This document was prepared for the Livingston County Emergency Management Office in Livingston County, New York by the Genesee/Finger Lakes Regional Planning Council.

December 2007

GENESEE/FINGER LAKES
Regional Planning Council

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Mission Statement:

Genesee/Finger Lakes Regional Planning Council (G/FLRPC) will identify, define and inform its member counties of issues and opportunities critical to the physical, economic and social health of the region. G/FLRPC provides forums for discussion, debate and consensus building and develops and implements a focused action plan with clearly defined outcomes, which include programs, personnel and funding.

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Chapter 1: *Introduction*

PURPOSE

The Livingston County Multi-Jurisdictional All-Hazard Mitigation Plan was developed to help the County and all the municipalities located within it to:

- Break the cycle of destruction affecting life, safety and property by addressing mitigation needs prior to future hazard events;
- Pursue effective mitigation strategies that are realistic, achievable and will reduce the potential of future damage and economic loss;
- Plan ahead for recovery efforts that will follow future disaster events;
- Qualify for additional pre-disaster and post-disaster funding; and
- Meet New York State and Federal legislative requirements regarding pre-disaster mitigation.

SCOPE

The scope of the Livingston County Multi-Jurisdictional All-Hazard Mitigation Plan is countywide. The Plan addresses all natural, technological, and human-caused hazards recognized as a threat to the residents and property of the County and its twenty-one municipalities.

AUTHORITY

Federal authorization to prepare a countywide all-hazard mitigation plan comes from the Disaster Mitigation Act of 2000 and 44 CFR (Code of Federal Regulations, Title 44). These regulations provide a mandate directing local governments to assess the potential dangers posed by natural hazards to their communities and propose cost effective means of reducing/eliminating the threats posed by those hazards.

Hazard mitigation planning programs are strongly encouraged and supported by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974, known as the Stafford Act (PL 93-288, as amended) and New York State Executive Law Article 2B: State and Local Natural and Man-Made Disaster Preparedness.

FUNDING

The Livingston County All-Hazard Mitigation Plan has been funded in part by a grant through the Hazard Mitigation Grant Program (HMGP) through the Federal Emergency Management Agency and the New York State Emergency Management Office. The Livingston County Emergency Management Office provided the required grant match. Representatives from Livingston County municipalities and county agencies contributed significant in-kind time and effort towards the collection and review of data that was critical in developing the plan.

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Chapter 2: *Legislation, Regulations and Programs*

SECTION 2.1: FEDERAL PRE-DISASTER MITIGATION PROGRAM

The Pre-Disaster Mitigation (PDM) Program was authorized by §203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 USC, as amended by §102 of the Disaster Mitigation Act of 2000. Funding for the program is provided through the National Pre-Disaster Mitigation Fund to assist States and local governments (to include Indian Tribal governments) in implementing cost-effective hazard mitigation activities that complement a comprehensive mitigation program. All applicants must be participating in the National Flood Insurance Program (NFIP) if they have been identified through the NFIP as having a Special Flood Hazard Area (a Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM) has been issued). In addition, the community must not be suspended or on probation from the NFIP.

44 CFR Part 201, Hazard Mitigation Planning, establishes criteria for State and local hazard mitigation planning authorized by §322 of the Stafford Act, as amended by §104 of the DMA. After November 1, 2004, local governments and Indian Tribal governments applying for PDM funds through the States will need to have an approved local mitigation plan prior to the approval of local mitigation project grants. States will also be required to have an approved Standard State mitigation plan in order to receive PDM funds for State or local mitigation projects after November 1, 2004. Therefore, the development of State and local multi-hazard mitigation plans is critical in maintaining eligibility for future PDM funding.

SECTION 2.2: NEW YORK STATE HAZARD MITIGATION GRANT PROGRAM

The Hazard Mitigation Grant Program (HMGP) is a Post Disaster Program designed with the intent to reduce future disaster damages, public expenditure, private losses and a community's vulnerability to natural hazards. The Hazard Mitigation Grant Program was established by the Robert T. Stafford Disaster Relief and Emergency Assistance Act (The Stafford Act), Public Law 93-288, as amended. Authorized under Section 404 of the Stafford Act, regulations implementing the program are found in the Code of Federal Regulations (CFR) at 44 CFR Part 206, Subpart N – ATTACHMENT A. In conjunction with other hazard mitigation plans and programs, the 404 HMGP provides an opportunity for a community to develop a comprehensive hazard mitigation program, which can be its best insurance against the impacts and costs of future disasters.

Section 2.2.A: New York State Responsibilities

State Government Program Administration: Under the 404 HMGP, the state, as grantee, is responsible for processing subgrants to eligible applicants. The Governor's Authorized Representative (GAR) serves as the grant administrator for all authorized HMGP funds. On behalf of the GAR, the Mitigation and Disaster Administration Branches in the New York State Emergency Management Office (SEMO) handles the day to day activities of the 404 HMGP. Among other things, the Hazard Mitigation Branch provides technical advice and assistance to eligible subgrantees, informs them of the availability of the program, and assists in the preparation and review of project applications. The financial management component of the program such as disbursements and financial reports to FEMA are administered by the Disaster Administration Branch.

It is the state's responsibility to identify and select hazard mitigation projects and forward them to the Federal Emergency Management Agency (FEMA) for review and approval. The state is responsible for establishing procedures and priorities for selecting mitigation measures. In addition to the consideration of the minimum program criteria outlined above, project selection will consider the following:

- measures which best fit the overall plan for development and/or hazard mitigation in the community, disaster area, or state;
- measures that, if not taken will have a severe detrimental impact on the applicant, such as the potential for loss of life, loss of essential services, damage to critical facilities, or economic hardship on the community;
- measures that have the greatest potential impact on reducing future disaster losses;
- measures that are designed to accomplish multiple objectives such as damage reduction, environmental enhancement and economic recovery.

The Hazard Mitigation Policy Committee, of the State Disaster Preparedness Commission, and its subcommittees provide specialized assistance to the mitigation Branch, where necessary, for the purposes of administering the HMGP. An example of such assistance is in the formation of a Project Review Board to review and prioritize projects.

A Project Review Board will be convened in order to select and/or prioritize the projects, which will be forwarded to FEMA for funding approval. If available funding is sufficient to fund all of the projects for which funding is requested, all completed project applications received will be ranked and forwarded to FEMA for funding. If there are insufficient funds, SEMO will transmit to FEMA prioritized list of projects whose funding equals the amount available. This prioritized project listing will be developed with the assistance of the Project Review Board. All additional projects will be prioritized and submitted to FEMA as alternatives to the first group of prioritized projects.

If during the review and ranking process additional information is required for a project, such supplementary information will be requested by the Mitigation Branch of SEMO. Based upon the list of selected projects submitted by the Review Board, the GAR will notify all subgrantees of the decision regarding their application. SEMO will transmit to FEMA the application package containing all required documentation.

Section 2.2.B: Local Government Responsibilities
Local governments and other eligible local entities will assist the state in identifying appropriate mitigation measures. The Chief Elected Official (CEO) of each jurisdiction or non-profit organizations applying for 404 HMGP funding assistance is ultimately responsible for the satisfaction of all local requirements under Sections 404 and 409, P.L. 93-288.

SEMO strongly recommends that the CEO of each County that is applying for 404 HMGP funding, or that contains jurisdictions or non-profit organizations which are applying, appoint a Local Hazard Mitigation Officer (LHMO) who will serve as the point of contact with the State Hazard Mitigation Section. This appointee will also assist in the coordination of all local hazard mitigation activities taking place in all jurisdictions in the county. The Chief Executive, or his designee, from each eligible entity that applies for 404 HMGP funding must sign the Project Application Form, the State-local Disaster Assistance Agreement, and all required attachments to the application. Each applicant for 404 funding must designate a point of contact for each project.

Section 2.2.C: Federal Government Responsibilities
The Federal Emergency Management Agency (FEMA) reviews the prioritized list of state submitted applications and decides which to approve or reject based on program guidelines. FEMA has final approval authority for funding all projects. Upon approval of a project application, the FEMA Region II Director will notify the Governor's Authorized Representative (GAR). FEMA will also notify the GAR when funding for approved projects is available for disbursement to subgrantees.

SECTION 2.3: COUNTY LEGISLATION AND REGULATIONS

Livingston County is authorized to perform pre-disaster planning under: NYS Executive Law, Article 2-B (Section 23), Federal Disaster Relief Act of 1974 (Public Law 93-288), and Federal Civil Defense Act of 1950. The county is given legal authority through the Superfund Amendments & Reauthorization Act of 1986 (SARA) Title III – Federal Emergency Planning & Community Right-to-Know Act of 1986 (Section 303), NYS Defense Emergency Act, Section 22 (as amended) and the NYS General Municipal Law (Section 204).

SECTION 2.4: REVIEW OF COUNTY PLANS, REPORTS AND STUDIES

The following plans, reports and studies have been reviewed:

- Livingston County Comprehensive Emergency Management Plan and Annexes, June 2005
  - Annex A – Phone Directory
  - Annex for County Highway Department
  - Annex for Department of Health
  - Annex for Department of Social Services
  - Annex for Information and Technology Services
  - Annex for Mental Health Department
  - Annex for Office of the Aging
  - Annex for Planning Department
  - Annex for Sheriff's Office
  - Emerging Infectious Diseases in Non-Human Populations Annex
  - Terrorism Incident Annex
- Livingston County Fire Mutual Aid Plan, February 1999
- Livingston County Hazard Analysis Report, December 2003*
- Livingston County Medical Mutual Aid Plan, March 1999
- Livingston County Hazardous Materials Emergency Response Plan, LEPC-Title III Plan, August 1998 (Currently under revision)
- Livingston County National Incident Management System (NIMS) Implementation Plan, June 2005
- Livingston County Dept. of Health, Threats & Emergencies Response Plan, August 2005
- Livingston County Department of Health – Environmental Health Disaster Plan
- Livingston County Department of Health – Environmental Health Procedures
- Livingston County Department of Health – Environmental Health Technical References
- Emergency Food Action Plan – Livingston and Monroe Counties, Developed by the American Red Cross and Foodlink, June 2001
- Emergency Contingency Plans for:
  - Caledonia-Munford Central School District
  - Avon Central School District
  - York Central School District
  - Livonia Central School District
  - Keshequa Central School District
  - Geneseo Central School District
  - Genesee Valley BOCES
- Rochester Regional Healthcare Association (RRHA) Regional Hospital Mutual Aid Evacuation and Supply Plan, March 2003
- Greater Rochester Mutual Aid Plan (for Elderly Care Facilities) March 2005-March 2006
- Livingston County Center for Nursing & Rehabilitation Emergency Management Plan, 2005

- Livingston County Water & Sewer Authority Security Vulnerability Self-Assessment for Small Drinking Water Systems
- Livingston County Water & Sewer Authority Vulnerability Assessment
- Emergency Response Plan for the Livonia Water System, updated 2002
- Water Supply Emergency Response Plan for LCWSA Facilities
    - Caledonia District #1
    - Caledonia District #3
    - American Rock Salt/Groveland
- Village of Avon Emergency Plan – Water Supply System, November 1990
- Water Supply Emergency Response Plan for the Village of Caledonia
- Water Supply Emergency Plan – Town of Geneseo Water Districts and Town of Groveland West Lake Road Water District
- Emergency Response Plan for the Village of Mount Morris Water Department, March 2003
- Livingston County Water & Sewer Authority Security Vulnerability Self-Assessment
    - American Rock Salt/Groveland Facility
    - Caledonia #1
    - S. Avon/ Caledonia # 3
- Letchworth State Park Comprehensive Emergency Management Plan
- Livingston Land Use Policies Plan
- State of Conesus Lake Watershed Characterization Report, March 2002
- Conesus Lake Watershed Management Plan, March 2003
- Agricultural Best Management Practices for Conesus Lake
- Disaster Response Plan for Clara Barton Chapter #1, American Red Cross, September 2003 (Currently under revision)
- Natural Disaster Response (Natural Disaster Activities Under PL-84-99 and PL 93-288) NCB Plan 500-1-1, August 1991
- Interagency Hazard Mitigation Team Strategic Report, FEMA, January 2005
- NYS Comprehensive Emergency Management Plan, updated July 2001
- NYS Office of Fire Prevention and Control Emergency Procedures Manual
- NYS Fire Mobilization and Mutual Aid Resource Tracking Program
- NYS DOH District Office: Terrorism Preparedness and Response Plan for Env'l Health

The above plans, reports and studies were reviewed during the mitigation planning process by the Genesee/Finger Lakes Regional Planning Council staff. This review was carried out for five main reasons:

1. The review assisted G/FLRPC staff and the Planning Committee with the process of identifying Critical Facilities and Community Assets.

2. The review helped G/FLRPC staff better understand the roles and responsibilities of various County and Non/Municipal agencies in disaster planning, response, and recovery activities. This knowledge was critical during the Mitigation Strategy development phase as it allowed G/FLRPC staff to assist county and non/municipal officials with conceptualizing and developing specific mitigation measures.

3. The review assisted G/FLRPC staff and the Planning Committee with analyzing the potential impacts of hazard events. Overall, these plans and studies provided a valuable source for information about hazard events in the county. While some of the documents did not contain much information about hazards, many others, including the Red Cross Emergency Operations Plan and the County HAZMAT plan, contained critical information on potential hazards that was incorporated into the Risk Assessment, especially the hazard analysis in Chapter 5 and the hazard profiles in Chapter 6.

4. The review process ensured the recommendations within the Mitigation Strategy did not conflict with any existing plans.

5. The review process helped identify any gaps that exist in county disaster planning efforts that could be plugged by specific mitigation measures within the Mitigation Strategy.

The results of this assessment are incorporated into both the Risk Assessment and the Mitigation Strategy sections of the plan. Specifically, several mitigation measures within the Mitigation Strategy are aimed at addressing county and non/municipal pre-disaster planning initiatives.

SECTION 2.5: REVIEW OF MUNICIPAL LAND USE PLANS AND REGULATIONS

Lastly, a thorough review of municipal (town and village) land use plans and laws was also developed for this all-hazard mitigation plan. This review analyzed documents such as comprehensive plans, zoning codes, and subdivision regulations. The results of this review can be found in Appendix A, *Local Law Assessment*. This review was carried out for essentially the same reasons listed above, but in addition to identify gaps in local land use laws that need to be addressed as part of the hazard mitigation planning process. Over the next five years municipal officials will work to revise and update their local laws based on relevant mitigation measures and the assessment included in Appendix A. Please refer to Chapter 9 for additional information on how municipal officials will work to integrate hazard mitigation practices into their local plans and regulations.

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Chapter 3: *The Planning Process*

SECTION 3.1: THE PLANNING COMMITTEE

The Livingston County Multi-Jurisdictional All-Hazard Mitigation Plan was prepared by the Genesee/Finger Lakes Regional Planning Council under the direction of the Livingston County All-Hazard Mitigation Planning Committee. The planning committee was comprised of representatives from each municipality; relevant county, state and federal agencies; transportation and utility organizations; health care and emergency service providers; and an assortment of other interested stakeholders. All planning committee meetings were open to neighboring communities and the general public.

The following table indicates the stakeholders that participated in the hazard mitigation planning process. The individuals listed here attended meetings, sat for interviews, and provided information about their agencies and organizations that was used in the planning process. Their knowledge of Livingston County and their expertise on local issues was critical in compiling the Risk Assessment and in developing the Mitigation Strategy.

Table 3.1: Livingston County All-Hazard Mitigation Planning Committee

ACTIVE (Attended meetings)			
First Name	*Last Name*	*Title*	*Organization or Municipality*
Bob	Ayers	Highway Superintendent	Town of Avon
John	Barrett	Highway Superintendent	Village of Avon
Mark	Schroeder	Highway Superintendent	Town of Caledonia
Larry	Munt	Code Enforcement Officer	Village of Caledonia
Ray	Mahoney	Deputy Supervisor	Town of Conesus
Steve	Martucio	Highway Superintendent	Town of Conesus
Barry	Haywood	Mayor	Village of Dansville
Keith	Petti	DPW Superintendent	Village of Dansville
Wes	Kennison	Supervisor	Town of Geneseo
Doug	Welch	DPW Superintendent	Village of Geneseo
Greg	Adamson	Highway Superintendent	Town of Groveland
Russ	Page	Highway Superintendent	Town of Leicester
Sanford	Vreeland	Town Engineer	Town of Leicester
Donald	Trasher	Planning Board Chairman	Village of Leicester
Pete	Yendell	Supervisor	Town of Lima
Keith	Arner	Highway Superintendent	Town of Lima
Richard	Garey	Past Fire Chief	Village of Lima
Tim	Wahl	Supervisor	Town of Livonia
Rob	Dewey	Livonia Fire Dept, former Village Board	Village of Livonia
Lari	Whiting	Assistant Fire Chief	Village of Livonia
Ken	Troglauer	Highway Superintendent	Town of Mt. Morris
Patsy	Zingaro	Superintendent of Streets	Village of Mt. Morris
Alan	Rudgers	Code Enforcement Officer	Village of Mt. Morris
James	MacWhorter	Highway Superintendent	Town of North Dansville
Dennis	Mahus	Supervisor	Town of North Dansville
Cindy	Essler	Town Clerk	Town of Nunda
Merilee	Walker	Village Clerk	Village of Nunda
Mike	Derrenbacker	Highway Superintendent	Town of Ossian
Esther	Howe	Town Clerk	Town of Portage
Stephen	Howe	Highway Superintendent	Town of Portage
Gary	Kreiley	Highway Superintendent	Town of Sparta

Ron	Mastin	Highway Superintendent	Town of Springwater
Mark	Walker	Supervisor	Town of Springwater
Marjorie	Cansdale	Supervisor	Town of West Sparta
Norm	Barrett	Water and Sewer Dept	Town of York
Joan	Ellison	Director of Public Health	Livingston County Department of Health
Jim	Mazurowski	Director, Environmental Health	Livingston County Department of Health
Kevin	Niedermaier	Director	Livingston County EMO
Tom	Pearson	Deputy Director	Livingston County EMO
Dennis	Barefoot	Deputy Superintendent	Livingston County Highway Department
Patrick	Rountree	Director	Livingston County Industrial Development Agency
Kaaren	Smith	Director	Livingston County Office for the Aging
Heather	Ferrero	Planner	Livingston County Planning Dept.
David	Woods	Director	Livingston County Planning Dept.
Catherine	Muscarella	Director	Livingston County Public Works/W&S
Sandy	Shaw	Director	Clara Barton Red Cross
Carol	Rinere	Supervisor	Genesee Valley BOCES
David	Parish	Director	American Red Cross
Tom	DePuy		NYS OPRHP, Letchworth State Park
Don	Root		City of Rochester, Water & Lighting Bureau
Ellen	Micoli Soffa	Planner	Genesee/Finger Lakes Regional Planning Council
Jason	Haremza	Senior Planner	Genesee/Finger Lakes Regional Planning Council
Joseph	Bovenzi	Planner	Genesee/Finger Lakes Regional Planning Council
David	Zorn	Executive Director	Genesee/Finger Lakes Regional Planning Council
INTERESTED (Received minutes, but chose not to attend meetings)			
Dominic	Mazza	County Administrator	Livingston County Administrator
Amie	Alden	Historian	Livingston County Historian
John	York	Sheriff	Livingston County Sheriff
Peter	Kanouse	District Manager	Livingston County SWCD
David	Allen	Supervisor	Central Services, Buildings, Grounds & Parks
John	Tucker	Director	Allegany County EMO
Tim	Yaeger	Coordinator	Genesee County EMO
Paul	Johnson	Hazard Mitigation Coordinator	Monroe County Hazard Mitigation Coordinator
Muffy	Meisenzahl	Administrator	Monroe County Office of Emergency Preparedness
Jeffrey	Harloff	Director	Ontario County EMO
Tom	DeRue	Hazard Mitigation Coordinator	Ontario County SWCD
Greg	Hefner	Hazard Mitigation Coordinator	Steuben County
Michael	Sprague	Director	Steuben County EMO
Jim	Reger	Emergency Management Director	Wyoming County EMO
Ray	Witte		National Fuel
Victoria	Ladd-deGraff	Emergency Management	Niagara Mohawk
Radworth	Anderson	Chief, Planning Section	NYS Emergency Management Office
Don	Higgins	Superintendent	Livingston County Highway Department
Bill	Clark		NYS Emergency Management Office - Region V
Paul	Wilson		NYS Emergency Management Office - Region V
J. Kirk	Higbie	Director of Safety	Genesee & Wyoming Railroad (NY/PA Region)
Louis	Freeman	Director	Cornell Cooperative Extension - Livingston
INVITED			
Kathy	Palladino		Sun Pipeline Co.
Kimberly	Dalton Ferris	Env'l Health & Safety Director	SUNY Geneseo
Terry	Sawdy		UAP Northeast
Ben	Mlodzinski	Dam Engineer	USACE
Tom	McTighe, Jr.	VP-Engineering & Construction	Livonia, Avon & Lakeville Railroad

Austin	Wadsworth		Geneseo Airport
Todd	Bently	Fire and Safety Officer	Groveland Correctional Facility
Mike	Lunduski	Fire and Safety Officer	Livingston Correctional Facility
James	Wissler	CEO	Nicholas H Noyes Memorial Hospital
Patty	Piper	Director of Community Services	Nicholas H Noyes Memorial Hospital
Eugene	Melnyk	Flood Plain Mgmt	NYS DEC Region 8
Jim	McCormick	State Trooper	NYS Police, Troop E, Emergency Management
Duane	Aycock	Resident Engineer	NYSDOT
Kelly	Fitzpatrick	Manager	Livingston Area Transportation Services
Franklin	Bassett	Director	Skilled Nursing Facility
Paul	Kesselring	Administrator	Skilled Nursing Facility
David	Cichelli		American Rock Salt
Donald	Hankey		Buckeye Pipeline
Jim	Caneen		Dansville Municipal Airport
Dean	Pendergast	Director	Farm Service Agency

All individuals listed above participated in developing the plan by attending planning committee meetings; attending regional and county agency meetings; sitting for interviews if unable to attend regular meetings; providing data and information related to their own areas of expertise, concern and interest; and offering their ideas for specific mitigation projects that were integrated into the Mitigation Strategy (Chapter 8).

The Livingston County Office of Emergency Management provided overall project oversight, including setting the project schedule and identifying individuals and organizations for participation.

G/FLRPC staff provided technical assistance to the committee members, prepared the maps and carried out the risk assessment analysis (comparison of critical facilities and community assets to hazard areas), and assisted the County EMO with running the project by organizing meetings, setting meeting agendas, dates, times, and locations, as well as preparing minutes for each planning committee meeting and maintaining the project file. When necessary, G/FLRPC staff conducted fieldwork to help determine the feasibility of suggested mitigation projects.

G/FLRPC staff also compiled information on past hazard events. Sources for that information consisted of the New York State Standard Multi-Hazard Mitigation Plan, a variety of state and federal databases and information provided by various Committee members, but were also drawn from records in the Livingston County Historian's Office.

SECTION 3.2: MULTI-JURISDICTIONAL EFFORT

This plan is a multi-jurisdictional effort for Livingston County, inclusive of all the County's twenty-six municipalities. Municipal representatives were asked to attend the planning committee meetings and to form municipal committees, which met separately in regional meetings to discuss jurisdictional variations. County agencies were asked to participate in the planning committee as well as in separate interviews to discuss their agency's expertise. The following tables indicate the municipalities and County agencies that were invited to participate in the planning process.

Through agencies such as the Livingston County Industrial Development Agency, Cornell Cooperative Extension private business groups were kept appraised of progress made on the Plan. In addition, through these agencies, the ideas and suggestions of local agriculture and business interests were integrated into the Plan document.

Table 3.2: Livingston County Municipalities:

Avon, Town	Geneseo, Village	Livonia, Village	Portage, Town
Avon, Village	Groveland, Town	Mount Morris, Town	Sparta, Town
Caledonia, Town	Leicester, Town	Mount Morris, Village	Springwater, Town
Caledonia, Village	Leicester, Village	North Dansville, Town	West Sparta, Town
Conesus, Town	Lima, Town	Nunda, Town	York, Town
Dansville, Village	Lima, Village	Nunda, Village	
Geneseo, Town	Livonia, Town	Ossian, Town	

Table 3.3: Livingston County Agencies:

- Livingston County Emergency Management Office
- Livingston County Office for the Aging
- Livingston County Water and Sewer Authority
- Livingston County Economic Development
- Livingston County Buildings and Grounds
- Livingston County Planning Department
- Livingston County Sheriff's Department
- Livingston County Office of the County Historian
- Livingston County Administration
- Livingston County Department of Public Health
- Livingston County Highway Department
- Livingston County Soil and Water Conservation Service
- Cornell Cooperative Extension-Livingston
- USDA Farm Service Agency (Livingston County)

SECTION 3.3: PLANNING CHRONOLOGY

Prior to officially commencing the all-hazard mitigation planning process, Livingston County coordinated a committee that developed the HAZNY (Hazards NY) Assessment. The following documentation offers a brief synopsis of this meeting, as well as a chronology and synopsis for each meeting held by the Livingston County All-Hazard Mitigation Planning Committee, the Municipal Committees, and with each County agency. Copies of meeting minutes, public participation records and other documentation related to the planning committee, municipal committees, and County agency interviews are on file in the Genesee/Finger Lakes Regional Planning Council office.

Subsection 3.3.A: HAZNY Committee

On July 23, 2003, the Livingston County Emergency Management Office conducted a hazard analysis review using the automated program, HAZNY (Hazards NY). HAZNY was developed by the American Red Cross and the New York State Emergency Management Office. The report from this hazard assessment is included in the hazard assessment chapter of this document. The following individuals were included in the committee that completed the assessment:

Kevin Niedermaier – Livingston County Emergency Management Office
Tom Pearson – Livingston County Emergency Management Office

Joan Ellison – Livingston County Department of Public Health
Gary Miller – Livingston County Sheriff's Office
Kaaren Smith – Livingston County Office for the Aging
Sandra Wright – Livingston County Department of Social Services
David Woods – Livingston County Planning Department
David Parish – American Red Cross – Livingston Chapter
Sandy Shaw – American Red Cross – Clara Barton Chapter #1
Dennis Barefoot – Livingston County Highway Department
Mike Gridley – Livingston County Highway Department
Dale Nieswiadomy – Livingston County Department of Information and Technology Services
David Allen – Livingston County Department of Central Services, Buildings, Grounds and Parks
Doug Winner – New York State Emergency Management Office

Subsection 3.3.B: Planning Committee Meetings

June 13, 2005 – Livingston County stakeholders were invited to attend a meeting that kicked off the all-hazard mitigation planning process. Attendees were presented with information about all-hazard mitigation planning by Ellen Micoli Soffa and David Zorn from the Genesee/Finger Lakes Regional Planning Council, and Kevin Niedermaier from the Livingston County Emergency Management Office. Attendees were asked to review and discuss: the HAZNY results, meeting logistics, the list of invited stakeholders, regional municipal meetings, county agency meetings, identifying critical facilities and community assets, and existing plans, reports and studies. Meeting minutes can be viewed at: http://www.gflrpc.org/Publications/LivingstonAllHazard/061305minutes.htm.

July 19, 2005 – Due to a number of new attendees, planning committee members heard another presentation about all-hazard mitigation planning by David Zorn from G/FLRPC. The committee members were asked to review and discuss: the list of planning committee participants, regional municipal meetings, county agency meetings, critical facilities and community assets, land use projection data, and existing plans, reports and studies. Meeting minutes can be viewed at: http://www.gflrpc.org/Publications/LivingstonAllHazard/071905minutes.htm.

September 20, 2005 – Planning committee members were asked to review and discuss: action items from the previous meeting; the list of planning committee participants; the municipal hazard priorities developed in the regional meetings; the extents determined for the high priority hazards; the map of high density development areas; scheduling county agency meetings; revisions to the lists of critical facility and community assets; a proposed methodology for estimating losses; plans, reports and studies still needed for review; and public meeting logistics. Meeting minutes can be viewed at: http://www.gflrpc.org/Publications/LivingstonAllHazard/092005minutes.htm.

October 18, 2005 – The meeting started with an update of recent progress regarding: public meeting logistics, county agency interviews, data collection efforts, and hazard event history research. Following the updates, the planning committee members were asked to review the large draft hazard assessment maps that displayed the hazard extents, the critical facilities, and the community assets. Committee members were given comment forms, and asked to indicate any corrections, concerns and questions that they had about any map. The committee discussed the data presented on the maps, as well as the estimating losses process and the plans, reports and studies review. Meeting minutes can be viewed at: http://www.gflrpc.org/Publications/LivingstonAllHazard/101805minutes.htm

December 20, 2005 – Planning committee members were provided with the Hazard Assessment portion of the all-hazard mitigation plan a week in advance of the meeting. The committee was asked for feedback on the Hazard Assessment at the meeting, but they were also given an additional two weeks to

review and comment on this section of the plan. G/FLRPC staff also discussed the upcoming Mitigation Strategy development process, including procedures and the future meeting schedule, in order to provide the Committee with solid background information on this important component of the all-hazard planning program. Meeting minutes can be viewed at:
http://www.gflrpc.org/Publications/LivingstonAllHazard/122005minutes.htm

January 17, 2006 – The January meeting focused on starting the Mitigation Strategy portion of the planning process. Based on the main issues from the Hazard Assessment and a draft list of Mitigation Goals and Objectives, the attendees began discussing their general ideas for the Mitigation Strategy. This discussion resulted in a draft list of Objectives that was used in refining the draft Goals and Objectives and for developing the Mitigation Measures. Meeting minutes can be viewed at:
http://www.gflrpc.org/Publications/LivingstonAllHazard/011706minutes.htm

March 21, 2006 – At the March meeting Planning Committee members carried out the mitigation measure ranking activity. The lists of mitigation measures generated at the February Regional (Municipal) and County Agency meetings were used to create large posters that were arranged around the room and allowed the Committee members to easily vote for their preferred mitigation measures. This ranking was used to prioritize the mitigation measures and organize them into three general categories: High, Medium, and Low. Meeting minutes can be viewed at:
http://www.gflrpc.org/Publications/LivingstonAllHazard/032106minutes.htm

April 18, 2006 – Two weeks prior to this meeting drafts copies of Chapters 8 and 9, including the Mitigation Measure tables within Chapter 8, and Appendix A (the Local Law Review tables), were distributed to the Committee for review. Committee members were asked to either send their comments to G/FLRPC staff or bring their comments to the meeting on the 18th. At this meeting the Planning Committee members were given an opportunity to review these draft documents and make corrections. The final deadline for submitted alterations to the Mitigation Strategy was set for April 28th. G/FLRPC staff explained the final stages of the program to the Committee members, who decided no further Planning Committee meetings were necessary. Meeting minutes can be viewed at:
http://www.gflrpc.org/Publications/LivingstonAllHazard/041806minutes.htm

Subsection 3.3.C: Regional (Municipal) Meetings

Each municipal representative from the planning committee was asked to form a committee of three to five municipal officials from their town or village. Suggested municipal officials include: the supervisor or mayor, code or zoning enforcement officer, clerk, planning board members, highway superintendent, town engineer, floodplain coordinator, trustees, school officials, emergency personnel (fire, police and ambulance), historian, and water or sewer facility managers. The committees ranged in size from one to six people, depending on the interest and commitment of each municipality.

The committees in each region met for 2 hours with representatives from G/FLRPC and the Livingston County Emergency Management Office. They were asked to: review the county-level hazard assessment completed using HAZNY; develop their own hazard priorities; identify critical facilities and community assets that met the criteria, and locate addresses for each. They were also asked to identify areas of likely development in their municipality; record a history of municipal hazard events; and remind their clerk or codes officer to return the local laws survey. The regional municipal meetings were open to the public.

Region 1 *August 24, 2005 Avon Village Hall, Avon, NY*
Invited: Avon (T/V), Caledonia (T/V), Lima (T/V), York (T)

Region 2 *August 25, 2005 Livingston County Chamber of Commerce, Geneseo, NY*

Invited: Conesus (T), Geneseo (T/V), Groveland (T), Livonia (T/V)

Region 3 *August 25, 2005 Dansville/North Dansville Municipal Building, Dansville, NY*
Invited: Dansville (V), North Dansville (T), Ossian (T), Sparta (T), Springwater (T), West Sparta (T)

Region 4 *August 29, 2005 Livingston County Highway Department, Mount Morris, NY*
Invited: Leicester (T/V), Mount Morris (T/V), Nunda (T/V), Portage (T)

Two municipalities were not able to attend the regional meetings, and met with G/FLRPC staff separately to cover the same material described above. These meetings were held as follows:

Village of Nunda	September 13, 2005	Nunda Village Hall, Nunda, NY
Town of York	October 24, 2005	York Town Hall, York, NY

A second round of Regional Meetings was held in late February 2006 to develop Action Items for the Mitigation Strategy. At these meetings the municipal representatives provided G/FL staff with their ideas and suggestions for the individual Mitigation Measures that make up the Mitigation Strategy. The meeting schedule follows:

Region 1 *Feb. 22, 2006 Avon Village Hall, Avon, NY*
Invited: Avon (T/V), Caledonia (T/V), Lima (T/V), York (T)

Region 2 *Feb. 22, 2006 Livingston County Chamber of Commerce, Geneseo, NY*
Invited: Conesus (T), Geneseo (T/V), Groveland (T), Livonia (T/V)

Region 3 *Feb. 21, 2006 Dansville/North Dansville Municipal Building, Dansville, NY*
Invited: Dansville (V), North Dansville (T), Ossian (T), Sparta (T), Springwater (T), West Sparta (T)

Region 4 *Feb. 21, 2006 Livingston County Highway Department, Mount Morris, NY*
Invited: Leicester (T/V), Mount Morris (T/V), Nunda (T/V), Portage (T)

Subsection 3.3.D. County Agency and Countywide Organization Meetings

Interviews with representatives from each County agency or county-wide organization were used to gather information and to allow the plan to be informed by the individual and agency's expertise. Following the interview, G/FLRPC reviewed the plans, reports and studies that each agency had related to all-hazard mitigation. The following individuals and agencies complied with a request for an interview:

9/12/05	Dennis Barefoot	Livingston County Highway Department
9/20/05	David Woods, Heather Ferrero	Livingston County Planning Department
10/6/05	Amie Alden	Livingston County Office of the Historian
10/18/05	Catherine Muscarella	Livingston County Water & Sewer Authority
10/24/05	Louis Freeman, David Thorp	Cornell Cooperative Extension – Livingston
10/24/05	Dominic Mazza	Livingston County Administration
10/25/05	Joan Ellison, Jim Mazurowski	Livingston County Department of Health
10/26/05	David Allen	Livingston County Buildings and Grounds
10/26/05	Kevin Niedermaier	Livingston County Emergency Management
10/27/05	Sandy Shaw	Clara Barton Chapter, American Red Cross
11/1/05	Peter Kanouse	Livingston County Soil and Water District

February 28, 2006 – As part of the Mitigation Strategy development, G/FLRPC staff met with a group of county officials to develop Action Items for the Plan's Mitigation Strategy. These officials included:

Heather Ferrero (Planning Dept.), Marty Herkimer and Jim Szczesnial (Sheriff's Office), Dick Davin (Health Dept.), Sandy Shaw (Red Cross), John Polito (GV Boces), Dennis Barefoot (Highway Dept.). On the same day G/FLRPC staff met with Kaaren Smith (Office for the Aging) at a separate meeting, as she could not attend the group meeting. At these meetings the county officials were asked to list their ideas for the specific Action Items within the Mitigation Strategy.

SECTION 3.4: PUBLIC PARTICIPATION

An important component of the all-hazard mitigation planning program is the public participation and outreach aspect of the mitigation planning process. All planning committee meeting agendas, minutes and materials have been made available to the general public on the project website at:

http://www.gflrpc.org/LivingstonAllHazard.htm

The public was informed about this website through press releases. However, the principle form of public outreach took the form of three public meetings, two held when the Risk Assessment was completed and the second held when the Mitigation Strategy, and thus a full draft of the plan, was completed. The public was invited to attend the following events:

November 10, 2005 *7:30 to 9:00 PM Dansville/North Dansville Municipal Bldg, Dansville, NY*
A public meeting to discuss all-hazard mitigation planning was coordinated and publicized. G/FLRPC developed a press release and provided it to the Livingston County Emergency Management Office for distribution. G/FLRPC developed a presentation and handouts for attendees. These materials focused on the Risk Assessment section of the plan and discussed the planning process, the selection of critical facilities and community assets, and the key hazards that the County and individual municipalities face. The Plan's hazard assessment maps were available for review, and representatives from G/FLRPC and the Livingston County EMO were available to make a public presentation and answer questions.

November 14, 2005 *7:30 to 9:00 PM Government Center Conference Room, Geneseo, NY*
A public meeting to discuss all-hazard mitigation planning was coordinated and publicized. G/FLRPC developed a press release and provided it to the Livingston County Emergency Management Office for distribution. G/FLRPC developed a presentation and handouts for attendees. These materials focused on the Risk Assessment section of the plan and discussed the planning process, the selection of critical facilities and community assets, and the key hazards that the County and individual municipalities face. The Plan's hazard assessment maps were available for review, and representatives from G/FLRPC and the Livingston County EMO were available to make a public presentation and answer questions.

May 30, 2006 *6:00 to 8:00 PM County Highway Dept. Conference Room, Mt. Morris, NY*
A public meeting to discuss all-hazard mitigation planning was organized and publicized by G/FLRPC and the Livingston County Emergency Management Office. G/FLRPC developed a press release and distributed it with the County Emergency Management Office's approval to several local newspapers and for posting online at the project website. G/FLRPC staff prepared a presentation and handouts for attendees. This presentation focused on the Mitigation Strategy section of the Plan. The presentation reviewed the process of developing the Mitigation Strategy, some specific proposed projects, the plan adoption, maintenance, and update process, and the public input process. Representatives from G/FLRPC and the Livingston County EMO were available to give the presentation and answer questions.

Public outreach initiatives will continue pending the completion of the Livingston County All Hazard Mitigation Plan. As part of the regular annual plan review, the Planning Committee will hold a public

hearing to inform and update the public on what progress has been made in implementing the Mitigation Strategy and any proposed revisions to the plan document. Comments submitted to the Planning Committee by members of the public will be considered and incorporated into revised versions of the all-hazard mitigation plan. Please refer to Chapter 9, *Plan Adoption, Maintenance, and Update Procedures*, for additional information on ongoing public participation activities.

The plan is currently available online at the project website. In addition, copies of the draft plan were distributed to local libraries and municipal buildings when the draft was completed. A press release was distributed to notify the public of this and invite comments, which could be submitted to G/FLRPC by regular mail, facsimile, or electronic mail.

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Chapter 4: *Community Profile*

LIVINGSTON COUNTY

INTRODUCTION

Formerly a portion of Genesee and Ontario counties, Livingston County officially became its own county on February 23, 1821. The boundaries were adjusted five times between 1821 and 1922 – with Steuben in 1822, Monroe in 1825, Allegany in 1846 and 1857, and Ontario in 1922. Livingston County was named for Robert P. Livingston, a former Chancellor of New York State, and an author of the Declaration of Independence. Prior to American settlement, the land of the county was settled by Seneca Indians, the "Keepers of the Western Door", as the westernmost nation of the Iroquois Confederacy was known. Today, the county is sometimes referred to as the "Western Gateway to the Finger Lakes."

During the Revolutionary War, the Iroquois Confederacy was split in its allegiance between the United States and the British Empire. The Seneca of Livingston County remained loyal to the British. In 1779, General Washington sent a military party of 6,200 men (a fifth of his force) under generals John Sullivan and George Clinton to subdue Iroquois resistance. The Seneca capital, Little Beard's Town, was burnt September 14, 1779. Today the site surrounds Route 39, between Geneseo and Cuylerville.

After breaking the military strength of the Iroquois, New York State moved to take control the land through treaties. New York and Connecticut settled their competing claims to the region in 1786 with the Treaty of Hartford, whereby New York obtained sovereignty over the land while Connecticut retained "pre-emptive" rights to acquire title to the land from the Iroquois. In 1788 Connecticut sold its pre-emptive rights to land speculators Oliver Phelps and Nathaniel Gorham; when financial difficulties forced Phelps and Gorham to give up their rights, the Pulteney Association obtained title to all the land east of the Genesee River and sold it off to speculators and settlers. The treaty of Big Tree, signed in 1797 in present day Geneseo, secured state control of all the land west of the Genesee River. Local Native Americans were relocated out from the territory or onto five reservations (the most of any county in New York). All these reservations were relinquished through treaties by 1826.

Following the Revolutionary War, people from New England, Maryland and Pennsylvania came to settle the Genesee River Valley, bringing their knowledge of agriculture and methods of raising cattle and sheep. The settlers built flour and grist mills on the numerous small streams and along the Genesee River. The most prominent family of this period was the Wadsworth clan from Connecticut, a family of wealthy landowners headed by brothers John and William. They oversaw the county's early development by surveying boundaries and guiding settlement. Some of the Wadsworth descendants became local representatives. James Jeremiah Wadsworth served as ambassador to the United Nations during President Eisenhower's second term. They also founded the current county seat, the Town of Geneseo, in 1788. Most of the other towns were founded between 1789 and 1795, except Nunda, Ossian and Springwater, which were settled between 1804 and 1807.

Livingston County was home to many prominent persons, including two presidents. Millard Fillmore worked at a mill in West Sparta, and Chester A. Arthur lived in York and attended Temple Hill Academy in Geneseo. Additional residents include Clara Barton, who organized the First Chapter of the American Red Cross in 1881, and Francis Bellamy, who authored the Pledge of Allegiance in 1892. Revolutionary War hero Daniel Shays and pioneer Nathaniel Rochester also called Livingston County home.

The earliest settlers were generally Protestants of English, Scots-Irish, and German ancestry, followed by Irish Catholics in the 1830s and 1840s. Some settlers brought slaves with them when it was legal prior to

1827. Growth of population came with the completion of the Genesee Valley Canal (1840-1872) and with the expansion of railroads and with health spas, which reached their height of popularity in the 1850s. After the Civil War, a community of freed slaves from Virginia settled in Caledonia. Italians and people of Slavic ancestry settled in the township of Mount Morris in significant numbers around the turn of the century, in response to the growth of small industry and manufacturing jobs in that area.

Livingston County has some of the most valuable land in the state. Always known for its prolific crops, agriculture is still the main industry, producing large quantities of wheat, potatoes and dairy products. Salt has been an important industry for over 100 years and continues today with the new American Rock Salt mine in Groveland. The County's current population is just over 64,000 people.

LOCATION AND GEOGRAPHY

Livingston County lies in the central portion of Western New York, directly south of Lake Ontario, the City of Rochester, and Monroe County. Allegany and Steuben Counties at the southern end serve as separation from the state of Pennsylvania, Genesee and Wyoming Counties mark the western border, and Ontario County occupies the eastern border. The Genesee Valley is the predominant feature in Livingston County. The Genesee Valley can be broken into two major watersheds; the Canaseraga Creek Valley from Dansville to Mount Morris and the Genesee River Valley from Mount Morris to Avon. (See Map 1, *Livingston County, NY*).

Traveling from the southwest corner to the northern end of the County, the Genesee River is historically the prime transportation route for the region, especially as a conduit to the completed Erie Canal a few miles north of the county line. In addition to the agricultural benefits created by the river basin, the natural beauty of the region is enhanced as the River winds its way north through the County, creating valleys and most famously, the gorge in Letchworth State Park touted as the "Grand Canyon of the East." The natural scenery of Livingston County's rolling farmlands, enhanced by the Genesee, has added to its unique beauty and has served as inspiration to poets and artists alike. (See Map 2: *Water Resources*)

Livingston County itself is 638 square miles with 1,243 miles of road that wind their way across the flat lands of the north and the sloping hills in the south. Interstate 390 (I-390) is the central route of travel through Livingston County. I-390, opened in 1981, runs along a north-south route from Avon to Dansville and bisects the County into an eastern and western section. Entering the County from the south through the town of North Dansville and eventually exiting into Monroe County from the northern town of Avon, I-390 serves to bring major travel into Livingston County.

Additionally, Routes 5 & 20, and Route 63 connect the County to its eastern and western neighbors. Routes 5& 20, traveling across the northern portion of the County, carry traffic from Ontario County to Genesee County. Another main traffic way, Route 63, separates the southwest portion of the County from North Dansville to York.

LANDSCAPE FEATURES

Consistent with the rest of Western New York, the geography and topography of the land that encompasses Livingston County owes its formation to the thawing of glaciers during the last Ice Age. The westernmost Finger Lakes of Conesus and Hemlock, the Valleys of the Genesee River and Canaseraga Creek, the hills in the south of the County, and the flatlands in the north are all glacial formations. Most of Livingston County is located in the Appalachian Upland province. The area east of the Canaseraga

Creek valley is part of the Finger Lakes Hills sub-region; the area to the west lies within the Cattaraugus Hills sub-region. The uplands consist of rolling hills, dissected by narrow, steep-sided valleys that trend north to south. Elevation ranges from 520 feet where the Genesee River exits the county to 2,244 feet at the Tabor benchmark in the Town of Springwater. (See Map 3: *Topography* and Map 4: *Elevations*)

The two main lakes of Livingston County are Conesus and Hemlock. Conesus is bordered by the towns of Conesus, Geneseo, Groveland, and Livonia. Hemlock Lake is bordered by Conesus, Livonia, and Springwater, as well as the Town of Canadice in Ontario County. Created by melted glacial waters and dammed up by glacial debris, the lakes are an important aesthetic, economic, environmental and cultural resource for the County.

However, the most prominent feature of the County is the Genesee River extending from the southwest and then northward into Monroe County. The Genesee River and Letchworth State Park, offer some of the most spectacular views of any landscape in the northeast. Letchworth's Genesee Gorge was carved some 12,000 years ago when glaciers moved through the region. The Genesee River cuts through cliffs that rise in places to 600 feet. The park's 14,000 acres contain three canyons and three major waterfalls, and attract 1 million people annually. The park is also home to the Mount Morris Dam, created in 1952 on the Genesee to ease flooding in the Rochester area.

Fields and flatlands make up the northernmost section of the County, while the south is dominated by rolling hills. Some of the gentle hills in the county are the result of glacial debris and sediment left behind after the Ice Age. The hills, part of the Allegheny Plateau which is comprised of easily eroded shale and limestone, abut the northern flat lands. The Allegheny Plateau makes up most of southern Livingston County and is a source of the Genesee River.

Livingston County also has a significant mineral resource in the form of rock salt. Beginning in the 1880s, rock salt has been mined in the County and the area became the largest producer of rock salt in North America. However, mining has slowed down since the collapse of the Retsof mine in 1994. The frailty of the mining operations were exposed when a mine's roof collapsed, producing two large sinkholes and drying up local wells.

Livingston County has one major water drainage basin, the Genesee River Basin. Comprised of the Upper and Lower Genesee watersheds, the basin itself eventually drains north to Lake Ontario. Conesus and Hemlock lakes empty into the Basin and drain northward as well. Some of the watersheds that make up the Genesee River Basin include: Hemlock Lake, Hemlock Outlet, Oatka Creek, Conesus Creek, and the Genesee River. (See Map 5: *Watersheds*)

CLIMATE

The climate of Livingston County is fairly humid and varies dramatically from the winter season to the summer season as is common within a continental climate type. Average yearly temperature is about 47.7 degrees Fahrenheit. The National Weather Service reports the average temperature during the summer months to be around 70-72 degrees Fahrenheit, with occasional rain every 3rd or 4th day. Seasonal temperatures are remarkably consistent from Avon in the northern part of the county, Mount Morris in the central part of the county, and Dansville in the southern portion of the county. All three have mean January temperatures of 24 degrees Fahrenheit, and mean July temperatures of 70 degrees Fahrenheit. Temperatures are slightly lower in the higher elevations.

Occasional days with temperatures below 0 degrees Fahrenheit are anticipated every winter, while daytime summer high temperatures can reach 90 degrees or more at least once every summer. Average

annual precipitation amounts range from 30 to 35 inches, while snowfall amounts can range from 51 to over 80 inches per year. Precipitation is generally higher in the northwest part of the county and in the higher elevations.

LAND USE AND DEVELOPMENT

A. Historic Profile

The original primeval forest in Livingston County was a mix of several different forest communities. Black ash, red maple, sycamore and hemlock trees comprised a swamp forest community that covered the flatland bordering the lower Genesee River and Canaseraga Creek. Significant stands of Alleghenian hardwoods consisting of mixed stands of beech, sugar maple, hemlock, white pine, basswood, oak and chestnut covered portions of the southern and western parts of the County. Central hardwood forests consisting of beech, sugar maple, basswood, and in places, oak and chestnut trees, dominated the southeast and northwest. Oak-chestnut forests occupied the margins of the lower Genesee and Canaseraga Valleys.

Most of the county's prime agricultural land is concentrated in the northern half and in the Canaseraga and Keshequa Creek valleys. Moderately fertile soil is found scattered throughout the area south and southeast of Conesus Lake. Historically, the Iroquois of the area cultivated orchards of apples, peaches and plums as well as kept horses, oxen, and other livestock. They also farmed beets, potatoes, cabbage, squash, pumpkins, turnips, and beans. The main staple was corn, eaten off the cob, pounded into meal for bread, or mixed into succotash during the "great four-day Green Corn Festival". The wet and fertile lands of Livingston County have provided the region with a rich agricultural heritage that continues to this day.

The completion of the Erie Canal in 1825 just a few miles north of the county line created economic opportunity for Livingston County farmers. The importance of wheat farming grew as the Erie Canal facilitated the shipment of products to the Port of New York and then as far as Britain. The Genesee Valley Canal, which joined the Erie Canal at Rochester, reached the southern part of Livingston County in the early 1840s, allowing goods and commodities to be shipped by water almost anywhere in the world. The Genesee Valley Canal was never extended to the Allegheny River as originally planned, and it was abandoned in 1878. Several ruined locks from this canal have been preserved as a historical site just south of Letchworth State Park along Route 438 in the town of Portage.

In the mid 19th century, the railroads replaced the canal as the chief means of shipping goods to market. Between 1852 and 1882, four rail companies laid tracks to complete the county's four north-south trunk lines. The County has always had a road system, with some of the earliest roads following Native American footpaths. Route 5, which runs east to west in the northern part of the County, has been a main thoroughfare since the early 19th century. Today, most of the county's agricultural and manufactured goods are transported by truck. Interstate 390 opened as a north-south route from Avon to Dansville in 1981.

The county currently ranks fifth in New York State for number of acres under cultivation, producing wheat, potatoes, beets, and dry beans. Hay and corn for animal feed are also principal crops since Livingston County is one of the largest milk-producing counties in the state. Although most produce is currently shipped elsewhere for processing, Seneca Foods operates a plant in the Town of Leicester and Eagle Crest Winery operates in the Town of Conesus. Other specialized agriculture includes beef cattle operation in the Town of Ossian, potato growing in Springwater, and horses in and around Avon. In terms of land cover, fields make up more than 61.3% of the land, forest covers 36.64%, water 1.32%, and only 0.74% can be classified as urban. (See Map 6: *Land Cover*).

Recently, job growth has occured in the service professions, especially education, healthcare, and law enforcement. 26.3% of the county's workforce is employed in educational, health and social services. Another 16.4% of the county works in manufacturing, and 12.1% work in the retail trade. The largest employer in the County is the State University of New York at Geneseo. Nicholas Noyes Memorial Hospital in Dansville and healthcare in general are important to the economy, as are the Groveland and Livingston Correctional Facilities in Groveland. Many residents commute to work in Rochester or elsewhere, and the mean travel time to work for County residents is 25.3 minutes.

Evidence of growth and expansion in the County can be seen from the increased issuance of building permits. Over the last five years, there were 75 manufacturing establishments in the county as a part of 1,239 total employment establishments. Since 2000, numerous building permits have been issued and include: 1,017 residential permits, 31 industrial permits, and 44 commercial permits.

Table 4.1: Livingston County Land Use: Building Permits

Location	2000			2001			2002			2003			2004		
	Res	Com	Ind	Res	Com	Ind	Res	Com	Ind	Res	Com	Ind	Res	Com	Ind
Livingston County	217	10	11	200	7	10	186	8	5	223	9	3	191	10	2
Avon, Town	20	1	-	20	1	-	22	-	-	37	1	-	25	3	-
Avon, Village	10	-	-	9	-	1	9	1	-	DNA	DNA	DNA	DNA	DNA	DNA
Caledonia, Town	11	-	1	7	-	-	9	-	-	11	-	-	4	-	-
Caledonia, Village	DNA	DNA	DNA	-	-	1	-	-	-	-	-	-	1	1	-
Conesus, Town	14	-	-	21	-	-	14	1	-	18	-	-	16	-	-
Dansville, Village	2	-	-	1	2	-	5	-	-	3	1	-	11	1	-
Geneseo, Town	37	1	-	21	1	-	15	2	-	8	1	-	17	-	-
Geneseo, Village	17	1	-	15	-	-	8	1	-	15	1	-	27	2	-
Groveland, Town	3	1	8	4	-	3	1	-	-	4	1	-	3	-	-
Leicester, Town	11	-	-	13	-	-	5	-	-	15	-	-	DNA	DNA	DNA
Leicester, Village	1	-	-	-	-	-	1	-	-	-	-	-	DNA	DNA	DNA
Lima, Town	7	1	-	4	-	-	8	-	-	4	-	1	4	-	-
Lima, Village	8	-	-	6	-	-	8	-	1	3	-	-	1	-	-
Livonia, Town	24	1	-	27	-	-	30	-	3	41	3	1	35	1	-
Livonia, Village	4	-	-	4	-	-	2	-	-	4	-	-	3	-	-
Mount Morris, Town	DNA	DNA	DNA	DNA	DNA	DNA	6	-	-	DNA	DNA	DNA	DNA	DNA	DNA
Mount Morris, Village	4	-	-	5	-	-	DNA	DNA	DNA	5	-	-	3	1	1
North Dansville, Town	3	1	1	-	1	1	-	-	-	-	-	-	2	-	-
Nunda, Town	15	1	-	11	-	-	7	1	-	8	-	-	12	1	-
Nunda, Village	1	1	-	3	-	3	1	-	-	-	1	1	2	-	-
Ossian, Town	5	-	-	5	-	-	DNA	DNA	DNA	7	-	-	DNA	DNA	DNA
Portage, Town	4	-	-	-	-	-	1	-	-	DNA	DNA	DNA	DNA	DNA	DNA
Sparta, Town	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	4	-	-	5	-	-
Springwater, Town	4	1	1	16	2	-	14	-	-	12	-	-	10	-	-
West Sparta, Town	DNA	DNA	DNA	DNA	DNA	DNA	6	-	1	6	-	-	DNA	DNA	DNA
York, Town	12	-	-	8	-	1	14	2	-	18	-	-	11	-	1

Source: Regional Land Use Monitoring Reports 2000-2004, G/FLRPC DNA – Data Not Available

B. Development Trends

An overall analysis of development trends in Livingston County was completed as part of the *Regional Development Analysis* (G/FLRPC, 2004). For the analysis, data from the *Regional Population Forecast:*

County, City, Town, and Village Projections for the Genesee/Finger Lakes Region (G/FLRPC, 2003) were applied to the land available for development and zoning capacity figures to determine an estimated build out potential in residential, commercial, and industrial development categories.

In order to facilitate the analysis, the study assumes that only lands classified by the municipality's Real Property Assessor as 'Agriculture' or 'Vacant' would be considered for potential development. This is not meant to presume that all farmland is simply "waiting for development" but rather was a way to efficiently calculate land that *could* be developed. While it is entirely possible that further development may occur on lands currently classified as 'residential' or 'commercial', given the scale of the study area and scope of the project, the subdivision of large parcels that have been identified as 'developed' (e.g. rural non-farm residential parcels of several acres) has been excluded from considerations.

Livingston County municipalities have approximately 205,000 acres of land available for development. The projected number of residential lots available is between 149,000 and 194,000. Of these lots available for residential development, approximately 1,200 lots (less that one percent) are projected to be developed by 2020. Approximately 2,100 (between 1.1 and 1.4 percent) are projected to be developed by 2040.

The allowable square footage for commercial development is approximately 12.7 million. Of the allowable square footage for commercial development, between 250,000 and 996,000 (between 1.9 and 7.8 percent) is projected to be developed by 2020. Between 585,000 and 12.3 million (4.6 and 18 percent) is projected by 2040.

The allowable square footage for industrial development is approximately 39.7 million. Of allowable square footage for industrial development, between 336,000 and 1.3 million (between 0.9 and 3.2 percent) is projected to be developed by 2020. Between 784,000 and 3 million (2.0 and 7.6 percent) is projected by 2040.

C. Municipal Development Profiles

In each regional meeting, every municipality was asked to map the location of development that they anticipated over the next 10 to 20 years. The committees were asked to point out areas of new development that was not infill development. The summary of their comments follows. (See Map 7: *Possible Future Development Areas* and Map 8: *Generalized Municipal Zoning*)

Town of Avon

The Town of Avon expects a mix of residential and industrial development. Municipal officials foresee industrial development on the western side of Interstate 390, between I-390 and Lakeville Road, and on either side of I-390 north of Triphammer Road. Residential development is expected between I-390 and Bronson Hill Road. A small amount of residential development is anticipated on the western side of I-390, and on the southern side of Littleville Road.

Village of Avon

The Village of Avon expects a mix of industrial and residential development within the Village. While industrial development is expected to be concentrated in the northwestern part of the Village, residential development is expected to be scattered across the northeastern, eastern and southeastern sections. Industrial development is anticipated on the western side of Rochester Street between Rochester Street and Farmers Road. Municipal officials expect significant residential development on the northeastern edge of the Village, west of Pole Bridge Road. Smaller residential pockets are anticipated on the northern side of East Main Street, the western side of Pole Bridge Road, and on the southeastern edge of the Village between Pole Bridge Road and Lake Road.

Village of Caledonia
The Village of Caledonia expects a mix of industrial, commercial and residential development. A large amount of industrial development is expected along the northeastern edge of the Village, north of Iroquois Road. A small pocket of commercial development is anticipated on the western side of the Village, on both sides of Main Street, extending into the Town. Scattered residential development is expected in the following areas: a small pocket near the center of the Village on the northern side of Iroquois Road; on the north edge of the Village extending into the Town; an area on the southeastern edge, north of Brown Road, extending beyond the Village boundary; a small pocket between Sand Hill Road and Leicester Street; and a small development on either side of Leicester Street.

Town of Caledonia
Outside of the Village of Caledonia, the Town of Caledonia expects residential development on either side of River Road. Municipal officials anticipate that some of the future commercial and residential development within the Village of Caledonia will extend beyond the Village into the Town.

Town of Conesus
The Town of Conesus expects a mix of commercial and residential development. Municipal officials expect the following residential development: along East Lake Road; a small area at the corner of Turkey Hill Road; around Durkee Road; around East Swamp Road, Pucker Street and Camel Road.
The Town of Conesus expects commercial development to overlap with the residential development around Durkee Road. They also anticipate a small amount of commercial development west of East Swamp Road, close to the Town boundary.

Village of Dansville
The Village of Dansville expects only residential development in the Village. They expect residential development: on the southern side of Maple Street; in a small area along Knox Street; and on the eastern side of Quay Street.

Town of North Dansville
The Town of North Dansville expects residential development around the Village of Dansville. Municipal officials anticipate residential development: around Old Route 256 between the Village of Dansville and the Town of Sparta; abutting the Village of Dansville parallel to Sahrles Hill Road; and southwest of I-390 around Poags Hole Road.

Village of Geneseo
The Village of Geneseo expects mostly residential development in the village. Municipal officials expect residential development: on the east side of Mt. Morris Road; in a small area east of Crossett Road, extending beyond the Village boundary; and on the northeastern side of the Village between Avon Road and Lima Road. In addition, commercial development is anticipated on the southeastern side of Lima Road, extending beyond the Village boundary.

Town of Geneseo
The Town of Geneseo expects residential and commercial development mostly around the Village of Geneseo. The Town expects commercial development: on the southeastern side of Lima Road along the Town and Village line, and on the western side of the Town close to the Village boundary. The Town expects residential development: at the junction of Groveland Road and Long Point Road, and on the west side of I-390, north of Reservoir Road.

Town of Groveland

The Town of Groveland expects a mix of commercial and residential development. Commercial development is expected on the southern side of Abele Road to the east of I-390; the town expects a small commercial development along the southern border, south of church street.
The town of Groveland expects: residential development on the western side of Swan Hill Road; residential development on the southern border around Church Street, Macaulay Road.

Village of Leicester
The Village of Leicester expects a large amount of residential development on the southeastern edge of the Village, on both sides of Mt. Morris Road, extending beyond the Village boundary.

Town of Leicester
The Town of Leicester anticipates residential development: extending from the Village on either side of Market Street; on either side of Jones Bridge Road; on either side of Upper Morris Road; on either side of Wheelock Road; and west of River Road, on either side of Jones Bridge Road. The Town expects industrial development in a small area on the northern side of Jones Bridge Road. Industrial and commercial development is expected east of Main Street on the southern border of the Town.

Village of Lima
The Village if Lima expects a large amount of residential development on the western side of Rochester Street, between Rochester Street and Dalton Street.

Town of Lima
The Town of Lima expects industrial development on the western side of Clay Street, and commercial development on the eastern side of Dalton Road.

Village of Livonia
Municipal officials expect to see residential development throughout the entire village, as well as beyond the Village boundaries. Commercial development is anticipated on the eastern side of West Avenue, extending north beyond the Village boundary.

Town of Livonia
The Town of Livonia expects significant residential development throughout the entire Village, from Cadyville Road to South Lima Road. Municipal officials anticipate industrial development partly overlapping the residential development between Stone Hill Road and South Lima Road. Commercial development is also expected to overlap with possible residential development between Richmond Mills Road and Stone Hill Road. Additional commercial development is predicted around State Ave; and north of Niver Townline Road.

Village of Mount Morris
The Village of Mount Morris expects a mix of residential, commercial and industrial development. Municipal officials foresee industrial development: on the northeastern edge of the Village extending beyond the Village boundary; and on the southeastern edge extending beyond the Village boundary. Commercial development is anticipated on the northern edge of the Village, overlapping with future industrial development and extending beyond the Village boundary. Residential development is also expected on both sides of Stanley Street; on both sides of Erie Street extending beyond the Village boundary; and on both sides of Parker Road extending beyond the Village boundary.

Town of Mount Morris
The Town of Mount Morris expects development around the village. Municipal officials anticipate residential development: on either side of Parker Road, extending into the Town from the Village; and around Erie Street extending from the Village. Industrial and commercial development is expected along

the Route 408 corridor from the Village boundary to the Town line. Industrial development is also expected along the eastern Village boundary.

Village of Nunda
Officials expect residential development within the Village, as well as on the southern side of the Village, east of Walnut Street, extending beyond the Village boundary.

Town of Nunda
The Town of Nunda expects a mix of residential and commercial development. Municipal officials anticipate residential development: on the northern side of the Village, extending into the town on either side of Halstead Road; on the southern side of the Village, extending into the town along Fuller Road; on either side of Picket Line Road; on either side of Cold Road; on either side of Wildey Road; and around Mill Street. Commercial development is expected on the northern side of the village along Route 408, between Vermont Street and Halstead Road.

Town of Ossian
The Town of Ossian expects low density rural residential growth throughout the Town.

Town of Portage
The Town of Portage expects residential development on the eastern edge of the town. Residential development is anticipated around Picket Line Road, north of Stone Road; and around the junction of Picket Line Road, Mill Street, Main Street and Parker Road. Municipal officials also expect to see continued low density rural residential growth throughout the Town.

Town of Sparta
The Town of Sparta expects low density rural residential growth throughout the Town. In addition, municipal officials expect to see a mix of residential, commercial and industrial growth in the northwest corner of the Town, along Route 63 near Caldwell and Anderson Roads, outside the hamlet of Groveland. Residential development is expected in the hamlet of Scottsburg, along Route 256. In the southern part of the Town, residential growth is possible along Route 256, as the Village of Dansville expands.

Town of Springwater
The Town of Springwater expects only a small amount of commercial development in the Town, which would be located towards the center of the Town, on either side of Lawrence Gull Road between Depot Road and East Ave.

Town of West Sparta
The Town of West Sparta expects low density residential growth throughout the Town.

Town of York
The Town of York anticipates a mix of residential, commercial and industrial development. Municipal officials expect residential development: south of Chandler Road, on the southern edge of the Town; and in an area south of Dow Road. Commercial development is also expected east of Retsof Road and in a small area west of Retsof Road. Town officials anticipate possible industrial development on either side of Retsof Road, north of Chandler Road.

POPULATION TRENDS AND DEMOGRAPHICS

The population of Livingston County was 64,328 persons at the 2000 Census, with 2004 estimates at 64,819 persons. The County has 101.76 people per square mile. The current racial makeup is predominantly white at 94%. African Americans compose 3%, Asian 0.8%, and other races 2.2%. There

are 22,150 households in the County, and 24,023 total housing units. Households have an average of 2.60 persons, while the average family size is 3.06. 74.5% of citizens are homeowners, while 25.5% are renters. The median age in Livingston County is 35.3 years.

69.3% of total households are family households. 34% of these households have children under the age of 18. Married households comprise 54.8%, females with no husband are 10%, non-family members cohabiting together are 30.7% and 23.1% are persons living alone. The median household income for Livingston County is $42,066 and the median family income is $50,513. Per capita income is $18,062. 10.4% of the total population is classified as living below the poverty line, but only 5.8% of county families are listed as such.

The population of Livingston County has fluctuated over time. Between 1830 and 1850, the population increased significantly, from 27,729 to 40,875. Between 1850 and 1930, the population held fairly steady, fluctuating only moderately from census to census. The County experienced a significant decline between 1930 and 1940, when the population went from 37,560 to 28,510. Population jumped back up in 1950 to 40,257, and has steadily increased since then.

Table 4.2: Livingston County Historic and Projected Population by Municipality, 1960-2040

Location	Historic Population					Change 1960-2000		Projected Population			
	1960	1970	1980	1990	2000	Number	%	2010	2020	2030	2040
Livingston County	44,053	54,041	57,006	62,372	64,328	20,275	46.02%	65,979	67,333	68,481	69,478
Avon, Town	1,632	2,857	3,179	3,288	3,466	1,834	112.38%	3,698	3,830	3,930	4,018
Avon, Village	2,772	3,260	3,006	2,995	2,977	205	7.40%	2,987	2,999	3,017	3,038
Caledonia, Town	1,150	1,505	1,846	2,179	2,240	1,090	94.78%	2,328	2,406	2,470	2,525
Caledonia, Village	1,917	2,327	2,188	2,262	2,327	410	21.39%	2,370	2,411	2,442	2,469
Conesus, Town	1,221	1,533	1,970	2,196	2,353	1,132	92.71%	2,456	2,546	2,621	2,686
Dansville, Village	5,460	5,436	4,979	5,002	4,832	-628	-11.50%	4,788	4,759	4,729	4,700
Geneseo, Town	1,053	1,564	1,927	1,991	2,075	1,022	97.06%	2,157	2,229	2,288	2,340
Geneseo, Village	3,284	5,714	6,746	7,187	7,579	4,295	130.79%	7,907	8,195	8,432	8,637
Groveland, Town	3,373	3,004	2,140	3,190	3,853	480	14.23%	3,941	4,023	4,088	4,142
Leicester, Town	1,027	1,431	1,426	1,818	1,818	791	77.02%	1,874	1,923	1,964	1,999
Leicester, Village	365	368	462	405	469	104	28.49%	479	488	495	501
Lima, Town	1,350	1,759	1,834	2,022	2,082	732	54.22%	2,145	2,201	2,246	2,285
Lima, Village	1,366	1,686	2,025	2,165	2,459	1,093	80.01%	2,512	2,562	2,600	2,634
Livonia, Town	2,580	4,026	4,504	5,370	5,913	3,333	129.19%	6,214	6,365	6,540	6,690
Livonia, Village	946	1,278	1,238	1,434	1,373	427	45.14%	1,386	1,400	1,410	1,418
Mount Morris, Town	1,317	1,162	1,439	1,531	1,455	138	10.48%	1,439	1,444	1,454	1,469
Mount Morris, Village	3,250	3,417	3,039	3,102	3,112	-138	-4.25%	3,131	3,154	3,168	3,180
North Dansville, Town	635	922	1,015	781	906	271	42.68%	930	951	970	984
Nunda, Town	1,085	1,320	1,523	1,584	1,687	602	55.48%	1,738	1,784	1,820	1,852
Nunda, Village	1,224	1,254	1,169	1,347	1,330	106	8.66%	1,348	1,365	1,378	1,389
Ossian, Town	489	551	667	797	751	262	53.58%	740	754	770	789
Portage, Town	733	731	771	893	859	126	17.19%	872	885	895	903
Sparta, Town	1,019	1,157	1,458	1,578	1,627	608	59.67%	1,679	1,725	1,763	1,795
Springwater, Town	1,293	1,678	2,143	2,407	2,322	1,029	79.58%	2,315	2,313	2,309	2,303
West Sparta, Town	817	935	1,100	1,335	1,244	427	52.26%	1,255	1,266	1,275	1,281
York, Town	2,695	3,166	3,212	3,513	3,219	524	19.44%	3,290	3,355	3,407	3,451

Source: Regional Population Forecasts: County, City, Town and Village Projections for the Genesee/Finger Lakes Region out to the year 2040, Genesee/Finger Lakes Regional Planning Council, December 2003

Between 1960 and 2000 the population increased 46% to 64,328. However, this figure includes students at SUNY Geneseo and inmates at two large correctional facilities. In 1980, the population was 57,006 and it rose to 64,328 persons in 2000. This is a 12.84% increase between 1980 and 2000. The greatest increase in population during this time occurred in the Town of Groveland, where the population increased by nearly 80% in the last twenty years. Only two municipalities experienced a decline in population between 1960 and 2000: the Village of Dansville and the Village of Mount Morris. The most densely populated area in the county is in the Village of Geneseo.

In the next forty years, County population is projected to increase by 8% to an estimated 69,478 persons. Population growth is expected in every municipality except in the Village of Dansville and the Town of Springwater. The most significant growth is expected in the Towns of Avon, Conesus and Livonia, as well as in the Village of Geneseo.

Table 4.3: Age of Householder, Livingston County, New York, 2000

Municipality	Total Households	Under 25	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 +
Avon, Town	2614	73	419	607	595	331	310	279
Avon, Village	1126	22	208	271	232	126	146	121
Caledonia, Town	1677	37	221	489	382	230	170	148
Caledonia, Village	899	21	127	232	233	95	98	124
Conesus, Town	852	7	106	228	228	107	92	84
Dansville, Village	1919	105	301	429	332	195	263	294
Geneseo, Town	2403	551	142	494	416	319	216	165
Geneseo, Village	1681	532	172	250	250	168	164	145
Groveland, Town	525	17	52	136	161	55	59	45
Leicester, Town	854	10	163	217	163	113	114	74
Leicester, Village	180	8	24	45	29	37	22	15
Lima, Town	1551	38	198	386	371	253	161	144
Lima, Village	770	17	151	158	166	106	95	77
Livonia, Town	2713	119	380	703	693	360	270	188
Livonia, Village	523	11	76	160	121	66	28	61
Mount Morris, Town	1797	91	201	457	342	251	209	246
Mount Morris, Village	1297	91	166	289	241	153	152	205
North Dansville, Town	2333	125	327	506	416	253	354	352
Nunda, Town	1130	39	181	289	236	157	124	104
Nunda, Village	509	26	74	136	83	99	52	39
Ossian, Town	275	4	37	60	72	41	40	21
Portage, Town	308	3	44	76	77	52	37	19
Sparta, Town	587	10	79	125	160	98	73	42
Springwater, Town	889	5	99	292	208	124	75	86
West Sparta, Town	440	10	68	103	108	59	47	45
York, Town	1201	37	126	366	213	170	201	88

Source: U.S. Census Bureau, Census 2000.

