Wayne County Multi-Jurisdictional All-Hazard Mitigation Plan Update

May, 2014

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

May, 2014

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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

1.1 PURPOSE

The purpose of the Wayne County Multi-Jurisdictional All-Hazard Mitigation Plan Update process was to review the Existing Plan and makes changes where appropriate to reflect current conditions and priorities in order to adjust and improve the Existing Plan. This included the addition of new data, review of risk and vulnerably factors, and review of past mitigation actions/progress in order to create an updated risk assessment and mitigation action strategy.

The general purpose of the Plan Update is the same as the Existing Plan which was to help the County and its municipalities:

- 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.

1.2 BACKGROUND

The update to the Wayne County Multi-Jurisdictional All-Hazard Mitigation Plan was prepared by the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) under the direction of the Wayne County All-Hazard Mitigation Plan Update Committee, and Wayne County Office of Emergency Management.

It was understood that much of the content of the existing 2007 plan may still be relevant, and should remain in the Update, but it was important to repeat each step of the original planning process in order to determine what was still relevant and up-to-date and what should stay as background information. Going through the process again and reviewing past information helped to determine where new information was needed and what changes needed to be made to reflect current conditions. Genesee/Finger Lakes Regional Planning Council (G/FLRPC) led the process and wrote the Plan Update with guidance and information provided by Wayne County Emergency Management and the Hazard Plan Update Committee. The text makes note of portions that are updated vs. portions that use existing text.

In addition, the group was tasked with incorporating information from the 2006 Wayne County Water and Sewer Authority (WCWSA) Multi-Hazard Mitigation Plan and gathering additional information from WCWSA staff in order to create one Hazard Plan Update rather than having two plans in place. WCWSA staff was involved in the process and helped to determine how WCWSA's needs, priorities, etc. were able to be incorporated into the Plan Update. WCWSA is in support of this plan and intends on integrating it into their decision making processes and working to implement applicable portions of the mitigation strategy.

SCOPE

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

AUTHORITY

Federal authorization to prepare an all-hazard mitigation plan comes from the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974, known as the Stafford Act (PL 93-288, as amended); the Disaster Mitigation Act of 2000, and 44 CFR (Code of Federal Regulations, Title 44). State authorization comes from New York State Executive Law Article 2B: State and Local Natural and Man-Made Disaster Preparedness. These regulations provide a framework that instructs all municipalities to analyze and mitigate all hazards as a condition of receiving federal assistance. The law requires that a local hazard mitigation plan be developed.

FUNDING

The Plan Update was funded in a similar way to the Existing Plan 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 Wayne County Emergency Management Office provided the required grant match. Representatives from Wayne 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.

Chapter 2 - The Planning Process

2.1 PLAN UPDATE COMMITTEE

The Wayne County Multi-Jurisdictional All-Hazard Mitigation Plan was prepared by the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) under the direction of the Wayne County All-Hazard Mitigation Planning Committee. The Committee and Wayne County Emergency Management provided guidance, set priorities, provided data and acted in the decision making role throughout the process to decide what should remain the same vs. what should be updated or changed and contributed to the direction and content of those changes.

All of the organizations and job titles that were represented on the original Planning Committee were invited to participate again (some roles were filled by new representatives where there was a staff change). Groups invited to participate included:

- representatives from each municipality;
- relevant county, state and federal agencies;
- health care and emergency service providers;
- and an assortment of other interested stakeholders

Meeting information and plan drafts were distributed to the above groups including those that choose not to participate.

Neighboring municipalities, as well neighboring county agencies were also invited to participate on the updated Planning Committee, but chose not to. All planning committee meetings were open to neighboring communities and the general public. All active committee members attended meetings and provided input on the methods that comprised the planning process. All committee members, both active and interested, received meeting announcements, requests for data and were asked to review draft copies of the full mitigation plan.

Municipal representatives coordinated the involvement of municipal committees and staff to obtain data for the process and share information from the Plan Update Committee. County agency representatives on the Plan Update Committee conducted a similar process.

Table 2.1 Hazard Plan Update Committee

Name	Title/Dept.	Municipality or Agency
Chuck Verky	Code Enforcement Officer	Arcadia (T)
Dan Pullen	Dep. Highway Super Intendant	Arcadia (T)
Donald Camp	Code Enforcement Officer	Butler (T), Wolcott (T)
Tom Sawtelle	Code Enforcement Officer	Clyde (V), Galen (T)
Norma Lancaster	Town Clerk	Galen (T)
Laurie Crane	Supervisor	Huron (T)
Brian D. Manktclow	Town Supervisor	Lyons (T)
Corrine Kleisle	Mayor	Lyons (V)
Mike Salero	Foreman	Lyons (V)
Scott Allen	Town Engineer/Building Inspector	Macedon (T)
David LeMoyne	Highway Superintendent	Macedon (V)
Donald Morrill	Code Enforcement Officer	Macedon (V)
Roy Cottrell	Highway Dept.	Macedon (V)
Carlton Timerson	Chief Operator, V. Newark Water Treatment Plant	Newark (V)
Doug Townsend	Supervisor	Newark (V)
Gary M. Verstraete	Safety Manager	Newark (V)

John G. Reynolds	Chief Operator, V. Newark Waste Water Treatment Plant	Newark (V)
Michael V Gonzalez	Water Treatment Plant	Newark (V)
Bob Kelsch	Supervisor	Ontario (T)
Michael Baesel	Highway Dept.	Palmyra (T & V)
Ken Miller	Supervisor	Palmyra (T)
Alicia M. Lynch	Clerk/Treasurer	Palmyra (V)
Victoria Daly	Former Mayor	Palmyra (V)
Ed Thiemann	Councilman/Highway Dept./Water Dept.	Rose (T)
Kenan Baldridge	Supervisor	Rose (T)
Mike Kolczynski	Supervisor	Savannah (T)
Christian Tertinek	Mayor	Sodus Point (V)
Bob Plant	Supervisor	Walworth (T)
Mike Frederes	Highway Superintendent	Walworth (T)
Kurt Allman	Highway Superintendent	Williamson (T)
Stephen C. Haywood	Assessor/Building Inspector/Code Enforcement	Williamson (T)
Tom Kicior	Senior Planner	G/FLRPC
Greg Kerrick	Resident Engineer	NYSDOT
Beth Derrenbacher	Supervisor	RGE Sodus
Woody Seufert	Disaster Coordinator	Wayne - American Red Cross Wayne County
George Bastedo	Director	Wayne County Emergency Management Office
John O'Toole	Radiological / HAZMAT Officer	Wayne County Emergency Management Office
Rachel Ford	Planner/Trainer	Wayne County Emergency Management Office
Jack Newman	Deputy Fire Coordinator	Wayne County Fire Coordinator
Ora Rothfuss	Agriculture Development Planner	Wayne County Planning
Amy D'Angelo	Senior Planner	Wayne County Planning Dept.
Diane Devlin	Director	Wayne County Public Health
Kevin Rooney	Superintendent of Public Works	Wayne County Public Works
Barry Virts	Sheriff	Wayne County Sheriff's Dept.
Jason Monroe	Director of Operations	Wayne County Water and Sewer Authority (WCWSA)
Marty Aman	Executive Director	Wayne County Water and Sewer Authority (WCWSA)

The Plan Update Committee members listed above participated in developing the Plan by attending meetings, offering ideas, concerns and direction and providing data and information related to their areas of expertise and affiliation.

While every municipality was invited and encouraged to attend every meeting, unfortunately all municipalities did not have the capacity to send representatives to every meeting. All municipalities expressed interest in being included in the plan, but municipal staff members are often part-time and their time is spread thin with ever increasing responsibilities. In some cases municipal representatives did not have the funding or time to travel to meetings (some meetings were at one location in the county, but others were scheduled in multiple locations to encourage attendance). Municipal budgets are limited, and staff are often wearing multiple hats, and not able to expand into additional roles and responsibilities.

Because representatives were not always able to attend meetings, all data requests from meetings were also turned into data request forms which were distributed to all municipalities. Towns and Villages that were not able to attend the meeting were asked to review the materials and submit data, and representatives that were at the meetings were given

the opportunity to gather/submit more information from their municipalities and agencies after the meeting. The amount of detail provided varied by municipality and by request. Some municipalities were able to provide very detailed data, while others provided limited information. While some data was only available to gather from municipalities, other data sets and information was gathered from county level, regional and state sources.

See Appendix Ch-2.1: Hazard Plan Update Committee Meeting Attendance/Participation for more detailed participation information.

2.2 A MULTI-JURISDICTIONAL EFFORT

This plan is a multi-jurisdictional effort for Wayne County, inclusive of all twenty-four municipalities (see Map 1 – Wayne County). Municipal representatives were asked to attend the planning committee meetings and also meet separately with additional representatives from their municipalities to discuss details specific to their jurisdiction. County agencies were asked to participate in the planning committee as well and offer their information and expertise specific to their agency. The following lists indicate the municipalities and County agencies that were invited to participate in the planning process.

Table 2.2 Wayne County Municipalities

Arcadia, Town	Lyons, Village	Palmyra, Town	Sodus, Village
Butler, Town	Macedon, Town	Palmyra, Village	Sodus Point, Village
Clyde, Village	Macedon, Village	Red Creek, Village	Walworth, Town
Galen, Town	Marion, Town	Rose, Town	Williamson, Town
Huron, Town	Newark, Village	Savannah, Town	Wolcott, Town
Lyons, Town	Ontario, Town	Sodus, Town	Wolcott, Village

Wayne County Agencies

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

2.3 PLANNING CHRONOLOGY

Much of the work reviewed, edited and revised during this process was based on the work of the Existing Plan's Committee and the WCWSA's Committee. For the Existing Plan's detailed meeting summaries visit http://www.gflrpc.org/Publications/WayneAllHazard/Index.htm. For the Existing WCWSA Hazard Plan's Planning Process see Appendix Ch-2.2: 2006 WCWSA Multi-Hazard Mitigation Plan – Planning Process

2.3.1 Planning Committee Meetings

May 17, 2012 - Initial Critical Facilities/ Community Asset Facilities Meeting – G/FLRPC staff met with Wayne EMO staff to discuss changes that needed to be made to the list of Critical Facilities. The meeting focused on the issue of too many facilities being included in the existing plan, which mad e the list less useful, and prevented as much detail from being determined for each facility. A rough draft of the most Critical Facilities and Community Asset Facilities was created to present to the Plan Update Committee as a starting point. Additional strategies for the 1st Plan Update Committee Meeting were discussed.

June 12, 2012 – Initial HAZNY Meeting and strategizing meeting – G/FLRPC met with Wayne EMO staff to discuss changes to the HAZNY Ranking based on recent hazard events, past hazard events, and county priorities. A rough draft HAZNY ranking update was created in order to be used as a starting point for Plan Update Committee Discussion. Addition discussion focused on the agenda for the 1st Plan Update Committee Meeting.

June 21, 2012 – Plan Update Committee Meeting - Wayne County stakeholders including state, county and municipal representatives attended a meeting to describe the all-hazard mitigation planning process, gather input and collect data. The meeting included:

- G/FLRPC presentation about all-hazard mitigation planning and the Plan Update process.
- Data requests were made regarding recent and future development trends, as well as updates to local plans and laws. Data request forms were distributed.
- The committee participated in an initial discussion of the draft HAZNY ranking including which Hazards were included, which were not and why and whether or not the draft ranking needed adjustment. The committee agreed upon most of the draft HAZNY with additional discussion focusing on how to address Landslide and Coastal Erosion Hazard.
- The committee also reviewed the draft list of critical facilities and Community Asset Facilities and added a few more. They were asked to return to their municipalities or agencies to determine if additional facilities should be added. A data request form was distributed.
- Hazard locations were discussed. While past hazard event data was being collected at the county level, attendees were encouraged to submit an additional hazard event data that their municipalities or agencies had on file.
- The National Flood Insurance Program was discussed, and municipal attendees were give data request forms to bring back to their municipalities to fill out and return giving detailed info about their municipalities' participation in the program.

November 13, 2012 – Plan Update Committee – Agency Meeting – State, County and other agency representatives (non-municipal) were in attendance. Discussion included:

- Review of demographic data
- WCWSA Critical Facilities from the WCWSA Plan were reviewed to determine if any changes or additions were needed.
- Hazards of concern and hazards there were being excluded were discussed again to make sure the right ones were being focused on.
- Some initial Maps were reviewed.
- Vulnerability by Hazard was discussed
- Review and reconfirmation of Hazard Mitigation Goals and Objectives
- A discussion of issues that came up during the severe storms associated with Hurricane Sandy
- Review and discussion of past mitigation action progress
- Mitigation Action additions
- Review of data request forms to take home and submit additional information regarding the Updated Mitigation Action Strategy

Many more follow up conversations, phone calls and in person meetings were between meetings and after meeting with municipal representatives and agency representatives to gather specific data.

Municipal Committee Meetings

Two municipal meetings were held on either side of the county in order to foster larger attendance from municipal representatives and to discuss issues at the municipal level. Municipal representatives on the full Plan Update Committee were asked to attend one of the two local meetings and bring additional municipal representatives with them. Attendees included: supervisors, mayors, code or zoning enforcement officers, clerks, highway superintendents, town engineers, and water and sewer facility employees. See Appendix Ch-2.1: Hazard Plan Update Committee Meeting Attendance/Participation for more information.

November 14, 2012 – Two Meetings, East and West Sides of Wayne – Municipal Meeting –Discussion included:

- Review of demographic data
- Hazards of concern and hazards there were being excluded were discussed again to make sure the right ones were being focused on.
- Differences between County-wide hazard priorities and municipal priorities. Hazard priority form was available to bring back to municipalities to discuss with others.
- Some initial Maps were reviewed, and additions were requested related to steep slopes, coastal erosion and landslides.
- Vulnerability by Hazard was discussed
- Review and reconfirmation of Hazard Mitigation Goals and Objectives
- A discussion of issues that came up during the severe storms associated with Hurricane Sandy
- Review and discussion of past mitigation action progress
- Mitigation Action additions
- Action details such as priority were discussed and forms were distributed which asked representatives to discuss and finalize mitigation actions as well as action details.
- Past implementation, future implementation and plan monitoring/updates were discussed and data request forms were distributed.

Many more follow up conversations, phone calls and in person meetings were between meetings and after meeting with municipal representatives and agency representatives to gather specific data.

December, 2013 – Plan Review – The full committee, municipal representatives, the public and additional stakeholders were invited review the draft Plan Update. An invitation to review the plan was sent directly to each of the committee members, municipal representatives and additional stakeholders. These included all Wayne County: Mayors, Supervisors, Clerks, Code Enforcement Officers, Highway Departments, and a number of County Agency representatives such as Planning Department, Fire Coordinator, Sherif, Water and Sewer Authority, Public Works and Public Health. This was also sent to stakeholders such as neighboring municipalities and counties and included all surrounding county's planning departments and emergency management departments, and all municipalities that shared a border with Wayne County. The invitation explained where the plan was posted online, where paper copies were available (Wayne County EMO), and included a request for review and submission of questions, comments and revisions. The initial review period was just under a month (27days); some additional comments came in the following 1.5 weeks and were still accepted and incorporated (see 2.5 Draft Comments/Revisions)

2.4 PUBLIC PARTICIPATION

All planning committee and municipal committee meetings were open to the general public, and advertised on the project website which is hosted by G/FLRPC, but also linked to on the Emergency Management portion of the Wayne County website.

March 19, 2013 – County Board of Supervisors Presentation /Q&A - the general public was invited to this meeting through an announcement in the paper as well as an announcement on the project website. This meeting was chosen in order to have large attendance and reach a bigger audience than would be in attendance at a meeting only focused on Hazard Planning. Almost 100 people were in attendance. The presentation focused on hazard planning background, the Plan Update process, and progress thus far such as the draft risk assessment. The presentation concluded with an opportunity for questions and an invitation to contact G/FLRPC anytime or visit the webpage for more information or to get involved in the process. There were no questions/comments at this time.

December 2013 – the public was invited to read and review the draft plan. A press release was issued in the local newspaper explaining that paper copies of the draft Plan Update were available for the public to review at Wayne County EMO, and posted to the project's website (http://www.co.wayne.ny.us/departments/emermgt/emermgt.htm and http://www.gflrpc.org/Publications/WayneAllHazard/Update/index.htm) and requested review and submission of questions, comments and revisions. The initial review period was just under a month but some additional comments came in the following 1.5 weeks and were still accepted and incorporated (see 2.5 Draft Comments/Revisions)

2.5 DRAFT COMMENTS/REVISIONS

After the draft was sent out for review to the committee, stakeholders and the public, some comments and revisions were received. This feedback came from Wayne County EMO, Wayne County Planning Dept., Wayne County Water and Sewer Authority, a municipal committee member and a member of the general public. All comments/revisions were incorporated into the draft. This feedback included:

- General grammatical corrections/typos including table headings, section numbers, etc.
- Revision to a few committee member's job titles
- Additional information given to elaborate on WCWSA's progress on past mitigation actions and desire for future direction of these actions
- Revision of names of Emergency Medical Services, addition of Emergency Medical Services, and removal of those not in existence any more (Hospitals, Ambulance, etc.)
- Addition of a recently created Fire Department and some revision of Fire Department Names.
- Addition of County-wide services to be included for each town (NYS Police, Wayne County ALS, Wayne County Fire Mutual Aid Program)
- Revision of School District info – clarification of districts mostly within the County and those partially within the County
- Some additional concern from a member of the public regarding potential lake level changes based on IJC proposal. See Section (6.8 Coastal Erosion). Some additional emphasis was added, and clarification of the current lack of sufficient available data, and the future mitigation action item that the county has made a "high" priority action strategy:

  "Create a detailed study of the potential effects of the proposal to allow fluxuation in Lake Ontario water levels by the International Joint Commission (IJC). The study should be conducted with focus on the effects on the shoreline and adjacent properties. The IJC did not look at impact of embayment properties in their modeling. For 50 years the lake levels have been managed and development has occurred with architectural and engineering specifications based on these water management criteria. Greater fluxuation in lake levels as opposed to the current regulated method, could result in increased flooding, create larger flood zones, increase coastal erosion and effect culverts, roads and structures. Properties could be put at greater risk and additional properties could be put at risk. If levels change, design and development assumptions and trends of the past would need to be reconsidered. Specific costs and damage should be estimated in a "what if" scenario model. This should also include recommendation for mitigation measures, such as channel dredging, for low water events, or necessary shoreline hardening, potential highway, water and sewer relocation, dredging, etc. This study and recommendations could be an addendum to the Hazard Mitigation Plan. Current data and resources are not available to conduct this detailed study as part of this process."

  See appendix 8.1 Mitigation Action Strategy for more information regarding this action.

Chapter 3 - Legislation, Regulations and Programs

Legislation, regulations and programs that were either new or updated since the Existing Plan was written were identified, examined and summarized for the Plan Update. Where documents covered in the Existing Plan were unchanged, information, descriptions and assessments from the Existing Plan were used.

Federal, State and County legislation regulations and programs were reviewed and summarized below. Local documents were covered in more depth and were used to update the existing Law Assessment which can be found in Appendix Ch-3: Wayne County Local Law Assessment Update.

3.1 FEDERAL

3.1.1 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.

3.1.2 Pre-Disaster Mitigation Program

According to FEMA, The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event.

Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.

The PDM program is authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. The PDM program is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future disasters.

Project Eligibility
In accordance with 44 CFR Part 201, all Applicants must have a FEMA-approved State or Tribal (Standard or Enhanced) Mitigation Plan by the application deadline and at the time of obligation of the grant funds.

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 municipality must not be suspended or on probation from the NFIP.

Eligible Activities Include:

- Mitigation Projects - Property Acquisition and Structure Demolition, Property Acquisition and Structure Relocation, Structure Elevation, Dry Floodproofing of Historic Residential Structures, Dry Floodproofing of Non-residential Structures, Minor Localized Flood Reduction Projects, Structural Retrofitting of Existing Buildings, Non-structural Retrofitting of Existing Buildings and Facilities, Safe Room Construction, Infrastructure Retrofit, Soil Stabilization, Wildfire Mitigation

- Hazard Mitigation Planning
- Management Costs

3.1.3 National Flood Insurance Program (NFIP)

According to FEMA, the NFIP is an insurance program which municipalities with flood risk gain admission into by enacting certain floodplain management ordinances in order to reduce damage to flooding in the future. After a community is participating in the NFIP, property owners and renters are able to purchase federally backed NFIP Insurance. The NFIP creates maps, which are called Flood Insurance Rate Maps (FIRMs), of the 100-year floodplain (1% annual chance of exceedence) areas in a municipality which show what areas are most susceptible to flooding and that are required to have flood insurance

See section 7.7 National Flood Insurance Program for more information on specific municipal participation.

3.2 NEW YORK STATE

3.2.1 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 Office of Emergency Management (NYSOEM) 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.

Project Selection: 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 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, NYSOEM will transmit to FEMA a 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 NYSOEM.

Notification of Applicants: Based upon the list of selected projects submitted by the Review Board, the GAR will notify all subgrantees of the decision regarding their application.

Transmission of Selected Projects to FEMA: NYSOEM will transmit to FEMA the application package containing all required documentation.

3.2.2 Hazard Mitigation Grant Program

According to the NYS Hazard Mitigation Grant Program Handbook (2006):
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. Hereafter, the Hazard Mitigation Grant Program (HMGP) will be referred to as the 404 HMGP and the funds provided there under will be referred to as 404 HMGP funds or 404 funds.

The intent of the program is to effectively reduce future disaster damages, public expenditure, private losses and a community's vulnerability to natural hazards. 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.

Eligible Project Categories

Eligible projects must result in increased protection to lives, and property--public and private. They include, but are not limited to:

- Structural hazard control or protection projects, such as changing ordinance for new construction, or installing back flow valves or flap gates;
- Construction activities that will result in protection from natural hazards, such as berms and other minor construction projects.
- Retrofitting of facilities, such as elevating buildings above base flood elevations, or filling in basements;
- Acquisition or relocation projects that move structures out of hazard areas;
- Development and adoption of State or local mitigation standards to reduce or eliminate risks;
- Development or improvement of comprehensive hazard mitigation programs with implementation as an essential component;
- Development of Hazard Mitigation Plans (maximum amount of funding for planning is up to 7% of the HMGP funding).

3.3 COUNTY AND LOCAL

3.3.1 County Legislation and Regulations

Wayne County is authorized to perform pre-disaster planning under the: Disaster Relief Act of 1974 (Public Law 93-288), Federal Civil Defense Act of 1950, and Presidential Executive Order 11490. The county is given legal authority through the Superfund Amendments & Reauthorization Act of 1986 (Public Law 99-499), Title III – Emergency

Planning & Community Right to Know Act of 1986, NYS Defense Emergency Act (as amended) and County Executive Order #1 (as amended).

3.3.2 Local Government Responsibilities

Local governments and other eligible local entities are required to 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.

NYSOEM 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.

3.4: REVIEW OF PLANS, REPORTS AND STUDIES

The following plans, reports and studies were reviewed during the original plan and/or the Plan Update

- Wayne County Water and Sewer Authority Multi-Hazard Mitigation Plan, 2006
- New York State Comprehensive Emergency Management Plan, 2004 document with 2011 updates, and 2013 draft updates
- NYS Radiological Emergency Preparedness Plan, NYS Office of Emergency Management, 2011
- Wayne County PH Health Emergency Operations Plan
- Wayne County PH Health SNS Plan
- Wayne County PH Health COOP
- Wayne County PH Health MCM Plan
- Wayne County PH Health Pandemic Flu Plan
- Wayne County PH Health I&Q Plan
- Wayne County Zoonoses Plan
- Wayne County Risk Communication/PIO Plan
- Wayne County Smallpox Plan
- Constellation Ginna Station Nuclear Emergency Offsite Response Procedures (Nuclear Emergency Response Plan), June 2002
- U.S. Nuclear Regulatory Commission Response Technical Manual (RTM) Vol. 1, Revision 5 (Office of Nuclear Security and Incident Response)
- Robert E. Ginna Nuclear Power Station Development of Evacuation Time Estimates, 2004
- RRHA Regional Hospital Mutual Aid Evacuation and Supply Plan
- Natural Disaster Response (Natural Disaster Activities Under PL-84-99 and PL 93-288) NCB Plan 500-1-1, August 1991
- Wayne County Comprehensive Emergency Management Plan, Revised 2001
    - Fire Coordinator Mutual Aid Plan, Revised June 2005
    - Domestic Preparedness Annex, 2003
    - Hazardous Materials Response Annex, Revised March 2005
- Wayne County Radiological Emergency Preparedness Plan, Revised March 2005
- Newark Housing Authority, Emergency Procedures, October 2003
- Wayne County Sheriff's Office Dept. Rules and Regulations and General Orders Manual
- Greater Rochester Mutual Aid Plan (for Elderly Care Facilities) March 2005-March 2006
- Interagency Hazard Mitigation Team Strategic Report, FEMA, January 2005

- NYS Office of Fire Prevention and Control Emergency Procedures Manual
- The Wayne County Fire Chief's Handbook
- Wayne County EMS Master Plan (draft April 2005)
- Wayne County Credibility Assessment Team (CAT) Employer's Emergency Response Plan
- Wayne County Mutual Aid Annual Report 2004
- Wayne County Medical Mutual Aid Agreement, October 2003
- NYS Fire Mobilization and Mutual Aid Resource Tracking Program
- Wayne County Fire Equipment Inventory/Report
- Wayne County Disaster Response for Mass Casualty Incidents, Revised April 2004 (Draft)
- Wayne County Public Health Services:
    - Radiological Terrorism Response, Annex III
    - Chemical Terrorism Response, Annex II
    - Bioterrorism Response, Annex I
- Wayne County Public Health Draft Health-Related Emergency Operations Plan: Preparedness and Response Plan for Biological, Chemical, Radiological Terrorism, Communicable Disease Outbreaks and Other Public Health Emergencies
    - Appendix III Standard Operating Procedures for Bio/Chemical/Radiological Agents
    - Appendix IV Notification Roster and Emergency Contact Book
    - Appendix V Isolation and Quarantine Guidelines
- Newark-Wayne Community Hospital Emergency Preparedness Plan
- NYS DOH District Office: Terrorism Preparedness and Response Plan for Environmental Health
- Wayne County Public Health Draft Smallpox Plan
- Wayne County Public Health Plan for Obtaining, Activating and Distributing the Strategic National Stockpile
- Disaster Response Plan, Wayne County Chapter American Red Cross, March 2004
- Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2, August 2001.