OVERVIEW

Government: The Village of Geneseo was established as the county seat for Livingston County following the County's formation in 1821. The county courthouse, constructed in 1823, secured

Geneseo's position as county seat. A Board of Supervisors and a County Administrator run the legislative branch of the county government. Seventeen supervisors represent the seventeen towns, but the role of the each supervisor is not the same. A supervisor's vote is contingent upon the population of the town that they represent, leading the way for a disproportionate representational system.

Towns (17): Avon, Caledonia, Conesus, Geneseo, Groveland, Leicester, Lima, Livonia, Mount Morris, North Dansville, Nunda, Ossian, Portage, Sparta, Springwater, West Sparta, York

Villages (9): Avon, Caledonia, Dansville, Geneseo, Leicester, Lima, Livonia, Mount Morris, Nunda

School Districts (17): Avon CSD, Caledonia-Mumford CSD, Canaseraga CSD, Dansville CSD, Geneseo CSD, Honeoye CSD, Honeoye Falls-Lima CSD, Keshequa CSD, LeRoy CSD, Livonia CSD, Mount Morris CSD, Naples CSD, Pavilion CSD, Perry CSD, Wayland-Cohocton CSD, Wheatland-Chili CSD, York CSD. (See Map 9: *School Districts*)

Law Enforcement: Avon PD, Caledonia PD, Dansville PD, Geneseo PD, Mount Morris PD, Nunda PD, Livingston County Sheriff (4 Sub-Stations – Geneseo, Livonia, Portage, Sparta), NYS Police (2 Sub-Stations – Groveland, Lima), SUNY Geneseo University Police.

Fire Departments (20): Avon FD, Caledonia FD, Conesus FD, Cuylerville FD, Dansville FD, East Avon FD, Geneseo FD, Groveland FD, Hemlock FD, Lakeville FD, Leicester FD, Lima FD, Livonia FD, Mount Morris FD, Nunda FD, Retsof FD, Sparta Center FD, Springwater FD, West Sparta FD, and York FD.

Ambulance (12): Avon Ambulance, Caledonia Ambulance, Cuylerville Ambulance, Dansville Ambulance, Geneseo Ambulance, Lima Ambulance, Livonia Ambulance, Mount Morris Ambulance, Nunda Ambulance, Springwater Ambulance, Retsof Ambulance, and York Ambulance.

Electric Companies (3): New York State Electric & Gas Corporation (NYSEG), Rochester Gas & Electric (RG&E), and Niagara Mohawk.

Natural Gas Companies (3): New York State Electric & Gas Corporation (NYSEG), Rochester Gas & Electric (RG&E), and National Fuel.

Telecommunications Companies (4): Alltel, AT&T, Frontier Communications, and Verizon.

Town of Avon

Livingston County, New York
Zip Code 14414

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is located in northern Livingston County and is bordered by the Town of Rush (Monroe County) to the north, the Town of Lima (Livingston County) to the east, the Towns of Livonia and Geneseo (Livingston County) to the south, and the Towns of York and Caledonia (Livingston County) to the west.

Dates of Settlement and Incorporation: First settled in 1789, the Town was formed in 1797 as the Town of Hartford. The name was changed to Avon in 1808.

Notable Facts:
In 1821, naturally occurring sulfur springs were developed for health-related tourism in the Avon. Also, General Foods operated a Birds Eye frozen foods plant in Avon for many years, until 1988 when the facility became the world's only producer of Cool Whip.

LANDSCAPE FEATURES

Topography: Gently rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Land gradually rises to the south and east.
Hydrography: The Genesee River marks the town's western boundary. Horseshoe Pond and a portion of Markham Pond lie near the river in the northwestern section. Black Creek, Conesus Creek (Conesus Outlet), and Little Conesus Creek all pass through town.
Watersheds: The Genesee River watershed covers the northwest and southwest corners. The Conesus Creek watershed encompasses the southern portion of the Town, while the northeast corner is part of the Spring Brook watershed.

AREA

Square Miles: 38.32
Acres: 24525.49

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Avon increased by 112.38% from 1,632 to 3,466. It is projected that will grow by 15.93% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 6,443
Sex Ratio: Male: 48.4%, Female: 51.6%
Median Age: 37.6
Median Household Income: $43,971
Median Family Income: $54,315
Families Below Poverty Line: 6.2%
Individuals Below Poverty Line: 6.7%
Housing Units: 2,671
Median Housing Value: $96,900

SCHOOL DISTRICTS

Avon CSD; Honeoye Falls-Lima CSD; Livonia CSD

UTILITIES

Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: LCWSA/Municipal/Private (wells)
Waste Water: Municipal/Private (onsite)

PUBLIC SAFETY

Police Departments: Avon Police Department
Fire Departments: Avon Fire Department, East Avon Fire Department
Emergency Medical Services: Avon Ambulance
Nearby Medical Facilities Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: None listed
Historic and Cultural Resources: Barber-Mulligan Farm, Five-Arch Bridge, Paper Mill Park

Village of Avon

Livingston County, New York
Zip Code 14414

COMMUNITY DESCRIPTION
Location/Boundaries: Located in the northwest portion of the Town of Avon, bordered on the west by the Town of Caledonia.

Dates of Settlement and Incorporation:
First settled in 1789, the Village was incorporated in 1853.

Notable Facts:
In 1821, naturally occurring sulfur springs were developed for health-related tourism in the Avon. Also, General Foods operated a Birds Eye frozen foods plant in Avon for many years, until 1988 when the facility became the world's only producer of Cool Whip.

LANDSCAPE FEATURES
Topography: The land rises from an elevation of approximately 515 feet along the Genesee River on the village's western border, to a prominent bluff of approximately 650 feet containing the village's historic central business district. The land continues to rise to an elevation of approximately 750 feet at the village's eastern boundary.
Hydrography: The Genesee River lies on the western edge of the village; Little Conesus Creek lies just south of the village's southern border.
Watersheds: Primarily Genesee River with a very small portion along the southern edge draining into Little Conesus Creek.

AREA
Square Miles: 2.94
Acres: 1881.79

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Avon increased by 7.4% from 2,772 to 2,977. It is projected that the Village will grow by 2.05% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 2,997
Sex Ratio: Male: 47.4%, Female: 52.6%
Median Age: 36.7
Median Household Income: $40,109
Median Family Income: $53,105
Families Below Poverty Line: 6.4%
Individuals Below Poverty Line: 7.5%
Housing Units: 1,215
Median Housing Value: $96,100

SCHOOL DISTRICTS
Avon CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: Avon Police Department
Fire Departments: Avon Fire Department, East Avon Fire Department
Emergency Medical Services: Avon Ambulance
Nearby Medical Facilities Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: None listed
Historic and Cultural Resources: Avon Free Library, Avon Inn, Avon Driving Park

Town of Caledonia

Livingston County, New York
Zip Code 14423

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is the northern-most in Livingston County and is bordered by the Town of Wheatland (Monroe County) to the north, the Towns of Rush (Monroe County) and Avon (Livingston County) to the east, the Town of York (Livingston County) to the south, and the Towns of LeRoy and Pavilion (Genesee County) to the west.

Dates of Settlement and Incorporation: Settled in 1795, the Town was formed from the old Town of Northampton in 1802 as the Town of Southampton. The name was changed to Caledonia in 1806.

Notable Facts: The town of Caledonia was the site of the Canawaugus Indian Reservation from 1797-1826. In 1864 Seth Green opened the first fish hatchery in the United States, which was later taken over by the state in 1875. The facility still remains an important hatchery.

LANDSCAPE FEATURES

Topography: Gently rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Some swampy areas. Land gradually rises to the south and west.
Hydrography: The Genesee River marks the eastern bound. Notable ponds include the Cement Plant Bond along Iroquois road, Grant Pond near Wadsworth and River Road, and Log Pond near the river and close to Dugan Creek, which empties into the Genesee. Other Creeks in town include the entire route of White Creek, a portion of Christie Creek
Watersheds: Most of the Town lies within the Genesee River watershed, while the Oatka Creek encompasses the northwest portion, including most of the Village of Caledonia.

AREA

Square Miles: 42.08
Acres: 26,934.01

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Caledonia increased by 94.78% from 1,150 to 2,240. It is projected that the Town will grow by 12.72% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 4,567
Sex Ratio: Male: 50.1%, Female: 49.9%
Median Age: 36.7
Median Household Income: $46,359
Median Family Income: $50,607
Families Below Poverty Line: 3.6%
Individuals Below Poverty Line: 5.0%
Housing Units: 1,750
Median Housing Value: $93,500

SCHOOL DISTRICTS

Caledonia-Mumford CSD;
Wheatland-Chili CSD; Avon CSD;
Le Roy CSD; Pavilion CSD

UTILITIES

Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: LCWSA/Private (wells)
Waste Water: Private (onsite)

PUBLIC SAFETY

Police Departments: Caledonia Police Department
Fire Departments: Caledonia Fire Department
Emergency Medical Services: Caledonia Ambulance
Nearby Medical Facilities: Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: Washburn Park, MacKay Nature Trail, Genesee River Park
Historic and Cultural Resources: None listed

Village of Caledonia

Livingston County, New York
Zip Code 14423

COMMUNITY DESCRIPTION
Location/Boundaries: Located on the northern border of Livingston County, in the northwestern part of the Town of Caledonia.

Dates of Settlement and Incorporation: Settled in the 1790s, incorporated in 1891.

Notable Facts: See Town of Caledonia notable facts.

LANDSCAPE FEATURES
Topography: Generally flat land, 650-680 feet in elevation, some swampy area in the northwest portion along Big Springs Creek.
Hydrography: Big Springs Creek, which flows north into Oatka Creek.
Watersheds: Mostly Oatka Creek watershed, southern portions of the Village drain into the Genesee River.

AREA
Square Miles: 2.13
Acres: 1363.39

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Caledonia increased by 21.39% from 1,917 to 2,327. It is projected that the Village will grow by another 6.10% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 2,327
Sex Ratio: Male: 48.9%, Female: 51.1%
Median Age: 37.7
Median Household Income: $44,309
Median Family Income: $50,526
Families Below Poverty Line: 4.4%
Individuals Below Poverty Line: 5.2%
Housing Units: 939
Median Housing Value: $87,300

SCHOOL DISTRICTS
Caledonia-Mumford CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal
Waste Water: Private (onsite)

PUBLIC SAFETY
Police Departments: Caledonia Police Department
Fire Departments: Caledonia Fire Department
Emergency Medical Services: Caledonia Ambulance
Nearby Medical Facilities: Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Caledonia Fish Hatchery, Hamilton Park
Historic and Cultural Resources: Caledonia Library, Clark-Keith House, Caledonia House Hotel (Masonic Temple), Big Spring Museum, Caledonia War Veterans Memorial, MacNaughton House

Town of Conesus

Livingston County, New York
Zip Code 14435

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is located in eastern Livingston County and is bordered by the Town of Livonia (Livingston County) to the north, the Town of Canadice (Ontario County) to the east, the Towns of Springwater and Sparta (Livingston County) to the south, and the Towns of Groveland and Geneseo (Livingston County) to the west.

Dates of Settlement and Incorporation: Settled in 1793, the Town was formed from Livonia and Groveland in 1821 as Freeport. The Town was renamed Bowersville in 1824, and finally Conesus in 1825.

Notable Facts: The Roman Catholic Divine Word Seminary (1924-1968) is now Eagle Crest Vineyard and produces wine for liturgical use. Also, the Turtle Stone Festival is an annual event celebrating the town's Indian and pioneer heritage.

LANDSCAPE FEATURES

Topography: Livonia is part of the Finger Lakes Hills sub-region of the Appalachian Uplands. The mean lake levels of Conesus and Hemlock Lakes are 817 feet and 905 feet, respectively. The land rises steeply from these lakes at the west and east sides of the Town towards a rolling plateau in the center. The elevation at the Hamlet of Conesus, near the center of the Town, is 1200 feet.
Hydrography: Conesus Lake is on the northwestern edge, and Hemlock Lake marks the eastern boundary. South McMillan Creek, North McMillan Creek, and Conesus Inlet also flow through the Town. A large swamp exists south of Conesus Lake along Conesus Inlet.
Watersheds: Conesus Creek and Middle Honeoye Creek

AREA

Square Miles: 35.82
Acres: 22928.01

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Conesus increased by 92.71% from 1,221 to 2,353. It is projected that the Town will grow by 14.15% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 2,353
Sex Ratio: Male: 49.4% Female: 50.6%
*Median Age:*37.5
Median Household Income: $48,200
Median Family Income: $53,125
Families Below Poverty Line: 3.9%
Individuals Below Poverty Line: 5.3%
Housing Units: 983
Median Housing Value: $100,900 (owner-occupied single family)

SCHOOL DISTRICTS

Livonia CSD, Perry CSD, Wayland CSD

UTILITIES

Electricity: Niagara Mohawk/New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: LCWSA/Private (wells)
Waste Water: LCWSA/Private (onsite)

PUBLIC SAFETY

Police Departments:
Fire Departments: Conesus Fire Department
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville, Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: Livonia Reservoir, Conesus Inlet Wildlife Management Area, Conesus Golf Club, Nature Conservancy Property
Historic and Cultural Resources: Ricky Green Park Cabins, Southern Shores Campground

Village of Dansville

Livingston County, New York
Zip Code: 14437

COMMUNITY DESCRIPTION
Location/Boundaries: The Village occupies much of the Town of North Dansville.

Dates of Settlement and Incorporation: The area was settled in 1795 and the Village was incorporated in 1845.

Notable Facts: The "Battle of Dansville" was fought by local residents in the mid 19th century to ensure that the Genesee Valley Canal was extended all the way into the Village center. See also Town of North Dansville Notable Facts.

LANDSCAPE FEATURES
Topography: The main developed portions of the Village occupy the flat valley floor of the Canaseraga Creek valley, with elevations of 655-770 feet. The northeastern edge of the Village encompasses forested hillside areas that rise steeply to over 1060 feet.
Hydrography: Canaseraga Creek
Watersheds: Canaseraga Creek

LAND USE AND DEVELOPMENT
Square Miles: 2.38
Acres: 1521.13

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Dansville decreased by 11.5% from 5,460 to 4,832. It is projected that the Village will decrease by another 2.73% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 4,832
Sex Ratio: Male: 47.4%, Female: 52.6%
Median Age: 36.9
Median Household Income: $32,903
Median Family Income: $41,519
Families Below Poverty Line: 12.3%
Individuals Below Poverty Line: 17.0%
Housing Units: 2,090
Median Housing Value: $67,000

SCHOOL DISTRICTS
Dansville CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: Dansville Police Department
Fire Departments: Dansville Fire Department
Emergency Medical Services: Dansville Ambulance
Nearby Medical Facilities: Noyes Memorial Hospital

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Babcock Park
Historic and Cultural Resources: Dansville Area Historical Museum, Dansville Library, William Hartman Farmstead, Pioneer Farm

Town of Geneseo

Livingston County, New York
Zip Code 14454, 14510, 14604

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in central Livingston County and is bordered by the Town of Avon (Livingston County) to the north, the Towns of Livonia and Conesus (Livingston County) to the east, the Town of Groveland (Livingston County) to the south, and the Towns of Leicester and York (Livingston County) to the west.

Dates of Settlement and Incorporation:
The town was first settled in 1788 and formed in 1791.

Notable Facts: The Town of Geneseo was originally known as Big Tree because of a large tree near the Genesee River. Also, the nation's second oldest fox hunt, the Genesee Valley Hunt, was established here in 1876. Geneseo Normal School opened in 1871 and would eventually become SUNY Geneseo.

LANDSCAPE FEATURES
Topography: Rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. The Genesee River forms western border, with large areas of riparian flats. Conesus Lake forms much of the eastern border. Land generally rises to the central-southern portion of the Town.
Hydrography: The Genesee River marks the western border, while Conesus Lake lies along the eastern border. Jaycox Creek flows through the northern portion of town and Fall Brook flows through the south. Cottonwood, Long Point, and Sand Point gullies empty into Conesus Lake. Hemp Pond and Bull Head Pond are two notable bodies of water.
Watersheds: Much of the Town is encompassed by the Genesee River watershed, while the eastern portion drains into Conesus Lake, and very small portions in the south drain into Canaseraga Creek.

AREA
Square Miles: 42.35
Acres: 27106.20

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Geneseo increased by 97.06% from 1,053 to 2,075. It is projected that the Town will grow by 12.77% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 9,654
Sex Ratio: Male: 42%, Female: 58%
Median Age: 21.6
Median Household Income: $40,660
Median Family Income: $62,206
Families Below Poverty Line: 8.7%
Individuals Below Poverty Line: 29.8%
Housing Units: 2,698
Median Housing Value: $114,100

SCHOOL DISTRICTS
Geneseo CSD; Livonia CSD;

UTILITIES
Electricity: Niagara Mohawk/Rochester Gas & Electric
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: LCWSA/ Municipal/Private (onsite)

PUBLIC SAFETY
Police Departments: Geneseo Police Department, Livingston County Sheriff, New York State Police-Geneseo Barracks, SUNY Geneseo University Police
Fire Departments: Geneseo Fire Department
Emergency Medical Services: Geneseo Ambulance
Nearby Medical Facilities: Geneseo Medical Center, Noyes After Hours- Livingston Health Service, Nicholas Noyes Memorial Hospital

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Fall Brook Gorge, Long Point Town Park
Historic and Cultural Resources: The Homestead, National Warplane Museum

Village of Geneseo

Livingston County, New York
Zip Code 14454

COMMUNITY DESCRIPTION
Location/Boundaries: The Village of Geneseo lies within the western portion of the Town of Geneseo. State highways 39 and 63 intersect in the village center with US Highway 20.

Dates of Settlement and Incorporation: The Village was incorporated in 1832.

Notable Facts: See Town notable facts.

LANDSCAPE FEATURES
Topography: The western edge of the Village contains the riparian flats of the Genesee River, about 500 feet in elevation. The land rises somewhat steeply, forming the hill that the campus of SUNY Geneseo sits on. The elevation along Main Street in the center of the village is approximately 770 feet.
Hydrography: The Genesee River forms a small part of the northwestern edge of the Village.
Watersheds: Genesee River

AREA
Square Miles: 2.90
Acres: 1858.63

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Geneseo increased by 130.79% from 3,284 to 7,579. It is projected that the Village will grow by another 13.96% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 7,579
Sex Ratio: Male: 39.6%, Female: 60.4%
Median Age: 21.1
Median Household Income: $30,438
Median Family Income: $59,500
Families Below Poverty Line: 14.1%
Individuals Below Poverty Line: 41.7%
Housing Units: 1,780
Median Housing Value: $109,300

SCHOOL DISTRICTS
Geneseo CSD

UTILITIES
Electricity: Niagara Mohawk/Rochester Gas & Electric
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: Geneseo Police Department, Livingston County Sheriff, SUNY Geneseo University Police
Fire Departments: Geneseo Fire Department
Emergency Medical Services: Geneseo Ambulance
Nearby Medical Facilities: Geneseo Medical Center, Noyes After Hours- Livingston Health Service, Nicholas Noyes Memorial Hospital

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Roemer Arboretum (SUNY Geneseo Campus), Village Square Park, Highland Park
Historic and Cultural Resources: Wadsworth Library, Village of Geneseo Historic District, Livingston County Museum, Milne Library, Lederer Gallery, Alice Austin Theater, Wadsworth Auditorium

Town of Groveland

Livingston County, New York
Zip Codes: 14462, 14435, 14437, 14454, 14510, 14556

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in central Livingston County and is bordered by the Town of Geneseo (Livingston County) to the north, the Towns of Conesus and Sparta (Livingston County) to the east, the Towns of Sparta and West Sparta (Livingston County) to the south, and the Town of Mount Morris (Livingston County) to the west.

Dates of Settlement and Incorporation: The Town of Groveland was settled in 1792, the town was formed from Sparta in 1812.

Notable Facts: Groveland Correctional Facility opened here in 1982 and later merged with the Livingston County Correctional Facility in 1991. Inmates make up 62% of Groveland's population.

LANDSCAPE FEATURES
Topography: Groveland lies at the junction of two landform areas. The northwest-southeast trending Canaseraga Creek valley, with elevations less than 650 feet, is an extension of the Southern Ontario Plain. Most of the remainder of the Town rises dramatically to a rolling plateau and shows the characteristics of the Cattaraugus Hills sub-region of the Appalachian Uplands. The elevation at the Hamlet of Groveland Corners is 1370 feet.
Hydrography: Canaseraga Creek, a tributary of the Genesee River, runs along a small portion of the northwestern boundary. Conesus Lake dominates the northeastern part of the Town. Two Mile Creek, Keshequa Creek, and Bradner Creek flow through town.
Watersheds: Canaseraga Creek and Conesus Creek

AREA
Square Miles: 39.95
Acres: 25568.24

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Groveland increased by 14.23% from 3,373 to 3,853 . It is projected that the Town will grow by 7.5% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 3,853
Sex Ratio: Male: 80.4%, Female: 19.6%
Median Age: 35.9
Median Household Income: $46,797
Median Family Income: $48,828
Families Below Poverty Line: 7.7%
Individuals Below Poverty Line: 8.8%
Housing Units: 649
Median Housing Value: $91,800

SCHOOL DISTRICTS
Geneseo CSD; Mount Morris CSD; Dansville CSD; Livonia CSD

UTILITIES
Electricity: Niagara Mohawk/ New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: LCWSA/Private (wells)
Waste Water: LCWSA/Private (onsite)

PUBLIC SAFETY
Police Departments: State Police, Hampton Corners Station.
Fire Departments: Groveland Fire Department
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Ambuscade Park, Sonyea State Forest, Keshequa Golf Club
Historic and Cultural Resources: Black and White Farm Barn, Williamsburg Cemetery, Williamsburg Settlement Site, Sonyea-Shaker Community

Town of Leicester

Livingston County, New York
Zip Codes: 14481, 14454, 14510, 14533

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is located in western Livingston County and is bordered by the Town of York (Livingston County) to the north, the Town of Geneseo (Livingston County) to the east, the Town of Mount Morris (Livingston County) to the south, and the Towns of Castile, Perry, and Covington (Wyoming County) to the west.

Dates of Settlement and Incorporation: The Town of Leicester was formed in 1802 as Lester; the spelling was changed in 1805.

Notable Facts: Salt mining began in Leicester in the 1890s and continued throughout the 20th Century until the Akzo Salt Mine collapsed in 1994. The principle industries are CPAC, a manufacturer of pollution control systems, and the Seneca food processing plant.

LANDSCAPE FEATURES

Topography: Leicester lies at the junction of two landform areas. The large northern part of the town is dominated by riparian flats and gently rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Southern parts of the Town demonstrate the transition to the Cattaraugus Hills sub-region of the Appalachian Uplands, with much higher relief, especially within Letchworth State Park, than other parts of the Town.
Hydrography: The Genesee River marks the southern and eastern boundary (some of which is in Letchworth State Park). Silver Lake Outlet passes through the southern part of town, into the park and Genesee River. Little Beards Creek and Taunton Gully flow through the northern portions of town.
Watersheds: Beards Creek, Genesee River.

AREA

Square Miles: 33.15
Acres: 21217.44

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Leicester increased by 77.02% from 1,027 to 1,818. It is projected that the Town will grow by 9.96% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 2,287
Sex Ratio: Male: 50.9%, Female: 49.1%
Median Age: 37.1
Median Household Income: $41,230
Median Family Income: $46,652
Families Below Poverty Line: 4.6%
Individuals Below Poverty Line: 8.2%
Housing Units: 900
Median Housing Value: $79,900

SCHOOL DISTRICTS

York CSD; Mount Morris CSD; Perry CSD

UTILITIES

Electricity: New York State Electric & Gas
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: LCWSA/Private (onsite)

PUBLIC SAFETY

Police Departments:
Fire Departments: Cuylerville Fire Department, Leicester Fire Department
Emergency Medical Services: Cuylerville Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: Letchworth State Park, Starr Park, Boyd Parker Town Park, New York International Speedway
Historic and Cultural Resources: Tired Iron Tractor Museum, Boyd Parker Memorial

Village of Leicester

Livingston County, New York
Zip Code 14481

COMMUNITY DESCRIPTION
Location/Boundaries:
The Village is located near the center of the Town of Leicester.

Dates of Settlement and Incorporation: The Village of Leicester was incorporated in 1907. Originally the name was Moscow, but it changed its name to Leicester in 1917.

Notable Facts: See Town notable facts.

LANDSCAPE FEATURES
Topography: The land gradually rises from an elevation of 580 feet in the northeastern part of the village to 730 feet along the western edge.
Hydrography: Beard's Creek flows along the northern edge of the Village.
Watersheds: Beard's Creek

AREA
Square Miles: 0.36
Acres: 231.36

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Leicester increased by 28.49% from 365 to 469. It is projected that the Village will grow another 6.82% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 469
Sex Ratio: Male: 51.8%, Female: 48.2%
Median Age: 39.9
Median Household Income: $43,750
Median Family Income: $55,357
Families Below Poverty Line: 6.4%
Individuals Below Poverty Line: 13.1%
Housing Units: 186
Median Housing Value: $79,300

SCHOOL DISTRICTS
York CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal
Waste Water: Private (onsite)

PUBLIC SAFETY
Police Departments:
Fire Departments: Cuylerville Fire Department and Leicester Fire Department
Emergency Medical Services: Cuylerville Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Starr Park, Village Square Park
Historic and Cultural Resources: None listed

Town of Lima

Livingston County, New York
Zip Codes: 14485, 14414, 14558

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in northeastern Livingston County and is bordered by the Town of Mendon (Monroe County) to the north, the Town of West Bloomfield (Ontario County) to the east, the Towns of Richmond (Ontario County) and Livonia (Livingston County) to the south, and the Town of Avon (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1788. The Town of Lima formed in 1796 as the Town of Charleston, later changing its name to Lima in 1808.

Notable Facts: The Genesee Wesleyan Seminary (1832-1941,) an early coeducational facility, was located in the Town of Lima. Some famous alumni include Belva Ann Lockwood, the first woman to run for president and Senator Kenneth B. Keating. Genesee College (1850-1872), which shared its campus with the Genesee Wesleyan Seminary, moved to Syracuse in the 1870s and became Syracuse University.

LANDSCAPE FEATURES
Topography: Rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Bisected by the north-south trending valley of Spring Brook. Honeoye Creek forms eastern border. Land generally rises to the south and west.
Hydrography: Honeoye Creek marks the town's eastern boundary. Long Pond, Round Pond and Mud Pond lie near the Creek. Spring Brook runs north-south through town, and Little Conesus Creek passes through a southwestern portion of town.
Watersheds: Conesus Creek, Spring Brook, Honeoye Creek.

AREA
Square Miles: 30.60
Acres: 19,582.74

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Lima increased by 54.22% from 1,350 to 2,082. It is projected that the Town will grow by 9.75% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 4,541
Sex Ratio: Male: 49.1%, Female: 50.9%
Median Age: 35.9
Median Household Income: $48,774
Median Family Income: $57,127
Families Below Poverty Line: 2.7%
Individuals Below Poverty Line: 4.5%
Housing Units: 1,610
Median Housing Value: $106,300

SCHOOL DISTRICTS
Honeoye Falls-Lima CSD; Livonia CSD; Avon CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: National Fuel
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: Municipal/Private (onsite)

PUBLIC SAFETY
Police Departments: State Police Lima SubStation
Fire Departments: Lima Fire Department
Emergency Medical Services: Lima Ambulance
Nearby Medical Facilities Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: None listed
Historic and Cultural Resources: Martin Farm Complex, Godfrey House and Barn Complex, Leech-Parker Farmhouse, Leech-Lloyd Farmhouse and Barn Complex, Ogilvie Moses Farmhouse, Zebulon Moses Farm Complex, Several Cobblestone Farmhouses

Village of Lima

Livingston County, New York
Zip Code: 14485

COMMUNITY DESCRIPTION
Location/Boundaries: The Village of Lima, which calls itself "the crossroads of Western New York," is located in the center of the Town of Lima.

Dates of Settlement and Incorporation: The Village was incorporated in 1867.

Notable Facts: Many portions of the Village are listed on the National Register of Historic Places. See Town of Lima notable facts.

LANDSCAPE FEATURES
Topography: The land is gently rolling, with the valley of Spring Brook along the village's eastern edge. Elevation along the creek is approximately 740 feet, rising to 850 feet in the center of the village, and 880 along the western edge.
Hydrography: Spring Brook marks the eastern boundary of the village.
Watersheds: Spring Brook

AREA
Square Miles: 1.34
Acres: 856.24

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Lima increased by 80.01% from 1,366 to 2,459. It is projected that the Village will grow by 7.12% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 2,459
Sex Ratio: Male: 48.7%, Female: 51.3%
Median Age: 31.8
Median Household Income: $41,646
Median Family Income: $52,102
Families Below Poverty Line: 3.4%
Individuals Below Poverty Line: 5.3%
Housing Units: 800
Median Housing Value: $99,300

SCHOOL DISTRICTS
Honeoye Falls-Lima CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: National Fuel
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: State Police Lima Substation
Fire Departments: Lima Fire Department
Emergency Medical Services: Lima Ambulance
Nearby Medical Facilities: Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Mark Tubbs Memorial Park
Historic and Cultural Resources: Village Historic District, School No. 6, North Bloomfield School, Genesee Seminary and Genesee College, St. Rose Roman Catholic Church, Tennie Burton Museum, Elim Bible Institute, and many Historic Homes, such as the Copeland House, Draper House, and the Lima Bristol House

Town of Livonia

Livingston County, New York
Zip Codes: 14466, 14480, 14485, 14487, 14488, 14558

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in eastern Livingston County and is bordered by the Towns of Avon and Lima (Livingston County) to the north, the Town of Richmond (Ontario County) to the east, the Towns of Canadice (Ontario County) and Conesus (Livingston County) to the south, and the Towns of Groveland and Geneseo (Livingston County) to the west.

Dates of Settlement and Incorporation: The Town was settled in 1789 and incorporated from Pittstown in 1808.

Notable Facts: Hotels and cottages on Conesus and Hemlock lakes made the Town an early resort community.

LANDSCAPE FEATURES
Topography: Livonia lies at the junction of two landform areas. The northern parts of the town are generally rolling agricultural lands 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Southern parts of the Town demonstrate the transition to the Finger Lakes Hills sub-region of the Appalachian Uplands, with higher relief. The mean lake level of Conesus Lake is 817 feet above sea level, and the elevation at the Hamlet of Lakeville, at the northern end of the lake, is 827. The Hamlet of Hemlock, in the southeast part of the Town, is at 920 feet.
Hydrography: Conesus Lake is a prominent feature in the southwestern portion of the Town, while the northern tip of Hemlock Lake lies in the southeastern portion of town. Conesus Creek, Hemlock Outlet, Canadice Outlet, Kinney Creek, Wilkins Creek, and Spring Brook are the Town's primary streams
Watersheds: Conesus Creek, Honeoye Creek.

AREA
Square Miles: 39.98
Acres: 25,589.60

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Livonia increased by 129.19% from 2,580 to 5,913. It is projected that the Town will grow by 13.14% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 7,286
Sex Ratio: Male: 49.3%, Female: 50.7%
Median Age: 36.9
Median Household Income: $51,197
Median Family Income: $55,382
Families Below Poverty Line: 2.6%
Individuals Below Poverty Line: 5.3%
Housing Units: 3,004
Median Housing Value: $95,400

SCHOOL DISTRICTS
Livonia CSD; Honeoye CSD
Honeoye Falls-Lima CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: LCWSA/Private (wells)
Waste Water: LCWSA/Private (onsite)

PUBLIC SAFETY
Police Departments: Livingston County Sheriff Lakeville Substation
Fire Departments: Lakeville Fire Department, Livonia Fire Department
Emergency Medical Services: Livonia Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: State Boat Launch, Hemlock Lake Park, Livonia Community Park
Historic and Cultural Resources: Hemlock Fairgrounds, Camp Stella Maris

Village of Livonia

Livingston County, New York
Zip Code 14487

COMMUNITY DESCRIPTION
Location/Boundaries: The Village is located in the northwestern portion of the Town of Livonia.

Dates of Settlement and Incorporation: The Village of Livonia was incorporated in 1882.

Notable Facts: The Village grew around a stop on the Erie Railroad; the earlier focus of settlement at Livonia Center gradually shifted to the Village. See also Town of Livonia notable facts.

LANDSCAPE FEATURES
Topography: The historic central business district of Livonia and primary residential area sits on a hill, approximately 1050-1150 feet in elevation, east of the former railroad. Western portions of the village drop to 900 feet along Wilkins Creek.
Hydrography: Wilkins Creek and Little Conesus Creek both flow through the village.
Watersheds: Conesus Creek

AREA
Square Miles: 1.02
Acres: 653.60

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Livonia increased by 45.14% from 946 to 1,373. It is projected that the Village will grow by 3.28% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 1,373
Sex Ratio: Male: 48.6%, Female: 51.4%
Median Age: 35.0
Median Household Income: $49,688
Median Family Income: $55,096
Families Below Poverty Line: 3.5%
Individuals Below Poverty Line: 6.0%
Housing Units: 560
Median Housing Value: $95,800

SCHOOL DISTRICTS
Livonia CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: LCWSA
Waste Water: LCWSA

PUBLIC SAFETY
Police Departments: Livingston County Sheriff Lakeville Substation
Fire Departments: Lakeville Fire Department, Livonia Fire Department
Emergency Medical Services: Livonia Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Bowen Memorial Park
Historic and Cultural Resources: Livonia Public Library, Livonia Community Church

Town of Mount Morris

Livingston County, New York
Zip Codes: 14510, 14437, 14454, 14517, 14604

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is located in western Livingston County and is bordered by the Town of Leicester (Livingston County) to the north, the Towns of Groveland and West Sparta (Livingston County) to the east, the Towns of Nunda and Portage (Livingston County) to the south, and the Town of Castile (Wyoming County) to the west.

Dates of Settlement and Incorporation: Settlement began in 1793 and the Town of Mount Morris was formed from Leicester in 1818.

Notable Facts: Letchworth State Park surrounding the Genesee River gorge ("the Grand Canyon of the East") runs the length of the town. The 282 ft-high Mount Morris Dam, constructed in 1948-51 as a form of flood control, spans the valley. Mount Morris is the birthplace of John Wesley, the explorer of the Grand Canyon, as well as Francis Bellamy, author of *The Pledge of Allegiance*.

LANDSCAPE FEATURES

Topography: Mt. Morris lies at the junction of two landform areas. The small northeastern part of the Town is dominated by riparian flats along the Genesee River and Canaseraga Creek, with elevations between 570 and 600 feet. Most of the remainder of the Town demonstrates the transition from the Southern Ontario Plain to the Cattaraugus Hills sub-region of the Appalachian Uplands. The land rises dramatically to a generally level plateau (the elevation at the Hamlet of Brooks Grove is 1250 feet) with deeply incised gullies and gorges.
Hydrography: Wildcat Gully, Keshequa Creek, Buck Run Creek, a portion of Canaseraga Creek, and a portion of the Genesee River all flow through the Town.
Watersheds: Canaseraga Creek and Genesee River watersheds.

AREA

Square Miles: 48.78
Acres: 31222.17

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Mount Morris increased by 10.48% from 1,317 to 1,455. It is projected that the Town will grow by 0.96% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 4,567
Sex Ratio: Male: 48.4%, Female: 51.6%
Median Age: 38.1
Median Household Income: $32,813
Median Family Income: $38,015
Families Below Poverty Line: 11.3%
Individuals Below Poverty Line: 13.1%
Housing Units: 1,925
Median Housing Value: $68,600

SCHOOL DISTRICTS

Mount Morris CSD; York CSD; Dalton-Nunda CSD

UTILITIES

Electricity: Rochester Gas & Electric
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: LCWSA/Private (onsite)

PUBLIC SAFETY

Police Departments: Mt Morris Police Dept
Fire Departments: Mt Morris Fire Dept
Emergency Medical Services: Mount Morris Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: Letchworth State Park
Historic and Cultural Resources: None listed

Village of Mount Morris

Livingston County, New York
Zip Code: 14510

COMMUNITY DESCRIPTION
Location/Boundaries: The Village of Mount Morris lies in the northern-most portion of the Town of Mount Morris.

Dates of Settlement and Incorporation: The Village of Mount Morris was incorporated in 1835.

Notable Facts: See Town of Mount Morris notable facts.

LANDSCAPE FEATURES
Topography: The Village sits on an escarpment. Main Street (NY Route 36) generally follows this diagonal escarpment from northwest to southeast across the village. North and East of Main Street, the land is flat, part of Genesee River/Canaseraga Creek floodplain, with an elevation of approximately 570 feet. The land sharply rises to 810 feet South and West of Main Street.
Hydrography: The Genesee River runs along a portion of the village's northern boundary, while Buck Run Creek delineates the village's southern boundary.
Watersheds: Canaseraga Creek and Genesee River watersheds.

AREA
Square Miles: 2.03
Acres: 1,301.97

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Mount Morris decreased by 4.25% from 3,250 to 3,112. However, it is projected that the Village will grow by 2.19% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 3,266
Sex Ratio: Male: 46.7%, Female: 53.3%
Median Age: 38.1
Median Household Income: $31,792
Median Family Income: $37,143
Families Below Poverty Line: 12.0%
Individuals Below Poverty Line: 14.3%
Housing Units: 1,412
Median Housing Value: $68,400

SCHOOL DISTRICTS
Mount Morris CSD

UTILITIES
Electricity: Rochester Gas & Electric
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: Mt Morris Police Dept
Fire Departments: Mt Morris Fire Dept
Emergency Medical Services: Mount Morris Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Francis Bellamy Memorial Park
Historic and Cultural Resources: Mount Morris Library, Historic Homes, Murray Street Historic District, South Main Street Historic District, State and Eagle Streets Historic District, St. John's Episcopal Church

Town of North Dansville

Livingston County, New York
Zip Code: 14437

COMMUNITY DESCRIPTION
Location/Boundaries: The Town, one of the smallest in land area in the State, is located in southern Livingston County and is bordered by the Town of Sparta (Livingston County) to the north, the Town of Wayland (Steuben County) to the east, the Town of Dansville (Steuben County) to the south, and the Towns of Ossian and West Sparta (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1793 and the Town was formed from Sparta in 1846.

Notable Facts: Clara Barton was a resident from 1876 to 1886 and started the first local chapter of the American Red Cross in 1881.

LANDSCAPE FEATURES
Topography: North Dansville lies at the junction of two landform areas. Running through the center of the Town is the northwest-southeast trending Canaseraga Creek valley. With elevations less than 700 feet, the valley is the very southern-most extension of the Southern Ontario Plain. The northeast corner of the Town rises dramatically, almost 1000 feet to the Finger Lakes Hills with an elevation of over 1600 feet. The southwest corner rises to the Cattaraugus Hills.
Hydrography: Canaseraga Creek and Mud Creek
Watersheds: Canaseraga Creek

AREA
Square Miles: 7.47
Acres: 4777.67

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of North Dansville increased by 42.68% from 635 to 906. It is projected that the Town will grow by 8.61% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 5,738
Sex Ratio: Male: 47.3%, Female: 52.7%
Median Age: 38.6
Median Household Income: $32,519
Median Family Income: $41,519
Families Below Poverty Line: 10.7%
Individuals Below Poverty Line: 15.4%
Housing Units: 2,534
Median Housing Value: $67,600

SCHOOL DISTRICTS
Dansville CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Private (wells)
Waste Water: Municipal/Private (onsite)

PUBLIC SAFETY
Police Departments: Dansville Police Dept
Fire Departments: Dansville Fire Department
Emergency Medical Services: Dansville Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: None listed
Historic and Cultural Resources: None listed

Town of Nunda

Livingston County, New York
Zip Codes: 14517, 14836, 14437, 14846, 14604

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in southwestern Livingston County and is bordered by the Town of Mount Morris (Livingston County) to the north, the Towns of West Sparta and Ossian (Livingston County) to the east, the Town of Grove (Allegany County) to the south, and the Town of Portage (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1806 and the Town of Nunda was formed from Angelica in 1808.

Notable Facts: The Town of Nunda is home to the Nunda Mustard Company and Once Again Nut Butter Company.

LANDSCAPE FEATURES
Topography: Nunda is part of the Cattaraugus Hills sub-region of the Appalachian Uplands. The hilly landscape is incised with stream valleys, most prominent being the wide valley of Keshequa Creek. The elevation of the valley floor at the Village of Nunda is 900 feet, but hills to the east rise steeply.
Hydrography: Keshequa Creek flows through the Town and Village of Nunda. Newville and Canaseraga Creeks also flow through town.
Watersheds: Canaseraga Creek watershed

AREA
Square Miles: 36.10
Acres: 23103.75

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Nunda increased by 55.48% from 1,085 to 1,687. It is projected that the Town will grow by 9.78% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 3,017
Sex Ratio: Male: 49.5%, Female: 50.5%
Median Age: 36.4
Median Household Income: $40,665
Median Family Income: $44,677
Families Below Poverty Line: 5.3%
Individuals Below Poverty Line: 9.1%
Housing Units: 1,298
Median Housing Value: $65,500

SCHOOL DISTRICTS
Dalton-Nunda CSD

UTILITIES
Electricity: Rochester Gas & Electric
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: Municipal/Private (onsite)

PUBLIC SAFETY
Police Departments: Nunda Police Dept
Fire Departments: Nunda Fire Department
Emergency Medical Services: Nunda Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Rattlesnake Hill State Wildlife Management Area
Historic and Cultural Resources: None listed

Village of Nunda

Livingston County, New York
Zip Code: 14517

COMMUNITY DESCRIPTION
Location/Boundaries: The Village of Nunda lies within the northwestern section of the Town of Nunda.

Dates of Settlement and Incorporation: The Village of Nunda was platted in 1824 and incorporated in 1839.

Notable Facts: The Genesee Valley Canal (1851-1878), which later become a railroad and is now a recreational trail, passed through the Village. See also Town of Nunda notable facts.

LANDSCAPE FEATURES
Topography: The Village occupies gently rolling land in the Keshequa Creek valley, with elevations of 900-1000 feet.
Hydrography: Keshequa Creek flows through the village of Nunda.
Watersheds Canaseraga Creek watershed

AREA
Square Miles: .99
Acres: 632.26

POPULATION TRENDS
Between 1960 and 2000, the population of the Village of Nunda increased by 8.66% from 1,225 to 1,330. It is projected that the Village will grow by 4.44% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 1,330
Sex Ratio: Male: 47.6%, Female: 52.4%
Median Age: 35.6
Median Household Income: $39,125
Median Family Income: $47,368
Families Below Poverty Line: 10.4%
Individuals Below Poverty Line: 12.7%
Housing Units: 547
Median Housing Value: $65,500

SCHOOL DISTRICTS
Dalton-Nunda CSD

UTILITIES
Electricity: Rochester Gas & Electric
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Municipal
Waste Water: Municipal

PUBLIC SAFETY
Police Departments: Nunda Police Dept
Fire Departments: Nunda Fire Department
Emergency Medical Services: Nunda Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: None listed
Historic and Cultural Resources: Keshequa Central Athletic Complex, Kiwanis Park

Town of Ossian

Livingston County, New York
Zip Code 14437, 14822, 14427

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in southern Livingston County and is bordered by the Town of West Sparta (Livingston County) to the north, the Towns of North Dansville (Livingston County) and Dansville (Steuben County) to the east, the Town of Burns (Allegany County) to the south, and the Towns of Grove (Allegany County) and Nunda (Livingston County) to the west.

Dates of Settlement and Incorporation: Settled in 1804, the Town of Ossian was formed from Angelica in 1808. The Town remained part of Allegany County until it was annexed by Livingston County in 1857.

Notable Facts: Ossian is an active dairy farming community with one 3,000 acre beef cattle farm. The Town was named for the Gaelic poet Ossian.

LANDSCAPE FEATURES
Topography: Ossian is part of the Cattaraugus Hills sub-region of the Appalachian Uplands. Much of the land is forested and is a rugged, hilly area crossed by isolated creek valleys. The elevation at the Hamlet of Ossian is 1320 feet.
Hydrography: Sugar Creek, Brander Creek, Bennett Creek, and Canaseraga Creek flow through the Town of Ossian.
Watersheds:
Canaseraga Creek Watershed.

AREA
Square Miles: 39.76
Acres: 25,446.77

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Ossian increased by 53.58% from 489 to 751. It is projected that the Town will grow by 5.06% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 751
Sex Ratio: Male: 53.3%, Female: 46.7%
Median Age: 38.4
Median Household Income: $46,563
Median Family Income: $50,938
Families Below Poverty Line: 3.2%
Individuals Below Poverty Line: 6.5%
Housing Units: 310
Median Housing Value: $73,400

SCHOOL DISTRICTS
Dansville CSD; Canaseraga CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: National Fuel
Telephone:
Water Supply: Private (wells)
Waste Water: Private (onsite)

PUBLIC SAFETY
Police Departments: None
Fire Departments:
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Rattlesnake Hill State Wildlife Management Area, Ossian State Forest, Canaseraga State Forest
Historic and Cultural Resources: None listed

Town of Portage

Livingston County, New York
Zip Code: 14846, 14836, 14437

COMMUNITY DESCRIPTION

Location/Boundaries: The Town is located in southwestern Livingston County and is bordered by the Town of Mount Morris (Livingston County) to the north, the Town of Nunda (Livingston County) to the east, the Towns of Granger (Allegany County) to the south, and the Town of Genesee Falls (Wyoming County) to the west.

Dates of Settlement and Incorporation: Settled in 1814, the Town of Portage was formed from Nunda in 1827. The Town was part of Allegany County until 1846, when it was annexed by Livingston County.

Notable Facts: Many of Letchworth State Park's rocky ravines and scenic waterfalls are located in Portage. The Erie Railroad bridge over the Genesee River gorge was completed in 1852. After the bridge burned in 1875, an iron replacement was built, which still stands to this day.

LANDSCAPE FEATURES

Topography: Portage is part of the Cattaraugus Hills sub-region of the Appalachian Uplands. The western edge of the Town is dominated by the Genesee River gorge, known as the "Grand Canyon of the East." Elevation of the river at Portageville gauge is 1080 feet. Steep, almost perpendicular cliffs rise from the Genesee River to a rolling plateau, incised with stream valleys, such as Keshequa Creek. The elevation at the Hamlet of Hunt is 1320 feet.
Hydrography: The Genesee River forms the western boundary of Town. Keshequa Creek also flows through the Town.
Watersheds: Canaseraga Creek and Genesee River watersheds.

AREA

***Square Miles*:** 26.58
Acres: 17,012.28

POPULATION TRENDS

Between 1960 and 2000, the population of the Town of Portage increased by 17.19% from 733 to 859. It is projected that the Town will grow by 5.12% in the next forty years.

DEMOGRAPHICS (Census 2000)

Population: 859
Sex Ratio: Male: 50.4%, Female: 49.6%
Median Age: 34.6
Median Household Income: $32,500
Median Family Income: $38,750
Families Below Poverty Line: 9.2%
Individuals Below Poverty Line: 14.0%
Housing Units: 352
Median Housing Value: $53,300

SCHOOL DISTRICTS

Dalton-Nunda CSD

UTILITIES

Electricity: Rochester Gas & Electric
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Private (wells)
Waste Water: Private (onsite)

PUBLIC SAFETY

Police Departments: Livingston County Sheriff's Department
Fire Departments:
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES

Parks/Preserves: Keshequa Creek, Letchworth State Park
Historic and Cultural Resources: Edgerly

Town of Sparta

Livingston County, New York
Zip Codes: 14437, 14545, 14572

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in south-central Livingston County and is bordered by the Towns of Groveland and Conesus (Livingston County) to the north, the Town of Springwater (Livingston County) to the east, the Town of North Dansville (Livingston County) to the south, and the Town of West Sparta (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1794 and the Town of Sparta was formed in 1796.

Notable Facts: Captain Daniel Shays, the leader of Shay's Rebellion in western Massachusetts lived here after 1814.

LANDSCAPE FEATURES
Topography: Sparta is part of the Finger Lakes Hills sub-region of the Appalachian Uplands. The land rises steeply from the Canaseraga Creek valley at the western edge of the Town towards a hilly plateau. The elevation at the Hamlet of Scottsburg, near the northern edge of the Town on Conesus Inlet, is 920 feet, while at Reed's Corners, the elevation is 1440 feet.
Hydrography: Canaseraga Creek, Patterson Gully, Conesus Inlet, and Mud Creek flow through town.
Watersheds: Canaseraga Creek and Conesus Creek

AREA
Square Miles: 27.82
Acres: 17,807.40

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Sparta increased by 59.67% from 1,019 to 1,627. It is projected that the Town will grow by 10.33% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 1,627
Sex Ratio: Male: 51.8%, Female: 48.2%
Median Age: 40.0
Median Household Income: $43,155
Median Family Income: $48,333
Families Below Poverty Line: 8.0%
Individuals Below Poverty Line: 10.2%
Housing Units: 627
Median Housing Value: $77,400

SCHOOL DISTRICTS
Dansville CSD; Geneseo CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: LCWSA/Private (wells)
Waste Water: Private (onsite)

PUBLIC SAFETY
Police Departments: Livingston County Sheriff - Scottsburg Sub Station
Fire Departments: Sparta Center Fire Department
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Sparta Campgrounds
Historic and Cultural Resources: None listed

Town of Springwater

Livingston County, New York
Zip Codes: 14560, 14437, 14517, 14572, 14584

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in southeast Livingston County and is bordered by the Towns of Conesus (Livingston County) and Canadice (Ontario County) to the north, the Town of Naples (Ontario County) to the east, the Towns of Wayland and Cohocton (Steuben County) to the south, and the Town of Sparta (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1807 and the Town was formed from Sparta and Middletown in 1816.

Notable Facts: Springwater lies astride a great drainage divide. Water flowing into Springwater Creek eventually reaches the St. Lawrence River, while water flowing into the Cohocton River eventually reaches the Susquehanna River and Chesapeake Bay.

LANDSCAPE FEATURES
Topography: Sparta is part of the Finger Lakes Hills sub-region of the Appalachian Uplands. The land is heavily forested rises steeply from the valleys of Springwater Creek and the Cohocton River. The elevation at the Hamlet of Springwater is 970 feet, while the highest point in Livingston County, in the northeastern part of the Town, is 2,244 feet.
Hydrography: The southernmost tip of Hemlock Lake just crosses into the Town of Springwater. Springwater Creek flows through the Town into the Lake. Pardee Hollow, Cohocton River, Limekiln Creek, Honeoye Inlet, and Reynolds Gully are all located in the Town.
Watersheds: Upper Cohocton River, Canaseraga Creek, Honeoye Inlet, and Conesus Creek

LAND USE AND DEVELOPMENT
Square Miles: 53.21
Acres: 34,051.44

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of Springwater increased by 79.58% from 1,293 to 2,322. It is projected that population in the Town will decrease by 0.82% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 2,322
Sex Ratio: Male: 51.9%, Female: 48.1%
Median Age: 39.2:
Median Household Income: $43,059
Median Family Income: $49,716
Families Below Poverty Line: 5.2%
Individuals Below Poverty Line: 9.4%
Housing Units: 1,001
Median Housing Value: $72,600

SCHOOL DISTRICTS
Wayland CSD; Naples CSD; Livonia CSD; Dansville CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: National Fuel
Telephone:
Water Supply: Municipal/Well
Waste Water: Septic

PUBLIC SAFETY
Police Departments: Livingston County Sheriff
Fire Departments:
Emergency Medical Services: Springwater Ambulance
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Holiday Hill Campground, Tamarack Campground
Historic and Cultural Resources: None listed

Town of West Sparta

Livingston County, New York
Zip Codes: 14437, 14435, 14510, 14517

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in south-central Livingston County and is bordered by the Town of Groveland (Livingston County) to the north, the Towns of Sparta and North Dansville (Livingston County) to the east, the Town of Ossian (Livingston County) to the south, and the Towns of Nunda and Mount Morris (Livingston County) to the west.

Dates of Settlement and Incorporation: The area was settled in 1792 and the Town was formed from Sparta in 1846.

Notable Facts: President Millard Fillmore worked at a woolen mill in West Sparta as a young man in 1814-1815. Also, the Canaseraga Swamp lies in the northeastern part of the Town.

LANDSCAPE FEATURES
Topography: West Sparta lies at the junction of two landform areas. On the eastern side of the Town is the northwest-southeast trending Canaseraga Creek valley. With elevations less than 650 feet, the valley is a southern extension of the Southern Ontario Plain. Most of the remainder of the Town rises dramatically to the Cattaraugus Hills sub-region of the Appalachian Uplands. The elevation at the Hamlet of West Sparta is 610 feet, while at Union Corners, in the western part of the Town, the elevation is 1000 feet.
Hydrography: West Sparta's eastern boundary is partly delineated by Canaseraga Creek. Bradner Creek and Two Mile Creek also flow through the Town.
Watersheds: Canaseraga Creek watershed.

AREA
Square Miles: 33.43
Acres: 21,397.82

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of West Sparta increased by 52.26% from 817 to 1,244. It is projected that the Town will grow by 2.97% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 1,244
Sex Ratio: Male: 50.8%, Female: 49.2%
Median Age: 36.9
Median Household Income: $40,789
Median Family Income: $44,583
Families Below Poverty Line: 6.6%
Individuals Below Poverty Line: 8.9%
Housing Units: 480
Median Housing Value: $63,400

SCHOOL DISTRICTS
Dansville CSD; Dalton-Nunda CSD; Geneseo CSD; Mount Morris CSD

UTILITIES
Electricity: New York State Electric & Gas
Natural Gas: New York State Electric & Gas
Telephone:
Water Supply: Private (wells)
Waste Water: Private (onsite)

PUBLIC SAFETY
Police Departments: Livingston County Sheriff - Scottsburg Substation
Fire Departments: West Sparta Fire Dept
Emergency Medical Services:
Nearby Medical Facilities: Nicholas Noyes Memorial Hospital (Dansville)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: Sonyea State Forest
Historic and Cultural Resources: None listed

Town of York

Livingston County, New York
Zip Code: 14592

COMMUNITY DESCRIPTION
Location/Boundaries: The Town is located in northwestern Livingston County and is bordered by the Town of Caledonia (Livingston County) to the north, the Towns of Avon and Geneseo (Livingston County) to the east, the Town of Leicester (Livingston County) to the south, and the Towns of Covington (Wyoming County) and Pavilion (Geneseo County) to the west.

Dates of Settlement and Incorporation:
The Town of York was formed from Caledonia and Leicester in 1819.

Notable Facts: In 1884 Retsof Salt Mine, named after its founder Foster ('Retsof' is 'Foster' spelled backwards,) began mining salt in the first deep salt mine in the United States.

LANDSCAPE FEATURES
Topography: Gently rolling agricultural land 600-900 feet in elevation, part of the Southern Ontario Plain sub-region of the Erie-Ontario Lowlands. Flats along the Genesee River; some swampy areas. Land generally rises to the west. The elevation at the Hamlet of York is 790 feet.
Hydrography: The Genesee River marks the eastern boundary of the Town. Numerous creeks, including Bidwells, Bairds, Salt, Browns, and Christie, drain eastward through York into the Genesee.
Watersheds: Primarily the Genesee River watershed, with the southwest portion of the Town draining into Beard's Creek.

AREA
Square Miles: 49.04
Acres: 31,384.32

POPULATION TRENDS
Between 1960 and 2000, the population of the Town of York increased by 19.44% from 2,695 to 3,219. It is projected that the Town will grow by 7.21% in the next forty years.

DEMOGRAPHICS (Census 2000)
Population: 3,219
Sex Ratio: Male: 49.1% Female: 50.9%
Median Age: 37.8
Median Household Income: $43,229
Median Family Income: 50,136
Families Below Poverty Line: 1.2%
Individuals Below Poverty Line: 1.8%
Housing Units: 1,231
Median Housing Value:$86,600

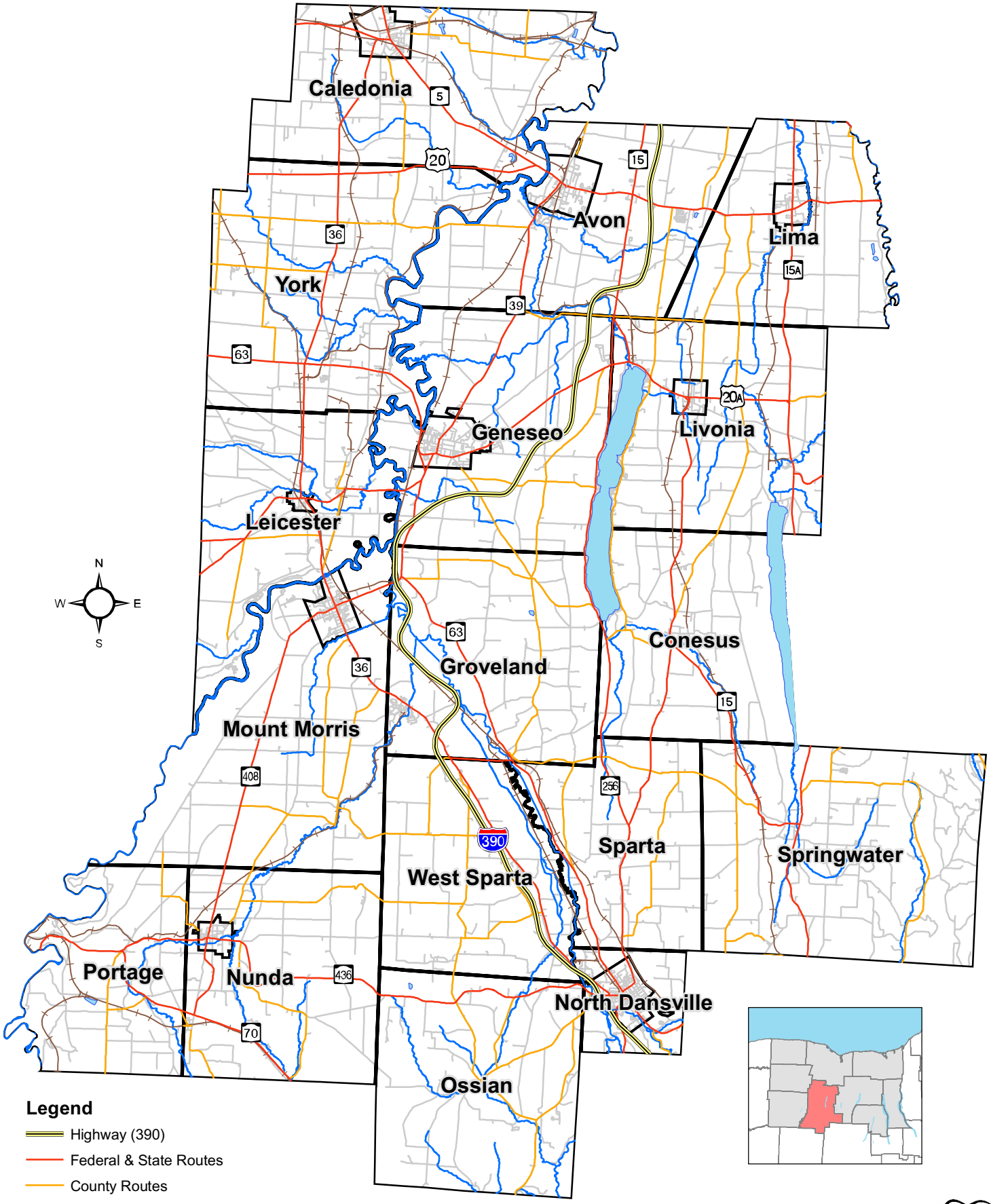
SCHOOL DISTRICTS
Pavilion CSD, Avon CSD, York CSD

UTILITIES
Electricity: Niagara Mohawk
Natural Gas: Rochester Gas & Electric
Telephone:
Water Supply: Municipal/Private (wells)
Waste Water: Municipal/Private (onsite)

PUBLIC SAFETY
Police Departments:
Fire Departments: Restof Fire Department, York Fire Department
Emergency Medical Services: Restof Ambulance, York Ambulance
Nearby Medical Facilities Strong Memorial Hospital (Rochester), Noyes After Hours Care Center (Geneseo)

NATURAL, CULTURAL, & HISTORIC RESOURCES
Parks/Preserves: None listed
Historic and Cultural Resources: Westerly, Linwood (Gratwick Estate), Abbey of the Genesee

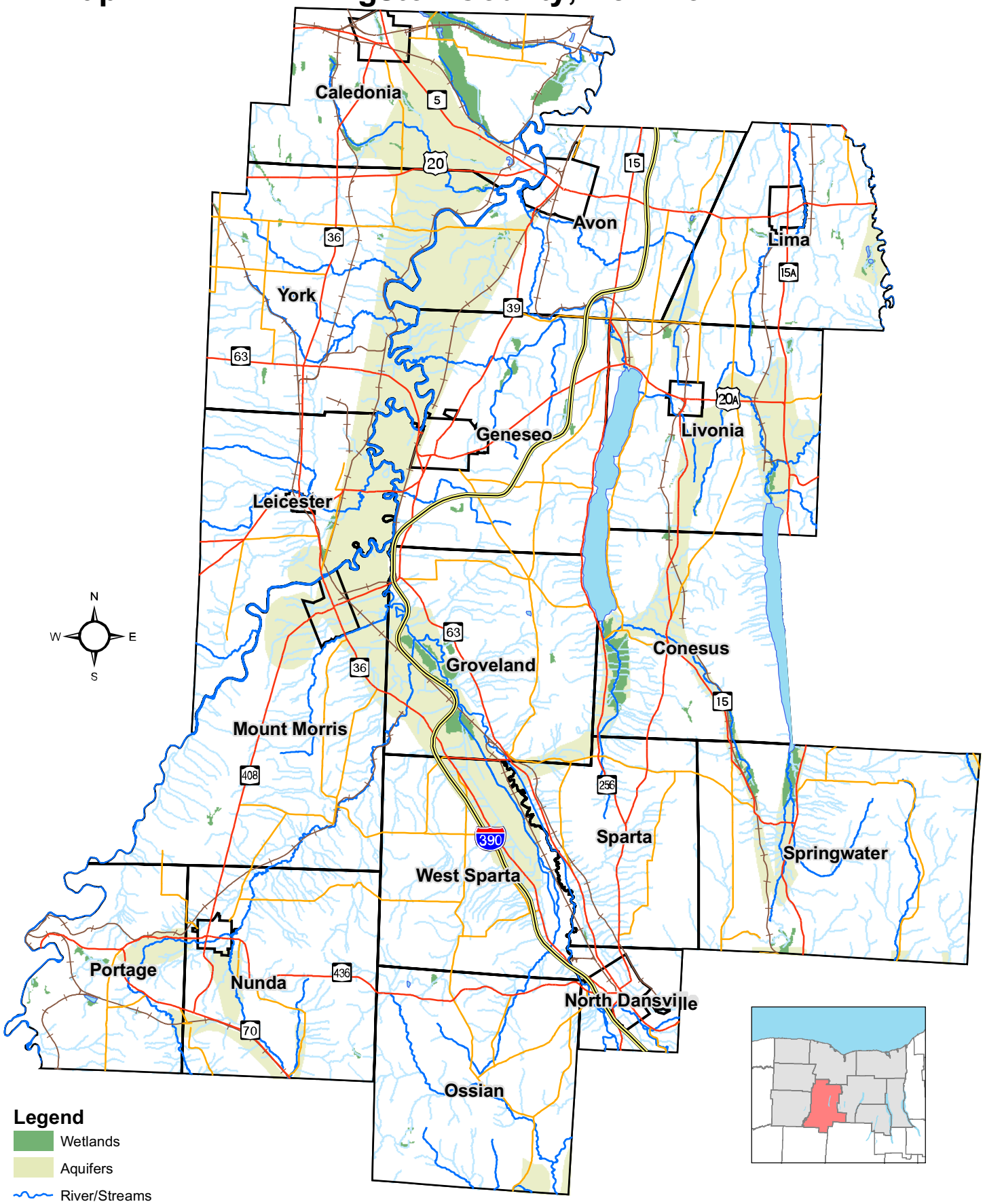
Map 1 Livingston County, New York



Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Water Resources

Map 2 Livingston County, New York



Legend

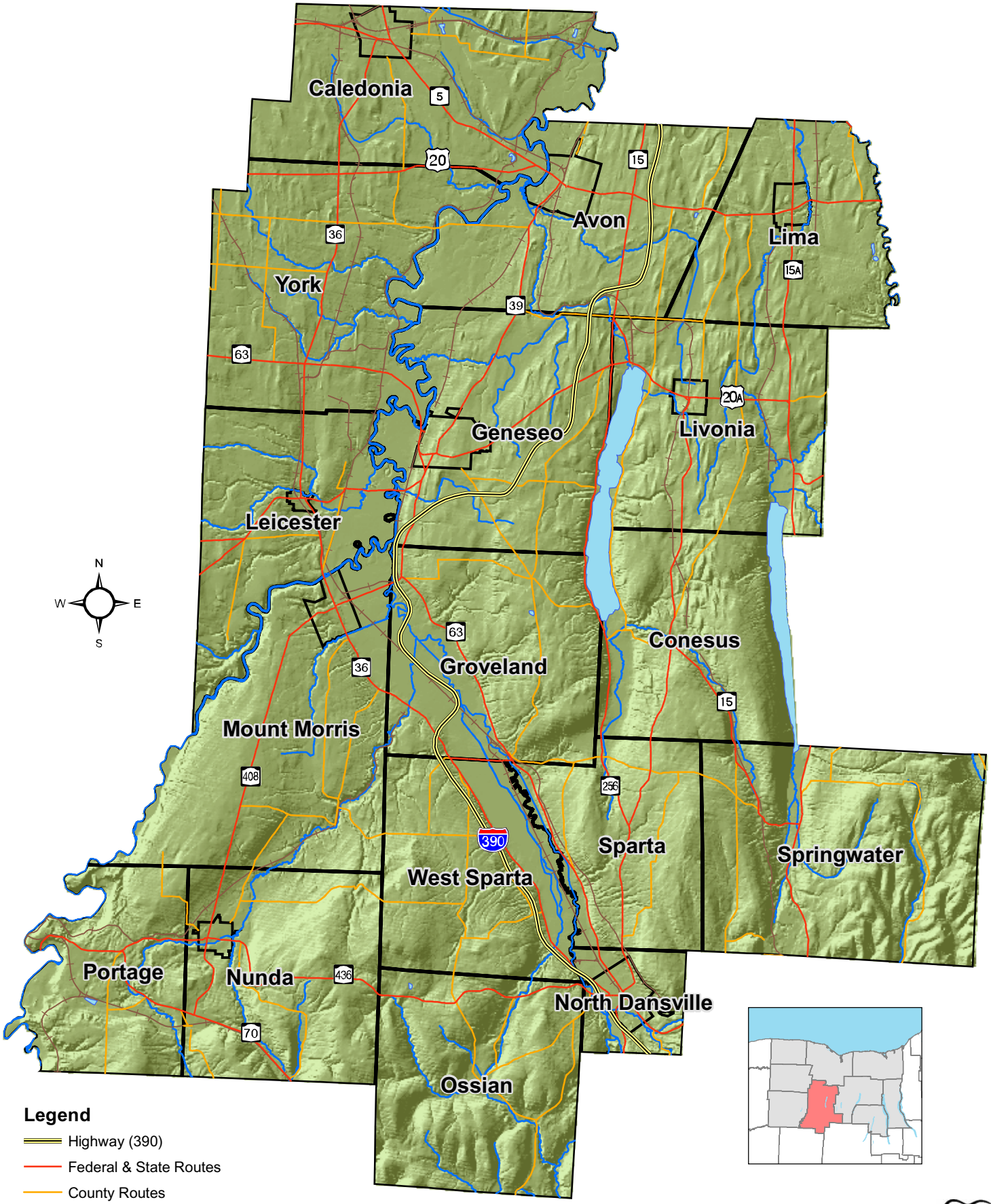
- Wetlands
- Aquifers
- River/Streams
- Highway (390)
- Federal & State Routes
- County Routes
- Railroads