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.

3.5 REVIEW OF MUNICIPAL LAND USE PLANS AND REGULATIONS

The existing Hazard Plan included a thorough review of municipal (town and village) land use plans and laws. This review analyzed documents such as comprehensive plans, zoning codes, and subdivision regulations. This review was carried out for essentially the same reasons listed in the summary above but in addition, it identified gaps in local land use laws that need to be addressed as part of the hazard mitigation planning process.

During the update process the Hazard Planning Committee assisted in identifying and providing any land use plans and regulations that were created or updated since the review in the Existing Plan. These new plans and regulations were incorporated in the existing assessment, which can be found in Appendix Ch-3 - *Local Law Assessment*. The analysis of plans and regulations that remained unchanged was still included in the update in order to illustrate a comprehensive overview at this point in time. See also Map 2 - Wayne County Municipal Zoning.

Chapter 4 - Community Profiles

4.1 Wayne County Background

Created on April 11, 1823 from Ontario and Seneca Counties, Wayne County was named after the Revolutionary War hero General "Mad" Anthony Wayne. However, the County's history actually begins long before 1823. When the first pioneers arrived in 1789, there were not any major Native American settlements in the area. Rather, the Native Americans made hunting and fishing trips into the region where bear, wolf, deer and a wide variety of fish could be found in large quantities. Sodus Bay was a favorite fishing spot, and a well-worn trail extended south from its shores to the head of Cayuga Lake, where the Native Americans had permanent homes.

Artifacts found throughout the County, and especially in the town of Savannah, indicate that Native Americans at one time did have permanent or seasonal camps in the area. In fact, as far back as 10,000 years ago, Native American hunters, following the retreating glacier, moved into the area to hunt mastodon and moose elk. Once agriculture was introduced into the Native American society, permanent settlement moved to the south of Wayne County, into the area around the Finger Lakes.

French fur traders and Jesuit missionaries also made occasional visits to the area. On the banks of the Clyde River, near present-day Clyde, a blockhouse once stood. Many legends surround it, but the most authentic seems to be one recounted by an early resident who places its construction at the time of the French and Indian War. According to his story, it was built for the protection of the trappers and missionaries. The building was two stories high with the second story projecting beyond the first on all four sides. During the Revolutionary War, the Tories had possession of it and used it as a station for goods smuggled in from Canada by way of Sodus Bay. A group of renegades, trap-robbers and other criminals settled near the fort and carried on a lively and profitable smuggling business until it was broken up by the government near the end of the war. Nothing more was heard of this group and it was not until 1789 that the first permanent settlement was established in the area.

In May of 1789, two flat-bottomed boats carrying Nicholas and William Stansell, John Featherly and their families – 12 persons in all landed on the banks of the Clyde River just south of the present village of Lyons and became the first pioneer settlers. That same year, pioneers took up land in Palmyra and Macedon. A steady stream of newcomers followed and by the early 1800's, there were settlements in almost every town within the County.

The early settlers of Wayne County found land covered with thick forests comprised principally of hard woods, such as oak, hickory, beech, birch and maple, with some soft woods on the low lands. The cutting away of these forests was a tremendous task, but it gave the pioneers a source of cash income – at a time when there was almost no other – through the manufacture of potash from the ashes of the burned logs. An ashery was one of the first business enterprises mentioned in the history of almost every settlement. Although the tillable land has long since been stripped of its forests, there is still a fair amount of logging done in the County. The agricultural land that was revealed by stripping the forests remains a significant part of the County's identity and economy. Williamson's Apple Blossom Festival and Savannah's Potato Festival are just two of the agricultural celebrations that can be found celebrating Wayne County's rural character and agricultural economy every year.

4.1.1 Location and Geography

Located in west-central New York State, Wayne County is bordered on the west by Monroe County, on the south by Ontario and Seneca Counties, on the east by Cayuga County, and on the north by Lake Ontario. (See Map 1 - Wayne County). Predominantly rural and agricultural in character, Wayne County encompasses approximately 604 square miles.

The County is traversed by two major east-west roads, Route 104 in the northern part of the County and Route 31 in the southern portion. Route 104 provides a direct connection to Rochester and Niagara Falls to the west and Oswego to

the east. Route 31 also connects the County to Rochester and southern Monroe County to the west and the northern Finger Lakes and Syracuse metropolitan area to the east. See Map 3 - Wayne County Transportation Infrastructure.

Both routes have served as the focus for business and residential development in the County, particularly in the western portion nearest to the populous suburbs of Monroe County. Residential and recreational development has also occurred at several locations along the shore of Lake Ontario, particularly near sheltered bays providing safe havens for watercraft such as Sodus Bay (Towns of Sodus and Huron), East Bay (Town of Huron), Port Bay (Towns of Huron and Wolcott), and Blind Sodus Bay (Town of Wolcott).

Major north-south routes from west to east include Route 350, connecting Ontario Center and Macedon; Route 21, connecting Williamson and Palmyra; Route 88, connecting Sodus and Newark; Route 14, connecting Sodus Point and Lyons; Route 414, connecting North Rose and Clyde; and Route 89, connecting Wolcott and Savannah.

4.1.2 Landscape Features

Wayne County is located entirely within the Erie-Ontario Lowland physiographic province, an area of low relief situated immediately south and east of Lakes Erie and Ontario. Bedrock consists of gently southerly-dipping Late Ordovician through Middle Silurian sandstones, shales, limestones, and dolostones. Unlike many other regions of New York, Wayne County has few rock outcrops, and topography is controlled primarily by surficial deposits that have arisen as a result of glacial activity during the Pleistocene Era, approximately 18,000 – 13,000 years ago. Perhaps the most significant features of Wayne County are the numerous drumlins – streamlined deposits of sand, silt, clay, and gravel – that formed beneath the ice sheets. In fact, Wayne County sits squarely within the single largest drumlin field in the world, which extends from Eastern Monroe County to Onondaga County – a distance of approximately 100 miles.

Another prominent landscape feature of Wayne County is the prominent beach ridge formed at the margin of postglacial Lake Iroquois, about five miles south of the current Lake Ontario shoreline. This ridge extends from the Monroe County line east to Sodus and forms a natural transportation corridor (Ridge Road). Topography is dominated by rolling hills with relatively flat areas between them. See Map 4 – Wayne County Topography. The steepest slopes tend to be confined to areas along Lake Ontario where actively-eroding drumlins, such as Chimney Bluffs State Park, have been deeply dissected by wind and water action from Lake Ontario. See Map 5 – Wayne County Steep Slopes. The county also contains a number of creeks and the Erie Canal and is made up of 14 watersheds. See Map 6 – Wayne County Water Resources, and Map 7 – Wayne County Watersheds.

4.1.3 Climate

Proximity to the moderating influence of Lake Ontario means the climate of Wayne County is characterized by warmer winter temperatures than areas located further south in the Appalachian Plateau physiographic province. Onshore breezes during the spring and summer generally produce cooler lakeside temperatures than those further inland. Mean January temperatures of 24° F and July temperatures of 71° F are typical. The proximity of Lake Ontario has an ameliorating influence upon temperatures, particularly during spring, summer, and early autumn. The ability of the relatively cold lake waters to retard spring warming also prevents the early growth of vegetation, thereby protecting the sensitive buds of fruit trees from the effects of sudden frosts. In the fall, lake temperatures drop slowly, extending the growing season in lakeside agricultural areas to over 160 days per year.

Average annual precipitation is approximately 36 inches. Lake effect snow is a recurring phenomenon each winter: while average annual snowfall at Sodus Center is only 76 inches, amounts generally increase to the north and east, where well over 100 inches of snow falls on average in the towns of Huron and Wolcott. While winter temperatures rarely drop to the levels seen in the upper Midwest, abundant snow creates transportation problems and extensive municipal snow-removal operations are part of everyday life during the winter months.

4.1.4 Overview

Government: Wayne County is governed by a Board of Supervisors and a County Administrator from the County seat of Lyons, and includes 24 administrative units comprising 15 towns and 9 villages. The Board of Supervisors has 16 members, one representing each town and a presiding Chairman.

Towns (15): Arcadia, Butler, Galen, Huron, Lyons, Macedon, Marion, Ontario, Palmyra, Rose, Savannah, Sodus, Walworth, Williamson, Wolcott.

Villages (9): Village of Clyde, Village of Lyons, Village of Macedon, Village of Newark, Village of Palmyra, Village of Red Creek, Village of Sodus, Village of Sodus Point, Village of Wolcott.

School Districts (17) – See Map 11 - Wayne County School Districts
Majority of district within Wayne County - Clyde-Savannah CSD, Gananda CSD, Lyons CSD, Marion CSD, Newark CSD, North Rose-Wolcott CSD, Palmyra-Macedon CSD, Red Creek CSD, Sodus CSD, Wayne CSD, Williamson CSD
Part of district within Wayne County - Cato-Meridian CSD, Penfield CSD, Phelps-Clifton Springs CSD, Port Byron CSD, Victor CSD, Webster CSD

Police Departments (10): Clyde PD, Lyons PD, Macedon PD, Newark PD, Palmyra PD, Sodus PD, Sodus Point PD, New York State Police; Wayne County Sheriff.

Fire Departments (30): Alton FD, Clyde FD, East Palmyra FD, East Williamson FD, Fairville Volunteer FD, Lincoln FD, Lyons FD, Macedon FD, Macedon Center FD, Marbletown FD, Marion FD, Newark FD, North Rose FD, Ontario FD, Palmyra FD, Pultneyville FD, Red Creek FD, Rose FD, Savannah FD, Sodus FD, South Butler FD, Sodus Center FD, Sodus Point FD, Union Hill FD, Wallington FD, Walworth FD, West Walworth FD, Williamson FD, Wolcott FD. South Macedon FD (as of 1/1/14).

Ambulance (21): Alton FD Ambulance, Clyde Ambulance Service, Fairville FD Ambulance, Lyons Town Ambulance, Macedon Town Ambulance, Macedon Village Ambulance, Marion Volunteer Ambulance, Newark-Arcadia EMS, North Rose FD Ambulance, Ontario Volunteer Emergency Squad, Rose FD Ambulance, Savannah FD Ambulance, South Butler FD Ambulance, Sodus Center FD Ambulance, Silver Waters Community Ambulance, Sodus Town Ambulance Service, Union Hill FD Ambulance, Walworth Ambulance Inc., Williamson Volunteer Ambulance Service, Lakeshore Volunteer Ambulance, Wayne County ALS.

Electric Companies (2): New York State Electric & Gas Corporation (NYSEG), Rochester Gas & Electric (RG&E).

Natural Gas Companies (2): New York State Electric & Gas Corporation (NYSEG), Rochester Gas & Electric (RG&E).

Telephone Companies (2): Verizon New York, Inc., Port Byron Telephone Company.

For municipal information see Appendix Ch-4: Municipal Profiles.

4.2 LAND USE AND DEVELOPMENT

4.2.1 Historic Profile

Since its settlement in the nineteenth century, Wayne County has maintained a primarily rural character. Agriculture, agriculture-related industries, and small- to medium-scale manufacturing comprise the core of the County's economy. The northern half of the County possesses specialized farmlands that have been used for the production of various fruits including apples, pears, and cherries. The south-central and southeastern portion of the County is characterized

by extensive mucklands – a remnant of the region's glacial history – which are prized for the cultivation of onions and potatoes. More generalized farming is the norm in the southwestern part of Wayne County with corn, wheat, and oats as the primary crops. Dairying is also an important agricultural endeavor within the County. During the nineteenth century, Wayne County specialized in the production of wheat, but competition from growing Midwestern sources forced farmers to concentrate on fruit crops, ideally suited to the soils and lake-moderated climate. Other important 19th century crops included tobacco and peppermint oil. In the mid-1800's, Wayne County produced 50% of the nation's peppermint oil.

Fruit became increasingly important to the economy of Wayne County during the 20th century. By 1997, Wayne County ranked first in New York State and fifth nationwide in the production of apples. Increasingly, farms have become larger, less numerous, and more specialized. Nearly 70% of the County's 604 square miles is utilized by 2,500 farms. Wegman's Egg Farm in Wolcott produces 550,000 eggs per day, making it the largest facility of its type in the state. Marshall Farms in Huron is the nation's largest supplier of pet ferrets. Mott's apple-processing plant in Williamson is one of the largest in the country. The longstanding emphasis upon agriculture places Wayne County fifth in the state in terms of its annual agricultural production.

Early industries tended to be ancillary to agricultural pursuits. Asheries, gristmills, and distilleries were the most common industrial activities during the early 19th century. By the latter half of the 19th century and early 20th century, the shift from wheat to fruit production resulted in the appearance of evaporators and canneries, with the first industrial fruit-processing plants appearing in Newark in 1863. By the year 1900, Wayne County was arguably the largest producer of evaporated apples in the country. Iron mining of the Furnaceville hematite beds was a local industry during the 19th century, as were cigar manufacturing, pottery, glassmaking, and coverlet weaving.

Industry began to consolidate and expand during the 20th century, eventually replacing agriculture as the most profitable economic activity. In addition to food processing, wood and paper goods, plastics, machinery, and electronics were the most important industrial products. Recent additions to this industrial base include custom-made batteries for military and industrial purposes, shipping navigation equipment, and porous ceramics for filtration systems. Based on the 5-Year American Community Survey 2006-2010, approximately 25.6% of the County's workforce is employed in educational services, and health care and social assistance; 19.9% of the County's workforce is employed in manufacturing; 11.7% in retail trade; the remainder of the workforce is employed within one of the remaining 10 industry sectors. (See Map 8 – Wayne County Land Cover).

4.2.2 Development Trends

Building permit data from the Existing Plan was updated using the annual G/FLRPC Land Use Monitoring Report. The following table indicates, by municipality, where the major growth areas in the County has been and the types of development permits that were issues; either residential, commercial or industrial. Permits for towns cover the area outside of the villages and do not include the permit numbers for villages located within the town boundaries, which are tracked separately. To get a rough idea of development density Wayne county parcels were reviewed to determine the parcel per acre count for each census block (See Map 9 - Wayne County Parcel Density by Census Block).

Based on the tables below, trends have emerged for permits issued in Wayne County. The western towns on the boarder of Wayne and Monroe Counties have the highest number of residential permits between 2005-2010; Town of Ontario (181 residential permits), Town of Macedon (142 residential permits), Town of Walworth (82 residential permits).

Table 4.1: Wayne County Land Use: Building Permits																						
Municipality	2005			2006			2007			2008			2009			2010			2005-2010			
	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Total Res.	Total Com.	Total Indus.	Total Permits
Macedon Village	2	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Palmyra, Village	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	2	2	0	4
Red Creek, Village	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3
Sodus, Village	1	0	0	0	0	0	1	0	0	2	0	0	1	0	0	0	0	0	5	0	0	5
Clyde, Village	0	0	0				7	0	0	0	0	0	0	0	0	0	0	1	7	0	1	8
Sodus Point, Village	4	1	0	1	0	0	1	0	0	2	0	0	2	0	0	0	0	0	10	1	0	11
Butler, Town							1	2	0	3	0	1	4	0	0	3	0	2	11	2	3	16
Savannah, Town	4	0	0	1	0	0	3	0	0	2	0	0	0	0	0	2	0	0	12	0	0	12
Lyons, Town	3	0	0				1	0	0	3	0	1	0	0	0	7	0	0	14	0	1	15
Marion, Town							2			0	0	0	8	0	1	4	0	0	14	0	1	15
Wolcott, Village	5	0	0	7	0	0	3	0	1	1	0	1	0	0	0	0	0	0	16	0	2	18
Rose, Town	9	0	0	6	0	0	3	0	0	6	0	0	3	0	0	1	0	0	28	0	0	28
Lyons, Village							29	1	0	0	3	2	3	3	0	0	0	0	32	7	2	41
Arcadia, Town	3	0	0	12	0	0	3			4	0	0	9	4	0	7	0	0	38	4	0	42
Wolcott, Town	2	1	0				16	0	0	11	0	0	6	0	0	6	0	0	41	1	0	42
Galen, Town	14	0	0	3	0	2	9	0	1	5	0	1	9	0	0	7	0	0	47	0	4	51
Huron, Town	12	0	0	12	0	0	3	0	0	8	0	0	7	0	0	6	0	0	48	0	0	48
Palmyra, Town	21	0	0	14	0	1	4	0	1	9	0	0	7	0	0	1	0	0	56	0	2	58
Williamson, Town	24	0	2				9	0	2	9	0	2	13	0	2	10	0	0	65	0	8	73
Newark, Village	2	3	1	3	3	0	51	0	1	4	3	0	3	0	1	3	0	0	66	9	3	78
Sodus, Town	20	5	0	12	0	0	8	1	0	6	0	0	13	0	0	10	0	1	69	6	1	76
Walworth, Town	35	1	0					0	0	20	0	0	14	0	0	13	1	0	82	2	0	84

Macedon, Town	36	0	1	15	1	0	2	2	1	42	2	1	25	0	1	22	0	0	142	5	4	151
Ontario, Town	52	2	0	42	4	2	4	1	0	27	0	0	27	0	0	29	1	1	181	8	3	192
County Totals	291	13	4	128	8	5	158	7	7	165	8	9	155	7	5	131	4	2	1028	47	32	1107
Source: Regional Land Use Monitoring Reports 2005-2010, Genesee/Finger Lakes Regional Planning Council																						

The Existing Plan utilized the *Regional Development Analysis* document (G/FLRPC, 2004) which included an overall analysis of development trends in Wayne County. For this 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 roughly estimate build out potential in residential, commercial, and industrial development categories.

The Regional Development Analysis has not been updated at this time but it was still used as the most recent review of developable land. Although development has occurred since the Analysis was completed thus changing the amount of developable land, the Analysis still helps to illustrate the larger development trends within the County (see Table 4.1).

According to the existing Regional Development Analysis, Wayne County municipalities had approximately 174,000 acres of land available for development in 2004. The projected number of residential lots available was between 101,000 and 180,000. Of these lots available for residential development, approximately 1,350 lots (between 0.8 and 1.3 percent) were projected to be developed by 2020. Approximately 2000 (between 1.1 and 2.0 percent) were projected to be developed by 2040.

The allowable square footage for commercial development was approximately 28.4 million. Of allowable square footage for commercial development, between 719,000 and 2.0 million (between 2.5 and 6.9 percent) was projected to be developed by 2020. Between 1.7 and 4.6 million (5.9 and 16.0 percent) square feet were projected to be developed by 2040.

The allowable square footage for industrial development was approximately 51.5 million. Of allowable square footage for industrial development, between 1.2 and 3.0 million (between 2.3 and 5.8 percent) was projected to be developed by 2020. Between 2.8 and 7.0 million (5.4 and 13.5 percent) square feet were projected to be developed by 2040.

Each Municipality was asked to identify areas of recent and anticipated future growth in their town or village. These locations were plotted on Map 10 – Wayne County Recent and Potential Future Development Areas as numbers. Each identified development or future development is identified by number under the corresponding municipality below in the section below.

Property tax records and maps were also used to determine a more comprehensive view of where recent development had taken place in the County. Recent development was defined as construction occurring between 2005-2012. Recent development is represented by individual points on Map 10 – Wayne County Recent and Potential Future Development Areas. The amount of points is a bit exaggerated as points are included for both parcels with new building construction and parcels with other construction such as a renovation, expansion, or accessory structure. See section 7.5 *Municipal Development Profiles and Vulnerability* for more detailed development information on development trends; Map 10 points; and how development relates to hazard vulnerability.

4.3 POPULATION TRENDS AND DEMOGRAPHICS

Wayne County began its transition from undeveloped, agricultural lands towards a more densely populated, residential County in the 1920s. Following World War II, population increased dramatically, growing 37.9% from 1960 to 2010, with the fastest growth (16.8%) occurring between 1960 and 1970. Much of the growth has been concentrated in the western portion of the County nearest to the rapidly growing Rochester suburbs of Webster, Penfield, and Perinton.

Suburbanization of these far-western towns and villages has resulted in sharp population increases in the last fifty years – the population in 2010 was 93,772. The westernmost Towns of Walworth (+239.6%), Macedon (+152.9%), and Ontario (+138.0%) have continued to steadily increase in population while many of the County's other towns have experienced a decline or plateau in population growth (See Table 4.2). The towns in the central and eastern sections of Wayne County that have experienced population decline over the past fifty years include Arcadia (-10.1%), Galen (-2.9%), and Lyons (-7.6%). A number of municipalities that have grown since 1960 have begun to decline or plateau in growth in more recent years. Such municipalities are the Towns of Rose, Savannah, Sodus, and the Villages of Palmyra, Sodus and Sodus Point. The County's most marked decline in population is taking place in its villages. Of the nine villages in the County, all but two are either stagnant in growth or are declining in population and the villages of Clyde (-22.3%), Lyons (-22.6%), Newark (-34.1%), and Red Creek (-22.8%) have all seen significant population decline since 1960.

Table 4.2: Wayne County Historic and Projected Population by Municipality, 1960-2050

Municipality	Historic Population						Change 1960-2010		Projected Population			
	1960	1970	1980	1990	2000	2010	Number	%	2020	2030	2040	2050
Arcadia, Town	15,836	15,245	14,697	14,855	14,889	14,244	-1,592	-10.1%	14,368	14,474	14,566	14,647
Butler, Town	1,441	1,593	1,720	2,152	2,277	2,064	623	43.2%	2,144	2,211	2,269	2,321
Clyde, Village	2,693	2,828	2,491	2,409	2,269	2,093	-600	-22.3%	2,119	2,141	2,160	2,177
Galen, Town	4,419	4,619	4,480	4,413	4,439	4,290	-129	-2.9%	4,340	4,382	4,419	4,451
Huron, Town	1,356	1,739	1,820	2,025	2,117	2,118	762	56.2%	2,171	2,217	2,256	2,291
Lyons, Town	6,147	6,015	6,073	6,315	5,831	5,682	-465	-7.6%	5,720	5,753	5,782	5,807
Lyons, Village	4,673	4,496	4,160	4,280	3,695	3,619	-1,054	-22.6%	3,589	3,564	3,542	3,523
Macedon, Town	3,617	5,488	6,508	7,375	8,688	9,148	5,531	152.9%	9,327	9,479	9,611	9,728
Macedon, Village	645	1,168	1,400	1,400	1,496	1,523	878	136.1%	1,575	1,619	1,657	1,691
Marion, Town	2,785	3,784	4,456	4,901	4,974	4,746	1,961	70.4%	4,976	5,171	5,340	5,490
Newark, Village	13,868	11,644	10,017	9,849	9,682	9,145	-4,723	-34.1%	8,998	8,874	8,766	8,671
Ontario, Town	4,259	6,014	7,480	8,560	9,778	10,136	5,877	138.0%	10,409	10,640	10,841	11,017
Palmyra, Town	6,179	7,417	7,652	7,690	7,672	7,975	1,796	29.1%	7,990	8,001	8,012	8,022
Palmyra, Village	3,476	3,776	3,729	3,566	3,490	3,536	60	1.7%	3,525	3,515	3,507	3,500

Red Creek, Village	689	626	645	566	521	532	-157	-22.8%	519	508	498	490
Rose, Town	2,122	2,356	2,684	2,424	2,442	2,369	247	11.6%	2,418	2,460	2,496	2,528
Savannah, Town	1,667	1,676	1,905	1,768	1,838	1,730	63	3.8%	1,758	1,781	1,802	1,820
Sodus, Town	6,587	8,754	9,485	8,877	8,949	8,384	1,797	27.3%	8,501	8,601	8,687	8,763
Sodus, Village	1,645	1,813	1,790	1,904	1,735	1,819	174	10.6%	1,805	1,793	1,782	1,773
Sodus Point, Village	868	1,172	1,334	1,190	1,160	900	32	3.7%	966	1,023	1,072	1,115
Walworth, Town	2,782	4,584	5,281	6,945	8,402	9,449	6,667	239.6%	9,657	9,834	9,987	10,121
Williamson, Town	5,294	6,356	6,319	6,540	6,777	6,984	1,690	31.9%	7,094	7,187	7,268	7,340
Wolcott, Town	3,498	3,764	4,021	4,283	4,692	4,453	955	27.3%	4,598	4,721	4,827	4,922
Wolcott, Village	1,641	1,617	1,496	1,544	1,712	1,701	60	3.7%	1,705	1,707	1,710	1,712
Wayne County	67,989	79,404	84,581	89,123	93,765	93,772	25,783	37.9%	95,471	96,912	98,163	99,268
Source: Regional Population Forecasts: County, City, Town and Village Projections for the Genesee/Finger Lakes Region out to the year 2050, Genesee/Finger Lakes Regional Planning Council, 2012 and U.S. Census Bureau, 2010.												

The median household income of Wayne County ($52,562) roughly matches the statewide average ($55,603), although there is a wide variance in income disparity amongst the individual municipalities (See Table 4.3). According to the 5-Year American Community Survey 2006-2010, approximately 7.8% of families within Wayne County were living in Poverty, though again there is a wide poverty disparity amongst individual municipalities.

Table 4.3: Wayne County Median Household Income by Municipality, 1990 - 2010

Municipality	1990	2000	2010
Arcadia, Town	$28,979	$37,650	$45,736
Butler, Town	$27,264	$38,616	$44,573
Clyde, Village	$23,453	$31,699	$39,896
Galen, Town	$26,014	$36,216	$44,153
Huron, Town	$30,025	$42,153	$51,528
Lyons, Town	$28,569	$39,351	$34,503
Lyons, Village	$24,662	$35,880	$30,856
Macedon, Town	$39,239	$48,658	$55,918
Macedon, Village	$38,519	$44,904	$52,037
Marion, Town	$36,719	$49,475	$56,109
Newark, Village	$27,041	$32,232	$42,574
Ontario, Town	$41,184	$53,318	$63,871
Palmyra, Town	$31,195	$45,578	$53,617
Palmyra, Village	$26,836	$38,287	$45,989
Red Creek, Village	$26,538	$32,083	$55,682
Rose, Town	$28,233	$40,179	$53,006
Savannah, Town	$26,908	$35,474	$43,684
Sodus, Town	$28,704	$40,000	$50,204

Sodus, Village	$25,455	$41,838	$36,250
Sodus Point, Village	$32,014	$33,355	$59,583
Walworth, Town	$46,150	$64,093	$76,660
Williamson, Town	$39,298	$51,216	$53,522
Wolcott, Town	$26,263	$33,977	$38,281
Wolcott, Village	$24,657	$28,631	$27,736
County Median	$32,469	$44,157	$52,562
Source: U.S. Census Bureau, 5-YR ACS 2006-2010			

Of the 36,585 households in Wayne County, 29.5% have children under the age of 18 living with them, 53% are married couples living together, 11% have a woman with no husband present, and 30.8% are non-family households. 24.5% of all households are made up of individuals, and 25.9% have someone living alone who is 65 years of age or older. The average household size is 2.53 and the average family size is 2.99.

The racial makeup of the County is 92.9% White, 3.1% African American, 0.5% Asian, 0.3% American Indian, and 3.2% from other races or two or more races. The age distribution of the County's population is 31.3% under the age of 24, 23.8% are between 24 and 44, 30.6% are between 45 and 64, and 14.3% are 65 years of age or older. The median age in the County is 41.6 years. See Table 4.4 below.

Table 4.4: Wayne County Residents by Age Cohort, 2010

Municipality	Under 25	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75+
Arcadia, Town	4,362	1,573	1,661	2,373	1,936	1,189	1,150
Butler, Town	696	250	273	296	277	137	135
Clyde, Village	762	229	263	305	242	126	166
Galen, Town	1,489	446	519	689	555	275	317
Huron, Town	591	222	197	381	333	245	149
Lyons, Town	1,765	628	706	901	723	435	524
Lyons, Village	1,211	425	463	549	458	262	251
Macedon, Town	2,852	964	1,349	1,620	1,181	657	525
Macedon, Village	471	172	219	260	213	120	68
Marion, Town	1,517	483	683	844	615	386	218
Newark, Village	2,986	1,131	1,114	1,382	1,155	674	703
Ontario, Town	3,114	949	1,498	1,908	1,390	781	496
Palmyra, Town	2,445	836	1,078	1,338	1,127	646	505
Palmyra, Village	1,142	408	491	565	465	226	239
Red Creek, Village	212	64	71	64	66	31	24
Rose, Town	743	218	293	405	319	229	162
Savannah, Town	569	189	225	268	220	129	130
Sodus, Town	2,489	829	996	1,441	1,251	738	640
Sodus, Village	667	200	232	292	207	115	106
Sodus Point, Village	196	73	83	152	220	114	62
Walworth, Town	3,213	913	1,608	1,674	1,215	503	323
Williamson, Town	2,091	682	927	1,145	1,025	635	479
Wolcott, Town	1,418	526	598	697	589	370	255
Wolcott, Village	579	196	220	249	192	138	127
Source: U.S. Census Bureau, 2010							

Chapter 5 - Hazard Analysis

5.1: PURPOSE

NYS Office of Emergency Management's HAZNY (Hazards New York) process was used for the Existing Plan to help identify and rank hazards. This process and the ranking of each hazard was reviewed and adjusted where need be for the Plan Update.

The purpose of reviewing and updating the Hazard Analysis is the same as it was for the Existing Plan and is twofold: 1.) Identify all natural, technological and human-caused hazards that might affect Wayne County and its municipalities, and 2.) Narrow the list to those hazard types that are most likely to occur and which present the greatest potential threat.

It was important to review and update the HAZNY to determine if hazard ranks should be adjusted to reflect current conditions. The group did not start the process over from scratch but rather reviewed each rank and the HAZNY responses that created each hazard rating in order to make adjustments where necessary.

5.2: HAZNY PROGRAM BACKGROUND

The HAZNY program was developed by the American Red Cross and the New York State Emergency Management Office. 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 calculates a score for each of the potential hazards 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 use by individual jurisdictions. 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.

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, and how long will it take the community to recover from the event.

5.3: EXISTING PROCESS SUMMARIZED

2003 Wayne County Hazard Plan

The 2003 Hazard Analysis created for the Existing Plan was completed in several steps.

The first step involved a committee of state and county officials using HAZNY to assess the hazards affecting Wayne County. The second step involved two different committee meetings, where members of the Wayne 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 a full report of the HAZNY results. The committee voiced concern over the high ranking of wildfires, as they are much less of a concern than flooding. This was the only concern that arose from the planning committee meetings. 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 reviewing and discussing the HAZNY results with each municipal committee, and developing 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 to analyze the HAZNY results and determine how they related to their knowledge of their own municipality.

2005 Wayne County Water and Sewer Authority Multi-Hazard Mitigation Plan

According to the 2005 Wayne County Water and Sewer Authority Multi-Hazard Mitigation Plan:

In conjunction with the Wayne County Multi-Jurisdictional All-Hazard Mitigation Plan, a group of over 50 local officials and members of emergency services-related agencies and other local organizations worked together to support the hazard identification process. Realization of the countywide scope of some hazard impact and mitigation efforts, WCWSA chose to focus its attention, resources, and mitigation strategies on those hazards that were more directly associated with the Authority.

The process began with significant discussion and input, and the application of HAZNY as a tool to compare local data and input against the outcome of this screening tool. The Wayne County HAZNY results were reviewed in addition to an Authority-specific application of this screening tool.

The first step was the development of a preliminary list of hazards of interest. The initial screening process included consideration of the hazards included in the FEMA Mitigation Planning "How-to" Series, the twenty-five (25) hazards included in HAZNY software application and nine (9) other hazards of potential concern within the Authority service area as determined by the Planning Group.

The Authority applied the software and then the Planning Group evaluated the outcome values. This score helped the Authority to develop an initial ranking of the priority of each hazard. This plan used HAZNY as a key input to identify and profile hazards; this process included a consideration of background and local conditions, historic frequency and probability of occurrence, severity, historic losses and impacts, and designated hazard areas. It also identified the potential impact, onset, frequency, hazard duration, cascading effects and recovery time for each hazard.

5.4 UPDATE PROCESS

To start the initial Hazny update G/FLRPC met with Wayne EMO staff to discuss which hazards should be included in the Hazny and what changes to the existing Hazny ranking would be needed based on recent hazard events, past hazard events, and county priorities.

Throughout the Hazny update process, the group had access to more information to incorporate into the ranking than was available during the initial Hazny; much of the data collection and risk analysis was gathered later in the process and not available at the time of the original Hazny (i.e. detailed historic hazard events, etc.). The data from the Existing Plan along with knowledge of current conditions were both used to update the HAZNY ranking.

All hazards considered as legitimate threats were included in the initial Hazny update draft. Some hazards were omitted even before Hazny for a number of reasons which included: the Hazard was highly unlikely in this area; the

hazard was not considered a threat based on past experience, or information gathered in the Existing Plan; or the Hazard was more appropriate to be covered and included within a different hazard. Below is a list of Hazards that were excluded from the Hazny ranking and a short justification.

Natural Hazards Excluded Before HAZNY

Wild Fire

- Will be included within the Fire Hazard
- Existing Planning Committee and municipalities thought it was ranked too high in existing plan and was not a threat
- Considered low probability in this area of the country
- NYS Hazard Mitigation Plan shows no record of any past wildfire events between 1985-2010.[i]
- US Forest Service's Wild Fire Assessment System ranks Wayne County in the "Low" Danger Class both observed and forecasted[ii].
- Ranked moderately low in WCWSA Existing Hazard Plan

Extreme Temps

- Not considered a threat in existing plan by municipalities
- Ranked moderately low in existing Hazny
- Low probability in Existing Plan - no records of extreme temperature events having a major impact on the county
- Excluded from WCWSA Existing Hazard Plan Hazny

Blight

- Not a priority to municipalities in Existing Plan
- Considered low probability in Existing Plan
- Ranked low in existing Hazny
- Excluded from WCWSA Existing Hazard Plan Hazny

Hurricane

- Not excluded, rather included within Severe Storms
- Included within Severe Storms in Existing Plan as well
- On its own it ranked low in WCWSA Existing Hazard Plan

Human-Caused Hazards Excluded Before HAZNY

Explosion

- Ranked moderately low in existing Hazny
- Not considered a priority on its own by most municipalities in Existing Plan
- On its own it ranked low in WCWSA Existing Hazard Plan
- Will be considered as a cascade effect of other hazards such as HAZMAT Fixed Site and In Transit, Terrorism

Civil Unrest

- Not considered a threat by municipalities in existing plan
- Low probability of a major event in existing plan. Only one event on record with no details or major effects on record
- Ranked moderately low in existing Hazny
- Excluded from WCWSA Existing Hazard Plan Hazny

Fuel Shortage
- Ranked moderately low in existing Hazny
- Ranked low in existing WCWSA Hazard Plan
- Low probability in existing plan – only one event on record, which was the nationwide shortage in 1979
- Not considered a priority by most municipalities in Existing Plan

Structural Collapse
- Not considered a priority by most municipalities in Existing Plan
- Ranked low in existing Hazny
- Low probability in existing plan – 3 incidents in 50 years
- Will be considered as a cascade effect of other hazards such as Winter Storms
- Ranked low in WCWSA Existing Hazard Plan

Food Shortage
- Not considered a threat by municipalities in existing plan
- Ranked low in existing Hazny
- Low probability in existing plan – 1 incident on record in over 50 years
- Excluded from WCWSA Existing Hazard Plan Hazny

Oil Spill
- Will be included within Hazmat Fixed Site and Hazmat in Transit
- Ranked moderately low on its own in existing Hazny
- Not considered a priority on its own by most municipalities in Existing Plan
- Excluded from WCWSA Existing Hazard Plan Hazny

A rough draft Hazny ranking update was created from the Hazards that were considered legitimate threats to consider in order to be used as a starting point for Plan Update Committee Discussion.

5.4.1: Plan Update Committee Review and Update of HAZNY Ranks

The Plan Update Committee reviewed the draft Hazny update and discussed whether the ranking seemed right or needed to be adjusted. The committee also reviewed the Hazards that were excluded before the Hazny and agreed that they were not major threats or priorities to be profiled. The committee agreed upon most of the draft Hazny ranking, but additional discussion focused on how to address Landslide and Coastal Erosion Hazards. The decision was made to consider them together as one combined hazard because they are tied to one another.

Below is the summary of Hazny ranking:

The committee analyzed 21 hazards (11 of which were natural hazards) that could potentially affect the municipalities within Wayne County. HAZNY rated the hazards based on the updated assessment and assigned each hazard 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 5.1: Wayne County Hazny Rankings			
Natural		**Human-Caused**	
Hazard	**Rating**	**Hazard**	**Rating**
Rated High			
Severe Storms	323		
Rated Moderately High			
Ice Storm	302	HAZMAT in Transit	260
Tornado	299	HAZMAT Fixed Site	255
Winter Storm	274	Terrorism	252
Epidemic	251	Transportation Accident	252
		Utility Failure	245
Rated Moderately Low			
Flood	239	Fire	212
Earthquake	236		
Ice Jam	169		
Rated Low			
Drought	137	Water Supply Contamination	139
Landslide	117	Radiological Fixed Site	85
Infestation	110	Dam Failure	82
		Air Contamination	80

5.4.2: Municipal Review of HAZNY and Hazard Priorities

The County-wide HAZNY update was used as the basis for discussing hazard ranking at the municipal level at the two regional meetings held on November 14th 2012. After reviewing the County-wide hazard rankings municipal representatives were then given a chance to express their concerns as to whether County-wide ranks also reflected specific municipal hazard concerns. They were encouraged to consider local conditions, concerns, and priorities, to make this determination. Municipal priorities were in line with county priorities for the most part and therefore it was not necessary to change the county ranking. Some municipalities discussed the importance of coastal erosion being a priority hazard to incorporate with the landslide hazard. Municipal priorities can be viewed in the table below:

Table 5.2 Municipal Hazard Priorities																					
	Natural Hazards											Human-Caused Hazards									
	Severe Storms	Ice Storm	Tornado	Severe Winter Storm	Flood	Earthquake	Landslide	Coastal Erosion	Epidemic	Drought	Infestation	Hazmat (In Transit)	Hazmat (Fixed Site)	Terrorism	Transportation Accident	Utility Failure	Fire	Water Supply Contamination	Radiological (Fixed Site)	Air Contamination	Dam Failure
Arcadia, Town	X	X		X	X							X	X		X	X	X				
Butler, Town	X	X		X						X						X					
Clyde, Village	X	X		X	X							X	X		X		X				
Galen, Town	X	X		X	X							X	X		X		X				
Huron, Town	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X			
Lyons, Town	X	X		X	X							X	X		X		X				
Lyons, Village	X	X		X	X		X					X	X	X	X		X	X		X	
Macedon, Village	X	X		X	X							X			X	X	X	X			
Macedon, Town	X	X		X	X										X	X					
Marion, Town	X	X		X	X							X	X			X	X		X		
Newark, Village	X	X		X	X					X		X	X		X	X	X	X		X	
Ontario, Town	X	X		X			X	X				X	X	X	X	X		X	X		
Palmyra, Town	X	X		X	X							X	X		X	X	X				
Palmyra, Village	X	X		X	X							X	X		X	X	X	X			
Red Creek, Village	X	X		X	X							X	X	X	X	X	X	X			
Rose, Town	X	X		X						X		X	X		X	X	X	X			
Savannah, Town	X	X	X	X	X					X	X	X			X	X		X			
Sodus Point, Village	X	X		X	X		X	X					X			X *					
Sodus, Town	X	X		X	X		X	X				X	X								
Sodus, Village	X	X		X	X			X				X	X								
Walworth, Town	X	X		X	X									X	X		X		X		
Williamson, Town	X	X		X	X			X				X	X	X	X		X	X	X	X	
Wolcott, Town	X	X		X				X		X						X					
Wolcott, Village	X	X		X	X							X	X	X	X	X	X	X			
Hazards Not Recognized as a High Threat by municipalities: Tornado, Epidemic, Earthquake, Drought, Infestation																					
*Sanitary sewer failure due to high lake level																					

5.5 HAZARD ANALYSIS REPORT UPDATE RESULTS

Hazard(s) rated as high: SEVERE STORMS

SEVERE STORMS: 323, High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Regular Event
Onset: No Warning
Hazard Duration: Two to Three Days
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

Hazard(s) rated as moderately high: ICE STORM, TORNADO, WINTER STORM (SEVERE), HAZMAT (IN TRANSIT), HAZMAT (FIXED SITE), TERRORISM, TRANS ACCIDENT, EPIDEMIC, UTILITY FAILURE

ICE STORM: 302, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Regular Event
Onset: Several Hours Warning
Hazard Duration: Two to Three Days
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

TORNADO: 299, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Regular Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: One to 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

WINTER STORM (SEVERE): 274, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Frequent Event

Onset: Several Days Warning
Hazard Duration: Four days to One Week
Recovery Time: One to 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

HAZMAT (IN TRANSIT): 260, Moderately High Hazard

Potential Impact: Single Location
Cascade Effects: Some Potential
Frequency: A Frequent Event
Onset: No Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Days
Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

HAZMAT (FIXED SITE): 255, Moderately High Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
Frequency: A Frequent Event
Onset: No Warning
Hazard Duration: Two to Three Days
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

TERRORISM: 252, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Rare Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: More Than Two Weeks
Impact:

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

TRANS ACCIDENT: 252, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely

Frequency: A Rare Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: More Than Two Weeks
Impact:

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

EPIDEMIC: 251, Moderately High Hazard

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

- Serious Injury or Death to Extremely Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

UTILITY FAILURE: 245, Moderately High Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Some Potential
Frequency: A Regular Event
Onset: No Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Days
Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as moderately low: FLOOD, EARTHQUAKE, FIRE, ICE JAM

FLOOD: 239, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
Frequency: A Regular Event
Onset: Several Days Warning
Hazard Duration: Two to Three Days
Recovery Time: More Than Two Weeks
Impact:

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

EARTHQUAKE: 236, Moderately Low Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: A Rare Event
Onset: No Warning
Hazard Duration: Less Than One Day
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

FIRE: 212, Moderately Low Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Likely
Frequency: An Infrequent Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE JAM: 169, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Unlikely
Frequency: A Regular Event
Onset: One Day Warning
Hazard Duration: Two to Three Days
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: WATER SUPPLY CONTAMINATION, DROUGHT, LANDSLIDE, INFESTATION, RADIOLOGICAL (FIXED SITE), DAM FAILURE, AIR CONTAMINATION

WATER SUPPLY CONTAMINATION: 139, Low Hazard

Potential Impact: Throughout a Small Region
Cascade Effects: Highly Unlikely
Frequency: A Rare Event
Onset: No Warning
Hazard Duration: Two to Three Days
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

DROUGHT: 137, Low Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Unlikely
Frequency: An Infrequent Event
Onset: More Than One Week Warning
Hazard Duration: More Than One Week
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSLIDE: 117, Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Unlikely
Frequency: A Rare Event
Onset: No Warning
Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

INFESTATION: 110, Low Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Unlikely
Frequency: An Infrequent Event
Onset: More Than One Week Warning
Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day
Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

RADIOLOGICAL (FIXED SITE): 85, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
Frequency: A Rare Event
Onset: Several Days Warning
Hazard Duration: Less Than One Day
Recovery Time: More Than Two Weeks

Impact:
- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

DAM FAILURE: 82, Low Hazard

Potential Impact: Single Location
Cascade Effects: Some Potential
Frequency: A Rare Event
Onset: More Than One Week Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Days
Impact:
- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

AIR CONTAMINATION: 80, Low Hazard

Potential Impact: Throughout a Large Region
Cascade Effects: Highly Unlikely
Frequency: A Rare Event
Onset: More Than One Week Warning
Hazard Duration: One Day
Recovery Time: Less Than One Day
Impact:
- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

5.6 HAZARDS OF CONCERN

Based upon the above analysis and Committee discussion the Plan Update will focus on the "Hazards of Concern". Many of these were considered Hazards of Concern based on their Hazny rank, but some lower ranking hazards were considered Hazards of Concern based on their high probability, dangerous effects, or because they were of specific concern to the committee and municipalities. All Hazards rated high and moderately high were considered Hazards of Concern as well as some rated moderately low, and low. All Hazards of Concern are considered priorities and no longer ranked. Ranking was used to help determine which should be included as Hazards of Concern.

Natural
- Severe Storm – also a Hazard of Concern in WCWSA Plan
- Ice Storm – also a Hazard of Concern in WCWSA Plan
- Tornado
- Winter Storm – also a Hazard of Concern in WCWSA Plan
- Flood – also a Hazard of Concern in WCWSA Plan; rated moderately low, but is a county priority and a priority for most municipalities; 23/24 municipalities having Fema flood zones
- Earthquake – rated moderately low, but included as a Hazard of Concern because of the dangerous effects it could have

- Coastal Erosion and Landslides – Landslide ranked low in Hazny. The committee and municipalities agreed that Coastal Erosion was actually a bigger Hazard of Concern and that Landslides could be included within the Coastal Erosion Hazard; a new Coastal Erosion and Landslides hazard was created
- Epidemic

Human-Caused

- HAZMAT in Transit
- HAZMAT Fixed Site
- Terrorism – also a Hazard of Concern in WCWSA Plan
- Transportation Accident
- Utility Failure
- Fire – also a Hazard of Concern in WCWSA Plan; rated moderately low, but included as a Hazard of Concern because of its frequency and the dangerous effects it could have
- Water Supply Contamination – rated low in Hazny, but is a Hazard of Concern in the WCWSA Hazard Plan and a priority of WCWSA and a large number of municipalities
- Radiological – rated low, but included as a Hazard of Concern because of the dangerous effects it could have

Hazards Excluded after Hazny

Natural Hazards Excluded

- Ice Jam - will be included within the Flood Hazard; considered Moderately Low hazard on its own in existing Hazny and Hazny update; low probability in Existing Plan - no records of ice jam events
- Drought – rated Low in Hazny update and WCWSA Existing Hazard Plan Hazny; low probability - only 3 recorded incidents in existing plan
- Infestation – rated low in existing Hazny and update; not considered a threat in existing plan by municipalities

Human-Caused Hazards Excluded

- Dam Failure – rated Low in Hazny update and moderately low in existing Hazny; not a priority Hazard for any municipality; one cause and the number one effect is flooding which is a Hazard of Concern; low probability in Existing Plan – 2 events on record
- Air contamination - rated Low in existing Hazny and update; not a priority Hazard for most municipalities; air contamination is covered to some extent under three Hazards of Concern – Hazmat in Transit, Hazmat Fixed, and Radiological

Chapter 6 - Past Hazard Events and Profiles

6.1 METHODOLOGY

This chapter provides a series of profiles for each of the hazards considered *Hazards of Concern* in Chapter 5. Information from profiles in the Existing Plan were used and updated where needed. The events from the Existing Plan were included in the update to give a full history of events and to accurately portray hazard probability over a longer period of time. Information and maps from the NYS Hazard Mitigation Plan were also included.

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, *Human-Caused Hazard Profiles*.

Each individual hazard is assigned its own Section. Each section is then broken down into six subsections, which are:

- Definition
- History - past incidences of that hazard (both those included in the Existing Plan and updated recent events between 2005-2012)
- Impacts - a brief description of the actual and/or potential impacts of that hazard
- Damage - an updated review of recorded damages including, where available, estimated costs of those damages
- Probability - an updated probability of future occurrences based on the number of past events
- Research - the sources of the data included in the profile

The following natural hazards are profiled in Part I: Severe Storm, Ice Storm, Tornado, Winter Storm, Flood Earthquake Coastal Erosion & Landslide and Epidemic.

The following hazards are profiled in Part II: Hazmat (in Transit), Hazmat (Fixed Site), Terrorism, Transportation Accident, Utility Failure, Fire, Water Supply Contamination and Radiological

Much of the historic information in this chapter was included in the Existing Plan and was originally collected from the *New York State Standard Multi-Hazard Mitigation Plan*, Wayne County and municipal officials, the Wayne 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" of each section.

CRITERIA FOR FUTURE PROBIBILITY

The existing plan determined probability based on a total number of events, but because different hazards have different numbers of years with information available, probability for the Plan Update will be based on a percentage probability per year based entirely on past events. This percentage was calculated by dividing the number of recorded past incidents by the number of years for which good records are available.

High Probability – A percentage ranging from 51 to 100 and above.

Moderate Probability – A percentage ranging from 11 to 50.

Low Probability – A percentage ranging from 0 to 10.

PART I: NATURAL HAZARD PROFILES

6.2 SEVERE STORMS

Definition: Severe storms include such weather events as hail storms, windstorms, and severe thunderstorms (with associated severe wind events). A severe thunderstorm is one which produces tornados, 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.

Hurricanes were not considered a hazard on their own, but they were not excluded from this analysis. Instead they were considered part of Severe Storms because remnants of a hurricane, in the form of a severe storm are more likely to be a threat to the county. Hurricane effects could also be associated with flooding, utility failure, transportation accident, or Hazmat in Transit all of which are *Hazards of Concern* and covered under their own sections.

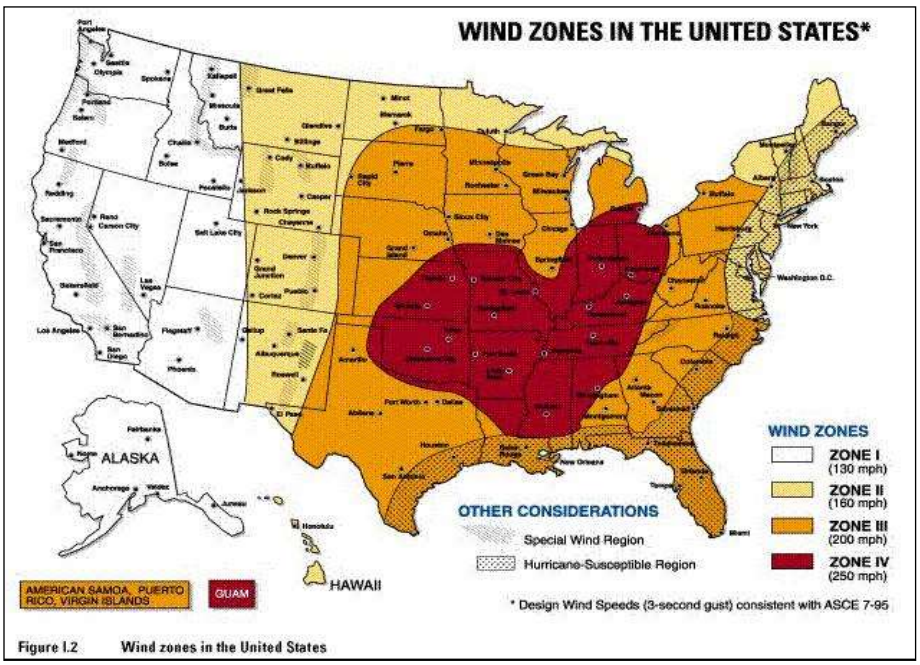


Figure I.2 Wind zones in the United States

Wayne County is not within the Hurricane Susceptible Region of New York, nor a Special Wind Region.

High winds are often associated with severe storms. The map above illustrates Wind Zones in the United States. FEMA considers Wayne County to be located in U.S. Wind Zone III which covers most of the western half of New York State and is considered to have wind potential of up to 200 mile per hour[iii]. See section 6.5 for Tornado information.

History: 54 severe storms have been recorded in Wayne County since the Existing Plan between 2005-2012 bringing the total number of severe storms to 137 between 1955-2012. See Appendix Ch-6 Hazard Events. Severe Storms include hail storms, windstorms, and severe thunderstorms. These storms have occurred multiple times each year throughout the county. These storms may cascade into problems including utility failure, transportation accidents, structural damage, fire, and flooding.

Notable severe storms:

9/9/2004 – The remnants of Hurricane Frances passed through the County. See Appendix Ch-6 Hazard Events.

10/29/12 – The remnants of Hurricane Sandy passed through the county. Strong winds and heavy rains knocked down trees and power lines leaving many customers without power. See Appendix Ch-6 Hazard Events.

Impacts: Severe storms have caused downed power lines, telephone lines, and trees, power outages as well as damage to automobiles, windows, homes, and buildings.

Damage: Reported damage totaled approximately $33,975,500, although costs have not been provided for all storms. 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.

Wind damage on its own has been estimated to have cost $14,606,026 between 1960-2012 according the NYS Hazard Mitigation Plan[iv].

Future Probability: High
137 events / 57 years = 240.4%

Research: Severe storm data was obtained from the National Oceanic and Atmospheric Association (NOAA) beginning in 1955 as well as the NYS Hazard Mitigation Plan (2011 version and 2014 Draft). The first severe storm incident recorded in NOAA's database and included in this report was June 7, 1955.