0 5 10 15 Miles

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Topography

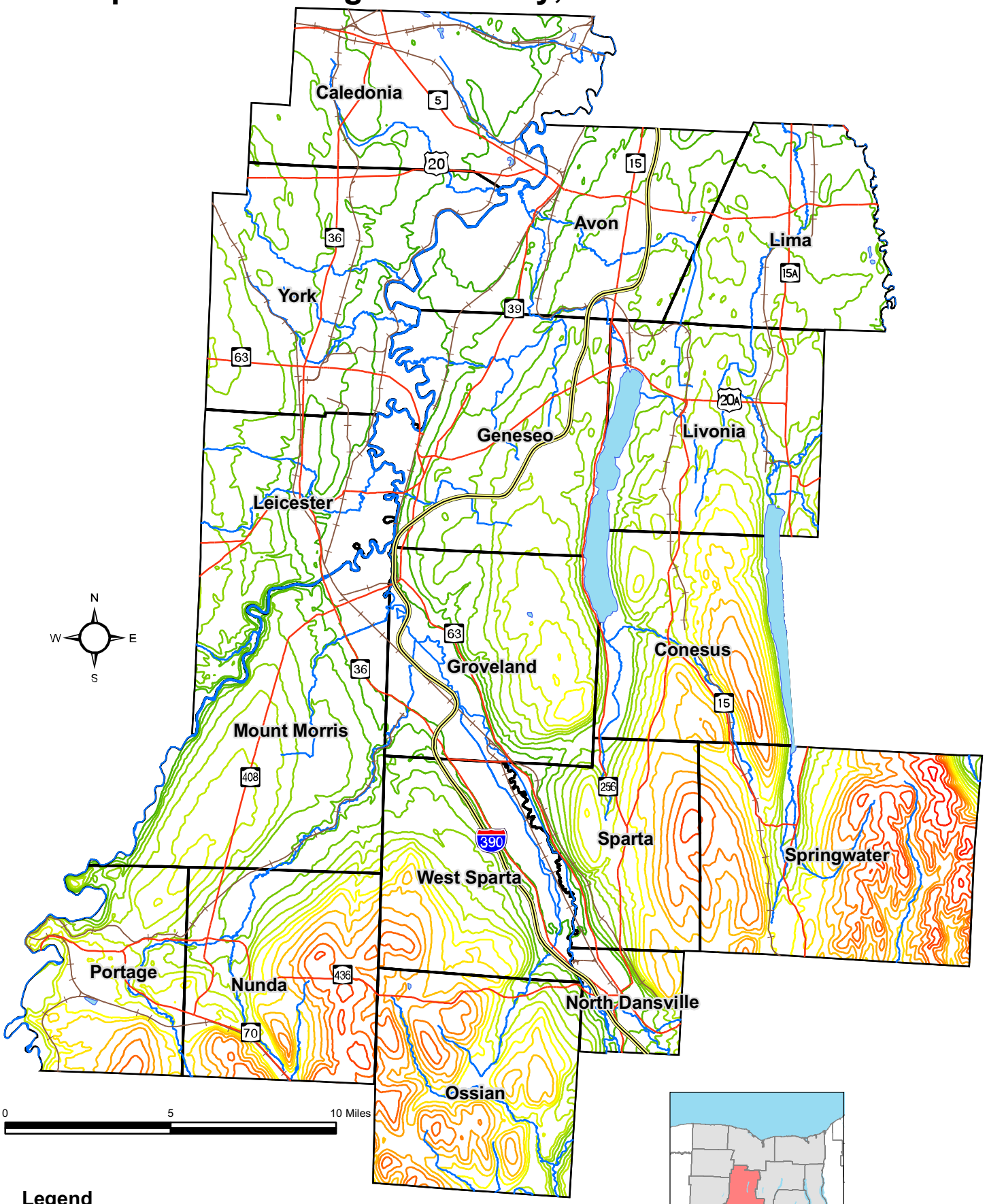
Map 3 Livingston County, New York



Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Elevations

Map 4 Livingston County, New York



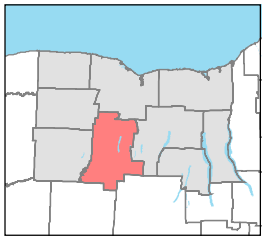
Legend

- Highway (390)
- Federal & State Routes
- Railroads
- River/Streams

levation eet

High : 2200

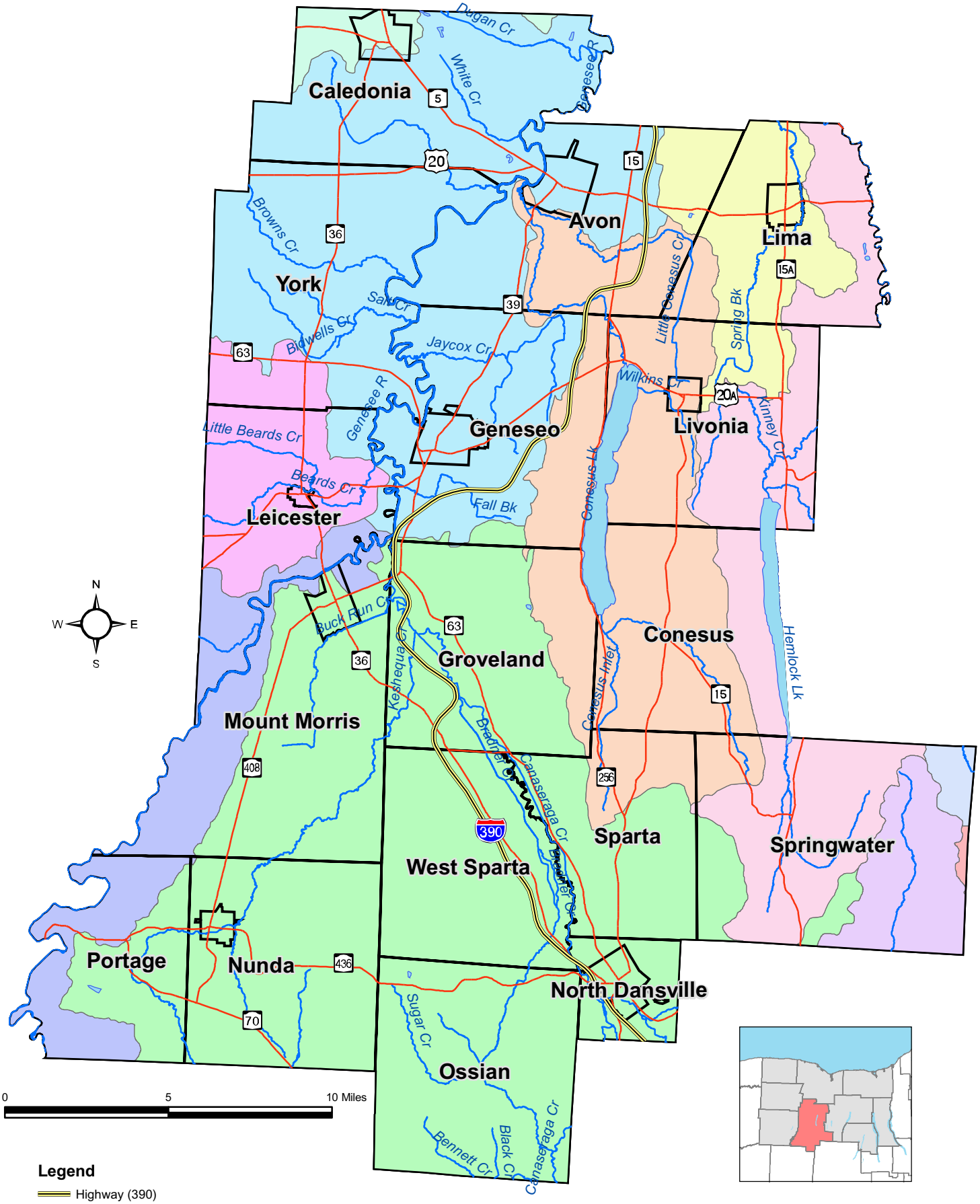
Low : 600



Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Watersheds

Map 5 Livingston County, New York



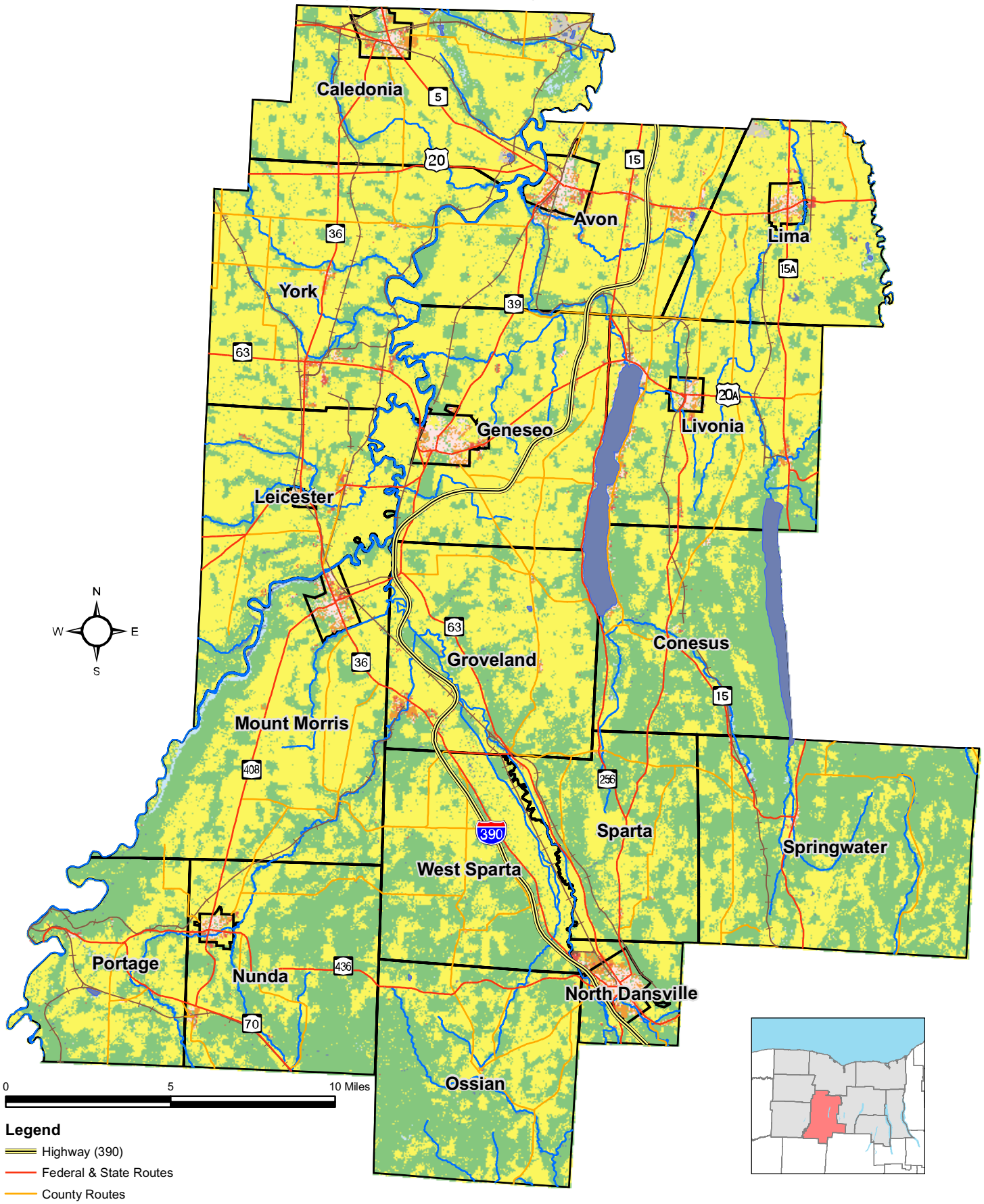
Legend

- Highway (390)
- Federal & State Routes
- Genesee River - Canaseraga Creek to Oatka Creek
- Beards Creek
- Genesee River - Wiscoy Creek to Canaseraga Creek
- Oatka Creek
- Canaseraga Creek
- Conesus Creek
- Lower Honeoye Creek
- Middle Honeoye Creek
- Upper Honeoye Creek
- Upper Cohocton River
- Naples Creek

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Land Cover

Map 6 Livingston County, New York



Legend

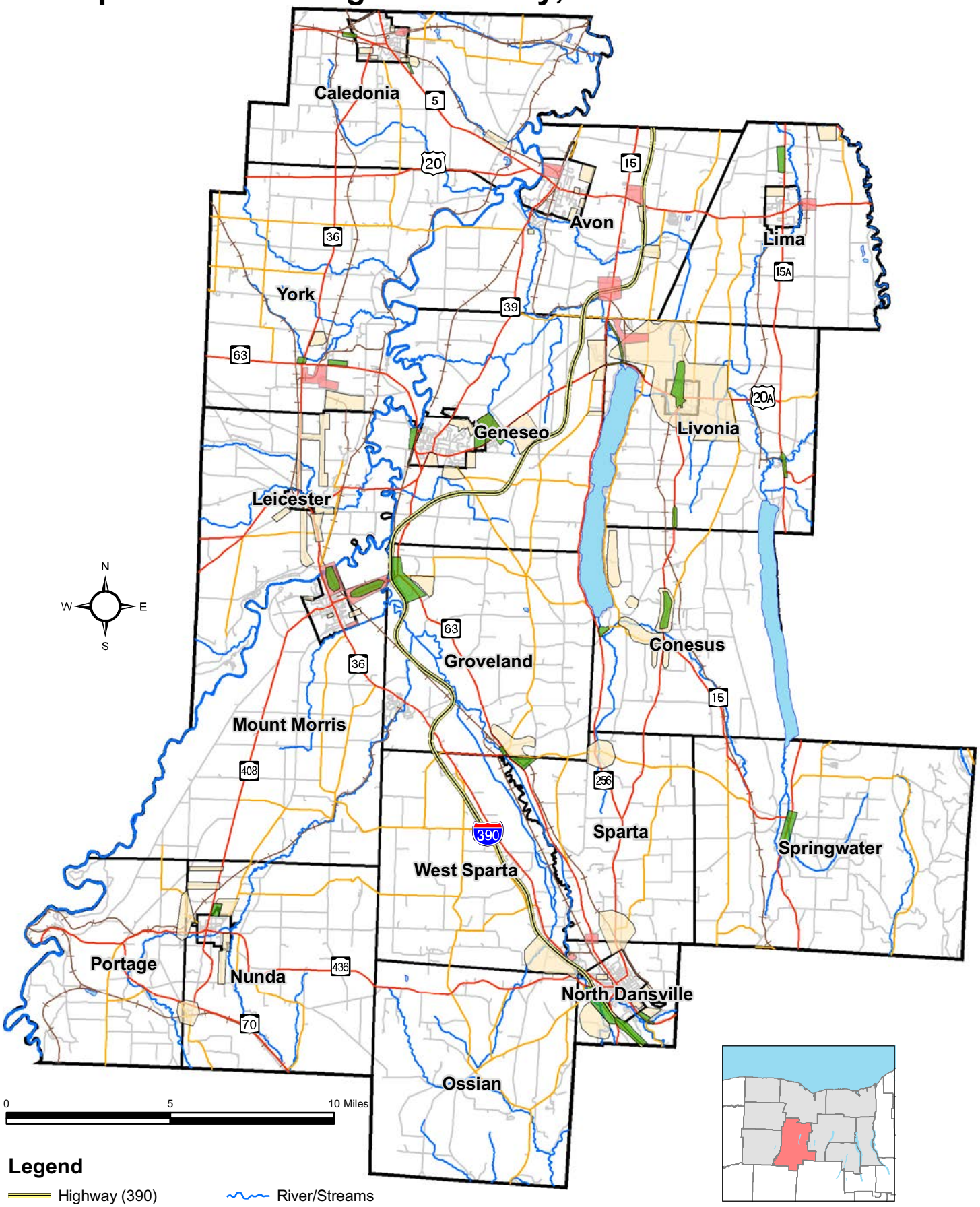
- Highway (390)
- Federal & State Routes
- County Routes
- Railroads
- River/Streams

- Open Water
- High & Low Intensity Residential
- Commercial/Industrial/Transportation
- Bare Rock/Quarries/Gravel Pits
- Transitional
- Mixed Forest
- Shrubland/Orchards/Vineyards
- Agricultural
- Urban/Recreational Grasses
- Woody Wetlands
- Emergant Herbaceous Wetlands

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Map 7

Possible Future Development Areas
Livingston County, New York



Legend

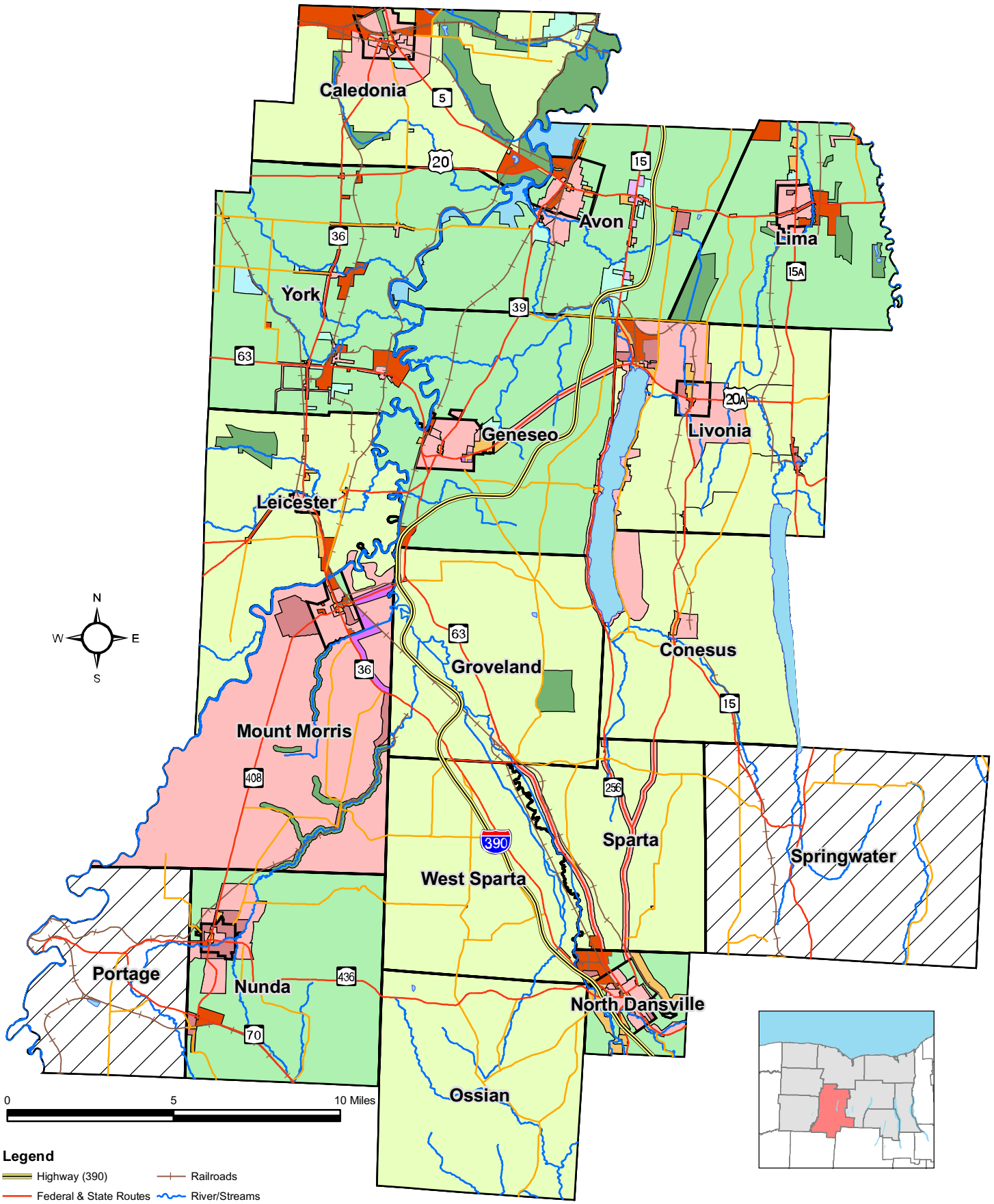
- Highway (390)
- Federal & State Routes
- County Routes
- Roads
- Railroads
- River/Streams
- Residential
- Industrial
- Commercial

Continued Rural Low-Density Residential Growth is expected in the following towns: Conesus, Geneseo, Groveland, Livonia, Ossian, Portage, Sparta, Springwater, & West Sparta

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Map 8

Generalized Municipal Zoning
Livingston County, New York



Legend

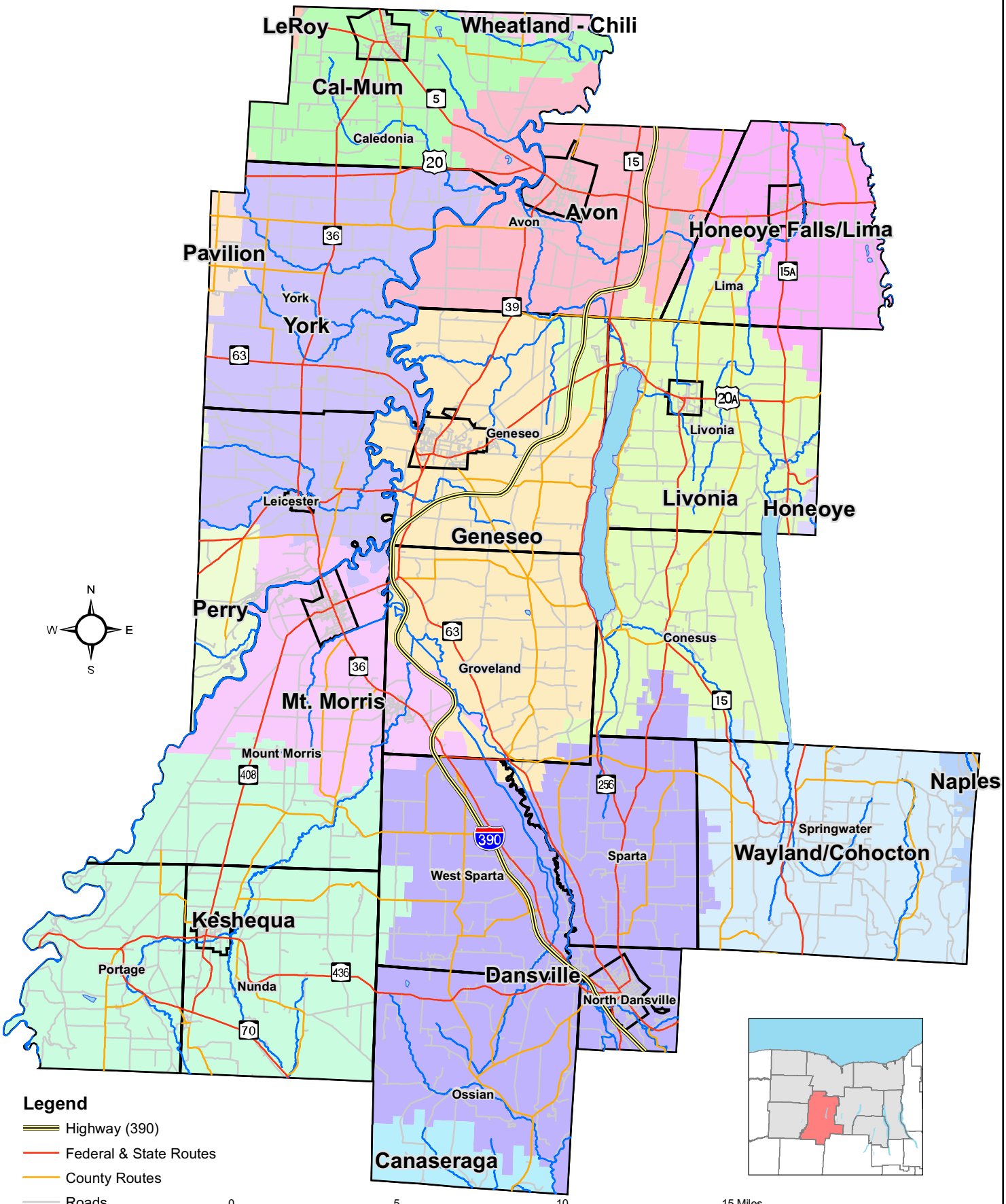
- Highway (390)
- Railroads
- Federal & State Routes
- River/Streams
- County Routes

- Agricultural
- Agricultural/ Commercial/ Industrial
- Agricultural/ Residential
- Commercial/ Business
- Data Not Available
- Higher Density Residential/ Multi-Family
- Industrial
- Lower Density Residential
- Mixed Commercial/ Industrial
- Mixed Residential/ Commercial/ Institutional
- No Zoning/ Open Zone
- Open Space
- Public Services/ Utilities
- Special Incentive Zone/ Planned Development
- Water Bodies and Flood Zones

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

School Districts

Map 9 Livingston County, New York



Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Chapter 5: *Hazard Analysis*

PURPOSE
The purpose of the Hazard Analysis is to identify all the natural, technological and human-caused hazards that might affect Livingston County municipalities, and then narrow the list to those hazard types that are most likely to occur and which present the greatest threat of potential impact.

PROCESS
The Hazard Analysis was completed in several steps. The first step involved a committee of county officials using HAZNY to assess the hazards affecting Livingston County. The second step involved reviewing and discussing the HAZNY results with the Livingston County All-Hazard Mitigation Planning Committee. The third step involved reviewing and discussing the HAZNY results with representatives from various county agencies during the county agency interviews. The fourth step involved discussing the HAZNY results with each municipal committee, and developing municipal hazard priorities. The fifth, and final, step involved developing hazard profiles that define the hazard, examine previous hazard incidents, and estimate the probability of future events.

A. HAZNY Event

On July 23, 2003, Livingston County, in conjunction with the New York State Emergency Management Office, conducted a hazard analysis review using the automated program, HAZNY (Hazards New York). HAZNY was developed by the American Red Cross and the New York State Emergency Management Office. The results from this hazard assessment are presented in this chapter, and the full report is at the end of the chapter.

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. The program then calculates a score for each of the hazards analyzed, based on the responses to the questions. The program includes historical and expert data on selected hazards and is designed specifically for groups of stakeholders, rather than for individual use. This ranking of hazards provides the community with a factual basis for prioritizing the community's resources to prepare for, respond to, and mitigate against the hazards that pose the greatest risk to the community. A representative from SEMO facilitated the meeting and recorded the results. The participants were listed in Chapter 3.

The five categories covered in the Hazard Analysis session are: Scope, Frequency, Impact, Duration, and Onset.

Scope indicates the size of an area that would be impacted by a potential hazard. For this hazard analysis category, HAZNY participants are asked if the hazard in question has the capability of triggering other hazards in a cascading effect. The area of the impact of the hazard itself and its cascading effects, where they exist, are analyzed.

Frequency predicts how often a hazard has occurred in the past and could occur in the future.

Impact analyzes how the hazard will impact the lives and safety of people, as well as possible damage to public and private property. Specifically, impact is concerned with the hazard's ability to seriously injure or kill people, create private economic impact as well as impact on public facilities.

Onset inquires about warning time; that is, how much time is there between the initial recognition of the approaching hazard and when the hazard will impact the community in question.

Duration analyzes how long the expected hazard will remain active; that is, over what period of time does the hazard occur, or how long will it take the community to recover from the event.

The group analyzed 33 hazards potentially affecting the municipalities of Livingston County. The HAZNY program rated each hazard based on participant assessment and assigned a numerical value. These values are categorized as follows:

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

Table 5. Livingston County Hazard Rankings

Hazard	Rating		Hazard	Rating
Hazardous Materials (In Transit)	334.8		Transportation Accident	204.2
Terrorism	292		Radiological (In Transit)	201.2
Fire	290.2		Drought	198.5
Ice Storm	288.8		Hurricane	198.2
Flood	288.5		Civil Unrest	195.2
Oil Spill	263.8		Mine Collapse	192.8
Hazardous Materials (Fixed Site)	247.2		Explosion	190.8
Tornado	244.2		Structural Collapse	190.2
Severe Storm	238.5		Extreme Temperatures	184.8
Wildfire	231.8		Earthquake	162.5
Water Supply Contamination	226.5		Air Contamination	159.8
Dam Failure	226.2		Utility Failure	159.8
Ice Jam	222.8		Food Shortage	151.2
Epidemic	220.5		Fuel Shortage	151.2
Landslide	209.5		Blight	123.8
Radiological (Fixed Site)	207.8		Infestation	115.2
Winter Storm (Severe)	207.8			

Source: Livingston County HAZNY Report, 2003

High Hazards
One hazard was identified as a high hazard: Hazardous Materials (In Transit).

Moderately High Hazards
Seven hazard types were identified as moderately high hazards: Terrorism, Fire, Ice Storm, Flood, Oil Spill, Hazardous Materials (Fixed Site), and Tornado.

Moderately Low Hazards
Nineteen hazards types were identified as moderately low hazards: Severe Storm, Wildfire, Water Supply Contamination, Dam Failure, Ice Jam, Epidemic, Landslide, Radiological (Fixed Site), Winter Storm (Severe), Transportation Accident, Radiological (In Transit), Drought, Hurricane, Civil Unrest, Mine Collapse, Explosion, Structural Collapse, Extreme Temperatures, and Earthquake.

Low Hazards

Six hazard types were identified as low hazards: Air Contamination, Utility Failure, Food Shortage, Fuel Shortage, Blight, and Infestation.

B. Planning Committee Review of HAZNY Results

At two different committee meetings, members of the Livingston County All-Hazard Mitigation Planning Committee were asked to review the results of the hazard assessment generated using HAZNY. Each planning committee member was provided with the HAZNY results. The committee agreed with the ranking of the various hazards, and did not voice any concerns regarding hazard priorities.

C. County Agency Review

In interviews with county agency representatives, each individual was asked to evaluate the HAZNY results and provide their feedback. Each county agency representative gave a different answer, but some of the common themes or notable answers were:

- Almost every county representative indicated that Terrorism should be considered a lesser threat than where it is ranked. Most people were not sure what would make Livingston County a target for terrorism – it is "more of a soft target, rather than a spectacular hit". Agri-terrorism, according to Kevin Niedermaier, is a concern.
- Many county representatives suggested that Tornados should move lower in priority, as they are not a frequent occurrence, and when they do occur, they are pretty small.
- A few people mentioned that Oil Spill could move lower in priority, as it is typically a fairly localized issue.
- Several people suggested that Severe Storm and Severe Winter Storm should be considered a much higher priority than they appeared in the HAZNY. These are frequent occurrences.
- Almost every person recommended moving Utility Failure to a higher priority – it is currently ranked low, and most people felt that this is a significant concern.
- Several county agency representatives indicated that Epidemic should be a higher priority.
- A few people suggested that Ice Jams should be moved higher in ranking.
- And finally, a couple of people suggested that Mine Collapse and more importantly, the effects of a mine collapse, could be significant.

D. Municipal Hazard Priorities

Each municipal committee was asked to review and discuss their perspective on the hazard assessment that had been generated at the county level using the HAZNY program. Each municipal committee worked together during the regional meetings to analyze the HAZNY results and determine how they related to their knowledge of their own municipality. The municipal level analysis resulted in the hazard priorities shown in Table 6. The county-level planning committee was given an opportunity to review the municipal priorities and discuss the results.

In many ways, the municipal hazard priorities complement the comments heard from the county agency interviews. The municipalities also felt that Severe Winter Storms, Severe Storms, and Utility Failure should be considered high threats due to their regular occurrence. Water Supply Contamination was also selected as a hazard of serious concern for many municipalities. The remainder of the responses conformed fairly well to the HAZNY priorities. Most municipalities agreed that Hazardous Materials (In Transit), Terrorism, Fire, Ice Storm, Flood, Oil Spill and Hazardous Materials (Fixed Site) were all significant threats. The full spectrum of results from the regional meetings can be seen in Table 6.

Table 6. Livingston County Municipal Hazard Priorities

Hazard	Hazmat (In Transit)	Terrorism	Fire	Ice Storm	Flood	Oil Spill	Hazmat (Fixed Site)	Tornado	Severe Storms	Wildfire	Water Supply Contamination	Ice Jam	Epidemic	Landslide	Severe Winter Storm	Transportation Accident	Radiological (In Transit)	Drought	Civil Unrest	Mine Collapse	Explosion	Extreme Temperatures	Air Contamination	Utility Failure	Fuel Shortage	Blight
Municipality																										
Avon, Town	x	x	x	x			x		x		x				x											
Avon, Village	x	x	x	x	x	x	x		x		x													x		
Caledonia, Town	x	x	x	x	x	x	x		x						x								x			
Caledonia, Village	x	x	x	x	x	x	x	x			x				x	x		x						x		
Conesus, Town	x		x	x	x	x	x		x		x	x			x	x								x	x	
Dansville, Village	x	x	x		x		x		x						x									x		
Geneseo, Town	x	x	x	x	x	x	x				x			x	x									x		
Geneseo, Village	x	x	x	x	x	x	x				x				x									x		
Groveland, Town	x		x	x	x	x	x	x	x		x				x		x			x		x		x		
Leicester, Town	x		x	x	x	x	x		x		x				x									x		
Leicester, Village	x		x	x	x	x	x		x		x				x									x		
Lima, Town	x	x	x	x		x	x				x													x	x	
Lima, Village	x	x	x	x		x	x				x													x	x	
Livonia, Town	x	x	x	x	x	x	x		x		x	x	x		x	x					x			x	x	
Livonia, Village	x	x	x	x	x	x	x		x		x	x	x		x	x					x			x	x	
Mt Morris, Town	x	x	x	x	x	x	x	x							x							x	x	x		
Mt Morris, Village	x	x	x	x	x	x	x	x							x	x			x		x			x		
N. Dansville, Town	x	x	x	x	x	x	x	x	x		x	x					x									
Nunda, Town			x	x	x		x	x	x		x				x											
Nunda, Village	x		x	x	x			x			x	x														
Ossian, Town	x	x	x	x	x	x	x		x		x		x		x									x	x	
Portage, Town	x			x	x																					
Sparta, Town	x			x	x																					
Springwater, Town	x	x		x	x	x			x	x		x			x										x	x
West Sparta, Town	x	x	x	x	x			x								x								x		
York, Town	x	x	x	x		x	x		x							x				x	x		x			

Hazards Not Recognized as a High Threat:

Dam Failure, Radiological (Fixed Site), Earthquake, Food Shortage, Infestation, Structural Collapse, Hurricane

Source: Municipal Committee Meetings, Genesee/Finger Lakes Regional Planning Council, Fall 2005

E. Review of Past Hazard Events

The purpose of the summary in Chapter 6 is to identify what hazard events happened in the past and to determine the potential for a hazard event to occur in the future. Each hazard is profiled in a section that includes:

- a definition, found in the HAZNY program;
- a brief discussion of hazard history, future potential, cascade effects, impacts, and damage;
- an explanation of the research done to compile the hazard history; and
- a detailed summary of past hazard events.

Livingston County

All Hazards Analysis Report

Prepared by:
Livingston County Office of Emergency Management
July 2003
Final – December 17, 2003

Background

On July 23, 2003, Livingston County, in conjunction with the New York State Emergency Management Office, conducted a hazard analysis using the automated program, ***HAZNY*** (Hazards New York). ***HAZNY*** was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

HAZNY and Livingston County

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. ***HAZNY*** also includes historical and expert data on selected hazards. It is designed specifically to explore 5 factors; Scope, Frequency, Impact Onset and Duration. A weight is assigned to each factor: Frequency - 12, Impact -10, Onset – 7, Duration - 6 and Scope – 5. Each response has a point value that is in turn multiplied by the weight factor to obtain a score for that factor. The sum of the factors is the final rating for the hazard. The Livingston County Office of Emergency Management Services evaluated 33 Hazards that could affect Livingston County.

The Results

HAZNY rated each hazard based on the LCEMO assessment and assigned a numerical value. These values are categorized as follows:

321 to 400	**HIGH HAZARD**
241 to 320	**MODERATELY HIGH HAZARD**
161 to 240	**MODERATELY LOW HAZARD**
44 to 160	**LOW HAZARD**

The Hazard Ratings obtained are as follows:

HAZARD:	**RANKING:**	
HAZMAT (IN TRANSIT)	334.8	High Hazard
TERRORISM	292.0	Moderately High Hazard
FIRE	290.2	Moderately High Hazard
ICE STORM	288.8	Moderately High Hazard
FLOOD	288.5	Moderately High Hazard
OIL SPILL	263.8	Moderately High Hazard
HAZMAT (FIXED SITE)	247.2	Moderately High Hazard
TORNADO	244.2	Moderately High Hazard
SEVERE STORM	238.5	Moderately Low Hazard
WILDFIRE	231.8	Moderately Low Hazard

WATER SUPPLY CONTAMINATION	226.5	Moderately Low Hazard
DAM FAILURE	226.2	Moderately Low Hazard
ICE JAM	222.8	Moderately Low Hazard
EPIDEMIC	220.5	Moderately Low Hazard
LANDSLIDE	209.5	Moderately Low Hazard
RADIOLOGICAL (FIXED SITE)	207.8	Moderately Low Hazard
WINTER STORM (SEVERE)	207.8	Moderately Low Hazard
TRANS ACCIDENT	204.2	Moderately Low Hazard
RADIOLOGICAL (IN TRANSIT)	201.2	Moderately Low Hazard
DROUGHT	198.5	Moderately Low Hazard
HURRICANE	198.2	Moderately Low Hazard
CIVIL UNREST	195.2	Moderately Low Hazard
MINE COLLAPSE	192.8	Moderately Low Hazard
EXPLOSION	190.8	Moderately Low Hazard
STRUCTURAL COLLAPSE	190.2	Moderately Low Hazard
EXTREME TEMPS	184.8	Moderately Low Hazard
EARTHQUAKE	162.5	Moderately Low Hazard
AIR CONTAMINATION	159.8	Low Hazard
UTILITY FAILURE	159.8	Low Hazard
FOOD SHORTAGE	151.2	Low Hazard
FUEL SHORTAGE	151.2	Low Hazard
BLIGHT	123.8	Low Hazard
INFESTATION	115.2	Low Hazard

High Hazards

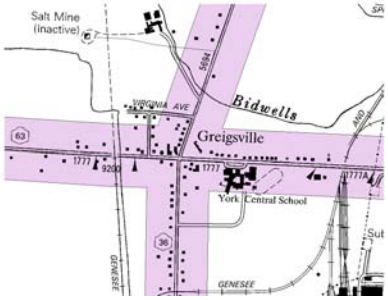
One hazard was deemed to be a High Hazard. This is **Hazardous Materials in Transit.**

HAZARDOUS MATERIAL IN TRANSIT: 334.8, High Hazard

Potential Impact: Large Region
Frequency: Frequent Event
Hazard Duration: One day
Cascade Effects: Injury/Death Likely,High Numbers
Onset: No Warning
Recovery Time: One to two days
Impact:

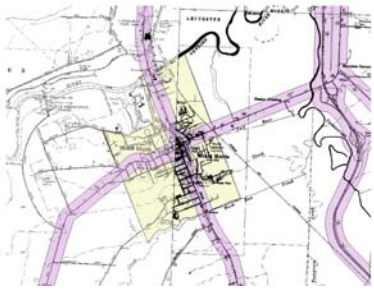
- Serious injury or death is likely.
- Moderate damage to private property.
- Severe structural damage to public facilities.

It is noted that the Interstate 390, along with several major local arterial roads, including the Route 63 corridor, are major hazardous materials transportation corridors through the County. Aviation fuel and several listed extremely hazardous substances are regularly transported through the County. The County has an annual average of at least one tractor-trailer accident where a hazardous material, other than diesel fuel, is released.



York

Dansville



Mt. Morris

As can be seen in the above, a 500 foot buffer from the centerline of the highway completely covers the York Central school, the Dansville Primary, Elementary, Middle and High Schools. In Mt. Morris, a full one quarter of the Village population resides within the 500 foot buffer zones of Routes 36 and 408. It would be advantageous to have an annual survey of trucks hauling hazardous materials on the Livingston County Transportation Corridors.

Moderately High Hazards

Seven hazards were determined to be Moderately High Hazards. These are **Terrorism, Fire, Flood**, **Ice Storm, Oil Spill, HazMat (Fixed Site) and Tornado.**

TERRORISM: 292.0, Moderately High Hazard

Potential Impact: Small Region
Frequency: An Infrequent Event
Hazard Duration: Four days to One Week
Cascade Effects: Highly Likely
Onset: No Warning
Recovery Time: More than two weeks
Impact:

- Serious injury or death is likely in large numbers.
- Moderate damage to private property.
- Severe damage to public facilities.

There are several soft targets of opportunity within the County that could see a terrorist event. With the prime targets being "hardened", the terrorist will look for soft targets in mostly rural counties because of the perceived notion that such a county will not be prepared for such a disaster.

Mitigation measures may be as simple as installing fencing, with access limited, around a facility. Adoption of an ID Card system, with electronic Card Readers on all entry points to government facilities, would record ingress and egress of facilities after hours. Elimination of the use of easily copied keys make all facilities more secure. These examples would be be considered "Hardening" a target.

Another form of mitigation is already in effect for Livingston County. Livingston County Sheriff's Department road patrols are always on the lookout for things that are out of place. Where things don't "fit", investigations are made. When the alert status, color code, is heightened, law enforcement awareness is also heightened. On a continuing basis, the Department of Health conducts weekly health surveillance data reviews that could provide early warning of a biological or chemical event. The Department is also working with veterinarians to provide the same type of surveillance in the animal population.

FIRE: 290.2, Moderately High Hazard

Potential Impact: Several Individual Locations
Frequency: A Frequent Event
Hazard Duration: Less than one day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: Less than one day.
Impact:

- Serious injury or death is likely in small numbers.
- Severe damage to private property.
- Severe structural damage to public facilities.

Fire is a constant reminder that disaster can strike at any time in any place. The county averages at least 5 serious house fires per year, 7 trailer fires and 3 commercial fires where the loss is described as total. Several other fires resulting in lesser amounts of damage occur. The potential for a block fire exists in each village where uninhabited second floors, and in some cases third floors, exist.

Using Firewise construction methods and promoting Firewise Communities is one method of preventing fires.

ICE STORM: 288.8, Moderately High Hazard

Potential Impact: Large Region
Frequency: Regular Event
Hazard Duration: More Than One Week
Cascade Effects: Highly Likely
Onset: Several Hours Warning
Recovery Time: More than Two Weeks

Impact:

- Serious injury or death is likely, but not in large numbers.
- Severe damage to private property.
- Little or no structural damage to public facilities.

Since 1991 Livingston County has received two Presidential Declarations for Ice Storm damage, the most recent being the April 2003 storm. While damage to private property is significant, including utilities, damage to public property is generally limited to trees and debris removal from roads and highways. One of the largest problems with ice storms is the trees and debris that falls into area streams that may cause flooding problems in the future if there is not an effort made to evaluate and remove them.

Power loss, as the result of a disaster such as an Ice Storm, affects not only private homes but establishments such as restaurants and grocery stores. If the power is off for an extended period of time, food safety is compromised; therefore, large quantities of food may have to be discarded resulting in severe economic loss and food shortage until restocking can be accomplished. Grocery stores have become dependent upon computers to be able to operate. If power is out, cash registers don't work and staples may not be available until provisions can be made to operate by "old fashioned methods".

FLOOD: 288.5, Moderately High Hazard

Potential Impact: Small Region
Frequency: Regular Event
Hazard Duration: Two to three days
Cascade Effects: Highly Likely
Onset: Several Hours Warning
Recovery Time: More Than Two Weeks.

Impact:

- Serious injury or death in small numbers.
- Severe damage to private property.
- Severe structural damage to public facilities.

Flooding is New York States most consistently damaging natural hazard. Since 1955 New York has recorded more flood events than any other northeastern state. The Flash Flood potential for Livingston County as rated by the National Weather Service is a moderate risk.

There are several areas of the county that are extremely flood prone. The flats in West Sparta and Groveland flood two to three times per year causing little more than aggravation. The Keshequa Creek, however, has the potential to rise rapidly and cause significant damage. As a result of this type of flooding, the U.S. Army Corps of Engineers assisted with the construction of a flood control project in the Village of Nunda and the Towns of Nunda and Portage. The NYSDEC has overall responsibility for this project. The Canaseraga Creek watershed has the same potential.

The Genesee River, though controlled by the Mt. Morris Dam, has the greatest potential to cause damage and loss of life. Hurricane Agnes and the flood of 83 saw the reservoir behind the dam at the highest levels in history. If the dam overtops, debris could cause downstream problems. For that reason, the control gates will be opened to allow downstream flooding to prevent this from happening. Downstream residents should receive sufficient warning to prevent loss of life.

OIL SPILL: 263.8, Moderately High Hazard

Potential Impact: Small Region
Frequency: Frequent Event
Hazard Duration: Less Than One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: One To Two Days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

The County Haz Mat Team responds to an average of 5 Oil Spills per year, most the result of motor vehicle accidents. It is not uncommon to have one or two incidents caused by home heating oil tanks leaking or tipping over each year. The potential for well contamination is significant. The potential exists for a large oil spill within the county due to the presence of three major oil pipelines within the County. The Sun Pipeline traverses the County from South to North carrying jet fuel, kerosene, home heating oil, diesel fuel and gasoline. The Buckeye Pipeline and the Mobil Pipeline, carrying the same products as the Sun, traverse the Northern part of the County with each having a pumping station in the Town of Caledonia.

HAZARDOUS MATERIALS AT FIXED SITES: 247.2, Moderately Low Hazard

Potential Impact: Several Individual Locations
Frequency: Regular Event
Hazard Duration: One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: One or two days

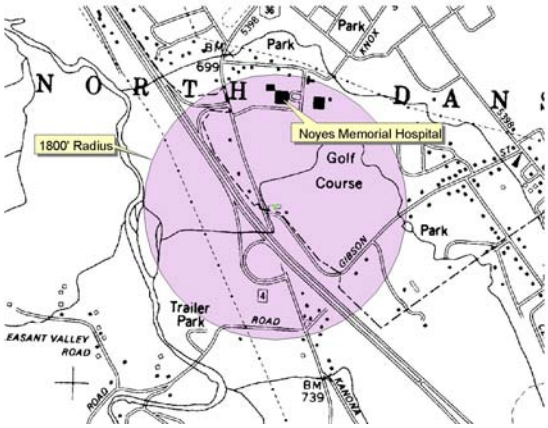
Impact:

- Serious injury or death likely in large numbers.
- Moderate damage to private property.
- Little or no structural damage to public facilities.

Definition: 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.

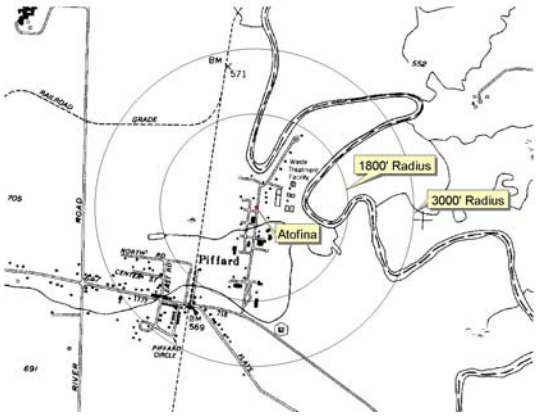
Livingston County has several fixed sites where Hazardous Materials are used or stored. Jones Chemical has large quantities of Chlorine on site, in tanks and in rail cars. Kraft Foods has the largest Anhydrous Ammonia cooling system East of the Mississippi River. Atofina produces and stores significant quantities of Organic Peroxides and the materials used to make them. This includes Methyl Ethyl Ketone. Several Propane storage facilities are located in populated areas such as Burnwell in Dansville and Gibbs in Livonia and the new Jet Gas facility in Mt. Morris. A significant release or explosion at any of the described facilities could cause significant injury and/or death.

The six figures below show the 1800' Radius at LP Gas Storage facilities and the 1800' and 3000' Radii for the Significant Industries. Noyes Hospital lies within 1800' of the Burnwell facility while the Mt. Morris Central School is just outside the 1800' radius from the new LP Gas storage facility in Mt. Morris.

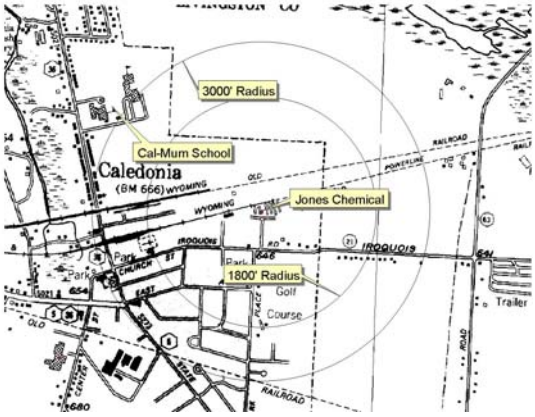


Burnwell Gas – Dansville

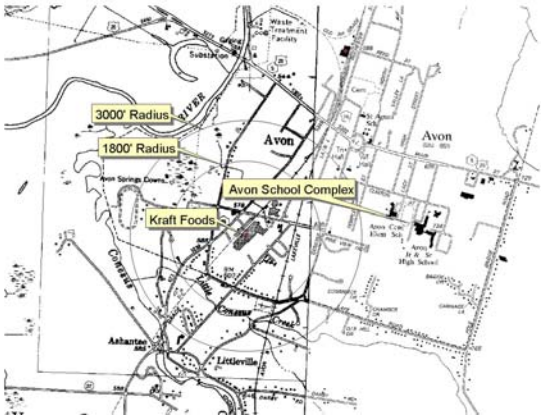
Gibbs Gas – Livonia



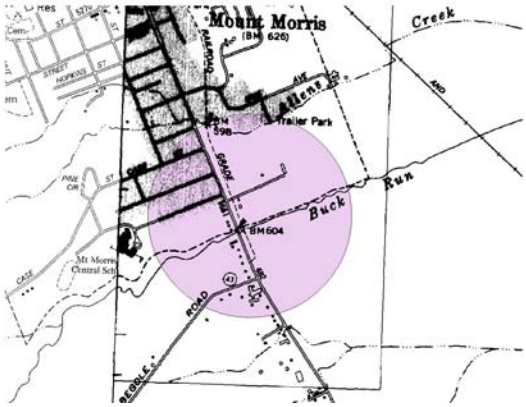
Atofina – Piffard



Jones Chemical - Caledonia



Kraft Foods – Avon



Jet Gas – Mt. Morris

TORNADO: 244.2, Moderately High Hazard

Potential Impact: Large Region
Frequency: Infrequent Event
Hazard Duration: Less Than One Day
Cascade Effects: Highly Likely
Onset: Several Hours Warning
Recovery Time: More Than Two Weeks

Impact:

- Serious injury or death is likely but not in large numbers.
- Severe damage to private property.
- Severe structural damage to public facilities.

New York State has an average of 5 tornadoes a year, which can occur in any region. Tornado activity is not common in Livingston County but an F1 tornado did cause damage in Southern Livingston County in 1991. Due to the large amount of damage tornadoes cause in a relatively short period of time, they are considered one of the most destructive natural hazards.

Moderately Low Hazards

Nineteen hazards were determined to be Moderately Low Hazards. These are **Severe Storm, Wildfire, Water Supply Contamination, Dam Failure, Ice Jam, Epidemic, Landslide, Radiological (Fixed Site), Winter Storm (Severe), Transportation Accident, Radiological (In Transit), Drought,, Hurricane, Civil Unrest, Mine Collapse, Explosion, Structural Collapse, Extreme Temperatures, Earthquake.**

SEVERE STORMS: 238.5, Moderately Low Hazard

Potential Impact: Large Region
Frequency: A Regular Event
Hazard Duration: Less Than One Day
Cascade Effects: Some Potential
Onset: Several Hours Warning
Recovery Time: More Than Two Weeks
Impact:

- Serious injury or death is likely but not in large numbers.
- Moderate damage to private property.
- Little or no structural damage to public facilities.

This category considers hail storms, windstorms, and severe thunderstorms (with associated severe wind events such as derechos, gustnados, and downbursts). A severe thunderstorm is one which produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. Structural wind damage may imply the occurrence of a severe thunderstorm.

Livingston County has seen severe downbursts in Lima, Avon and Dansville in the past 5 years alone. Hail, even smaller than described above, can cause significant damage to farm crops and fruit trees.

WILDFIRE: 231.8, Moderately Low Hazard

Potential Impact: Small Region
Frequency: Frequent Event
Hazard Duration: Less than One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: One Day

Impact:

- Serious injury or death unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: An uncontrollable combustion of trees, brush, or grass involving a substantial land area which may have the potential for threatening human life and property.

The potential for wildfires, which is an uncontrollable combustion of trees, brush, or grass involving a substantial land area which may have the potential for threatening human life and property, exists in many communities of New York State. Livingston County has many areas consisting of wooded, brush, or grassy areas all of which are vulnerable to wildfires during periods of dryness. Heavy rains following a wildfire may induce landslides, mudflows, and floods due to the inability of the burned areas to absorb water because of the absence of foliage and groundcover. In addition, wildfires may cause power failures, structural fires and air contamination. Livingston County averages 50 grass and brush fires per year, 8 of which involve greater than 50 acres.

WATER SUPPLY CONTAMINATION: 226.5, Moderately Low Hazard

Potential Impact: Several Individual Locations
Frequency: Regular Event
Hazard Duration: Four days to one week
Cascade Effects: Highly Unlikely
Onset: No Warning
Recovery Time: One to Two Weeks

Impact:

- Serious injury or death is likely in large numbers.
- Little or no damage to private property.
- Moderate structural damage to public facilities.

Definition: 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.

Water Supply Contamination is a significant threat; in spite of the excellent job the County Health Department does in overseeing quality assurance. The Caledonia Water Supply is contaminated with high levels of nitrates, which has caused restrictions to be placed on consumption in the recent past. Mt. Morris, Leicester and portions of Groveland rely upon Silver Lake water which does not have the same degree of protection afforded by the Conesus Lake Watershed Management Plan. Portions of the Avon and York water systems have dead ends that allow bacteria counts to be exceeded
on a periodic basis. Finally, a significant portion of the County's Water Supply is provided by individual wells, many of which do not meet minimum State requirements and which are not tested on a regular basis.

The County Department of Health and the Rural Water Association are both working with local water purveyors to assure that their sources of water, treatment facilities and distribution systems are secure and hardened as much as practicable. The County Department of Health monitors public water supplies and non-community water supply systems on a regular basis. Nursing staff communicates frequently with Environmental Health staff regarding illnesses that may be water related.

DAM FAILURE: 226.2, Moderately Low Hazard

Potential Impact: Several Individual Locations
Frequency: Infrequent Event
Hazard Duration: One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is likely in large numbers.
- Moderate damage to private property.
- Moderate structural damage to public facilities.

Definition: Structural deterioration, either gradual or sudden, resulting in the facility's inability to control impounded water as designed, resulting in danger to people and/or property in the potential inundation area.

Background: Dams may be either man-made or exist because of natural phenomena, such as landslides or glacial deposition. The majority of dams are man-made structures normally constructed of earthfill or concrete. There are approximately 6,000 dams throughout New York State, of which many are small and do not constitute a serious threat to the downstream area if they were to fail. Dam failure can result from many factors such as natural disasters, structural deterioration, or actions caused by man, including terrorism. According to the International Commission of Large Dams (ICOLD), the three major causes of dam failure are overtopping by flood, foundation defects and piping. For concrete dams, the major reason for failure is associated with foundations. For earthen dams, piping was the main reason for failure. Over topping affects both concrete and earthfill dams which do not have adequate spillways to allow for high water levels to pass through without damaging the structure.

There are 69 registered Dams in Livingston County. Only two are listed as High Hazard, the Mt. Morris Dam and the Hemlock Lake Dam. Seven are listed as Moderate Hazard dams. Dam Failure would release a large quantity of water rapidly that would have the potential to inundate large areas and cause swift flowing water in narrower channels. Immediate downs stream bridges and roads would be in danger. The most susceptible dam would be an earth fill dam, while the Concrete Gravity Mt. Morris Dam would be the least likely to fail. This analysis is based on failure of one of the smaller dams.

ICE JAM: 222.8, Low Hazard

Potential Impact: Several Locations
Frequency: Regular Event
Hazard Duration: Less than one day
Cascade Effects: Some Potential
Onset: One Days Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is unlikely.
- Severe damage to private property.
- Severe structural damage to public facilities.

Definition: 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.

There is at least one Ice Jam in Livingston County each year. Ice Jams at the junction of the Keshequa and the Canaseraga have threatened farmland and the Route 390 and Genesee & Wyoming bridges just up stream. The Honeoye Creek in the North Bloomfield area has impacted homes along Ontario St. several times. A large Ice Jam on the Canaseraga near Poags Hole threatened two county bridges and caused the evacuation of a trailer park. The potential exists for a serious Ice Jam to impact one or more residential areas or any of the County bridges that cross the above streams.

EPIDEMIC: 220.5, Moderately Low Hazard

Potential Impact: Large Region
Frequency: Infrequent Event
Hazard Duration: More Than One Week
Cascade Effects: Highly Unlikely
Onset: No Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: The occurrence or outbreak of disease to an unusual number of individuals or proportion of the population, human or animal.

The West Nile Virus has been found in several towns in Livingston County during the past three summers. Standing water in low lying areas and the many wetlands in the County create favorable conditions for the breeding of mosquitoes that carry the virus.

The Hazard Duration of "More than one week" is the maximum allowed in the HAZNY program. The duration of an epidemic could be months, using SARS or Smallpox as an example. Laboratory confirmation alone in these cases can take days or weeks.

The cascade effect would not produce additional hazards as some others might, but there would be significant "fall out" effects. These include a significant number of people out of work, school or day care. The ill requiring medical care would over tax our health system. Isolation/Quarantine orders may have to be implemented, further taxing the system.

LANDSLIDE: 209.5, Moderately Low Hazard

Potential Impact: Several Locations
Frequency: Infrequent Event
Cascade Effects: Some Potential
Onset: No Warning

Hazard Duration: More than one week Recovery Time: More than two weeks

Impact:

- Serious injury or death is unlikely.
- Moderate damage to private property.
- Moderate structural damage to public facilities.

Definition: 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, mud flow, slump, and other similar terms.

Landslide hazard areas occur where the land has certain characteristics which contribute to the risk of the downhill movement of material. These characteristics include:

-A slope greater than 15 percent.
-History of landslide activity or earth movement.
-Stream or wave activity which has caused erosion, undercut a bank or cut into a bank to cause the surrounding land to be unstable
-The presence of an alluvial fan which indicates vulnerability to the flow of debris or sediments.
-The presence of impermeable soils, such as slit or clay, which are mixed with granular soils such as sand and gravel.
-Repeated or continuous saturation of soils by rain or snowmelt in slope area.

Landslides have occurred in several areas within the County. A large bank slid into the Keshequa Creek in Tuscarora and a bank slid into the Honeoye Creek just South of Routes 5&20 in Lima. The potential for significant landslides exist at several locations on the Canaseraga Creek and the Honeoye Creeks. Smaller slides can occur on the Genesee and several of its tributaries.

RADIOLOGICAL AT FIXED SITE: 207.8, Moderately Low Hazard

Potential Impact: Small Region Cascade Effects: Highly Likely
Frequency: Infrequent Event Onset: Several Hours Warning
Hazard Duration: Four days to a week Recovery Time: One to Two Weeks

Impact:

- Serious injury or death is likely in small numbers.
- Moderate damage to private property.
- Little or no structural damage to public facilities.

Definition: A release or threat of release of radioactive material from a nuclear power generating station or research reactor or other stationary source of radioactivity.
Background: Commercial nuclear power generating facilities have the greatest concentration of radioactive materials of any private source. There are three nuclear sites with six operating reactors in New York State that are capable of releasing substantial concentrations of radioactive materials in mass quantities. The three nuclear power sites are Indian Point in Westchester County, with two operating reactors; Nine Mile Point in Oswego County, with three operating reactors; and Ginna in Wayne County with one operating reactor.

There are numerous small research reactors and other facilities that use radioactive material in New York State.

This analysis is based upon the fact that the northern portion of the County lies within the 50 mile radius of the Ginna Nuclear Power Plant in the Town of Ontario, Wayne County. In the event of a release, the winds would need to be out of the Northeast in order to affect the County. While Nor'Easters do occur, they are relatively rare. Prevailing winds are from the West, Northwest and Southwest.

The amount of radioactive isotopes found at other locations within the County are considered too small to consider. The next largest source, in the past, would have been Foster Wheeler with isotopes used to check the integrity of welds.

WINTER STORM (SEVERE): 207.8, Moderately High Hazard

Potential Impact: Large Region
Frequency: Regular Event
Hazard Duration: Two to Three Days
Cascade Effects: Some Potential
Onset: Several Hours Warning
Recovery Time: One to two days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Storms of this nature are routine in this part of the State. A storm system that develops in late fall to early spring and deposits wintry precipitation, such as snow, sleet, or freezing rain, with a significant impact on transportation systems and public safety. The following definitions were used in this analysis:

HEAVY SNOW - Six inches in 12 hours or less.
BLIZZARD - Characterized by low temperatures, winds 35 mph or greater, and sufficient falling and/or blowing snow in the air to frequently reduce visibility to 1/4 mile or less for a duration of at least three hours.
SEVERE BLIZZARD - Characterized by temperatures near or below 10 degrees F, winds exceeding 45 mph, and visibility reduced by snow to near zero for a duration of at least three hours.

During Winter months, Livingston County residents should be encouraged to have a minimum of 4 to 5 days worth of non-perishable foods on hand. This would include bottled water, where there is no public water, and dried milk to provide milk, especially where children are involved. Additionally, residents should be encouraged to keep their automobile gas tanks no less than half full. Propane and Fuel Oil for heating should be on the auto refill plan. The Red Cross can be instrumental in providing this type of out-reach.

TRANSPORTATION ACCIDENT: 204.2, Moderately Low Hazard

Potential Impact: Small Region
Frequency: Regular Event
Hazard Duration: One Day
Cascade Effects: Highly Unlikely
Onset: No Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death in small numbers.

- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: A mishap involving one or more conveyances on land, sea, and/or in the air which results in mass casualties and/or substantial loss of property.

Livingston County is in the flightpath of the Rochester Airport. Also, the Interstate 390 / Route 63 transportation corridor to Western New York and Canada significantly increases our chances of an accident.

RADIOLOGICAL (IN TRANSIT): 201.2, Moderately Low Hazard

Potential Impact: Small Region
Frequency: An Infrequent Event
Hazard Duration: One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: One To Two Days

Impact:

- Serious injury or death in small numbers.
- Moderate damage to private property.
- Little or no structural damage to public facilities.

Definition: A release or threat of release of radioactive material from a transportation vehicle including truck, rail, air, and marine vehicle.

Again, the Interstate 390 / Route 63 transportation corridor increases the risk of a transportation accident. While waste products from Ginna Nuclear Power Plant are shipped thru the County, the volume of radioactive materials and waste passing through Livingston County is minimal.

DROUGHT: 198.5, Moderately Low Hazard

Potential Impact: Small Region
Frequency: Regular Event
Hazard Duration: More Than One Week
Cascade Effects: Some Potential
Onset: A week or more warning
Recovery Time: One day

Impact:

- Serious injury or death unlikely.
- Little or no damage to private property.
- Little or no damage to public facilities.

Definition: A prolonged period of limited precipitation affecting the supply and quality of water.

Background: Droughts can occur during any period of time in any region of New York State. Even though the State normally possesses an adequate water supply with sufficient annual precipitation to replenish the State's reservoirs, lakes, rivers and groundwater aquifers, certain areas have a history of being more susceptible to periods of drought.

Drought periods progress through stages and drought intensity may vary considerably during the drought period. They are not sudden, extreme events like floods. The time of occurrence and

duration can cause significant variations in drought impacts. For example, a drought which occurs in the fall and winter months has little direct impact on crop production. For public water supplies, drought is more serious during the reservoir refill and groundwater recharge periods in the spring. The Livingston County area has been in near drought conditions for more than 3 of the last six years. Public water supplies relying on groundwater, such as Nunda, have had to place conservation alerts into affect. Farmers have been hard hit by poor crop production and water levels in streams have reached record low numbers, affecting assimilation of wastewater discharges from sewage treatment facilities.

HURRICANE: 198.2, Moderately Low Hazard

Potential Impact: Large Region
Frequency: Infrequent Event
Hazard Duration: One Day
Cascade Effects: Highly Likely
Onset: A Week or More Warning
Recovery Time: More Than Two Weeks

Impact:

- Serious injury or death likely in small numbers.
- Severe damage to private property.
- Moderate structural damage to public facilities.

Definition: 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.

Background: Hurricanes are a great threat to life and can damage property through storm surge, intense winds, and flooding. The potential for flooding from extreme rainfall in a hurricane or tropical storm exists statewide; however, this aspect should be analyzed under the hazard "flood". As hurricanes approach land, they create a storm surge along the coastline that raises water up to 20 feet above normal sea level. The coastal areas of New York receive the full brunt of storm surge and hurricane winds and therefore, sustain the most damage.

While Livingston County will not see storm surges, strong winds and flooding resulted from Hurricanes Agnes and Edith in the last 30 years.

CIVIL UNREST: 195.2, Moderately Low Hazard

Potential Impact: Single Location
Frequency: Infrequent Event
Hazard Duration: Two to Three Days
Cascade Effects: Highly Unlikely
Onset: No Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death but in small numbers.
- Moderate damage to private property.
- Moderate structural damage to public facilities.

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

The largest single location for potential civil unrest is the College in Geneseo. While there is no history of such unrest on the campus, Colleges and Universities across the country have been the scenes of such demonstrations in the past.

MINE COLLAPSE: 192.8, Moderately Low Hazard

Potential Impact: Single Location
Frequency: Rare Event
Hazard Duration: More than one week
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: More than two weeks

Impact:

- Serious injury or death is likely, but not in large numbers.
- Moderate damage to private property.
- Moderate structural damage to public facilities.

In 1994, the Akzo Nobel Mine salt mine collapsed affecting portions of the towns of York, Leicester, Mt. Morris, Groveland and Avon. The collapse affected ground water levels in private wells and caused damage to public highways and bridges. Methane bubbles appeared in small streams and potentially in the basements of homes in the Retsof area. Monitoring continues to this date.

A new mine has been developed in the Town of Groveland with approximately 9000 acres under contract for development. Engineering has been done that should preclude another collapse, but the potential is always there.

EXPLOSION: 190.8, Moderately Low Hazard

Potential Impact: Several Individual Locations
Frequency: Infrequent Event
Hazard Duration: One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: Less than one day

Impact:

- Serious injury or death but in small numbers.
- Moderate damage to private property.
- Little or no structural damage to public facilities.

Livingston County has 4 major propane bulk storage facilities, two of which are near residential or commercial facilities. One is located in close proximity to Noyes Hospital. Also, there are several bulk petroleum storage sites, two major natural gas transmission lines, Tenneco and Consolidated, in the county. Also, Atofina Chemical, one of only a few manufacturing sites of Organic Peroxides in the world, is located within the Town of Geneseo. Organic Peroxides can become very unstable in the presence of heat. The volume of transportation of volatile materials over the transportation corridors located in the County is very high. Lastly, methane is found in the shale deposits within the county, leaving a potential for methane in basements causing an explosion.

STRUCTURAL COLLAPSE: 190.2, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly unlikely

Frequency: Regular Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: One to two days

Impact:

- Serious injury or death is likely, but not in large numbers.
- Moderate damage to private property.
- Moderate damage to public facilities.

Definition: A sudden structural failing, partial or fully, of buildings, bridges or tunnels, threatening human life and health. Many homes and business blocks in the County were constructed in the late 1800's and early 1900's. Two years ago, a portion of the "Castle on the Hill" in Dansville collapsed. In the 1950's, a porch collapsed in the Village of Dansville during a fireman's convention, injuring several people. The State DOT lists several of their bridges within the County as "in need of significant repair". The aging infrastructure creates a potential.

EXTREME TEMPERATURES: 184.8, Moderately Low Hazard

Potential Impact: Large Region
Cascade Effects: Some Potential
Frequency: Infrequent Event
Onset: Several Days Warning
Hazard Duration: More than one week
Recovery Time: One to two days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: Extended periods of excessive cold or hot weather with a serious impact on human and/or animal populations particularly elderly and/or persons with respiratory ailments.

The Department of Health issues News Releases seasonally regarding preparation for temperature extremes. In addition, when weather indicate extreme temperatures, the news releases are reissued along with Public Service Announcements.

EARTHQUAKE: 162.5, Moderately Low Hazard

Potential Impact: Large Region
Cascade Effects: Highly Likely
Frequency: Rare Event
Onset: No Warning
Hazard Duration: Less than a day
Recovery Time: One to two days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

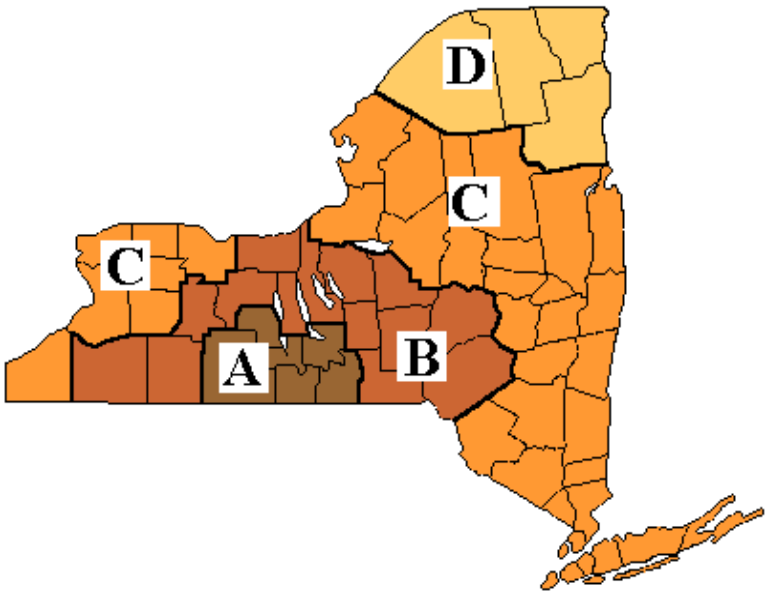
Definition: A sudden motion of the ground caused by release of subterranean strain energy, due to plate tectonics, resulting in surface faulting (ground rupture), ground shaking, or ground failure (collapse).

Background: The most seismically active regions in the state lie in the Adirondacks and near the Canadian border along the St. Lawrence River, followed by the New York City and

Buffalo/Niagara/Attica regions. The possibility of a Richter magnitude 6 or greater earthquakes exists despite the fact that in the short historic record (about 300 years), no larger earthquakes have occurred in the state. Larger events have historically occurred along the Atlantic coast both north and south of New York and in adjacent Canada. The greater New York City area can expect, on average, one Richter magnitude 5 earthquake about once every 100 years (the last such event occurred in 1884). The Group noted that recent data indicates that an earthquake of magnitude 6.5 on the Richter Scale is possible in the region. The ground motions associated with earthquakes in the eastern U.S. differ distinctly from ground motions in the western U.S. in several important ways. Eastern earthquakes tend to release higher rock stresses compared to their western counterparts, thereby causing the ground motions to contain more high-frequency energy. The ground motion shaking is felt more intensely in the eastern U.S. over larger distances because the Earth's crust and its rocks transmit seismic waves more efficiently, especially at high frequencies. This stronger shaking, especially at shorter periods and over larger distances is caused by the fact that the crustal rocks in the eastern U.S. tend to be older, more competent, and less riddled with seismically active faults.

In 1993, the New York State Earthquake Code Advisory Committee recommended seismic provisions for building codes in New York State. The basis for their recommendations was an assessment of the earthquake risk in New York State. The Committee divided New York State into four earthquake zones. Each zone is assigned a Peak Ground Acceleration Value. This value is the basic determinant of the earthquake risk for each county in the State. It is a measure of the horizontal force of an earthquake in terms of a percentage of gravity. Thus, it is expressed as "g" (e.g., 0.1g means 10% of gravity). The Peak Ground Acceleration Value earthquake has a 10% probability of occurring over a 50-year period or a 100% probability over 500 years. It becomes more probable of occurring than not occurring (51% probability) over a period of 255 years. For planning purposes it is believed to be the appropriate choice for a credible worst case event. The Peak Ground Acceleration Values range from 0.09g to 0.18g in New York State. The higher the value, the greater the risk. The following Table A is a map of New York State counties with the Peak Ground Acceleration Values based on what zone the county is in.

Seismic Zone A: Z = 0.09
Seismic Zone B: Z = 0.12
Seismic Zone C: Z = 0.15
Seismic Zone D: Z = 0.18



It is extremely important to note that these values are for average soil conditions. Table B indicates how to add or subtract from the Peak Ground Acceleration Values based on actual soil type when it is known for an area or locality. Actual soil type can substantially increase the earthquake risk.

TABLE B

Soil Type	Multiply "g" value by:
Very hard rock (e.g., granite, gneisses; and most of the Adirondack Mountains)	0.8
Rock (sedimentary) or firm ground	1.0
Stiff Clay	1.2
Soft to medium clays or sands	1.5
Soft soil (including fill, loose sand, waterfront, lake bed clays)	2.0

Low Hazards

The analysis produced six Low Hazards. These are **Air Contamination, Utility Failure, Food Shortage, Fuel Shortage, Blight,** and **Infestation.**

AIR CONTAMINATION: 159.8, Low Hazard

Potential Impact: Large Region
Frequency: Infrequent Event
Hazard Duration: Two to Three Days
Cascade Effects: Some Potential
Onset: A Week or More Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: 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.

Natural wind conditions and the absence of industrialized areas in the immediate upwind areas make this type of event a very infrequent occurrence.

UTILITY FAILURE: 159.8, Low Hazard

Potential Impact: Large Region
Frequency: Infrequent Event
Hazard Duration: One Day
Cascade Effects: Some Potential
Onset: No Warning
Recovery Time: Less Than One Day

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: Loss of electric and/or natural gas supply, telephone service or public water supply as a result of an internal system failure and not by the effects of disaster agents.

With the assistance of community services, the residents of Livingston County have weathered the effects of the wide area blackouts of ’65, ‘77 and ’03. Rural and suburban areas tend to fare quite well during such outages, as opposed to the major metropolitan areas.

Lists should be developed of persons on life support that requires emergency generators. This could be accomplished at the local Fire Department level. Persons on life support should be encouraged to have their own emergency generators and hook-ups.