6.3 ICE STORM

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

History: There have been four ice storms in Wayne County from 1955 to 2012. See Appendix Ch-6 Hazard Events. No ice storms have been recorded since the Existing Plan was written. These storms typically occur in January 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.

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

Damage: Reported damage totaled approximately $35,450,000, although costs have not been provided for all storms. 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.

Future Probability: Low
4 events / 57 years = 7%

Research: Ice storm data was obtained from the National Oceanic and Atmospheric Association (NOAA) beginning in 1955. No other incidents were found in reviewing Finger Lakes Times archives, Newark Courier Gazette archives, the files at the Wayne County Historian's Office, or mentioned in county agency interviews. Ice storms are sure to have occurred prior to 1991, but were not found in historic research. The first ice storm incident found and included in this report was from March 1991.

6.4 TORNADO

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 or winds rotating about a hollow cavity of funnel. Winds have been estimated to be as high as 400 miles per hour.

FEMA considers Wayne County to be located in U.S. Wind Zone III which covers most of the western half of New York State and is considered to have wind potential of up to 200 mile per hour[v]. 200 mile per hour winds when translated into the Fujita Scale is at the top of the F4 ranging meaning that it could be possible for Wayne County to experience an F1, F2, F3, or F4 tornado, with smaller magnitudes being more likely.

Table 6.1 Fujita Scale Compared to Enhanced Fujita (EF) Scale for Tornadoes

Fujita Scale	Fujita Scale: 3-Second Gust (mph)	EF Scale	EF Scale: 3-Second Gust (mph)
F0	45-78	EF0	65-85
F1	79-117	EF1	86-110
F2	118-161	EF2	111-135
F3	162-209	EF3	136-165
F4	210-261	EF4	166-200
F5	262-317	EF5	Over 200

Source: Table 3.11a, 2014 New York State Hazard Mitigation Plan Draft, NYS Office of Emergency Management, http://www.dhses.ny.gov/oem/mitigation/hm-plan-2013.cfm

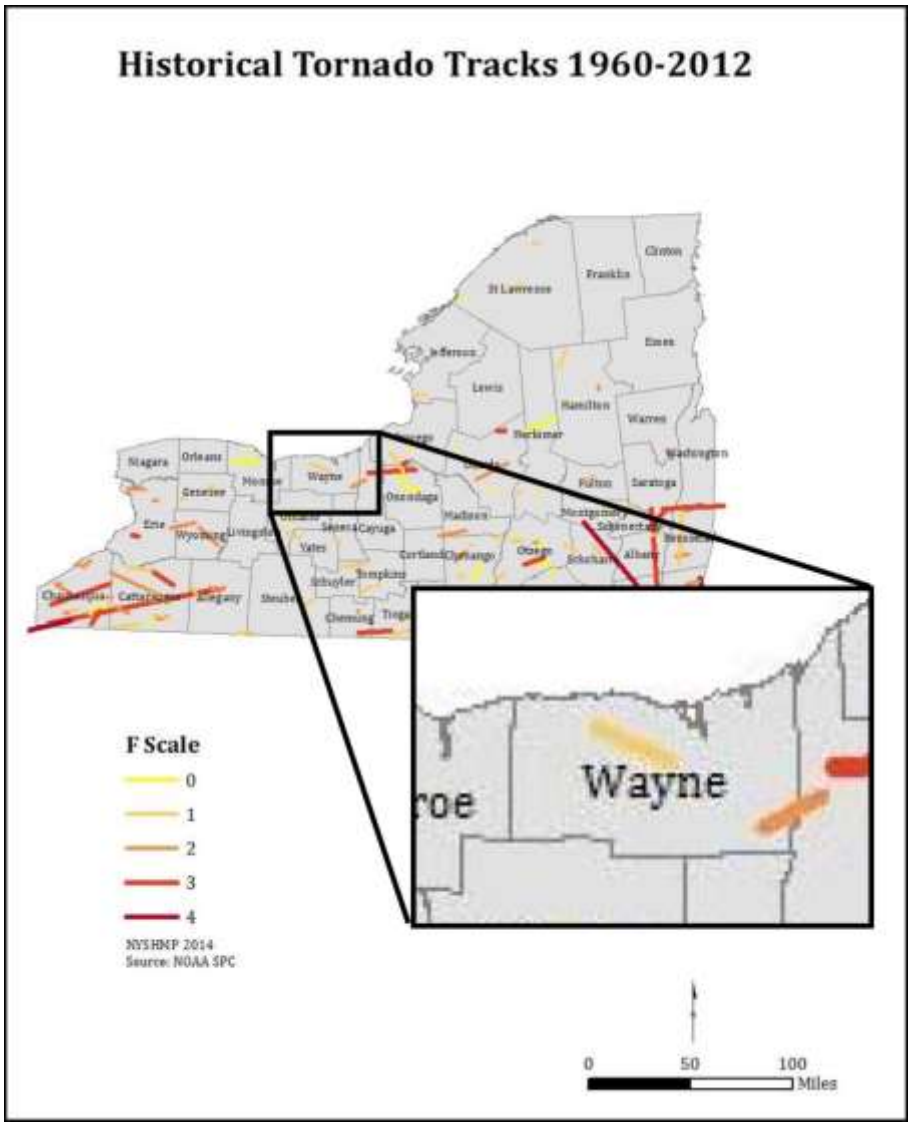
History: One tornado has occurred since the Existing Plan which bringing the total number of tornados in Wayne County between 1955-2012 to 3. See Appendix Ch-6 Hazard Events. The most recent tornado was F2 magnitude while the two before that were both F1. Tornadoes do have the potential to cause major problems in the county, but they are rare events. No presidential disaster declarations have been made for tornados in Wayne County, and deaths were ever recorded according to NYS Hazard Mitigation Plan.

Most municipalities did not consider tornados to be a major threat.

See Wind Zones in the United States the *Severe Storm* hazard profile for additional information.

The map below indicates that most of the tornadoes that have struck the State are either F0 (wind speeds of between 40 and 72 miles per hour) or F1 (wind speeds of between 73 and 112 miles per hour), although some tornadoes have an unknown ranking.

Two known tornado tracks in Wayne County are shown on the map below between 1960 and 2012[vi]. One additional tornado is on record however it had two brief touchdowns and the short path was not mapped.



Impacts: Tornados caused power outages, downed trees, limbs, wires, and poles, as well as damage to homes, cars, and buildings.

Damage: Reported damage totaled approximately $2,800,000. 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.

Future Probability: Low
3 events / 57 years = 5.5%

Research: Tornado data was obtained from the National Oceanic and Atmospheric Association (NOAA) beginning in 1955, as well as the NYS Hazard Mitigation Plan (2011 version and 2014 Draft).

6.5 WINTER STORM

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. For this analysis, heavy snow is defined as six inches in 12 hours or less.

History: 37 incidents of severe winter storms have been reported since the existing plan bring the total number to 90 on record between 1955-2012. See Appendix Ch-6 Hazard Events. These storms occur frequently in the winter months from November to April. These storms may cascade into problems including transportation accidents, utility failure, extreme temperatures, and structural damage. These storms have deposited large amounts of snow county-wide and are generally lake effect systems.

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

Damage: Reported damage totaled approximately $71,256,000. Costs not provided for all storms. 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.

Future Probability: High
90 events / 57 years = 158%

Research: Severe winter storm data was obtained from the National Oceanic and Atmospheric Association (NOAA) beginning in 1955. The first winter storm incident recorded in NOAA's database and included in this report was January 25, 1993. Severe winter storms are sure to have occurred prior to 1993, but were not recorded as such in NOAA's database.

6.6 FLOOD

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 a heavy rain and/or rapid snowmelt.

History:
There have been 7 flood events reported since the Existing Plan. According to the NYS Hazard Mitigation plan there have been 40 Flood events between 1960-2012. Two events were presidentially declared disasters (6/23/72, 3/21/73, 10/1/04).[vii] See Appendix Ch-6 Hazard Events.

In addition to these events, other minor seasonal flooding that occurs every year. Floods generally occur in the spring, late summer or early fall and are mostly the result of large amounts of precipitation due to a storm event. Floods may cascade into problems involving transportation accidents, water contamination, utility failure, dam failure, landslide, and structural damage. Floods can occur county-wide, but they generally occur within the 100 year flood zones. Flood records can be seen in Appendix Ch-6 Hazard Events.

Flood hazard areas in Wayne County are depicted in Map 12 – Wayne County 100-Year Flood Zones. The maps indicate that the main flooding problems in the county are concentrated in areas along certain streams and other low-lying grounds as well. The largest areas of potential flooding are in the southwestern corner of the county, primarily the towns of Savannah and Galen.

The maps in this report that depict the county's flood hazard zones are based on the FEMA Flood Insurance Rate Maps and commentary from local officials. The report's maps were created by using the 100 year flood zones depicted on the FIRMs as the initial hazard extent.

There is no history of flood events occurring as a result of a change in lake levels. Minor fluctuations in lake levels occur every year, but these changes are not significant enough to cause flooding. Most of the county's shoreline is lined by bluffs, which have effectively prevented flooding from the lake. This may not remain the case in the future. The International Joint Commission is currently determining whether or not to implement a proposal to allow natural fluxuation in Lake Ontario water levels, as opposed to the current system where levels are regulated. Increased lake level fluxuation could have a major impact on the shoreline and properties in terms of flooding and erosion. Climate Change could also have effects on the shoreline and frequency of hazard events. Action recommendations related to these two topics are include in Chapter 8.

No ice jams on record in the county according to the state plan between 1875-2011, and according to the National Oceanic and Atmospheric Association (NOAA) between 1955-2012.

Impacts: Floods have generally caused power outages, potable water shortages, and closings of schools and businesses, as well as damage to property, particularly to private residencies. Floods have also caused extensive crop damage.

Damage: Reported damage totaled approximately $10,160,000, although costs have not been provided for all floods. 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.

Future Probability: High
40 Events / 52 years = 77%

In addition, according to NYSDEC, Wayne County has one "deficient" dams. The Red Creek Dam, in the Village of Red Creek is considered deficient because of issues with seepage, maintenance, structural, no dam stability analysis, and no spillway capacity analysis[viii].

Two incidents of dam failure have occurred at the Red Creek Dam, occurring in 1960 and 2004. Both incidents caused flooding. Dam failure may cascade into flooding, landslide and water supply contamination.

According to the NYS DEC *Inventory of Dams* Google Earth Layer, the Red Creek Dam, and Lock 29 Dam Barge Canal in Palmyra are considered Hazard Class C - "High Hazard" defined below.[ix]

> Class "C" or "High Hazard" dam: A dam failure may result in widespread or serious damage to home(s); damage to main highways, industrial or commercial buildings, railroads, and/or important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; or substantial environmental damage; such that the loss of human life or widespread substantial economic loss is likely.[x]

Three dams fall into the Class B – Intermediate Hazard Category (defined below). These include Dam at Lock E26 in Galen, Dam at Lock E27 in the Village of Lyons and Leeward Lake Dam in Walworth.

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

Research: Flood data was obtained from the National Oceanic and Atmospheric Association (NOAA) between 1955-2012. No other incidents were found in reviewing Finger Lakes Times archives, Newark Courier Gazette archives, the files at the Wayne County Historian's Office, or mentioned in county agency interviews. Flooding events are likely to have occurred prior to 1993, but these instances were not found in the historic record and were not addressed by County and municipal officials. The first flood incident recorded in NOAA's database and included in this report occurred on April 10, 1993.

For more information pertaining to flooding Map 12 – Wayne County 100-Year Flood Zones and Section 7.7 National Flood Insurance Program.

6.7 EARTHQUAKE

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).

Impacts: Earthquakes have the potential to cause structural damage to buildings such as collapsed chimneys, cracked plaster, bulged walls, broken windows, and can also cause damage to the contents of buildings. Larger Earthquakes, which are very uncommon in the area, could do more damage and completely destroy buildings, transportation infrastructure, and could cascade into fires and utility failure but there is no historical precedent in Wayne County for this type of earthquake causing severe property damage and/or injury/loss of life from earthquakes.

According to the Multidisciplinary Center for Earthquake Engineering Research (MCEER):

> The severity of an earthquake is determined by a recording of the magnitude and an assessment of the intensity. The Modified Mercalli Scale expresses intensity by Roman numerals I–XII and is based on the relative amount of resultant physical damage. Field data is gathered from individuals within the area of a recent quake; the effects of the tremor on man, structures and the earth's surface are reported. An earthquake of intensity I on the Modified Mercalli Scale would most likely go unnoticed; a tremor of about intensity VI would probably be felt by everyone and cause slight damage; whereas, a quake of intensity XII would result in almost total destruction of buildings, objects thrown into the air and waves seen on the earth's surface.
>
> The magnitude of an earthquake is reported on the Richter Scale and is a measurement of the amount of energy released at the source of a quake. This data is gathered on seismographic recordings from a worldwide network of seismological stations. A minor earthquake registering a magnitude 2 on the Richter Scale is about the weakest felt by humans. Quakes of a magnitude 7 or more are classified as major. Some of the largest in the world have been measured at 8.8 or 8.9 on the Richter Scale.[xii]

Table 6.2 Earthquake Magnitude and Intensity Comparison
Source: 2011 *NYS Hazard Mitigation Plan*, Table 3-52

Magnitude and Intensity Comparison	
Richter Magnitude Scale	**Typical Maximum Modified Mercalli Intensity**
1.0 to 3.0	I
3.0 to 3.9	II to III
4.0 to 4.9	IV to V
5.0 to 5.9	VI to VII
6.0 to 6.9	VII to IX
7.0 and Higher	VIII or Higher

Defined Modified Mercalli Intensity Scale Rating	
I	Not Felt except by a very few under especially favorable conditions
II	Felt only by a few persons at rest, especially on upper floors of buildings
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration Estimated
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors, disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed.
	Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Damage Estimation:
Not reported

History: Earthquake history has been determined based on data gathered from the Multidisciplinary Center for Earthquake Engineering Research (MCEER), and the 2011 NYS Hazard Mitigation Plan and 2013 Update.

According to the NYS Hazard Mitigation Plan, no earthquakes have occurred in Wayne County between 1973-2012, and there have been no presidential declarations. From 1950 to 2005, only one such declaration was made for the entire state; this was the 2002 earthquake affecting the northeast corner of the state.

While no earthquakes are on record as being centered in Wayne County, there is still potential for damage to be done from a large earthquake occurring in a nearby county, in Lake Ontario or in southern Ontario, Canada. Some nearby NY counties have had history of earthquake events; Livingston-6, Erie-6, Niagara-4, Wyoming-7.[xiii] According to USGS and municipal records a few notable earthquakes have occurred recently near Wayne County:

- 10/31/05 - Magnitude 2.6 - centered north of the Town of Ontario within Lake Ontario
- 4/11/2007 - Magnitude 2.6 - centered north of Wolcott within Lake Ontario
- 6/23/2010 – Magnitude 5.2 - centered in Quebec - damage reported in Galen - masonry structure damage, and cracked walls in a house

Future Probability: Low
0 significant events / 39 years = ~~0%~~ (Just because no significant earthquakes are on record does not mean the probability is 0)
3 events on record (very close by or causing damage) / 39 years = 7.7%

Based on the past records, earthquakes have a very low probability of occurrence; however, earthquakes have the potential to cause widespread physical damage to structures and the population in the County. Therefore, they are still considered a Hazard of Concern.

6.8 COASTAL EROSION AND LANDSLIDE

Coastal Erosion and Landslide hazards were grouped together for this analysis, but details specific to each are still include where possible. Both hazards relate to one another and generally affect the same area of the county along the Lake Ontario Coast. Landslide on its own was not considered a Hazard of Concern but Coastal Erosion was. Instead of excluding landslide all together, it was added to the Coastal Erosion Hazard.

Definition:

Coastal Erosion - a process where storms, wind, flooding; strong waves, sea level rise, and human activities, wear away beaches and bluffs along the U.S. ocean and Great Lakes coastlines.[xiv]

According to the NYS Hazard Plan, "Storm-induced shore erosion is also a major problem along the Great Lakes shorelines. Caused primarily by storm-induced wave action, and associated long shore currents, the problem becomes critical when high lake levels have submerged the beaches which protect adjoining upland areas that are highly erosion-prone."[xv] The 6 municipalities on the shore of Lake Ontario are considered to be at risk of erosion and included within DEC's Coastal Erosion Hazard Area (CEHA) program. These include the Town of Huron, Town of Ontario, Town of Sodus, Town of Williamson, Town of Wolcott, and Village of Sodus Point.

Landslide - 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 rock falls, rockslides, creep, block glides, debris slides, earth flow, mud flow, slump, and other similar terms.

History:

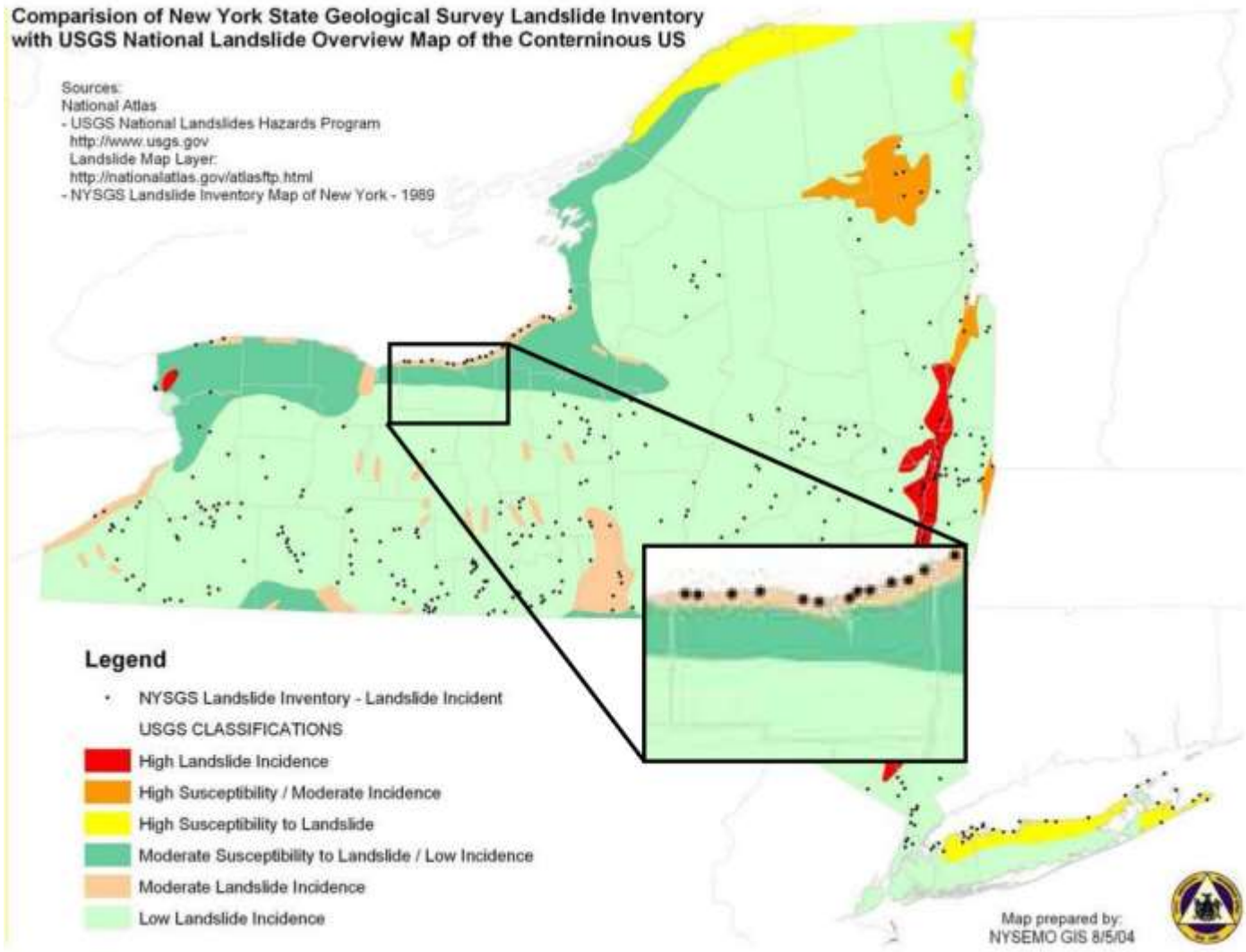
Coastal Erosion:
Some information was obtained from municipalities and county agencies and is stated below:

- Town of Williamson – erosion of shoreline in B. Forman County Park. Continued erosion could impact the roadway
- According to municipal officials, there is an annual creep of land in the Town of Sodus and the Village of Sodus Point. Over the past sixty years about one foot of land has been lost every year, for a total of about sixty feet. This ongoing erosion has been occurring at least since the beginning of settlement in the area, and probably long before then as well.

Additional areas within the County have been threatened by erosion:

- Town of Macedon - Erosion from Ganargua Creek is threatening the north side of Creek Rd in three locations between Alderman Road and NYS Route 31. The direction of flow is primarily towards the roadway embankment. These locations are likely areas of roadway embankment failure in the event of a storm producing substantial rainfall amounts, and can also be complicated by any tree debris on Ganargua Creek. A location close by failed during a storm event, and has been since rectified by installation of a retaining wall along the creek.
- Town of Walworth - embankment erosion - WCWSA water tank on Atlantic Ave east of Canandaigua Rd is threatened by erosion. Tank is near the embankment that extends down to the road. The embankment was stabilized once before because of erosion and sliding of the embankment but more stabilization is likely needed. If the slope were to fail, the water supply tank would likely be effected.
- Town of Galen – erosion threats to infrastructure a few years ago – two areas of Old Rt. 31 - flash flooding / erosion undermined a gas pipeline a few years ago, and flash flooding / erosion overtopped the roadway and caused septic system failure (on multiple occasions)

Landslide:
According to the NYS Hazard Mitigation Plan twelve previous landslides are on record in the county between 1837-2007 all occurring along the lake (see the map below[xvi]). However, this plan does not include detailed historical information on any of these events and research into previous landslides did not uncover any information about these past landslide incidents. The bluffs of Lake Ontario in the Town of Sodus and the Village of Sodus Point have been identified as areas of higher risk based on past events.



Impacts:
The major impacts of both Coastal Erosion and Landslides are property damage including structural collapse, injuries, fatalities, water contamination, and reduction of useable land. The Hazards may create the need for erosion control and stabilization structures.

Damage: Not Reported. The cost of one mitigation project above (shoreline stabilization in B. Forman County Park) has been estimated as roughly $500,000.

Future Probability: (Coastal Erosion – High, Landslide - Low)

Coastal Erosion – High
Coastal Erosion is an ongoing process, not an event to point to, therefore probability based on past events is not possible. Probability was considered High because it is present each year and will continue to be present.

Areas of high erosion are along the lakeside bluffs, and all municipalities along the lakefront are therefore potentially threatened. In addition to Sodus and Sodus Point, the drumlins along the shoreline in the towns of Huron and Wolcott are at risk.

The probability for Coastal Erosion could increase in the future due to climate change which could bring more serve storms. There is also a possibility of increase coastal erosion if the IJC lake level management plan proposal to allow greater fluctuation in lake levels is approved. Additional studies and research need to be done regarding this possibility and its effects. See Appendix 8.1 for more information regarding a mitigation action created to determine the potential effects of the IJC proposal, and issues the proposal overlooked. A detailed study such as this was outside the scope and budget of this project which is why a follow-up study and research is recommended.

Landslide - Low
12 incidents / 120 years = 10%
Most of the County has a very low probability of landslide. All twelve recorded incidents occurred at the Lake Ontario shoreline.

Research: Basic information on coastal erosion and landslides was obtained from recent and past meetings with municipal officials and county agency interviews, the Finger Lakes Times archives, the Newark Courier Gazette archives, the files at the Wayne County Historian's Office, and from the NYS Hazard Mitigation Plan.

Very little information is available regarding coastal erosion issues along the lakeshore. According to the New York State Geological Survey, no up to date research exists that provides a good assessment of this issue. Future research on lakeshore erosion and landslides is needed before a proper assessment of this issue can be undertaken.

With increased risk from severe weather events such as coastal storm events and flooding along the shoreline because of climate change and proposed lake-level management plan changes, there is a critical need to develop a coastal resilience plan. In addition to high water storm events, there is also public health and economic risks from periods of low water, including blue-green algae outbreaks, beach closings and channel access (for boaters seeking safe passage into harbors).

6.9 EPIDEMIC

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

History: Since 2005 one epidemic has occurred in Wayne County: H1N1, also known as "Swine Flu". Before this, there had been four incidents of epidemic in Wayne County from 1990 to 2005. All of these incidents are considered outbreaks and are not of an epidemic scale. All of the municipalities agreed that epidemic was not a major threat. See Appendix Ch-6 Hazard Events.

H1N1 Details
From April 2009 to March 2010 an H1N1 Epidemic declaration was in effect nationwide and was one of the biggest epidemics to occur in Wayne County. In October of 2009 an H1N1 State of Emergency was declared by the NYS Governor. Up until early 2010 supply of vaccinations were limited, and were only given to priority groups including emergency services workers, and high risk groups such as elderly, the sick and children. In early 2010 an adequate

supply of vaccines became available. In Wayne County, over 10,000 vaccinations were provided and one death (juvenile) was attributed to the epidemic.
Impacts: Epidemics in general cause strain on medical facilities and staff, and have huge expenditures for screening and immunizations.

H1N1 was an influenza-like illness. Most of those infected experienced mild illness did not require medical care or treatment, but more extreme cases also occurred. Symptoms included difficulty breathing, chest pain, blue/grey skin color, poor fluid intake, severe persisting vomiting, difficulty waking, extreme irritability, confusion, sudden dizziness, flu symptoms improving then worsening, coughing, and fever.[xvii]

Damage: Costs related to screening and immunizations. Cost estimates not available.

Future Probability: Moderate
5 Events / 22 years = 22.7%

Research: Epidemic data was obtained from the Wayne County Department of Public Health, the New York State Department of Health, and the Center for Disease Control and Prevention. The first epidemic incident found and included in this report was from 1990.

Wayne County Health Department has a number of emergency plans that can help to reduce vulnerability to Epidemic, and help be as prepared as possible. These include the following (see section 7.4.A for descriptions).

- Wayne County PH Health Emergency Operations Plan
- Wayne County PH Health MCM Plan
- Wayne County PH Health Pandemic Flu Plan
- Wayne County PH Health I&Q Plan
- Wayne County Zoonoses Plan
- Wayne County Risk Communication/PIO Plan
- Wayne County Smallpox Plan

PART II: HUMAN-CAUSED HAZARD PROFILES

6.10 HAZMAT IN TRANSIT

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.

History: Between 2005-2012 there have been 143 HAZMAT in Transit incidents (see Appendix Ch-6 Hazard Events), which brings the total number of incidents on record to 215 since 1950. HAZMAT in transit accidents occur multiple times each year and can involve trains, commercial trucks, and automobiles. The most common elements spilled include diesel fuel, gasoline, hydraulic oil, fertilizers, and other petroleum products. These spills may cascade into problems including water contamination, air contamination, soil contamination, fire, explosion and transportation accidents.

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

Damage: Costs not provided.

Future Probability: High
215 Events / 62 years = 347%

Research: Hazmat in transit data was obtained from the Department of Environmental Conservation (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 one gallon of hazardous material or a spill of more than 10 gallons of gasoline were included. Hazmat in transit data was also obtained from the Newark Courier-Gazette archives beginning in 1950. The first hazmat in transit incident found was on November 23, 1965. Additional records were obtained through E911 records.

6.11 HAZMAT FIXED SITE

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.

History: Between 2005-2012 there have been 464 Hazmat Fixed Site incidents in Wayne County (see Appendix Ch-6 Hazard Events) which brings the total number of incidents on record to 722 since 1950. HAZMAT Fixed Site spills occur multiple times each year (20 times per year on average). The most common elements spilled include diesel fuel, gasoline, various petroleum products, and Freon. These spills may cascade into problems including water contamination, air contamination, soil contamination, explosion, utility failure and fire. These incidents have occurred county-wide, but many are related to the Robert E. Ginna Nuclear Power Plant and Rochester Gas & Electric facilities. These spills may cascade into problems including water contamination, air contamination, soil contamination, utility failure, and fire.

Impacts: Hazmat Fixed Site often caused soil, water, and air contamination.

Damage: Costs not provided.

Future Probability: High
722 Events / 62 years = 1165%

Research: Hazmat fixed site data was obtained from the Department of Environmental Conservation (DEC) Spills Database beginning in 1978. The incidents recorded are those that were reported to the DEC. Data for fixed site hazmat incidents was also obtained from the Newark Courier-Gazette archives beginning in 1950. The first hazmat fixed site incident included in this report was March 8, 1978. Additional records were obtained through E911 records.

6.12 TERRORISM

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

History: There have not been any new terrorism events since the existing plan. There have been four terrorism-related incidents total in Wayne County from 1950 to 2012. Three of these incidents were related to the terrorist attacks of September 11th in New York, NY. Terrorism in Wayne County has not involved, but could involve or cascade into problems involving civil unrest; air, water and soil contamination; explosion; radiological threat; utility failure. The few incidents that have happened have occurred county-wide.

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

Damage: Reported damage totaled approximately $49,192, although costs have not been provided for all incidents. 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.

Future Probability: Low
4 Events / 62 Years = 6.4%

Research: Terrorism data was obtained from a variety of sources including: municipal meetings, the Wayne County Sheriff's Department, the USDA Farm Service Agency, and the Wayne County Emergency Management Office. Terrorism incidents were also researched through the Newark Courier-Gazette beginning in 1950. While reports of vandalism and other subversive behaviors were found in the Gazette, the term terrorism did not come into its present use until after the events of September 11th. Therefore, the first terrorism incident included in this report is September 11, 2001.

6.13 TRANSPORTATION ACCIDENT

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

History: According to 911 records, there have been 37 transportation accidents resulting in fatalities between 2005-2012. Detailed records providing information on additional accidents that resulted in major property damage without fatalities was not available. Additionally 143 accidents resulting in Hazardous Material spills occurred during the same time period. The existing plan listed 60 major transportation accidents between 1979- 2005. More accidents occurred on major state roads such as Routes 31 and 104. These accidents may cascade into problems including hazmat in transit, fire, and explosion. These incidents have occurred county-wide.

Impacts: Transportation accidents have caused spills of hazardous materials; contamination of the air, soil and water; and human injuries and fatalities.

Damage: Neither property damage info nor costs were provided for any accidents between 2005-2012. Reported damage between 1979-2005 totaled approximately $210,000, although costs have not been provided for all accidents. 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.

Future Probability: High
97 events / 33 years = 294%

Research: Transportation accede data from 2005-2012 was obtained from Wayne County E911. Transportation accident data from 1997 to 2005 was obtained from the Wayne County Stop DWI office. No earlier data was available from the county. Information was supplemented using the DEC Spills Database and through cross referencing within other sections of the Hazards History report. The first transportation accident incident included in this report is July 14, 1979.

6.14 UTILITY FAILURE

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.

History:
Five utility failure events are on record as a result of system failure although there could be a few more incidents not recorded:

- 1/29/1990 – Newark - A power surge on East Avenue caused NYSEG to cut the power to 2200 customers as a precaution.

- 1/11/1995 – Palmyra/Macedon - A short circuit in a main transformer caused a power outage for 7329 NYSEG customers.
- 7/23/1998 – Newark - A blown transformer caused a local power outage on Colonial Drive.
- 8/14/2003 – Wayne County - National Grid outage caused a blackout across the county.
- 12/21/04 – Newark - A transformer explosion at NYSEG on VanBuren Street caused a power outage in Newark for 2800 NYSEG customers. This outage caused area school closings.

There have been 29 incidents of utility failure (19 events) between 2005-2012, but these were entirely cause by weather events, not internal system failure. 48 incidents of utility failure in Wayne County from 1950 to 2005, occurring frequently. Utility failures have been the result 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 failure may cascade into problems such as water supply contamination, air contamination, fire, explosion, and flooding.

Impacts: Utility failures have caused power outages and have left people without telephone services, heat, or fuel.

Damage: Damage costs not available.

Future Probability:
System Failure - Low - 5 events / 62 years = 8.1%
Any Utility Failure – High – 77 incidents / 62 years = 124%

Research: Utility failure data was obtained from municipal meetings, the Finger Lakes Times archives, and the Newark Courier Gazette archives beginning in 1950. Utility failures were also cross referenced with weather events. The first utility failure incident included in this report was December 5, 1961.

6.15 FIRE

Definition: The uncontrollable burning in residential, commercial, industrial, institutional, or other structures in a developed area.

History: Fire event data was gathered 29 Fire Departments in the County (note: since the writing of this chapter a new fire department was formed – South Macedon Fire Department-Jan 1, 2014). This data does not define a fire as being "major" or not, as was distinguished in the existing plan. Between January of 2005 and August of 2012 there were 2,166 fires on record. In order to narrow this number down, major fires were defined as those that caused injury, death, or at least $50,000 worth of damage. There were 71 of these types of fires. This number is probably on the low end based on some data gaps on the fire reports.

Table 6.3 Wayne County Total Fires Reported - January 2005 - August 2012

Structure	Vehicle	Tree Brush Grass	Refuse	Other Outside Fires	Explosion No Fire	Other (Nonclassified) Fires	Total
2166	405	688	439	13	131	273	4115

Source: All Fires Report by Type of Situation Found, Office of Fire Prevention and Control Information Management System, NYS Division of Homeland Security and Emergency Services.

Data in the existing plan was reported in a different way. Between 1900 and 2005 there were 98 major fires in Wayne County. Residential fires were only included if they were of a large scale.

Fires may cascade into problems including fire, explosion, air contamination, and structural damage. A hotspot for fires seems to be on Glasgow Street in Clyde.

Wildfires were included in the regular fire hazard category. There has been only one wildfire in Wayne County, occurring in 1903 which destroyed 100 acres of forested land. Brushfires occur often but have not turned into wildfires.

Impacts: Fires have caused structural damage and fatalities. Between 2005-2012 there were 31 fire related injuries and 10 deaths in Wayne County.

Damage: Damage amounts were reported in large ranges for fires between 2005-2012. The minimum damage done for all reported fires was $4,340,000 but the actual amount was likely much higher.

The existing plan reported damages of major fires totaling approximately $760,079, although costs were not been provided for all major fires.

These totals do not include many of the economic costs such as those associated with closed businesses, reduced operations, employee absence, and limited or delayed agricultural operations.

Future Probability: High
Based on the updated data – 71 major fires / 7.5 years = 947%

Research: Data for this update was obtained from fire report tables for each of the 29 fire departments in the county obtained from the Office of Fire Prevention and Control Information Management System, NYS Division of Homeland Security and Emergency Services.

Existing fire data was obtained from a variety of sources including municipal meetings, archived material in the Wayne County Historian's office, Richard Cobb at the Wayne County Emergency Management Office, Finger Lakes Times archives, and the Newark Courier-Gazette archives. The first fire event included in this report was July 7, 1900.

6.16 WATER SUPPLY CONTAMINATION

Definition: The contamination or potential contamination of surface or subsurface public water supply by chemical or biological materials that results in a restricted or diminished ability to use the water source.

History: There are no recorded incidents of water supply contamination large enough to cause major issues with public drinking water supply. There is potential for water supply contamination but protections are in place at water supply and treatment plants to determine if water is contaminated to prevent tainted water from being distributed to the public. However some risk is present at residences with private wells. Between 2005-2012 there were two incidents of drinking water contamination both occurring at individual residences. The existing plan had only one record of drinking water contamination since 1972 which occurred in wells in Macedon in the late 1980s.

Between 2005-2012 During the same time period there have been 31 Hazmat spills that have been identified as affecting a specific water body and a total of 76 that are considered to have affected groundwater or surface water. The existing plan identified 60 events affecting groundwater or surface water from 1972-2005.

See Appendix Ch-6 Hazard Events.

The vast majority of water contamination has not contaminated drinking water supplies, although the potential exists.

Impacts: Water contamination could resulted in water supply contamination, fish kills, boil water advisories, and recreational restrictions. Water supply contamination could cascade into an epidemic.

Damage: Damage specific to water supply contamination is not available.

Future Probability: Low
Public Drinking Water Contamination – 0 Events / 40 Years = ~~0%~~ (very low probability, but not "0")
Private Drinking Water Contamination – 3 Events / 40 Years = 7.5%
Groundwater or Surface Water Contamination – 136 Events / 40 Years = 340%

Research: Water supply contamination data was obtained from the Department of Environmental Conservation (DEC) Spills Database beginning in 1978. The incidents recorded are those that were reported to the DEC. All incidents included are hazmat spills that resulted in water contamination. Water supply contamination information was also obtained from a survey sent to each municipality. Other incidents were found by cross referencing with weather events. The first incident of water contamination included in this report was June 29, 1972.

6.17 RADIOLOGICAL - FIXED SITE

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.

History: There has been one fixed site radiological incident in Wayne County, occurring in 1982 in Ontario at the Robert E. Ginna Nuclear Power Plant. This incident was carefully managed, no radiation was released off site boundary, and the event caused little to no damage. Fixed site radiological incidents may cascade into problems such as air contamination, water supply contamination, explosion, and fire.

Impacts: No impacts reported for this specific incident. Potential impacts may include water, soil, and air contamination. Although there has only been one incident, the potential effects of a major radiological incident could be devastating, which is why this hazard remains a high priority.

Damage: No costs reported.

Future Probability: Low
1 Event / 30 years = 3.3%

Research: Radiological fixed site data was obtained from municipal meetings. No other incidents were found in reviewing Finger Lakes Times archives, Newark Courier Gazette archives, the files at the Wayne County Historian's Office, or mentioned in county agency interviews. Requests for information from the Ginna Nuclear Power Plant were denied. The incident included in this report occurred in 1982.

Chapter 7 - Risk Assessment

7.1 PURPOSE

The purpose of the risk assessment is to:

- Inventory critical facilities and community assets in Wayne 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.

PART I CRITICAL FACILITY AND COMMUNITY ASSET FACILITY IDENTIFICATION

7.2 METHODOLOGY

7.2.1 Existing Plan

The original planning committee requested criteria that could be used to develop 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.

The Wayne County Emergency Management Office also provided the original committee with a list of vulnerable facilities that had been identified in a recent Weapons of Mass Destruction assessment. The planning committee used the WMD assessment as a starting point to develop a list of facilities to consider in the all-hazard mitigation planning process. The committee reviewed the WMD list, determined which facilities fit the criteria, and started a new list.

The existing 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 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.

7.2.2 Plan Update

The identified Critical Facilities and Community Asset Facilities from the Existing Plan were reviewed initially by Wayne EMO, and G/FLRPC to consider issues regarding the existing list. The problem with the existing list of facilities was that it was way too large and included too many facilities, many of which were not actually "critical". It contained over 1200 facilities. Having this many facilities, watered down the meaning of "critical" and prevented the list from being very useful in emergency management and hazard planning to focus on what facilities are the top priority. A rough draft of the most Critical Facilities and Community Asset Facilities was created to present to the Plan Update Committee as a starting point.

The draft list was presented to the committee as a starting point and the committee agreed with the concept of only including the most critical facilities and community assets. The committee reviewed the same FEMA criteria for determining facilities and used it to add facilities to the list. Attendees were given worksheets and information to take back to their agencies and municipalities to fill out and determine if there were any additional facilities that they

wanted to add. Municipalities that were not represented at the meetings informed of the facilities that the group wanted to include and were sent the necessary information to determine which additions they would like to make.

7.2.3 Criteria

The same criteria was used to determine facilities, with consideration of which facilities and community assets were the most critical. The FEMA criteria is below:

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 water bodies, 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.

7.3 UPDATED CRITICAL FACILITY AND COMMUNITY ASSET FACILITY INVENTORY

The most common facilities that ended up on the final list included:

Critical Facilities:

Essential Facilities
- Schools
- Hospitals
- Emergency Services
- Law Enforcement
- Medical Facilities
- Fire Departments

Transportation
- Highway Department Garages

Lifeline Utility Systems
- Phone, Electric, Natural Gas, & Water: storage and supply related facilities

High Potential Loss Facilities
- Prison
- Dam
- Nuclear Power Plant

Hazardous Material Facilities
- Manufacturing and Processing Facilities
- Schools with Bus Garages
- Highway Department Garages

Community Asset Facilities:

Vulnerable Populations
- Large apartments
- Day cares
- Group homes
- Senior assisted living
- Nursing homes

Economic Elements
Manufacturing and Processing Facilities

Facilities Providing Important Services
Government Buildings
Highway Department Buildings

Different types of facilities were removed from the list from the Existing Plan but some groups were removed as a whole including:

- Banks – hazards would not affect all banks, alternative banks could be used throughout the county. Modern day banking reduces the importance of any one individual bank location.
- Historic and Cultural Resource Areas
  - Parks –Many hazards effect structures, and people, while parks are for the most part open space with relatively few structures. Considered not as essential as facilities with people, emergency related facilities, hazardous facilities, etc. Open park land is often the least vulnerable to many hazards.
  - Historic sites/churches – while these are important, priority needs to focus on other types of facilities such as those involved in preventing/addressing hazards, providing important services, housing populations, etc.
- Some Employers – Every major employer was not included. It is unfortunate if a hazard affects an employer and people are out of work, but many of these employers were not providing services that were extremely critical to the entire county. Other employers were kept because they were so large it was good to identify them as a place with a large grouping of people if a hazard were to hit. Others were kept that had hazardous materials, or were providing important services.

Table 7.1 Critical Facilities and Community Asset Facilities by Town

	Critical Facilities						Community Asset Facilities			
Town	**Total Critical Facilities**	**Essential**	**Transportation**	**Lifeline Utility Systems**	**High loss**	**HAZ**	**Total Community Asset Facilities**	**Vulnerable**	**Economic**	**Import Services**
Arcadia (T)	37	12	5	17	0	26	13	6	3	1
Butler (T)	7	3	1	3	1	3	3	1	0	1
Galen (T)	19	8	1	9	0	13	11	4	1	1
Huron (T)	6	0	1	4	0	2	2	0	0	1
Lyons (T)	23	10	6	4	0	16	13	0	0	11
Macedon (T)	20	9	3	7	0	12	5	0	0	2
Marion (T)	12	3	1	7	0	6	2	0	0	2
Ontario (T)	13	7	2	4	1	11	3	1	0	1
Palmyra (T)	22	9	1	11	0	8	6	5	0	0
Rose (T)	7	5	1	0	0	5	2	0	0	1
Savannah (T)	4	2	2	0	0	4	2	0	0	0
Sodus (T)	18	11	6	1	0	16	6	0	0	1
Walworth (T)	16	8	1	7	0	9	2	0	0	1

Williamson (T)	22	12	2	7	0	16	2	0	0	1
Wolcott (T)	28	10	3	13	1	12	4	0	0	1

Map 13 – Wayne County Critical Facilities by Town and Map 14 Wayne County Community Asset Facilities by Town illustrate the above table geographically.

PART II VULNERABILITY ASSESSMENT

7.4 HAZARD IMPACT AREAS & VULNERABILITY ASSESSMENT OF FACILITIES

All Hazard Impact Areas, and the specific vulnerability of each facility to each hazard was determined using a similar methodology as was used in the Existing Plan.

None of the Hazards are unique to one municipality. Many hazards-such as weather events-have the potential to occur anywhere in the County, and therefore have a county-wide impact area encompassing all municipalities, and potentially all facilities. Other hazards have set locations where they would likely occur, such as flooding, (see Map 12 – Wayne County 100-Year Flood Zone) but could also affect specific areas in each municipality. Specific hazard events on the other hand have the potential to only affect one area depending on the details of each event.

To assess the vulnerability of each Critical Facility and Community Asset Facility to a Hazard with set extents, (such as flooding) G/FLRPC plotted facilities and overlaid this data with hazard risk areas.

Facility vulnerability to each hazard was also established through a determination of which types of facilities a certain hazard would effect. Vulnerability of facilities in the Existing Plan was used as a starting point, but specific facility vulnerability to each hazard was adjusted in many cases. The facility vulnerability is somewhat generalized because whether a certain hazard would affect a specific facility is entirely dependent on the specific hazard situation, how severe it is, the area it affects, how large the cascade effects are, etc.

Some hazards were grouped together when they could affect the same group of facilities, for example Earthquakes and Tornadoes which could have a major effect on all Critical Facilities and Community Asset Facilities.

7.4.A. Natural Hazards

Severe Storm, Ice Storm, Winter Storm, Tornado, Earthquake

Impact areas

- Entire county
- All municipalities vulnerable
- Impact could vary based on location of event and magnitude

Vulnerable facility types

- All facilities could be affected in some way depending on the hazard events location and magnitude
- Vulnerability could vary depending on structure age/size/material/condition/etc.

Table 7.2.1 Critical Facilities and Community Asset Facilities Potentially Affected by Severe Storm, Ice Storm, Winter Storm, Tornado & Earthquake

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	37	12	5	17		26	13	6	3	1
Butler (T)	7	3	1	3	1	3	3	1		1
Galen (T)	19	8	1	9		13	11	4	1	1
Huron (T)	6		1	4		2	2			1
Lyons (T)	23	10	6	4		16	13			11
Macedon (T)	20	9	3	7		12	5			2
Marion (T)	12	3	1	7		6	2			2
Ontario (T)	13	7	2	4	1	11	3	1		1
Palmyra (T)	22	9	1	11		8	6	5		
Rose (T)	7	5	1			5	2			1
Savannah (T)	4	2	2			4	2			
Sodus (T)	18	11	6	1		16	6			1
Walworth (T)	16	8	1	7		9	2			1
Williamson (T)	22	12	2	7		16	2			1
Wolcott (T)	28	10	3	13	1	12	4			1

Flood

Impact areas

- 100 year flood zones
- See Map 12 - Wayne County 100-Year Flood Zones
- Floods have the potential to occur outside of the 100-year flood zone. Areas right on the edge of flood zones. 500 Year flood zone is not delineated.

Vulnerable facility types

- All facilities located in the 100-Year Flood Zone could be affected
- Facilities that are flood proofed would be less vulnerable (this is not known on a facility by facility basis)

Table 7.2.2 Critical Facilities and Community Asset Facilities Potentially Affected by Flood										
Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	6			6						
Butler (T)	1			1						
Galen (T)	6	3		3		3	1	1		
Huron (T)	4		1	3		1	1			
Lyons (T)	10	4	6	3		4	7			5
Macedon (T)	5	2		3		2				
Marion (T)	3			3		1				
Ontario (T)	3			3	1	2				
Palmyra (T)	7		1	6		1	1			
Rose (T)										
Savannah (T)	1	1				1				
Sodus (T)	4	3	1	1		2				
Walworth (T)	4			4		1				
Williamson (T)	3			3						
Wolcott (T)	9			9						

Dams can factor in to the County's vulnerability to floods. According to the NYS Hazard Plan, Emergency Action Plans are required for Class B and Class C dams. The County has three Class B dams and two Class A dams (see section 6.6 Flood). Tectonic Engineering & Surveying Consultants P.C. is working on a Dam Emergency Action Plan, Dam Inspection and Maintenance Plan, and a Hazard Classification Review for the Red Creek Dam.

Vulnerability to Floods has the potential to change in the coming years along the Lake Ontario Shoreline, based on an upcoming decision regarding management of Lake water levels. For the last fifty years, Lake water levels have been managed according to a particular set of rules and guidelines. Development has occurred in the area adjacent to the shoreline with architectural and engineering specifications based upon these water management criteria, and established flood zones. The International Joint Commission has considered adopting new guidelines which would allow more natural fluxuation of Lake levels which would result in higher and lower levels than occur currently through Lake level management. Design assumptions and flood zones of the past may not be appropriate for future conditions. In addition to the water level changes, there are elevated concerns surrounding increased severity and frequency of storm events due to climate change. A detailed analysis and assessment of these issues is needed in order to develop an adaptation plan for identifying and addressing potential threats to the built environment. Currently data is not available to accomplish this task, therefore this type of project would require upfront field research and data gathering in order to develop a specific plan. This task is outside of the scope of this project, but is included as a recommendation in Chapter 8 Mitigation Strategy.

Coastal Erosion & Landslide

Impact areas

- Coastal Erosion Hazard Areas (CEHA's)– Great Lakes Shoreline - created by NYS DEC
- See Map 15 - Wayne County Coastal Erosion Hazard Areas
- Erosion can and does occur outside of the CEHA zone, often times along steep slopes and stream banks
- Landslides are also most likely to occur along the Lake Ontario shoreline

Vulnerable facility types

- All types of facilities located in the DEC's Coastal Erosion Hazard Areas could be affected

Table 7.2.3 Critical Facilities and Community Asset Facilities Potentially Affected by Coastal Erosion and Landslide

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)										
Butler (T)										
Galen (T)										
Huron (T)	1			1						
Lyons (T)										
Macedon (T)										
Marion (T)										
Ontario (T)	3			3	1	2				
Palmyra (T)										
Rose (T)										
Savannah (T)										
Sodus (T)	5	3	1			5	2			1
Walworth (T)										
Williamson (T)	3	1		2		2				
Wolcott (T)	1			1						

Coastal Erosion could also be affected by changes to Lake Ontario water level management, as well as an increased number and severity of storms as discussed above in the Flood section.

Epidemic

Impact areas

- Entire county
- All municipalities. Higher density/population municipalities could potentially be impacted more.

Vulnerable facility types

- Facilities housing vulnerable populations
- Certain Essential Facilities – emergency, health facilities, schools

Table 7.2.4 Critical Facilities and Community Asset Facilities Potentially Affected by Epidemic

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	11	11				11	6	6		
Butler (T)	3	3			1	2	1	1		
Galen (T)	7	7				5	6	4		
Huron (T)										
Lyons (T)	6	6	1			5	1			1
Macedon (T)	7	7				6				
Marion (T)	3	3				3				
Ontario (T)	6	6				6	1	1		
Palmyra (T)	7	7				6	5	5		
Rose (T)	4	4				2				
Savannah (T)	2	2				2				
Sodus (T)	7	7				7				
Walworth (T)	7	7				6				
Williamson (T)	11	11				11				
Wolcott (T)	8	8				6				

Wayne County Public Health Department has a number of different plans intended to help to reduce vulnerability to epidemic as well as other health/medical emergencies. Plan summaries were provided by Wayne County Health Department:

Wayne County PH Health SNS Plan – The Wayne County Public Health Strategic National Stockpile Annex is an Annex to the Wayne County Public Health Emergency Operations Plan (PHEOP), which provides the framework for the jurisdiction's response to emergencies and disasters. This plan is updated at least annually. In the event that the County is impacted by a chemical, biological, explosive radiological or nuclear (CBERN) event, the County

emergency managers will coordinate county and local resources in support of the DSNS response and serve as the conduit for the request of State assistance.

Wayne County PH Health MCM Plan - Naturally occurring or manmade incidents and planned events can have a profound impact on the public's health and safety. Some of these incidents or events will require the Wayne County Public Health Department (WCPH Department) to distribute or dispense medical countermeasures (MCM) to persons in its community. A MCM is any drug, vaccine, biological therapy, or device given to an at-risk person to protect them from a hazardous agent. MCM may include pharmaceuticals such as antibiotics for prevention of bacterial infection (e.g., anthrax, plague, tularemia), antiviral MCM (e.g., for influenza), vaccines to prevent viral or bacterial infection (e.g., smallpox, influenza, hepatitis, anthrax), and medical materials (e.g., masks). This plan describes the mechanisms by which the WCPH Department will provide MCM to persons in its jurisdiction.

Wayne County PH Health Pandemic Flu Plan - To prepare for the next pandemic, an event considered by many experts to be inevitable, public health officials from around the world have begun to devise strategies by which influenza-related morbidity, mortality, and social disruption might be reduced. Wayne County Public Health has begun the planning process for the likely event of a pandemic influenza.

Wayne County Smallpox Plan- A single case of smallpox in the U.S. would almost certainly signal a biological weapon attack. This would require an immediate, coordinated response by medical and public health systems. The Department of Health and Human Services (HHS), and in particular its Centers for Disease Control and Prevention (CDC), has taken a number of steps to ensure preparedness, including pre-event vaccination of selected populations. The NYSDOH and WCPH have adopted this plan as a state and local smallpox pre-event plan. PURPOSE: 1. To provide training and education for local health department staff, area providers and the general public regarding pre-event planning for a possible Smallpox outbreak. 2. To provide the efficient and expeditious processes for the receipt and distribution of Smallpox Vaccine and supplies, and offering/providing vaccine to providers in Wayne County per NYSDOH/CDC guidelines for pre-event smallpox planning

Wayne County PH Health I&Q Plan - Protocols have been developed by Wayne County Public Health Services for implementing isolation and quarantine, both personal and/or of premises, in order to prevent the transmission of a communicable disease that would have the potential to pose unusual danger to the public at large. This may be a bioterrorism event or a naturally occurring communicable disease (e.g. pandemic influenza, SARS). Public Health Law Article 21 and 10 NYCRR Part 2 confer authority upon local health departments for involuntary isolation and quarantine. Isolation and quarantine will be considered only when necessary to protect the public health, consistent with national public health authorities' recommendations and only after consultation with the New York State Department of Health, where there is potential for a large outbreak or an unusual disease is involved.