FOOD SHORTAGE: 151.2, Low Hazard

Potential Impact: Large Area
Frequency: Infrequent Event
Hazard Duration: Two to Three Days
Cascade Effects: Highly Unlikely
Onset: Several Days Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: 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.

Occasional shortages of individual items have occurred in the past. During weather related events, suppliers make every effort to deliver as soon as conditions allow. Again, the rural/suburban area seems to far better than cities.

Food shortage mitigation might consider the establishment of a secure County central food and water storage area, with a system for stocking and re-stocking food and water per expiration dates.

FUEL SHORTAGE: 151.2, Low Hazard

Potential Impact: Large Area
Frequency: Infrequent Event
Hazard Duration: Two to Three Days
Cascade Effects: Highly Unlikely
Onset: Several Days Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: A situation in which the normal quantity and/or timely delivery of fuel supplies to distributors and retail establishments is interrupted.

Occasional shortages of individual items have occurred in the past. During weather related events, suppliers make every effort to deliver as soon as conditions allow. County residents are used to keeping fuel in their vehicles and not running on empty. Residential Heating Fuel suppliers deliver by program and can calculate when to make deliveries, based on demand and impending weather. Again, the rural/suburban area seems to far better than cities.

BLIGHT: 123.8, Low Hazard

Potential Impact: Small Region
Frequency: Infrequent Event
Hazard Duration: More Than One Week
Cascade Effects: Highly Unlikely
Onset: A Week or More Warning
Recovery Time: Less Than One Day

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

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

In New York State, mainly three types of blight exist:

1.) Fire blight on apples and pears.
2.) Late blight on potatoes and tomatoes.
3.) Bacterial blight on geraniums.

Potatoes are grown in several areas in the County, particularly the muck lands in Lima/Livonia. Blight, while having a significant effect on the individual farmers, would not likely affect overall food supplies.

INFESTATION: 115.2, Low Hazard

Potential Impact: Large Region
Frequency: A Rare Event
Hazard Duration: More Than One Week
Cascade Effects: Highly Unlikely
Onset: More Than One Week Warning
Recovery Time: One to Two Days

Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

Definition: An excessive population of insects, rodents, or other animals requiring control measures due to their potential to carry diseases, destroy crops, or harm the environment.

Occasional problems with bats, rodents, mosquitoes require actions to be taken. The recent West Nile Virus outbreak with a mosquito vector is a good example.

Recommendations

Based upon this analysis, the State Emergency Management Office recommends that Livingston County investigate mitigation measures for **Hazardous Materials in Transit,** the highest rated hazard. This would include steps such as pressing for the construction of a bypass connecting Route 390 with the Thruway and points North parallel to Route 63 or limiting truck traffic on Routes 63 and 36 within the County. **Terrorism, Flood, Ice Storm,** the next three highest rated hazards, should have mitigation measures developed also. In addition, mitigation measures should also be considered for all of the remaining Moderately High Hazards.

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Chapter 6: *Review of Past Hazard Events*

INTRODUCTION

This chapter provides a series of profiles for each of the hazards assessed in the Hazards New York (HAZNY) analysis in Chapter 5. Each profile includes a definition of the hazard; a review of past incidences of that hazard; a brief description of the actual and/or potential impacts of that hazard; a review of recorded damages including, where available, estimated costs of those damages; the probability of future occurrences; and lastly the sources of the data included in the profile.

For ease of review, this chapter is organized into two main parts. Natural hazards are profiled in Part I, *Natural Hazard Profiles*. Man-made hazards are profiled in Part II, *Man-made Hazard Profiles*.

Each individual hazard is assigned its own "Section." Each section is then broken down into six subsections, which are: 1.) Definition, 2.) History, 3.) Impacts, 4.) Damage, 5.) Probability, and 6.) Research. All these sections are filled out to the greatest extent possible with information available for this Plan; where good data was not available, the Plan identifies what additional data should be developed.

The following hazards are profiled in Part I: Ice Storms, Floods, Tornadoes, Severe Storms, Wildfires, Ice Jams, Epidemic, Landslides, Winter Storms, Droughts, Hurricanes, Extreme Temperatures, Earthquakes, Blight, Infestation.

The following hazards are profiled in Part II: Hazmat (in Transit), Terrorism, Fire, Oil Spill, Hazmat (Fixed Site); Water Supply Contamination, Dam Failure, Radiological (Fixed Site); Transportation Accident, Radiological (In Transit), Civil Unrest, Mine Collapse, Explosion, Structural Collapse, Air Contamination, Utility Failure, Food Shortage, Fuel Shortage.

In general, information for this chapter was collected from the *New York State Standard Multi-Hazard Mitigation Plan*, the digital *All-Hazard Mitigation Plan Development Toolkit* prepared by FEMA and NYSEMO, Livingston County and municipal officials, the Livingston County Historian's Office, and online resources such as the National Climatic Data Center's U.S. Storm Events Database. Additional sources are noted under the "Research" subsection of each section.

PART I: NATURAL HAZARD PROFILES

SECTION 6.1: ICE STORMS

Subsection 6.1.A. Definition: Freezing rain which accumulates in a substantial glaze layer of ice resulting in serious disruptions of normal transportation and possible downed power lines.

Subsection 6.1.B. History: Thirteen major ice storms were reported between 1905 and 2005. Other, more minor storms have also occurred from time to time but have not resulted in the same level of damage as the reported events. These storms typically occur in winter or early spring, and may cascade into problems such as utility failure, extreme temperatures, transportation accidents, flooding, water supply contamination, ice jams, and structural damage. These storms have occurred county-wide. All municipalities except the Village of Dansville agree that ice storms are a significant threat.

Subsection 6.1.C. Impacts: Ice storms have caused power outages; damage to automobiles, homes and other buildings; damage to trees and roads; downed trees and wires; and closings of schools and businesses.

Subsection 6.1.D. Damage: Reported damage totaled approximately $42,000,000, although that figure includes damages in surrounding areas, and does not include costs for all storms listed. This total also does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.1.E. Probability: Since 1955, there have been 18 reported ice storms, although there have probably been more that are not recorded. 18 events/52 years = 34.6%.

Subsection 6.1.F. Research: Ice storm data was obtained from the National Oceanic and Atmospheric Administration (NOAA) beginning in 1955. In addition, ice storms were researched in the Livingston County Historian's Office, and in meetings with county agencies. Municipal committees were also asked to record the history of ice storm events in their municipality. The first recorded ice storm occurred in 1976.

Ice Storms Affecting Livingston County, 1976 - 2006

Municipality	Date	Cost	Injuries/ Fatalities	Description of the Event/Location
Entire County	3/6/1976	N/A	none	County-wide ice storm; power lines down, loss of electricity, entire trees snapped in half, Geneseo most affected
Entire County	3/6/1991	over $6 Million	none	Meteorologists called it the "storm of the century. Storm caused by high pressure system of cold air combined with a low pressure system with farm moisture. Much freezing rain and an ice coat of almost .75 inches. 25% of residential housing in the county suffered serious effects (i.e. torn drainage pipes, limbs through home, flooded basements). Highways blocked from fallen trees and downed power lines, widespread loss of electricity for days (over 200,000 customers without power), schools closed, shelters set up around the county. After fires in homes in Springwater and Mount Morris, utility companies shut off available power to prevent more fires.
Entire County	Jan-98	$1M damage just to local roads	none	Power outages from lines downed by being crushed under ice; higher areas (Portage, Nunda, Sparta, Ossian) have ice damage, lower regions (Avon, Caledonia, and Lima) have flooding.
Entire County	1/31/2002	$6.8 M		A three to five inch snowfall overnight of the 30th-31st turned to freezing rain during the morning hours. Ice accumulations of one-half to three-quarters inch occurred. Hundreds of thousands were left without power as the heavy ice build-up downed trees and power lines. Some areas were without power for up to 72 hours. Winds picked up and gusted to 55 mph. Trees and tree limbs fell blocking roads and damaging homes and automobiles. Tree damage included large and small limb breakage and bark damage as well as the uprooting of trees. States of Emergency were declared across the Niagara Frontier counties. East of Lake Ontario snowfall amounts of six to eight inches were followed by one-quarter to one-half inch of ice.
Entire County	11/17/2002	$210 K		Low pressure brought a mixture of rain, freezing rain and snow to the Southern Tier and the western Finger Lakes region. The weight of the ice and snow brought down limbs and power lines. Power outages were reported in Livingston, Allegany and Ontario counties. Numerous automobile accidents, some with injuries, were blamed on the icy conditions.

Entire County	4/4/2003			Ice storm and cascade affects; several house fires as a result of candles. In Geneseo a tree fell down onto a barn and collapsed the barn, which fell onto 4 cars in front of the structure and caused major damage to all of the cars. 80-85% of the county suffered loss of power for 12-20 hours. Many trees were moderately to severely damaged. No local state of emergency was needed or declared; however, a state level of emergency was declared.
Entire County	4/4/2003	$28.6 M		Low pressure over Illinois brought a mix of wintry weather to parts of upstate NY. Across the area the precipitation mainly fell as snow mixed with sleet at times. 9-12" accumulated over the higher elevations. Across the Genesee Valley and the Finger Lakes, the precipitation fell mainly as freezing rain. Up to an inch of ice accumulation was measured. Hardest hit areas were eastern Monroe, Wayne and northern Cayuga counties. A Federal Disaster Declaration included Livingston, Monroe, northern Cayuga, Ontario, Orleans, Oswego, and Wayne counties. The heavy ice accumulation downed trees, limbs and power and telephone lines. Over 175,000 customers lost power. In some cases power outages lasted up to a week. Schools and businesses closed for several days. Over 100 shelters were opened to house people without utilities. The falling trees and power poles produced a significant amount of damage to structures and automobiles. Fruit trees were severely damaged.
Geneseo (T/V)	2000		none	Severe Ice and Power Outage
Leicester (T/V)	1989			
Leicester (T/V)	1993			
Leicester (T/V)	1997			
Livonia (T/V)	1996		none	Moderate local storm
Mount Morris (T/V)	1993			Severe Ice Storm - Property and Tree Damage
Mount Morris (T/V)	1997			Moderate Ice Storm - Property and Tree Damage
Nunda (T)	1996			
Sparta (T)	1992			Power outages.
Springwater (T)	1999			Trees down on highways

SECTION 6.2: FLOOD

Subsection 6.2.A. Definition: 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.

Subsection 6.2.B. History: There were 94 flood incidents in Livingston County between 1905 and 2005. Some of these were significant flood events, such as the flooding related to Hurricane Agnes in 1972, while other flood events are of a more seasonal nature that occur every year. Floods generally occur in the spring or summer, and are mostly the result of a large amount of precipitation due to a storm event. However, flooding in Livingston County happens year round, with many significant flooding events occurring in the winter, too. Floods may cascade into problems involving transportation accidents, water

contamination, utility failure, dam failure, landslide, and structural damage. Floods occur county-wide, but the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek are the source of significant flooding. Flooding also occurs as a result of development in the flood plain and other low lying areas. This development typically increases the amount of impervious surface, and therefore increases the runoff from storm events. All municipalities in the county felt that flooding is a significant concern except for the Town and Village of Lima and the Towns of Avon and York.

Map 12, located at the end of Chapter 7, depicts all flood-hazard areas in the County. The data in this map is based on the Flood Insurance Rate Maps (FIRMs) of each municipality. The areas highlighted on the map are areas vulnerable to 100 year floods, which are floods that have a 1% chance of occurring during any given year; the areas vulnerable to these events are known as "100-year flood zones." This map is important in that it clearly depicts the location of flood prone areas throughout the County and can be used by County and municipal officials to guide new development away from these areas.

Subsection 6.2.C. Impacts: Floods have caused power outages, evacuations, road closures, and closings of schools and businesses, as well as damage to property, particularly to private residences. Flooding has also resulted in flooded farmland, crop loss, washed out bridges and dams, loss of livestock and human life, and problems with sewage treatment.

Subsection 6.2.D. Damage: Reported damage totaled more than $233 million, but $200 million was for building the Mount Morris dam to control flooding. However, not all costs have been provided for all flood events. Due to the lack of good records, this total also does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.2.E. Probability: Since 1905, there have been 94 reported flood events in the County. 94 events/100 years = 94.0%. This high probability indicates that, as most County and municipal officials expect and are planning for, that floods will continue to be regular occurrences in the future.

Subsection 6.2.F. Research: Flood data was obtained from the *New York State Standard Multi-Hazard Mitigation Plan* and the National Oceanic and Atmospheric Administration (NOAA) beginning in 1955. In addition, floods were researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of flooding in their municipality. Between 1905 and 2005, the first recorded flood occurred in 1913.

Floods Affecting Livingston County, 1905 - 2005

Municipality	Date	Cost	Injuries/ Fatalities	Description of the Event/Location
Entire County	3/28/1913			"Worst flood in many years"
Entire County	4/5/1913			Flood covered many miles of fertile land, and stopped railroad and commercial traffic as it swept through Livingston County. Heavy rains and snow melt in the Genesee River watershed and Canaseraga Creek were the cause. Travel through the county was severely limited and many farm animals drowned. A bridge was also swept away in Dansville.
Entire County	5/19/1913			George Sweet Manufacturing Company was flooded.

Entire County	7/8/1935		30 Deaths	Dansville escaped the full force of the storm. However, in Hornell, an overflowing river covered 2/3rds of that city with 6 inches of water. From Belmont to Binghamton, and from the Finger Lakes down to northern PA, communities suffered from the flooding. In addition to causing 30 deaths, the flood destroyed 40 bridges and collapsed 4 dams. Creeks in and around Dansville spilled flood waters into low-lying sections. The Valley between Dansville and Mount Morris was flooded with 5 inches of water.
Entire County	6/1/1937	>$2,000		Unexpected rain caused a county-wide flood; roads were destroyed, streams usually dry became filled (inc. old Genesee Valley Canal), bean crops in Perry destroyed, Dansville and Mount Morris railroads damaged, Conesus Lake flooded. Leicester's Little Beard's Creek went on a rampage, flooding roads with almost 3 ft. of water.
Entire County	1940			Widespread flooding reported.
Entire County	6/24/1972	~100/acre		20,000 acres of farmland in the valley were lost as a result of flooding.
Entire County	6/20-26/1972			The Genesee River flooded after prolonged rainfall from Hurricane Agnes. The storm moved over Livingston County for a period of 5 days and resulted in road closures, bridges washed out, and people being evacuated.
Entire County	7/3/1972		several fatalities; 75 people rescued from roofs/treetops, 200 homes evacuated	Hurricane Agnes flooding ravaged sections along creeks and streams, filled cellars with water, and battered nurseries and croplands, especially in the Flats section north of the Village of Dansville. Extensive damage was caused throughout the Southern Tier. Route 358, Route 48, and route 15A closed, bridges destroyed, mass loss of electricity.
Entire County	3/4/1976			Large storm causes flooding and mass power outages; most of Mount Morris, Geneseo, and York without power. Winds up to 56 mph, Livingston County declared a disaster area, over 1,000 Niagara Mohawk customers without power.
Entire County	1977			Flood from heavy rains; said to be worst storm since Hurricane Agnes
Entire County	4/14/1994	$5 K		Spring rains over saturated ground raised the level of the Genesee River about a foot and a half above flood stage. Police in Monroe and Livingston Counties reported that a few roads had minor flooding.
Entire County	Jan-96	$400 K		Rapid snowmelt of 1-2 feet of snow combined with heavy rainfall of about an inch to produce significant flooding. Roads were closed in Groveland, Dansville, and Avon. Minor damage throughout county.
Entire County	4/13/1996	$25 K		A general one to two inch rainfall combined with lingering snowmelt from higher elevations to result in considerable lowland flooding. Most major creeks and rivers rose to their banks. The Genesee River was above flood stage for five hours. Oatka Creek was above flood stage for 31 hours. Black Creek was above flood stage for eight hours.

Entire County	1/8/1998	$400 K		A general three to four inches of rain fell on bare, saturated ground across the Genesee River basin. The Genesee River crested at 36.4 feet at Avon (highest since 1972) and at 16.8 feet in Rochester (highest since 1984). The Black Creek crested at Churchville at 9.2 feet (highest since 1960). At Garbutt, the Oatka Creek crested at 8.7 feet (a record flood).
Entire County	Jan-98	over $1 million in damage to local roads		Torrential downpour causes flood damage to entire county; Springwater is hit the hardest.
Entire County	Aug-98	$10 million	none	4.5 inches of rain in a few hours, county labeled a disaster area by FEMA (given over $600,000 for flood relief), damage to highway shoulders, people evacuated (mostly from Ossian).
Avon (T)	1972			Hurricane Agnes causes serious flooding in county; sewage treatment problems. 60 people evacuated.
Avon (T)	1993		none	January Thaw- Flooding in area
Avon (V)	1996			
Avon (V)	1998			
Caledonia (T)	1990			
Caledonia (T)	1993			Flooding from high levels of rain; declared state of emergency, loss of electricity, septic system failures, 40-50 homes flooded.
Caledonia (T)	1996		none	January Thaw- Callan Rd, McIntyre Rd, Rt. 5, Village Rt. 5, Graney Rd.
Caledonia (T)	6/20/1996	$15 K		Strong thunderstorms crossed the area during the afternoon dropping rainfall amounts of one to two inches. The rain fell on already saturated ground and resulted in flash flooding. Road closures were reported because of the floods.
Caledonia (T)	1/8/1998	$26 K		Western and Central New York was drenched with unprecedented January rainfalls over a 36 hour period. The region received between two and four inches of rain on bare, saturated ground. The rapid runoff produced urban flooding as well as flooding of many small streams and creeks. A rainfall record was established at Buffalo. Numerous roads throughout the area were closed due to flood waters. Local firefighting and public works departments were called to pump water from flooded basements. The floodwaters overwhelmed several area wastewater treatment plants and water emergencies were declared. States of Emergency were also declared in various locations within the area. Several school districts cancelled classes.
Caledonia (T)	1999		none	January Thaw- Callan Rd, McIntyre Rd, Rt. 5, Village Rt. 5, Graney Rd.
Caledonia (T)	2002		none	January Thaw- Callan Rd, McIntyre Rd, Rt. 5, Village Rt. 5, Graney Rd.
Caledonia (T)	2004		none	5 Inches of rain in Sept.- Flooded Callan Rd., Rt. 5, Black St.
Caledonia (T)	2005		none	3 Inches of rain in July- Flooded Black St., Callan Rd., Graney Rd.
Caledonia (V)	Every Year			Caledonia Flood Plain

Conesus (T)	Apr-54		none	A few dozen homes along Conesus Lake affected by rising water. Roads on east side of the lake covered with mud. A few homes cut off by water. Occurred because of strange localized high amount of rain.
Conesus (T)	Mar-56		none	Flooding caused by ice cap on lake and heavy snowfall. Lake much higher than usual. Flood control district built around Conesus Lake and lower bridges replaced in Lakeville with higher ones to prevent flood damage.
Conesus (T)	1972			Conesus Lake floods, over 300 homes damaged from flooding
Conesus (T)	Nov-77	$1.5 million	none	Conesus Lake floods, flooding almost reaches Route 15. To prevent annual flooding, dredge 2,500 feet of debris-clogged lake outlet and construct a gate-operated control structure. Takes 14 years to complete.
Conesus(T)	6/13/1998	$35 K		Thunderstorms crossed the western Finger Lakes during the early evening hours dropping several inches of rain in less than an hour. The heavy rains flooded roads forcing closures throughout Livingston and Monroe counties. Farmer's fields in Geneseo, Piffard and Leicester were covered with water.
Conesus (T)	5/20/2004	$200 K		Thunderstorms developed along a front stalled across the Finger Lakes Region. The thunderstorm winds downed trees and power lines in LeRoy and Caledonia. The slow moving storms also produced up to three inches of rain in less than an hour. Several roads were closed and one home on East Lake Road in Conesus was damaged.
Dansville	1972			Hurricane Agnes causes the worst damage in county; Mill Creek gone, railroad destroyed, Foster Wheeler Corporation Plant destroyed
Dansville	2/22/1994		none	Dansville trailer park flooded, caused by blockage in Canaseraga Creek; needed dynamite to break up blockage, 15 trailers evacuated.
Dansville	7/8/1998	$250 K		Localized thunderstorms early in the morning of the 8th dropped three to five inches of rain across parts of Erie, Genesee, Wyoming and Livingston counties. This resulted in rare, widespread devastating flash flooding. Many small streams and creeks became raging torrents and the upper reaches of the Tonawanda Creek rose drastically. The extensive flooding closed numerous roads throughout the multi-county area. Several were completely washed out. In the aftermath, Wyoming, Genesee, Livingston and Monroe counties were declared Federal Disaster Areas.
Geneseo (T)	1972			56 homes damaged from Hurricane Agnes, Route 63 impassible for 2 days
Geneseo (T)	2004		none	Flooding on West Lake Road From rain runoff after heavy rain - Jaycox Creek
Geneseo (T)	2005		none	Flooding on West Lake Road From rain runoff after heavy rain - Jaycox Creek
Geneseo (V)	2004		none	Jaycox Creek - Severe Flooding (Jaycox Creek is the major re-occurring hazard)
Geneseo (V)	2005		none	Jaycox Creek - Severe Flooding
Groveland (T)	4/23/1916			flooding
Groveland (T)	1972			29 homes damaged from flooding from Hurricane Agnes.

Groveland (T)	1977		none	Canaseraga Creek floods and breaks through banks near Groveland Station.
Groveland (T)	Dec-91			Heavy rainfall caused the river to become backed up, flooding roads and causing property damage. An emergency crew broke the obstruction resulting in debris being washed from the gully onto the highway, lawns and into the lake.
Groveland (T)	1992		none	Severe Flooding in lower elevations
Groveland (T)	1993		none	flooding
Groveland	1/23/1999	$25 K		Warm temperatures melted the snowpack from record snowfall in late December and early January. Nearly two feet of snowpack dissolved to just a few inches remaining. The runoff caused flooding in poorly drained and low lying regions across the area with roads closed in some locations for a few days.
Groveland (T)	2003		none	Flash Flooding from 3 different storms occurs on Groveland flats.
Leicester (T/V)	1996			
Leicester (T/V)	1998			
Leicester (T/V)	2003			
Lima (T/V)	1977	$500,000	none	Potato crops destroyed in South Lima
Lima (T/V)	1998			3.5 inches of rain in one day causes flooding; schools close
Livonia (T/V)	1972	millions	none	Wide spread flooding due to Hurricane Agnes, drinking water problems, 169 homes damaged.
Livonia (T/V)	1977		none	Flooding/debris clog drainage pipes, Livonia Valley Park badly damaged.
Livonia (T/V)	2005		none	localized heavy flooding
Mount Morris (T)	1972	over $200 million to build dam		Flooding from Hurricane Agnes; Mount Morris Dam helps balance inflow of water from Genesee River, inside of homes and trailers damaged.
Mount Morris (T)	1993			Water level at Mount Morris Dam rises too far, releases water to lands below
Mount Morris (T)	Jan-96	$6,000-$8,000		Creeks, blocked by debris, flood.
Mount Morris (T)	1998			
Mount Morris (T)	2003			
Mount Morris (V)	5/17/1916			Major flood
Mount Morris (V)	ongoing			Allen's Creek and other tributaries flood often, causing erosion.
Mt. Morris	5/25/2004	$10 K		Slow moving showers and thunderstorms developed ahead of an approaching frontal system. The storms were producing rainfall of up to two inches an hour. In Mount Morris, road flooding and closures were reported.
North Dansville (T)	3/8/1956		none	Canaseraga Creek flooded; roads closed and cars abandoned.
North Dansville (T)	4/14/1964		none	Canaseraga Creek flooded; NYS route 258 under water; flooding between Dansville and Mount Morris.
North Dansville (T)	1972	$3,000		Flood Canaseraga Creek from heavy rain and melting snow; railroad tracks in Dansville and Mount Morris under water, 200-300 landowners affected.

Nunda (T)	7/22/1911			Heavy downpours led to flooding, which damaged crops in Nunda. Hail accompanied the rain. Potato fields were washed out, and the dirt was sent over adjoining hay fields.
Nunda (T/V)	1972			Hurricane Agnes causes especially bad flooding compared to the rest of the county.
Nunda (V)	1996	$25,000	none	Road and embankment failure at impound reservoir.
Nunda (T/V)	7/29/2000	$40 K		Thunderstorms dropped over four inches of rain in less than two hours over parts of southern Livingston County. In the town of Nunda, trees and driveways were washed away by the flood waters.
Nunda (T/V)	8/9/2003	$10 M		Strong thunderstorms developed in a very moist atmosphere, dropping three to five inches of rain in a short amount of time onto already saturated ground. The heavy rains produced flash flooding over parts of the Southern Tier and Finger Lakes. In Livingston County, the Towns of Nunda and Sparta were hardest hit. A reservoir line, which provides water to Nunda's water treatment plant, was damaged. An earthen dam on the 50-million-gallon drinking water reservoir was damaged. Families living below the dam were evacuated as a precaution, homes and schools damaged. Many miles of roads and road shoulders were damaged, along with several bridges and culverts. The three counties, Cattaraugus, Livingston, and Allegany, were later declared State and Federal Disaster areas.
Ossian (T)	8/9/2000			Flooding caused by torrential rains (4-5 inches in a few hours) washed out roads, flooded basements and debris was caught under bridges.
Ossian (T)	2000	$300,000	none	Flooding of properties and roads
Ossian (T)	2003	280,000	none	Flooding of properties and roads
Ossian (T)			none	Flooding of Sugar Creek; 30 campers were stranded due to raging water and Rt. 258 was closed across Canaseraga Creek due to fear of flooding.
Portage (T)	8/9/2000			Flooding caused by torrential rains (4-5 inches in a few hours) washed out roads, flooded basements and debris was caught under bridges.
Portage (T)	2000		none	Flooding of properties and roads
Portage (T)	2002			Keshequa Creek flooded
Portage (T)	2003			Keshequa Creek flooded
Sparta (T)	1998	$200,000		wash out
Springwater (T)	1953		none	Flooding from Springwater to Webster's Crossing; most homes had flooded basements, Route 15 under for 3-mile stretch, low drinking water supply.
Springwater (T)	1972			Town-wide, highway washed out, basements flooded with water.
Springwater (T)	1995		none	Heavy thaw, road flooded and some washouts town-wide.
Springwater (T)	Jul-98	$750,000		Town-wide, heavy rain, roads washed out
West Sparta (T)	1972			Dansville-Mt. Morris Rd
West Sparta (T)	1998	$120,000	none	Extreme damage to the roads
West Sparta (T)	2003	$3 million	none	Extreme damage to the roads
York (T)	Potential			Municipal officials feel flooding is no longer a significant issue due to the construction of Mt. Morris Dam.

SECTION 6.3: TORNADO

Subsection 6.3.A. Definition: 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.

Subsection 6.3.B. History: Three tornados and one microburst affected Livingston County between 1905 and 2005. One of the tornados was of an F-1 magnitude, another was F-0 magnitude, and the third was of an unknown magnitude. A microburst in 1999 affected the Town and Village of Leicester, as well as the Town of York. Tornados may cascade into problems including utility failure, structural collapse, fire and explosion. About one third of the municipalities determined tornados to be a significant concern.

While local records indicate that three tornadoes have occurred in the County, the NYS Wind Zone Map (see below, page 93) does not show any tornado tracks in Livingston County.

Subsection 6.3.C. Impacts: Tornados caused minor injuries, livestock fatalities, downed trees and wires, as well as damage to homes, cars and buildings.

Subsection 6.3.D. Damage: Reported damage totaled approximately $275,000, but this total does not include costs for all tornado events. This total also does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.3.E. Probability: During the past 100 years, 4 reported tornadoes have occurred. Therefore, the estimated future probability of tornadoes is 4 events/100 years, or 4.0%.

Subsection 6.3.F. Research: Tornado data was obtained from the National Oceanic & Atmospheric Administration (NOAA) beginning in 1955. In addition, tornados were researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of tornados in their municipality. Between 1905 and 2005, the first recorded tornado occurred in 1960.

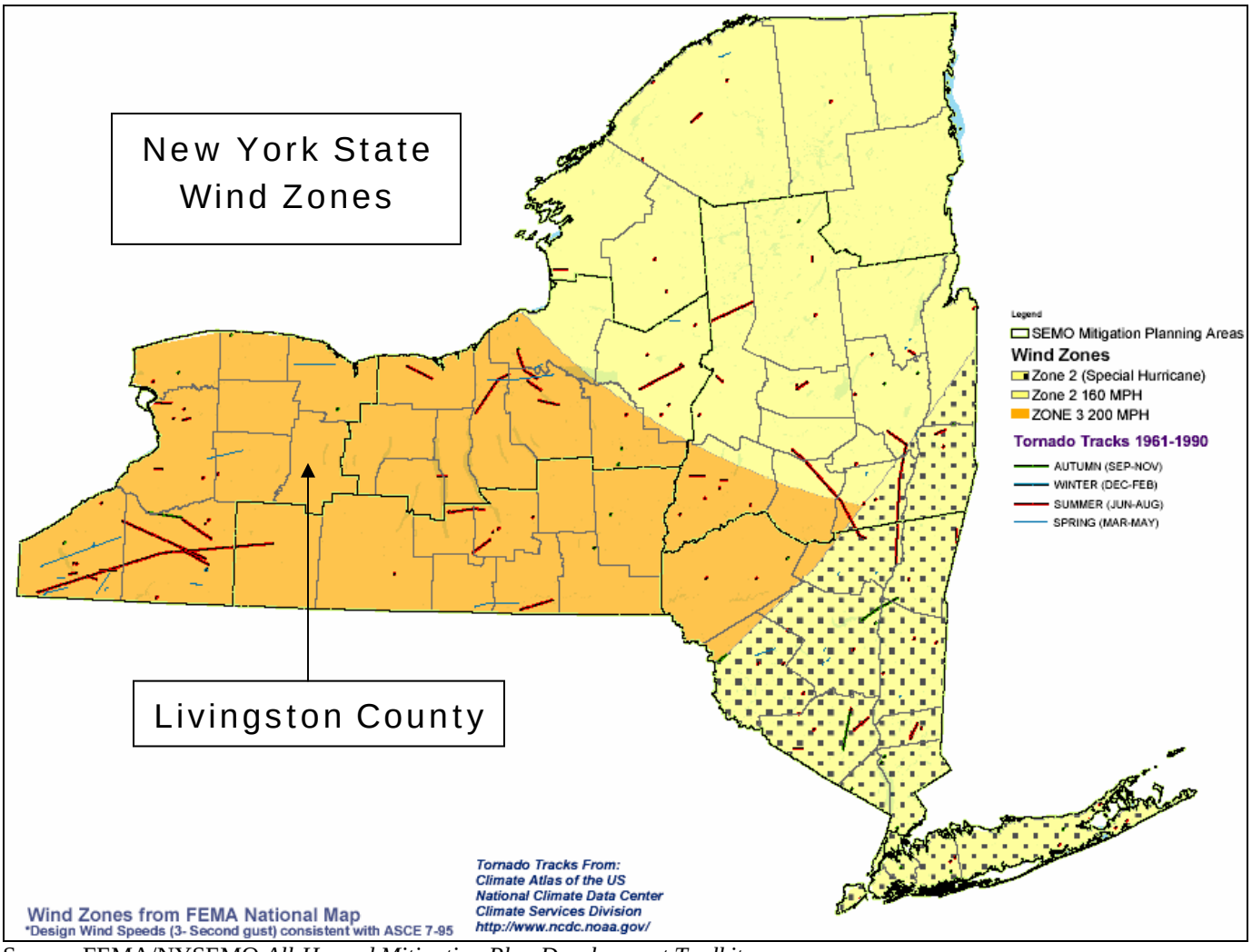
Tornados Affecting Livingston County, 1905 – 2005

Municipality	Date	Cost	Injuries/ Fatalities	Description of the Event/Location
Entire County	5/22/1960	$25 K		Magnitude F0, Length: 1 Mile, Width: 150 Yards
Entire County	4/9/1991	$250 K		Magnitude F1, Length: 1 Mile, Width: 30 Yards
Leicester (T/V)	*1999*			*Micro-burst*
Livonia (T/V)	Jun-96		minor injuries	Tornado caused damage to vehicles, trees and homes.
West Sparta (T)	4/9/1991		2 dead calves	The f-1 tornado uprooted trees, knocked utility lines down, and caused property damage. The tornado was about 1 mile wide and 3 miles long and had winds over 112 mph. Pauline Rd/ Presbyterian Rd.
York (T)	*11/26/1999*		*1 calf injured*	*40 second microburst with a powerful east wind of 90-100 mph. Two dozen calves fastened to ground blew almost a quarter-mile away. Barn lifted and destroyed and vehicles damaged from falling trees.*

SECTION 6.4: SEVERE STORM

Subsection 6.4.A. Definition: Severe storms include such weather events as hail storms, windstorms, and severe thunderstorms, with associated severe wind events such as derechos, gustnados, and downbursts. A severe thunderstorm is one that produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. Structural wind damage may imply the occurrence of a severe thunderstorm.

The map below, based on the FEMA National Wind Zone map, depicts wind zones in New York State. Like all of western New York, Livingston County is located in Zone 3, where winds of up to 200 miles per hour are considered possible. This map also shows the area of the state considered vulnerable to hurricanes. This zone, represented by the black dots, is well east and south of Livingston County, which is not directly impacted by hurricanes. For more information on hurricanes, please see Section 6.11.



Source: FEMA/NYSEMO *All-Hazard Mitigation Plan Development Toolkit*.

Subsection 6.4.B. History: Between 1905 and 2005, there were 101 severe storms in Livingston County, occurring multiples times each year and including hail storms, windstorms, and severe thunderstorms. These storms may cascade into problems including utility failure, transportation accidents, structural damage, fire, and flooding. Severe storms have occurred county-wide. About half of the municipalities in the county felt that severe storms are a significant threat.

Subsection 6.4.C. Impacts: Severe storms have caused downed power lines, telephone lines, and trees, as well as damage to automobiles, windows, homes and buildings. In addition, people have been injured, and farm animals have been injured or killed by storm events.

Subsection 6.4.D. Damage: Reported damage totaled approximately $20,227,000, although that figure includes damages in surrounding areas, and does not include costs for all storms listed. This total also does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.4.E. Probability: Since 1905, there have been 100 reported severe storm events in the County. 100 events/100 years = 100.0%. This high probability indicates that severe weather events will continue to be a routine hazard to mitigation against in the future.

Subsection 6.4.F. Research: Severe storm data was obtained from the National Oceanic and Atmospheric Administration (NOAA) beginning in 1955. In addition, severe storms were researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of severe storms in their municipality. Between 1905 and 2005, the first recorded severe storm occurred in 1911.

Severe Storms Affecting Livingston County, 1905 – 2005

Municipality	Date	Cost	Injuries/ Fatalities	Description of the Event/Location
Entire County	1950		1 cow was killed	Storm with winds measured at 95 mph. Trees fell on cottages on Conesus Lake. Hemlock and Cuylerville were without power, light, and water. Barn collapsed and killed one cow. Roofs on garages and porches were blown off.
Entire County	6/25/1958			None Available
Entire County	7/19/1970			None Available
Entire County	5/2/1972			None Available
Entire County	1972	millions of dollars		Intersection of cold front and Hurricane Agnes causes mass destruction and flooding
Entire County	6/20/1973			None Available
Entire County	8/27/1973			None Available
Entire County	7/7/1977			None Available
Entire County	6/22/1979			None Available
Entire County	7/19/1980			None Available
Entire County	6/16/1981			None Available
Entire County	3/31/1982			None Available
Entire County	7/7/1982			None Available
Entire County	5/31/1985			None Available
Entire County	5/18/1986			None Available
Entire County	Jun-86		some minor injuries	High winds and lightning cause uprooting of trees, power lines down, damaged cars.
Entire County	6/27/1987			None Available
Entire County	7/30/1987			None Available
Entire County	7/16/1988			None Available
Entire County	7/30/1988			None Available
Entire County	8/5/1988			None Available
Entire County	8/15/1988			None Available
Entire County	6/27/1989			None Available
Entire County	10/14/1989			None Available
Entire County	6/30/1990			None Available

Entire County	7/4/1990			None Available
Entire County	3/28/1991			None Available
Entire County	5/1/1991			None Available
Entire County	1/27/1996	$15 K		Deep low pressure over the upper Great Lakes brought strong winds to the area. The high winds downed trees and power lines in Dansville.
Entire County	11/7/1990		none	A cold front with high winds passed through with 59 mph winds; resulted in broken windows, trees through roofs, fallen limbs and power cables. The storm did the most damage in Livonia and Conesus Lake.
Entire County	2/27/1997	$1.2 M		Deep low pressure moved from Indiana to Ontario bringing high winds to the area. The strong winds downed trees and telephone and power lines. Power outages were reported throughout the area. Several cities and towns declared States of Emergency because of the prolonged lack of power. Windows were blown out of buildings. The strong winds caused structure damage in some locations tearing off roofs and siding and collapsing walls. Homes and autos were damaged by falling limbs.
Entire County	3/28/1998	$380 K		A fast moving squall line crossed the area during the afternoon hours. Winds, gusting over 70 mph, downed numerous trees and wires. Power outages were reported throughout the area.
Entire County	11/10/1998	$575 K		Low pressure over the Central Plains moved across the Great Lakes and brought high winds to western New York and the North Country. The strong winds, gusting to 62 mph, brought down tree limbs and power lines across the region. Several windows were blown in.
Entire County	7/8/1999			Wind and hail storm throughout county. Hail the size of quarters and golf balls leave holes in ground and broken windows. Temperatures were in the 80s, so the hail melted fast. Leicester most affected.
Entire County	11/2/1999	$275 K		An intense storm which moved from the eastern Gulf of Mexico to Western New York brought high winds to the region. Barns collapsed in York (Livingston County) and Harrisburg (Lewis County). Trees and lines were downed and power outages were scattered throughout the area.
Entire County	1/4/2000	$183 K		Strong winds accompanied the passage of a cold front across the area during the late morning and early afternoon hours. Trees and power lines were downed by the winds. In
Entire County	7/6/2000			Lightning started a fire in an unoccupied cabin. Many thunderstorms during this time also caused lightning related fires in Piffard, Livonia, York, West Sparta, and Springwater.
Entire County	12/12/2000	$1.7 M		Deep low pressure over Ohio tracked northeast across the region. The strong pressure gradient on the back side of the low combined with rapid pressure rises resulted in very strong northwest winds across the region. The damaging winds downed trees and line throughout the area. Specific reports of damage were received from Lima and other municipalities outside the county. Schools were forced to close. The Red Cross opened several shelters throughout the area. Structural and property damage was also reported throughout the region. Nearly a hundred thousand customers were without power.

Entire County	Feb-02			Near Hurricane strength winds caused trees to fall and power outages that lasted more than a day in some areas. Geneseo was the hardest hit. Tractor trailer and other vehicles were blown off the road. NYSEG, RG&E and NiMo customers all affected.
Entire County	2/1/2002	$7.5 M		An intensifying storm moved across the Great Lakes and lifted northeast to the St. Lawrence Valley. Very strong winds behind the low blasted the region with wind gusts exceeding 55 mph. Trees and power lines were downed by the strong winds. Hundreds of thousands were without power, some for several days. Fallen trees and limbs littered the area and closed roads. Numerous reports of damage to homes and automobiles were received from throughout the area. Driving bans and States of Emergency were declared in several counties. Numerous school districts were forced to close on the first and several remained closed through the beginning of the following week.
Entire County	3/9/2002	$3.2 M		Low pressure over Wisconsin deepened as it moved across Lake Superior and into northern Ontario. Strong winds accompanied and followed the passage of a cold front. The damaging winds affected the entire area, downing trees and power lines and causing some structural damage. Nearly 100,000 customers completely lost power with thousands others experiencing brief power outages. In Groveland, a vehicle was towing a 17' sailboat on I-390 when the boat and trailer were overturned by the wind. In Portage, a train struck a tree that had fallen across the tracks. The train was damaged and could not continue.
Entire County	7/21/2003			Severe storm; Governor Pataki was seeking federal aid for many counties in New York State.
Entire County	10/15/2003	$2.8 M		Low pressure over Ohio deepened as it moved across eastern Lake Erie and then across Lake Ontario. High winds buffeted the area downing trees and power lines and poles. Sustained winds of 30 to 40 mph with gusts to 70 mph were recorded. In numerous locations, the falling trees damaged buildings and automobiles.
Entire County	11/13/2003	N/A		Deep low pressure tracked across southern Ontario and brought strong, damaging winds to the entire area. The winds downed trees and power lines. Over 100,000 customers were left without power. The falling trees and poles damaged homes and automobiles. School districts in several counties closed. Several major radio and television stations were knocked off the air including Channel 13 in Rochester.
Avon	7/18/1994	$5 K		None Available
Avon	7/5/1995	$12 K		Thunderstorms developed in a moist, unstable atmosphere and produced damaging winds and large hail. The winds downed trees and power lines. Scattered power outages resulted. The torrential rains of the thunderstorms resulted in localized poor drainage flooding.
Avon	7/15/1995	$5 K		None Available
Avon	5/29/1998	$8 K		Strong thunderstorms raced across the region during the late morning and early afternoon hours. The storms produced high winds, very heavy rain and one inch hail. The storms also caused scattered power outages throughout the counties.

Avon	7/31/1999	$20 K		Violent thunderstorms ripped across western New York and the Finger Lakes region during the evening hours. The strong thunderstorms downed trees and power lines and left hundreds of thousands without power. Several roads were blocked by fallen debris. Several of the falling trees caused damage to houses and automobiles.
Avon (V)	2003	$13,000		Thunderstorm- Lightning Damaged Water Plant
Avon	7/14/2004	$50 K		Strong thunderstorms accompanied the passage of a cold front during the early morning hours. The thunderstorm winds downed trees and limbs. In Avon, Livingston county, two dozen heifers were killed by a lightning strike. Also in Livingston county, lightning struck the 911emergency communications tower in Geneseo. Main communication was offline for several hours and rerouted through a nearby county.
Avon (V)	2005	$25,000		Thunderstorm- Lightning Damaged Water and Waste Water Plants
Avon (V)	Annual	$15,000		Flash Flooding Overwhelms the Sewer System- Discharging Water to the Surface
Caledonia	7/15/1995	$10 K		None Available
Caledonia	5/31/1998	$10 K		An outbreak of severe storms began across the region during the early morning hours. The storms were particularly dangerous because of the speed that they were moving across the region--sometimes in excess of 60 mph. Most of the damage associated with these storms occurred from a combination of high winds and hail. There were reports of numerous trees and wires down as well as power outages. Tens of thousands were without power.
Caledonia	5/31/1998	$18 K		A second round of storms for the day moved across the region during the evening hours. Again the thunderstorms produced high winds, large hail and torrential rains. Trees and power lines were downed across western New York.
Caledonia	7/31/1999	$10 K		Violent thunderstorms ripped across western New York and the Finger Lakes region during the evening hours. The strong thunderstorms downed trees and power lines and left hundreds of thousands without power. Several roads were blocked by fallen debris. Several of the falling trees caused damage to houses and automobiles.
Caledonia	4/18/2004	$15 K		Thunderstorm winds brought down numerous trees, utility poles, power lines and caused structural damage as a derecho crossed the region. There were also numerous reports of dime to nickel sized hail with isolated reports of one to one and a half inch hail over Wyoming and southern Livingston counties.
Caledonia	5/20/2004	$15 K		Thunderstorms developed along a front stalled across the Finger Lakes Region. The thunderstorm winds downed trees and power lines in Le Roy and Caledonia. The slow moving storms also produced up to three inches of rain in less than an hour. Several roads were closed and one home on East Lake Road in Conesus was damaged.
Caledonia	8/29/2004	$15 K		A cold front stretching across the lower Great Lakes became nearly stationary. Occasional showers and thunderstorms persisted along the front during the late morning and early afternoon hours. Three-quarter inch hail fell in Franklinville, Cattaraugus county, while hail up to one-and-three-quarters inch was reported in Cleveland, Oswego county. The thunderstorm winds, estimated to 60 mph, downed trees and power lines in Caledonia, Livingston County.
Caledonia (T)	2005		none	High winds and rain causing several downed trees and power lines

Caledonia (V)				Thunderstorms 2-3 times a year
Conesus	5/22/1997		1 injured	Severe Thunderstorm contained dangerous lightning that struck a home in Conesus. Lightening bolts struck between Elm and North Streets, causing shattered windows and one injury. A lightning bolt hit a tree and caused homes in a 2 mile radius to shake and a 1 foot diameter ball of fire inside a home without warning. Inside one home, a girl using a computer was injured by an electrical shock.
Conesus	5/31/1998	$15 K		An outbreak of severe storms began across the region during the early morning hours. The storms were particularly dangerous because of the speed that they were moving across the region--sometimes in excess of 60 mph. Most of the damage associated with these storms occurred from a combination of high winds and hail. There were reports of numerous trees and wires down as well as power outages.
Conesus	6/30/1998	$8 K		Thunderstorms during the early afternoon hours crossed the Niagara Frontier and western Finger Lakes. The thunderstorms produced large hail and damaging winds which downed trees and power lines.
Conesus	7/6/1995	$5 K		None Available
Conesus Lake	8/20/1993	$50 K		Severe thunderstorms developed across the area ahead of a cold front. The thunderstorm winds downed trees and power lines. Some of the downed trees caused structural damage to homes.
Conesus Lake	7/5/1995	$5 K		Thunderstorms developed in a moist, unstable atmosphere and produced damaging winds and large hail. The winds downed trees and power lines. Scattered power outages resulted. The torrential rains of the thunderstorms resulted in localized poor drainage flooding.
Dansville	8/20/1993	$50 K		None Available
Dansville	8/28/1994	$50 K		None Available
Dansville	3/25/1996	$15 K		Thunderstorms accompanying a cold front produced damaging winds which downed trees and power lines.
Dansville	5/31/1998	$11 K		An outbreak of severe storms began across the region during the early morning hours. The storms were particularly dangerous because of the speed that they were moving across the region--sometimes in excess of 60 mph. Most of the damage associated with these storms occurred from a combination of high winds and hail. There were reports of numerous trees and wires down as well as power outages.
Dansville	8/9/2000	$10 K		Numerous thunderstorms crossed the western Southern Tier and Genesee Valley during the evening hours. The thunderstorm winds downed trees and power lines. Thousands were without electricity. The torrential rains accompanying the thunderstorms, coming just a few days after earlier heavy rains, resulted in flash flooding.
Dansville	4/28/2002	$10 K		Thunderstorms developed across the eastern Great Lakes region during the afternoon hours. The thunderstorms produced hail up to 1.25" in diameter in parts of Erie, Chautauqua, Cattaraugus and Wyoming counties. The thunderstorm downburst winds ripped down trees and power lines. Scattered power outages were reported. Several structures and automobiles were damaged by falling trees. Wind damage was reported in Dansville and locations outside the county.

Dansville	4/18/2004	$10 K		Thunderstorm winds brought down numerous trees, utility poles, power lines and caused structural damage as a derecho crossed the region. There were also numerous reports of dime to nickel sized hail with isolated reports of one to one and a half inch hail over Wyoming and southern Livingston counties. Falling trees damaged buildings in
Dansville	5/22/2004	$10 K		Thunderstorms that developed along a nearly stationary front produced hail up to 1.25" in diameter and wind gusts measured to 61 mph. The slow moving thunderstorms also produced torrential rains that resulted in road closures and basement flooding. Lightning started homes on fire on Freund Street in Buffalo and Truesdell Road in Warsaw.
Geneseo	7/16/1995	$4 K		None Available
Geneseo	7/3/1999	$10 K		Severe thunderstorms crossed the region during the late afternoon hour. The thunderstorms produced heavy downpours, up to three inches in some spots, strong winds and large hail. A thunderstorm which crossed Wyoming and Livingston counties produced a swath of hail between one-half and one-mile wide. Windows were broken and siding and shutters were damaged. Hundreds of acres of corn were damaged. The golfball sized hail covered the ground in spots and remained for several hours.
Geneseo	6/21/2000	$12 K		Thunderstorms during the early afternoon hours reached severe limits. The thunderstorm winds downed trees and power lines in Chautauqua and Livingston counties. In Wyoming County, the thunderstorms also produced three-quarter inch hail.
Geneseo (V)				2-3 times per year
Groveland (T)			none	Some summer storms which have caused tree and power line damage
Groveland (T)	1990		2 injuries	Two boys almost die after being inside a barn struck by lightning during severe storm. !5 year-old with brush burns and possible skull fracture. 14 year-old with flash burns and paralyzed legs. Hound dog dies.
Leicester	6/2/1998	$20 K		Severe thunderstorms swept across the entire region during the late afternoon and evening hours. The storms produced hailstones up to 1.5". Although the stones were not excessively large, what was unusual for the area was the number and areal coverage of the reported hail. It was the first time three-quarter inch hail had been observed at the Buffalo Airport since record keeping began there.
Lima	5/24/2000	$10 K		Thunderstorms roared across the Genesee Valley and Finger Lakes during the late morning and early afternoon hours. In addition to producing hail up to one inch in diameter, the thunderstorms produced damaging winds.
Livonia	6/2/1998	$30 K		Severe thunderstorms swept across the entire region during the late afternoon and evening hours. The storms produced hailstones up to 1.5". Although the stones were not excessively large, what was unusual for the area was the number and areal coverage of the reported hail. It was the first time three-quarter inch hail had been observed at the Buffalo Airport since record keeping began there. Funnel clouds were sighted, but did not touch down, in Nunda, Livingston County.
Livonia	6/30/1998	$8 K		Thunderstorms during the early afternoon hours crossed the Niagara Frontier and western Finger Lakes. The thunderstorms produced large hail and damaging winds which downed trees and power lines.

Livonia	10/13/1999	$10 K		A strong cold front cross the area. The thunderstorms that accompanied the front produced damaging winds and large hail. The winds downed trees and power lines.
Livonia	11/12/2003	N/A		Deep low pressure tracked across southern Ontario. Thunderstorms accompanied its associated cold front. The thunderstorms produced three-quarter inch hail in Olcott, Livonia and just west of Batavia.
Mount Morris (T)	7/22/1911	$5,000	multiple farm animals	Electrical storm hits barn which burns to the ground
Mount Morris (T)	7/16/1995	$3 K		None Available
Mount Morris (T)	8/19/2001	$5 K		An isolated severe thunderstorm over the Genesee River valley downed trees in Letchworth State Park about 5 miles southwest of Mt. Morris.
Mount Morris (T)	6/4/2002	$5 K		Thunderstorms developed north of a warm front that extended across Ohio and Pennsylvania. The thunderstorms intensified during the late afternoon hours with 3/4" to 1" hail reported in Little Valley, Ellicottville and Mount Morris. Power lines were downed in East Otto. Trees were downed in Kiantone.
Mount Morris (T)	4/18/2004	$15 K		Thunderstorm winds brought down numerous trees, utility poles, power lines and caused structural damage as a derecho crossed the region. There were also numerous reports of dime to nickel sized hail with isolated reports of one to one and a half inch hail over Wyoming and southern Livingston counties.
Nunda	8/9/2000	$5 K		Numerous thunderstorms crossed the western Southern Tier and Genesee Valley during the evening hours. The thunderstorm winds downed trees and power lines. Thousands were without electricity. The torrential rains accompanying the thunderstorms, coming just a few days after earlier heavy rains, resulted in flash flooding.
Nunda	9/3/2002	$10 K		A cold front brought severe thunderstorms to the region during the afternoon hours. The thunderstorm winds downed trees and power lines and scattered power outages were reported. In Yorkshire, Cattaraugus County, a tree fell on and damaged a garage. Over the Niagara Frontier, the thunderstorms produced hail up to 3/4 inch in diameter in Grand Island and Niagara Falls.
Nunda (T)	2003			9 inches of rain in less than 2 hours/ high winds
Springwater	6/22/1996	$5 K		Severe thunderstorms produced damaging winds which downed trees and power lines.
Springwater	8/26/2001	$12 K		Thunderstorms which crossed the region during the late afternoon hours produced damaging winds. The winds downed power lines in Arcade, Wyoming County, trees in Springwater, Livingston County, and trees and power lines in Freedom, Cattaraugus County.
York (T)	1999		lost 5 calves at Donnans farm.	Severe wind storm
York (T)	Jun-05			Severe wind, thunderstorm; roof damage to a few barns.

SECTION 6.5: WILDFIRE

Subsection 6.5.A. Definition: An uncontrollable combustion of trees, brush, or grass involving a substantial land area which may have the potential for threatening human life and property.

Subsection 6.5.B. History: During 1905 and 2005, no wildfires were recorded in Livingston County. This area is not very susceptible to wildfires, as the climate remains fairly moist and humid. The Town of

Springwater is the only municipality that felt that wildfires were a significant concern, due to the large open spaces in the town where a fire could spread if sparked.

Subsection 6.5.C. Impacts: None reported.

Subsection 6.5.D. Damage: Not reported.

Subsection 6.5.E. Probability: Since 1905, there have not been any reported wildfires. 0 events/100 years = 0%. This extremely low probability may be misleading, as the lack of past events does not guarantee that future wildfires will not occur.

Subsection 6.5.F. Research: Wildfire data was obtained from municipal committees, who were asked to record the history of wildfires in their municipality. Information was requested from Cornell Cooperative Extension – Livingston, and from county agency interviews. In addition, 100 years of wildfire history was researched in the Livingston County Historian's Office.

SECTION 6.6: ICE JAM

Subsection 6.6.A. Definition: 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.

Subsection 6.6.B. History: Eight specific incidents of ice jamming were found between 1905 and 2005. Five locations where ice jams regularly occur, or have the potential to occur, were identified. Ice jams may cascade into flooding. The Villages of Caledonia and Nunda, the Town and Village of Livonia, and the Towns of North Dansville and Springwater identified ice jams as a major threat.

Subsection 6.6.C. Impacts: Ice jams generally cause localized flooding.

Subsection 6.6.D. Damage: No costs reported.

Subsection 6.5.E. Probability: Since 1905, there have been eight reported ice jam incidents. 8 events/100 years = 8.0%.

Subsection 6.6.F. Research: Ice jam history was researched in the Livingston County Historian's Office, and in meetings with county agencies, in particular the Livingston County Soil and Water Conservation District. In addition, municipal committees were also asked to record the history of ice jams in their municipality.

Ice Jams Affecting Livingston County, 1905 – 2005

Municipality	Date	Injuries/ Fatalities	Description of the Event/Location
Conesus (T)	Jan-96		Ice jam causes flooding of Conesus Lake
Leicester (T/V)			Ongoing- culvert jamming
Livonia (T/V)	2004	none	McPherson's Point, Conesus Lake, Old Orchard Creek
Mount Morris (V)	1999		Some Flooding as a result of Clark St.
Mount Morris (V)	2001		Some Flooding as a result of Clark St.
Mount Morris (V)	2003	none	Some Flooding as a result of Clark St.
North Dansville (T)	Jan-96		Ice Jam in Canseraga Creek causes flooded basements.
North Dansville (T)	2005		Ice Jam in Canseraga Creek
Nunda (T)			Ice jams under bridge on Walnut St. and Church St.

Nunda (T)	Jan-96		1,500 foot ice jam blocked Keshequa Creek; caused flooded basements; ice block resulted from high temperatures and flooding snow.
Nunda (V)			Keshequa Creek- every few years
Portage (T)			Potential of an ice jam in the Genesee River and Keshequa Creek.
Springwater (T)			Ice Jam Kellogg Rd. and State Rt. 15 Limekiln Creek

SECTION 6.7: EPIDEMIC

Subsection 6.7.A. Definition: The occurrence or outbreak of disease to an unusual number of individuals or proportion of the population, human or animal.

Subsection 6.7.B. History: No epidemics were reported in Livingston County between 1905 and 2005. West Nile Virus, Avian Flu, Flu Pandemic, SARS and Monkeypox are the latest potential epidemic threats receiving attention. A food-borne outbreak is also a realistic concern. The Department of Health believes that an epidemic should be considered a serious concern, but the Town and Village of Livonia and the Town of Ossian are the only municipalities to rank an epidemic as such.

Subsection 6.7.C. Impacts: The threat of various epidemics causes expenditures on screening and immunizations.

Subsection 6.7.D. Damage: No costs were reported.

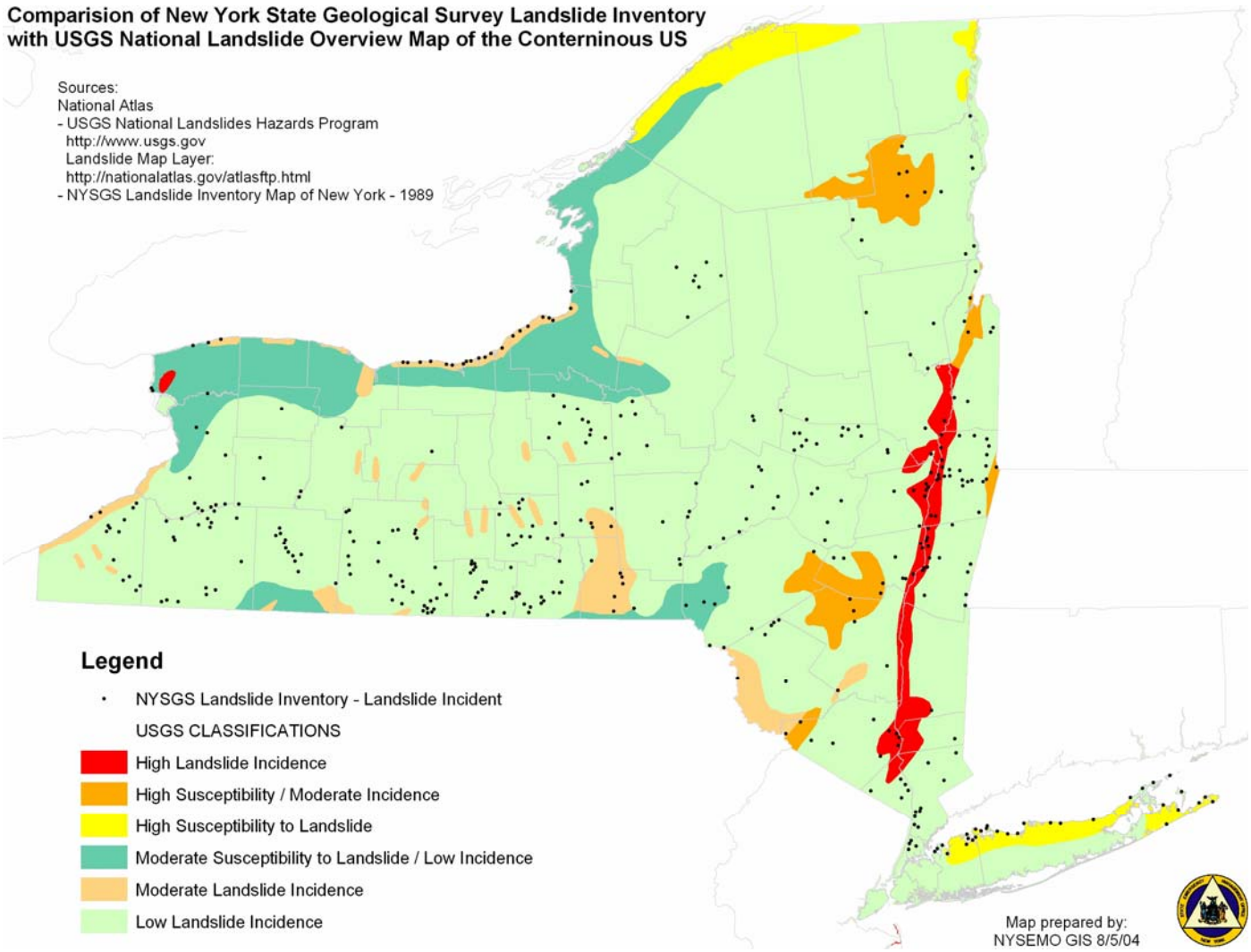
Subsection 6.7.E. Probability: No events were reported since 1905; 0 events/100 years = 0%.

Subsection 6.7.F. Research: Epidemic history was researched in the Livingston County Historian's Office, and in meetings with county agencies, in particular the Livingston County Department of Health. In addition, municipal committees were asked to record the history of local epidemics.

SECTION 6.8: LANDSLIDE

Subsection 6.8.A. Definition: 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. Landslide is a general term and includes rockfalls, rockslides, creep, block glides, debris slides, earth-flow, mud flow, slump, and other similar terms.

The map below indicates the *location* of all known and identified landslides in New York State. The information was compiled from a "Landslide Inventory Map of New York" produced by the New York State Geological Survey in cooperation with the United States Geological Survey. Based on reports listed by Alger and Brabb (1985, p. 69-70); unpublished landslide studies by A.R. Eschner, R.H. Fickies and T.J. Robak; and interviews or mail canvasses of Federal, State and Local engineers and geologists.



Source: FEMA/NYSEMO *All-Hazard Mitigation Plan Development Toolkit.*

Locations of landslides from these sources were plotted by measuring the distance from landmarks. Large differences in scale, instability of paper source maps, and other technical problems led to errors of as much as one mile in transferring some locations. *Therefore, the locations of landslides shown are only approximate.* Certainly, many more landslides exist in New York that have not been recognized or recorded in public documents. The absence of a landslide symbol on this map, therefore, does not mean that an area is free of landslide. Conversely, the clustering of landslide symbols in an area does not necessarily imply that the area is unsafe, but rather that many landslides have been reported and that prudence requires investigation by qualified geologists and engineers before development takes place. This map should be considered preliminary, because as yet a systematic landslide evaluation of all areas in New York using standard photographic interpretation techniques has not been completed.

The map indicates that nearly the entire County has a "Low Landslide Incidence." Five recorded landslides are noted as having taken place along the county's borders. The area surrounding Hemlock Lake is classified as having a "Moderate Landslide Incidence." This map indicates that, on a countywide basis, landslides are not a critical hazard. Only the Towns of Conesus and Livonia are within the area of the County marked as having "Moderate Landslide Incidence."

Additional information on the location of potential landslides is found on Map 15, which depicts steep slopes areas throughout the County. Development on steep slopes (typically any slope that is greater than 15%) can destabilize the slopes. Generally, slopes that are thickly wooded are stable because the root systems of trees and vegetation help keep soil and loose rocks in place. However, if slopes are cleared for development without proper safeguards, they can become susceptible to erosion and serious landslides. County and municipal officials should work to ensure local regulations address steep slope development, possibly by enacting an ordinance that specifically regulates steep slope development.

Subsection 6.8.B. History: Local records indicate five landslides were reported between 1905 and 2005 in Livingston County; all occurred in the Village of Dansville. Three occurred in 1935, and the other two occurred in 1972, as a result of Tropical Storm Agnes. Landslides may cascade into problems such as flooding, water supply contamination and structural collapse. The Town of Geneseo ranked landslides a serious concern.

Subsection 6.8.C. Impacts: Railroad tracks were buried in the 1935 incident; no impacts were reported for the 1972 incident. Potential impacts may include property damage, injuries, fatalities, and water supply contamination.

Subsection 6.8.D. Damage: The cost of the landslides in 1972 was $20,000. No costs were listed for the 1935 incident.

Subsection 6.8.E. Probability: There have been five reported landslides since 1905. 5 events/100 years = 5%.

Subsection 6.8.F. Research: Landslide history was researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of landslides in their municipality.

Landslides Affecting Livingston County, 1905 – 2005

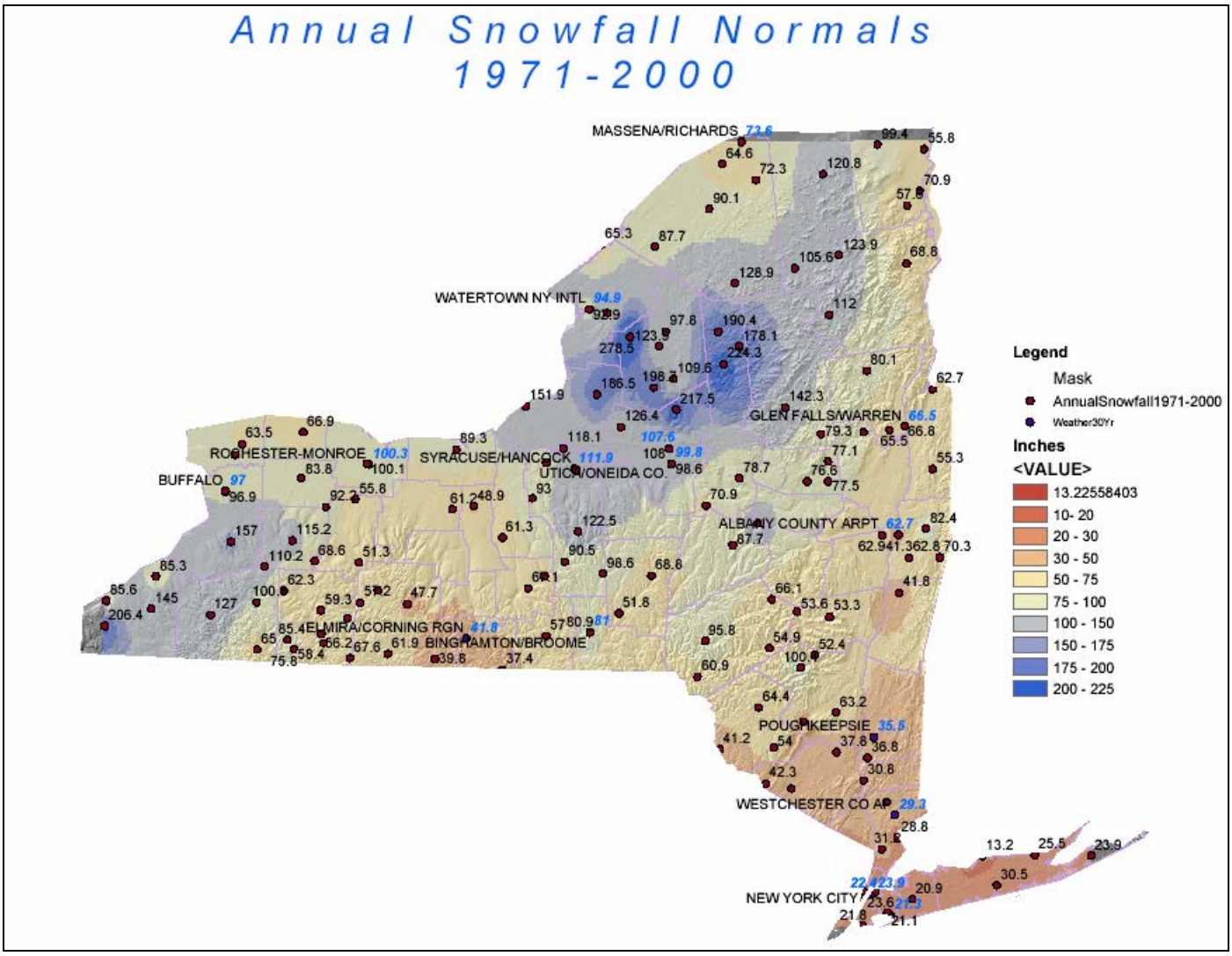
Municipality	Date	Cost	Description of the Event/Location
Dansville (V)	7/10/1935		3 landslides buried the DL&W railroad tracks between Dansville and Perkinsville
Dansville (T)	1972	$20,000	2 landslides in Stony Brook State Park occurred as a result of Hurricane Agnes

SECTION 6.9: WINTER STORM (SEVERE)

Subsection 6.9.A. Definition: A storm system that develops in late fall to early spring and deposits wintry precipitation, such as snow, sleet, or freezing rain, with a significant impact on transportation systems and public safety. Heavy snow is considered as receiving six inches in 12 hours or less.

Subsection 6.9.B. History: There have been 48 severe winter storms in Livingston County between 1905 and 2005, occurring frequently in the winter months from November to April. These storms may cascade into other hazards, such as transportation accidents, utility failure, extreme temperatures, and structural damage. These storms have deposited large amounts of snow countywide, and are often as a result of lake effect systems.

The map below provides information on annual snowfall amounts for locations across the state. Between 1971 and 2000, an average of 92.2 inches has fallen in the northern part of the County, while 51.3 inches has fallen in the southern part of the County. This map also indicates that Livingston County is just beyond the area typically affected by Lake Erie snow storms.



Source: FEMA/NYSEMO *All-Hazard Mitigation Plan Development Toolkit.*

Subsection 6.9.C. Impacts: Severe winter storms generally cause power outages, downed lines, wires and trees, transportation accidents, school closings and structural damage.

Subsection 6.9.D. Damage: Reported damage totaled approximately $109,805,000 although that figure includes damages in surrounding areas, and does not include costs for all storms listed. This total also does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.9.E. Probability: There have been 59 reported severe storm events in the County since 1905, although there are probably other events that have not been recorded. 59 events/100 years = 59%.

Subsection 6.9.F. Research: Severe winter storm data was obtained from the National Oceanic and Atmospheric Administration (NOAA) beginning in 1955. In addition, severe winter storms were researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of severe winter storms in their municipality. Between 1905 and 2005, the first recorded severe storm occurred in 1920.

Winter Storms (Severe) Affecting Livingston County, 1905 – 2005

Municipality	Date	Cost	Injuries/ Fatalities	Description of the Event/Location
Entire County	2/12/1993	$50 K		A low pressure system moved up the Atlantic Coast on the 12th and 13th of February dumping heavy snow across eastern New York.
Entire County	3/4/1993	$50 K		A strong low pressure system moved northeast from the Middle Atlantic Coast on the evening of the 4th and off Cape Cod on the evening of the 5th dumping heavy snow and causing high winds across portions of eastern New York. Snowfall amounts in the Catskills ranged from 4 to 10 inches with 10 inches reported at Slide Mountain and East Jewett. Lesser amounts of snow, generally 2 to 4 inches fell across much of the remainder of eastern New York.
Entire County	3/13/1993	$50 M		The "Blizzard of 93", one of the worst storms this century, virtually shut down eastern New York on the weekend of March 13-14 forcing the closure of roads and airports. One of the most powerful storms on record moved up the Eastern Seaboard, coming close to establishing pressure and snowfall records in many locations.
Entire County	Jan-94	$50 K	multiple accidents, injuries	Continuous snow all month, residents advised to stay at home; some accidents.
Entire County	11/15/1995	$11 K		None available
Entire County	1/3/1996	$150 K		A major winter storm brought heavy snowfall to the area. In general 10-15 inches of snow fell across the area. Portageville reported 14 inches and Avon 13. School closings were the rule. The winter road conditions were blamed for many automobile accidents, some with injuries.
Entire County	3/5/1996	$63 K		A late season winter storm dumped six to ten inches of heavy, wet snow across portions of Western New York. Specific totals included: North Tonawanda 10", Lyndonville 8", Rochester 9", Sodus 6", Fairhaven 6", Buffalo 8", Darien 8", and Avon 8".
Entire County	11/26/1996	$20 K		Low pressure moving across the Great Lakes brought snow to the area. The snow became enhanced by the lake producing amounts of eight to twelve inches. The heavy snow resulted in school closings. Numerous traffic accidents were blamed on the whiteout conditions.
Entire County	3/6/1997	$81 K		Low pressure deepened rapidly as it passed across Pennsylvania and drew cold air southward changing rain over the area to heavy, wet snow. Totals ranged from six to nine inches near Lake Ontario to five to seven inches across metro Buffalo and the western Finger Lakes. Numerous accidents were blamed on the heavy snow which fell after several weeks of mild, spring-like conditions.
Entire County	3/14/1997	$196 K		Deepening low pressure over Missouri tracked northeast and brought a mix of ice and snow to the area. Several inches of the icy slush coated trees and power lines, the weight of which downed the trees and lines. Various school districts throughout the area cancelled classes because of the treacherous conditions. Countless automobile accidents, some with injuries, were blamed on the storm.