7.4.B. Human Caused Hazards

Hazmat in Transit, Transportation Accident

Impact areas

- Most of county. Areas located adjacent to roads and rail lines.
- Trucking accidents more likely on State and County Roads.
- See Map 3 - Wayne County Transportation Infrastructure

Vulnerable facility types

- Transportation related (Highway Dept., Schools (bus garage)
- Facilities with hazardous materials

Table 7.3.1 Critical Facilities and Community Asset Facilities Potentially Affected by Hazmat in Transit & Transportation Accident										
Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	24	10	5	6		23	7		3	1
Butler (T)	4	3	1			3	1			
Galen (T)	14	8	1	4		13	4		1	1
Huron (T)	2		1			2	2			1
Lyons (T)	20	10	6	1		16	13			11
Macedon (T)	13	8	3	1		12	4			1
Marion (T)	6	3	1	1		6	2			2
Ontario (T)	12	7	2	3	1	11	2			1
Palmyra (T)	9	8	1			8	1			
Rose (T)	7	5	1			5	2			1
Savannah (T)	4	2	2			4	2			
Sodus (T)	17	10	5	1		16	6			1
Walworth (T)	10	8	1	1		9	2			1
Williamson (T)	18	12	2	3		16	2			1
Wolcott (T)	15	10	3		1	12	4			1

Vulnerability related to Bridges

According to NYSDOT there are 96 highway bridges in the county, which are inspected at least every two years[xviii]. 59 bridges are considered in good condition or better by the state. 37 highway bridges are considered structurally deficient which means they are in need of maintenance, or rehab, but this does not mean that they are unsafe[xix]. Any bridge that is considered unsafe is closed.

NYSDOTs bridge inspection program meets or exceeds Federal Highway Administration (FHWA) standards and consistently scores high in Federal Highway Administration Review.

Of the 96 bridges, 21 are considered structurally deficient by FHWA standards which are less strict than NYSDOT. Structurally deficient means that either load caring elements of the bridge are in poor condition, it has inadequate load capacity (requiring weight limits), or it floods often. 9 bridges are considered "functionally obsolete". "Functionally obsolete refers to a bridge's inability to meet current standards for managing the volume of traffic it carries, not its structural integrity. For example, a bridge may be functionally obsolete if it has narrow lanes, no shoulders, or low clearances."[xx]

NYSDOTS high standard of inspections ensures low vulnerability to transportation accidents (and HAZMAT in transit) due to bridge failure.

One specific bridge in Palmyra has been identified by Wayne County Public Works as a top priority to be repaired/upgraded. The bridge has a state condition rating of 4.2 and has a "functionally obsolete" federal rating. If not mitigated this could potentially lead to issues as severe as possible bridge failure. The anticipated cost to armor the center pier is $400,000. This will include sheeting, and concrete armoring.

Hazmat Fixed Site

Impact areas

- Many individual hazardous material sites
- Areas directly surrounding hazardous materials sites

Vulnerable facility types

- Any facility that falls under the hazardous facility category

Table 7.3.2 Critical Facilities and Community Asset Facilities Potentially Affected by Hazmat Fixed Site

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	24	12	5	4		26	7		3	1
Butler (T)	3	2	1			3	1			
Galen (T)	12	6	1	4		13	3		1	1
Huron (T)	2		1			2	2			1
Lyons (T)	16	7	3			16	10			8
Macedon (T)	12	7	3	1		12	4			1
Marion (T)	6	3	1	1		6	2			2
Ontario (T)	11	7	2	2	1	11	2			1
Palmyra (T)	8	7	1			8	1			
Rose (T)	5	3	1			5	2			1
Savannah (T)	4	2	2			4	2			
Sodus (T)	16	10	5			16	6			1
Walworth (T)	9	7	1	1		9	2			1
Williamson (T)	16	12	2	1		16	2			1
Wolcott (T)	12	8	3			12	4			1

Terrorism

Impact areas

- Individual locations throughout the entire county

Vulnerable facility types

- Likely targets could include: Government buildings, schools, major utility infrastructure, emergency operations facilities, and high potential loss facilities

Table 7.3.3 Critical Facilities and Community Asset Facilities Potentially Affected by Terrorism

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	28	11		17		15				
Butler (T)	6	3		3	1	2	2	1		1
Galen (T)	16	7		8		11	1			1
Huron (T)	5			4		1	1			1
Lyons (T)	19	8	2	4		13	9			9
Macedon (T)	16	8		7		9	2			2
Marion (T)	11	3		7		5	1			1
Ontario (T)	10	6		4	1	8				0
Palmyra (T)	20	8		11		7				0
Rose (T)	5	4				3	1			1
Savannah (T)	2	2				2				
Sodus (T)	13	11	1	1		11	1			1
Walworth (T)	15	8		7		8	1			1
Williamson (T)	18	10		7		12	1			1
Wolcott (T)	24	9		13	1	9	1			1

Utility Failure

Impact areas

- Entire county
- All municipalities

Vulnerable facility types

- Facilities involved in creating, storing or distributing utilities

Table 7.3.4 Critical Facilities and Community Asset Facilities Potentially Affected by Utility Failure										
Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	23	6		17		10				
Butler (T)	4	1		3		1				
Galen (T)	11	3		8		6	1			
Huron (T)	4			4						
Lyons (T)	8	4	1	4		3	1			1
Macedon (T)	12	5		7		4				
Marion (T)	8	1		7		2				
Ontario (T)	6	3		3		4				
Palmyra (T)	13	2		11		2				
Rose (T)	2	2				2				
Savannah (T)	1	1				1				
Sodus (T)	7	6	1	1		5				
Walworth (T)	10	3		7		3				
Williamson (T)	14	7		7		8				
Wolcott (T)	17	4		13		3				

Fire

Impact areas

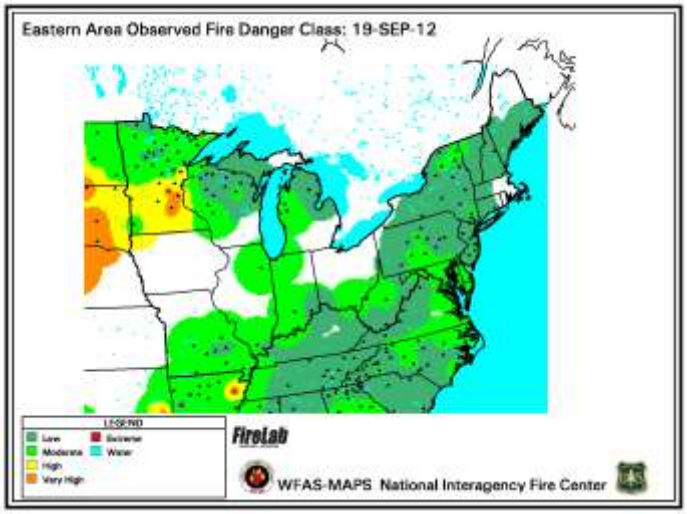
- Entire county
- All municipalities

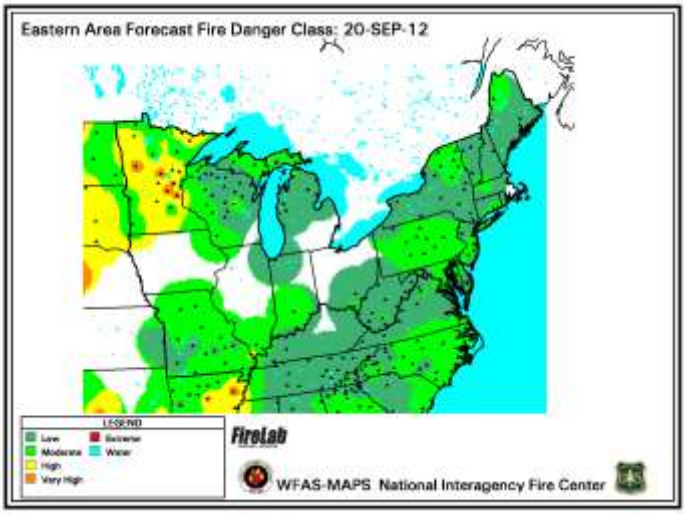
Vulnerable facility types

- Any structural facility

Table 7.3.5 Critical Facilities and Community Asset Facilities Potentially Affected by Fire										
Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	36	12	4	17		25	13	6	3	1
Butler (T)	7	3	1	3	1	3	3	1		1
Galen (T)	18	8	1	8		13	11	4	1	1
Huron (T)	6		1	4		2	2			1
Lyons (T)	23	10	6	4		16	13			11
Macedon (T)	20	9	3	7		12	5			2
Marion (T)	12	3	1	7		6	2			2
Ontario (T)	13	7	2	4	1	11	3	1		1
Palmyra (T)	22	9	1	11		8	6	5		
Rose (T)	7	5	1			5	2			1
Savannah (T)	4	2	2			4	2			
Sodus (T)	18	11	6	1		16	6			1
Walworth (T)	16	8	1	7		9	2			1
Williamson (T)	22	12	2	7		16	2			1
Wolcott (T)	28	10	3	13	1	12	4			1

- According to the US Forest Service's Wild Fire Assessment System, Wayne County is within the "Low" Danger Class both observed and forecasted, as can be seen in the maps below[xxi].





DEC has also created state regulations regarding open burning which should further reduce vulnerability to wildfire. Open Burning Regulations were created in 2009 with a major intent being to reduce fires and wildfire. The regulation bans burning trash, and puts limits on controlled burning related to: the size of the fire, municipalities where its allowed based on population, materials allowed to be burned, and in some instances the time of year that other controlled fires can take place.[xxii] Enforcement is based mostly on complaints.

Water Supply Contamination

Impact areas

- Entire county
- All municipalities

Vulnerable facility types

- Water utilities – supply, distribution, storage
- Emergency/medical facilities could be effected

Table 7.3.6 Critical Facilities and Community Asset Facilities Potentially Affected by Water Supply Contamination

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)	18	6		12		6				
Butler (T)	4	1		3		1				
Galen (T)	5	2		3		1	1			
Huron (T)	4			4						
Lyons (T)	7	3	1	4		2	1			1
Macedon (T)	11	4		7		4				
Marion (T)	7	1		6		2				
Ontario (T)	6	3		3		4				
Palmyra (T)	13	2		11		2				
Rose (T)	2	2				2				
Savannah (T)	1	1				1				
Sodus (T)	6	5		1		5				
Walworth (T)	10	3		7		3				
Williamson (T)	14	7		7		8				
Wolcott (T)	17	4		13		3				

Radiological Fixed Site

Impact areas

- 10 Mile buffer surrounding the Ginna Power Plant for the Plume Exposure Pathway
- Entire Town of Ontario, Town of Williamson
- Most of the Town of Walworth
- About half of the Town of Marion
- A portion of the Town of Sodus
- See Map16 - 10 Mile Plume Exposure Buffer – Ginna Nuclear Power Plant

> "There are two EPZs for each nuclear power plant site. The first zone is the Ingestion Exposure Pathway, which is the area within (approximately) a fifty-mile radius from the site. The principal exposure sources within this zone would be the ingestion of contaminated water or foods such as milk or fresh vegetables."[xxiii]
>
> "The second EPZ is the Plume Exposure Pathway, which is the area within (approximately) a ten-mile radius from the site. Although the radius for an EPZ implies a circular area, the actual shape would depend upon the physical and demographic features within that zone. The principal exposure sources within this zone are external whole body exposure to gamma radiation and exposure through the inhalation of radioactive materials."[xxiv]

Vulnerable facility types

- All facilities within 10 mile buffer

Table 7.3.7 Critical Facilities and Community Asset Facilities Potentially Affected by Radiological Fixed Site

Town	Critical Facilities						Community Asset Facilities			
	Total Critical Facilities Affected	Essential	Transportation	Life Utility	High loss	Hazardous	Total Community Asset Facilities Affected	Vulnerable	Economic	Import Services
Arcadia (T)										
Butler (T)										
Galen (T)										
Huron (T)										
Lyons (T)										
Macedon (T)										
Marion (T)	5	2	1	1		4	2			2
Ontario (T)	13	7	2	4	1	11	3	1		1
Palmyra (T)										
Rose (T)	1		1			1	1			
Savannah (T)										
Sodus (T)										

Walworth (T)	10	5	1	4		6	2			1
Williamson (T)	21	12	2	6		16	2			1
Wolcott (T)										

Wayne County Public Health Department has a number of different plans intended to help to reduce vulnerability to epidemic as well as other health/medical emergencies. Plan summaries were provided by Wayne County Health Department:

Many of the Wayne County Public Health Department Plans could help to reduce vulnerability to a radiological event, but one in particular that could reduce In addition to other plans the
Wayne County PH Health SNS Plan – Plan Overview the Wayne County Public Health Strategic National Stockpile Annex is an Annex to the Wayne County Public Health Emergency Operations Plan (PHEOP), which provides the framework for the jurisdiction's response to emergencies and disasters. This plan is updated at least annually. In the event that the County is impacted by a chemical, biological, explosive radiological or nuclear (CBERN) event, the County emergency managers will coordinate county and local resources in support of the DSNS response and serve as the conduit for the request of State assistance.

7.5 Municipal Development Profiles and Vulnerability

By looking at recent and potential future development areas we can determine where vulnerability has increased or could increase in the future. Any Municipality experiencing development could be more vulnerable to hazard which affect the entire community based on the fact that more people and structures could be affected.

Comparing new development locations to areas with specific hazard risk helps to identify more specific changes to vulnerability. Hazards with specific risk areas include Flooding, Coastal Erosion, and Radiological Hazards. The Radiological Hazard zone makes up: all of the Town of Ontario; all of the Town of Williamson; most of the Town of Walworth; about half of the Town of Marion; and a small portion of the Town of Sodus.

A complete list of development locations was not available from each municipality, therefore the County Real Property Services (RPS) tax role was used which includes a column "year built". A list of all recent development that had taken place in the floodplain was not available from every municipality either. Determination was made based on a GIS analysis of flood maps compared with RPS analysis of building dates.

A recommendation of this plan is for municipalities to create a detailed file of development locations and descriptions, especially development occurring in the flood zone, and make that information available for hazard planning purposes (See Appendix Ch-8.1: Mitigation Action Plan).

Refer to maps below throughout this section for reference:
Map 10 - Wayne County Recent and Potential Future Development Areas
Map 12 - Wayne County 100-Year Flood Zones
Map 17 - NFIP Repetitive Flood Loss Areas
Map 15 - Wayne County Coastal Erosion Hazard Areas
Map 16 - 10 Mile Plume Exposure Buffer – Ginna Nuclear Power Plant

Town of Arcadia (Town outside Village)

The Town of Arcadia foresees commercial development at both edges of the Village along Route 31. The Town also expects some residential development. One location is at the western edge of the Village, south of Route 31. Another location is north and east of the Hamlet of Marbletown, in the southeast corner of the Town of Arcadia around Snake Road, Ridley Road, Jackson Hill Road, and Finewood Road.

Recent Development
Total Building Permits 2005-2010 (excluding Village of Newark) - 42

Map Point # 1 – Recent Development – Residential – Assisted Living – 208 Rte. 88 S.

Vulnerability Change
None of the recent developments are within areas of Coastal Erosion, or Radiological risk.

1 residential parcel within the flood zone had a structure built on it between 2005-2012 but the structure was not in the floodplain.

No future development locations were identified or anticipated in/near the flood zone.

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Municipality experienced a moderate amount of development and likely has increased hazard vulnerability to hazards that could occur anywhere in the county.

Town of Butler

The Town of Butler anticipates commercial development along Route 104, south of the Village of Wolcott. Residential development is expected in the northeast corner of town, along Route 370 and Westbury Cutoff Road.

Recent Development
Total Building Permits 2005-2010 - 16

Vulnerability Change
None of the recent developments are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced limited development and has not had a major increase in hazard vulnerability.

Village of Clyde

The Village of Clyde expects a small amount of commercial development, and limited pockets of residential development. Any industrial development is expected to occur in the industrial park in the southeast part of the Village.

Recent Development
Total Building Permits 2005-2010 - 8

Vulnerability Change

None of the recent developments are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experience limited development and has not had a major increase in hazard vulnerability.

Town of Galen (Town outside Village)

The Town of Galen foresees commercial development occurring on the west side of town along Route 31. A mix of industrial and commercial is expected along Route 31, west of the Village of Clyde. Industrial development is likely to occur east of the Village of Clyde along Wayne Avenue. Several areas of residential development are anticipated: on the west side of town, from the Erie Canal up into Lock Berlin; on the south side of the Village between Mill and Waterloo Streets; and east of the Village around DeZeng and Welch Roads.

Recent Development
Total Building Permits 2005-2010 (excluding Village of Clyde) - 51

Map Point # 2 - Recent Development and Potential Future Development - Industrial - Five new industrial buildings/facilities plus mining - Old Rt. 31 & Corners Rd

Map Point # 3 - Recent Development and Potential Future Development - Mixed Use – Three(+) new residences; one new commercial/industrial use - Lock Berlin area

Map Point # 4 - Recent Development and Potential Future Development - Residential - Amish residences (15+) - South of Rte. 31

Map Point # 5 - Recent Development - School - Amish school - Watson Rd.

Map Point # 6 - Recent Development and Potential Future Development - Industrial - two Amish machine/metal shops – southern portion of Town

Map Point # 7 - Recent Development and Potential Future Development -Industrial - Amish sawmills (8) - southern portion of Town

Map Point # 8 - Recent Development and Potential Future Development - Industrial - Mennonite slaughterhouse/meat packing - Kelsey Rd.

Vulnerability Change
None of the recent developments are within areas of Coastal Erosion, or Radiological risk.

8 parcels at least partially within the flood zone had structures built on them between 2005-2012.
- 2 of those parcels appear to have structures in the flood zone (Residential)
- 6 of those parcels do not have structures in flood zone

Vulnerability to floods could have increased as a result but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Municipality experienced a moderate amount of development and likely has increased hazard vulnerability to those hazards that could occur anywhere in the county.

Town of Huron

The Town of Huron expects to see residential development along Ridge Road, as well as at the south end of Sodus Bay. Development along the bay is anticipated near the Hamlet of Resort to the east, and near Spiegel Drive to the west. Two small spots of commercial development are expected at the intersection of Brick Schoolhouse Rd and Route 104, and along Ridge Road between Campbell and Fifth Roads.

Recent Development
Total Building Permits 2005-2010 - 48

Map Point # 9 – Potential Future Development - public water line available with hydrants - Ridge Rd

Map Point # 10 - Potential Future Development - public water line available with hydrants - Ridge Rd, Bluff Rd, LeRoy Island

Map Point # 11 - Potential Future Development - public water line available with hydrants - Clapper Rd to West Port Bay Rd, Graves Point Rd

Map Point # 12 - Recent Development - Residential - Waterfront subdivision - Anchors Way

Map Point # 13 - Recent Development (32 Units) and Potential Future Development (144 Units) - Single Family Residential - Bru-Jan Subdivision - Brookside Drive

Map Point # 14 - Recent Development - Agriculture Controlled Atmosphere Storage, Norris Farms , Empire Fruit Apple Packing Plant - Ridge Rd

Map Point # 15 - Recent Development - Agriculture Controlled Atmosphere Storage Wafler Farms - Slaght Rd

Vulnerability Change
None of the recent developments in the Town are within areas of Radiological risk.

17 residential parcels at least partially within the flood zone had structures built on them between 2005-2012.
- 1 of those parcels appears to have a residence in the flood zone
- 8 of those parcels appear to have a structure (dock) in the flood zone but not the residence
- 8 of those Parcels do not have structures in flood zone

Vulnerability to floods could have increased as a result but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

6 parcels (2 single family, 4 seasonal residential) that are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore had structures built on them between 2005-2012. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

Municipality experienced a moderate amount of development and likely has increased hazard vulnerability to those hazards that could occur anywhere in the county.

Town of Lyons (Town outside Village)

The Town of Lyons anticipates commercial development on the south side of Route 31 west of the Village of Lyons. The Town anticipates a mix of commercial and residential in the Hamlet of Alloway along Alloway and Sohn-Alloway Roads. Industrial development is expected outside the southeast corner of the Village along Lyons-Marengo Road. The Town expects to see residential development in two main areas: northwest of the Village in a large area between Brandt Road and Maple Street Road up to Debusse and Bastian Roads, and also in the Westphal and Gristmill area along Route 14 south of the Village of Lyons.

Recent Development
Total Building Permits 2005-2010 (excluding Village of Lyons) - 15

Vulnerability Change
None of the recent developments are within areas of special Coastal Erosion, or Radiological risk.

2 residential parcels at least partially within the flood zone had structures built on them between 2005-2012.
Neither parcel appears to have a residence or structure in the flood zone

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Municipality experience limited development and has not had a major increase in hazard vulnerability to those hazards that could occur anywhere in the county.

Village of Lyons

The Village of Lyons anticipates commercial development in two small spots along the canal near Abbey Park and Ganargua Creek, and also north of the canal near Riverside Road and Montezuma Street. Commercial development is also expected near Montezuma Street and Clyde Road on the east side of the Village. Industrial development is expected north of Water Street along Ganargua Creek: on the left side of the creek between Perrine and the creek, and on the right side along Layton Street.

Residential development is anticipated in a number of locations in the Village of Lyons: along the canal in the center of the Village; along Madison Street and Leach Road; in the southern part of the Village between Dunn Road and Palliotti Parkway; on the east side of the Village, east of Manhattan Street; in the northern part of the Village around Foster, Sisson and Jackson Streets; and in the northern part of the Village near VanMarter Lane and Hillcrest Drive.

Recent Development
Total Building Permits 2005-2010 - 41

Map Point # 16 - Recent Development and Potential Future Development - Industrial - Machine Shop; also space available and development anticipated in large industrial park along a rail line, near highway - Sohn Alloway Rd

Map Point # 17 - Recent Development - Residential - Canalview 36 Units - Montezuma St

Vulnerability Change
None of the recent developments are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced a moderate amount of development and likely has increased vulnerability to those hazards that could occur anywhere in the county.

Town of Macedon (Town outside Village)

Development in the Town of Macedon is primarily expected on the west side of town along Route 31. Commercial development is expected in several locations along Route 31 west of the Village and north of Route 31. Two additional locations where commercial development is expected are: on the south side of Route 31 along Wayneport Road; and east of the Village of Macedon and west of Alderman Road along Route 31. Industrial development is anticipated: south of the canal along Wayneport Road; near Macedon Commons; just outside Gananda at Eddy Road and Gananda Parkway; and south of Wilcox Road along Quaker Road.

Residential development is foreseen in a number of places, all in the southwest part of town: on the west side of Wayneport Road; between Wilson Street and Wayneport Road; between Route 31, Victor Road, and Canandaigua Road; along Canandaigua Road southwest of the Village; and along Hance Road outside the Hamlet of Gananda.

Recent Development
Total Building Permits 2005-2010 (excluding Village of Macedon) – 151

Map Point # 18 - Planned Future Development - Mixed Use - Cedar Creek Planned Development - 80 acres available – southwest corner of Rte. 31 and Canandaigua Rd extending toward Victor Rd

Map Point # 19 - Recent Development and Potential Future Development - Commercial - Commercial corridor on Rt. 31 from west end of Town to Wilson Rd

Map Point # 20 - Potential Future Development - Commercial - Likely commercial development area in next 10-20 years - northwest corner of Rte. 31 and Canandaigua Rd

Map Point # 21 - Recent Development - Residential - Pheasant Run Subdivision, 100 unit single family Ryan Home tract - Hance Rd in Gananda

Map Point # 22 – Recent and Planned Future Development - Mixed Use - Parkwood Heights - ongoing planned senior housing, apartments, duplexes, existing single family. Future medial use, townhouses, expansion of apartment building - Victor Road between Rte. 31 and Canandaigua

Map Point # 23 - Recent Development - Recreational - Approved 250 site campground for RV and tent opening 2013 - on Erie Canal west of Bullis Park

Map Point # 24 - Recent Development - Light Industrial - Redevelopment of former gravel pit – northeast corner of Quaker Rd and Wilcox Rd

Map Point # 25 - Potential Future Development - Residential - Possible future location of residential housing (sewer available) - south side of Rte. 31 west of Willowdale Dr/Bebee Rd

Map Point # 26 - Recent Development - Light Commercial - Recent RV rental store and self-storage - adjacent to John Deere Dealer northeast corner of Rte. 31F and County Line Rd

Vulnerability Change
None of the recent developments in the Town are within areas of Coastal Erosion, or Radiological risk.

5 residential parcels at least partially within the flood zone had structures built on them between 2005-2012.

2 of those parcels appear to have a residence or structure in the flood zone
3 of those parcels do not have a residence or structure in the flood zone
Vulnerability to floods could have increased as a result but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Village of Macedon

The Village of Macedon is expecting limited residential development. The expected location for this is 93 acres in the northwest portion of the Village, north of Route 31 and east of Drumlin Drive. Additional development could occur in the future based on Macedon's Brownfield Opportunity Area and brownfield cleanup areas.

Recent Development
Total Building Permits 2005-2010 - 2

Map Point # 27 Planned Future Development – Location of Macedon's Brownfield Opportunity Area – Waterfront and Downtown Revitalization Area – Downtown Corridor along Rte. 31 & Rte. 350

Vulnerability Change
None of the recent developments in the Town are within areas of special Flood (no flood zone), Coastal Erosion, or Radiological risk.

Municipality experience limited development and has not had a major increase in hazard vulnerability as a result.

Town of Marion

The Town of Marion expects a general trend of residential development on the west side of town. In addition, the town foresees industrial development along Route 21 just north of the Hamlet of Marion, and commercial development along Route 21, south of the hamlet.

Recent Development
Total Building Permits 2005-2010 - 15

Map Point # 28 - Planned Future Development - Residential Housing Development - Greenfield Dr

Map Point # 29 - Planned Future Development - Industrial - Route 21 and Kerway Dr

Vulnerability Change
None of the recent developments in the Town are within areas of Coastal Erosion.