Entire County	11/14/1997	$200 K		An early season winter storm brought heavy snow to the area as low pressure moved north along the Atlantic coast. Snowfall amounts ranged from six to twelve inches across the region with the highest amounts over the Genesee valley and western Finger Lakes. The snow was wet and heavy and snarled traffic badly. Countless accidents were reported, many with injuries. Several school districts were forced to close. Some of the highest reports of heavy, wet snow included 10-12 inches at Mount Morris and Springwater.
Entire County	12/10/1997	$107 K		Moisture associated with low pressure approaching the area overspread the region. Most locations had a burst of snow which fell at the rate of one to two inches per hour for several hours. The heaviest snow fell at the worst possible time, creating havoc with the rush hour traffic. Numerous auto accidents were blamed on the storm and several school districts were forced to close early.
Entire County	12/30/1997	$184 K		A strong storm moved up the east coast of the U.S. and dropped up to a foot and a half of snow across the Finger Lakes and eastern Lake Ontario regions.
Entire County	3/21/1998	$280 K		Deep low pressure tracked from Kentucky to New England and brought heavy snow to the entire region. The storm began as a period of freezing rain and sleet Friday evening the 20th and changed over to snow early Saturday morning. The heaviest snow from the storm fell over the northern counties from the Buffalo-Niagara Falls area to Rochester and Oswego county. It was the largest snowfall of the entire winter season in the Buffalo metro area. The snow made roadways extremely slick and innumerable accidents resulted. The heavy ice and snow on power lines and trees resulted in scattered power outages throughout the area.
Entire County	1/2/1999	$330 K		An intensifying storm over the Southern Plains moved northeast spreading a mix of snow, sleet and freezing rain across the area. Several inches of snow were followed by sleet and freezing rain.
Entire County	1/9/1999	$95 K		A general snowfall fell across the region as a result of a large weather system over the Ohio Valley. Most of the Niagara Frontier received six to nine inches of new snow. Across parts of the Genesee Valley and Finger Lakes, snowfall amounts were somewhat lower.
Entire County	1/15/1999	$290 K	4 cows die during barn collapse; 30 others injured	Low pressure moved to the south of the area and produced a general heavy snowfall across the region. The heavy, wet snow combined with freezing rain across the Southern Tier. The heavy snows again resulted in traffic tie-ups and school closings. Visibilities were reduced and roads became treacherous from the ice mix of snow and sleet. Near record snowfalls of four to six feet across the region during the last part of December and first half of January put a strain on area buildings. Roof collapses and entire structure failures were numerous across the area. This latest bout only added to the harsh winter conditions across the region. Several counties in the area were declared disaster areas by the State and Federal government.

Entire County	3/4/1999	$3 M		Deep low pressure moved from West Virginia north across New York to Canada. Heavy rain changed to heavy snow as cold air circulated into the region. Snow fell at the rate of 2-3"/hour. Across Monroe and Wayne counties snowfall amounts were greatest with over two feet falling. Snow fall amounts dropped off both east and west of that area. The strong winds off Lake Ontario resulted in blizzard conditions over Monroe and Wayne counties for nearly six hours. Drifts reached 4-5' in places. The NYS Thruway was closed from Depew to Syracuse. Several hundred cars were stranded in the closed section. The Governor declared Monroe, Wayne, Oswego, Wyoming, Livingston, and Cayuga counties State Disaster Areas. Orleans, Ontario, Wyoming, Livingston, Monroe and Wayne counties were also declared Federal Disaster Areas. The National Guard helped remove cars, rescue stranded motorists and deliver food and medical supplies. Nearly 10,000 customers lost power during the storm. Specific snowfall reports included: Hamlin 28"; Avon and Franklinville 16"; Mt. Morris 15".
Entire County	3/6/1999	$2.7 M		A strong storm moved from Ohio to New England and dropped a general six to twelve inches of snow across the entire region. The snow fell just two days after much of the area was recovering from another major winter storm. The heavy snow was blamed for numerous auto accidents.
Entire County	1/13/2000	$44 K		Low pressure moved across Pennsylvania and brought a general snowfall of three to six inches of snow to the entire western New York area. Across the western southern tier and the higher elevations of the western Finger Lakes, snowfall totals reached twelve inches. Several school districts in the southern tier cancelled classes.
Entire County	2/14/2000	$320 K		Low pressure moved across the Ohio Valley and Pennsylvania spreading a wintry mix of snow, sleet and freezing rain across the area. Snowfall amounts of four to eight inches in addition to 1/4 to 1/2 inch ice were common across the Niagara Frontier, Western Southern Tier and Western Finger Lakes Region. East of Lake Ontario, ice accumulations were less however snowfall amounts were closer to ten inches.
Entire County	11/20/2000	$46.5 M		Cold air crossing the warm waters of Lakes Erie and Ontario resulted in lake effect squalls that dropped over 2' downwind of the lakes. Off Lake Erie, the squall developed around midday on the 20th in a southwest flow ahead of a cold front. Snow fell at the rate of 2-4"/hour for several hours.
Entire County	3/16/2001	$15 K		Low pressure moved across Ohio and Pennsylvania and stalled to our southeast. While most of the area received a general four to six inch snowfall some higher elevations of the Genesee Valley received six to ten inches of snow.
Entire County	3/22/2001	$37 K		Deepening low pressure moved north along the Atlantic seaboard and spread wet snow across the entire region. While a general three to six inches fell in most areas, the higher elevations of the Finger Lakes and Tug Hill saw between eight and twelve inches.
Entire County	12/14/2002	$20 K		Low pressure over the Tennessee Valley moved northeast to the Atlantic Coast and brought heavy snow to portions of the western southern tier and southern Finger Lakes. Snowfall amounts of six to eight inches fell across Livingston and Allegany counties.

Entire County	12/16/2002	$30 K		A general four to six inch snowfall fell across the area. In some locations, lake and terrain effects resulted in high snowfall amounts. Specific reports included: Bennington and Niagara Falls 7" and 8-10" at Mount Morris.
Entire County	12/25/2002	$135 K		Low pressure moved northeast along the Appalachians and brought a general heavy snow to much of the region on Christmas eve and Christmas day. A eight to twelve inch blanket of snow covered the area with higher amounts generally over the Finger Lakes Region. The heavy snows slowed holiday travelers and caused limited delays that the Rochester Airport.
Entire County	1/26/2003	$30 K		A broad area of lake effect snows continued off both Lakes Erie and Ontario in a cold westerly flow. The lake effect snows were enhanced over the higher elevations of the southern tier and Finger Lakes region where snowfall totals on the 26th ranged from eight to twelve inches.
Entire County	12/14/2003	$190 K		Low pressure intensified as it moved from the Gulf Coast up the mid-Atlantic coast to New England and brought a general snow to the entire region. The event lasted 24 to 30 hours from the early morning of Sunday the 14th through early Monday. Amounts across the Genesee Valley and western Finger Lakes ranged from six to twelve inches while across the eastern Lake Ontario region one to two feet of snow fell.
Entire County	3/16/2004	$3.4 M		A low pressure system strengthened over the mid-Mississippi valley, moved to the Virginias, then tracked northeast along the Atlantic coast. The late season storm produced 10-20" of heavy, wet snow across the region. The snow began across the western Southern Tier around daybreak on the 16th and during the morning hours across the Niagara frontier and western Finger Lakes region. The snow continued, heavy at times, throughout the day and then began to taper off at midnight. Many schools and businesses heeded warnings, closed on the 16th and remained closed on the 17th. The storm was blamed for numerous automobile accidents, including several fatalities.
Entire County	1/6/2005	$140 K		Low pressure strengthening over the Ohio Valley lifted across western New York into Southern Ontario. The low brought a mixture of snow, sleet, and freezing rain to the western southern tier and parts of the Genesee Valley and western Finger Lakes region. Precipitation began as snow depositing a blanket of five to seven inches before changing to an icy mix of sleet and freezing rain. Travel became treacherous across the region with numerous automobile accidents being blamed on the storm.
Entire County	1/22/2005	$525 K		Low pressure over the Ohio Valley moved to the Virginia coast and then lifted northeast off the Atlantic Coast. The system brought widespread snowfall to the entire region with eight to fourteen inch reports. Isolated reports of 20" were received due to lake enhancement. The winds, gusting to 40 mph, produced blizzard-like conditions in blowing and drifting snow. In several counties, travel was restricted to emergency vehicles only. Flight delays and cancellations occurred at the Rochester Airport and commercial bus lines also reported schedule delays.
Avon (V)	Annual	$30,000		Storms in Excess of 6 inches in 12 Hours
Caledonia (V)	1977			High Wind and Snow

Conesus (T)	Jan-99	N/A	possible internal injuries	In Lakeville, a woman was trapped for two hours under a collapsed carport. She was rescued by contractors she had called earlier in the day to remove the snow from the top of the carport. The structure failures aided in the decision by the State and FEMA to declare disaster areas and make assistance available to the counties.
Dansville	2/14/1920	N/A	none	Blizzard that lasted for 2 days; transportation at a standstill and some roads impassible for 3 weeks
Dansville	1/29/1925	N/A	none	heavy snowfall
Dansville	11/7/1953	N/A	none	unexpected heavy snowfall
Dansville	1/30/1978	N/A	none	Snowstorm caused collapse of roofs and blocked roads
Geneseo (T)	2/2/1966	N/A	none	20 inches of snow with 52 mile/hour wind gusts; businesses closed for 1 day
Geneseo (T)	Jan-82	N/A	none	Lake effect storm
Geneseo (T)	Annual			Heavy Snow 2-3 times per year
Geneseo (V)	Annual			Heavy Snow 5-6 times per year
Groveland (T)	1966		none	Blizzard- Heavy Snow and Wind
Groveland (T)	Unknown	$30,000	none	Blizzard- Heavy Snow and Wind; power outages
Leicester (T/V)	1968			Ongoing
Leicester (T/V)	Jan-82	N/A	none	Lake effect storm
Leicester (T/V)	1991			
Lima (T/V)	1945			Snow Closed all roads
Lima (T/V)	1963			Snow Closed all roads
Livonia (T/V)	Annual			Common Occurrence
Mount Morris (T/V)	1968			
Mount Morris (T/V)	1991			
Nunda (T)	1981			Road hazard, average of 30 inches of snow
Nunda (T)	1990			Snow storm
Nunda (V)	1999	$2,000	none	Record snowfall
Portage (T)	1977			Snow
Portage (T)	1990			Snow storm
York (T)	Jan-99	N/A	3 calves die	Barn collapses under weight of snow killing 3 calves; multiple other barn collapses

SECTION 6.10: DROUGHT

Subsection 6.10.A. Definition: A prolonged period of limited precipitation affecting the supply and quality of water.

Subsection 6.10.B. History: There were two incidents of drought that were found in research of the years between 1905 and 2005. Neither of these droughts were prolonged hazard events. Drought may cascade into problems including food shortage. There is the potential for drought conditions, and it is likely that other drought situations occurred over the last 100 years. However, no additional information was found. The Village of Caledonia was the only municipality that thought drought was a significant concern.

Subsection 6.10.C. Impacts: Drought caused water use regulations/restrictions, reduced water levels in Conesus Lake, reduced groundwater levels, and cracking in exposed bedrock.

Subsection 6.10.D. Damage: No costs reported.

Subsection 6.10.E. Probability: 2 events have occurred since 1905. 2 events/100 years = 2%.

Subsection 6.10.F. Research: Research on drought events was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of drought events in their municipality.

Droughts Affecting Livingston County, 1905 – 2005

Municipality	Date	Injuries/ Fatalities	Description of the Event/Location
Entire County	1988	none	Rain and snowfall significantly below average. Conesus Lake greatly affected because of 5 inch dip in water level and exposed bedrock cracking.
Livonia (T/V)	2002		Lack of rain causes water supply in Hemlock Lake to be depleted.

SECTION 6.11: HURRICANE

Subsection 6.11.A. Definition: Hurricanes are tropical cyclones that form in the atmosphere over warm ocean areas. Wind speeds can 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. Hurricanes are a great threat to life and can damage property through storm surge, intense winds, and flooding.

Subsection 6.11.B. History: Over the past 100 years, no hurricanes have struck the County. Tropical Storm Agnes, a remnant of Hurricane Agnes, is the only major storm that spun off from a hurricane and has significantly impacted Livingston County in the past 100 years. The main impacts of Tropical Storm Agnes, which struck the County in 1972, were widespread flooding in the Genesee Valley floor and some structural damage. Livingston County is located well outside the Special Hurricane zone as depicted on

Such storms can cascade into water supply contamination, structural collapse, civil unrest, utility failure, fuel and food shortage, transportation accidents, epidemic, and flooding, most of which are rarely, if ever, experienced in upstate New York. None of the municipalities ranked hurricanes as a significant concern because when the remnants of hurricane systems strike the County, they typically take the form of severe weather events such as heavy rains and flooding.

Subsection 6.11.C. Impacts: Tropical Storm Agnes caused flooding and structural damages, as well as many injuries and several fatalities.

Subsection 6.11.D. Damage: Reported damages from Tropical Storm Agnes cost several million dollars.

Subsection 6.11.E. Probability: 0 events/100 years – 0%

Subsection 6.11.F. Research: Research on hurricanes was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of hurricane events in their municipality.

SECTION 6.12: EXTREME TEMPERATURES

Subsection 6.12.A. Definition: Extended periods of excessive cold or hot weather with a serious impact on human and/or animal populations particularly elderly and/or persons with respiratory ailments.

Subsection 6.12.B. History: No incidents of extreme temperatures were found in historic records. Extreme cold temperatures may cascade into problems involving utility failure and severe storms, as well as health-related concerns such as hypothermia. Extreme warm temperatures can cause heat exhaustion and The Towns of Groveland and Mount Morris felt that extreme temperatures were a potential threat.

For Livingston County, extreme temperatures would probably range from a high of around 105 degrees Fahrenheit to a low of around -25 degrees Fahrenheit. These figures are broadly in line with the highest and lowest recorded temperatures in New York State and especially in adjacent Counties. However, no significant problems are forecast unless these temperature extremes remain for a sustained period of time.

Subsection 6.12.C. Impacts: Potential impacts may include health problems, fatalities, and utility failure.

Subsection 6.12.D. Damage: No costs provided.

Subsection 6.12.E. Probability: 0 events/100 years = 0%.

Subsection 6.12.F. Research: Research on extreme temperatures was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of extreme temperatures in their municipality. The NOAA database did not record any incidents of extreme temperatures.

SECTION 6.13: EARTHQUAKE

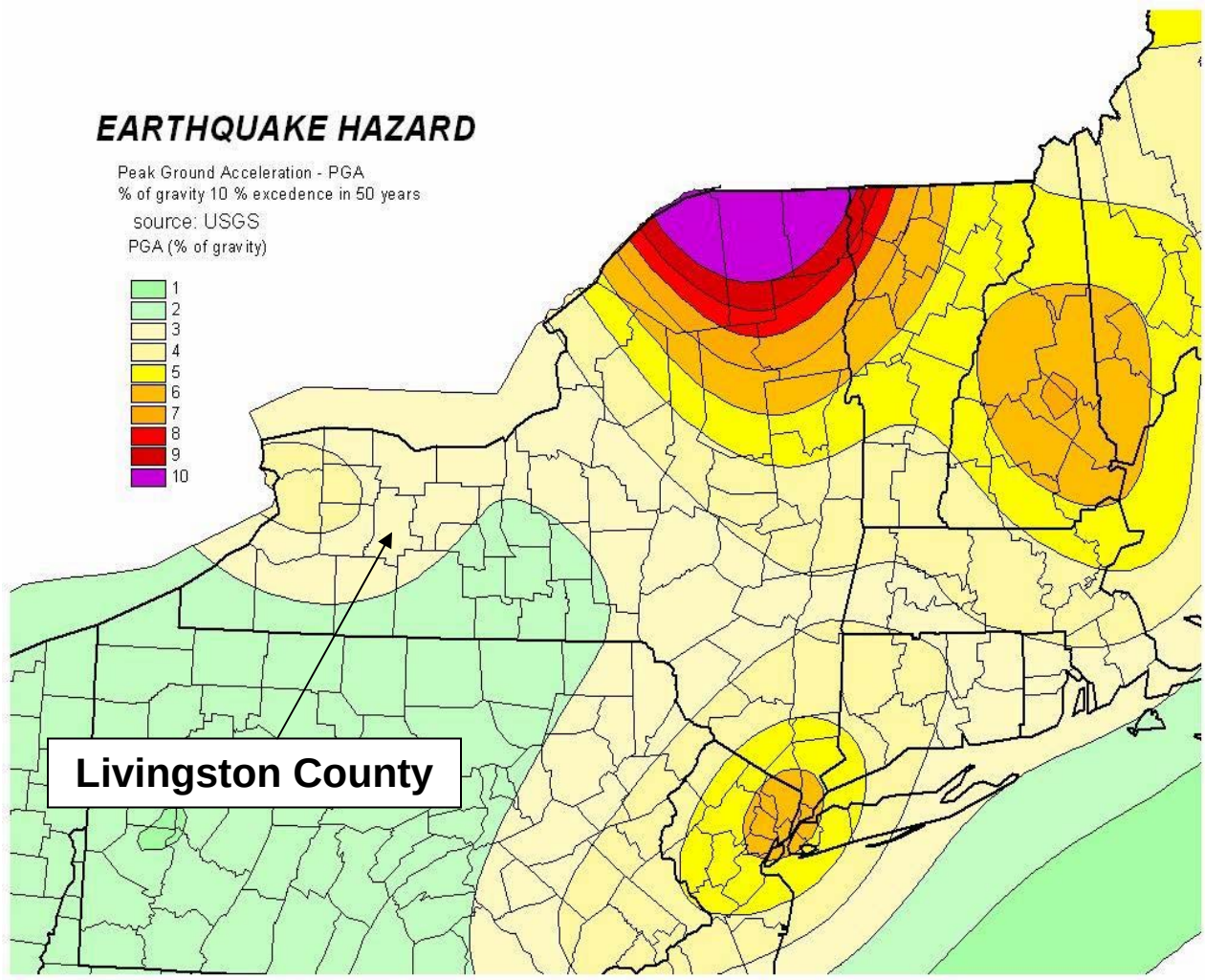
Subsection 6.13.A. Definition: A sudden motion of the ground caused by release of subterranean strain energy, due to plate tectonics, resulting in surface faulting (ground rupture), ground shaking, or ground failure (collapse).

Earthquakes typically occur along the joints between tectonic plates. However, about ten percent of earthquakes occur within plate interiors. New York State is one state where earthquakes commonly occur, even though the state is not on a plate boundary.

Livingston County is affected by active faults in Quebec, Canada and the New England area. Several active faults run through and nearby the county as well. Local faults include the Clarendon-Linden, Retsof, Le Roy, Attica, and Folsomdale faults, as well as several other unnamed faults. Other faults may exist in the area, but much research still needs to be done in order to determine exactly where they are or what threats they pose to the region.

The map on the next page depicts New York State's vulnerability to earthquakes. This map, from the U.S. Geological Survey, shows the Peak Ground Acceleration (PGA) values with a 10% chance of being exceeded over any given 50 year period. Peak Ground Acceleration is a measure of the strength of ground movements. This map shows the geographic area affected (all colored areas on the map), the probability of an earthquake of each given level of severity (10% chance in 50 years), and the severity (the PGA is indicated by color). Areas with the least earthquake risk are shown in green and areas with the greatest risk are shown in purple.

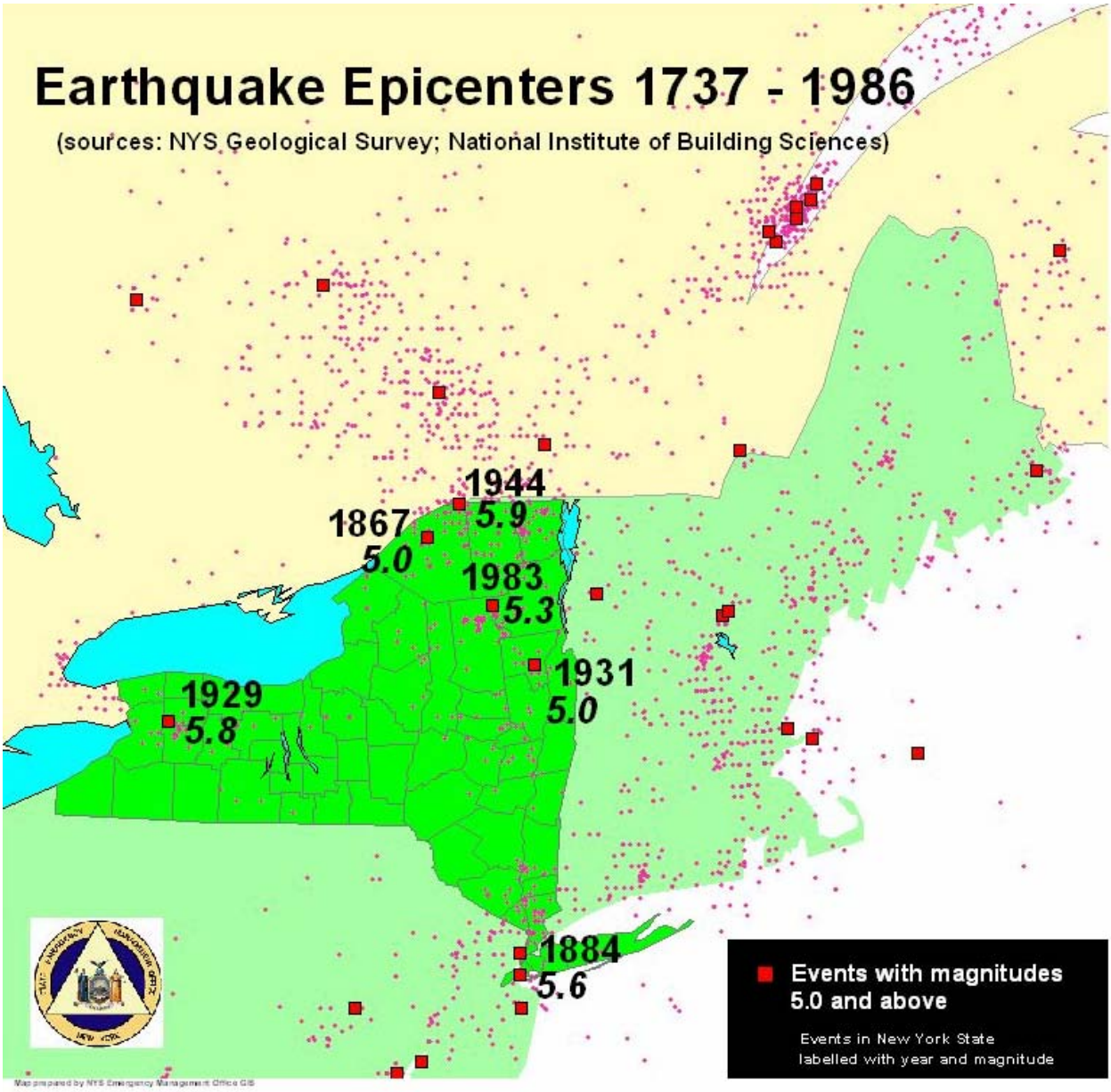
As the map indicates, the entire county has a PGA of 3% of gravity (buff color) for earthquakes with a 10% chance of occurring within 50 years.



Source: FEMA/NYSEMO *All-Hazard Mitigation Plan Development Toolkit.*

The Earthquake Epicenters map on the next page indicates historical earthquake epicenters spatially across the Northeast, illustrating (through areas of historical earthquake groupings), a generally higher incidence and magnitude of earthquakes than in other nearby states. Historical earthquake occurrence as presented on this map also supports previous discussion which identified the three areas of the state: northeast, southeast, and far western sections as having a higher seismic risk according to the above Earthquake Hazard map.

This map indicates that several minor earthquakes have occurred within or nearby Livingston County. Earthquakes that register below a 5.0 on the Richter Scale, which is a logarithmic scale used to measure earthquake magnitude, do not always cause serious damage to well constructed buildings. The nearest major earthquake to the County was the 1929 Attica event, which measured 5.8 on the Richter Scale. This earthquake did not cause any major damage in Livingston County. Minor earthquakes are fairly common for Livingston County; typically they occur several times a year but do not cause serious structural damage or injury/loss of life. Many are recorded by seismographs but are not even felt by local inhabitants.



Source: FEMA/NYSEMO *All-Hazard Mitigation Plan Development Toolkit*.

The following table is excerpted from the New York State Standard Multi-hazard Mitigation Plan. It provides detailed information on the potential financial impacts of earthquakes to Livingston County. This data indicates that the County could suffer up to $114,000.00 per year in losses due to earthquakes.

HAZUS MH Earthquake Annualized Loss Estimation and Ranking Results
(Source: *New York State Standard Multi-Hazard Mitigation Plan*, Table 3-52)

County	Total Exposure [x $1,000]	Annualized Capital Stock Losses	Annualized Income Losses	Annualized Total Losses [x $1,000]	Annualized Loss Ratio [in dollars per $1 million of exposure]	Annualized Loss per Capita [in Dollars]	Exposure Rank	Exposure Ratio Rank	Annualized Loss Rank	Annualized Loss per Capita Rank
Livingston	3,639,797	100	14	114	31	1.77	44	43	48	45

Subsection 6.13.B. History: There have been at least four recorded earthquakes in Livingston County between 1905 and 2005, not all of these earthquakes had epicenters below the County. There are inactive fault lines that lie below the county boundaries, and could impact the residents of Livingston County. Earthquakes are not all that unusual, but most are imperceptible. There is no predictable geographic pattern to earthquakes in Western New York. All of the municipalities agreed that earthquakes are not a significant threat. Cascade effects could include utility failure, structural collapse, air and water contamination, flooding, explosion, and fire, but there is no historical precedent for serious injury/loss of life or infrastructure damage in the County.

Subsection 6.13.C. Impacts: Earthquakes can have drastic impacts, but the recorded incidents in the County were of a small magnitude that did little more than rattle dishes and move pictures on walls.

Subsection 6.13.D. Damage: No reported damage.

Subsection 6.13.E. Probability: Since 1905, there have been four recorded earthquakes that have been significant enough to cause minor damage. 4 events/102 years = 3.9%. This low probability indicates that major earthquakes are extremely rare; but it conceals the fact that these rare events could potentially cause significant damage and disruption.

Subsection 6.13.F. Research: Earthquake research was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of earthquakes in their municipality.

Earthquakes Affecting Livingston County, 1905 – 2005

Municipality	Date	Description of the Event/Location
Entire County		Earthquakes are not that unusual; there are typically 2-3 recorded each year. There is no predictable geographic pattern to earthquakes in Western NY and no well defined linear region in which they may occur. While minor earthquakes are routinely recorded, they do not result in property damage/loss of life and are typically not noticed by area residents.
Entire County	9/5/1944	Earthquake in eastern US with the epicenter located near New York City
Entire County	9/25/1998	Earthquake occurred near the Ohio-Pa border. The nearest populated area, Ashtabula, OH, experienced a quake of 2.2-5.4 on the Richter Scale. Two minutes later in Livingston County (more than 250 miles away), many people felt the quake, which was a mild jolt followed by a severe jolt, over a 20-second period.

Entire County	1/25/1999	2.7 Magnitude quake; epicenter was northwest of the village of Leicester and roughly 11 miles beneath the surface. The shaking was felt as far away as Mount Morris, but did not cause any reported damage. Tremors from this typical micro-earthquake were felt in Mount Morris, Leicester, and Cuylerville.
Mount Morris (T)	2/10/1914	Minor earthquake occurred. No noticeable damage; moved pictures, dishes in people's homes

SECTION 6.14: BLIGHT

Subsection 6.14.A. Definition: A disease of agricultural crops or non-agricultural plants resulting in withering, lack of growth, and death of its parts without rotting.

Subsection 6.14.B. History: Historic research revealed only one specific incident of blight in Livingston County. It is unlikely that this 2004 incident of potato blight in Springwater is the only instance of blight in the last 100 years. Blight was a threat in the recent past, but there is no longer a high acreage of tomatoes or potatoes in Livingston County. In 2005, only one field in the region was found to have blight, and it was in Steuben County. In 2004, more crops were lost to the disease. Blight may cascade into problems such as food shortage and infestation. The Town of Springwater was the only municipality to rank blight as a significant threat.

Subsection 6.14.C. Impacts: Blight can cause crop damage, leading to lower yields and decreased profits for the agricultural sector.

Subsection 6.14.D. Damage: No costs reported.

Subsection 6.14.E. Probability: 1 event has occurred over the past 100 years. 1 event/100 years = 1%.

Subsection 6.14.F. Research: Blight data was obtained from municipal committees, who were asked to record the history of blight in their municipality. Information was requested from Cornell Cooperative Extension – Livingston, and from county agency interviews. In addition, 100 years of blight history was researched in the Livingston County Historian's Office.

SECTION 6.15: INFESTATION

Subsection 6.15.A. Definition: Excessive populations of insects, rodents, or other animals requiring control measures due to their potential to carry diseases, destroy crops, or harm the environment.

Subsection 6.15.B. History: No recorded incidents of infestation in Livingston County were found. However, it is highly likely that some minor infestations have occurred over the past 100 years. Infestations could cascade into other problems such as food shortages and/or epidemics. All of the municipalities agreed that infestation is not a major threat due the lack of past problems and farmers' ability to address routine infestations.

Subsection 6.15.C. Impacts: No impacts were reported. Potential impacts may include food shortage, injury, illness, and epidemic.

Subsection 6.15.D. Damage: No costs reported.

Subsection 6.15.E. Probability: No reported events have occurred over the past 100 years. 0 events/100 = 1%.

Subsection 6.15.F. Research: Infestation history was researched in the Livingston County Historian's Office, and in meetings with county agencies, in particular the Livingston County Department of Health and the Livingston County Soil and Water Conservation District. In addition, municipal committees were also asked to record the history of infestation in their municipality.

PART II: MAN-MADE HAZARD PROFILES

The following hazard profiles are included in this Plan to provide additional information on potential hazards the Planning Committee considered important to assess. Inclusion of man-made hazards is not a technical requirement of the FEMA hazard mitigation planning process, but the Planning Committee determined that these hazards are also important to protect the County from in addition to the natural hazards profiled above.

SECTION 6.16: HAZARDOUS MATERIALS (IN TRANSIT)

Subsection 6.16.A. Definition: 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.

Subsection 6.16.B. History: Between 1905 and 2005, there were 109 incidents of hazardous materials-in-transit in Livingston County, occurring multiple times a year and including trains, commercial vehicles and automobiles. Most involve a transportation accident, and the most common elements spilled include diesel fuel, gasoline, propane and other petroleum products. Agricultural chemicals and fertilizers are also commonly spilled as a result of a HAZMAT incident. These spills may cascade into problems including water contamination, air contamination, fire, explosion, and transportation accidents. Incidents have occurred across the county, but Avon, York and Dansville have the highest number of incidents. Every municipality ranked hazardous materials (in transit) a significant threat except for the Town of Nunda.

Subsection 6.16.C. Impacts: Hazmat in transit often caused water, soil and air contamination.

Subsection 6.16.D. Damage: Costs not provided.

Subsection 6.16.E. Probability: 109 events/100 years = 109%.

Subsection 6.16.F. Research: The first recorded incident occurred in 1970, but the majority of these incidents occurred after 1978, when the NYS Department of Environmental Conservation (DEC) started a Spills database. It is likely that hazardous materials incidents occurred prior to this time, but records are less available. Most of the hazmat in transit data was obtained from this Spills database. The incidents recorded are those that were reported to the DEC. All incidents that consisted of a spill of more than one gallon of hazardous material or a spill of more than 10 gallons of gasoline were included. Data was also obtained from the files at the Livingston County Historian's Office.

SECTION 6.17: TERRORISM

Subsection 6.17.A. Definition: The threat or use of violence to achieve political or social ends, usually associated with community disruption and/or multiple injuries or deaths.

Subsection 6.17.B. History: There was one terrorism-related incident in Livingston County between 1905 and 2005. This incident occurred in 1989 on the SUNY Geneseo campus, and involved a bomb. Terrorism in Livingston County has not happened, but could involve or cascade into problems involving civil unrest; air, water, or soil contamination; explosion; utility failure; and epidemic. Approximately 2/3rds of the municipalities felt that terrorism is a significant threat.

Subsection 6.17.C. Impacts: Terrorism and its unpredictability cause general disruption and fear in the community and in the lives of citizens.

Subsection 6.17.D. Damage: No damage reported.

Subsection 6.17.E. Probability: 1 event/100 years = 1%.

Subsection 6.17.F. Research: Terrorism incidents were researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of terrorism in their municipality.

Terrorism Affecting Livingston County, 1905 - 2005

Municipality	Date	Injuries/ Fatalities	Description of the Event/Location
Geneseo (T/V)	1989	none	Dean at the State University of New York at Geneseo received a package with a bomb. Package was delivered by campus mail. Detonated in a field.
York (T)			Potential with Arkema, GFS, Bickford Propane, and high volume of truck traffic

SECTION 6.18: FIRE

Subsection 6.18.A. Definition: The uncontrolled burning in residential, commercial, industrial, institutional, or other structures in developed area.

Subsection 6.18.B. History: There have been at least 98 major fires in Livingston County between 1905 and 2005, many of these major fire events. Many residential fires, while tragic, were not included in this hazard summary. Fires may cascade into problems including explosion, air contamination, and structural collapse. Fires affected all parts of the county, but had a more significant impact on the northern, more populated municipalities. All municipalities listed fire as a high threat except for the less populated Towns of Portage, Sparta and Springwater.

Subsection 6.18.C. Impacts: Fires have caused structural damage, injuries and fatalities. Fourteen people were killed, and many more injured or affected by smoke inhalation.

Subsection 6.18.D. Damage: Reported damage totaled approximately $6,165,500, although costs have not been provided for all fires. This total does not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Subsection 6.18.E. Probability: 98 events/100 years = 98%.

Subsection 6.18.F. Research: Fire events were researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of major fires in their municipality.

SECTION 6.19:OIL SPILL

Subsection 6.19.A. Definition: The uncontrolled or accidental discharge of petroleum into water and/or onto land.

Subsection 6.19.B. History: There were 98 reported oil spills in Livingston County between 1905 and 2005. These spills have occurred throughout the county, but particularly in the Towns of Avon and York and in the Village of Dansville. Most oil spills were as a result of a traffic accident, and often contaminated the soil. At times, surface water, groundwater and/or the air were also affected. Cascade effects could include fire, explosion, transportation accident, water supply contamination and fuel shortage. Most municipalities felt that oil spills are a significant threat.

Subsection 6.19.C. Impacts: Oil spills have caused soil, water and air contamination.

Subsection 6.19.D. Damage: No costs reported.

Subsection 6.19.E. Probability: 98 events/100 years = 98%.

Subsection 6.19.F. Research: Most of the information about oil spills was obtained from the NYS DEC Spills database, beginning in 1978. The incidents recorded are those that were reported to the DEC. All incidents that consisted of a spill of more than 10 gallons of gasoline or of more than one gallon of other petroleum materials were included in this report. Data was also obtained from the files at the Livingston County Historian's Office.

SECTION 6.20: HAZARDOUS MATERIALS (FIXED SITE)

Subsection 6.20.A. Definition: 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.

Subsection 6.20.B. History: There were at least 555 fixed site hazardous materials incidents in Livingston County between 1905 and 2005, with a significant percentage of those incidents occurring in Avon, York, Livonia, and the Village of Dansville. The most common elements spilled in a fixed site hazmat incident include fuel oil, gasoline, and various petroleum products. These spills may cascade into problems including water supply contamination, air and soil contamination, utility failure, fire and explosion. Most municipalities felt that fixed site hazardous material incidents pose a significant threat, except for the Village of Nunda, and the Towns of Portage, Sparta, Springwater and West Sparta.

Subsection 6.20.C. Impacts: Fixed site hazardous material incidents often caused soil, water and air contamination.

Subsection 6.20.D. Damage: Costs not provided.

Subsection 6.20.E. Probability: 555 events/100 events = 555%.

Subsection 6.20.F. Research: Most of the information about hazardous materials was obtained from the NYS DEC Spills database, beginning in 1978. It is likely that hazardous materials incidents occurred prior to this time, but records are less available. The incidents recorded are those that were reported to the DEC. All incidents that consisted of a spill of more than 10 gallons of gasoline or of more than one gallon of other petroleum materials were included in this report. Data was also obtained from the files at the Livingston County Historian's Office.

SECTION 6.21: WATER SUPPLY CONTAMINATION

Subsection 6.21.A. Definition: 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.

Subsection 6.21.B. History: Between 1905 and 2005, there have been at least 127 incidents of water supply contamination in Livingston County. The majority of these incidents have been due to hazmat spills and flooding, and most did not immediately contaminate drinking water supplies, although the potential exists. Several of the incidents contaminated groundwater and surface waterbodies, which are likely to feed into the drinking water supply at some point. These incidents have occurred countywide, but some areas in particular have important concerns.

Caledonia has had high levels of nitrates in their drinking water, as well as chemical contamination. Some hamlets and villages, such as Caledonia, use septic systems in densely populated areas, and are in danger of contaminating the groundwater supplies in close proximity to the sewage. Due to previous problems with agricultural runoff and other sources, the Livingston County Department of Health has been monitoring for the presence of coliform bacteria in Conesus Lake and in surrounding surface water areas, to maintain a safe drinking water supply. Water supply contamination could cascade into an epidemic for humans and farm animals. Most of the municipalities in Livingston County believe that water supply contamination is a serious concern.

Subsection 6.21.C. Impacts: Water supply contamination has resulted in boil water advisories, the need to install public drinking water, the need to remediate toxic chemical dumps, and various efforts to maintain water quality in Conesus Lake. Potential impacts could include health problems and fatalities.

Subsection 6.21.D. Damage: Reported damage totaled approximately $39,641,000, although costs have not been provided for all incidents. $10 million is the estimated cost to clean up the contamination at Jones Chemical in Caledonia, and $22 million was to build the new water filtration plant on Hemlock Lake.

Subsection 6.21.E. Probability: 127 events/100 years = 127%.

Subsection 6.21.F. Research: The first incident of water supply contamination was recorded in 1956. It is likely that water supply contamination occurred prior to this time, but records are less available. Most of the information about water supply contamination was obtained from the NYS DEC Spills database. The incidents recorded are those that were reported to the DEC. Data was also obtained from files at the Livingston County Historian's Office and from meetings with county agency representatives and municipal officials.

SECTION 6.22:DAM FAILURE

Subsection 6.22.A. Definition: Structural deterioration, either gradual or sudden, resulting in the facility's inability to control impounded water as designed, resulting in danger to people and/or property in the potential inundation area.

Subsection 6.22.B. History: There was only one incident of dam failure recorded between 1905 and 2005 in Livingston County. In 2003, an earthen dam in the Village of Nunda was damaged in a storm. However, this dam did not fail; nevertheless, people living below it were evacuated as a precaution. Dam failure may cascade into flooding, landslides and water supply contamination. There are several critical

dams located within the county, the most significant of which is the Mount Morris Dam on the Genesee River. None of the municipalities felt that dam failure is a significant concern.

Subsection 6.22.C. Impacts: Families living below the dam were evacuated as a precaution. Homes and schools were damaged from the flooding.

Subsection 6.22.D. Damage: The dam was damaged and needed repairs, which cost $315,000.

Subsection 6.22.E. Probability: 1 event/100 years = 1%.

Subsection 6.22.F. Research: Storm data was obtained from the National Oceanic and Atmospheric Administration (NOAA) beginning in 1955, and dam failure was the result of this storm. In addition, dam failure was researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipalities were also asked to record any dam failures in their jurisdiction.

SECTION 6.23: RADIOLOGICAL (FIXED SITE)

Subsection 6.23.A. Definition: A release or threat of release of radioactive material from a nuclear power generating station or research reactor or other stationary source of radioactivity.

Subsection 6.23.B. History: No radiological incidents were reported between 1905 and 2005. Every municipality ranked this hazard as a low threat.

Subsection 6.23.C. Impacts: No impacts reported.

Subsection 6.23.D. Damage: No costs were reported.

Subsection 6.23.E. Probability: 0 events/100 years = 0%.

Subsection 6.23.F. Research: History of fixed site radiological incidents was researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of fixed site radiological incidents in their municipality.

SECTION 6.24: TRANSPORTATION ACCIDENT

Subsection 6.24.A. Definition: A mishap involving one or more conveyances on land, sea, and/or in the air which results in mass casualties and/or substantial loss of property.

Subsection 6.24.B. History: There have been many transportation accidents in Livingston County in the last 100 years; 17 of the worst (costliest/deadliest) ones them were reviewed for this Plan. In addition, a number of other transportation accidents are also mentioned in the section on Hazardous Materials (In Transit). In Livingston County, transportation accidents occur on the roads, railroads, in the air and on the water. These accidents cascade into hazmat (in transit), fire, and explosion. The Villages of Caledonia and Mount Morris, the Towns of Conesus, West Sparta and York, and the Town and Village of Livonia ranked transportation accidents as a significant concern.

Subsection 6.24.C. Impacts: Transportation accidents have caused human injuries and fatalities; property damage; spills of hazardous materials; and contamination of the soil, air and water.

Subsection 6.24.D. Damage: Reported damage totaled approximately $2,082,000, although that figure does not include costs for all the accidents listed.

Subsection 6.24.E. Probability: 17 events/100 years = 17%.

Subsection 6.24.F. Research: Transportation accident data was researched in the Livingston County Historian's Office, and in meetings with county agencies. Municipal committees were also asked to record the history of transportation accidents in their municipality.

SECTION 6.25: RADIOLOGICAL (IN TRANSIT)

Subsection 6.25.A. Definition: A release or threat of release of radioactive material from a transportation vehicle including truck, rail, air, and marine vehicle.

Subsection 6.25.B. History: No radiological incidents were reported between 1905 and 2005. The Towns of Groveland and North Dansville were the only municipalities to rank this as a high threat.

Subsection 6.25.C. Impacts: No impacts reported.

Subsection 6.25.D. Damage: No costs were reported.

Subsection 6.25.E. Probability: 0 events/100 years = 0%.

Subsection 6.25.F. Research: History of in transit radiological incidents was researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of in transit radiological incidents in their municipality.

SECTION 6.26: CIVIL UNREST

Subsection 6.26.A. Definition: An individual or collective action causing serious interference with the peace, security, and/or functioning of a community. An example of this would be a riot.

Subsection 6.26.B. History: One incident of civil unrest occurred between 1905 and 2005. In addition, prison riots at the Groveland and Livingston Correctional Facilities can be considered civil unrest, but no record of specific incidents was found. Cascade effects from civil unrest could include terrorism, fire, explosion, and transportation accidents. The one recorded incident was a small riot that occurred in 2003 in the Village of Mount Morris, which is the only municipality that ranked civil unrest as a significant concern.

Subsection 6.26.C. Impacts: This incident involved rioting, which led to several minor injuries.

Subsection 6.26.D. Damage: The only cost reported for this incident was in time spent controlling the situation, and the person-hours utilized.

Subsection 6.26.E. Probability: 1 event/100 years = 1%.

Subsection 6.26.F. Research: Research on civil unrest was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of civil unrest in their municipality.

SECTION 6.27: MINE COLLAPSE

Subsection 6.27.A. Definition: 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.

Subsection 6.27.B. History: Three mine collapse events were recorded between 1905 and 2005 in Livingston County. All of these incidents involved the Retsof mine in Leicester, mostly slabs of the mine roof collapsing. Cascade effects could include structural collapse, water supply contamination, and earthquake-like impacts. The Towns of Groveland and York are the only municipalities that consider mine collapse to be a significant threat.

Subsection 6.27.C. Impacts: Mine collapses have caused fatalities and injuries, as well as structural collapse, flooding and water supply contamination.

Subsection 6.27.D. Damage: The massive collapse of the Retsof Salt Mine in 1993 cost approximately $200,000,000, for construction of a new mine, geological work, and reparations to landowners. No other costs were reported for other mine-related events.

Subsection 6.27.E. Probability: 3 events/100 years = 3%.

Subsection 6.27.F. Research: Research on mine collapse incidents was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of mine collapse events in their municipality.

Mine Collapses Affecting Livingston County, 1905 – 2005

Municipality	Date	Injuries/ Fatalities	Description of the Event/Location
Entire County	1990	2 fatalities, 1 injured	Slab measuring 55 ft in diameter and 2 meters thick fell from roof of the Retsof Mine.
Entire County	Mar-93	None reported	Part of Retsof Mine roof collapsed; water flooded the section.
Entire County	Apr-93	None reported	Massive flooding problems in Retsof Mine
Entire County	3/12/1994	None reported	Earthquake reported at a magnitude of 3.6. It later turned out to be the collapse of Retsof Salt Mine. The area affected by the mine collapse spanned over 3,303 acres. The flooded mine affected the water table; caused damage to the ecosystem. The collapse allowed water to pour in from an aquifer 400 ft above the mine at a rate of 3,000-5,000 gallons/min. Cost estimated at around $200 million to construct new mine, perform geological work and pay reparations to landowners.
Leicester (T/V)	1993	None reported	Bridge Collapse, load settlement- walls went dry
York (T)	1994	None reported	Collapse has caused subtle subsidence in Town.

SECTION 6.28: EXPLOSION

Subsection 6.28.A. Definition: The threat or actual detonation of an explosive device or material with the potential of inflicting serious injury to people or damage to property.

Subsection 6.28.B. History: There were a handful of explosions in Livingston County between 1905 and 2005. Two of the explosions involved the Retsof salt mine. Another explosion was due to lack of adequate water supply in a commercial structure. Explosions may cascade into fires, air contamination, utility failure, and structural collapse. The Town and Village of Livonia, the Village of Mount Morris and the Town of York consider explosions to be a significant threat.

Subsection 6.28.C. Impacts: Explosions have caused human injuries and fatalities, and property damage.

Subsection 6.28.A. Damage: One incident cost over $100,000, but costs were not reported for the other incidents.

Subsection 6.28.E. Probability: Data not available.

Subsection 6.28.F. Research: Research on explosions was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of explosions in their municipality.

SECTION 6.29: STRUCTURAL COLLAPSE

Subsection 6.29.A. Definition: A sudden structural failing, partial or fully, of buildings, bridges or tunnels, threatening human life and health.

Subsection 6.29.B. History: Seven structural collapses have occurred in Livingston County since 1905. Most of these collapses have been bridges. The other incidents were building collapses, and one was a railroad embankment. Cascade effects include transportation accidents, explosion, fire and utility failure. None of the municipalities ranked structural collapse as a significant concern.

Subsection 6.29.C. Impacts: Structural collapse causes property damage to homes, automobiles and businesses, and could possibly cause injuries and fatalities.

Subsection 6.29.D. Damage: Reported damage totaled between $140,000 and $175,000, but costs were not reported for the all incidents.

Subsection 6.29.E. Probability: 7 events/100 years = 7%.

Subsection 6.29.F. Research: Research on structural collapse was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of structural collapse in their municipality.

SECTION 6.30: AIR CONTAMINATION

Subsection 6.30.A. Definition: 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.

Subsection 6.30.B. History: No recorded instances of air contamination due to atmospheric conditions are available for Livingston County.

The main causes of man-made air contamination are hazardous materials being released to the air through human error, equipment failure and traffic accidents. A handful of events were intentional acts, and a number of incidents occurred after an unknown cause. A number of the contaminants were fuel or petroleum of some sort, but a number of other chemicals, such as Freon and Ferric Chloride were also contaminants. The most significant, life-threatening incidents were the gaseous chlorine releases in Caledonia from Jones Chemical. The Town of Caledonia, the Town of Mount Morris and the Town of York were the only municipalities that ranked air contamination as a high threat, due to the presence of hazardous materials facilities for storage and transportation in those towns.

Subsection 6.30.C. Impacts: Air contamination may cause health related problems or death, and may contaminate food, agricultural fields, and the water supply.

Subsection 6.30.D. Damage: No costs reported.

Subsection 6.30.E. Probability: 0 events/100 years = 0%.

Subsection 6.30.F. Research: Air contamination data was retrieved from the New York State Department of Environmental Conservation (NYS DEC) Spills Database, with data beginning in 1978. Additional research was conducted in the Livingston County Historian's Office, and discussed in meetings with county agencies. Municipal committees were also asked to record the history of air contamination in their municipality.

SECTION 6.31: UTILITY FAILURE

Subsection 6.31.A. Definition: Loss of electric and/or natural gas supply, telephone service or public water supply as a result of an internal system failure and not by the effects of disaster agents.

Subsection 6.31.B. History: The exact number of utility failures in Livingston County between 1905 and 2005 is unknown due to the lack of good records. Most utility failures have been the results of a severe or winter storm, and are rarely the result of an internal system failure; therefore most utility failures occur in the winter months. Utility failuries may cascade into problems such as water supply contamination, air contamination, fire, explosion, and flooding. More than half of the municipalities ranked utility failure as a significant threat.

Subsection 6.31.C. Impacts: Utility failures have caused power outages and have left people without telephone services, heat, or fuel. Utility failures also impact traffic signals, and can cause accidents.

Subsection 6.31.D. Damage: No costs reported.

Subsection 6.31.E. Probability: Data not available.

Subsection 6.31.F. Research: Utility failure history was researched in the Livingston County Historian's Office, and discussed in meetings with county agencies. In addition, municipal committees were also asked to record the history of utility failure in their municipality.

SECTION 6.32: FOOD SHORTAGE

Subsection 6.32.A. Definition: 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.

Subsection 6.32.B. History: There have been no recorded incidents of food shortage in Livingston County. Food shortage may cascade into civil unrest and epidemic.

Subsection 6.32.C. Impacts: No impacts were reported, but potential impacts could include hunger and health-related problems.

Subsection 6.32.D. Damage: No costs reported.

Subsection 6.32.E. Probability: 0 events/100 years = 0%.

Subsection 6.32.F. Research: Food shortage history was researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of food shortage in their municipality.

SECTION 6.33: FUEL SHORTAGE

Subsection 6.33.A. Definition: A situation in which the normal quantity and/or timely delivery of fuel supplies to distributors and retail establishments are interrupted.

Subsection 6.33.B. History: There have been no recorded incidents of fuel shortage in Livingston County. Several municipalities indicated that fuel shortage is potentially a high threat: the Town of Conesus, the Town and Village of Lima, the Town and Village of Livonia, the Town of Ossian, and the Town of Springwater.

Subsection 6.33.C. Impacts: No impacts were reported. Fuel shortages may cascade into utility failures and cause general disruptions of routine activities.

Subsection 6.33.D. Damage: No costs reported.

Subsection 6.33.E. Probability: 0 events/100 years = 0%.

Subsection 6.33.F. Research: Fuel shortage history was researched in the Livingston County Historian's Office, and in meetings with county agencies. In addition, municipal committees were also asked to record the history of fuel shortage in their municipality.

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Chapter 7: *Risk Assessment*

PURPOSE
The purpose of the risk assessment is to:

- Inventory critical facilities and community assets in Livingston County;
- Assess the vulnerability of the critical facilities and community assets to the high priority hazards identified in the hazard analysis;
- Estimate potential losses in a hazard event; and
- Assess future vulnerability based on development trends.

SECTION 7.1: METHODOLOGY

Subsection 7.1.A: Develop Criteria

The planning committee was provided with draft criteria to be used in developing a consistent list of critical facilities and community assets. Using the FEMA How-To Guide *Understanding Your Risks* and the DRAFT Ontario County Multi-Jurisdictional All-Hazard Mitigation Plan, a set of criteria were developed by G/FLRPC. The criteria were reviewed and approved by the planning committee, and used to develop the list of vulnerable facilities.

Criteria for Inventory of Critical Facilities and Community Assets

Critical Facilities are facilities important to the community. They include essential facilities, transportation systems, lifeline utility systems, high potential loss facilities, and hazardous materials facilities.

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. The potential consequences of losing them are so great that they should be carefully inventoried. Vulnerability is based on the service they provide rather than just their physical aspects; therefore, not only their structural integrity and content value should be considered, but also the effects of interrupting their functions. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.

Transportation Systems include airways – airports, airstrips, and heliports; highways – bridges, tunnels, roadbeds, overpasses, and transfer centers; railways – trackage, tunnels, bridges, rail yards, and depots; waterways – canals, locks, seaports, ferries, harbors, drydocks, and piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power, and communication systems. This includes such facilities as electrical sub stations, water treatment facilities, telephone central offices, and wastewater facilities.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Community Assets are other community elements that might be vulnerable to particular types of hazards, and could present a different type of loss than a critical facility. Community assets include vulnerable

populations, economic elements, historic and cultural resource areas, natural resource and recreation areas, high density development areas, and facilities providing important services.

Vulnerable Populations are people, such as non-English speakers or the elderly, who may require special response assistance or special medical care after a disaster. Locations identified may include senior citizen complexes, group homes or mobile home parks. Also included in this category are groups of properties that are vulnerable to certain hazards, such as FEMA flood zones.

Economic Elements are major employers and financial centers in the county that could affect the local or regional economy if significantly disrupted. Major employers are those with 50 employees or more, and may even be located outside the county, while still employing a significant number of county residents.

Historic and Cultural Resource Areas are historic properties and cultural facilities that are identified and protected on the State and National Register of Historic Places, as well as those identified by the Planning Committee as significant to local history and culture.

Natural Resource and Recreation Areas include major natural resource and recreational areas that are considered unique or valuable to the community. Possible resources include major waterbodies, streams, wetlands, parks, forested areas, and large areas potentially susceptible to wildfires.

High Density Development Areas are areas of high-density residential or commercial development that, if damaged, could result in high death tolls and injury rates.

Facilities Providing Important Services are facilities that provide important services, such as government buildings, banks and certain commercial establishments, such as grocery stores, hardware stores and gas stations.

Subsection 7.1.B: Inventory Critical Facilities and Community Assets

The Livingston County Emergency Management Office (EMO) provided a detailed database of critical facilities and community assets that were already mapped and stored in a GIS program. The list of facilities from all of these GIS datasets was used as a starting point to develop a more detailed list of facilities to consider in the all-hazard mitigation planning process. The committee reviewed the list from the County EMO, determined which facilities fit the criteria, and made corrections to the facility information.

The planning committee also received a worksheet to fill out regarding additional facilities that fit the criteria. These new suggestions were added to the list of critical facilities and community assets. The growing list of critical facilities and community assets was reviewed in each regional municipal meeting, where each municipal committee added a number of additional facilities and addresses to the list. During interviews with county agency representatives, each individual was asked to review, comment on and add to the list, as well. The final list, following all of this input, was reviewed by the planning committee.

Subsection 7.1.C: Assess Vulnerability of Critical Facilities and Community Assets

The hazard analysis identified the hazard types to be analyzed, and the inventory identified critical facilities and community assets. To assess vulnerability of each facility and asset, G/FLRPC used a computer model to overlay the assets and facilities with the hazard risk areas. This model was developed using GIS, Microsoft Access and Excel software. The following chart lists the extents considered in assessing vulnerability. It is important to note that all Livingston County residents and properties are generally vulnerable to certain types of hazards, including: Ice Storm, Winter Storm, Severe Storm, Tornado, Earthquake, Fire, Extreme Temperatures, Utility Failure and Epidemic.

Table 7.1: Hazards and Extents for Livingston County

Hazard Type	Geographic Extent
Hazmat (In Transit)/ Oil Spill	Railroads, State and County roads
Terrorism	High Potential Loss Facilities, Critical Infrastructure, Agricultural Operations, Critical Facilities and Community Assets
Fire	All structures are vulnerable. Most Vulnerable: High Density Development Areas, Large Industrial Facilities (See Map 16, *High Density Development Areas*)
Ice Storm	Entire county
Flood	100 year flood zones, dams
Hazmat (Fixed Site)/Includes Oil Spill	Industrial Properties, Natural Gas Wells, Agricultural Operations, Major Oil Storage Facilities, Petroleum Bulk Storage, Chemical Bulk Storage, Regulated Facilities, HAZMAT facilities (See Map 13, *Potential Hazard Zones*)
Tornado	Entire county
Severe Storms	Entire county
Water Supply Contamination	Lifeline Utilities (pump stations), surface water supplies (Hemlock, Silver, and Conesus Lakes, Dansville and Nunda Reservoirs), groundwater, LCW&SA Facilities (See Map 2, *Water Resources*)
Ice Jam	100 year flood zones, areas indicated by municipalities
Severe Winter Storm	Entire county
Transportation Accident	All airports, airstrips, railroads and roads are vulnerable (See Map 14, *Transportation Accident Potential*)
Utility Failure	Entire county
Fuel Shortage	Entire county

Table 7.2: Municipal Hazard Concerns and Extents

Hazard	Municipalities	Geographic Extent
Wildfire	Town of Springwater	Forested areas within the county (areas with 50+ acres) based on 1999 land cover classifications (See Map 6, *Land Cover*)
Epidemic	Town of Ossian, Town & Village of Livonia	Must be specified by municipalities
Landslide	Town of Geneseo	Areas with slopes greater than 25%; significant stream bank erosion sites (See Map 15, *Steep Slopes*)
Radiological (In Transit)	Towns of North Dansville and Groveland	Railroad, State and County roads
Drought	Village of Caledonia	Entire county
Civil Unrest	Village of Mount Morris	Must be specified by municipalities
Mine Collapse	Towns of Groveland and York	Entire county
Explosion	Town and Village of Livonia, Village of Mount Morris, and the Town of York	Industrial Properties, Agricultural Operations, Pipelines, Fuel Storage Facilities, Chlorine Storage Facilities (See Map 13, *Potential Hazard Zones*)
Extreme Temps	Towns of Groveland, Mount Morris	Entire county
Air Contamination	Towns of Caledonia, York and Mount Morris	2 miles from Industrial Facilities (See Map 13, *Potential Hazard Zones*)
Blight	Town of Springwater	Agricultural Fields (See Map 6, *Land Cover*)

Table 7.3 identifies the Livingston County municipalities that currently participate in the National Flood Insurance Program (NFIP). The NFIP, established in 1968, is a Federal program that enables property owners in member communities to purchase flood insurance. This insurance is only made available to municipalities that adopt and enforce a floodplain management ordinance. The fundamental goal of NFIP floodplain management requirements is to reduce the threat to lives and the potential for property damage in flood-prone areas.

Each municipality that participates in the NFIP typically has a Flood Insurance Rate Map (FIRM) that is issued by FEMA. This document maps out flood hazard areas in the municipality. The flood zones used by the Livingston County All-Hazard Mitigation Plan to determine the vulnerability of Critical Facilities and Community Assets to flooding are the areas identified by the FIRMs as Zone A areas, which are defined as "Areas of 100-year flood." The vulnerability of specific facilities to flooding was determined by using a GIS model to compare the flood zones with the locations of the Critical Facilities and Community Assets.

As the table indicates, all twenty-six municipalities in Livingston County currently participate in the NFIP and have FIRMs.

Table 7.3: Livingston County National Flood Insurance Program (NFIP) Membership

Municipality:	NFIP Member?	Date of Current Effective Flood Insurance Rate Map (FIRM)
Avon, Town	Yes	08/15/78
Avon, Village	Yes	08/01/78
Caledonia, Town	Yes	06/01/81
Caledonia, Village	Yes	06/01/81
Conesus, Town	Yes	02/15/91
Dansville, Village	Yes	11/01/78
Geneseo, Town	Yes	09/29/96
Geneseo, Village	Yes	09/29/96
Groveland, Town	Yes	02/15/91
Leicester, Town	Yes	01/20/82
Leicester, Village	Yes	08/27/82
Lima, Town	Yes	12/23/83
Lima, Village	Yes	07/23/82
Livonia, Town	Yes	02/19/92
Livonia, Village	Yes	06/01/88
Mount Morris, Town	Yes	12/11/81
Mount Morris, Village	Yes	08/01/78
North Dansville, Town	Yes	12/04/79
Nunda, Town	Yes	07/03/85
Nunda, Village	Yes	03/23/84
Ossian, Town	Yes	06/08/84
Portage, Town	Yes	12/18/84
Sparta, Town	Yes	08/27/82
Springwater, Town	Yes	08/24/84
West Sparta, Town	Yes	07/18/85
York, Town	Yes	01/20/82

Source: Federal Emergency Management Agency (FEMA), *Community Status Book Report*. Report Level: County.

The following table (Table 7.4) is excerpted from the New York State Standard Multi-Hazard Mitigation Plan. This table is included here to provide additional details on the NFIP program in Livingston County. The first table provides statistical data on the County's NFIP participation. It shows that there are a total of 262 flood insurance policies currently in place throughout the County, which cover a total of $2,473,100.00 of property. There have been a total of 98 flood damage claims, for a total value of $327,183.00.

Table 7.4: Livingston County NFIP Data

County	# of NFIP Insurance Policies	# of NFIP Claims	$ total NFIP Claims	$ Mil. Total NFIP policy coverage	# of Repetitive Flood Loss Properties	# and % of residential structures in 100 yr. floodplain		% of County in 100 yr. Floodplain	# of Flood Disasters	Pop. Density NAZUS (sq. mile)
Livingston	262	98	327,183	2,473,100	1	928	5.1	8.60	5	86.8

Source: *New York State Standard Multi-Hazard Mitigation Plan*, Table 3-25.

Subsection 7.1.D: Estimate Potential Losses

The Genesee/Finger Lakes Regional Planning Council estimated potential losses using the property assessments provided by each municipality for their critical facilities and community assets. Using the municipality's most up to date assessed value, each critical facility and community asset was calculated at a 25%, 50% and 75% loss. These figures were chosen in order to provide a broad range of estimates losses. However, these estimates do not consider functional or content loss. In addition, when reviewing the estimated losses methodology, the planning committee noted that the assessed value for certain facilities would not be accurate, and requested that an alternate method be considered. Many of the buildings in the county could not be rebuilt for the assessed value, particularly the historic structures. A method was sought where replacement or reconstruction value, rather than assessed value, could be used. Unfortunately, a method or multiplier to do so was not found nor could be used. The solution suggested by the Livingston County Planning Department was to have the assessor make an up to date assessment in situations where the assessment value did not seem accurate.

For security and privacy reasons, the full Estimated Potential Loss Report is not included in this document. A summary report is provided to show the process and format of the findings.

SECTION 7.2: RESULTS

Subsection 7.2.A. Critical Facilities and Community Assets

The multiple steps involved in developing an inventory of critical facilities and community assets yielded the following figures for each municipality. There are 527 Critical Facilities and 470 Community Assets in Livingston County, for a grand total of 997 locations.

Table 7.5: Critical Facilities in Livingston County By Municipality

Municipality	Essential Facilities	Lifeline Utility Systems	Transportation Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Avon	13	21	6	5	7	52
Caledonia	8	6	4	1	18	37
Conesus	5	14	5	4	5	33
Dansville/North Dansville	23	26	12	3	11	75
Geneseo	16	23	7	5	6	57
Groveland	8	22	4	0	2	36
Leicester	6	10	4	1	4	25
Lima	10	15	2	2	5	34
Livonia	13	33	4	2	5	57

Mount Morris	11	7	3	1	5	27
Nunda	10	8	5	3	2	28
Ossian	2	0	1	0	2	5
Portage	4	2	2	1	0	9
Sparta	3	1	2	0	0	6
Springwater	5	5	4	1	0	15
West Sparta	3	0	2	0	1	6
York	8	7	4	3	3	25
Total Facilities	148	200	71	32	76	527

Table 7.6: Community Assets in Livingston County By Municipality

Municipality	Vulnerable Populations	Natural Resource & Recreation Areas	Historic & Cultural Resource Areas	Economic Elements	Facilities Providing Important Services	Grand Total
Avon	11	3	3	10	13	40
Caledonia	14	7	6	8	4	39
Conesus	6	12	2	20	4	44
Dansville/North Dansville	40	1	4	6	9	60
Geneseo	15	1	6	0	11	33
Groveland	2	0	4	3	8	17
Leicester	5	4	0	4	4	17
Lima	11	2	35	4	4	56
Livonia	15	1	3	2	7	28
Mount Morris	15	2	11	3	11	42
Nunda	14	4	3	3	4	28
Ossian	0	2	0	6	0	8
Portage	1	2	1	8	1	13
Sparta	1	0	0	0	0	1
Springwater	3	0	0	1	1	5
West Sparta	2	2	0	2	0	6
York	3	1	2	23	4	33
Total Facilities	158	44	80	103	85	470

Subsection 7.2.B: Vulnerability Assessment

The following tables provide an overview of the total number of critical facilities and community affected by each hazard. Please note that some of the facilities suggested by planning committee and municipal committee members did not have good addresses, and could not be used in the computer model. These facilities are included in the total numbers of critical facilities and community assets, which are listed earlier in this section in Tables 7.4 and 7.5. These facilities could not be included in the vulnerability assessment.

Table 7.7: Critical Facilities Vulnerable to Flooding

Municipality	Essential Facilities	Lifeline Utility Systems	Transportation Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Avon		2	1			3
Caledonia			1		1	2
Conesus		2	23			25
Dansville/North Dansville		3	1		6	10
Geneseo	3	1	3		1	8
Groveland	1	1	3		2	7
Leicester		1	1		52	54
Lima			1			1
Livonia	5	1	20		2	28
Mount Morris		2	4		4	10
Nunda		2	5	1	1	9
Ossian			4			4
Portage	1		17			18
Sparta			1		1	2
Springwater		1	17			18
West Sparta			5		5	10
York			1	1	4	6
Total Facilities	**10**	**16**	**108**	**2**	**79**	**215**

Table 7.8: Community Assets Vulnerable to Flooding

Municipality	Vulnerable Populations	Natural Resource & Recreation Areas	Historic & Cultural Resource Areas	Economic Elements	Facilities Providing Important Services	Grand Total
Avon						
Caledonia		3			1	4
Conesus		1				1
Dansville/North Dansville	5	1		1		7
Geneseo	1	1				2
Groveland		1				1
Leicester		3				3
Lima			2			2
Livonia	1	2	3		4	10
Mount Morris	4				3	7
Nunda		1				1
Ossian		1				1
Portage		2	1			3
Sparta						0
Springwater						0
West Sparta						0
York						0
Total Facilities	**11**	**16**	**6**	**1**	**8**	**42**

Table 7.9: Critical Facilities Vulnerable to Hazardous Materials (Fixed), Air Contamination & Explosion

Municipality	Essential Facilities	Lifeline Utility Systems	Transportation Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Avon	13	11			5	29
Caledonia	10	5			4	19
Conesus	2	1				3
Dansville/North Dansville	18	6	3		3	30
Geneseo	17	13		1		31
Groveland	4	10	1		1	16
Leicester	6	8			2	16
Lima	12	6			5	23
Livonia	12	12			2	26
Mount Morris	11	4	2	1	2	20
Nunda	11	6			1	18
Ossian						
Portage	3	1			1	5
Sparta						
Springwater	4	2				6
West Sparta						
York	9	7			4	20
Total Facilities	**132**	**92**	**6**	**2**	**30**	**262**

Table 7.10: Community Assets Vulnerable to Hazardous Materials (Fixed), Air Contamination & Explosion

Municipality	Vulnerable Populations	Natural Resource & Recreation Areas	Historic & Cultural Resource Areas	Economic Elements	Facilities Providing Important Services	Grand Total
Avon	9	3	2	3	7	24
Caledonia	6	4	3	1	4	18
Conesus	1	1			2	4
Dansville/North Dansville	29	2	5	1	13	50
Geneseo	14	1	3		15	33
Groveland	2		1		2	5
Leicester	5	4		1	2	12
Lima	7	1	29		5	42
Livonia	9	2	3		9	23
Mount Morris	16	2	11		8	37
Nunda	6	1	2		6	15
Ossian						
Portage		1			1	2
Sparta						
Springwater	2	1			1	4
West Sparta	1					1
York	2		2		11	15
Total Facilities	**109**	**23**	**61**	**6**	**86**	**285**

Table 7.11: Critical Facilities Vulnerable to Hazardous Materials (In Transit)

Municipality	Essential Facilities	Lifeline Utility Systems	Transportation Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Avon	2				8	10
Caledonia	2	1			3	6
Conesus	3	1			1	5
Dansville/North Dansville	4	1			7	12
Geneseo	4	2				6
Groveland	2	1	1		2	6
Leicester	5	1			9	15
Lima	5	1			2	8
Livonia	4				1	5
Mount Morris	5		1		5	11
Nunda	3				4	7
Ossian						0
Portage		1				1
Sparta	2					2
Springwater	3	1			1	5
West Sparta					1	1
York	3			1	1	5
Total Facilities	**47**	**10**	**2**	**1**	**45**	**105**

Table 7.12: Community Assets Vulnerable to Hazardous Materials (In Transit)

Municipality	Vulnerable Populations	Natural Resource & Recreation Areas	Historic & Cultural Resource Areas	Economic Elements	Facilities Providing Important Services	Grand Total
Avon	1		3			4
Caledonia	1	2	2		3	8
Conesus	1	1			1	3
Dansville/North Dansville	2		3		8	13
Geneseo	1		3		6	10
Groveland					2	2
Leicester	1	3			2	6
Lima	1		21		2	24
Livonia	1	1	2		10	14
Mount Morris			7		3	10
Nunda			2		3	5
Ossian						0
Portage		1	1			2
Sparta						0
Springwater					2	2
West Sparta						0
York	1				2	3
Total Facilities	**10**	**8**	**44**	**0**	**44**	**106**

Subsection 7.2.C: Estimated Losses

Thus far, the Livingston County All-Hazard Mitigation Plan has profiled hazard events, inventoried critical facilities and community assets, and determined the vulnerability of the assets to the various hazard types. This section of the plan focuses on estimating financial losses from the vulnerable hazard events. The estimated level of damage from each hazard for the entire hazard area is based on historical evidence, and on the current assessed value. For privacy and security reasons, a full report of losses could not be provided. Instead, the following summary tables are included to provide a general understanding of value and potential loss.

(These tables are in a draft form, with data from most facilities included. Some facilities did not have an assessed value assigned to the facility by the municipal representative, and two municipalities did not comply with the request for assessed values at all. This additional information will be provided in the future versions of the plan.) A review of the criteria used to classify Livingston County facilities precedes the table.