27 parcels at least partially within the Radiological Hazard Buffer had structures built on them between 2005-2012.
26 – Residential parcels
1 - Agricultural parcels

7 parcels within the flood zone had structures built on them between 2005-2012.
None of those parcels appear to have a structure or residence in the flood zone

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experience limited development and has not had a major increase in hazard vulnerability as a result.

Village of Newark

The Village of Newark expects commercial development on the south side of the Village, east of Route 88, where 150 acres of Build Now NY land is designated around Ultralife Batteries. On the west side of the Village near Route 31 and the canal, 65 acres are designated as an industrial park, where industrial as well as some commercial development is expected to occur. Residential development is anticipated generally in the southwest corner of the Village, as well as on the Botcher property between Stuart Avenue, Driving Park Circle and the village line.

Recent Development
Total Building Permits 2005-2010 - 78

Map Point # 30 - Recent Development - Commercial - Candy Apple Day Care Facility - Westshore Blvd; Complete Foot Care - 165 Westshore Blvd; Newark Veterinary Hospital - 155 Westshore Blvd; Tuckers Drywall - 101 Westshore Blvd – Industrial - Upstate Refractory Svc - Erie Blvd

Map Point # 31 - Recent Development - Residential - 7 new homes - Nathaniel Drive

Map Point # 32 - Recent Development - Industrial - Halstead Machine - 127 West Shore Blvd

Map Point # 33 - Potential Future Development - Commercial - potential restaurant - Rte. 31 East

Map Point # 34 - Potential Future Development - Commercial - four potential businesses - Erie Blvd

Vulnerability Change
None of the recent developments are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Town of Ontario

The Town of Ontario anticipates intensified commercial development in the 104 corridor. Industrial development is expected along Route 104 from Dean Parkway to Lakeside Road. The committee for the Town of Ontario noted that residential development will occur based on the master plan, as there is water throughout the whole town, but it will depend on where farms go for sale and areas that are adjacent to sewer lines. Three areas where the Town expects to see residential development are the northwest corner of town near Lake Ontario, south of Route 104 between the town line and Lincoln Road, and south of Route 104 between Slocum and Ontario Center Road.

Recent Development
Total Building Permits 2005-2010 - 192

Vulnerability Change
228 residential parcels within the Radiological Hazard Buffer had structures built on them between 2005-2012.

25 parcels at least partially within the flood zone had structures built on them between 2005-2012.
0 - of those parcels appear to have a structure or residence in the flood zone

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

13 parcels (all single family residential) that are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore had structures built on them between 2005-2012. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

No future development locations were identified or anticipated in/near the flood zone.
Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Village of Palmyra

The Village of Palmyra expects only a small amount of residential development. The four small locations where development is expected are Liberty and Hansen Streets, Franklin Street, along Foster Street at the end of Fayette Street, and on the east side of Howell Street.

Recent Development
Total Building Permits 2005-2010 - 4

Vulnerability Change
None of the recent developments in the Town are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experience limited development and has not had a major increase in hazard vulnerability as a result.

Town of Palmyra (Town outside Village)

The Town of Palmyra expects significant residential development north of the village between the town line and the railroad tracks. The town also foresees a mix of residential and commercial development south of the village and west of Route 21. The town also expects to see continued commercial development along the Route 31 corridor.

Recent Development
Total Building Permits 2005-2010 (excluding Village of Palmyra) - 58

Vulnerability Change
None of the recent developments in the Town are within areas of Coastal Erosion, or Radiological risk.

5 parcels at least partially within the flood zone had structures built on them between 2005-2012.
1 - of those parcels appears to have a structure or residence in the flood zone
4 - of those parcels do not appear to have a structure or residence in the flood zone
This could have slightly increase vulnerability to flooding but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced a moderate amount of development and likely has increased vulnerability to those hazards that could occur anywhere in the county.

Village of Red Creek

The Village of Red Creek anticipates a small amount of commercial development along Blue Bell Drive in the central part of the Village, and a small amount of industrial development centrally located in the Village, east of 104A.

Recent Development
Total Building Permits 2005-2010 - 3

Vulnerability Change
None of the recent developments are within areas of special Coastal Erosion, or Radiological risk.

1 residential parcel at least partially within the flood zone had a structure built on it between 2005-2012, but the structure was not in the flood zone.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experience limited development and has not had a major increase in hazard vulnerability as a result.

Town of Rose

The Town of Rose expects some commercial development from Marshall Farms along the Butler town line. In addition, town officials expect to see commercial development along Route 414 south of the Hamlet of Rose.

Recent Development
Total Building Permits 2005-2010 - 28

Map Point # 35 – Current Development - Agriculture - Marshall Farms Building - Galen and Meehan Rd

Vulnerability Change
None of the recent developments are within areas of special Coastal Erosion, or Radiological risk.

1 parcel at least partially within the flood zone had structures built on them between 2005-2012, but no structures were built within the flood zone.

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced a moderate amount of development and likely has increased vulnerability to those hazards that could occur anywhere in the county.

Town of Savannah

The Town of Savannah anticipates commercial development occurring in the southwest corner of town along Spring Lake Road and Van Dyne Spoor Road, and in the vicinity of Robert Congel's Savannah DHU Resort and Conference Center.

Recent Development
Total Building Permits 2005-2010 - 12

Vulnerability Change
None of the recent developments are within areas of special Coastal Erosion, or Radiological risk.

2 parcels at least partially within the flood zone had structures built on them between 2005-2012, but no structures were built within the flood zone.

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced limited development and has not had a major increase in hazard vulnerability as a result.

Town of Sodus (Town outside Villages)

The Town of Sodus foresees a small area of commercial development at the intersection of Route 104 and Old Ridge Road, to the east of the Village of Sodus. A larger area of residential development is foreseen abutting the southern border of the Village of Sodus Point, south of Morley Road and along Sergeant Road and Route 14.

Recent Development
Total Building Permits 2005-2010 (excluding the Villages of Sodus and Sodus Point) - 76

Vulnerability Change
3 Residential parcels within the Radiological Hazard Buffer had structures built on them between 2005-2012.

16 parcels (14 residential) at least partially within the flood zone had structures built on them between 2005-2012.
- 1 - of those parcels appears to have a structure or residence in the flood zone
- 15 - of those parcels do not appear to have a structure or residence in the flood zone

Municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

6 parcels (5 single family residential) that are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore had structures built on them between 2005-2012. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

No future development locations were identified or anticipated in/near the flood zone, but based on recent development trends it is possible that some development could occur close by.

Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Village of Sodus

The Village of Sodus does not anticipate significant future development.

Recent Development

Total Building Permits 2005-2010 - 5

Vulnerability Change
None of the recent developments in the Town are within areas of special Flood (no flood zone), Coastal Erosion, or Radiological risk.

Municipality experience limited development and has not had a major increase in hazard vulnerability as a result.

Village of Sodus Point

The Village of Sodus Point does not anticipate much future development. Some residential development could occur throughout the municipality in four areas: between the Lake Ontario shore and Bay Street, east of Featherly Road; between Bay Street and Sentell Street, west of Seaman Street, in the western part of the Village; a large area in the southern part of the Village, between Route 14 and First Creek; and in a smaller area in the southern part of the Village, east of Route 14, in the vicinity of Bayview Drive and Overlook Drive.

Recent Development
Total Building Permits 2005-2010 – 11

Vulnerability Change
None of the recent developments in the Town are within areas of Radiological risk.

13 residential parcels at least partially within the flood zone had structures built on them between 2005-2012.
- All 13 parcels have structures within the flood zone, it is unknown whether the recent development was the primary residence or not
- 9 - of those parcels are on the shore of Lake Ontario

Vulnerability to flooding could have increased due to recent development but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Future development potential was not identified or in/near the flood zone, but based on recent trends there could be more development in this area in the future on the shore. The village should strictly enforce its floodplain regulations and carefully consider development applications in the floodplain.

5 parcels (all single family residential) that are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore had structures built on them between 2005-2012. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

Municipality experienced limited development and has not had a major increase in vulnerability to hazards that could occur anywhere in the county.

Town of Walworth

The Town of Walworth anticipates further residential development in the Gananda area, specifically between Gananda Parkway and the southern border of the Town, as well as a large area making up the southwest quadrant of the Route 441/Canandaigua Road intersection. This area is just to the northeast of the existing developed portions of the Gananda community. An additional large area of residential development is anticipated between Walworth-Ontario Road and Route 350 on the north side of County Route 205 (Marion-Walworth Road), stretching as far north as Atlantic Avenue.

Commercial development is foreseen for the northeast quadrant of the Route 441/Canandaigua Road intersection, as well as an area to the west, which is south of Penfield Road and east of Walworth Road. In between both of those areas, along Route 441, a small amount of commercial development is expected. Additional small areas of commercial development are foreseen on the east side of Canandaigua Road near the southern border of the Town and on the south side of County Route 205 (Marion-Walworth Road) between Walworth-Ontario Road and Route 350.

Recent Development
Total Building Permits 2005-2010 - 84

Map Point # 36 – Recent and Planned Future Development - Single Family Residential - Multi Phased Subdivision - Orchard View Subdivision

Map Point # 37 - Recent Development and Potential Future Development – Residential - Townhouses

Map Point # 38 – Recent and Planned Future Development - Single Family Residential - Existing Subdivision - Rolford Heights

Map Point # 39 - Recent Development and Potential Future Development – Residential - Mobile Homes - 1612 Hennesy Rd

Vulnerability Change
None of the recent developments in the Town are within areas of Coastal Erosion.

77 residential parcels within the Radiological Hazard Buffer had structures built on them between 2005-2012.

11 residential parcels at least partially within the flood zone had structures built on them between 2005-2012.
- 3 - of those parcels appear to have a structure or residence in the flood zone
- 8 - of those parcels appear not to have a structure or residence in the flood zone

Flood risk could have increased slightly but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Town of Williamson

The Town of Williamson anticipates continued commercial and industrial development to occur along the Route 104 highway corridor and the Ontario Midland Railroad corridor. These parallel each other and run east-west through the center of the Town. Residential growth is anticipated to occur in a random fashion throughout the town, although a significant upcoming residential development is Phase II of Whispering Woods, which lies just west of the Hamlet of Williamson.

Recent Development
Total Building Permits 2005-2010 - 73

Map Point # 40 - Recent Development – Single Family Residential - 4 Lot Subdivision - Newar B. Forman Park, south side of Lake Rd

Map Point # 41 - Recent Development – Single Family Residential - limited number of new homes in last 7 years

Vulnerability Change

11residential parcels at least partially within the flood zone had structures built on them between 2005-2012.

6 - of those parcels appear to have a structure or residence in the flood zone

5 - of those parcels appear not to have a structure or residence in the flood zone

Flood risk could have increased slightly but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

60 parcels within the Radiological Hazard Buffer had structures built on them between 2005-2012.

58 – Residential parcels

2 - Agricultural parcels

11 parcels (10 single family residential) are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

Municipality experienced a large amount of recent development and as a result has increased vulnerability to those hazards that could occur anywhere in the county.

Town of Wolcott (Town outside Village)

The Town of Wolcott notes that the entire Town has potential for residential development. Public water infrastructure along Ridge Road between the Village of Wolcott and the Village of Red Creek, as well as along East Port Bay Road, makes the southern and western parts of the Town more attractive to residential development. In addition, there is a residential subdivision anticipated in the northern part of the Town, along the Lake Ontario shore in the vicinity of Broadway Road and Kakat Road. Commercial development is foreseen along the Route 104 corridor in the southeastern part of the Town.

Recent Development

Total Building Permits 2005-2010 (excluding Villages of Wolcott and Red Creek) - 42

Vulnerability Change

None of the recent developments in the Town are within areas of Radiological risk.

3 parcels (residential) that are within or just on the border of NYS DEC's Coastal Erosion Hazard Areas on the Lake Ontario Shore had structures built on them between 2005-2012. These properties could increase the municipality's vulnerability to coastal erosion but this is not conclusive because coastal erosion vulnerability is location specific depending on topography, soils, etc. No future development has been identified in this area.

7 residential parcels at least partially within the flood zone (outside of the Villages) had structures built on them between 2005-2012.

5 - of those parcels appear to have a structure or residence in the flood zone

2 - of those parcels do not appear to have a structure or residence in the flood zone

Flood risk could have increased slightly but municipality: participates in NFIP; has a designated floodplain officer; and enforces their floodplain laws. See Table 7.5: NFIP Participation and Information.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced a moderate amount of development and likely has increased vulnerability to those hazards that could occur anywhere in the county.

Village of Wolcott

The Village of Wolcott foresees commercial and industrial development occurring in the northwest quadrant of the Village, along West Port Bay Road and Lake Avenue. A modest area of residential development is foreseen in the eastern part of the Village, on the east side of East Port Bay Road, south of Tyrrell Road.

Recent Development
Total Building Permits 2005-2010 - 18

Vulnerability Change
None of the recent developments are within areas of special Flood, Coastal Erosion, or Radiological risk.

No future development locations were identified or anticipated in/near the flood zone.

Municipality experienced limited development and has not had a major increase in hazard vulnerability as a result.

7.6 ESTIMATED POTENTIAL LOSS

This section was updated by applying the existing methodology to the updated facility lists, and current facility values.

Most of the estimated potential financial loss of the updated Critical Facilities and Community Asset Facilities was estimated by using assessment values from real property tax assessments. Wayne County Planning department worked with the Real Property Tax Service department in order to provide property assessment data. Additional Assessment data was provided by Wayne County Water and Sewer Authority related to water/sewer infrastructure assessments.

The structure assessment was used for facilities, which does not include the value of the land. A few facility values were not able to be obtained or estimated.

Assessment values do not represent the costs to rebuild facilities (except bridges); replacement costs are often much higher than assessment values, especially for older structures, therefore these values used can be considered conservative estimates. Given the resources available for developing this plan, and the number of facilities, there was no practical way of determining the cost to rebuild each facility.

Each Critical Facility and Community Asset was calculated at a 25%, 50% and 75% loss. These estimates do not consider functional or content loss. Given the resources available for developing this plan, and the number of facilities, there was no practical way of determining the cost of repairing each facility or to estimate the amount of damage that could occur to each individual facility based on each hazard at multiple magnitudes. The range of repair costs is almost unlimited depending on the building, location, hazard type, magnitude, etc. As a result this method gives a basic estimate of potential loss and illustrates how much property value is at risk.

This method does however provide an accurate indicator of the potential property tax revenue loss for the municipalities should a hazard event destroy a Critical Facility or Community Asset Facility.

Estimated losses for villages are included within the towns they are located within.

Table 7.4: Critical Facility and Community Asset Facility Loss Estimation ($)				
Town of Arcadia				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	57,575,000	43,181,250	28,787,500	14,393,750
Essential	49,436,200	37,077,150	24,718,100	12,359,050
Transportation	908,500	681,375	454,250	227,125
Lifeline Utility	4,302,600	3,226,950	2,151,300	1,075,650
High Potential Loss				
Hazardous Materials	56,778,600	42,583,950	28,389,300	14,194,650
All Community Asset Facilities	9,281,000	6,960,750	4,640,500	2,320,250
Vulnerable Population	6,149,600	4,612,200	3,074,800	1,537,400
Economic Element	2,222,900	1,667,175	1,111,450	555,725
Important Services				
Town of Butler				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	7,224,600	5,418,450	3,612,300	1,806,150
Essential	5,981,300	4,485,975	2,990,650	1,495,325
Transportation	263,300	197,475	131,650	65,825
Lifeline Utility	980,000	735,000	490,000	245,000
High Potential Loss	38,400,500	28,800,375	19,200,250	9,600,125
Hazardous Materials	801,500	601,125	400,750	200,375
All Community Asset Facilities	38,794,100	29,095,575	19,397,050	9,698,525
Vulnerable Population	38,400,500	28,800,375	19,200,250	9,600,125
Economic Element				
Important Services	130,300	97,725	65,150	32,575
Town of Galen				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	8,288,100	6,216,075	4,144,050	2,072,025
Essential	6,671,400	5,003,550	3,335,700	1,667,850
Transportation	252,300	189,225	126,150	63,075
Lifeline Utility	1,050,300	787,725	525,150	262,575
High Potential Loss				

Hazardous Materials	8,626,800	6,470,100	4,313,400	2,156,700
All Community Asset Facilities	3,029,200	2,271,900	1,514,600	757,300
Vulnerable Population	1,343,300	1,007,475	671,650	335,825
Economic Element	648,100	486,075	324,050	162,025
Important Services	314,100	235,575	157,050	78,525
Town of Huron				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	1,293,900	970,425	646,950	323,475
Essential				
Transportation	306,000	229,500	153,000	76,500
Lifeline Utility	715,000	536,250	357,500	178,750
High Potential Loss				
Hazardous Materials	578,900	434,175	289,450	144,725
All Community Asset Facilities	578,900	434,175	289,450	144,725
Vulnerable Population				
Economic Element				
Important Services	272,900	204,675	136,450	68,225
Town of Lyons				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	65,424,700	49,068,525	32,712,350	16,356,175
Essential	50,781,200	38,085,900	25,390,600	12,695,300
Transportation	47,835,600	35,876,700	23,917,800	11,958,900
Lifeline Utility	160,000	120,000	80,000	40,000
High Potential Loss				
Hazardous Materials	23,455,300	17,591,475	11,727,650	5,863,825
All Community Asset Facilities	59,423,300	44,567,475	29,711,650	14,855,825
Vulnerable Population				
Economic Element				
Important Services	56,527,500	42,395,625	28,263,750	14,131,875
Town of Macedon				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	39,163,200	29,372,400	19,581,600	9,790,800
Essential	26,739,000	20,054,250	13,369,500	6,684,750

Transportation	9,636,000	7,227,000	4,818,000	2,409,000
Lifeline Utility	2,714,500	2,035,875	1,357,250	678,625
High Potential Loss				
Hazardous Materials	35,073,200	26,304,900	17,536,600	8,768,300
All Community Asset Facilities	9,806,400	7,354,800	4,903,200	2,451,600
Vulnerable Population				
Economic Element				
Important Services	170,400	127,800	85,200	42,600
Town of Marion				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	16,536,300	12,402,225	8,268,150	4,134,075
Essential	14,315,700	10,736,775	7,157,850	3,578,925
Transportation	205,200	153,900	102,600	51,300
Lifeline Utility	1,829,400	1,372,050	914,700	457,350
High Potential Loss				
Hazardous Materials	14,706,900	11,030,175	7,353,450	3,676,725
All Community Asset Facilities	391,200	293,400	195,600	97,800
Vulnerable Population				
Economic Element				
Important Services	391,200	293,400	195,600	97,800
Town of Ontario				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	278,475,100	208,856,325	139,237,550	69,618,775
Essential	12,700,500	9,525,375	6,350,250	3,175,125
Transportation	5,469,800	4,102,350	2,734,900	1,367,450
Lifeline Utility	260,304,800	195,228,600	130,152,400	65,076,200
High Potential Loss	250,698,600	188,023,950	125,349,300	62,674,650
Hazardous Materials	275,855,100	206,891,325	137,927,550	68,963,775
All Community Asset Facilities	5,838,700	4,379,025	2,919,350	1,459,675
Vulnerable Population	368,900	276,675	184,450	92,225
Economic Element				
Important Services	4,841,200	3,630,900	2,420,600	1,210,300

Town of Palmyra				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	24,293,100	18,219,825	12,146,550	6,073,275
Essential	19,106,000	14,329,500	9,553,000	4,776,500
Transportation	625,800	469,350	312,900	156,450
Lifeline Utility	4,320,600	3,240,450	2,160,300	1,080,150
High Potential Loss				
Hazardous Materials	18,820,600	14,115,450	9,410,300	4,705,150
All Community Asset Facilities	2,054,600	1,540,950	1,027,300	513,650
Vulnerable Population	1,428,800	1,071,600	714,400	357,200
Economic Element				
Important Services				
Town of Rose				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	8,728,500	6,546,375	4,364,250	2,182,125
Essential	8,611,500	6,458,625	4,305,750	2,152,875
Transportation				
Lifeline Utility				
High Potential Loss				
Hazardous Materials	349,900	262,425	174,950	87,475
All Community Asset Facilities	117,000	87,750	58,500	29,250
Vulnerable Population				
Economic Element				
Important Services	117,000	87,750	58,500	29,250
Town of Savannah				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	3,860,600	2,895,450	1,930,300	965,150
Essential	3,711,900	2,783,925	1,855,950	927,975
Transportation	148,700	111,525	74,350	37,175
Lifeline Utility				
High Potential Loss				
Hazardous Materials	3,860,600	2,895,450	1,930,300	965,150
All Community Asset Facilities	148,700	111,525	74,350	37,175
Vulnerable Population				
Economic Element				

Important Services				
Town of Sodus				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	12,593,300	9,444,975	6,296,650	3,148,325
Essential	12,051,800	9,038,850	6,025,900	3,012,950
Transportation	435,500	326,625	217,750	108,875
Lifeline Utility				
High Potential Loss				
Hazardous Materials	12,593,300	9,444,975	6,296,650	3,148,325
All Community Asset Facilities	541,500	406,125	270,750	135,375
Vulnerable Population				
Economic Element				
Important Services	106,000	79,500	53,000	26,500
Town of Walworth				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	44,797,900	33,598,425	22,398,950	11,199,475
Essential	33,078,700	24,809,025	16,539,350	8,269,675
Transportation	725,000	543,750	362,500	181,250
Lifeline Utility	10,994,200	8,245,650	5,497,100	2,748,550
High Potential Loss				
Hazardous Materials	39,815,900	29,861,925	19,907,950	9,953,975
All Community Asset Facilities	1,875,000	1,406,250	937,500	468,750
Vulnerable Population				
Economic Element				
Important Services	1,150,000	862,500	575,000	287,500
Town of Williamson				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	36,269,700	27,202,275	18,134,850	9,067,425
Essential	21,641,500	16,231,125	10,820,750	5,410,375
Transportation	627,900	470,925	313,950	156,975
Lifeline Utility	11,129,600	8,347,200	5,564,800	2,782,400
High Potential Loss				
Hazardous Materials	27,815,800	20,861,850	13,907,900	6,953,950
All Community Asset Facilities	3,183,100	2,387,325	1,591,550	795,775

Vulnerable Population				
Economic Element				
Important Services	2,870,700	2,153,025	1,435,350	717,675
Town of Wolcott				
Facility Type	**Total Facility Value**	**75% Loss**	**50% Loss**	**25% Loss**
All Critical Facilities	13,544,961	10,158,721	6,772,481	3,386,240
Essential	7,975,561	5,981,671	3,987,781	1,993,890
Transportation	682,100	511,575	341,050	170,525
Lifeline Utility	3,682,500	2,761,875	1,841,250	920,625
High Potential Loss	976,300	732,225	488,150	244,075
Hazardous Materials	2,997,361	2,248,021	1,498,681	749,340
All Community Asset Facilities	910,600	682,950	455,300	227,650
Vulnerable Population				
Economic Element				
Important Services	228,500	171,375	114,250	57,125

The NYS Hazard Plan estimates the values of structures and residential structures specifically in floodplains for the purpose of loss estimation.[xxv] See section 7.7.4.

7.7 NATIONAL FLOOD INSURANCE PROGRAM

7.7.1: Explanation

According to FEMA, the NFIP is a federal insurance 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 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 for the Plan Update to determine flood vulnerability are Zone A in the FIRMs, which are defined as 100-year flood zones or areas with 1% annual chance of flooding. 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 Asset Facilities.