Summary of Criteria for Critical Facilities and Community Assets

- Essential Facilities *(i.e. hospitals, police/fire stations, schools, evacuation shelters)*
- Transportation Systems *(i.e. airports, highways, railways, waterways, bridges, tunnels)*
- Lifeline Utility Systems *(i.e. facilities for potable water, wastewater, oil, gas, electric)*
- High Potential Loss Facilities *(i.e. nuclear power plants, dams, military installations)*
- Hazardous Material Facilities *(i.e. facilities housing industrial or hazardous materials)*
- Vulnerable Populations *(i.e. senior citizen complexes, group homes, or mobile home parks)*
- Economic Elements *(i.e. major employers and financial centers)*
- Historic and Cultural Resource Areas *(i.e. historic properties, cultural facilities)*
- Natural Resource and Recreation Areas *(i.e. water bodies, wetlands, parks, forests)*
- High Density Development Areas *(i.e. high density residential or commercial areas)*
- Facilities Providing Important Services *(i.e. gov't buildings, grocery stores, gas stations)*

Table 7.13: Estimated Loss Summary Tables, By Municipality and Facility Type

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Avon					
	Agricultural Area	$3,624,100	$2,718,075	$1,812,050	$906,025
	Economic Element	$14,628,300	$10,971,225	$7,314,150	$3,657,075
	Essential Facility	$11,629,600	$8,722,200	$5,814,800	$2,907,400
	Facility Providing Important Service	$3,359,500	$2,519,625	$1,679,750	$839,875
	Hazardous Materials	$10,230,800	$7,673,100	$5,115,400	$2,557,700
	High Potential Loss	$437,600	$328,200	$218,800	$109,400
	Historic and Cultural Resource	$1,854,300	$1,390,725	$927,150	$463,575
	Important Services	$2,112,300	$1,584,225	$1,056,150	$528,075
	Lifeline Utility System	$4,261,890	$3,196,418	$2,130,945	$1,065,473
	Natural Resource & Recreation Area	$215,800	$161,850	$107,900	$53,950
	Transportation System	$1,565,936	$1,174,452	$782,968	$391,484
	Vulnerable Population	$14,646,100	$10,984,575	$7,323,050	$3,661,525

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Caledonia					
	Agricultural Area	$3,060,400	$2,295,300	$1,530,200	$765,100
	Economic Element	$1,171,200	$878,400	$585,600	$292,800
	Essential Facility	$5,536,400	$4,152,300	$2,768,200	$1,384,100
	Facility Providing Important Service	$461,200	$345,900	$230,600	$115,300
	Hazardous Materials	$3,767,400	$2,825,550	$1,883,700	$941,850
	High Density Development Areas	$3,300,000	$2,475,000	$1,650,000	$825,000
	High Potential Loss	$380,000	$285,000	$190,000	$95,000
	Historic and Cultural Resource	$423,100	$317,325	$211,550	$105,775
	Important Services	$561,000	$420,750	$280,500	$140,250
	Lifeline Utility System	$357,000	$267,750	$178,500	$89,250
	Natural Resource & Recreation Area	$887,200	$665,400	$443,600	$221,800
	Transportation System	$3,421,551	$2,566,163	$1,710,776	$855,388
	Vulnerable Population	$6,986,500	$5,239,875	$3,493,250	$1,746,625

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Conesus					
	Agricultural Area	$2,720,600	$2,040,450	$1,360,300	$680,150
	Essential Facility	$680,200	$510,150	$340,100	$170,050
	Facility Providing Important Service	$389,000	$291,750	$194,500	$97,250
	Hazardous Materials	$1,244,500	$933,375	$622,250	$311,125
	High Potential Loss	$506,200	$379,650	$253,100	$126,550
	Historic & Cultural Resource	$530,300	$397,725	$265,150	$132,575
	Important Services	$183,500	$137,625	$91,750	$45,875
	Lifeline Utility System	$4,065,300	$3,048,975	$2,032,650	$1,016,325
	Natural Resource & Recreation Area	$6,021,700	$4,516,275	$3,010,850	$1,505,425
	Vulnerable Population	$1,365,000	$1,023,750	$682,500	$341,250

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Dansville					
	Agricultural Area	$64,500	$48,375	$32,250	$16,125
	Economic Element	$6,807,000	$5,105,250	$3,403,500	$1,701,750
	Essential Facility	$22,240,400	$16,680,300	$11,120,200	$5,560,100
	Facility Providing Important Service	$4,565,700	$3,424,275	$2,282,850	$1,141,425
	Hazardous Materials	$1,710,150	$1,282,613	$855,075	$427,538
	Historic and Cultural Resource	$301,700	$226,275	$150,850	$75,425
	Important Services	$1,060,900	$795,675	$530,450	$265,225
	Lifeline Utility System	$17,363,858	$13,022,894	$8,681,929	$4,340,965
	Natural Resource & Recreation Area	$10,800	$8,100	$5,400	$2,700
	Transportation System	$2,671,607	$2,003,705	$1,335,804	$667,902
	Vulnerable Population	$12,143,374	$9,107,531	$6,071,687	$3,035,844

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Geneseo					
	Essential Facility	$114,755,524	$86,066,643	$57,377,762	$28,688,881
	Facility Providing Important Service	$17,075,400	$12,806,550	$8,537,700	$4,268,850
	Hazardous Materials	$2,768,581	$2,076,436	$1,384,291	$692,145
	High Potential Loss	$3,235,927	$2,426,945	$1,617,964	$808,982
	Lifeline Utility System	$8,298,826	$6,224,120	$4,149,413	$2,074,707
	Transportation System	$213,600	$160,200	$106,800	$53,400

	Vulnerable Population	$16,468,226	$12,351,170	$8,234,113	$4,117,057

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Groveland					
	Agricultural Area	$2,770,300	$2,077,725	$1,385,150	$692,575
	Essential Facility	$1,475,100	$1,106,325	$737,550	$368,775
	Hazardous Materials	$110,600	$82,950	$55,300	$27,650
	Historic and Cultural Resource	$722,900	$542,175	$361,450	$180,725
	Important Services	$100,000	$75,000	$50,000	$25,000
	Lifeline Utility System	$1,002,000	$751,500	$501,000	$250,500
	Vulnerable Population	$45,699,300	$34,274,475	$22,849,650	$11,424,825
	Lifeline Utility System	$127,075	$95,306	$63,538	$31,769

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Leicester					
	Agricultural Area	$1,030,300	$772,725	$515,150	$257,575
	Economic Element	$3,315,400	$2,486,550	$1,657,700	$828,850
	Essential Facility	$1,385,400	$1,039,050	$692,700	$346,350
	Facility Providing Important Service	$263,000	$197,250	$131,500	$65,750
	Hazardous Materials	$304,900	$228,675	$152,450	$76,225
	Lifeline Utility System	$2,496,339	$1,872,254	$1,248,170	$624,085
	Natural Resource & Recreation Area	$101,700	$76,275	$50,850	$25,425
	Vulnerable Population	$2,129,900	$1,597,425	$1,064,950	$532,475

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Lima					
	Economic Element	$1,973,300	$1,479,975	$986,650	$493,325
	Essential Facility	$12,788,300	$9,591,225	$6,394,150	$3,197,075
	Facility Providing Important Service	$442,400	$331,800	$221,200	$110,600
	Hazardous Materials	$542,700	$407,025	$271,350	$135,675
	Historic and Cultural Resource	$6,388,800	$4,791,600	$3,194,400	$1,597,200
	Lifeline Utility System	$7,067,013	$5,300,260	$3,533,507	$1,766,753
	Natural Resource & Recreation Area	$481,113	$360,835	$240,557	$120,278
	Vulnerable Population	$5,860,700	$4,395,525	$2,930,350	$1,465,175
	Lifeline Utility System	$109,800	$82,350	$54,900	$27,450

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Livonia					
	Economic Element	$1,964,800	$1,473,600	$982,400	$491,200
	Essential Facility	$17,559,700	$13,169,775	$8,779,850	$4,389,925
	Facility Providing Important Service	$1,288,000	$966,000	$644,000	$322,000
	Hazardous Materials	$1,060,800	$795,600	$530,400	$265,200
	High Potential Loss	$200,000	$150,000	$100,000	$50,000
	Historic and Cultural Resource	$219,100	$164,325	$109,550	$54,775
	Lifeline Utility System	$2,086,083	$1,564,562	$1,043,042	$521,521
	Natural Resource & Recreation Area	$160,000	$120,000	$80,000	$40,000
	Transportation System	$545,510	$409,133	$272,755	$136,378
	Vulnerable Population	$5,190,000	$3,892,500	$2,595,000	$1,297,500

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
North Dansville					
	Vulnerable Population	$2,423,000	$1,817,250	$1,211,500	$605,750

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Nunda					
	Agricultural Area	$1,260,000	$945,000	$630,000	$315,000
	Economic Element	$1,308,022	$981,017	$654,011	$327,006
	Essential Facility	$5,757,400	$4,318,050	$2,878,700	$1,439,350
	Facility Providing Important Service	$567,600	$425,700	$283,800	$141,900
	Hazardous Materials	$684,600	$513,450	$342,300	$171,150
	High Potential Loss	$175,000	$131,250	$87,500	$43,750
	Historic and Cultural Resource	$217,700	$163,275	$108,850	$54,425
	Lifeline Utility System	$4,947,301	$3,710,476	$2,473,651	$1,236,825
	Natural Resource & Recreation Area	$179,900	$134,925	$89,950	$44,975
	Transportation System	$825,000	$618,750	$412,500	$206,250
	Vulnerable Population	$4,283,100	$3,212,325	$2,141,550	$1,070,775

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Ossian					
	Agricultural Area	$3,021,000	$2,265,750	$1,510,500	$755,250
	Hazardous Materials	$114,600	$85,950	$57,300	$28,650

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Portage					
	Agricultural Area	$1,907,600	$1,430,700	$953,800	$476,900
	Economic Element	$261,200	$195,900	$130,600	$65,300
	Essential Facility	$1,211,500	$908,625	$605,750	$302,875
	Facility Providing Important Service	$42,000	$31,500	$21,000	$10,500
	Historic and Cultural Resource	$254,700	$191,025	$127,350	$63,675
	Lifeline Utility System	$62,797	$47,098	$31,399	$15,699
	Natural Resource & Recreation Area	$2,200,000	$1,650,000	$1,100,000	$550,000

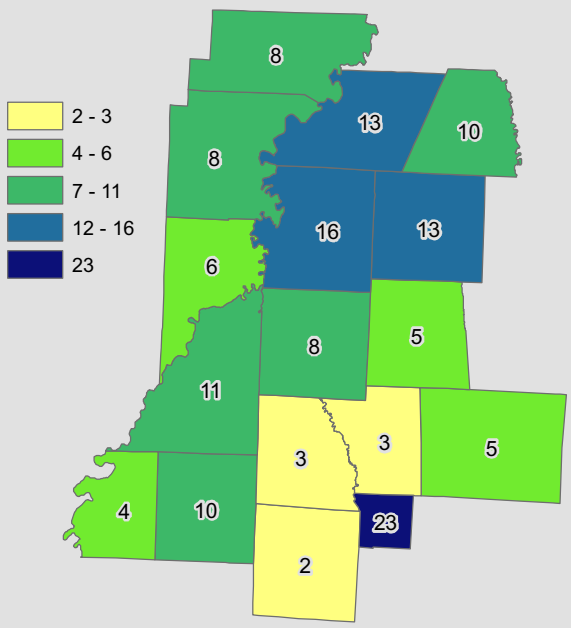
	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Sparta					
	Essential Facility	$694,000	$520,500	$347,000	$173,500
	Lifeline Utility System	$65,000	$48,750	$32,500	$16,250
	Historic and Cultural Resource	$153,900	$115,425	$76,950	$38,475

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
Springwater					
	Agricultural Area	$669,700	$502,275	$334,850	$167,425
	Essential Facility	$686,800	$515,100	$343,400	$171,700
	Facility Providing Important Service	$88,600	$66,450	$44,300	$22,150
	Lifeline Utility System	$158,310	$118,733	$79,155	$39,578
	Transportation System	$98,000	$73,500	$49,000	$24,500
	Vulnerable Population	$587,200	$440,400	$293,600	$146,800

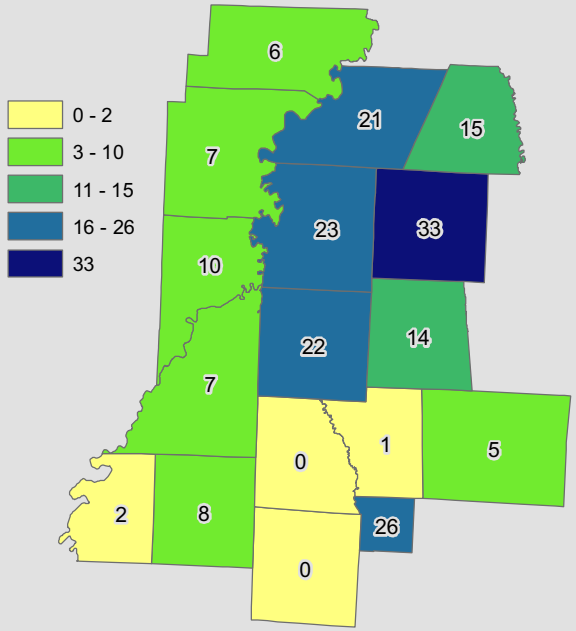
	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
West Sparta					
	Economic Element	$144,000	$108,000	$72,000	$36,000
	Essential Facility	$290,700	$218,025	$145,350	$72,675
	Hazardous Materials	$50,000	$37,500	$25,000	$12,500
	Vulnerable Population	$116,000	$87,000	$58,000	$29,000

	Facility Type	Total Value	75% Loss	50% Loss	25% Loss
York					
	Agricultural Area	$15,989,000	$11,991,750	$7,994,500	$3,997,250
	Economic Element	$5,471,500	$4,103,625	$2,735,750	$1,367,875
	Essential Facility	$59,779,481	$44,834,611	$29,889,741	$14,944,870
	Facility Providing Important Service	$69,600	$52,200	$34,800	$17,400
	Hazardous Materials	$239,100	$179,325	$119,550	$59,775
	Historic and Cultural Resource	$332,600	$249,450	$166,300	$83,150
	Lifeline Utility System	$1,400,100	$1,050,075	$700,050	$350,025
	Natural Resource & Recreation Area	$38,400	$28,800	$19,200	$9,600
	Transportation System	$921,897	$691,423	$460,949	$230,474
	Vulnerable Population	$4,231,800	$3,173,850	$2,115,900	$1,057,950

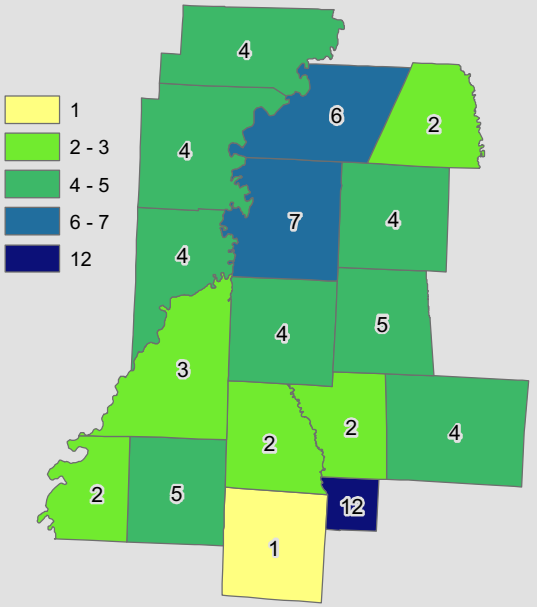
Essential Facilities



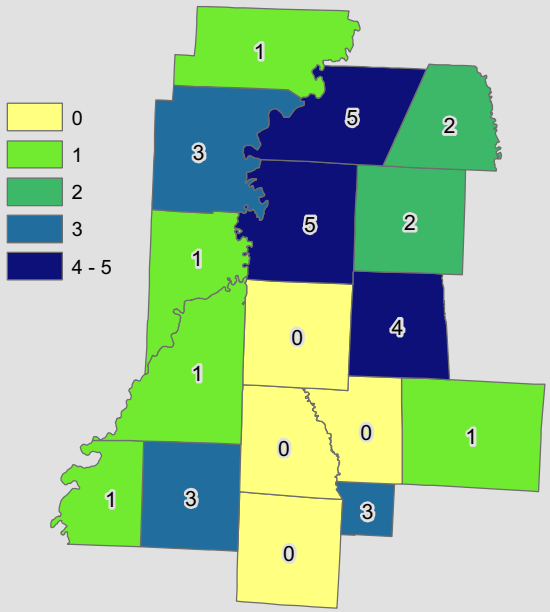
Lifeline Utility Systems



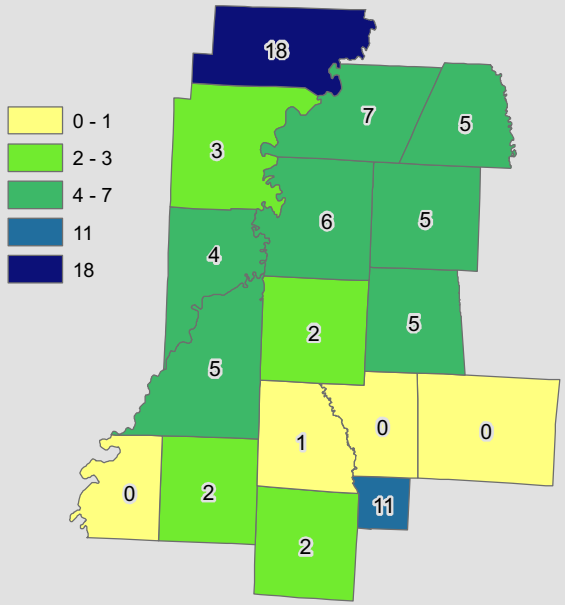
Transportation Systems



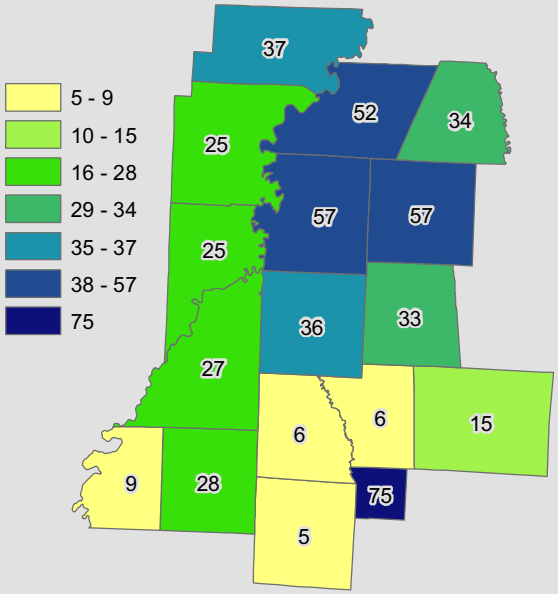
High Potential Loss Facilities



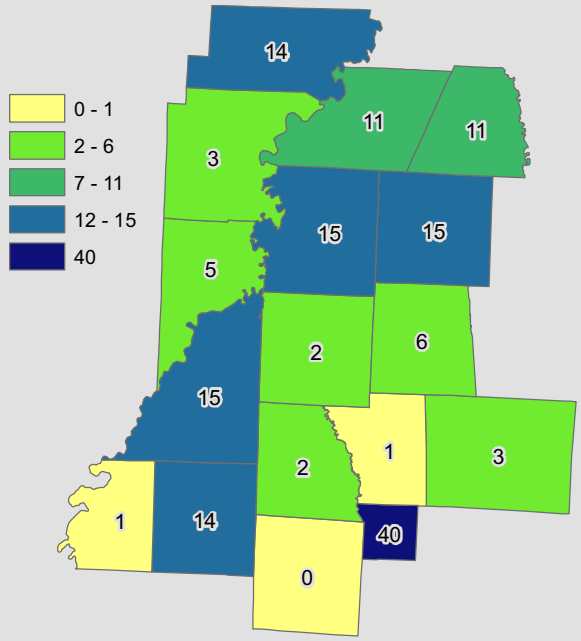
Hazardous Material Facilities



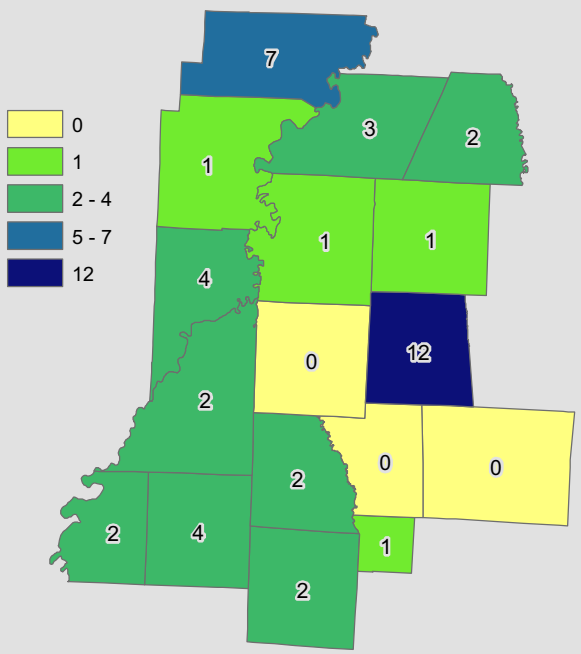
Critical Facilities - Totals



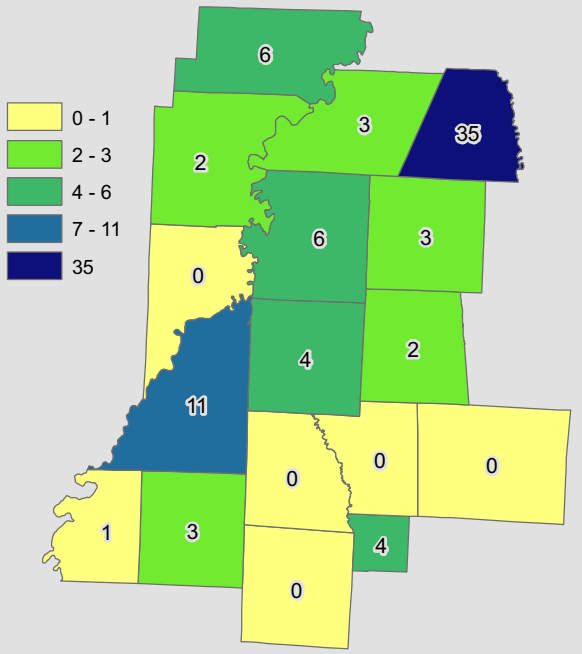
Vulnerable Populations



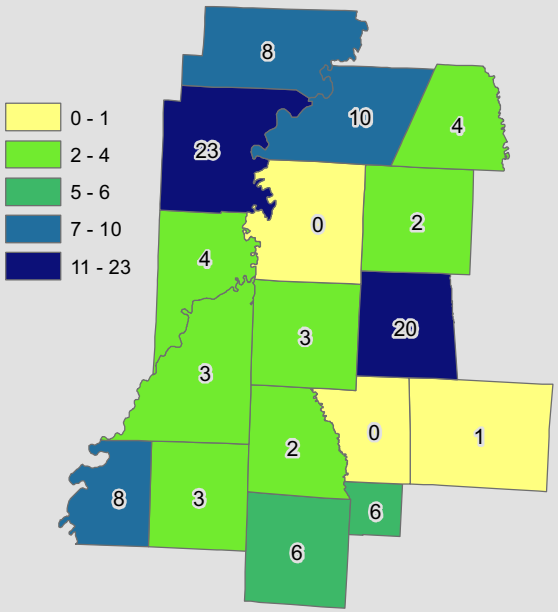
Natural Resource & Recreation Areas



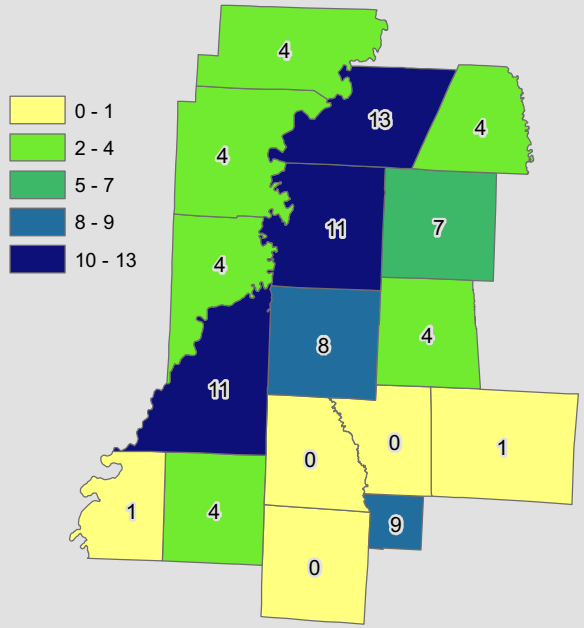
Historic & Cultural Resources



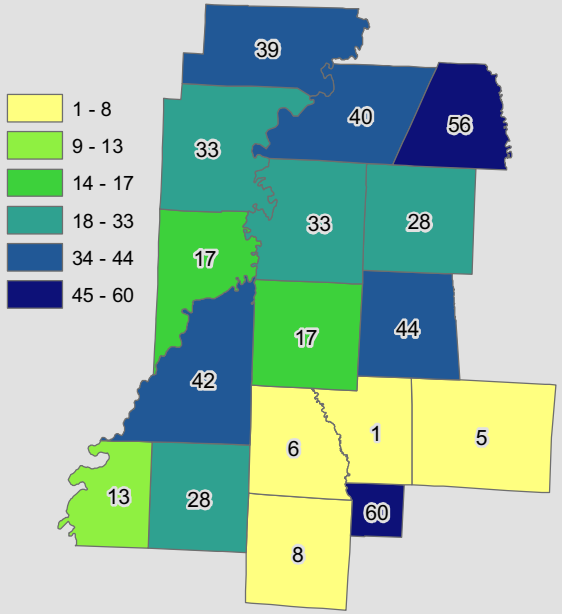
Economic Elements



Facilities Providing Important Services

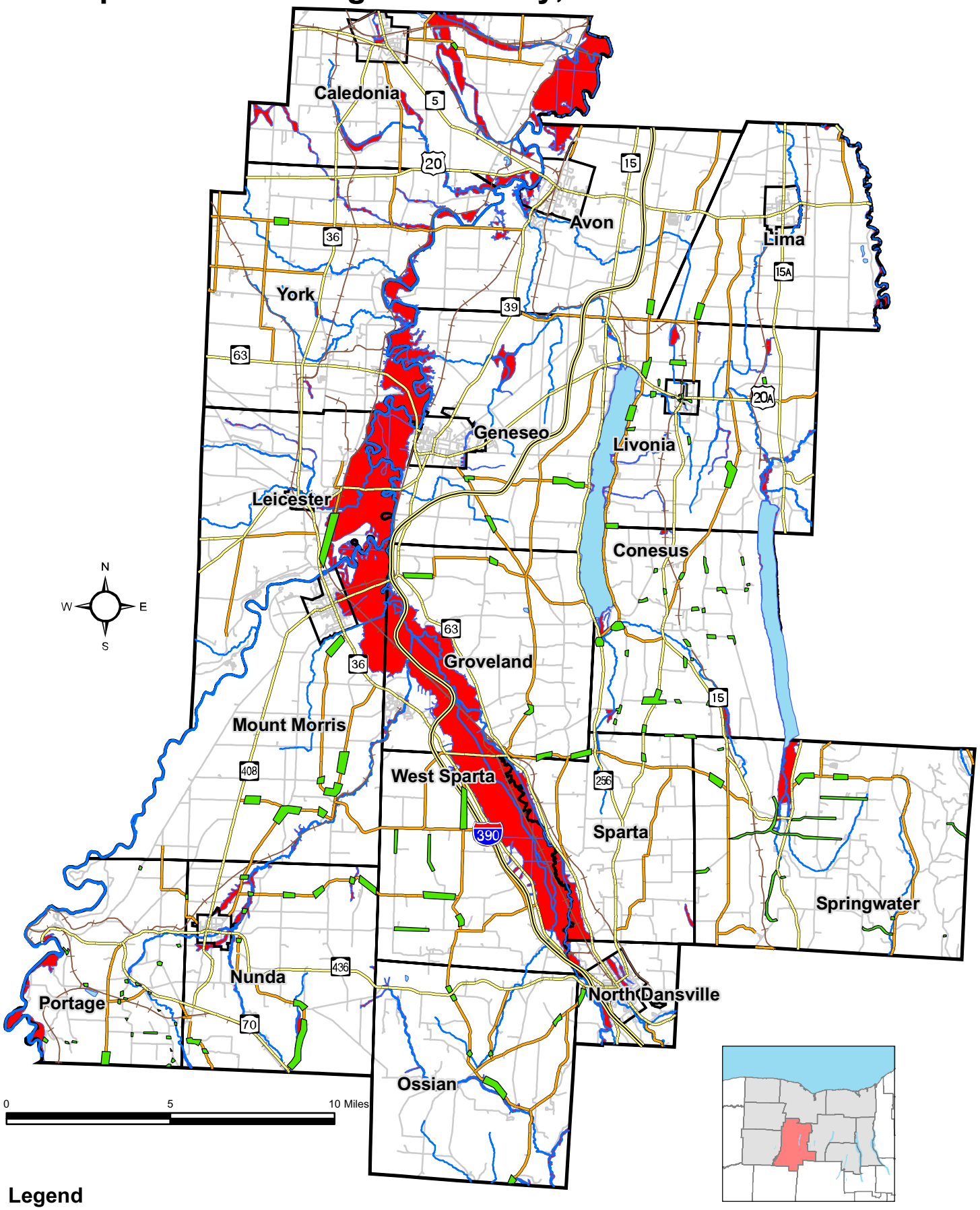


Community Assets - Totals



Flood Zone Areas

Map 12 Livingston County, New York



Legend

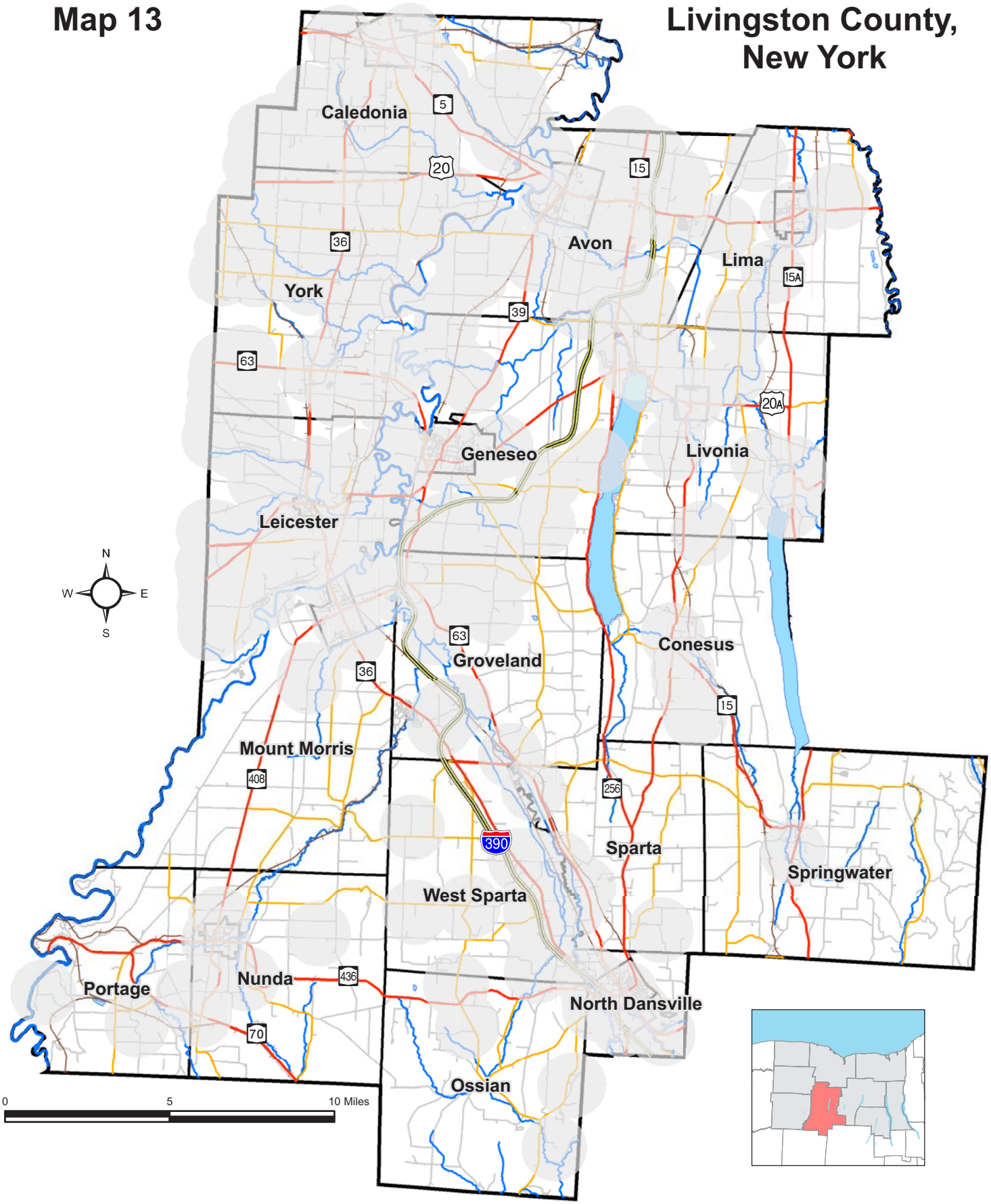
- Highway (390)
- Federal & State Routes
- County Routes
- Roads
- Railroads
- River/Streams
- 100 year Flood Zones
- Other Areas Susceptible to Flooding (as noted by County or Municipality)

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Potential Hazard Zones: Air Contamination, Hazardous Materials (Fixed Site), and Explosion

Map 13

Livingston County, New York



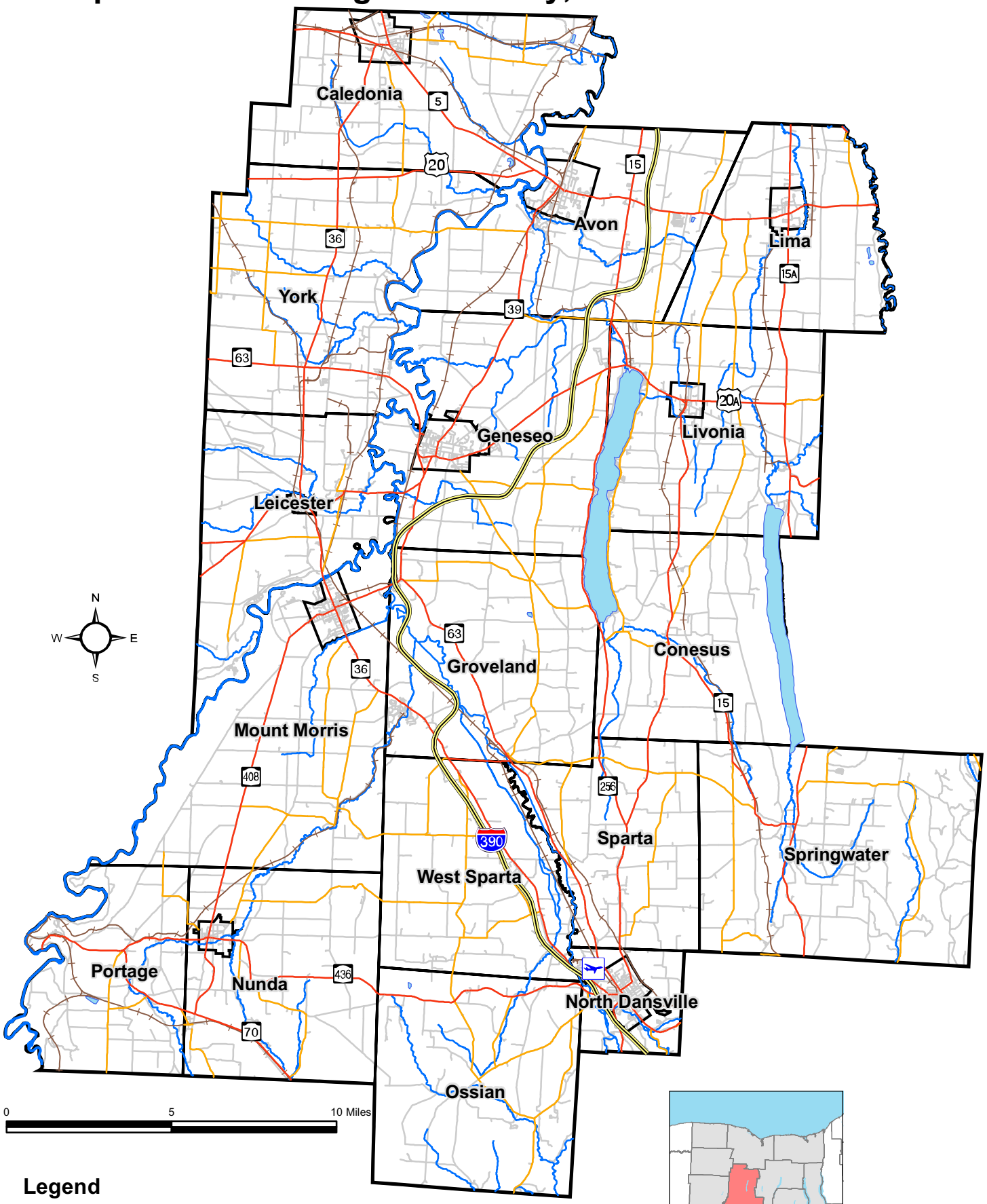
Highway (390)
Federal & State Routes
County Routes
Roads
Railroads
River/Streams
Potential Hazard Buffer Zones

Buffer zones, 2 miles in diameter, were placed around all Gas Stations, Gas Storage Facilities, Oil & Gas Wells, and Hazardous Material Facilities

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Map 14

Transportation Accident Potential
Livingston County, New York



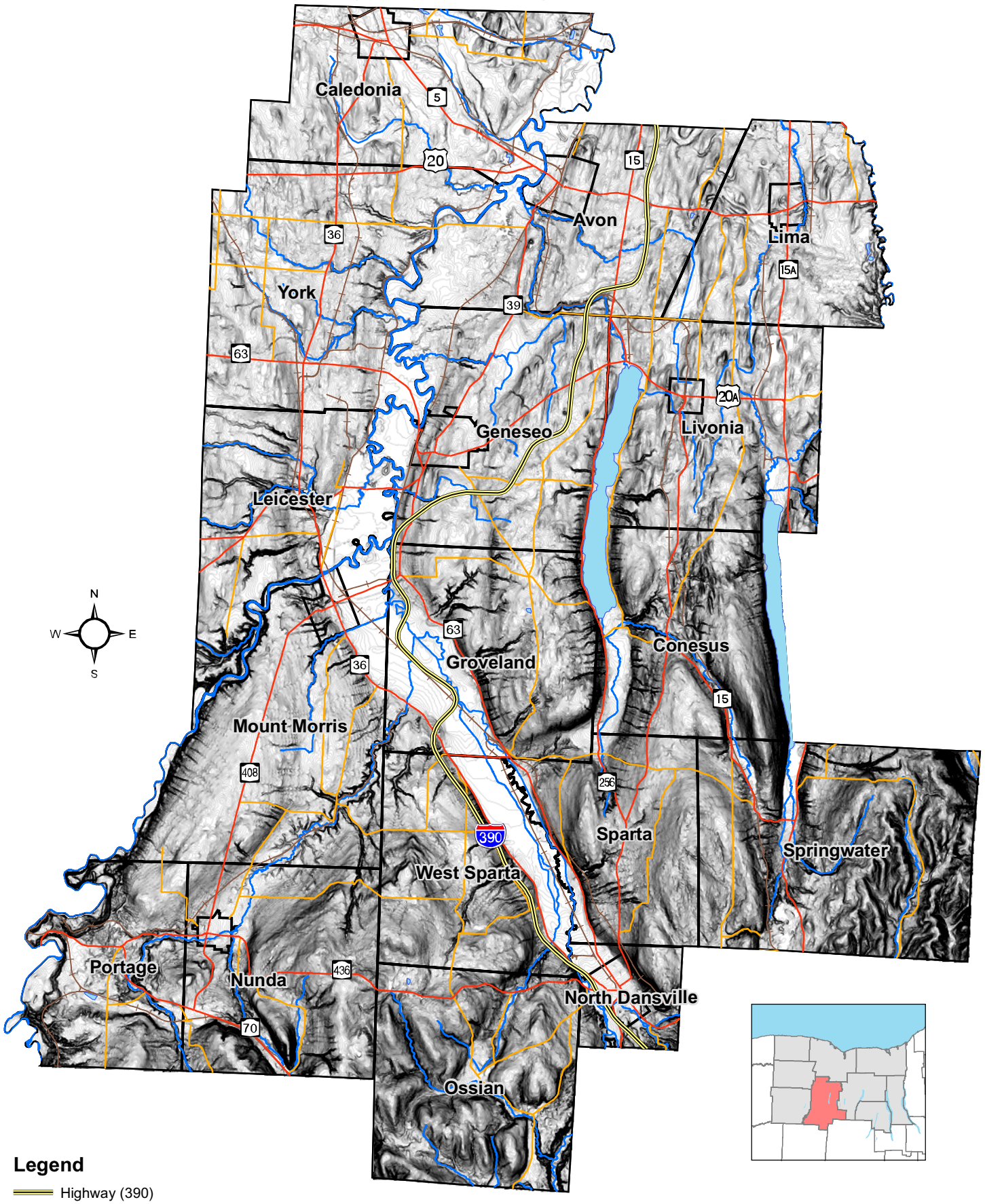
Legend

- Highway (390)
- Federal & State Routes
- County Routes
- Roads
- Railroads
- River/Streams
- Airport

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Steep Slopes

Map 15 Livingston County, New York



Legend

- Highway (390)
- Federal & State Routes
- County Routes
- Railroads
- River/Streams

0 5 10 15 Miles

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Map 16

High Density Development Areas
Livingston County, New York

Parcels per Square Mile

- 261 - 450
- 451 - 650
- 651 - 750
- 751 - 1100
- 1101 - 1350
- 1351 - 3300

Caledonia
Avon
Lima
York
Livonia
Geneseo
Leicester
Groveland
Conesus
Mount Morris
Sparta
Springwater
West Sparta
Portage
Nunda
North Dansville
Ossian

0 5 10 Miles

N W E S

Legend

- Highway (390)
- Federal & State Routes
- County Routes
- Roads
- Railroads
- River/Streams
- Villages

(All Villages are also considered areas of High Density Development)

Prepared by: Genesee/Finger Lakes Regional Planning Council, 2005

Chapter 8
Mitigation Strategy

INTRODUCTION

According to the Federal Emergency Management Agency (FEMA), mitigation is the cornerstone of emergency management planning. Mitigation involves long-term actions taken to reduce and/or eliminate the impact of disasters on people's lives and the built environment. Pre-disaster planning saves lives, protects property, and lessens the cost of disaster response and recovery.

Chapter 5 identified hazards that could occur in Livingston County. Chapter 6 detailed the history of previous hazard events in the county. Chapter 7 identified critical facilities and community assets in Livingston County and assessed the vulnerability of these facilities to specific hazards.

Chapter 8 outlines the methodology used in developing the plan's Mitigation Strategy, the Goals and Objectives that structure the Mitigation Strategy, and the proposed Mitigation Measures that provide specific suggestions aimed at reducing or eliminating the risks associated with the county's vulnerability to various hazard events.

METHODOLOGY

The mitigation strategy was developed with direct input from the Livingston County All-Hazard Mitigation Planning Committee and all of the municipal committees. The strategy was developed in several phases, which are described below.

Work on the Mitigation Strategy began at the Planning Committee meeting on January 17th, 2006. At this meeting a handout regarding the development of the Mitigation Strategy was distributed to the attendees. Using this handout and the Hazard Assessment portion of the plan, the attendees discussed the development of the Mitigation Strategy. A draft list of Mitigation Goals and Mitigation Objectives was formed, which provided the basis for the subsequent development of specific mitigation measures/action items at the February meetings.

Work on the Mitigation Strategy continued at the second round of Regional (Municipal) and County/Non-Municipal Agency meetings, which were held in February. A schedule of these meetings follows:

Region	Municipalities:	Dates/Times:	Locations:
1	T. Avon, V. Avon, T. Caledonia, V. Caledonia, T. Lima, V. Lima, T. York	Wednesday Feb. 22 9:00 AM – 11:00 AM	Avon Village Hall
2	T. Conesus, T. Geneseo, V. Geneseo, T. Groveland, T. Livonia, V. Livonia	Wednesday Feb. 22 1:00 – 3:00 PM	County Chamber of Commerce Office
3	V. Dansville, T. North Dansville, T. Ossian, T. Sparta, T. Springwater, T. West Sparta	Tuesday, Feb. 21 9:00 – 11:00 AM	North Dansville Town Hall
4	T. Leicester, V. Leicester, T. Mt. Morris, V. Mt. Morris, T. Nunda, V. Nunda, T. Portage	Tuesday, Feb. 21 1:00 – 3:00 PM	County Highway Department Conference Room

County/Non-Municipal Agencies:	Dates/Times:	Locations:
Planning Dept., Highway Dept., Health Dept., GV Boces (School Districts), County Sheriff, Red Cross	Tuesday Feb. 28 9:00 – 11:00 AM	Livingston County Office Building
County Office for the Aging	Tuesday Feb. 28 1:00 PM – 3:00 PM	Office for the Aging Main Office

At these meetings the attendees were asked to develop a list of hazard mitigation measures based on the history of hazard events, critical facilities and community assets, identified hazards and the overall hazard assessment. G/FLRPC staff facilitated the meetings and made detailed notes of the desired mitigation measures.

The lists of mitigation measures obtained at the Regional and County Agency meetings, along with other recommended action items developed for the Hazard Assessment, were used to develop a master list of potential mitigation measures.

At the March meeting, the representative(s) of each municipality and county agency ranked the mitigation measures using a process where each representative had ten votes. The number of votes placed on each strategy led to a priority ranking of high, medium or low. This initial prioritization was carried out by using

After the March meeting, G/FLRPC staff determined the mitigation measure rankings and assembled the tables of county-wide and municipal mitigation measures. These tables were included within the Mitigation Strategy draft, which was in turn distributed to the Planning Committee in early April for review and revision.

At the Planning Committee meeting on April 18, 2006, committee members were asked for their comments and questions on the Mitigation Strategy. Several members had questions and some wanted minor revisions made. The final deadline for submitting revisions was set for Friday, April 28, 2006, but no revisions were sent in.

The mitigation actions outlined in the following pages will be integrated into county and municipal planning programs. The approved and adopted All-Hazard Mitigation Plan can and should be used when developing and revising municipal comprehensive plans, subdivision regulations, zoning codes, and other land use regulations. When existing county or municipal plans are reviewed and updated, they will be revised to reflect the All-Hazard Mitigation Plan. When new county or municipal plans are created, they will incorporate the goals and strategies of this plan.

MITIGATION GOALS AND OBJECTIVES

Mitigation Goals and Objectives, as defined below, were identified by the Planning Committee to help guide the development of the mitigation strategies. The five Goals are overarching concepts that provide a framework for the intentions of the plan. The various Objectives are measurable actions intended to support the realization of each goal. The Goals and Objectives were developed in the process described in the previous section.

Goal 1	**Protect life and property from the impacts of natural, technological and human-caused disasters.**
Objective 1.1	Reduce the risk posed to lives and property by frequently occurring hazard events.
Objective 1.2	Set the priority on hazards that cause repetitive damage and/or pose severe risk.
Objective 1.3	Develop and implement strategies that make critical facilities and community assets, as well as private homes and businesses, more resistant to the impact of hazard events.
Objective 1.4	Encourage preventative measures for existing and new development in areas vulnerable to hazards, and develop strategies that support municipal officials working towards responsible development in hazard-prone areas.
Goal 2	**Enhance awareness and education of the risks associated with natural, technological, and human-caused hazards.**
Objective 2.1	Recognize what issues the public needs to understand about hazard mitigation.
Objective 2.2	Develop and execute education and outreach programs to increase public awareness of both the risks associated with hazards, and strategies that can be adopted to lessen the impact of hazard events.
Objective 2.3	Provide information on resources available for implementing mitigation strategies.
Goal 3	**Build a hazard mitigation infrastructure and promote pre-disaster mitigation as the most effective means to reduce future disaster losses.**
Objective 3.1	Utilize the All-Hazard Mitigation Plan effectively by clearly communicating about plan implementation, maintenance and updates. This includes helping people to understand what their role is in both disaster response and pre-disaster mitigation.
Objective 3.2	Identify agencies, personnel and resources available to implement pre-disaster mitigation activities and initiatives.
Objective 3.3	Track and/or recommend Federal, State and local legislation related to hazard mitigation.
Goal 4	**Reduce barriers to implementing coordinated hazard mitigation strategies across Federal, State, Regional, County and Municipal agencies.**
Objective 4.1	Foster an awareness of the efforts and practices already in place through the efforts of various agencies and organizations, and develop a coordinated way to work together.
Objective 4.2	Coordinate participation and encourage communication among various stakeholders in order to effectively implement mitigation strategies and respond to hazard events.
Objective 4.3	Encourage leadership within public and private sector organizations to prioritize and implement local, county, regional and state hazard mitigation strategies.
Goal 5	**Encourage the development and implementation of long-term, cost-effective and environmentally sound local mitigation projects.**
Objective 5.1	Balance watershed planning, natural resource management, and land use planning with hazard mitigation to protect life, property, and the environment.
Objective 5.2	Consider other long-term regional, county and municipal plans, and mesh the implementation of the hazard mitigation strategies into these long-term visions for the future.

HAZARD MITIGATION MEASURES: ANALYSIS AND PRIORITIZATION

A detailed cost-benefit analysis of each mitigation measure was beyond the scope and intent of this plan. However, during the Mitigation Strategy development phase, the Planning Committee and G/FLRPC staff used the FEMA "STAPLEE" criteria as a guide for developing and prioritizing the mitigation measures.

STAPLEE is an acronym that stands for the following:

S – Social: Consider public acceptance and support of the mitigation measure.

T – Technical: Evaluate whether the proposed action is technically feasible.

A – Administrative: Evaluate the anticipated staffing, funding, and maintenance requirements of the mitigation measure.

P – Political: Determine the local political leadership's support of the mitigation measure.

L – Legal: Evaluate the community's legal authority to implement a mitigation measure.

E – Economic: Consider the cost-effectiveness of the action, potential funding sources, and the potential impact on local economic conditions.

E – Environmental: Evaluate how the action affects local environmental concerns.

STAPLEE is a widely accepted evaluation process used throughout the country in hazard mitigation planning. It provides a systematic procedure for assessing the practicality of proposed mitigation measures.

Each mitigation measure was initially prioritized by the Planning Committee members. The Committee used the STAPLEE categories to *qualitatively* assess the ability of each mitigation measure to effectively address a potential hazard. After this initial assessment was complete, G/FLRPC staff prepared a *quantitative* assessment of each mitigation measure by assigning a numerical value to each of the seven STAPLEE criteria. This assessment resulted in the assignment of High, Medium, or Low priorities to each mitigation measure. Please refer to Appendix C, *Mitigation Measure Cost-Benefit Reviews and Priority Assessments*, for detailed information on the prioritization of each individual mitigation measure.

High priority actions were determined to be actions that would solve the most pressing hazard issues in the county, have the greatest long term mitigation benefits, enjoy broad public and political backing, be technically feasible and environmentally sound, and be easily implemented through existing administrative and legal channels once support for the action is put in place.

Medium priority actions met all the above criteria, except that they addressed less pressing potential hazard issues and less dangerous situations.

Low priority actions also met the above criteria, except that they address the least pressing potential hazards and the least dangerous situations.

HAZARD MITIGATION MEASURES: SIX CATEGORIES

This section aims to identify potential mitigation measures, or actions, based on the Hazard Assessment that can be used to lessen the impacts of hazard events in Livingston County communities. The mitigation strategy is based on the input provided by the municipal committees, county agency representatives, the Genesee/Finger Lakes Regional Planning Council, and the All-Hazard Mitigation Planning Committee.

All mitigation measures can be grouped into six key categories:

Prevention. Government administrative or regulatory actions or processes that influence the way land and building are developed or built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.

Example: Review and update floodplain local laws

Property Protection. Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Example: Town Board will encourage property owners to consider flood proofing their properties, and attempt to procure funding to defray the costs

Public Education and Awareness. Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers and school-age and adult education programs.

Example: Disclosure of flood hazards to potential property owners

Natural Resource Protection. Actions that, in addition to minimizing hazard loss also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Example: Implement erosion and sediment control projects

Emergency Services. Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.

Example: Develop a flood warning system that includes installation of a rain gauge and marking bridges with critical flood elevations

Structural Projects. Actions that involve the construction of structures to reduce the impact of a hazard. Structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

Example: Village DPW will work with appropriate parties to ensure that storm sewers are installed at certain locations

HAZARD MITIGATION MEASURES: MASTER LIST

This section identifies Livingston County's desired hazard mitigation measures. This Master List is based on the information analyzed in the Hazard Assessment and input provided by municipal officials, county agency representatives and the All-Hazard Mitigation Planning Committee.

Please refer to Appendix C, *Mitigation Measure Cost-Benefit Reviews and Priority Assessments,* for information on how these mitigation measures were ranked and prioritized according to STAPLEE.

The Master List contains mitigation measures that apply to the entire County and all municipalities. There are a total of 76 mitigation measures, organized into two parts. Part I includes mitigation measures that are applicable to all potential hazards. Part II contains mitigation measures that address specific hazard concerns.

Part I: Mitigation Measures for All Hazard Types

Prevention

1. Develop detailed maps showing the locations of utility lines, including electric, sewer, telephone, gas, and water. During emergency situations, these maps will give road/repair crews immediate access to the location of this vital infrastructure. At present, there is a general reliance on memory and personal knowledge for this information.

Public Education

2. Prepare people for quarantines in their homes. Families should be encouraged to stockpile food and supplies for at least three days, if not longer.

Natural Resource Protection

3. Develop a coordinated watershed inspection program for the entire county. Currently, only Conesus Lake has one. A county-wide program would study all watersheds and municipal water supplies and create a fair, uniform, and systematic set of standards.

Emergency Services

4. Hold drills for the evacuation of schools/mass casualty incident drills.

5. Acquire a low-bed trailer to transport bulldozer & equipment and to haul away debris.

6. Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the event of a disaster. These town-wide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.

7. Secure funds to help with the All-Hazard Mitigation Plan updates and to conduct emergency response drills.

8. Regularly update county and municipal Emergency Response Plans.

9. Transform the Tri-County medical center into an emergency shelter with supplies and a generator.

10. Set up evacuation plans that allot specific vehicles and drivers to rescue specific individuals in specific places

11. Co-ordinate rescue crews with road repair crews – clear away obstacles and debris, de-ice, snowplow, to ensure timely/safe access.

12. Each municipality should prepare a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.

13. Schedule the periodic testing/upgrading of all emergency equipment.

14. Recommend places for citizens to go in case of disaster by designating and publicizing community shelters/gathering places. Ensure those shelters are safe and secure (back-up generating equipment, food, water, communications.)

15. Encourage/lobby NY State Departments and Agencies to discount/reduce fees for license registrations for Emergency Response personnel, such as volunteer firefighters, ambulance workers, etc.

16. Develop plans for evacuating pets.

17. Outfit large buildings in the southern end of the county as emergency shelters with bathrooms, supplies, power, etc.

Structural Projects

18. Address the frequency of power outages in the southern part of the county.

19. Stabilize/remove shale slope behind Nunda waterworks.

20. Install sewer check valves/carry out general upgrades to sewer systems.

21. Create redundancy for municipal water supplies in the central part of the county. Link Geneseo, other nearby towns to the Hemlock lake water supply.

22. Establish pipeline links to Monroe County (especially in the northern part of the county) and City of Rochester water supply systems. This would create redundancy/connection for emergency use.

General Mitigation Measures (Includes All Categories)

23. Provide back-up power generators for:
    - 23a. Town/Village Halls.
    - 23b. Local Police/Fire stations.
    - 23c. County Sheriff/State Police stations.
    - 23d. Schools.
    - 23e. Public Buildings – Libraries, Community Centers, Historical Societies/Museums, etc.
    - 23f. Waterworks, Water towers, Pump stations, etc.
    - 23g. Water treatment plants, Sewer lift stations, etc.
    - 23h. Airports/Airstrips.
    - 23i. Highway Department/DPW Garages and related installations.
    - 23j. Nursing/Group Homes.
    - 23k. Cellular Phone towers.
    - 23l. Stockpile several mobile generators for distribution around county.
    - 23m. Mandate back-up power sources for key facilities in the Emergency Management Plan. Map the back-up supply location.

24. Improve County-wide Communication Network:
    - 24a. Set design standards for communication facilities in the Zoning Ordinance or Telecommunication Ordinance such that they are less prone to disaster.

24b. Acquire new, more powerful, radios, walkie-talkies, etc.
24c. Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d. Build a new countywide dispatch center.
24e. Provide better communications for First Responder units.
24f. Establish local emergency shelters/coordination centers.
24g. Set up a clear chain of command for disaster response.
24h. Set up a countywide tornado warning system.
24i. Develop a countywide GIS system that allows the county and all municipalities to share data during an emergency.
24j. Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k. Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.
24l. Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between county/municipal officials and contractors to facilitate rapid response.
24m. Set up a reverse emergency management call system to contact residents (Reverse 911).
24n. Develop mobile warning systems to set up along roadways. These should be similar to roadwork signs with lights, flashing messages, etc.

25. Prepare plans for caring for Elderly/At Risk populations:
25a. Set up education and out-reach programs for the general public to educate people in the care of elderly/disabled population.
25b. Prepare and distribute a direct mailing with information about emergency shelters – provide locations of and directions to designated shelters.
25c. Prepare evacuation/care plans for people with mental illnesses. Prepare a special shelter, or a designated area within a shelter, to accommodate this segment of the population. As part of this planning process, study the possibilities of segmenting the general population while in shelters with the understanding the different groups have different needs.
25d. Prepare detailed plans to evacuate the elderly from their homes and get them to shelters prepared for their specific needs with stockpiles of food, clothing, medical supplies, oxygen, etc. These "Senior Shelters" should be wheelchair accessible, have good lighting and heating, and be set off in some way from shelters for the general public.
25e. Continue distributing "File of Life" kits. As of February 2006, about 3500 of these have been handed out. These kits have been instrumental in saving lives.
25f. Ensure that all volunteers are thoroughly trained.
25g. Acquire the proper equipment to move "morbidly obese" evacuees
25h. Medical staffers – have EMTs/nurses on standby in shelters during an emergency.
25i. Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.

26. Stockpile emergency supplies and equipment for use in preparing for oncoming hazard events/during a hazard event/reconstructing after a hazard event:
26a. Set up a special promotional campaign that will award a $100 Wegmans gift-card to citizens who prepare detailed family plans for evacuation/meeting after a disaster event.
26b. Develop and distribute guidelines on stockpiling emergency supplies in homes. Recommend all people have at least a three day supply of food stockpiled in home. If people must stay at home, they will have supplies to take care of themselves for a few days.

26c. Devise plan to provide fresh water supplies during/immediately after a disaster event to a large number of people.
26d. Establish reserves of spare parts, tires, fuel, etc. for emergency/official vehicles.
26e. Establish a central stockpile of emergency supplies/equipment that could be utilized by the entire county.
26f. Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled).
26g. Regulate special provision for back-up supplies in the Emergency Management Plan.

27. Carry out general security upgrades for Critical Facilities and Community Assets:
27a. Upgrade school security, especially surveillance capabilities. Install physical barriers in front of school buildings. Emphasize planning for gun/bomb threats.
27b. Provide security provisions for telephone lines and power lines.
27c. Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras. Specifically, upgrade fencing and surveillance around the Nunda impound reservoir.
27d. Upgrade security at the Hemlock Lake water treatment facility.
27e. Provide fencing/surveillance for all sewer lift stations.
27f. Institute special security provisions for golf courses – secure fertilizers and chemicals.
27g. Secure hazardous materials on farms.

28. Prepare emergency response staff for hazard events:
28a. Prepare plans for sending out EMTs during a disaster.
28b. Secure funding to alleviate staffing issues for Fire Departments and EMTs.
28c. Have EMTs/nurses on call during emergencies.
28d. Secure training funds for EMS, Fire Dept., and Police.

29. Carry out public education programs:
29a. Constant repetition of programs for public education.
29b. Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.
29c. Get community groups involved (Boy/Girl Scouts, etc.) with information distribution programs.
29d. Develop public education programs that follow the "Education without panicking" concept.
29e. Public mailings/booklets – send out to every home with maps & information so people know where to go/what to do.
29f. Undertake public training programs for disaster preparedness. Secure funds for these training activities.
29g. Increase public awareness/knowledge of processes involving permits, zoning, & building codes.

Part II: Mitigation Measures for Specific Hazard Types

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Prevention

30. Develop countywide strategy to address utility failures during severe weather events

31. Encourage/support the development of municipal emergency management plans.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Property Protection

32. Establish a policy to encourage structural retrofits to assure roofs, walls and windows meet minimum wind-load and snow-load design factors.

33. Update/modify building codes to require the use of hazard resistant construction materials.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Public Education

34. Support community programs to assist elderly and vulnerable populations during utility failures. Encourage residents to check on elderly and other vulnerable neighbors.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Emergency Services

35. Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities.

36. Develop a county-wide strategy to protect vulnerable utilities during severe weather events.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Structural Projects

37. Officially encourage underground utilities. Develop a strategy to incrementally bury utilities in existing developments. Require, through local legislation and land use controls, that utilities be buried in new developments. Develop and circulate model ordinances and policies.

38. Encourage/support the development of tornado shelters.

Flood – Prevention

39. Guide development away from flood plains and low lying areas.

40. Encourage the protection of wetlands and aquifers wherever possible.

41. Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).

42. Establish a Transfer of Development Rights program to shift new development away from flood plains/low lying areas.

43. Address flooding issues through municipal Flood Prevention Ordinances, Flood Mitigation Plans and Sediment and Erosion Control Ordinances.

44. Set design standards for water supply infrastructure and sewage facilities to prevent contamination during flooding.

45. Regulate building design and construction standards in municipal Flood Prevention Ordinances and/or Zoning Ordinances to reduce the impact of flooding on the built environment.

46. Produce and make available to all municipal land use decision makers detailed maps depicting wetlands and flood plains.

Flood – Public Education

47. Raise awareness of and enforce existing floodplain regulations.

48. Municipalities should disclose risks of flood zones to property owners.

49. Distribute information to municipal officials and property owners about buying out/demolishing repetitive loss sites.

50. Provide information about "French Drains" to property owners.

Flood – Natural Resource Protection

51. Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.

52. Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.

53. Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.

54. Set up a county-wide program to remove debris from stream beds on a regular basis.

55. Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.

56. Build a diversion channel/canal to divert flood waters from the flood-prone village of Dansville.

57. Provide rocks for slope stabilization in Springwater.

58. Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage. The higher relief in these towns makes this program a priority.

59. Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

60. Prepare flood mitigation measures and an evacuation plan for the Keshequa Central School.

61. Improve drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.

Flood – Emergency Services

62. Prepare a coordinated sandbagging plan between the County EMS and flood-prone communities in the southern half of the county.

Hazmat (In Transit) – Prevention

63. Study the possibility of limiting truck traffic on Routes 63 and 36.

64. Institute an annual survey of HAZMAT truck traffic on major routes.

65. Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of HAZMAT accidents at those intersections.

66. Update municipal Zoning Ordinances to reduce the impact of HAZMAT (In Transit) by setting construction, protection and maintenance standards for utility infrastructure.

67. Update the County Emergency Management Plan to address HAZMAT (In transit) problems.

Hazmat (In Transit) – Property Protection

68. Work with utility companies to ensure proper maintenance of utility infrastructure.

Hazmat (In Transit) – Emergency Services

69. Set up a warning/alert system in the case of hazardous spills along railroad tracks.

70. Obtain funds for increased training to improve emergency response to HAZMAT incidents, fires, and ice storms.

Hazmat (In Transit) – Structural Projects

71. Secure funds to rebuild the intersection of Court St. and Rt. 63 in Geneseo. This intersection is plagued by severe line of sight problems with the bridge over the Genesee River, and many serious accidents have occurred at this location. Study the possibility of rebuilding the bridge.

72. Carry out general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.

73. Analyze the potential of constructing a bypass linking the Thruway with Rt. 390.

Hazmat (Fixed) – Prevention

74. Institute stricter measures for regulating HAZMAT storage at fixed sites. Many HAZMAT (Fixed Site) incidents in the county are due to equipment failure, and these spills can be prevented in part by having stricter regulations regarding storage facilities.

Hazmat (Fixed) – Property Protection

75. Construct permanent storage facilities for vulnerable equipment & machinery that is not currently protected from harsh weather.

Hazmat (Fixed) – Public Education

76. Run training programs for handling Hazardous Materials. These programs should be aimed at local emergency response personnel, but interested citizens should have the opportunity to attend as well.

Earthquakes

77. Each municipality should adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to magnitude 6.5, which are possible in Western New York.

78. Carry out a pre-event inspection of key buildings, bridges, and dams for seismic vulnerability. Based on this inspection, develop a seismic protection plan for these facilities.

79. Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, and/or distribution of information through local newspapers.

Plan Updates – Future Research.

80. In order to provide a more thorough assessment of the potential impacts of hazard events, future revisions of this All-Hazard Mitigation Plan will incorporate additional data that estimates property losses for specific hazards. This data should include a list of all critical facilities and community assets affected by each hazard with corresponding estimates of the amount of property losses potential hazards of various magnitudes would inflict on those facilities and assets.

81. The Plan will be revised to include additional information on residential and commercial buildings in the County. Using Real Property Service and NFIP information, the County can determine the number of residential and commercial buildings located in flood hazard areas, and can then effectively determine the vulnerability of these buildings to various hazards.

MITIGATION MEASURES – ACTION PLAN

The following table provides additional details for each of the mitigation measures included in the Master List. Livingston County and all municipalities will work to implement these measures in order to reduce and/or eliminate hazard threats.

The headings and contents of each column in this table should be understood as follows:

– Refers to the number assigned to each mitigation measure in the above Master List. Mitigation Measure Number 1 on the Master List is also Number 1 in the table, and so on.

Hazard – Refers to the hazard/s that the mitigation measure is intended to address. When "All" appears under this heading, the mitigation measure applies to all potential hazards.
Category – Refers to one of the six categories laid out by FEMA into which mitigation measures can be grouped. Each mitigation measure in this plan is assigned to one of these categories.

Mitigation Measure – The actual mitigation measure from the Master List. To save space in the tables, an abbreviated version of the mitigation measure is included in this column; please refer back to the Master List for the full mitigation measure.

Priority – Refers to the order in which the mitigation measures will be implemented on a *countywide* scale. High priority mitigation measures will be carried out first, followed by Medium and then Low priority measures. The information in this column is based on the data within the STAPLEE tables included in Appendix C of this Plan.

Estimated Time Frame – Refers to the estimated time period during which the mitigation measure should ideally be implemented.

Potential Funding Sources – The Department, Agency, Municipality, or organization from which funding to carry out a mitigation measure may be obtained.

Potential Lead Agency – The Department, Agency, Municipality, or organization that will take the lead in implementing the mitigation measure.

Involved Agencies – Any Department, Agency, Municipality, or organization that would potentially have a supporting role in implementing the mitigation measure.

Approximate Cost – The estimated cost of carrying out the mitigation measures. This figure is a suggested *estimate*. Where a reasonable estimate was unavailable or could not be calculated, the Approximate Cost was noted as "TBD," or "To Be Determined."

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
1	All	Prevention	Develop detailed maps showing the locations of utility lines, including electric, sewer, telephone, gas, and water.	Med.	2008-2009	Utility Companies, FEMA, SEMO County, Municipal	County Planning	Utilities, Public Works, Highway	$50,000
2	All	Public Education	Prepare people for quarantines in their homes.	Med.	Ongoing	NYSDOH, SEMO, County, Municipal	County Health	County Sheriff, Local Police & Fire	Staff Time
3	All	Natural Resource Protection	Develop a coordinated watershed inspection program for the entire county	Med.	2008-2010	NYSDEC, SEMO, County, Municipal	County Health	County Planning, Soil & Water, Water & Sewer	$100,000
4	All	Emergency Services	Hold drills for the evacuation of schools/mass casualty incident drills.	Med.	Ongoing	FEMA,SEMO County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts.	TBD
5	All	Emergency Services	Acquire a low-bed trailer to transport bulldozer & equipment; also for hauling away debris.	Med.	2008-2010	NYSDOT, SEMO, County, Municipalities	County Highway	Municipal DPWs	$15,000
6	All	Emergency Services	Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the town should a disaster occur.	Med.	2008-2010	FEMA, SEMO, County, Municipal	County EMS	County Sheriff	$10,000
7	All	Emergency Services	Secure funds to help with the AHMP updates and to conduct emergency response drills.	Med.	Ongoing	FEMA,SEMO County, Municipal	County EMS	County Planning	$50,000
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.	Med.	Ongoing	NYSDOS, SEMO, County, Municipal	County EMS	County Planning, Municipalities	TBD
9	All	Emergency Services	Transform the Tri-County medical center into an emergency shelter with supplies and a generator.	Low	2008-2010	NYSDOH, SEMO, County, Municipal	County EMS	Involved Municipalities	$15,000
10	All	Emergency Services	Set up evacuation plans that allot specific vehicles and drivers to rescue specific individuals in specific places	Med.	Ongoing	NYSDOT, SEMO County, Municipal	County Sheriff, County EMS	Office for the Aging, County Sheriff	$10,000
11	All	Emergency Services	Co-ordinate rescue crews with road repair crews – clear away obstacles and debris, de-ice, snowplow, to ensure timely/safe access.	Med.	Ongoing	NYSDOT, SEMO, County, Municipal	County EMS, County Highway	County Sheriff, Local Police	Staff Time
12	All	Emergency Services	Each community should make up a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.	Low	2008-2010	SEMO County, Municipal	Municipalities		Staff Time
13	All	Emergency Services	Schedule the periodic testing/upgrading of all emergency equipment.	Low	Ongoing	SEMO, County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts.	Staff Time
14	All	Emergency Services	Recommend places for citizens to go in case of disaster by designating community	Med.	2008-2010	NYSDOH, SEMO, County,	County EMS	Municipalities	Staff Time

			shelters/gathering places. Ensure those shelters are safe and secure.			Municipal			
15	All	Emergency Services	Encourage/lobby NY State Departments and Agencies give out discounts/reduced fees for license registrations for Emergency Response personnel, such as volunteer firefighters, ambulance workers, etc.	Low	Ongoing	FEMA, SEMO County, Municipal	County EMS	Municipalities	Staff Time
16	All	Emergency Services	Develop plans for evacuating pets.	Med.	2008-2010	SEMO, County, Municipal	County EMS	Municipalities	$10,000
17	All	Emergency Services	Outfit large buildings in the southern end of the county as emergency shelters with bathrooms, supplies, power, etc.	Low	2008-2010	FEMA, SEMO, County, Municipal	County EMS	Local Police, Fire Depts.	$50,000
18	All	Structural Projects	Address the frequency of power outages in the southern part of the county.	Med.	Ongoing	Utility Companies, SEMO, County, Municipal	County Planning	Public Works	$500,000
19	All	Structural Projects	Stabilize/remove shale slope behind Nunda waterworks.	Low	2008-2010	SEMO, Town/Village Nunda		Public Works	$250,000
20	All	Structural Projects	Sewer check valves/general upgrades to sewer system.	Med.	2008-2010	SEMO, County, Municipal	County Highway, Water & Sewer	Soil & Water	$250,000
21	All	Structural Projects	Create redundancy for municipal water supplies in the central part of the county. Link Geneseo, other nearby towns to the Hemlock lake water supply.	Med.	2008-2010	SEMO, County, Municipal	County Planning, Water & Sewer	Soil & Water	$1,000,000
22	All	Structural Projects	Link to Monroe Co. and City of Rochester water supply? Create redundancy/connection for emergency use.	Med.	2008-2010	SEMO, County, Municipal	County Planning, Water & Sewer	Soil & Water	$1,000,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
23	All		Provide Back-up power generators for:		2008-2010				
23a	All	Property Protection	Town/Village Halls.	High	2008-2010	FEMA, SEMO	County EMS	Municipalities	TBD
23b	All	Property Protection	Local Police/Fire stations.	Med.	2008-2010	FEMA, SEMO	County EMS	Municipalities	TBD
23c	All	Property Protection	County Sheriff/State Police stations.	Low	2008-2010	State Police, SEMO	County EMS	Municipalities	TBD
23d	All	Property Protection	Schools.	Low	2008-2010	FEMA, SEMO	County EMS	School Districts, Municipalities	TBD
23e	All	Property Protection	Public Buildings – Libraries, Community Centers, Historical Societies/Museums, etc.	Med.	2008-2010	FEMA, SEMO	County EMS	Municipalities	TBD
23f	All	Property Protection	Waterworks, Water towers, Pump stations, etc.	Med.	2008-2010	FEMA, SEMO	County EMS	Municipalities	TBD
23g	All	Property Protection	Water treatment plants, Sewer lift stations, etc.	Med.	2008-2010	NYSDEC,SEMO	County EMS	Municipalities	TBD
23h	All	Property Protection	Airports/Airstrips.	Low	2008-2010	FAA, SEMO	County EMS	Municipalities	TBD
23i	All	Property Protection	Highway Department/DPW Garages and related installations.	High	2008-2010	NYSDOT,SEMO	County EMS	Municipalities	TBD
23j	All	Property Protection	Nursing/Group Homes.	Low	2008-2010	NYS Office for the Aging, SEMO	County EMS	Municipalities	TBD
23k	All	Property	Cellular Phone towers.	Low	2008-2010	Cell Phone	County	Municipalities	TBD

		Protection				Providers, SEMO	EMS		
23l	All	Property Protection	Stockpile several mobile generators for distribution around county.	Med.	2008-2010	FEMA,SEMO	County EMS	Municipalities	TBD
23m	All	Property Protection	Mandate back-up power sources for key facilities in the Emergency Management Plan. Map the back-up supply location.	Med.	2008-2010	FEMA,SEMO County, Municipal	County EMS	Municipalities	TBD

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
24	All		Improve County-wide Communication Network:		2006-2010				
24a	All	Prevention	Set design standards for communication facilities in the Zoning Ordinance or Telecommunication Ordinance such that they are less prone to disaster.	Low	2008-2010	NYSOHS, SEMO, County, Municipal	County Planning	Muni. Code Enforcement	$15,000
24b	All	Emergency Services	Acquire new communications gear such as radios and walkie-talkies.	Med.	2008-2010	NYSOHS, SEMO County, Municipal	County Sheriff, County EMS	Local Police, Fire Depts.	$500,000
24c	All	Emergency Services	Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.	Low	2008-2010	NYSOHS, NYSDOT, SEMO, County, Municipal	County EMS	County Sheriff	$500,000
24d	All	Emergency Services	Build a new countywide dispatch center.	Low	2008-2012	NYSOHS, SEMO County, Municipal	County EMS	County Sheriff	$3,000,000
24e	All	Emergency Services	Provide better communications for First Responder units.	Low	2008-2010	FEMA, SEMO County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts. , EMTS	$500,000
24f	All	Emergency Services	Establish local emergency shelters/coordination centers.	Med.	2008-2010	FEMA, SEMO County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts., EMTS	$100,000
24g	All	Emergency Services	Set up a clear chain of command for disaster response.	Med.	2008-2010	NYSOHS, SEMO County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts., EMTS	Staff Time
24h	All	Emergency Services	Set up a countywide tornado warning system.	Low	2008-2010	NOAA,FEMA SEMO, County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts.	$1,000,000
24i	All	Emergency Services	Develop a countywide GIS system that allows the county and all municipalities to share data during an emergency.	Low	2008-2010	FEMA, SEMO, County, Municipal	County Planning, County EMS	All County Agencies	$250,000
24j	All	Emergency Services	Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in each town. Stockpile supplies/equipment in center.	High	2008-2010	NYSOHS, SEMO, County, Municipal	Municipalities	Local Police, Fire Depts., EMTs	$750,000
24k	All	Emergency Services	Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.	Low	2008-2010	SEMO, County, Municipal	County EMS		Staff Time
24l	All	Emergency Services	Prepare a list of private contractors to assist with	Med.	2008-2010	SEMO,	County EMS	Municipalities	Staff Time

			recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between county/municipal officials and contractors to facilitate rapid response.			County, Municipal			
24m	All	Emergency Services	Set up a reverse emergency management call system to contact residents (Reverse 911).	High	2008-2010	FEMA, SEMO, County, Municipal	County EMS	County Sheriff, Local Police	$500,000
24n	All	Emergency Services	Mobile warning systems to set up along roads, similar to roadwork signs. Lights, flashing messages, etc.	Low	2008-2010	NYSDOT, SEMO, County, Municipal	County Highway	County Sheriff, Local Police	$500,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
25	All		Develop plans for caring for vulnerable populations (Elderly/At Risk):		2008-2010				
25a	All	Public Education	Set up education and out-reach programs for the general public to educate people in the care of elderly/disabled population.	Low	2008-2010	NYS Office for the Aging, NYSDOH, SEMO, County, Municipal	County Office for the Aging	County EMS	$50,000
25b	All	Public Education	Prepare and distribute a direct mailing with information about emergency shelters – provide locations of and directions to designated shelters.	Low	2008-2010	SEMO, County, Municipal	County EMS, County Sheriff	Office for the Aging, Red Cross	$150,000
25c	All	Emergency Services	Prepare evacuation/care plans for people with mental illnesses. Prepare a special shelter, or a designated area within a shelter, to accommodate this segment of the population.	Low	2008-20108	NYS Office for the Aging, SEMO, County, Municipal	County EMS	Office for the Aging, Red Cross	$100,000
25d	All	Emergency Services	Prepare detailed plans to evacuate the elderly from their homes and get them to shelters prepared for their specific needs with stockpiles of food, clothing, medical supplies, oxygen, etc. These “Senior Shelters” should be wheelchair accessible, have good lighting and heating, and be set off in some way from shelters for the general public.	Med.	2008-2010	NYS Office for the Aging, SEMO, County, Municipal	County EMS	Office for the Aging, Red Cross	$25,000
25e	All	Emergency Services	Continue distributing “File of Life” kits. As of February 2006, about 3500 of these have been handed out. These kits have been instrumental in saving lives.	Low	Ongoing	NYS Office for the Aging, SEMO County, Municipal	County Office for the Aging	County EMS, Red Cross	$10,000
25f	All	Emergency Services	Ensure that all volunteers are thoroughly trained.	Med.	Ongoing	SEMO, County, Municipal	County EMS	Office for the Aging, Red Cross	Staff Time
25g	All	Emergency Services	Acquire the proper equipment to move “morbidly obese” evacuees	Low	2008-2010	NYSDOH, SEMO, County,	County EMS	Office for the Aging, Red Cross	TBD

						Municipal			
25h	All	Emergency Services	Medical staffers – have EMTs/nurses on standby in shelters during an emergency.	Low	2008-2010	FEMA,SEMO, County, Municipal	County EMS	Office for the Aging, Red Cross	Staff Time
25i	All	Emergency Services	Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.	Low	2008-2009	NYS Office for the Aging, SEMO County, Municipal	County Office for the Aging	County EMS, Red Cross	$25,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
26	All		Stockpile Emergency Supplies/Equipment:		2008-2010				
26a	All	Public Education	Award a $100 Wegmans gift-card to citizens who prepare family plans and for evacuation/meeting after a disaster event.	Low	2008-2010	SEMO, County, Municipal	County EMS	Municipalities	Staff Time
26b	All	Public Education	Develop and distribute guidelines on stockpiling emergency supplies in homes. Recommend all people have at least a three day supply of food stockpiled in home.	Med.	2008-2010	FEMA, SEMO, County, Municipal	County EMS, County Sheriff	Office for the Aging, Red Cross	$50,000
26c	All	Emergency Services	Devise plan to provide fresh water supplies during/immediately after a disaster event to a large number of people.	Med.	2008-2009	FEMA, SEMO, County, Municipal	County EMS	County Sheriff, Red Cross	$50,000
26d	All	Emergency Services	Establish reserves of spare parts, tires, fuel, etc. for emergency/official vehicles.	Low	2008-2010	NYSDOT, SEMO, County, Municipal	County Sheriff, County Highway	Municipalities	$500,000
26e	All	Emergency Services	Establish a central stockpile of emergency supplies/equipment that could be utilized by the entire county.	High	2008-2010	USDHS, NYSOHS, SEMO, County, Municipal	County EMS	County Highway, County Sheriff	$500,000
26f	All	Emergency Services	Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled)	Med.	2008-2012	NYSDOH, SEMO County, Municipal	County EMS	Office for the Aging, Red Cross	$100,000
26g	All	Prevention	Regulate special provision for back-up supplies in the Emergency Management Plan.	Low	2008-2009	NYSDOS, SEMO County, Municipal	County EMS	Office for the Aging, Red Cross	$10,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
27	All		Security Upgrades for Critical Facilities and Community Assets:		2008-2010				
27a	All	Property Protection	Upgrade school security, especially surveillance capabilities. Install physical barriers in front of school buildings. Emphasize planning for gun/bomb threats.	Low	2008-2010	USDHS, NYSOHS, FEMA, SEMO	County Sheriff, School Districts	Local Police, Fire Depts.	$500,000
27b	All	Property		Low	2008-2010	Telephone	County		$500,000

		Protection	Provide security provisions for telephone lines and power lines.			Companies, USDHS, NYSOHS, FEMA, SEMO	Sheriff		
27c	All	Property Protection	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras. Specifically, upgrade fencing and surveillance around the Nunda impound reservoir.	Med.	2008-2010	USDHS, NYSOHS, FEMA, SEMO	Water & Sewer	Soil & Water, County Sheriff, Local Police	$500,000
27d	All	Property Protection	Upgrade security at the Hemlock Lake water treatment facility.	Med.	2008-2010	USDHS, NYSOHS, FEMA, SEMO	Water & Sewer	County Sheriff, Soil & Water	$500,000
27e	All	Property Protection	Provide fencing/surveillance for all sewer lift stations	Med.	2008-2010	USDHS, NYSOHS, FEMA, SEMO	Water & Sewer	County Sheriff, Local Police	$500,000
27f	All	Property Protection	Institute special security provisions for golf courses – secure fertilizers and chemicals.	Low	2008-2010	USDHS, NYSOHS, FEMA, SEMO	Soil & Water	County Sheriff, Local Police	$500,000
27g	All	Property Protection	Secure hazardous materials on farms.	Low	2008-2010	USDHS, NYSOHS, FEMA, SEMO	Soil & Water	County Sheriff, Local Police	$500,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
28	All		Prepare Emergency Response Staff for Hazard Events:		2008-Ongoing				
28a	All	Emergency Services	Prepare plans for sending out EMTs during a disaster.	Low	2008-2010	NYSDOH, SEMO, County, Municipal	County EMS	Office for the Aging, Red Cross	$25,000
28b	All	Emergency Services	Secure funding to alleviate staffing issues for Fire Departments and EMTs.	Med.	2008-2010	FEMA, SEMO, County, Municipal	County EMS	Municipalities Red Cross	$500,000
28c	All	Emergency Services	Have EMTs/nurses on call during emergencies.	Low	Ongoing	NYS Office for the Aging, NYSDOH, SEMO, County, Municipal	County EMS	Municipalities Red Cross	$100,000
28d	All	Emergency Services	Secure training funds for EMS, Fire Dept., and Police.	Med.	Ongoing	FEMA, SEMO, County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts.	$250,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
29	All		Carry out Public Education Programs:		Ongoing				
29a	All	Public Education	Constant repetition of programs for public education.	Low	Ongoing	County, Municipal			Staff Time
29b	All	Public Education	Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.	Med.	Ongoing	County, Municipal	County EMS	County Sheriff, Red Cross	$25,000
29c	All	Public	Get community groups involved	Low	Ongoing		County EMS	County	Staff

		Education	(Boy/Girl Scouts, etc.) with information distribution programs.			County, Municipal		Sheriff, Local Police, Red Cross	Time
29d	All	Public Education	Develop public education programs that follow the "Education without panicking" concept.	Low	Ongoing	County, Municipal	County EMS		$25,000
29e	All	Public Education	Public mailings/booklet – send out to every home with maps & information so people know where to go/what to do.	Med.	Ongoing	SEMO, County, Municipal	County EMS, County Sheriff	County Sheriff, Local Police, Red Cross	$50,000
29f	All	Public Education	Undertake public training programs for disaster preparedness. Secure funds for these training activities.	Med.	Ongoing	SEMO, County, Municipal	County EMS, County Sheriff	County Sheriff, Local Police, Red Cross	TBD
29g	All	Public Education	Increase public awareness/knowledge of processes involving permits, zoning, & building codes.	Low	Ongoing	NYSDOS, County, Municipal	Municipal Code Enforcement		Staff Time

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agencies	Involved Agencies	Approx. Cost
30	Severe Weather	Prevention	Develop countywide strategy to address utility failures during severe weather events	Med.	2008-2012	Utility Companies, NOAA, SEMO, County, Municipal	County EMS	County Planning, Public Works	$50,000
31	Severe Weather	Prevention	Encourage/support the development of municipal emergency management plans.	Low	Ongoing	FEMA, SEMO, County, Municipal	County EMS	Municipalities	Staff Time
32	Severe Weather	Property Protection	Establish a policy to encourage structural retrofits to assure roofs, walls and windows meet minimum wind-load and snow-load design factors.	Low	2008-2012	NYSDOS, SEMO, County, Municipal	Municipal Code Enforcement		TBD
33	Severe Weather	Property Protection	Update/modify building codes to require the use of hazard resistant construction materials.	Low	Ongoing	NYSDOS, SEMO, County, Municipal	Municipal Code Enforcement		TBD
34	Severe Weather	Public Education	Support community programs to assist elderly and vulnerable populations during utility failures. Encourage residents to check on elderly and other vulnerable neighbors.	Med.	Ongoing	NYS Office for the Aging, SEMO, County, Municipal	County Office for the Aging	County EMS	$10,000
35	Severe Weather	Emergency Services	Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities	Med.	2008-2010	NOAA, FEMA, SEMO County, Municipal	County EMS	County Sheriff, Local Police	$500,000
36	Severe Weather	Emergency Services	Develop a county-wide strategy to protect vulnerable utilities during severe weather events.	Med.	2008-2010	NOAA, Utility Companies, SEMO, County, Municipal	County EMS	County Highway, Public Works, Soil & Water	$250,000
37	Severe Weather	Structural Projects	Officially encourage underground utilities. Develop a strategy to incrementally bury utilities in existing developments. Require, through local legislation and land use controls, that utilities be buried in new developments. Develop model ordinances and policies.	Low	Ongoing	Utility Companies, NYSDOS, SEMO, County, Municipal	County Planning	Municipalities	$250,000
38	Severe	Structural	Encourage/support the	Low	Ongoing	FEMA,	County	Red Cross	$150,000

	Weather	Projects	development of tornado shelters.			SEMO, County, Municipal	EMS		

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
39	Flood	Prevention	Restrict development in flood plains and low lying areas.	High	Ongoing	NYSDEC, County, Municipal	County Planning	Municipalities	$100,000
40	Flood	Prevention	Encourage the protection of wetlands and aquifers wherever possible.	Med.	Ongoing	USEPA, USAEC, NYSDEC, County, Municipal	County Planning	Municipalities Soil & Water, Water & Sewer	$150,000
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).	Med.	Ongoing	FEMA, County, Municipal	County Planning, County EMS	Municipalities	$100,000
42	Flood	Prevention	Establish a Transfer of Development Rights program to shift new development away from flood plains/low lying areas.	High	2008-2009	NYSDOS, SEMO, County, Municipal	County Planning	Municipalities	$50,000
43	Flood	Prevention	Address flooding issues through municipal Flood Prevention Ordinances, Flood Mitigation Plans and Sediment and Erosion Control Ordinances.	High	2008-2010	NYSDOS, NYSDEC, SEMO, County, Municipal	County Planning	Municipalities	$25,000
44	Flood	Prevention	Set design standards for water supply infrastructure and sewage facilities to prevent contamination during flooding.	Med.	2008-2009	NYSDOS, SEMO, County, Municipal	Municipal Code Enforcement		$25,000
45	Flood	Prevention	Regulate building design and construction standards in municipal Flood Prevention Ordinances and/or Zoning Ordinances to reduce the impact of flooding on the built environment.	Med.	2008-2010	NYSDOS, NYSDEC, SEMO, County, Municipal	Municipal Code Enforcement		$25,000
46	Flood	Prevention	Produce and make available to all municipal land use decision makers detailed maps depicting wetlands and flood plains.	Med.	2008-2010	NYSDEC, SEMO, County, Municipal	County Planning	Soil & Water, Water & Sewer	$100,00
47	Flood	Public Education	Raise awareness of and enforce existing floodplain regulations.	Med.	Ongoing	NYSDEC, SEMO, County, Municipal	County Planning	Soil & Water, Water & Sewer	$150,000
48	Flood	Public Education	Municipalities should disclose risks of flood zones to property owners.	Med.	2008-2010	NYSDEC, SEMO, County, Municipal	Municipalities	County Planning	$100,000
49	Flood	Public Education	Distribute information to municipal officials and property owners about buying out/demolishing repetitive loss sites.	Med.	2008-2010	NYSDOS, SEMO, County, Municipal	Municipalities	County Planning	$150,000
50	Flood	Public Education	Provide information about “French Drains” to property owners.	Low	2008-2009	NYSDEC, County, Municipal	Municipal Code Enforcement		$10,000
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek.	Med.	2008-2010	USAEC, NYSDEC, SEMO, County, Municipal	County Planning	Public Works, Soil & Water, Water & Sewer	$500,000
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.	Med.	2008-2012	USEPA, NYSDEC, SEMO, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$750,000
53	Flood	Natural	Set up a county-wide program to	Med.	Ongoing	NYSDOT,	County &	Public Works,	$500,000

		Resource Protection	clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.			NYSDEC, County, Municipal	Municipal Highway Depts.	Soil & Water, Water & Sewer	
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.	Med.	Ongoing	NYSDEC, SEMO, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$500,000
55	Flood	Natural Resource Protection	Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.	Med.	2008-2012	NYSDEC, SEMO, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$1,000,000
56	Flood	Natural Resource Protection	Build a diversion channel/canal to divert flood waters from the flood-prone village of Dansville	Med.	2008-2012	USAEC, NYSDEC, SEMO, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$500,000
57	Flood	Natural Resource Protection	Provide rocks for slope stabilization in Springwater.	Low	2008-2010	NYSDEC, USEPA, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$250,000
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.	Med.	2008-2010	USEPA, NYSDEC, SEMO, County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$1,000,000
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.	Med.	2008-2012	USEPA, NYSDEC, SEMO County, Municipal	County & Municipal Highway Depts.	Public Works, Soil & Water, Water & Sewer	$1,000,000
60	Flood	Natural Resource Protection	Prepare flood mitigation measures and set up evacuation plan for the Keshequa Central School.	Med.	2008-2009	SEMO, County EMS, Town/Village Nunda		Public Works, Soil & Water, Water & Sewer	$500,000
61	Flood	Natural Resource Protection	Increase drainage capabilities of developed areas. Specifically, look at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Med.	2008-2012	USEPA, NYSDEC, SEMO, County, Municipal	County Planning	Public Works, Soil & Water, Water & Sewer	$500,000
62	Flood	Emergency Services	Prepare a coordinated sandbagging plan between the County and select, flood-prone communities.	Low	2008-2009	SEMO, County, Municipal	County EMS	Public Works, Soil & Water, Water & Sewer	$250,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Potential Funding Sources	Potential Lead Agency	Involved Agencies	Approx. Cost
63	Hazmat (Trans.)	Prevention	Study the possibility of limiting truck traffic on Routes 63 and 36.	Low	2008-2010	NYSDOT, SEMO, County	County Highway, Planning	County Sheriff, Local Police	$10,000
64	Hazmat (Trans.)	Prevention	Institute an annual survey of HAZMAT truck traffic on major routes.	Med.	Ongoing	NYSDOT, SEMO, County, Municipal	County Highway, Planning	County Sheriff, Local Police	$15,000
65	Hazmat (Trans.)	Prevention	Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of accidents involving HAZMAT at those intersections.	Med.	2008-2010	NYSDOT, SEMO, County, Municipal	County Highway	County Planning	$10,000
66	Hazmat (Trans.)	Prevention	Update municipal Zoning Ordinances to reduce the impact of	Med.	2008-2010	NYSDOT,	County Highway	County Planning	$10,000

			HAZMAT (In Transit) by setting construction, protection and maintenance standards for utility infrastructure.			Utility Companies, County, Municipal			
67	Hazmat (Trans.)	Prevention	Update the County Emergency Management Plan to address HAZMAT (In transit) problems.	Low	2008-2009	NYSDOT, SEMO, County, Municipal	County Highway, EMS		$50,000
68	Hazmat (Trans.)	Property Protection	Work with utility companies to ensure proper maintenance of utility infrastructure	Low	Ongoing	Utility Companies, FEMA,SEMO County, Municipal	Municipal Code Enforcement	Utility Companies	Staff Time
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.	Med.	2008-2010	Railroad Companies, NYSDOT, NYSDEC, SEMO, County, Municipal	County Highway, Planning	County Sheriff, Local Police	$500,000
70	Hazmat (Trans.)	Emergency Services	Obtain funds for increased training to improve emergency response to HAZMAT incidents, fires, and ice storms.	Med.	Ongoing	State Police, NYSDOT, FEMA, SEMO	County EMS	County Sheriff, Local Police, Fire Depts.	$500,000
71	Hazmat (Trans.)	Structural Projects	Secure funds to rebuild the intersection of Court St. and Rt. 63 in Geneseo.	Med.	2008-2010	NYSDOT, FEMA, SEMO, County, Municipal	County Highway	County Planning	$1,000,000
72	Hazmat (Trans.)	Structural Projects	Carry out general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63.	Med.	2008-2011	NYSDOT, SEMO, County, Municipal	County Highway	County Planning	$3,000,000
73	Hazmat (Trans.)	Structural Projects	Analyze the potential of constructing a bypass linking the Thruway with Rt. 390.	Med.	2008-2010	Thruway Authority, NYSDOT, SEMO, County, Municipal	County Highway	County Planning	$150,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Funding Sources	Lead Agency	Involved Agencies	Approx. Cost
74	Hazmat (Fixed)	Prevention	Institute stricter measures for regulating HAZMAT storage at fixed sites.	Med.	2008-2010	NYSDEC, FEMA, NYSOHS, SEMO, County, Municipal	Municipal Code Enforcement	Fire Depts.	$25,000
75	Hazmat (Fixed)	Property Protection	Construct permanent storage facilities for vulnerable equipment & machinery that is not currently protected from harsh weather.	Low	2008-2010	NYSDOT, SEMO, County, Municipal	Municipal Code Enforcement	All County Agencies, Municipalities	$500,000
76	Hazmat (Fixed)	Public Education	Provide training programs for handling Hazardous Materials.	Med.	Ongoing	NYSDEC, NYOHS, SEMO, County, Municipal	County EMS	County Sheriff, Local Police, Fire Depts.	$100,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Funding Sources	Lead Agency	Involved Agencies	Approx. Cost
77	Earth-quake	Property Protection	Each municipality should adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to magnitude 6.5.	Med.	2008-2013	NYSDOS, SEMO, FEMA	Municipalities	County Planning, MCEER	TBD
78	Earth-	Property	Carry out a pre-event inspection of	Med.	2008-	SEMO,FEMA	County	County	TBD

	quake	Protection	key buildings, bridges, and dams for seismic vulnerability.		Ongoing		EMO	Agencies, Municipalities MCEER	
79	Earth-quake	Public Education	Inform the public of the earthquake hazard in Livingston County through a public outreach program.	Med.	2008-Ongoing	Local Resources	County EMO	MCEER	$10,000

#	Hazard	Category	Mitigation Measure	Priority	Estimated Time Frame	Funding Sources	Lead Agency	Involved Agencies	Approx. Cost
80	All	N/A	The Plan will incorporate additional data that estimates property losses for specific hazards.	Med.	2008-2010	Local Resources	County EMO	County Planning, RPS	Staff Time
81	All	N/A	The Plan will be revised to include additional information on residential and commercial buildings in the County.	Med.	2008-2010	Local Resources	County EMO	County Planning, RPS	Staff Time

MUNICIPAL MITIGATION MEASURES

All twenty-six municipalities in Livingston County agreed to follow and implement the above Master List of mitigation measures. However, in order to prioritize municipal mitigation projects for the implementation phase of the mitigation planning process, a short list of mitigation measures was prepared specifically for each municipality. These lists will assist municipal officials by singling out a relatively small number of mitigation measures from the Master List and allowing the municipalities to focus on realizing these projects.

The following tables identify the municipal hazard mitigation measures. Representatives from each town and village were asked to select a number of action items from the Master List that they thought were especially important for their communities. The mitigation measures selected by municipal officials appear in the following tables.

Avon, Town

#	Hazard	Category	Mitigation Measure
23	All	Property Protection	Provide Back-up power generators for:
23i	All		Highway Department/DPW Garages and related installations.
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27a	All		Upgrade school security, especially surveillance capabilities. Install physical barriers in front of school buildings. Emphasize planning for gun/bomb threats.
27c	All		Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Avon, Village

#	Hazard	Category	Mitigation Measure
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27c	All		Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Caledonia, Town

#	Hazard	Category	Mitigation Measure
23	All		Provide Back-up power generators for:
23a	All	Property Protection	Town/Village Halls.
27	All		Security Upgrades for Critical Facilities and Community Assets:
27c	All	Property Protection	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Caledonia, Village

#	Hazard	Category	Mitigation Measure
27	All		Security Upgrades for Critical Facilities and Community Assets:
27c	All	Property Protection	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Conesus, Town

#	Hazard	Category	Mitigation Measure
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town Hall.
23b	All		Local Fire station.
23	All	Property Protection	Provide back-up power generators for:
23i	All		Highway Department/DPW Garages and related installations.
24	All	Emergency Services	Improve County-wide Communication Network:
24b	All		Acquire new communications gear such as radios and walkie-talkies.
24c	All		Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d	All		Build a new countywide dispatch center.
24e	All		Provide better communications for First Responder units.
24f	All		Establish local emergency shelters/coordination centers.
24g	All		Set up a clear chain of command for disaster response.
24j	All		Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k	All		Establish mutual aide agreements with neighboring counties for assistance for county wide disasters.
24l	All		Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between county/municipal officials and contractors to facilitate rapid response.
24m	All		Set up a reverse emergency management call system to contact residents (Reverse 911).
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26d	All		Establish reserves of spare parts, tires, etc. for emergency and official vehicles.
26f	All		Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled)
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27b	All		Provide security provisions for telephone lines and power lines.
27c	All		Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28b	All		Secure funding to alleviate staffing issues for Fire Departments and EMTs.
28d	All		Secure training funds for EMS, Fire Dept., and Police.

41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
55	Flood	Natural Resource Protection	Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.

Dansville, Village

#	Hazard	Category	Mitigation Measure
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
29	All	Public Education	Carry out Public Education Programs:
29f	All		Undertake public training programs for disaster preparedness. Secure funds for these training activities.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
56	Flood	Natural Resource Protection	Build a diversion channel/canal to divert flood waters from the flood prone village of Dansville.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

Geneseo, Town

#	Hazard	Category	Mitigation Measure
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.
23b	All		Local Fire station.
23d	All		Schools.
23f	All		Waterworks, Water towers, Pump stations, etc.
23g	All		Water treatment plants, Sewer lift stations, etc.
23i	All		Highway Department/DPW Garages and related installations.
23l	All		Stockpile several mobile generators for distribution around town.
24	All	Emergency Services	Improve County-wide Communication Network:
24b	All		Acquire new communications gear such as radios and walkie-talkies.
24c	All		Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d	All		Build a new countywide dispatch center.
24e	All		Provide better communications for First Responder units.
24f	All		Establish local emergency shelters/coordination centers.

24g	All		Set up a clear chain of command for disaster response.
24j	All		Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k	All		Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.
24l	All		Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled.
24m	All		Set up a reverse emergency management call system to contact residents (Reverse 911).
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26d	All		Establish reserves of spare parts, tires, etc. for emergency/official vehicles.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28b	All		Secure funding to alleviate staffing issues for Fire Departments and EMTs.
28d	All		Secure training funds for EMS, Fire Dept., and Police.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
63	Hazmat (Trans.)	Prevention	Study the possibility of limiting truck traffic on Routes 63 and 36.
64	Hazmat (Trans.)	Prevention	Institute an annual survey of HAZMAT truck traffic on major routes.
71	Hazmat (Trans.)	Structural Projects	Secure funds to rebuild the intersection of Court St. and Rt. 63 in Geneseo. This intersection is plagued by severe line of sight problems with the bridge over the Genesee River, and many serious accidents have occurred at this location. Study the possibility of rebuilding the bridge.
72	Hazmat (Trans.)	Structural Projects	Carry out general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.

Geneseo, Village

#	Hazard	Category	Mitigation Measure
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26d	All		Establish reserves of spare parts, tires, etc. for emergency/official vehicles.
51	Flood	Natural Resource Protection	Develop a flood mitigation program for Jaycox Creek. This watercourse is a source of significant flooding in the village.
71	Hazmat (Trans.)	Structural Projects	Secure funds to rebuild the intersection of Court St. and Rt. 63 in Geneseo. This intersection is plagued by severe line of sight problems with the bridge over the Genesee River, and many serious accidents have occurred at this location. Study the possibility of rebuilding the bridge.

Groveland, Town

#	Hazard	Category	Mitigation Measure
24	All	Emergency Services	Improve County-wide Communication Network:
24b	All		Acquire new communications gear such as radios and walkie-talkies.
24c	All		Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d	All		Build a new countywide dispatch center.
24e	All		Provide better communications for First Responder units.
24f	All		Establish local emergency shelters/coordination centers.
24g	All		Set up a clear chain of command for disaster response.
24j	All		Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k	All		Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.
24l	All		Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list

			between county/municipal officials and contractors to facilitate rapid response.
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26d	All		Establish reserves of spare parts, tires, etc. for emergency/official vehicles.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28b	All		Secure funding to alleviate staffing issues for Fire Departments and EMTs.
28d	All		Secure training funds for EMS, Fire Dept., and Police.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
63	Hazmat (Trans.)	Prevention	Study the possibility of limiting truck traffic on Routes 63 and 36.
64	Hazmat (Trans.)	Prevention	Institute an annual survey of HAZMAT truck traffic on major routes.
72	Hazmat (Trans.)	Structural Projects	Carry out general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.

Leicester, Town

#	Hazard	Category	Mitigation Measure
23	All		Provide Back-up power generators for:
23a	All	Property Protection	Town/Village Halls.
23d	All	Property Protection	Schools.
23j	All	Property Protection	Nursing/Group Homes.
23l	All	Property Protection	Stockpile several mobile generator for distribution around county.
27	All		Security Upgrades for Critical Facilities and Community Assets:
27f	All	Property Protection	Institute special security provisions for golf courses – secure fertilizers and chemicals.
27g	All	Property Protection	Secure hazardous materials on farms.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Leicester, Village

#	Hazard	Category	Mitigation Measure
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Lima, Town

#	Hazard	Category	Mitigation Measure
23	All		Provide Back-up power generators for:
23a	All	Property Protection	Town/Village Halls.
23b	All	Property Protection	Local Police/Fire stations.
23k	All	Property Protection	Cellular Phone towers.
27	All		Security Upgrades for Critical Facilities and Community Assets:
27c	All	Property Protection	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras. Specifically, upgrade fencing and surveillance around the Nunda impound reservoir.

53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
74	Hazmat (Fixed)	Emergency Services	Institute stricter measures for regulating HAZMAT storage at fixed sites. Many HAZMAT (Fixed Site) incidents in the county are due to equipment failure, and these spills can be prevented in part by having stricter regulations regarding storage facilities.
76	Hazmat (Fixed)	Public Education	Provide training programs for handling Hazardous Materials. specifically at the town Fire Hall. The Fire Hall should be provided with clean up equipment for possible oil spills.

Lima, Village

#	Hazard	Category	Mitigation Measure
23	All		Provide Back-up power generators for:
23a	All	Property Protection	Town/Village Halls.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Livonia, Town

#	Hazard	Category	Mitigation Measure
2	All	Public Education	Prepare people for quarantines in their homes.
4	All	Emergency Services	Hold drills for the evacuation of schools/mass casualty incident drills.
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.
23i	All		Highway Department/DPW Garages and related installations.
24	All	Emergency Services	Improve County-wide Communication Network:
24b	All		Acquire new communications gear such as radios and walkie-talkies.
24c	All		Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d	All		Build a new countywide dispatch center.
24e	All		Provide better communications for First Responder units.
24f	All		Establish local emergency shelters/coordination centers.
24g	All		Set up a clear chain of command for disaster response.
24j	All		Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k	All		Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.
24l	All		Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between county/municipal officials and contractors to facilitate rapid response.
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26d	All		Establish reserves of spare parts, tires, etc. for emergency/official vehicles.
26f	All		Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled)
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27b	All		Upgrade security at the Hemlock Lake water treatment facility.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28b	All		Secure funding to alleviate staffing issues for Fire Departments and EMTs.
28d	All		Secure training funds for EMS, Fire Dept., and Police.
55	Flood	Natural Resource Protection	Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.

Livonia, Village

#	Hazard	Category	Mitigation Measure
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Mt. Morris, Town

#	Hazard	Category	Mitigation Measure
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27f	All		Institute special security provisions for golf courses – secure fertilizers and chemicals.
27g	All		Secure hazardous materials on farms.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Mt. Morris, Village

#	Hazard	Category	Mitigation Measure
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

North Dansville, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.
23d	All		Schools.
23f	All		Pump stations.
23h	All		Airports/Airstrips.
23i	All		Highway Department/DPW Garages and related installations.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
56	Flood	Natural Resource Protection	Build a diversion channel/canal to divert flood waters from the flood prone village of Dansville.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource	Line some stream banks, especially those in the southern part of the county, with retaining

		Protection	walls for erosion control.

Nunda, Town

#	Hazard	Category	Mitigation Measure
9	All	Emergency Services	Transform Tri-County medical center into an emergency shelter with supplies and a generator.
19	All	Structural Projects	Stabilize/remove shale slope behind Nunda waterworks.
23	All		Provide Back-up power generators for:
23i	All	Property Protection	Highway Department/DPW Garages and related installations.
24	All		Improve County-wide Communication Network:
24f	All	Emergency Services	Establish local emergency shelters/coordination centers.
27	All		Security Upgrades for Critical Facilities and Community Assets:
27c	All	Property Protection	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras. Specifically, upgrade fencing and surveillance around the Nunda impound reservoir.
27f	All	Property Protection	Institute special security provisions for golf courses – secure fertilizers and chemicals.
27g	All	Property Protection	Secure hazardous materials on farms.
27j	All	Property Protection	Fencing and cameras around water treatment plant, water wells, and the Nunda Impound Reservoir.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
60	Flood	Natural Resource Protection	Prepare flood mitigation measures and set up evacuation plan for the Keshequa Central School.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Nunda, Village

#	Hazard	Category	Mitigation Measure
9	All	Emergency Services	Transform Tri-County medical center into an emergency shelter with supplies and a generator.
19	All	Structural Projects	Stabilize/remove shale slope behind Nunda waterworks.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
60	Flood	Natural Resource Protection	Prepare flood mitigation measures and set up evacuation plan for the Keshequa Central School.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Ossian, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.

23b	All		Local Police/Fire stations.
23c	All		County Sheriff/State Police stations.
23d	All		Schools.
23e	All		Public Buildings – Libraries, Community Centers, Historical Societies/Museums, etc.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

Portage, Town

#	Hazard	Category	Mitigation Measure
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.
26	All	Emergency Services	Stockpile Emergency Supplies/Equipment:
26f	All		Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled)
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27g	All		Secure hazardous materials on farms.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
69	Hazmat (Trans.)	Emergency Services	Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Sparta, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town/Village Halls.
23b	All		Local Police/Fire stations.
23c	All		County Sheriff/State Police stations.
23d	All		Schools.
23e	All		Public Buildings – Libraries, Community Centers, Historical Societies/Museums, etc.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource	Introduce erosion controls/stream and bank stabilization along specific watercourses,

		Protection	including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

Springwater, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
23	All	Property Protection	Provide Back-up power generators for:
23b	All		Local Fire station.
23f	All		Waterworks, Water towers, Pump stations, etc.
23i	All		Highway Department/DPW Garages and related installations.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
57	Flood	Natural Resource Protection	Provide rocks for slope stabilization in Springwater.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

West Sparta, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
28	All	Emergency Services	Prepare Emergency Response Staff for Hazard Events:
28c	All		Have EMTs/nurses on call during emergencies.
41	Flood	Prevention	Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).
51	Flood	Natural Resource Protection	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.
52	Flood	Natural Resource Protection	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.
53	Flood	Natural Resource	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will

		Protection	greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.
58	Flood	Natural Resource Protection	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage and the villages of Dansville, Nunda, and Mount Morris.
59	Flood	Natural Resource Protection	Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

York, Town

#	Hazard	Category	Mitigation Measure
6	All	Emergency Services	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the town should a disaster occur.
8	All	Emergency Services	Regularly update county and municipal Emergency Response Plans.
23	All	Property Protection	Provide Back-up power generators for:
23a	All		Town Hall.
23c	All		County Sheriff substation.
23g	All		Water treatment plant.
27	All	Property Protection	Security Upgrades for Critical Facilities and Community Assets:
27e	All		Provide fencing/surveillance for all 12 sewer lift stations in town.
53	Flood	Natural Resource Protection	Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.
54	Flood	Natural Resource Protection	Set up a county-wide program to remove debris from stream beds on a regular basis.

Chapter 9: *Plan Adoption, Maintenance, and Update Procedures*

SECTION 9.1: PURPOSE

The Livingston County Multi-Jurisdictional All-Hazard Mitigation Plan is intended to guide Livingston County and its municipalities over the next five years in their efforts to eliminate and/or minimize the impact of natural hazard events to critical facilities and community assets. The Plan will serve as a continually evolving guidebook that addresses the hazard issues identified within it.

This chapter discusses the procedures by which the County and all twenty-six municipalities within it will adopt, maintain, and update the All-Hazard Mitigation Plan; as well as means by which the Plan's contents will be integrated into local land use documents and regulations.

SECTION 9.2: PLAN ADOPTION SYSTEM

FEMA regulations (44 CFR Part 201 Mitigation Planning; Section 201.6: Local Mitigation Plans) stipulate that local units of government must formally adopt hazard mitigation plans. Plan adoption is accomplished by following the standard legal procedures for the adoption of local laws. The Livingston County Board of Supervisors and the municipal governing boards will adopt the Plan by passing resolutions after FEMA approves the draft Plan.

The Livingston County Board of Supervisors is the first governing body that will adopt the Plan following FEMA's approval of the draft Plan. Once the Board of Supervisors adopts the Plan, it will forward the Plan to each municipality along with a request that each local governing body adopt the Plan. Each of the County's twenty-six municipalities has a governing body (Town Board or Village Board) that will adopt the Plan at this point.

The Board of Supervisors and each municipal governing body will then provide a copy of the passed resolutions to the Livingston County Emergency Management Office. These copies will be included in the final version of the Plan document within a special appendix (Appendix D) to verify that each unit of local government has officially adopted the Plan.

SECTION 9.3: LOCAL LAW INTEGRATION

A critical long-term objective (Objective 5.2) of the hazard mitigation planning process is the integration of the completed hazard mitigation plan, especially the Mitigation Strategy, with local land use documents such as comprehensive plans, zoning codes, and subdivision regulations. This should be done to institutionalize hazard mitigation planning within local laws and ordinances.

A detailed assessment of local land use documents was completed for the Livingston County All-Hazard Mitigation Plan. This assessment was carried out in order to determine what provisions, if any, currently exist in local land use laws for reducing hazard impacts. This assessment identified gaps in the local laws that can be filled, in part, by various mitigation measures. The process of upgrading local laws to reflect and implement hazard mitigation goals, objectives, and measures should begin as soon as the Plan is adopted. The results of this assessment can be found in Appendix A, *Livingston County Local Law Assessment*.

Municipal governments should seek to incorporate the Goals and Objectives of the all-hazard mitigation plan, as well as (where relevant) specific mitigation measures, into future revisions and updates of their local land use law documents. When local land use law documents are undergoing revision, the all-hazard mitigation plan will be consulted and its recommendations incorporated into new local laws. When the all-hazard mitigation plan is undergoing revision, local land use law documents will be consulted and their contents factored into the revised version of the all-hazard mitigation plan.

SECTION 9.4: PLAN IMPLEMENTATION SYSTEM

The Livingston County Board of Supervisors is the governing body with the primary responsibility for implementing Plan recommendations related to County facilities and operations. At the discretion of the Board of Supervisors and at the direction of the County Administration, County departments and agencies will be responsible for overseeing and coordinating all activities required to assist the Board of Supervisors with implementing the Plan's recommendations.

Town Boards and Village Boards have the primary responsibility for implementing mitigation measures pertinent to their particular jurisdictions. Municipal departments and volunteer boards (planning boards and zoning boards of appeal) will assist the municipality in meeting its hazard mitigation goals. As described above in Section 9.3, municipal officials will help implement the Plan by periodically working to integrate hazard mitigation planning techniques into their local planning documents and laws. In addition, by using municipal capital improvement plans (CIPs) and other budgetary planning mechanisms, County and municipal officials can work to provide local financial support for hazard mitigation projects.

The local governing boards can ensure implementation by setting priorities, establishing budgets and allocating resources, and securing outside funding sources by pursuing grant opportunities. Hazard mitigation projects can also be realized through partnerships between government and local entities such as hospitals, fire departments, emergency service responders, school districts, area businesses, community organizations and environmental agencies.

SECTION 9.5: PLAN MAINTENANCE PROCESS

The Livingston County Board of Supervisors has designated the Livingston County Emergency Management Director as the Livingston County Hazard Mitigation Coordinator. As such, the Coordinator will oversee the ongoing maintenance of the All-Hazard Mitigation Plan. Plan maintenance will consist of the annual evaluation and revision of the Plan document by the All-Hazard Mitigation Planning Committee (AHMPC).

The Plan document must be regularly maintained to reflect the continued relevance of potential hazards, the applicability of goals and objectives, the effectiveness and appropriateness of mitigation measures, and especially any progress made in implementing specific mitigation measures. Documentation of progress in realizing mitigation measures will be done by Emergency Management office staff during the annual AHMPC review.

The AHMPC consists of at least one representative from each of the County's twenty-six municipalities and the County departments and affiliated agencies listed in Chapter 3 (see Table 3.1). The County Emergency Management Office will be responsible for the overall coordination of this committee.

The annual Plan review will be carried out by the AHMPC under the Emergency Management Office's direction. The AHMPC review will occur one year after FEMA approval and then again during each successive year. The AHMPC will meet to discuss progress made in implementing the Mitigation Strategy; possible changes to the hazard ranking; the addition, removal, and modification of specific mitigation projects; and any necessary changes in the Risk Assessment. The Emergency Management Office will then revise the Plan document to reflect these changes.

During the annual review, the Planning Committee will follow the guidelines laid out in the FEMA publication *Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA 386-4), specifically *Step 4: Revise the Plan*. This document explains the mitigation procedures and techniques the AHMPC should consider and follow while revising the Plan.

The revision and evaluation of the Plan will be accomplished in part by soliciting comments from the general public. The Emergency Management Office will coordinate the continued public involvement component of the hazard mitigation planning process. A public hearing to inform the public of the progress made in carrying out the Plan will be held on an annual basis. These hearings will be publicized by press releases published in local newspapers and on the Internet. These notices will announce the start of the annual review process, provide the location where copies of the Plan can be obtained (Town and Village Halls and online at the project website), and request the submittal of comments to the Emergency Management office. The notice will allow at least 30 days for public comment prior to AHMPC review and revision. The Emergency Management Office will record and file all comments submitted by the public. These comments will be consulted by the Planning Committee during the review and revision process. When the review process is complete, the public will be notified through a second round of press releases.

In addition to the regular annual AHMPC meetings, the County Emergency Management Office will call a meeting of the AHMPC in the aftermath of every major disaster (a disaster in which state and/or federal aid is received by the County and/or any of its municipalities) in order to evaluate the Plan, monitor the implementation of its mitigation measures, and/or add or amend mitigation measures.

The Livingston County All-Hazard Mitigation Plan project website will be maintained by the Genesee/Finger Lakes Regional Planning Council until the Livingston County Emergency Management Office deems otherwise. If/when the Emergency Management Office decides to move the project website to a new host, it will coordinate with G/FLRPC to accomplish this.

All-Hazard Mitigation Plan Maintenance Schedule

The following annual plan maintenance schedule indicates the basic timeline, responsible parties and corresponding activities involved in the plan maintenance process:

Annual Plan Maintenance Schedule		
Target Date:	**Responsible Party:**	**Activity:**
January	Livingston County Emergency Management Office*	The Livingston County Emergency Management Office (EMO) will distribute a reminder letter with an Annual Status Report (ASR) form to each municipality and county agency that sits on the All-Hazard Mitigation Planning Committee (AHMPC).
February-March	Livingston County Emergency Management Office	Schedule a meeting of the AHMPC for plan review and ASR completion. Each municipality and county agency will delegate at least one

		representative to sit on this committee. Hold the AHMPC meeting. Distribute copies of the ASR form to the attendees and request they complete and return them to the EMO by the end of April. The EMO will distribute press releases to local newspapers and for posting to the project website. These releases will inform the public that the annual plan maintenance process is underway. The public will be requested to submit questions/comments for the AHMPC to consider while revising the plan. A thirty (30) day period will be set for the submission and receipt of public comments. All public comments will be documented and filed by the EMO.
March-April	Livingston County All-Hazard Mitigation Planning Committee; Livingston County Emergency Management Office	The representatives of each municipality and county agency that sits on the AHMPC will fill out and return their ASRs to the EMO for review. The EMO will begin revising the plan document to reflect the contents of the ASRs. Where applicable, the EMO will integrate any/all public comments into the plan document.
May	Livingston County Emergency Management Office	The EMO will collect all outstanding ASRs and complete the revisions of the plan document. The EMO will prepare an Annual Update Report (AUP) and make it available for public comment. The AUP will list all amendments to the plan document.
June	Livingston County All-Hazard Mitigation Planning Committee; Livingston County Emergency Management Office	The AHMPC will review the revised plan document and confirm all amendments with the EMO. The EMO will integrate any final alterations requested by the AHMPC into the plan document. The revised plan will be posted online at the project website. A public hearing will be held to inform the general public of the plan's status, and what changes were made to it, and what, if any, projects are currently being implemented.
*The Livingston County Emergency Management Coordinator is the County's designated Hazard Mitigation Officer. This individual will be ultimately responsible for the coordination of the Plan Maintenance process.		

SECTION 9.6: PLAN UPDATE PROCESS

FEMA regulations (44 CFR Part 201 Mitigation Planning; Section 201.6: Local Mitigation Plans) mandate that the Livingston County All-Hazard Mitigation Plan be updated every five years. This means that every five years FEMA Region II must review and re-approve an updated version of the Plan. In order for Livingston County and its municipalities to remain eligible for FEMA project grant funding, this update must be completed and FEMA's approval of the revised Plan obtained by the five year anniversary of FEMA's initial approval of the Plan.

In order to ensure sufficient time for the FEMA review process, work on the plan update will begin at the four year anniversary of the Plan's initial FEMA approval. The Livingston County Emergency Management Office will coordinate the update process. The updates will be based primarily on revisions made during the annual AHMPC reviews as well as comments gathered from the general public by the public outreach process described above.

The update process will follow the same procedures as the annual evaluation and revision of the Plan. However, as the schedule below indicates, it will include several additional steps aimed at broadening the Plan's scope and including additional organizations within the planning process. The Update process should be thought of simply as a more intensive Maintenance process.

When the AHMPC's revisions are complete, the Emergency Management Office will forward the Plan to NYSEMO for review. NYSEMO will return the plan to the Emergency Management Office with comments for the AHMPC to address prior to submitting the plan to FEMA. The Planning Committee will make the necessary changes and return the Plan to NYSEMO. Once NYSEMO is satisfied with the revised Plan, it will forward the Plan to FEMA Region II for review and revision.

After FEMA Region II approves the updated Plan, the Livingston County Board of Supervisors and the town and village boards will adopt a resolution approving a revised and updated version of the plan.

All-Hazard Mitigation Plan Update Schedule

The Five Year Plan Update Schedule is basically identical to the plan maintenance schedule, with a few additional activities. The following schedule indicates the basic timeline, responsible parties and corresponding activities involved in the plan update process:

Five Year Plan Update Schedule		
Target Date:	**Responsible Party:**	**Activity:**
January	Livingston County Emergency Management Office*	The Livingston County Emergency Management Office (EMO) will distribute a reminder letter with an Annual Status Report (ASR) form to each municipality and county agency that sits on the All-Hazard Mitigation Planning Committee (AHMPC). In addition to the AHMPC, the EMO will contact affiliated entities including local school districts, academia, the business community, and other relevant public and non-profit entities to invite their participation in this process.
February-March	Livingston County Emergency Management Office	Schedule a meeting of the AHMPC and other entities for plan review and ASR completion. Each municipality and county agency will delegate at least one representative to sit on this committee.

		Hold the AHMPC meeting. Distribute copies of the ASR form to the attendees and request they complete and return them to the EMO by the end of April. Affiliated entities (see above) should also be invited to this meeting and participate in the update process. The EMO will distribute press releases to local newspapers and for posting to the project website. These releases will inform the public that the annual plan maintenance process is underway and request the submittal of questions/comments for the AHMPC to consider while revising the plan. All public comments will be documented and filed by the EMO.
March-April	Livingston County All-Hazard Mitigation Planning Committee; Livingston County Emergency Management Office	The representatives of each municipality and county agency that sits on the AHMPC will fill out and return their ASRs to the EMO for review. Where applicable, the representatives of affiliated agencies should also complete an ASR for incorporation into the Plan. The EMO will begin revising the plan document to reflect the contents of the ASRs. Where applicable, the EMO will integrate any/all public comments into the plan document.
May	Livingston County Emergency Management Office	The EMO will collect all outstanding ASRs and complete the revisions of the plan document. The EMO will prepare an Annual Update Report (AUP) and make it available for public comment. The AUP will list all amendments to the plan document.
June	Livingston County All-Hazard Mitigation Planning Committee; Livingston County Emergency Management Office	The AHMPC will meet to review the revised plan document and confirm all amendments with the EMO. The EMO will integrate any final alterations requested by the AHMPC into the plan document. The revised plan will be posted online at the project website. A public hearing will be held to inform the general public of the plan's status and what changes were made to it.
July-September	Livingston County Emergency Management Office	The EMO will submit the updated plan document to the New York State Emergency Management Office (NYSEMO) on or prior to September 30th.
*The Livingston County Emergency Management Coordinator is the County's designated Hazard Mitigation Officer. This individual will be ultimately responsible for the coordination of the Plan Update process.		

Appendix A

Livingston County Local Law Assessment

Avon, Town				Local Law Assessment
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Comprehensive Plan, Town of Avon.	Adopted January 1995.
Zoning Ordinance	Y		Avon Code, Zoning, Chapter 130.	Adopted 1992. Amendments where applicable.
Subdivision Ordinance	Y		Avon Code, Chapter 113, Subdivision of Land.	Adopted 1992.
Site Plan Review Process	Y		Avon Code, Chapter 130-45-E: Procedures for Site Plan Approval.	Adopted 1992. Amended 2005.
Code or Zoning Enforcement Officer	Y		Avon Code, Sec.39-3.	Code Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Avon Code, Flood damage Prevention, Sec. 61-13: General Standards in the Special Flood Hazards Areas. Anchoring, Construction materials and methods, encroachment.	
Flood Officer (if NFIP community)			Avon Code, Flood damage Prevention, Sec. 61-10.	Zoning Officer.
Provision for Repetitive Flooding Property	Y		Avon Code, Flood damage Prevention, Sec. 61-13: General Standards in the Special Flood Hazards Areas. Anchoring, Construction materials and methods, encroachment. The town also has areas designated as 'floodways,' that are areas extremely hazardous due to high velocity of floodwaters carrying debris and posing additional threats from potential erosion forces.	
Drainage Regulations Related to Flooding/Storm Water	Y		Avon Code, Sec. 61-13-C, Utilities: All new and replacement sanitary sewage system to be designed to eliminate infiltration of floodwaters. On-site waste disposal systems to be located to avoid contamination.	
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y			Attachment, Figure 3, Floodplains and Wetlands.
Watershed Management Plan		N		
Section on Location of Major Pipelines	Y			Attached, Fig 10: Land Use Town Of Avon, Shows Utilities and Transportation. Not very clear.
Regulations for Retrofitting		N		

or Relocating the Existing Overhead Lines to Underground				
Natural Resource Inventory	Y			Attached Maps show, agricultural and conservation areas, streams and Genesee River, Wetlands, Parks etc.
Regulations for Unsafe/Defective Structures	Y		Avon Code, Unsafe Building, Chapter 41.	When in the opinion of the Code Enforcement Officer, who is hereby designated as the enforcement officer of this chapter, any building or structure located in the Town shall be deemed to be dangerous or unsafe to the public, the Code Enforcement Officer shall make formal inspection thereof and report, in writing, to the Town Board his or her findings and recommendations in regards to the buildings or structures removal or repair.
Environmental Overlays in Local Development Review Procedures	Y		Avon Code, Chapter 130, Division into Agricultural Districts, Residential Districts. Avon Code, Sec.130-22: Regulations for Preservation of Natural Features. Town and Village of Comprehensive Plan (Pg. 4-7), encourages conservation of environmentally sensitive areas such as floodplains, wetlands, and steel slopes.	
Riparian protections or setbacks	Y		Avon Code, Zoning, Pg. 130-10: Setback Requirement.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Avon Code, Sec. 105-4: Outdoor storage on public or private property restricted.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1978.

Avon, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance	Y		Zoning Ordinance of the Village of Avon.	Periodic Update.
Subdivision Ordinance	Y		Subdivision Regulations, Chapter 31.	Periodic Update.
Site Plan Review Process	Y		Zoning, Sec. 30.121, Site Plan Review, Pg 81.	

Code or Zoning Enforcement Officer	Y		Zoning, Pg. 77.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		They have the Flood Prevention Ordinance.
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention, Municipal Code, Construction Material and Methods, Pg. 37.11.	Construction standards for reducing flood damage.
Flood Officer (if NFIP community)	Y		Flood Damage Prevention, Sec. 3-1.	Local Administrator.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention, Sec. 3-8-2, Pg. 37.11: Certificate of compliance required from the Local Administrator for construction, modification and development of structures in the areas designated as Flood Hazard Area. Zoning, Pg. 20: They have the Flood Plain Zone for the areas that lie within the Flood Plain of Genesee River.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention, Pg. 37.12, Utilities: Water supply system, sanitary sewage system, on site disposal system and utilities such as electric, heating to be designed to prevent infiltration and accumulation of flood water.	
Sediment and Erosion Control Measures	Y		Flood Damage Prevention, Pg. 37.1: Controls filling, grading, dredging, alteration of natural flood plain, stream channels and natural protective barriers that may increase erosion and flood damages.	
Regulations for Prevention of Water Supply Contamination	Y		Flood Damage Prevention, Pg. 37.12: Prevention of water supply from flood water contamination and infiltration. Zoning, Pg.53, General Requirement for Water and Sewage: Requirement for water supply system. Water supply to be free from underground or surface contamination.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		The Village follows the County Watershed Management Plan.
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Zoning, Sec. 30.113-12.	Utility lines providing electric, telephone, television or other services shall be installed underground.
Natural Resource Inventory		N		

Regulations for Unsafe/Defective Structures	Y		Zoning, Pg. 76, D: No building damaged by fire or other causes to the extent of more than 75% of its actual value shall be repaired or rebuilt except in conformity with the regulations of this chapter. Zoning, Pg. 76, F: Any structure or portion thereof declared unsafe by a proper authority but not ordered to be demolished may be restored to a safe condition.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, Pg. 78, Establishment of districts: They have agricultural districts, Industrial districts and regulations for various districts. Zoning, Flood Plain Zone, Pg. 19: Flood Plain Zone superimposed over any districts which lies within the flood plain	
Riparian protections or setbacks	Y		Zoning, Pg.4 Front Yard, Side Yard: They have yard regulations for building lots.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning, Article III, Zoning District Regulations: They have list of uses that are permitted and restricted in certain districts. Like sale, pumping and storage of gasoline and other fuels prohibited in Central Business Districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1978.

Caledonia, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Background and Analysis for Planning Purposes for the Town and Village of Caledonia, 1964.	Adopted 1964.
Zoning Ordinance	Y		Zoning, Chapter 130, From the Code of the Town of Caledonia.	Zoning adopted 1994. Amendments 1996-2005.
Subdivision Ordinance	Y		Subdivision of Land, Chapter 113, From the Code of the Town of Caledonia.	Adopted 1994.
Site Plan Review Process	Y		Zoning, From the Code of the Town of Caledonia, Article XI, Site Development Plan Review.	
Code or Zoning Enforcement Officer	Y		Zoning, From the Codes of the Town of Caledonia, Sec. 130-98.	Enforcing Officer.
Flood Mitigation Plan		N		They have Flood Damage Prevention Law.
Building Codes Pertaining to	Y		Flood Damage Prevention Law, Sec. 5,	Talks about anchoring,

Flooding			Construction Standards.	construction materials and methods, utilities.
Flood Officer (if NFIP community)	Y		Flood Damage Prevention Law, Sec. 4.4.	Local Administrator (could be Code Enforcement Officer, Building Inspector, or employee of an engineering department) conducts permit application review before issuing a floodplain development permit.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention Law, Sec.3.1: This Law applies to all areas of special flood hazard within the jurisdiction of the Town of Caledonia. Subdivision of Land, From the Code of the Town of Caledonia: Sec. 113-18-K; Land subject to flooding or land deemed uninhabitable shall not be platted for residential occupancy or for such uses as may increase the danger to health, life or property or aggravate the flood hazard.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention Law, Sec. 5.2-3, Utilities: Water supply system and sewage system to be designed to minimize or eliminate infiltration of flood water. Subdivision of Land, From the Code of the Town of Caledonia, Sec. 113-18, Storm Drainage: Regulates the storm drainage facilities.	
Sediment and Erosion Control Measures	Y		Subdivision of Land, From the Code of the Town of Caledonia, Sec. 113-18-C: Erosion Control.	Planning Board requires the developers to follow certain erosion control practices in consultation with the Municipal Engineer.
Regulations for Prevention of Water Supply Contamination	Y		Flood Damage Prevention Law, Sec. 5.2-3, Utilities: Talks about prevention of water supply from infiltration of flood water. Subdivision of Land, From the Code of the Town of Caledonia, Sec. 113-20, Water Supply: Regulates extra safeguard and standards to protect public health and natural environment.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		Subdivision of Land, From the Code of the Town of Caledonia, Sec. 113-15: Talks about designing streets that allow for snow removal.
Identification of Wetland Areas	Y		Background and Analysis for Planning Purposes for the Town and Village of	Shows wetlands on the map.

			Caledonia, 1964, Pg 27, Existing Land Use Map, Town of Caledonia.	
Watershed Management Plan		N		
Section on Location of Major Pipelines	Y		Background and Analysis for Planning Purposes for the Town and Village of Caledonia, 1964, Volume II, Pg.49, Utilities Plan.	
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Subdivision of Land, From the Code of the Town of Caledonia, Sec. 113-21, Utilities.	All the utilities to be underground.
Natural Resource Inventory	Y		Background and Analysis for Planning Purposes for the Town and Village of Caledonia, 1964.	Has the list of facilities in the Town and Village of Caledonia. Parks, schools, recreational facilities.
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Code of the Town of Caledonia, Article IX, Land Conservation District: They are the land with special or unusual conditions of topography, drainage, floodplain or other natural conditions. Zoning and Zoning Map: Division into various districts like agricultural districts, land conservation district, residential and agricultural districts.	
Riparian protections or setbacks	Y		Zoning, From the Code of the Town of Caledonia, Article II-X.	They have area, yard and height regulations for various districts.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		Subdivision of Land, From the Code of the Town of Caledonia, Talks about avoiding steep grades and curves for street designs.
Incompatible uses	Y		Zoning, From the Code of the Town of Caledonia, Article V: Regulations for functions in different districts and has a list of uses that are prohibited in these districts. Zoning, From the Code of the Town of Caledonia, Pg. 13079: Ensures that the variance granted will not have adverse impact in the environment.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most recent FIRM 1981.

Caledonia, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Comprehensive Strategic Plan.	September-03

Zoning Ordinance	Y		Zoning, Chapter 215, From the Code of the Village of Caledonia.	August-99
Subdivision Ordinance	Y		Subdivision of Land, Chapter 186, From the Code of the Village of Caledonia.	June-05
Site Plan Review Process	Y		Zoning, Chapter 215, From the Code of the Village of Caledonia, Article XII (Pg. 21523.	Part of Zoning.
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Village of Caledonia, Article XX (Pg. 21549).	Enforcing Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination	Y		Water Supply Emergency Response Plan, Updated February 2003.	Precautionary measures in place to prevent water contamination mainly due to vandalism or sabotage.
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Village of Caledonia, Distinction of Land Conservation District, Industrial and Residential Districts.	Land Conservation District delineates those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state….
Riparian protections or setbacks	Y		Zoning, From the Code of the Village of Caledonia, Pg 21511.	Yard Requirements.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning		N		

or site plan review				
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1981.

Conesus, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Town of Conesus, Final Draft, Comprehensive Plan.	Update Nov-05
Zoning Ordinance	Y		Zoning, Chapter 155, Town of Conesus.	Update Dec-02
Subdivision Ordinance	Y		Subdivision of Land, Chapter 134, Town of Conesus.	Update Dec-02
Site Plan Review Process	Y		Zoning, Town of Conesus, Site Plan Approval .	Update Dec-02
Code or Zoning Enforcement Officer	Y		Zoning, Town of Conesus, Pg. 15511.	Code Enforcement Officer.
Flood Mitigation Plan	Y		Flood Mitigation Plan is currently Under Development. Pre-Disaster Mitigation Plan, Pg.25: Hazard location and extent of flood hazard. Pre-Disaster Mitigation Plan Pg. 45: Mitigation measures for flooding.	Mitigation measures for flooding under Pre-Disaster Mitigation Plan are brief but outline possible measures under Prevention, Property Protection and Public Education and Awareness.
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures	Y		Erosion and Sediment Control Law of the Town of Conesus.	
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan	Y		Conesus Lake Watershed Management Plan: Comprehensive Plan, Nov-2005 Town of Conesus, Pre-Disaster Mitigation Plan, Map#4: Town of Conesus Watersheds, Watershed Boundaries.	

Section on Location of Major Pipelines	Y		Town of Conesus, Pre-Disaster Mitigation Plan, Map#7, Town of Conesus Utility Map (Sewer and Water).	
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Town of Conesus Final Draft Comprehensive Plan, Environmental Overlay District, Pg. 39: Land included in this overlay area include areas where steep slopes, highly erodable soils and streams are located. Development in these areas to be handled with extreme care to ensure that the town's critical environmental features are protected. Zoning, Town of Conesus: Distinction of various districts like agricultural districts, industrial districts, lake residential district and regulations.	
Riparian protections or setbacks	Y		Zoning, Town of Conesus, Sec. 155-33.	Yard Requirement.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review	Y			
Incompatible uses	Y		Zoning, Town of Conesus, Pg. 155-19: Establishment of Districts and Maps: Regulations for various districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1991.

Dansville, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance	Y		Zoning Law of the Village of Dansville.	May-71
Subdivision Ordinance	Y		Land Subdivision Regulations, Village of Dansville.	
Site Plan Review Process	Y		Zoning Law of the Village of Dansville, Pg.25: Application Procedure.	
Code or Zoning Enforcement Officer	Y		Zoning Law of the Village of Dansville, Sec.202.	Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Prevention Ordinance, 1987, 5.1, General Standards.	Construction materials and methods for flood hazard prevention.
Flood Officer (if NFIP community)	Y		Flood Prevention Ordinance, 1987, 4.2-2.	Local Administrator.

Provision for Repetitive Flooding Property	Y		Land Subdivision Regulations, Village of Dansville, Floodplain, Pg. S-11: Land subject to flooding, and land deemed by the Planning Board to be otherwise uninhabitable, shall not be platted for residential occupancy nor for such other uses as may increase danger to health, life, or property or aggravate the flood hazard.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Prevention Ordinance, 1987, 5.1-3, Utilities: Sanitary sewage system to be designed to minimize and eliminate infiltration of flood water. On-site waste disposal systems to be located to prevent contamination from flood water.	
Sediment and Erosion Control Measures		N		Under Development.
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Zoning, Village of Dansville, Sec. 901.4: No building damaged by fire or other causes to the extent of more than 75% of its assessed valuation shall be repaired or rebuilt except in conformity with the regulations of this Law. Zoning, Village of Dansville	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, Village of Dansville, Sec. 601: Agricultural District Zoning, Village of Dansville, Sec. 701: Regulations for preservation of natural features. Regulates the retention of natural features like trees, brooks, streams. Prevents the excavation of soil.	
Riparian protections or setbacks	Y		Zoning, Village of Dansville, Sec. 601.4-2-B,C,D: Yard requirement for agricultural district.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning		N		

or site plan review				
Incompatible uses	Y		Zoning, Village of Dansville, Sec. 703: Flammable liquids and uses that cause smoke, odor, and dust are prohibited in the agricultural and residential areas.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1978.

Geneseo, Town				
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Town and Village of Geneseo Comprehensive Plan.	Adopted April 1992.
Zoning Ordinance	Y		Zoning, Chapter 106, Town of Geneseo.	Update Mar-05.
Subdivision Ordinance	Y		Subdivision of Land, Chapter 93, From the Code of the Town of Geneseo.	Update May-99.
Site Plan Review Process	Y		Zoning, Town of Geneseo, Pg.10688.	Site Plan Review and Approval.
Code or Zoning Enforcement Officer	Y		Zoning, Town of Geneseo, Pg.10665.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention.	Regulations for construction in the flood prone areas.
Flood Officer (if NFIP community)	Y		Flood Damage Prevention, Chapter 62, Sec. 62-11.	Code Enforcement Officer.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention, Sec.62-6.	Flood Damage Prevention to apply to areas identified in FIRM and to the areas identified in the report 'Flood Insurance Study, Town of Geneseo, New York, Livingston County'.
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention, Pg.6225: System to be designed to prevent accumulation and infiltration of flood water.	
Sediment and Erosion Control Measures	Y		Erosion and Sediment Control Law of the Town of Geneseo.	
Regulations for Prevention of Water Supply Contamination	Y		Conesus Lake Watershed Rules and Regulations have been adopted by the Town of Geneseo: Talks about the Water Supply Protection Zones.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Town and Village of Geneseo Comprehensive Plan, Pg, 48, Wetlands: Classification of Wetlands. Town and Village of Geneseo	

			Comprehensive Plan, Pg.49, 50,51: New York State Fresh Water Wetlands.	
Watershed Management Plan	Y		Conesus Lake Watershed Rules and Regulations adopted by the Town of Geneseo.	
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Zoning, Town of Geneseo, Pg.10624.27.	Mandates all the utilities to be underground.
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Town and Village of Geneseo Comprehensive Plan, Pg. 21, Open space Preservation Overlays, Woodland. Zoning, Town of Geneseo, Division into various districts, Agricultural District, Open Spaces, Industrial Districts, Residential Districts, Overlay District.	
Riparian protections or setbacks	Y		Zoning, Town of Geneseo, Pg.10637.	Setback Regulations.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning, Town of Geneseo.	Restricts certain uses in certain areas.
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1996.

Geneseo, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Town and Village of Geneseo Comprehensive Plan.	Adopted 1992.
Zoning Ordinance	Y		Zoning, Chapter 130, Village of Geneseo.	Update Apr-2000.
Subdivision Ordinance	Y		Subdivision of Land, Chapter 109, From the Code of the Village of Geneseo Subdivision Flow Chart, Village of Geneseo.	
Site Plan Review Process	Y		Zoning, Village of Geneseo, Site Plan Review, Pg.13054. Attachment: Site Plan Review Process, Village of Geneseo, Flow Chart.	
Code or Zoning Enforcement Officer	Y		Zoning, Village of Geneseo, Zoning Enforcement Officer, Pg. 13049.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		

Building Codes Pertaining to Flooding	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Flood Hazard Prevention, Pg. 60: All development proposed within the special Flood Hazard Area as defined by the Code Enforcement Officer shall comply with the various regulations set forth by the Code Enforcement Officer and the Village.	
Flood Officer (if NFIP community)	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Pg. 60, Flood Hazard Prevention.	Code Enforcement Officer.
Provision for Repetitive Flooding Property	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Flood Hazard Prevention, Pg. 60: Particular attention to be paid to construction in the vicinity of Jaycox Creek and its flood plains. No alterations in the existing character	
Drainage Regulations Related to Flooding/Storm Water	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-36, Pg.33, Storm and Surface Drainage: Storm sewer system to be designed to avoid problems arising from concentration of stormwater runoff over adjacent properties. Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-64, Pg.52, Storm Drainage System: Regulations for storm drainage.	
Sediment and Erosion Control Measures	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-32, Pg.27: Erosion and Sediment Control. Talks briefly about grading, land clearing and excavation for controlling erosion based on the Design Criteria and Design Specifications. Zoning Sec.130-27.	
Regulations for Prevention of Water Supply Contamination	Y		Village of Geneseo, Water Emergency Plan, VII-5, Water Contamination: Action Plan in case of contamination of water. Land Development Regulations and Public Works Requirements, Village of Geneseo: Regulates Water Mains like type of pipe, pressure, disinfection.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-32-B-2: Site disturbance, especially in sensitive areas, shall be kept at a minimum. Designs shall limit the removal of existing trees, hedgerows and indigenous plant cover. Land Development Regulations and Public Works Requirements, Village of	

			Geneseo, Sec.A-38, Landscaping: Regulations for planting and placement of trees.	
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Town and Village of Geneseo Comprehensive Plan, Pg, 48, Wetlands: Classification of Wetlands. Town and Village of Geneseo Comprehensive Plan, Pg.49, 50, 51: New York State Fresh Water Wetlands.	
Watershed Management Plan		N		Follow the county.
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Zoning, Village of Geneseo, Pg.13032.5.	Regulates installing utility lines underground where practicable.
Natural Resource Inventory	Y		Town and Village of Geneseo, Natural Resources of the area (Woodlands, Conesus Lake, Woodlands).	
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Town and Village of Geneseo Comprehensive Plan, Pg. 21, Open space Preservation Overlays, Woodland. Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-32-B-2: Physiographic features such as drumlins, wetlands and forest	
Riparian protections or setbacks	Y		Zoning, Village of Geneseo, Pg.13032.3.	Setback Requirements.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review	Y		Land Development Regulations and Public Works Requirements, Village of Geneseo, Sec. A-32-B-1, Pg.28: Site slopes to be graded to be stable and provide control of any surface or subsurface water prior to vegetative planting (Part of Erosion and Sediment Control).	
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1996.

Groveland, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		
Zoning Ordinance	Y		Zoning Ordinance of the Town of	Adopted 1966.