7.7.2: Participation by municipality

Table 7.5: NFIP Participation and Information						
Municipality	**Arcadia (T)**	**Newark (V)**	**Butler (T)**	**Galen (T)**	**Clyde (V)**	**Huron (T)**
NFIP Member	Yes	Yes	Yes	Yes	Yes	Yes
Date of Current FIRM	1977	1988	1982	1983	1984	1996
Flood Insurance Rate Maps (FIRMS) have been reviewed and consideration given to whether an update is needed. (Dates = Letter of Map Amendments/Changes - LOMA/LOMC)	Yes, 1/28/2010	Yes, Will be updated in 2013	Yes	Yes, 4/17/2002, 5/31/2007, 4/29/2010, 1/11/2011	Yes	Yes, 3/8/2002, 7/8/2004
Date of Flood Insurance Study	11/2/1977	7/15/1988	None	5/16/1983	12/18/1984	1/19/1996
Adoption of floodplain law to regulate development (FEMA minimum standards)	Yes	Yes	Yes	Yes	Yes	Yes
Enforcement of floodplain management laws (issuing/denying building permits and floodplain development permits)	Yes	Yes	Yes	Yes	Yes	Yes
A person is designated for floodplain management	Yes	Yes	Yes	Yes	Yes	Yes
Designated Position	Code Enforcement Officer		Code Enforcement Officer			
Flood Insurance Rate Maps (FIRMS) and special flood hazard areas have been considered in planning processes updates to plans, laws, grant applications, etc.	Yes		Yes	Yes, 2006 zoning law update	Yes, 2006 zoning law update	
Flood insurance info and/or flood damage prevention info is provided to property owners (when applicable)	Yes	Yes	Yes	Yes, Pamphlets and Brochures	Yes, Pamphlets and Brochures	
Additional NFIP work				Public edu, mailings regarding requirements for owners in floodplains	Public edu, mailings regarding requirements for owners in floodplains	

Municipality	**Lyons (T)**	**Lyons (V)**	**Macedon (T)**	**Macedon (V)**	**Marion (T)**	**Ontario (T)**
NFIP Member	Yes	Yes	Yes	Yes	Yes	Yes
Date of Current FIRM	1979	1983	1984	1983	1988	1978

FIRMS have been reviewed/update needs considered. (Dates = Letter of Map Amendments/Changes - LOMA/LOMC)	Yes	Yes considered. Update probably not needed. Canal water level is regulated. 4/18/2005	Yes, Have referred LOMRs to Fema, 3/2/2011	Yes, 11/10/2011	Yes	Yes, new update is needed, 1/13/1999, 5/3/2002, 12/18/2002, 3/23/2005, 2/23/2006, 3/20/2007, 7/19/2007, 12/20/2007, 10/19/2010, 1/13/2011, 2/9/2011, 8/4/2011, 12/6/2011 5/8/2012
Date of Flood Insurance Study	None	3/16/1983	1/5/1984	9/30/1983	None	6/1/1978
Adoption of floodplain law to regulate development (FEMA minimum standards)	Yes	Yes	Yes	Yes	Yes	Yes
Enforcement of floodplain management laws (issuing/denying building permits and floodplain development permits)	Yes	Yes	Yes	Yes	Yes	Yes
A person is designated for floodplain management	Yes	Yes	Yes	Yes	Yes	Yes
Designated Position	Code Enforcement Officer		Stormwater Management Officer		Code Enforcement Officer	Building Inspector/Code Enforcement
Flood Insurance Rate Maps (FIRMS) and special flood hazard areas have been considered in planning processes updates to plans, laws, grant applications, etc.	Yes	Yes	Yes, Master Plan			Yes
Flood insurance info and/or flood damage prevention info is provided to property owners (when applicable)	Yes	Yes, brochures distributed when appropriate	Yes, during site plan review, and approving building permits		Yes	Yes

Additional NFIP work					Created Drainage district, Drainage Board/Committee and attempting to mitigate flood problems	Town of Ontario is an M5-4 and is a member of the Ontario-Wayne Storm Water Coalition

Municipality	**Palmyra (T)**	**Palmyra (V)**	**Rose (T)**	**Savannah (T)**	**Sodus (T)**	**Sodus (V)**
NFIP Member	Yes	Yes	Yes	Yes	Yes	No
Date of Current FIRM	1978	1988	1984	1982	1992	
FIRMS have been reviewed/update needs considered. (Dates = Letter of Map Amendments/Changes - LOMA/LOMC)	Yes	Yes	Yes, 8/2/2006, also reviewed during master plan update	Yes, 2/21/2008	Yes, 10/27/2005	
Date of Flood Insurance Study	3/1/1978	7/15/1988	None	None	2/1/1978	
Adoption of floodplain law to regulate development (FEMA minimum standards)	Yes	Yes	Yes	Yes	Yes	
Enforcement of floodplain management laws (issuing/denying building permits and floodplain development permits)	Yes	Yes	Yes	Yes	Yes	
A person is designated for floodplain management		Yes	Yes	Yes	Yes	
Designated Position			Supervisor and Code Enforcement Officer	Supervisor	Code Enforcement Officer	
Flood Insurance Rate Maps (FIRMS) and special flood hazard areas have been considered in planning processes updates to plans, laws, grant applications, etc.						
Flood insurance info and/or flood damage prevention info is provided to property owners (when applicable)	Yes			Yes	Yes	
Additional NFIP work						

Municipality	Sodus Point (V)	Walworth (T)	Williamson (T)	Wolcott (T)	Wolcott (V)	Red Creek (V)
NFIP Member	Yes	Yes	Yes	Yes	Yes	Yes
Date of Current FIRM	1977	1983	1978	1992	1984	1983
FIRMS have been reviewed/update needs considered. (Dates = Letter of Map Amendments/Changes - LOMA/LOMC)	Yes, 11/6/2003, 12/21/2009, 7/23/2010	Yes, 6/12/1998, 12/21/2000, 9/27/2002, 11/3/2004, 3/23/2005, 12/28/2006, 3/8/2007, 4/24/2007, 11/15/2007, 1/27/2009, 4/7/2009, 4/21/2009, 5/5/2009, 9/15/2009, 10/16/2009, 10/23/2009, 12/21/2010, 3/2/2011, 3/29/2011, 11/29/2011, 12/8/2011, 2/9/2012	Yes, 11/1/2005, 1/22/2009, 2/22/2011	Yes, 6/28/2011, 2/28/2012		
Date of Flood Insurance Study	11/2/1977	3/16/1983	10/17/1978	None	None	None
Adoption of floodplain law to regulate development (FEMA minimum standards)	Yes	Yes	Yes	Yes		
Enforcement of floodplain management laws (issuing/denying building permits and floodplain development permits)	Yes	Yes	Yes	Yes		
A person is designated for floodplain management	Yes	Yes	Yes	Yes		
Designated Position	Building Inspector	Flood Plain Manager	Assessor/ Building Inspector	Code Enforcement Officer		
Flood Insurance Rate Maps (FIRMS) and special flood hazard areas have been considered in planning processes updates to plans, laws, grant applications, etc.	Yes	Yes		Yes		
Flood insurance info and/or flood damage prevention info is provided to property owners (when applicable)	Yes	Yes, owners are referred to Fema	Yes, flood certifications are prepared by licensed land supervisor	Yes		
Additional NFIP work						

Out of Date FIRMs

The Town of Huron has the most recent FIRMS but the maps are still 17 years old. Three municipalities have FIRMS from the 1990's, 14 from the 1980's, and 6 from the 1970's. These firms do not have 500 year flood zones delineated. Outdated maps make planning, analysis and enforcement much more difficult. While the Letter of Map Change program allows small updates when an error is noticed, this is not enough. Wayne County and all municipalities request that FEMA work with them to update FIRM maps as soon as possible.

7.7.3: NFIP Policies, Claims and Payments

The table below illustrates the number of NFIP policies, coverage, claims and payouts since 1978. The table is organized by the Total Payout since 1978 ($). Bold numbers represent the top 5 values in each column.

Table 7.6 NFIP Policies, Claims and Payments by Municipality since 1978

Federal Emergency Management Agency, NFIP Insurance Report, New York, 2013

Municipality	Total Premium	A-Zone Policies*	Total Policies	Total Coverage	Total Claims Since 1978	Total Paid Since 1978 ($)
Sodus (T)	$ 8,968	6	**14**	$ 2,584,300	**11**	**$ 224,416**
Huron (T)	**$ 11,092**	**15**	**25**	**$ 3,632,600**	**15**	**$ 142,341**
Galen (T)	$ 7,053	**8**	11	$ 863,000	**20**	**$ 105,994**
Sodus Point (V)	**$ 73,174**	**65**	**74**	**$ 14,114,800**	**21**	**$ 80,101**
Palmyra (T)	$ 1,304	0	2	$ 292,000	4	**$ 48,905**
Marion (T)	$ 5,190	3	3	$ 638,200	2	$ 33,804
Ontario (T)	**$ 55,599**	**40**	**56**	**$ 10,052,400**	**8**	$ 12,470
Clyde (V)	$ 7,372	6	8	$ 1,109,100	4	$ 12,046
Red Creek (V)	$ 390	1	1	$ 36,900	5	$ 10,970
Wolcott (V)	$ 243	0	1	$ 70,000	3	$ 8,123
Arcadia (T)	$ 7,939	**8**	10	$ 983,800	5	$ 5,792
Williamson (T)	**$ 10,203**	**9**	**14**	**$ 2,620,700**	2	$ 5,209
Rose (T)	$ 1,005	1	2	$ 268,000	1	$ 4,494
Wolcott (T)	$ 4,453	4	8	$ 1,288,600	3	$ 1,560
Lyons (V)	$ 3,046	5	6	$ 1,604,500	1	$ 228
Newark (V)	$ 2,150	1	5	$ 1,097,000	1	$ 0
Lyons (T)	$ 864	1	2	$ 256,000	1	$ 0
Walworth (T)	$ 6,855	4	**15**	**$ 3,343,800**	0	$ 0
Macedon (T)	**$ 9,103**	2	5	$ 1,424,300	0	$ 0
Butler (T)	$ 313	0	1	$ 105,000	0	$ 0
Savannah (T)	$ 1,062	2	3	$ 92,500	0	$ 0
County Total :	$ 217,378	181	266	$ 46,477,500	107	$ 696,453

Bold numbers represent the top 5 values in each column

*Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply. http://www.fema.gov/floodplain-management/zone

Table obtained from the Bureau of Flood Protection and Dam Safety, NYS Department of Environmental Conservation

7.7.4: Parcels and population in Floodplain[xxvi]

Estimated population in floodplain – 5,280
Parcels in floodplain – 1,912
Residential parcels in floodplain – 1,093
Estimated total property value in floodplain – $170,000,000 – $270,000,000

While one may think the Total Policies and Total Coverage columns in the table above relate directly to the amount of properties and property value at risk this is not the case. A major problem in Wayne County is the amount of properties and property value not insured in the NFIP program. NFIP coverage is only required by banks in order to obtain mortgages, thus properties that are paid for do not require NFIP insurance. This could be one of the causes of the lack of insurance.

According to the NYS Hazard Mitigation Plan, Wayne County ranks in the top three in the State for the ratio of least amount of residential NFIP coverage vs. total residential property value in the flood zone. Total residential property value in the flood zone is worth four times the amount of residential property value that is covered under NFIP.[i] Similarly, four times as many residential parcels are in the floodzone (1093), as residential parcels with NFIP policy coverage (270).[ii] In other words, 75% of the residential property value in the flood zone, and 75% of residential parcels in the floodzone are not insured under NFIP!

7.7.5: Repetitive Loss Properties

Repetitive loss properties are defined as those that have had two or more NFIP claims within a 10 year period of over $1,000. Three properties within Wayne County are considered repetitive loss properties.

- One single family residence - Village of Sodus Point – two losses - $4,823 total claims
- One single family residence – Town of Huron – two losses - $41,047 total claims
- One single family residence – Village of Clyde – three losses - $55,537 total claims

See Map 17 - Wayne County NFIP Repetitive Flood Loss Areas

These seven claims totaled over $101,407 in building damages. No Severe Repetitive Loss properties were present in the County. Severe Repetitive Loss properties are those that are either single family or multifamily residential having either four or more NFIP claims each (at least two of which having occurred within 10 years of each other) for more the $5,000, totaling over $20,000; or at least two claims that when combined equal more than the market value of the property.

Chapter 8 - Mitigation Strategy

According to the Federal Emergency Management Agency, mitigation is the cornerstone of emergency management. Mitigation involves long-term actions taken to lessen or eliminate the impact of disasters on people's lives and the built environment. Pre-disaster planning protects people and lessens the cost of disaster response and recovery.

Chapter 5 identified hazard events that could occur in Wayne County. Chapter 6 detailed the history of all previous hazard events. Chapter 7 identified critical facilities and community assets in Wayne County, and assessed the vulnerability of these facilities to specific hazards.

Chapter 8 outlines the methodology, mitigation goals and objectives, and proposed strategy for lessening or eliminating the risks associated with each community's vulnerability to various hazard events.

8.1 METHODOLOGY

In general the Mitigation Strategy Update was created based on new and old information gathered for the Plan Update, as well as strategies that were included in the Existing Plan. The process followed was similar to the Existing Plan, but also included a review, analysis and update of existing mitigation strategies. The process began with a review of the Existing Plan's: goals/objectives; mitigation actions; priorities; and other data. Specific methodology updates are included by section below.

EXISTING METHODOLOGY

The Mitigation Strategy was developed with direct input from the Wayne County All-Hazard Mitigation Planning Committee. The strategy was developed in several phases.

In August 2005 the Wayne County All-Hazard Mitigation Planning Committee developed ideas regarding potential goals and objectives based on the hazard assessment. From this list of goals and ideas, the Genesee/Finger Lakes Regional Planning Council developed a list of draft goals and objectives. The draft list of goals and objectives was then presented to all possible stakeholders.

Every municipality was asked to attend one of three regional meetings held throughout the county.

At each regional meeting, municipal committees reviewed the draft goals and objectives, and were asked to provide comments or recommended changes. After discussing the goals and objectives, the committees were led through a review of mitigation strategies. Each committee was asked to develop and record as many ideas as they could for mitigating the high hazards. The outcome of each meeting was: a prioritized list of facilities, a review of the goals and objectives, and a list of potential mitigation strategies.

The next meeting was made up of representatives from various county agencies who met to discuss mitigation goals, objectives and actions. After reviewing the countywide vulnerability assessment, the county representatives provided feedback on the goals and objectives. After reviewing the goals and objectives, the group reviewed the summary of mitigation strategies suggested by the municipalities. The county representatives commented on the municipal suggestions, and suggested a number of their own mitigation strategies. The outcome of the meeting was a further developed set of mitigation goals, objectives and actions.

The goals and objectives were reviewed a final time at a following planning committee meeting. The committee had a few minor changes, but following the inclusion of those changes, they approved the draft goals and objectives as final. In addition the committee also reviewed a draft list of mitigation strategies. Municipal representatives were asked to indicate which strategies they would adopt in their town or village, and county representatives were asked to consider

which strategies would be appropriate at a countywide level. Both groups were asked to do a preliminary prioritization of the mitigation actions. This feedback led to a more detailed description of the mitigation strategy.

Planning committee members received the draft mitigation strategy prior to the next meeting, and were asked to discuss and review all the mitigation actions and the overall strategy in general at the meeting. A ranking process that was used where each committee member was given 100 red sticky dots, and asked to use them to prioritize the 85 mitigation actions that comprise the mitigation strategy.

The committee members also used FEMA's STAPLEE criteria (illustrated below) to prioritize the mitigation action items. The information regarding estimated cost, as well as possible sources of funding, involved organizations, lead agencies, and estimated time frame was all provided for committee members to weigh in the prioritization process. This information allowed them to do a cost-benefit analysis as they considered the priority of various mitigation actions. The committee reviewed the priorities which arose from their collective efforts, and confirmed that the priorities had been assigned correctly.

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.

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.

During the Existing Plan's creation each mitigation measure was initially prioritized by considering its ability to effectively address a hazard event. After the mitigation measure's ability to reduce or eliminate a potential hazard was assessed, the seven STAPLEE criteria were used a means to determine the final priority of High, Medium, or Low.

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.

The municipal prioritization also used the STAPLEE criteria. Municipal officials were asked to select a number of mitigation measures from the master list that they considered particularly important for their communities.

8.2 MITIGATION GOALS AND OBJECTIVES UPDATE

The Goals and Objectives from the Existing Plan were discussed at the November 13th 2012 and both November 14th 2012 meetings. The committee agreed that Goals and Objectives of this plan remain the same as they did for the Existing Plan and should not be changed.

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.

8.3 MITIGATION MEASURES - UPDATE

At the November 13th 2012, and both November 14th 2012 meetings, past and future mitigation actions were discussed. Prior to the meetings Committee members were asked to review the exiting Mitigation Measures and discuss with their colleagues the concepts that were to be discussed at the meeting to be prepared to report on implementation progress, needed changes and discuss strategies going forward. Conversations were similar at the Agency meeting and both municipal meetings, with focus pertaining to each specific group. Each mitigation action from the existing plan was reviewed and discussed regarding implementation progress. Mitigation action additions were also discussed and added to the strategy.

More details were finalized at the Agency meeting as the group was working with one list of actions. The municipal meetings served as more of an introduction and initial gathering of data, and then attendees were asked to gather and finalize each of their municipal action strategies with the help of other municipal representatives. Determination was then made as to whether each action should remain in the plan, be adjusted, or be removed and for what reasons.

Committee members were encouraged to return to their agencies to review the concepts discussed and provide any follow up additions or comments. Municipal representatives were asked to return to their municipalities in order to complete and finalize follow up additions or comments.

Analysis of Mitigation Measures - Update

A detailed cost-benefit analysis of each mitigation measure was beyond the scope and intent of the Existing Plan as well as the Plan Update. Mitigation measures were prioritized in the Existing Plan using the sticker method and STAPLEE method described above. For the Plan Update, the STAPLEE process was not repeated, but rather the committee used the priorities created in the Existing Plan as a basis, and decided if priorities had changed for existing actions with consideration given to things like: updated vulnerabilities; new information in the Plan Update; general cost/benefit of the actions; feasibility; County/municipal priorities; etc. Additional mitigation measures were prioritized in the same way.

MITIGATION ACTION CATEGORIES

For consistency, updated Mitigation Actions were grouped into the six key categories used in the Existing Plan:

1. **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

2. **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

3. **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

4. **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

5. **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

6. **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 – MITIGATION ACTION PLAN

The Existing Action Plan was used as a template to create the Updated Mitigation Action Plan Table. Existing mitigation measures was reviewed and updated based on committee input, County/municipal input, and current conditions in order to lessen the impacts of hazard events in Wayne County. Implementation progress is listed for each action. Adjustments, changes and removal of any past actions were also noted in the table. Additional actions were created and action plans were developed for each.

Each Mitigation Action in the table includes the following information described below:

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.

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.

Mitigation Measure – The abbreviated Mitigation Measure from the Master List. Please refer back to the Master List for the full Mitigation Measure; the measures were shortened simply to save space in the tables.

Priority – Refers to the order in which the mitigation measures will be implemented on a *County-wide* scale. High priority mitigation measures will be carried out first, followed by Medium and then Low priority measures. This prioritization does not apply to the municipalities; each municipality has its own customized list of prioritized mitigation measures (see municipal tables on pages

Time Frame Goal – Refers to the estimated time period during which the mitigation measure should ideally be implemented.

Potential Funding Sources – A suggestion of organizations, or grants where funding might be available. With over 70 mitigation actions for the County alone, an in depth review of all the funding opportunities related to each individual action was not feasible. Instead the potential funding source column is intended to point the Lead and Involved agencies in the right direction so that they which agencies and grants they should look further in to for the specific action they wish to implement. See Appendix Ch-8.3 Potential Programs and Grants for more detailed funding information.

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 potentially has 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* and should be used as a guide, rather than as a definitive cost statement. Categories: Low = $0-$10k, Med = $11k-$50k, High>$50k

Where insufficient information was available to provide a reasonable estimate, costs will be included in future revisions of this plan as additional information becomes available. "TBD" (to be determined) is inserted as a placeholder until sufficient information becomes available.

Progress – An explanation of any related progress that has occurred pertaining to mitigation actions that were included in the Existing Plan.

Going Forward – A description of how the existing mitigation action will remain in the Plan Update, be adjusted, or removed. Actions that are to be changed or removed include an explanation of why. This column also includes any changes to a mitigation actions priority, and an explanation of why any other columns were changed for example lead agencies, etc.

The Mitigation Action Plan is in table format and is located in Appendix Ch-8.1

MUNICIPAL MITIGATION MEASURES

During the Existing Plan creation, each of the municipalities agreed that the Mitigation Measures were relevant and important to the County as a whole. Each municipality selected actions from the list that were priorities for their municipalities specifically. This was done in order to allow municipalities to focus their efforts rather than being overwhelmed by a huge list of actions, and not all County actions were relevant for every municipality.

During the November 14th 2012 meeting and following that meeting municipal representatives reviewed both the County-wide list of mitigation actions as well as their past mitigation actions to determine which actions would be chosen to include in the Plan Update. Municipal representatives were asked to describe any progress that had been made on the action and any related details. They were also asked to explain whether the action should be included in the update and why, as well as whether the priority had changed. Some municipalities gave more information than others. Detailed information was not able to be obtained from every municipality, although attempts were made through multiple follow up requests.

Municipal Mitigation Actions Table can be found in Appendix 8.2. Action updates were not able to be obtained from every municipality.

Since the Existing Plan was completed, many municipal actions have not been completed and many have not been attempted yet either. Municipal funding is very scarce and staff has been reduced in many Wayne County Communities making implementation of many of these actions difficult. In most cases though, communities wanted to keep various actions that were important to them, and could attempt implementation if funding became available.

Due to the broad overlap between town and village hazard concerns, mitigation measures for most villages are included in the tables for the towns within which the village lies.

Chapter 9 - Plan Implementation, Maintenance and Adoption

SECTION 9.1: PURPOSE

The purpose of the Plan Update remains the same as the Existing Plan:

This plan update is intended to help guide Wayne County and its municipalities over the next five years in their efforts to eliminate of minimize hazard event impacts to critical facilities and community assets. It will serve as an evolving framework to address the hazard issues identified within.

SECTION 9.2: PLAN UPDATE ADOPTION SYSTEM

The system of Plan Adoption remains the same as the Existing Plan:

The Wayne 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 County Board of Supervisors and at the direction of County Administration, County departments will be responsible for activities required to assist the Board carry out these actions.

Each of the twenty-four municipalities has a governing body (Town Board or Village Board) that has the primary responsibility for implementing mitigation measures pertinent to their particular jurisdiction. Municipal departments and volunteer boards (planning boards and zoning boards of appeals) will assist the municipality in meeting its goals for hazard mitigation.

The Disaster Mitigation Act of 2000 requires that local units of government formally adopt hazard mitigation plans. The County Board of Supervisors and the local governing bodies will adopt the Plan following a required public hearing and FEMA approval. These boards can insure implementation by setting priorities, establishing budgets and allocating resources, and identifying funding opportunities. Hazard mitigation can also be achieved through partnerships between government and local entities such as the hospitals, fire departments, emergency service responders, businesses, schools, community organizations and environmental agencies.

WCWSA will also adopt this plan as their official Hazard Plan.

See Appendix Ch-9.1: *Model Adoption Resolution*.

SECTION 9.3: CAPASITY AND CAPABILITY ASSESSMENT

Wayne County municipalities have very limited capacity to conduct Hazard Planning. Municipalities in many ways depend on organization and capacity at the county level to provide guidance and assistance. Towns and Villages do not have large reserve funds available or a significant amount of staff time available to spend solely on Hazard Mitigation. Some municipalities did not even have staff and funding capacity to send representatives to attend hazard planning meetings and/or contribute all of the detailed data requested. Many programs and staff in some cases have been cut or consolidated over the years. For this reason, municipalities as well as Wayne County have to utilize the staff they already have, and the programs, processes and policies already in place to work toward hazard mitigation. In the future municipalities need to maintain some level of participation even if it is in a limited capacity. Perhaps volunteers could represent the community if staff is not able to fully participate.

Municipal tax authority is used to fund the municipal budgets and staff, and it is essential for mitigation to be integrated into these exiting processes and job responsibilities. The potential to do large projects on the other hand is often time tied directly to the availability of grant funding as opposed to budgets.

Much of the capability related to hazard planning and mitigation lies at the County level, thus some capacity is the same from town to town. See Appendix Ch-9.2 *Wayne County Capability Assessment* for specific information.

Section 2.1 *Plan Update Committee* and Appendix Ch-2.1 *Hazard Plan Update Committee Meeting Attendance/Participation* also have information on limits to capacity.

SECTION 9.4: PLAN UPDATE IMPLEMENTATION

The implementation section of the Existing Plan was very general, so it has been expanded and more specific details have been added. Implementation methods were briefly introduced at the 11/13/12 & 11/14/12 meetings. Past implementation, future implementation and plan monitoring/updates were discussed and data request forms were distributed.

Information pertaining to how municipalities utilized and worked to implement the existing plan can be seen in Appendix Ch-9.3 *Existing Monitoring and Implementation Methods by Municipality*.

Additional information and model methods were distributed to give examples of ways the plan could be incorporated into government decision making and planning processes and implemented to Committee Members following this meeting. Committee Members were asked to review these sample methods with other representatives from their municipalities to decide which implementation methods they would use, and to add any additional methods they wanted. Most municipalities choose incorporation methods from this list of sample methods, while others made small adjustments and additions (see Appendix Ch-9.4: *County and Municipal Implementation Methods*). Some municipalities were not as responsive in deciding on incorporation/implementation methods so a basic list of minimum methods were distributed which municipalities then agreed to include in the plan and use. (Arcadia, Huron, Lyons T&V, Macedon V, Marion, Ontario, Red Creek, Sodus T&V, Sodus Point, Williamson, Wocott V) It is recommended that these municipalities review these methods in more detail in the future and make adjustments where needed. Villages may consider combining efforts with their towns.

At the County level, the Wayne County Board of Supervisors is the governing body and ultimately has the responsibility for implementing the Plan Update recommendations related to County facilities and operations. County departments will also be responsible for specific recommendations (see Lead Agency and Involved Agency columns of Appendix Ch-8.1: Mitigation Action Plan). Key departments responsible for implementation include: Emergency Management, Planning, Soil and Water Conservation District and Highway Department.

At the municipal level, Town and Village boards are primarily responsible for implementing mitigation action for their jurisdiction, but some measures will be the responsibility of municipal departments or boards such as a highway department or department of public works, and a planning board.

Hazard mitigation projects can also be realized through partnerships between government and local entities such as hospitals, fire departments, emergency service responders, school districts, businesses, community organizations and environmental agencies.

Appendix Ch-9.4: *County and Municipal Implementation Methods*

Plan Implementation is included as a mitigation action for the County and Municipalities in Appendix Ch-8.1: *Mitigation Action Plan*.

Local Law Integration

A long-term objective of the hazard mitigation planning process is the integration of the completed hazard mitigation plan update, with local land use documents such as comprehensive plans, zoning codes, subdivision regulations, etc. This should be done to institutionalize hazard mitigation planning within local ordinances.

An assessment update of local land use documents was completed for the Wayne County All-Hazard Mitigation Plan, and reviewed and revised for this Plan Updated. This assessment update was carried out in order to determine what provisions, if any, currently exist in local land use laws for reducing hazard impacts. 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 Ch-3 Wayne County Local Law Assessment Update.

Municipal governments will 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 9.5: PLAN MAINTENANCE SYSTEM

The existing system set forth for plan maintenance, was not completely successful, therefore the method was adjusted and simplified.

Between the time the Existing Plan was finalized in 2007 to May of 2012 the Hazard Planning Committee did not meet for annual Plan review meetings. Official review began in May 2012 October 2011 when the Plan Update process began. During the previous time period individual County agencies such as Emergency Management, Planning, and the Soil & Water Conservation District utilized the Plan and worked on implementation of mitigation actions (see Appendix Ch-8.1: *Mitigation Action Plan*) but did not meet formally. Municipalities continued to review and use the Plan throughout this time period but did not meet formally as a group to review the Plan as a whole (see Appendix Ch-9.3: *Existing Monitoring and Implementation Methods by Municipality*). The group should have met every year, even if briefly to discuss the plan, identify any issues with it, suggest improvements, and record any progress that had been made.

Because the previous update and maintenance schedule was not successful, the group should simplify it to focus on necessary maintenance. The method from the Existing Plan was used as a starting point to create the new method.

The strategy is as follows:

Ongoing Maintenance - The Wayne County Office of Emergency Management will coordinate the ongoing maintenance of the All-Hazard Mitigation Plan though coordination with municipalities, county agencies, board of supervisors, and related groups pertaining to implementation of mitigation actions, and as issues arise.

Annual Plan Review – Wayne County Emergency Management will coordinate the annual review and evaluation of the plan document. Hazard Planning Committee members, county agencies, and municipalities will be reminded to review the plan annually in preparation for the Annual Plan Review Meeting and will be sent an Annual Status Report (ASR) to complete and return. Representatives will communicate with their respective departments or municipalities before the meeting to complete the ASR determine concerns/issues/updates.

The public will be made aware of the Annual