			Groveland.	
Subdivision Ordinance	Y		Town of Groveland Subdivision Regulations.	Adopted 1988.
Site Plan Review Process	Y		Zoning Ordinance of the Town of Groveland, Pg. 34: Requirement for site plan approval.	
Code or Zoning Enforcement Officer	Y		Zoning Ordinance of the Town of Groveland, Pg. 46.	Building Inspector.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention, Pg. 12, Sec. 5.0: Construction Standards: Standards that apply to new developments or improvements in the areas of special flood hazard shown on the Flood Insurance Rate Map.	
Flood Officer (if NFIP community)	Y		Flood Damage Prevention (Adopted 2000), Sec.4.4.	Local Administrator.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention, Pg. 11, Sec. 4.4-7: In the areas of special flood hazard, as determined in Section 3.2, certificate of compliance from the local administrator is needed for use of building.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention, Pg. 14, Sec.5.2-3: New and replacement drainage system to be designed to prevent infiltration of flood water. On-site waste disposal system to be located to avoid contamination during flooding.	
Sediment and Erosion Control Measures	Y		Erosion and Sediment Control Law of the Town of Groveland.	
Regulations for Prevention of Water Supply Contamination	Y		Flood Damage Prevention, Pg. 14, Sec.5.2-3: New and replacement water system to be designed to prevent infiltration of flood water.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris	Y		Town of Groveland Subdivision Regulations, Pg.20: Regulations and restrictions on tree removal.	
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review	Y		Town of Groveland Subdivision Regulations, Pg.19: Preservation of	

Procedures			natural features like beaches, watercourses, falls etc.	
Riparian protections or setbacks	Y		Zoning, Town of Groveland, Pg.16.	Yard Requirement.
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning, Town of Groveland, Pg.8: Distinction of various uses like agricultural, residential uses and it regulates the uses that are permitted and that are permitted conditionally.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1991.

Leicester, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		
Zoning Ordinance	Y		Town of Leicester, Zoning Ordinance.	Adopted 1972. Revised 1990.
Subdivision Ordinance	Y		Town of Leicester Land Subdivision Regulations.	Adopted 1972.
Site Plan Review Process	Y			Adopted 1972.
Code or Zoning Enforcement Officer		N	Town of Leicester, Zoning Ordinance, Sec.18, Enforcement.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		

Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Town of Leicester, Zoning Ordinance, Sec. 7, Public Properties and Utilities: Doesn't talk about underground utilities. Town of Leicester, Zoning Ordinance, Sec. 13: Underground utilities for Mobile Home.
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures		N		
Riparian protections or setbacks	Y		Town of Leicester, Zoning Ordinance, Sec.9-13: Yard Requirement for different districts.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Town of Leicester, Zoning Ordinance, Sec. 9: Permitted uses and Permitted Uses Conditional in different districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1982.

Leicester, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		
Zoning Ordinance	Y		Zoning, Chapter 190.	Adopted 1994.
Subdivision Ordinance	Y			Adopted 1994.
Site Plan Review Process	Y		Zoning, Article IV, Site Plan Review.	
Code or Zoning Enforcement Officer	Y		Zoning, Sec.190-7.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		Village has the Flood Damage Prevention 1994.
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention, Sec.103-14, Construction Standards.	
Flood Officer (if NFIP community)	Y		Flood Damage Prevention, Sec.103-13.	Local Administrator.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention, Pg.103:7: Flood Damage Prevention applies to areas of special flood hazard.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention, Pg. 103:15: Sewage system to be designed to minimize infiltration of flood water. On-site waste disposal systems to be located to avoid contamination from flooding.	
Sediment and Erosion Control Measures		N		

Regulations for Prevention of Water Supply Contamination		N		Flood Damage Prevention, Pg.103:15: Water supply system to be designed to prevent the infiltration of floodwater.
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N	Zoning, Pg.190-41, Public Utility Facility: Does not talk about underground utilities. Zoning, Pg. 190:51: Mandates underground utility for mobile homes in compliance with the NYS Uniform Code.	
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Zoning, Pg.190:28: Restoration and repair: Nothing in this chapter shall prevent the restoration and repair or continuation of use of a nonconforming building destroyed or partly destroyed by a disaster, provided that the restoration is commenced within 6 months of the date of destruction and is completed within 12 months after the date of destruction.	
Environmental Overlays in Local Development Review Procedures		N		
Riparian protections or setbacks	Y		Zoning, Pg.190-26: Yard Regulations. Zoning, Pg. 190:50: The minimum setback from the roadway line to be 15 feet. Minimum setback from all interior lot lines to be five feet.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning, Pg.190-25: Divided into residential and commercial districts. Regulates uses in these areas.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1982.

Lima, Town				Local Law Assessment
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Preparing for the 90s and beyond. Lima Master Plan, Town and Village of Lima.	New Comprehensive Plan Under Development.
Zoning Ordinance	Y		Zoning, Chapter 250, From the Code of the Town of Lima.	Update 1997.
Subdivision Ordinance	Y		Subdivision of Land, Chapter 220, From the Code of the Town of Lima.	Update 1997.
Site Plan Review Process	Y		Zoning, From the Code of the Town of Lima, Article XIII, Site Plan Review.	Update 1997.
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Town of Lima.	Code Enforcement Officer.
Flood Mitigation Plan		N		They have Flood Damage Prevention Law.
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention.	Building code regulations to prevent the impact of flooding.
Flood Officer (if NFIP community)	Y		Flood Damage Prevention, Sec.92-13.	Local Administrator.
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention.	Provisions to address flooding in the areas prone to flooding. Such as regulation new structures and substantial improvement to structures in areas of special flood hazard to be anchored to prevent flotation, collapse or lateral movement.
Drainage Regulations Related to Flooding/Storm Water	Y		Comprehensive Plan of the Town and Village of Lima recommends that the site plan and subdivision review should address stormwater management. Flood Damage Prevention, Pg. 9223: Water supply and sewage system to be designed to reduce infiltration. On-site waste disposal system to be located to avoid contamination during flooding.	
Sediment and Erosion Control Measures		N		The Comprehensive Plan of the Town and Village of Lima recommends that the site plan and subdivision review should address soil erosion and sediment control.
Regulations for Prevention of Water Supply Contamination		N		Flood Damage Prevention: Water supply system to be designed to prevent infiltration.
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Town and Village of Lima Master Plan, Pg 15, 16.	Location of State Regulated Wetlands.
Watershed Management Plan		N		
Section on Location of Major		N		

Pipelines				
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory	Y		Town and Village of Lima Comprehensive Plan, Natural features, recreational areas.	
Regulations for Unsafe/Defective Structures	Y		Zoning From the Town of Lima, Pg.25079.	Regulation for damaged buildings.
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Town of Lima, Distinction of various districts such as land conservation district, Mining, Quarrying and Land Excavation District, Business District.	
Riparian protections or setbacks	Y		Zoning, From the Town of Lima, Yard Regulations, Pg. 25028.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		The Comprehensive Plan of the Town and Village of Lima recommends addressing the site characteristics such as steep slopes as a part of the site plan.
Incompatible uses	Y		Zoning, From the Town of Lima, Regulations for storage of flammable liquids in districts, Regulation for uses in various districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1983.

Lima, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Preparing for the 90s and beyond. Lima Master Plan, Town and Village of Lima.	
Zoning Ordinance	Y		Zoning, Chapter 185, From the Code of the Village of Lima.	
Subdivision Ordinance	Y		Subdivision of Land, Chapter 155, From the Code of the Village of Lima.	
Site Plan Review Process	Y		Zoning, From the Code of the Village of Lima, Sec.185-73.	Procedure for building permit and Site Plan Review.
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Town of Lima.	Code Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention.	Building code regulations to prevent the impact of flooding.
Flood Officer (if NFIP community)	Y		Flood Damage Prevention, Sec.92-13.	Local Administrator.

Provision for Repetitive Flooding Property	Y		Flood Damage Prevention.	Provisions to address flooding in the areas prone to flooding. Such as regulation new structures and substantial improvement to structures in areas of special flood hazard to be anchored to prevent flotation, collapse or lateral movement.
Drainage Regulations Related to Flooding/Storm Water	Y		Comprehensive Plan of the Town and Village of Lima recommends that the site plan and subdivision review should address stormwater management. Flood Damage Prevention, Pg. 9223: Water supply and sewage system to be designed to reduce infiltration. On-site	
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		Flood Damage Prevention: Water supply system to be designed to prevent infiltration.
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Town and Village of Lima Master Plan.	Location of State Regulated Wetlands.
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory	Y		Town and Village of Lima Comprehensive Plan, Natural features, recreational areas.	
Regulations for Unsafe/Defective Structures	Y		Zoning, From the Code of the Village of Lima, Pg.18552, Regulations for damaged buildings.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Code of the Village of Lima, Division of land into Land Conservation District, residential district, industrial district.	
Riparian protections or setbacks	Y		Zoning, From the Code of the Village of Lima, Pg. 18541, Yard Regulations.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		The Comprehensive Plan of the Town and Village of Lima recommends addressing the site characteristics such as steep slopes as a part of the site plan.

Incompatible uses	Y		Zoning, From the Village of Lima, Regulations for storage of flammable liquids in districts, Regulation for uses in various districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1982.

Livonia, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Livonia Comprehensive Plan (for both town and village).	Adopted November 1996.
Zoning Ordinance	Y		Zoning, Chapter 150, From the Code of the Town of Livonia.	Update 1998
Subdivision Ordinance	Y		Subdivision of Land, Chapter 125, from the Code of the Town of Livonia.	Update 1998
Site Plan Review Process	Y		Zoning, From the Code of the Town of Livonia, Article XIV, Site Plan Review and Approval.	
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Town of Livonia, Sec. 150-6.	Code Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Zoning, From the Code of the Town of Livonia, Sec.150-68-D-4: Structures to be designed and anchored to prevent flotation. Construction material and utility to be resistant to flooding. Adequate drainage to be provided to reduce flood hazards.	
Flood Officer (if NFIP community)	Y		Zoning, 150-68-D-4, Floodplain: Code Enforcement Officer for regulating zoning. Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.39: Town approval needed for construction in the flood hazard area.	
Provision for Repetitive Flooding Property	Y		Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.39, Flood Hazard Prevention: All developments proposed within the special flood hazard area as defined by FEMA to comply with various regulations set forth by the Federal Insurance Administrator in addition to complying with the Town regulations. Particular attention to be paid to the development in the vicinity of Kinney, Wilkins and Little Conesus Creeks and their floodplains and the vicinity of Hemlock and Conesus Lakes.	

Drainage Regulations Related to Flooding/Storm Water	Y		Zoning, From the Code of the Town of Livonia, Sec.150-68-D-4: Adequate drainage to be provided to reduce flood hazards. Public utilities and facilities to be elevated and constructed to reduce flood damage. Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.32: Storm Drainage.	
Sediment and Erosion Control Measures	Y		Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.38: Erosion Control: Erosion Control Practices regulated by the Planning Board. Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.91: Sediment Control facilities to be constructed as required by the Town as recommended by NYSDEC in the 'New York Guidelines for Urban Erosion and Sediment Control'.	
Regulations for Prevention of Water Supply Contamination	Y		Design Criteria and Construction Specifications for Land Development, Town of Livonia, Appendix 5: Town of Livonia Water Department Specifications for the Installation of Water Mains and Appurtenance.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris	Y		Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg. 83, Trees, Existing Tree and Plant Material. Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.27: Developers to preserve existing trees.	
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Livonia Comprehensive Plan, A-5 and Table 2: List of NYDEC designated Wetlands.	
Watershed Management Plan		N		Follow the County.
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg. 54: Safeguarding existing utilities. Doesn't regulate all utilities to be underground. Zoning: Trees to be compatible with overhead and underground utility.
Natural Resource Inventory	Y		Livonia Comprehensive Plan, A-2, Natural Features: List of Wetlands, Flood	

			Hazard Areas, Public Recreational Facilities, lakes and Streams.	
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Code of the Town of Livonia, Pg. 15031-15070: Different districts. Like Agricultural Residential Conservation District, Waterfront Development District. Zoning, From the Code of the Town of Livonia, Sec.150-68, Land Conservation: Conservation areas designated like Forest/woodlands, Wetlands, Steep Slopes, Floodplain, Major Scenic Overlook, Stream Corridor. Livonia Comprehensive Plan, Pg. 3-3: Conservation Areas and Scenic Vistas.	
Riparian protections or setbacks	Y		Zoning, From the Code of the Town of Livonia, Pg. 15031-15070: Set back requirements for different districts.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review	Y		Zoning, From the Code of the Town of Livonia, Sec.150-68-D-3: Design of structures such that it minimizes the cutting into embankment, general grading and removal of vegetation cover. Design Criteria and Construction Specifications for Land Development, Town of Livonia, Pg.23: Streets to be designed to confirm to the original topography and to minimize the grading and disturbance of the physical characteristics of the site.	
Incompatible uses	Y		Zoning, From the Code of the Town of Livonia, Pg. 15031-15070: Uses permitted and prohibited in different districts. Like fuel storage, landfills and facilities like airports, helipads are prohibited in the Water Development Districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1992.

Livonia, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Livonia Comprehensive Plan (for both town and village).	Adopted November 1996.
Zoning Ordinance	Y		Zoning, Chapter 155, From the Code of the Village of Livonia.	Adopted 1998.
Subdivision Ordinance	Y		Subdivision of Land, From the Code of the Village of Livonia.	Adopted 1998.

Site Plan Review Process	Y		Zoning, Article XIV, Site Plan Review and Approval.	
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Village of Livonia, Article II, Enforcement.	Code Enforcement Officer.
Flood Mitigation Plan		N		They have Flood Prevention Ordinance, 1995.
Building Codes Pertaining to Flooding	Y		Zoning, From the Code of the Town of Livonia, Sec.155-68-D-4: Structures to be designed and anchored to prevent flotation. Construction material and utility to be resistant to flooding. Adequate drainage to be provided to reduce flood hazards.	
Flood Officer (if NFIP community)	Y		Zoning, Pg. 15567, Floodplain.	Code Enforcement Officer for regulating zoning codes.
Provision for Repetitive Flooding Property	Y		Zoning, Pg. 15567, Floodplain.	
Drainage Regulations Related to Flooding/Storm Water	Y		Zoning, From the Code of the Town of Livonia, Sec.155-68-D-4: Adequate drainage to be provided to reduce flood hazards. Public utilities and facilities to be elevated and constructed to reduce flood damage.	
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Livonia Comprehensive Plan, A-5 and Table 2: List of NYDEC designated Wetlands.	
Watershed Management Plan		N		Follow the County.
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Zoning, Pg. 15576: Trees to be compatible with overhead and underground utility.
Natural Resource Inventory	Y		Livonia Comprehensive Plan, A-2, Natural Features: List of Wetlands, Flood Hazard Areas, Public Recreational Facilities, lakes and Streams.	
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Code of the Village of Livonia, Article V: Establishment of districts such as Agricultural Residential Conservation District, Waterfront Development District.	

			Zoning, From the Code of the Village of Livonia, Sec. 155-68, Land Conservation for protection of Woodland/Forest, Wetlands, Steep Slope, Floodplain, Scenic Overlook.	
Riparian protections or setbacks	Y		Zoning, From the Code of the Village of Livonia, Article V: Establishment of districts. Minimum setback requirement for each district.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review	Y		Zoning, From the Code of the Town of Livonia, Sec.155-68-D-3: Design of structures such that it minimizes the cutting into embankment, general grading and removal of vegetation cover.	
Incompatible uses	Y		Zoning, From the Code of the Village of Livonia, Article V: Establishment of districts and uses that are permitted and that are allowed with conditional use permit and prohibited uses.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1988.

Mt. Morris, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Town and Village of Mt. Morris Comprehensive Plan.	Adopted 1997.
Zoning Ordinance	Y		Zoning, Chapter 48.	
Subdivision Ordinance	Y			Adopted by the Planning Board of the Town of Mount Morris 4-25-1972.
Site Plan Review Process	Y		Site Plan Review, Chapter 37.	Adopted 6-12-1997.
Code or Zoning Enforcement Officer	Y		Zoning, Sec.48-9	Zoning Officer
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N	Town and Village of Mount Morris Comprehensive Plan, Pg. 1-9, Chapter226, Water: Chapter 226 enables to require costumers to install back flow prevention devices to their service lines to prevent contamination of village water	

			system.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-1, Pg. 2-3: Map showing Village wetlands, floodplains and steep slopes.	
Watershed Management Plan		N		Town and Village of Mount Morris Comprehensive Plan, Figure 2-3, Pg. 2-44: Map showing watershed areas for the village of Mt. Morris
Section on Location of Major Pipelines	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-19: Mount Morris Water System Town and Village of Mount Morris Comprehensive Plan, Figure 4-1,4,5,6,7,8,9,10: Water and sanitary sewer expansion area for the Town and Village of Mount Morris: Shows the existing lines.	
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Zoning, Sec.48-38: Public Utilities: No mention of underground utilities.
Natural Resource Inventory	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-1 to 2-6: Maps showing different natural features. Town and Village of Mount Morris Comprehensive Plan, Pg. 2-50: List of Park and Natural Resources. Town and Village of Mount Morris Comprehensive Plan, Figure 2-8: Map showing recreation and open space for the Village of Mount Morris.	
Regulations for Unsafe/Defective Structures	Y		Town and Village of Mount Morris Comprehensive Plan, Pg. 1-6, Unsafe Buildings: The Code Enforcement Officer is authorized to require the building occupants to vacate if he deems danger to the occupant.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, Sec.48-23: Land Conservation: Protect land from unnatural condition of topography, drainage, soil permeability, flood plain or other natural conditions.	
Riparian protections or setbacks	Y		Zoning, Sec. 48-7.	Yard Requirement.
Timber harvesting regulations		N		
Steep slope regulations or		N		

consideration within zoning or site plan review				
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1981.

Mt. Morris, Village				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Town and Village of Mt. Morris Comprehensive Plan.	Adopted 1997.
Zoning Ordinance	Y		Zoning, Chapter 232, From the Code of the Village of Mount Morris.	Adopted 1997.
Subdivision Ordinance	Y		Subdivision of Land, Chapter 204, From the Code of the Village of Mount Morris.	Update 1974.
Site Plan Review Process	Y		Zoning, From the Code of the Village of Mount Morris, Sec.232-51: Application Procedures.	
Code or Zoning Enforcement Officer	Y		Zoning, From the Code of the Village of Mount Morris, Sec. 232-48: Enforcement.	Zoning Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Town and Village of Mount Morris Comprehensive Plan, Pg. 1-7, Flood Damage Prevention: It governs the physical alterations to real property and sets standards for buildings that are permitted to be built in a floodplain. It requires development permit prior to construction and certificate of compliance after construction.	
Flood Officer (if NFIP community)	Y		Town and Village of Mount Morris Comprehensive Plan, Pg. 1-7, Flood Damage Prevention.	Code Enforcement Officer.
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination	Y		Town and Village of Mount Morris Comprehensive Plan, Pg. 1-9, Chapter226, Water: Chapter 226 enables to require costumers to install back flow prevention devices to their service lines to prevent contamination of village water system.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		

Identification of Wetland Areas	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-2, Pg. 2-4: Map showing Village wetlands, floodplains and steep slopes.	
Watershed Management Plan		N		Town and Village of Mount Morris Comprehensive Plan, Figure 2-4, Pg. 2-45: Map showing watershed areas for the village of Mt. Morris.
Section on Location of Major Pipelines	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-19: Mount Morris Water System. Town and Village of Mount Morris Comprehensive Plan, Figure 4-1,4,5,6,7,8,9,10: Water and sanitary sewer expansion area for the Town and Village of Mount Morris: Shows the existing lines.	
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Zoning, Pg.23233, Public Utilities: Doesn't talks about underground utilities.
Natural Resource Inventory	Y		Town and Village of Mount Morris Comprehensive Plan, Figure 2-1 to 2-6: Maps showing different natural features. Town and Village of Mount Morris Comprehensive Plan, Pg. 2-50: List of Park and Natural Resources. Town and Village of Mount Morris Comprehensive Plan, Figure 2-8: Map showing recreation and open space for the Village of Mount Morris.	
Regulations for Unsafe/Defective Structures	Y		Zoning, From the Code of the Village of Mount Morris, Sec.232-38: No building damaged by fire or other cause to the extent of more than 50% of its assessed valuation shall be repaired or rebuilt except in conformity with the regulations of this chapter. Town and Village of Mount Morris Comprehensive Plan, Pg. 1-6, Unsafe Buildings: The Code Enforcement Officer is authorized to require the building occupants to vacate if he deems danger to the occupant.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, From the Code of the Village of Mount Morris, Pg.23217: Preservation of Natural Features. Town and Village of Mount Morris Comprehensive Plan, Pg. 2-39, Natural Resources and Environmental Issues: Wetlands, Flood Hazard Areas. Steep Slopes.	
Riparian protections or setbacks	Y		Zoning, From the Code of the Village of Mount Morris, Sec. 232-25: Yard	

			Regulations.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning, From the Code of the Village of Mount Morris, Article V: Establishment of districts. And uses that are permitted and uses that are prohibited and use that are permitted with special permit like public utilities in the residential districts.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1978.

North Dansville, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Village of Dansville and Town of North Dansville Comprehensive Plan, Adopted 1970.	New Comprehensive Plan Under Development.
Zoning Ordinance	Y		Zoning Law of the Town of North Dansville Adopted 1988.	
Subdivision Ordinance		N		
Site Plan Review Process	Y		Zoning Law of the Town of North Dansville, Sec. 204, Pg. 11, Application Procedure.	
Code or Zoning Enforcement Officer	Y		Zoning Law of the Town of North Dansville, Sec. 202.	Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		Under Development.
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major		N		

Pipelines				
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Zoning Law of the Town of North Dansville, Pg. 41, Sec. 901.4: No building damaged by fire of other causes to the extent that more than 75% of its assessed valuation shall be repaired or rebuilt except in conformity with the regulations of this Local Law.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning, Town of North Dansville, Pg. 20: Conservation District, Agricultural Districts: Conservation districts to be preserved in natural forms. No development can take place in the conservation district without the approval of the Town Board. Zoning, Town of North Dansville, Pg. 35: Regulations for Preservation of Natural Features.	
Riparian protections or setbacks	Y		Zoning Law of the Town of North Dansville Pg. 39: Yard Regulation.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning Law of the Town of North Dansville Pg. 36,37: Regulations for different zones. Like storage of flammable liquids and any use that is noxious is not allowed in the agricultural and residential district. Restriction on other uses as well.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1979.

Nunda, Town				
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Comprehensive Plan for the Town and Village of Nunda.	
Zoning Ordinance	Y		Town and Village of Nunda Zoning Law.	Update Nov-05
Subdivision Ordinance	Y		Town and Village of Nunda Zoning Law, Article XIII, Pg.85.	Subdivision of Land
Site Plan Review Process	Y		Town and Village of Nunda Zoning Law, Article XIV, Pg.98: Site Plan Review and Approval.	

Code or Zoning Enforcement Officer	Y		Town and Village of Nunda Zoning Law, Article II, Pg.21.	Code Enforcement of Zoning Officer
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into Agricultural district, Open Space District, Village mixed use district.	
Riparian protections or setbacks	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into different districts. Setback requirement of each district.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into Agricultural district, open space district, Village mixed use district. They have prohibited and permitted uses. Like junkyard, Banquet facilities need special permit from Zoning Board of Appeals.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1985

Nunda, Village				
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Comprehensive Plan for the Town and Village of Nunda.	Update 2002
Zoning Ordinance	Y		Town and Village of Nunda Zoning Law.	Update Nov-05
Subdivision Ordinance	Y		Town and Village of Nunda Zoning Law, Article XIII, Pg.85.	Subdivision of Land
Site Plan Review Process	Y		Town and Village of Nunda Zoning Law, Article XIV, Pg.98: Site Plan Review and Approval.	
Code or Zoning Enforcement Officer	Y		Town and Village of Nunda Zoning Law, Article II, Pg.21.	Code Enforcement of Zoning Officer
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention Local Law, Sec.5.1.	General Standards for Flood Hazard Reduction
Flood Officer (if NFIP community)	Y		Flood Damage Prevention Local Law, Sec.4.3.	Local Administrator
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention Local Law, Sec.5.2-3: Construction standards for areas of special flood hazards without base flood elevation.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention Local Law, Sec.5.1-3, Utilities: Sanitary sewage system to be designed to minimize infiltration of flood water. On-site disposal system to be located to avoid contamination during flooding.	
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination	Y		Flood Damage Prevention Local Law, Sec.5.1-3, Utilities: Water supply system to be designed to minimize infiltration of flood water.	
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		

Environmental Overlays in Local Development Review Procedures	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into Agricultural district, Open Space District, Village mixed use district.	
Riparian protections or setbacks	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into different districts. Setback requirement of each district.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Town and Village of Nunda Zoning Law, Pg.33: Division into Agricultural district, open space district, Village mixed use district. They have prohibited and permitted uses. Like junkyard, Banquet facilities need special permit from Zoning Board of Appeals in the open space district. Regulations for other uses like outdoor storage of materials, dumping of waste materials in different districts (Pg. 52).	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1984

Ossian, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance	Y		Zoning Law of Town of Ossian.	Adopted 1998.
Subdivision Ordinance		N		
Site Plan Review Process	Y		Zoning Law of Town of Ossian, Article IX, Site Plan Review.	
Code or Zoning Enforcement Officer	Y		Zoning Law of Town of Ossian, Article III, Designation of Code Enforcement Officer.	
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		

Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		Zoning Law of Town of Ossian, Article VIII: Underground utilities for Campgrounds and Mobile Home Parks. Does not talk about Residential units.
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Zoning Law of Town of Ossian, Sec.707-C: Any structure or portion thereof declared unsafe by a proper authority may be restored to a safe condition. Zoning Law of Town of Ossian, Sec.707-F: No non-conforming structure damaged by fire or other causes to the extent of more than 75% of its full value shall be repaired or rebuilt except in conformity with the requirements of these regulations.	
Environmental Overlays in Local Development Review Procedures	Y		Zoning Law of Town of Ossian, Sec.602, Flood Hazard Overlay District Zoning Law of Town of Ossian, Sec.819, Land Conservation.	
Riparian protections or setbacks	Y		Zoning Law of Town of Ossian, Sec. 812-C: Setback Requirements for Multiple Family Dwelling.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Zoning Law of Town of Ossian, Article VI, Zoning District Regulations: Designation of Agricultural/Residential Districts, Flood Hazard Overlay District. They regulate permitted uses and uses with special permit.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1984.

Portage, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance		N		
Subdivision Ordinance		N		
Site Plan Review Process		N		

Code or Zoning Enforcement Officer		N		
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures		N		
Riparian protections or setbacks		N		
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1984.

Sparta, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan	Y		Comprehensive Master Plan 2010, Town of Sparta, 1993.	
Zoning Ordinance	Y		Zoning Code, Town of Sparta.	Adopted 2001.

Subdivision Ordinance	Y		Land Subdivision Regulations of Town of Sparta.	Adopted 9/1995.
Site Plan Review Process	Y		Zoning Code, Town of Sparta, Article IX: Site Plan Review.	
Code or Zoning Enforcement Officer	Y		Zoning Code, Town of Sparta, Sec.301: The duty of administering and enforcing this Code is hereby conferred upon the Code Enforcement Officer.	
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Flood Damage Prevention Law.	
Flood Officer (if NFIP community)	Y		Flood Damage Prevention Law.	
Provision for Repetitive Flooding Property	Y		Flood Damage Prevention Law.	
Drainage Regulations Related to Flooding/Storm Water	Y		Flood Damage Prevention Law.	
Sediment and Erosion Control Measures		N		Zoning Code, Town of Sparta, Pg. 22b: Developments in the Plans shall conform to the standards contained in the New York State Guidelines for Urban Erosion and Sediment Control.
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas	Y		Comprehensive Master Plan 2010, Town of Sparta, Pg. A-5: Map showing wetland.	
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Zoning Code, Town of Sparta, Sec.707-C: Any structure or portion thereof declared unsafe by a proper authority may be restored to a safe condition. Zoning Code, Town of Sparta, Sec.707-F: No non-conforming structure damaged by fire of other causes to the extent of more than 75 percent of its full value shall be repaired or rebuilt except in conformity with the requirements of this regulations.	

Environmental Overlays in Local Development Review Procedures	Y		Comprehensive Master Plan 2010, Town of Sparta, Environmental Protection Overlay District (EPOD): The EPOD concept established special regulations to protect land areas that are environmentally sensitive. The regulations are superimposed over an existing primary zone district and can be designed to address the land areas with special characteristics as erodable soils, steeply sloped areas, woodlands, wetlands and flood hazard areas. Zoning Code, Town of Sparta, Article V, Zoning Districts: Agricultural districts. Flood Hazard Overlay District, Land Conservation District. Land Conservation districts created to protect areas in the Town where substantial development of land, including building or structures, may cause ecological harm.	
Riparian protections or setbacks	Y		Zoning Code, Town of Sparta, Sec.812-C: Setback Requirement.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review	Y		Zoning Code, Town of Sparta, Pg. 22a, Conditions for Approving Site Plan, Steep Slope: Site Plan to be prepared by licensed architect and should minimize cutting into the embankment, general grading and removal of vegetative cover.	
Incompatible uses	Y		Zoning Code, Town of Sparta, Article V, Zoning Districts: Division into different districts. Uses that are permitted and uses with special permit.	
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1982.

Springwater, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		
Zoning Ordinance		N		
Subdivision Ordinance		N		
Site Plan Review Process		N		
Code or Zoning Enforcement Officer		N		
Flood Mitigation Plan		N		Under Development.
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		

Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground		N		
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		
Environmental Overlays in Local Development Review Procedures		N		
Riparian protections or setbacks		N		
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1984.

West Sparta, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance	Y		Land Development Code of the Town of West Sparta.	Update 2002.
Subdivision Ordinance	Y			Adopted 2005.
Site Plan Review Process	Y		Land Development Code of the Town of West Sparta, Pg. 40, Site Plan Review.	
Code or Zoning Enforcement Officer	Y		Land Development Code of the Town of West Sparta, Article III.	Code Enforcement Officer.
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding	Y		Local Law for Flood Damage Prevention, Sec.5.1: General Standards for Flood Hazard Reduction.	

Flood Officer (if NFIP community)	Y		Local Law for Flood Damage Prevention, Sec.4.2: Designation of the Zoning Officer.	
Provision for Repetitive Flooding Property	Y		Local Law for Flood Damage Prevention, Sec.5.3, Floodways: Special provisions for special flood hazard area.	
Drainage Regulations Related to Flooding/Storm Water	Y		Local Law for Flood Damage Prevention, Sec.5.1-3, Utilities: Sewage system to be designed to minimize infiltration of flood water. On-site waste disposal system to be located to prevent contamination during flooding.	
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		Local Law for Flood Damage Prevention, Sec.5.1-3, Utilities: Regulates prevention of contamination of water during flooding.
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris		N		
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Land Development Code of the Town of West Sparta, Pg.39: All new and replacement electric distribution, telephone, cable TV and other lines to be placed underground.	
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures	Y		Local Law Prohibiting Unsafe Buildings Law and Collapsed Structures.	
Environmental Overlays in Local Development Review Procedures	Y		Land Development Code of the Town of West Sparta, Article VI, Zoning District regulations: Different zoning districts like Agricultural Districts, Flood Hazard Overlay Districts.	
Riparian protections or setbacks	Y		Land Development Code of the Town of West Sparta, Pg.49: Setbacks.	
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses	Y		Land Development Code of the Town of West Sparta, Article VI, Zoning District regulations: Division into different zoning districts. Uses that are permitted and that need special permit.	
Participation in the Federal		N		

Community Rating System				
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1985.

York, Town				**Local Law Assessment**
Does the municipality have:	**Yes**	**No**	**Reference**	**Comments:**
Comprehensive/Master Plan		N		Under Development.
Zoning Ordinance		N		Under Development.
Subdivision Ordinance	Y		Town of York Subdivision Regulations.	
Site Plan Review Process		N		Under Development.
Code or Zoning Enforcement Officer	Y		Town of York Subdivision Regulations, Article VII, Sec.2: Enforcement: These enforcement shall be enforced by the Building Inspector or Zoning Enforcement Officer of the Town.	
Flood Mitigation Plan		N		
Building Codes Pertaining to Flooding		N		
Flood Officer (if NFIP community)		N		
Provision for Repetitive Flooding Property		N		
Drainage Regulations Related to Flooding/Storm Water		N		
Sediment and Erosion Control Measures		N		
Regulations for Prevention of Water Supply Contamination		N		
Regulations for Tree Trimming and Planting, Clearing Fallen Trees and Debris	Y		Town of York Subdivision Regulations, Pg.15: No tree with a diameter of 8 inches or more as measured 3 feet above the base of the trunk shall be removed unless such tree is within the right-of-way of a street shown on the final subdivision plat.	
Regulations for De-Icing Roads, Plowing		N		
Identification of Wetland Areas		N		
Watershed Management Plan		N		
Section on Location of Major Pipelines		N		
Regulations for Retrofitting or Relocating the Existing Overhead Lines to Underground	Y		Town of York Subdivision Regulations, Pg.10: The subdivider shall install underground service connection to the property line of each lot within the subdivision before the street is paved.	
Natural Resource Inventory		N		
Regulations for Unsafe/Defective Structures		N		

Environmental Overlays in Local Development Review Procedures	Y		Town of York Subdivision Regulations, Section 7: Parks, Open Space and Natural Features, Preservation of Natural Features: The Planning Board shall whenever possible, establish the preservation of all natural features which add value to the developments and to the community such as large trees or groves, watercourses and falls, beaches, historic spots, vistas and similar irreplaceable assets.	
Riparian protections or setbacks		N		
Timber harvesting regulations		N		
Steep slope regulations or consideration within zoning or site plan review		N		
Incompatible uses		N		
Participation in the Federal Community Rating System		N		
Participation in National Flood Insurance Program	Y			Most Recent FIRM 1982.

Appendix C

Mitigation Measure Cost-Benefit Reviews and Priority Assessments

INTRODUCTION

This Appendix contains additional information about the ranking and prioritization process for each of the mitigation measures listed in Chapter 8. All the Plan's mitigation measures are included here and are accompanied by a "Cost/Benefit" table that indicates the applicability of the "STAPLEE" criteria to each mitigation measure. These tables illustrate how the Planning Committee's initial prioritization of the mitigation measures was expanded by G/FLRPC staff to produce the final Priority rank for each mitigation measure.

STAPLEE is an acronym that stands for the following:

S – Social: Consider public acceptance and support of the mitigation measure.

T – Technical: Evaluate whether the proposed action is technically feasible.

A – Administrative: Evaluate the anticipated staffing, funding, and maintenance requirements of the mitigation measure.

P – Political: Determine the local political leadership's support of the mitigation measure.

L – Legal: Evaluate the community's legal authority to implement a mitigation measure.

E – Economic: Consider the cost-effectiveness of the action, potential funding sources, and the potential impact on local economic conditions.

E – Environmental: Evaluate how the action affects local environmental concerns.

STAPLEE is a widely accepted evaluation process used throughout the country in hazard mitigation planning. It provides a systematic procedure for assessing the practicality of proposed mitigation measures. The STAPLEE evaluations provided in this Appendix are based on the FEMA "How-To" guide publication *Using Benefit-Cost Review in Mitigation Planning* (FEMA 386-5).

Below each Cost/Benefit review table is a "Priority Assessment," which is a short paragraph that provides an explanation of the reasoning behind the rankings in the Cost/Benefit tables. The data in these tables is intended to provide a quantitative assessment of the Planning Committee's initial qualitative ranking of the mitigation measures.

All Mitigation Measures are ranked as either a **HIGH**, **MEDIUM**, or **LOW** priority. These priorities are based on the Total Score of each mitigation measure as explained in the following table:

Priority:	Ranking:
HIGH	6 and up
MEDIUM	3, 4, or 5
LOW	1 or 2

Please see the next page for the beginning of the list of Mitigation Measures with their accompanying STAPLEE tables and Priority Assessments.

Prevention

1. Develop detailed maps showing the locations of utility lines, including electric, sewer, telephone, gas, and water. During emergency situations, these maps will give road/repair crews immediate access to the location of this vital infrastructure. At present, there is a general reliance on memory and personal knowledge for this information.

Mitigation Measure No. 1: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	2
Political	0	1
Legal	0	1
Economic	0	1
Environmental	0	1
Sub-total of Cost/Benefit	-3	8
Total Score:	-3 + 8 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 1 was assigned a **MEDIUM** priority. Implementation would require some outside (i.e., consultant) technical support and staff time. However, there would be substantial benefits to the County in terms of creating accurate and readily available technical data showing the location of utility infrastructure and improving administrative response to utility infrastructure issues.

Public Education

2. Prepare people for quarantines in their homes. Families should be encouraged to stockpile food and supplies for at least three days, if not longer.

Mitigation Measure No. 2: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	0
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	1
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 2 was assigned a **MEDIUM** priority. Implementation would require some outside (i.e., consultant) technical support and staff time. However, there would be substantial benefits to the population, and there would also be administrative and political benefits of ensuring people have sufficient provisions readily accessible in a time of disaster.

Natural Resource Protection

3. Develop a coordinated watershed inspection program for the entire county. Currently, only Conesus Lake has one. A county-wide program would study all watersheds and municipal water supplies and create a fair, uniform, and systematic set of standards.

Mitigation Measure No. 3: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	2
Political	-1	1
Legal	-1	1
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-4	8
Total Score:	-4 + 8 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 3 was assigned a **MEDIUM** priority. This program would require a great deal of investment on the part of the County in terms of administrative, technical, political, and legal support, but it would also mean substantial benefits in terms of technical and administrative ability to oversee water quality issues, it would have the support of some political leaders, be legally feasible with proper negotiation, and be strongly beneficial to the environment.

Emergency Services

4. Hold drills for the evacuation of schools/mass casualty incident drills.

Mitigation Measure No. 4: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 4 was assigned a **MEDIUM** priority. This action would require considerable investment on the part of school districts, the County Sheriff and local police, and local fire departments/first responders, but would have considerable benefits to the local population, law enforcement and first responders, and local officials.

5. Acquire a low-bed trailer to transport bulldozer & equipment and to haul away debris.

Mitigation Measure No. 5: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable

Technical	0	2		**1**	Favorable
Administrative	0	1		**0**	None/Not Applicable
Political	0	0		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	0	3			
Total Score:	0 + 3 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 5 was assigned a **MEDIUM** priority. This action would be a practical and cost-effective means of preparing ahead of time for dealing with debris left over from hazard events.

6. Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the event of a disaster. These town-wide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.

Mitigation Measure No. 6: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	2		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 6 was assigned a **MEDIUM** priority. This action would require some investments on the part of local officials, but would be benefit public safety and local response abilities.

7. Secure funds to help with the All-Hazard Mitigation Plan updates and to conduct emergency response drills.

Mitigation Measure No. 7: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	2		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				

Priority:	MEDIUM

Priority Assessment: Mitigation Measure No. 7 was assigned a **MEDIUM** priority. Implementation would require some local commitment of technical and administrative resources, but would be supportive of local efforts to maintain the all-hazard mitigation plan and continue to use it to bring in mitigation funds.

8. Regularly update county and municipal Emergency Response Plans.

Mitigation Measure No. 8: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	2
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-1	4
Total Score:	-1 + 4 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 8 was assigned a **MEDIUM** priority. This project would require some local investment of staff time and resources, but also have significant benefits for improving local responses to emergency events.

9. Transform the Tri-County medical center into an emergency shelter with supplies and a generator.

Mitigation Measure No. 9: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	+4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 9 was assigned a **LOW** priority. This project would require some local investment, but have broad benefits for public safety, be technically feasible, assist with disaster response activities, and be politically viable.

10. Set up evacuation plans that allot specific vehicles and drivers to rescue specific individuals in specific places

Mitigation Measure No. 10: Cost/Benefit Review	Definition of Rating Scale:

Criteria:	Cost:	Benefit:
Social	0	2
Technical	-1	2
Administrative	-2	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-3	6
Total Score:	-3 + 6 = 3	
Priority:	**MEDIUM**	

Rate:	Definition:
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 10 was assigned a **MEDIUM** priority. This action would require some investment of local resources to make it feasible, but would have major benefits for public safety and emergency responders in terms of improving response capabilities.

11. Co-ordinate rescue crews with road repair crews – clear away obstacles and debris, de-ice, snowplow, to ensure timely/safe access.

Mitigation Measure No. 11: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	2
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 11 was assigned a **MEDIUM** priority. It would require some investment in time and resources from local governments, but have major benefits to public safety, response capabilities, and have good political support.

12. Each municipality should prepare a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.

Mitigation Measure No. 12: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	4

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Total Score:	-2 + 4 = 2
Priority:	**LOW**

Priority Assessment: Mitigation Measure No. 12 was assigned a **LOW** priority. It would require some investment of time and resources from local officials, but have broad benefits for public safety, emergency response capabilities, and generally have political support.

13. Schedule the periodic testing/upgrading of all emergency equipment.

Mitigation Measure No. 13: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 13 was assigned a **LOW** priority. This action would require some investment of local resources in terms of time and equipment, but would be beneficial for improving emergency response capabilities.

14. Recommend places for citizens to go in case of disaster by designating and publicizing community shelters/gathering places. Ensure those shelters are safe and secure (back-up generating equipment, food, water, communications.)

Mitigation Measure No. 14: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 14 was assigned a **MEDIUM** priority. It would require some investment of local resources, but be strongly beneficial to public safety and would improve the ability of local first responders and officials to respond to hazard events.

15. Encourage/lobby NY State Departments and Agencies to discount/reduce fees for license registrations for Emergency Response personnel, such as volunteer firefighters, ambulance workers, etc.

Mitigation Measure No. 15: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1
Political	-1	1
Legal	0	0
Economic	0	1
Environmental	0	0
Sub-total of Cost/Benefit	-3	5
Total Score:	-3 + 5 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 15 was assigned a **LOW** priority. It would require investment of local resources and some political efforts, but it would improve the ability of local governments to have effective first response units in place to quickly address hazard events.

16. Develop plans for evacuating pets.

Mitigation Measure No. 16: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 16 was assigned a **MEDIUM** priority. This could be a critical issue in encouraging people to evacuate in the face of an expected hazard event, and would improve public safety and response capabilities.

17. Outfit large buildings in the southern end of the county as emergency shelters with bathrooms, supplies, power, etc.

Mitigation Measure No. 17: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Environmental	0	0
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Priority Assessment: Mitigation Measure No. 17 was assigned a **LOW** priority. This project would require some investment of local resources, but would have broad positive impacts on public safety, emergency response, and the ability of communities to withstand hazard events.

Structural Projects

18. Address the frequency of power outages in the southern part of the county.

Mitigation Measure No. 18: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 18 was assigned a **MEDIUM** priority. It would require some investment of local resources, but could be addressed by coordination with utility providers and would be beneficial for the ability of residents/businesses to deal with routine power outages.

19. Stabilize/remove shale slope behind Nunda waterworks.

Mitigation Measure No. 19: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	1		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-2	4			
Total Score:	-2 + 4 = 2				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 19 was assigned a **LOW** priority. While this project is a low priority for the County as a whole, it is a much higher priority for Nunda. Its benefits will chiefly be to the water supply customers in the Nunda area.

20. Install sewer check valves/carry out general upgrades to sewer systems.

Mitigation Measure No. 20: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 20 was assigned a **MEDIUM** priority. This action would require some local investment of time and resources, but could be accomplished over a period of several years through routine upgrades and improvements; it would improve the ability of local infrastructure to withstand hazard events.

21. Create redundancy for municipal water supplies in the central part of the county. Link Geneseo, other nearby towns to the Hemlock lake water supply.

Mitigation Measure No. 21: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 21 was assigned a **MEDIUM** priority. It would require some local investment of time and resources, but would strengthen the ability of local infrastructure to withstand hazard events and improve public safety.

22. Establish pipeline links to Monroe County (especially in the northern part of the county) and City of Rochester water supply systems. This would create redundancy/connection for emergency use.

Mitigation Measure No. 22: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Priority Assessment: Mitigation Measure No. 22 was assigned a **MEDIUM** priority. This project would require some local investment of time and resources, but it would greatly improve the ability of local resources to withstand hazard events, improve public safety, and improve local environmental safeguards as well.

General Mitigation Measures (Includes All Categories)

23. Provide back-up power generators for:
    - 23a. Town/Village Halls.
    - 23b. Local Police/Fire stations.
    - 23c. County Sheriff/State Police stations.
    - 23d. Schools.
    - 23e. Public Buildings – Libraries, Community Centers, Historical Societies/Museums, etc.
    - 23f. Waterworks, Water towers, Pump stations, etc.
    - 23g. Water treatment plants, Sewer lift stations, etc.
    - 23h. Airports/Airstrips.
    - 23i. Highway Department/DPW Garages and related installations.
    - 23j. Nursing/Group Homes.
    - 23k. Cellular Phone towers.
    - 23l. Stockpile several mobile generators for distribution around county.
    - 23m. Mandate back-up power sources for key facilities in the Emergency Management Plan. Map the back-up supply location.

Mitigation Measure No. 23: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	0	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-1	6
Total Score:	-1 + 6 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 23 was assigned a **MEDIUM** priority. In general, these projects should not require a great deal of work to make them feasibility, but they would have significant benefits for improving the ability of communities to successfully respond to disaster events.

24. Improve County-wide Communication Network:
    - 24a. Set design standards for communication facilities in the Zoning Ordinance or Telecommunication Ordinance such that they are less prone to disaster.
    - 24b. Acquire new, more powerful, radios, walkie-talkies, etc.

24c. Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident.
24d. Build a new countywide dispatch center.
24e. Provide better communications for First Responder units.
24f. Establish local emergency shelters/coordination centers.
24g. Set up a clear chain of command for disaster response.
24h. Set up a countywide tornado warning system.
24i. Develop a countywide GIS system that allows the county and all municipalities to share data during an emergency.
24j. Establish a formal emergency operations center (and/or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.
24k. Establish mutual aide agreements with neighboring counties for their assistance in addressing county wide disasters.
24l. Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aide agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between county/municipal officials and contractors to facilitate rapid response.
24m. Set up a reverse emergency management call system to contact residents (Reverse 911).
24n. Develop mobile warning systems to set up along roadways. These should be similar to roadwork signs with lights, flashing messages, etc.

Mitigation Measure No. 24: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 24 was assigned a **MEDIUM** priority. In general, these projects would require some investment of local resources, but they would have broad benefits for public safety and first response capabilities.

25. Prepare plans for caring for Elderly/At Risk populations:
25a. Set up education and out-reach programs for the general public to educate people in the care of elderly/disabled population.
25b. Prepare and distribute a direct mailing with information about emergency shelters – provide locations of and directions to designated shelters.
25c. Prepare evacuation/care plans for people with mental illnesses. Prepare a special shelter, or a designated area within a shelter, to accommodate this segment of the population. As part of this planning process, study the possibilities of segmenting the general population while in shelters with the understanding the different groups have different needs.
25d. Prepare detailed plans to evacuate the elderly from their homes and get them to shelters prepared for their specific needs with stockpiles of food, clothing, medical supplies, oxygen, etc. These "Senior Shelters" should be wheelchair accessible, have good lighting and heating, and be set off in some way from shelters for the general public.

25e. Continue distributing "File of Life" kits. As of February 2006, about 3500 of these have been handed out. These kits have been instrumental in saving lives.
25f. Ensure that all volunteers are thoroughly trained.
25g. Acquire the proper equipment to move "morbidly obese" evacuees
25h. Medical staffers – have EMTs/nurses on standby in shelters during an emergency.
25i. Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.

Mitigation Measure No. 25: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	2		**2**	Very Favorable
Technical	-1	1		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 25 was assigned a **MEDIUM** priority. These projects would require some investment of local and volunteer resources, but they would have important benefits for public safety and especially the senior citizen/disabled populations as well as first responder services.

26. Stockpile emergency supplies and equipment for use in preparing for oncoming hazard events/during a hazard event/reconstructing after a hazard event:
26a. Set up a special promotional campaign that will award a $100 Wegmans gift-card to citizens who prepare detailed family plans for evacuation/meeting after a disaster event.
26b. Develop and distribute guidelines on stockpiling emergency supplies in homes. Recommend all people have at least a three day supply of food stockpiled in home. If people must stay at home, they will have supplies to take care of themselves for a few days.
26c. Devise plan to provide fresh water supplies during/immediately after a disaster event to a large number of people.
26d. Establish reserves of spare parts, tires, fuel, etc. for emergency/official vehicles.
26e. Establish a central stockpile of emergency supplies/equipment that could be utilized by the entire county.
26f. Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled).
26g. Regulate special provision for back-up supplies in the Emergency Management Plan.

Mitigation Measure No. 26: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	1		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			

Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Priority Assessment: Mitigation Measure No. 26 was assigned a **LOW** priority. These projects would require some investment of local time and resources, and have broad based benefits for public safety and the ability of the local population to withstand hazard events.

27. Carry out general security upgrades for Critical Facilities and Community Assets:
    27a. Upgrade school security, especially surveillance capabilities. Install physical barriers in front of school buildings. Emphasize planning for gun/bomb threats.
    27b. Provide security provisions for telephone lines and power lines.
    27c. Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras. Specifically, upgrade fencing and surveillance around the Nunda impound reservoir.
    27d. Upgrade security at the Hemlock Lake water treatment facility.
    27e. Provide fencing/surveillance for all sewer lift stations.
    27f. Institute special security provisions for golf courses – secure fertilizers and chemicals.
    27g. Secure hazardous materials on farms.

Mitigation Measure No. 27: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 27 was assigned a **MEDIUM** priority. It would mainly improve the ability of local infrastructure to withstand hazard events, but would require local investment of time and resources to effectively address.

28. Prepare emergency response staff for hazard events:
    28a. Prepare plans for sending out EMTs during a disaster.
    28b. Secure funding to alleviate staffing issues for Fire Departments and EMTs.
    28c. Have EMTs/nurses on call during emergencies.
    28d. Secure training funds for EMS, Fire Dept., and Police.

Mitigation Measure No. 28: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	1		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable

Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Priority Assessment: Mitigation Measure No. 28 was assigned a **LOW** priority. These projects would mainly benefit first response services, thus helping to improve the County's ability to effectively respond to hazard events.

29. Carry out public education programs:
    29a. Constant repetition of programs for public education.
    29b. Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.
    29c. Get community groups involved (Boy/Girl Scouts, etc.) with information distribution programs.
    29d. Develop public education programs that follow the "Education without panicking" concept.
    29e. Public mailings/booklets – send out to every home with maps & information so people know where to go/what to do.
    29f. Undertake public training programs for disaster preparedness. Secure funds for these training activities.
    29g. Increase public awareness/knowledge of processes involving permits, zoning, & building codes.

Mitigation Measure No. 29: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	1
Administrative	-1	1
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 29 was assigned a **LOW** priority. These projects would require some investment of local resources, but have several benefits, mainly for public safety.

Part II: Mitigation Measures for Specific Hazard Types

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Prevention

30. Develop countywide strategy to address utility failures during severe weather events.

Mitigation Measure No. 30: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable

Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	1			
Environmental	0	1			
Sub-total of Cost/Benefit	-2	7			
Total Score:	-2 + 7 = 5				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 30 was assigned a **MEDIUM** priority. This action would have important benefits in terms of improving the ability of infrastructure to withstand hazard events, but would require some investment of local resources to realize.

31. Encourage/support the development of municipal emergency management plans.

Mitigation Measure No. 31: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	4			
Total Score:	-2 + 4 = 2				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 31 was assigned a **MEDIUM** priority. It would require some investment of resources on the part of the County, but it would result in important benefits for individual municipalities and their ability to effectively respond to hazard events.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Property Protection

32. Establish a policy to encourage structural retrofits to assure roofs, walls and windows meet minimum wind-load and snow-load design factors.

Mitigation Measure No. 32: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	4			
Total Score:	-2 + 4 = 2				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 32 was assigned a **LOW** priority. It would require some investment of local resources, but it would benefit the ability of buildings and structures to withstand hazard events.

33. Update/modify building codes to require the use of hazard resistant construction materials.

Mitigation Measure No. 33: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	-1	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-3	4
Total Score:	-3 + 4 = 1	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 33 was assigned a **LOW** priority. It would require some local investment of time and resources to realize, and may necessitate the adoption of stricter building requirements than the State currently requires. However, it would improve the ability of buildings and structures to withstand hazard events.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Public Education

34. Support community programs to assist elderly and vulnerable populations during utility failures. Encourage residents to check on elderly and other vulnerable neighbors.

Mitigation Measure No. 34: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 34 was assigned a **MEDIUM** priority. It would require some local investment of resources, but it would strongly benefit public safety, especially vulnerable sections of the population, and the ability of local buildings and structures to withstand hazard events.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Emergency Services

35. Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities.

Mitigation Measure No. 35: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 35 was assigned a **MEDIUM** priority. This project would require some local investment, but it would also have important benefits for local entities to be able to improve their response to oncoming storm events.

36. Develop a county-wide strategy to protect vulnerable utilities during severe weather events.

Mitigation Measure No. 36: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 36 was assigned a **MEDIUM** priority. This project would require some investment of local resources to realize, but it would have important benefits for protecting potentially vulnerable utility infrastructure during storm events.

Severe Weather** (Severe Storms, Tornados & High Winds, Winter Storms, Ice Storms) – **Structural Projects

37. Officially encourage underground utilities. Develop a strategy to incrementally bury utilities in existing developments. Require, through local legislation and land use controls, that utilities be buried in new developments. Develop and circulate model ordinances and policies.

Mitigation Measure No. 37: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 37 was assigned a **LOW** priority. This project would require some local investment of resources, but it would significant increase the ability of local utilities to withstand the impacts of hazard events and have related environmental benefits as well.

38. Encourage/support the construction of tornado shelters by private landowners.

Mitigation Measure No. 38: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	0	1
Administrative	-1	0
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-1	2
Total Score:	-1 + 2 = 1	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 38 was assigned a **LOW** priority. This project, although worthwhile, would not have as many benefits as most other projects. It would require minimal local resources, but also have minimal benefits for public safety.

Flood – Prevention

39. Guide development away from flood plains and low lying areas.

Mitigation Measure No. 39: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	1
Economic	0	2
Environmental	0	2
Sub-total of Cost/Benefit	-2	11

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Total Score:	-2 + 11 = 9
Priority:	**HIGH**

Priority Assessment: Mitigation Measure No. 39 was assigned a **HIGH** priority. This action would require some investment of local resources, but it would have significant benefits for public safety, the ability of new development to withstand flood events, and would have significant economic and environmental benefits.

40. Encourage the protection of wetlands and aquifers wherever possible.

Mitigation Measure No. 40: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 40 was assigned a **MEDIUM** priority. This project would require some local resources to carry out, but it would have significant positive impacts on infrastructure and local environment.

41. Encourage FEMA to update its Flood Insurance Rate Maps (FIRMs).

Mitigation Measure No. 41: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	0	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-1	4
Total Score:	-1 + 4 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 41 was assigned a **MEDIUM** priority. This action would have many important benefits for the County, but would be entirely dependent on local officials' ability to communicate with FEMA and state officials to carry this out.

42. Establish a Transfer of Development Rights program to shift new development away from flood plains/low lying areas.

Mitigation Measure No. 42 Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	1
Economic	0	1
Environmental	0	2
Sub-total of Cost/Benefit	-2	10
Total Score:	-2 + 10 = 8	
Priority:	**HIGH**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 42 was assigned a **HIGH** priority. This action would require some investment of local resources, but be extremely advantageous for moving people and infrastructure out of hazard areas, as well as safeguarding the local environment.

43. Address flooding issues through municipal Flood Prevention Ordinances, Flood Mitigation Plans and Sediment and Erosion Control Ordinances.

Mitigation Measure No. 43: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	1
Economic	0	1
Environmental	0	2
Sub-total of Cost/Benefit	-2	10
Total Score:	-2 + 10 = 8	
Priority:	**HIGH**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 43 was assigned a **HIGH** priority. This project would require investment of local resources, but it would help local officials move people and development out of flood hazard areas and safeguard the local environment.

44. Set design standards for water supply infrastructure and sewage facilities to prevent contamination during flooding.

Mitigation Measure No. 44: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Priority Assessment: Mitigation Measure No. 44 was assigned a **MEDIUM** priority. It would require some investment of local resources, but it would improve the ability of water and sewer infrastructure to withstand hazard events, and help protect the local environment.

45. Regulate building design and construction standards in municipal Flood Prevention Ordinances and/or Zoning Ordinances to reduce the impact of flooding on the built environment.

Mitigation Measure No. 45: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	1
Environmental	0	2
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 45 was assigned a **MEDIUM** priority. This action would require some investment of local resources, but it would be beneficial for protecting development from flood events and safeguarding the local environment.

46. Produce and make available to all municipal land use decision makers detailed maps depicting wetlands and flood plains.

Mitigation Measure No. 46: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	1
Environmental	0	1
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 46 was assigned a **MEDIUM** priority. This project would require some investment of local resources to produce the maps, but would be beneficial for clearly depicting the location of all such areas.

Flood – Public Education

47. Raise awareness of and enforce existing floodplain regulations.

Mitigation Measure No. 47: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 47 was assigned a **MEDIUM** priority. It would require some investment of local resources, but it would help protect public safety and infrastructure as well as provide some environmental safeguards.

48. Municipalities should disclose risks of flood zones to property owners.

Mitigation Measure No. 48: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 48 was assigned a **MEDIUM** priority. This action would require some investment of local resources, but it would be helpful for improving public safety and the ability of infrastructure to withstand hazard events, as well as providing additional protection for local environmental concerns.

49. Distribute information to municipal officials and property owners about buying out/demolishing repetitive loss sites.

Mitigation Measure No. 49: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable

Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	2			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 49 was assigned a **MEDIUM** priority. This project would require some local investment to realize, but it would have significant benefits in terms of improving the ability of local infrastructure to withstand hazard events and safeguarding the environment.

50. Provide information about "French Drains" to property owners.

Mitigation Measure No. 50: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	0	1		**1**	Favorable
Administrative	-1	0		**0**	None/Not Applicable
Political	0	0		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-1	2			
Total Score:	-1 + 2 = 1				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 50 was assigned a **LOW** priority. This project would require minimal resources to carry out, but would also have a low countywide impact, although it would potentially result in benefits for property owners and the local environment.

Flood – Natural Resource Protection

51. Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.

Mitigation Measure No. 51: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	2			
Sub-total of Cost/Benefit	-2	7			
Total Score:	-2 + 7 = 5				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 51 was assigned a **MEDIUM** priority. This project would require some local investment of resources, but it would also result in important environmental benefits and would greatly help local entities with reducing the flood danger from local streams.

52. Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.

Mitigation Measure No. 52: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 52 was assigned a **MEDIUM** priority. This project would require some local investment of resources, but it would also result in important environmental benefits and would greatly help local entities with reducing the flood danger from local streams.

53. Set up a county-wide program to clear out ditches/culverts on a regular basis. This will greatly help to reduce/prevent flooding.

Mitigation Measure No. 53: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 53 was assigned a **MEDIUM** priority. This project would require some local investment of resources, but it would also result in important environmental benefits and would greatly help local entities with reducing the flood danger from local streams.

54. Set up a county-wide program to remove debris from stream beds on a regular basis.

Mitigation Measure No. 54: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 54 was assigned a **MEDIUM** priority. This project would require some local investment of resources, but it would also result in important environmental benefits and would greatly help local entities with reducing the flood danger from local streams.

55. Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.

Mitigation Measure No. 55: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 55 was assigned a **MEDIUM** priority. This project would require local resources, but it would help solve flooding issues in this area, thus both improving the ability of infrastructure to resist flooding and also providing environmental safeguards.

56. Build a diversion channel/canal to divert flood waters from the flood-prone village of Dansville.

Mitigation Measure No. 56: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	**MEDIUM**	

Priority Assessment: Mitigation Measure No. 56 was assigned a **MEDIUM** priority. This action will primarily benefit Dansville and it should have a higher ranking for the Village; as Dansville is one of the County's main population centers this is also an important County project. It would require some local investment of resources but result in important infrastructure and environmental safeguards for the Village.

57. Provide rocks for slope stabilization in Springwater.

Mitigation Measure No. 57: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	0	1
Administrative	-1	1
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-1	3
Total Score:	-1 + 3 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 57 was assigned a **LOW** priority. This action will benefit Springwater and it should have a higher ranking for that Town; however, it is ranked low for the County as a whole because it is focused on Springwater. It would improve the Town's ability to withstand heavy rain events and safeguard the local environment, but it would also require the investment of local resources to obtain funding.

58. Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage. The higher relief in these towns makes this program a priority.

Mitigation Measure No. 58: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 58 was assigned a **MEDIUM** priority. This project will mainly benefit Towns in the southern end of the County, and it would have important environmental

benefits as well as improve the ability of the area to withstand natural hazard events such as flooding and heavy rains.

59. Line some stream banks, especially those in the southern part of the county, with retaining walls for erosion control.

Mitigation Measure No. 59: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	2
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 59 was assigned a **MEDIUM** priority. This project would require some local investments, but it would have significant environmental benefits and would also improve the ability of local entities to effectively reduce erosion.

60. Prepare flood mitigation measures and an evacuation plan for the Keshequa Central School.

Mitigation Measure No. 60: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 60 was assigned a **MEDIUM** priority. This project would have significant public safety benefits, and it would also lead to improvements in the ability of local entities to effectively respond to hazard events.

61. Improve drainage capabilities of developed areas. Specifically, study run-off problems from parking lots, large buildings, and other impermeable surfaces that can cause flooding.

Mitigation Measure No. 61: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	1

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable

Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	2			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 61 was assigned a **MEDIUM** priority. This action would have significant environmental benefits and would also improve the ability of buildings and infrastructure to withstand hazard events; it would also require the investment of some local resources to realize.

Flood – Emergency Services

62. Prepare a coordinated sandbagging plan between the County EMS and flood-prone communities in the southern half of the county.

Mitigation Measure No. 62: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	0		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-2	4			
Total Score:	-2 + 4 = 2				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 62 was assigned a **MEDIUM** priority. This project would require the investment of local resources, but it would improve the ability of first responders and local citizens to effectively protect their community against flooding.

Hazmat (In Transit) – Prevention

63. Study the possibility of limiting truck traffic on Routes 63 and 36.

Mitigation Measure No. 63: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	1		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	3			

Total Score:	-2 + 3 = 1
Priority:	**LOW**

Priority Assessment: Mitigation Measure No. 63 was assigned a **MEDIUM** priority. This project would require local investment for feasibility study, but could result in important data for future use.

64. Institute an annual survey of HAZMAT truck traffic on major routes.

Mitigation Measure No. 64: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 64 was assigned a **MEDIUM** priority. This action would require some local investment of resources for the survey, but would result in important benefits for improving local entities' ability to respond to HAZMAT incidents.

65. Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of HAZMAT accidents at those intersections.

Mitigation Measure No. 65: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 65 was assigned a **MEDIUM** priority. This action would require investment of local resources to conduct feasibility studies, but the results of those studies would be useful in working to reduce HAZMAT incidents.

66. Update municipal zoning ordinances to reduce the impact of HAZMAT (In Transit) events by setting construction, protection and maintenance standards for utility infrastructure.

Mitigation Measure No. 66: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 66 was assigned a **MEDIUM** priority. This project would require potentially substantial local investments in updating municipal zoning regulations, but such revisions would significantly improve the ability of local officials to property address HAZMAT events through land use planning.

67. Update the County Emergency Management Plan to address HAZMAT (In transit) problems.

Mitigation Measure No. 67: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	0
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	4
Total Score:	-2 + 4 = 2	
Priority:	**LOW**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 67 was assigned a **MEDIUM** priority. This measure would require some local investment of resources, but be broadly beneficial to improving the ability of first responders to effectively respond to HAZMAT incidents.

Hazmat (In Transit) – Property Protection

68. Work with utility companies to ensure proper maintenance of utility infrastructure.

Mitigation Measure No. 68: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable

Legal	-1	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-3	5			
Total Score:	-3 + 5 = 2				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 68 was assigned a **MEDIUM** priority. It would require some local investments in terms of time and resources and would necessitate municipal cooperation with utility providers. However, it would have broad benefits for improving the resilience of infrastructure and the ability of local entities to respond to hazard events.

Hazmat (In Transit) – Emergency Services

69. Set up a warning/alert system in the case of hazardous spills along railroad tracks.

Mitigation Measure No. 69: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	2			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 69 was assigned a **MEDIUM** priority. This project would require some technical and administrative costs to oversee and accomplish, but it would have strong technical and environmental benefits as well as administrative and political benefits in terms of improving response times and procedures.

70. Obtain funds for increased training to improve emergency response to HAZMAT incidents, fires, and ice storms.

Mitigation Measure No. 70: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 70 was assigned a **MEDIUM** priority. This project would require some technical and administrative costs, but overall it would have result in significant improvements to emergency response and environmental protection and improve the ability of local entities to effectively respond to hazard events.

Hazmat (In Transit) – Structural Projects

71. Secure funds to rebuild the intersection of Court St. and Rt. 63 in Geneseo. This intersection is plagued by severe line of sight problems with the bridge over the Genesee River, and many serious accidents have occurred at this location. Study the possibility of rebuilding the bridge.

Mitigation Measure No. 71: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 71 was assigned a **MEDIUM** priority. This project would require some local investments in time and resources, but it would serve to improve public safety, infrastructure conditions, and reduce the burdens on local first responders.

72. Carry out general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.

Mitigation Measure No. 72: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 72 was assigned a **MEDIUM** priority. This project would improve public safety and local infrastructure; it would require the investment of local resources to implement, mainly in the preparation of feasibility studies.

73. Analyze the potential of constructing a bypass linking the Thruway with Rt. 390.

Mitigation Measure No. 73: Cost/Benefit Review				Definition of Rating Scale:	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	5			
Total Score:	-2 + 5 = 3				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 73 was assigned a **MEDIUM** priority. This action would require some local investments in terms of feasibility studies, but it would be worthwhile to determine a sound alternative to the current arrangement. It would also boost public safety.

Hazmat (Fixed) – Prevention

74. Institute stricter measures for regulating HAZMAT storage at fixed sites. Many HAZMAT (Fixed Site) incidents in the county are due to equipment failure, and these spills can be prevented in part by having stricter regulations regarding storage facilities.

Mitigation Measure No. 74: Cost/Benefit Review				Definition of Rating Scale:	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	2			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 74 was assigned a **MEDIUM** priority. It would require some local investment, but it would be broadly beneficial in terms of protecting local property and reducing demands on first responders.

Hazmat (Fixed) – Property Protection

75. Construct permanent storage facilities for vulnerable equipment & machinery that is not currently protected from harsh weather.

Mitigation Measure No. 75: Cost/Benefit Review				Definition of Rating Scale:	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	0		**2**	Very Favorable

Technical	-1	1		**1**	Favorable
Administrative	0	1		**0**	None/Not Applicable
Political	0	0		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-1	+2			
Total Score:	-1 + 2 = 1				
Priority:	**LOW**				

Priority Assessment: Mitigation Measure No. 75 was assigned a **LOW** priority. It would require some local investment in terms of upgrading buildings and structures, but it would be beneficial for safeguarding vulnerable property.

Hazmat (Fixed) – Public Education

76. Run training programs for handling Hazardous Materials. These programs should be aimed at local emergency response personnel, but interested citizens should have the opportunity to attend as well.

Mitigation Measure No. 76: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	1		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	0	0		**-2**	Very Unfavorable
Economic	0	0			
Environmental	0	1			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	**MEDIUM**				

Priority Assessment: Mitigation Measure No. 76 was assigned a **MEDIUM** priority. This action would require some local investments, but it would be beneficial for ensuring the public and first responders are adequately trained for addressing HAZMAT incidents.

Earthquakes

77. Each municipality should adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to magnitude 6.5, which are possible in Western New York.

Mitigation Measure No. 77: Cost/Benefit Review				**Definition of Rating Scale:**	
Criteria:	**Cost:**	**Benefit:**		**Rate:**	**Definition:**
Social	0	2		**2**	Very Favorable
Technical	-1	2		**1**	Favorable
Administrative	-1	1		**0**	None/Not Applicable
Political	0	1		**-1**	Unfavorable
Legal	-1	0		**-2**	Very Unfavorable
Economic	0	1			
Environmental	0	1			
Sub-total of Cost/Benefit	-3	8			

Total Score:	-3 + 8 = 5
Priority:	**MEDIUM**

Priority Assessment: Mitigation Measure No. 77 was assigned a **MEDIUM** priority. It would require some investment of local time and resources, and it might necessitate the adoption of more stringent local requirements than what the State mandates, but it would have broad benefits for public safety, the ability of buildings and structures to resist earthquakes, reduce demands on first responders, be cost-effective, and help safeguard the local environment.

78. Carry out a pre-event inspection of key buildings, bridges, and dams for seismic vulnerability. Based on this inspection, develop a seismic protection plan for these facilities.

Mitigation Measure No. 78: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	1
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 78 was assigned a **MEDIUM** priority. It would require some technical and administrative investments, but would be strongly beneficial because it would create a detailed profile of what buildings and structures are vulnerable to hazard events.

79. Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, and/or distribution of information through local newspapers.

Mitigation Measure No. 79: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	2
Technical	-1	1
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: Mitigation Measure No. 79 was assigned a **MEDIUM** priority. This project would require some technical and administrative investment, but be strongly beneficial to public safety and have additional benefits for local governments and officials in terms of their ability to property inform the public of the earthquake hazard.

80. In order to provide a more thorough assessment of the potential impacts of hazard events, future revisions of this All-Hazard Mitigation Plan will incorporate additional data that estimates property losses for specific hazards. This data should include a list of all critical facilities and community assets affected by each hazard with corresponding estimates of the amount of property losses potential hazards of various magnitudes would inflict on those facilities and assets.

Mitigation Measure No. 79: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: This action item is important because it will provide additional details for the all-hazard mitigation plan; while it will take some effort on the part of local officials to collect and interpret the data, this additional information will be useful for developing further projects, completing grant applications, and tracking implementation progress.

81. The Plan will be revised to include additional information on residential and commercial buildings in the County. Using Real Property Service and NFIP information, the County can determine the number of residential and commercial buildings located in flood hazard areas, and can then effectively determine the vulnerability of these buildings to various hazards.

Mitigation Measure No. 79: Cost/Benefit Review		
Criteria:	**Cost:**	**Benefit:**
Social	0	0
Technical	-1	2
Administrative	-1	1
Political	0	1
Legal	0	0
Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	5
Total Score:	-2 + 5 = 3	
Priority:	**MEDIUM**	

Definition of Rating Scale:	
Rate:	**Definition:**
2	Very Favorable
1	Favorable
0	None/Not Applicable
-1	Unfavorable
-2	Very Unfavorable

Priority Assessment: This action item is important because it will provide additional details for the all-hazard mitigation plan; while it will take some effort on the part of local officials to collect and interpret the data, this additional information will be useful for developing further projects, completing grant applications, and tracking implementation progress.

Appendix D

Livingston County Municipal Adoption Resolutions

LIVINGSTON COUNTY ALL–HAZARD MITIGATION PLAN: MODEL RESOLUTION

(Name of Jurisdiction)_____

(Governing Body) _____

(Address) _____

The following resolution was offered by _____ and seconded by _____:

RESOLUTION

WHEREAS, the _____, with the assistance from the Genesee/Finger Lakes Regional Planning Council, has gathered information and prepared the Livingston County All – Hazard Mitigation Plan; and

WHEREAS, the Livingston County All – Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the _____ is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, the Board has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW, THEREFORE, Be It Resolved, by the Board of the _____ adopts the Livingston County All – Hazard Mitigation Plan as this jurisdiction's All – Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this _____ at the meeting of the Board of _____ by the following vote: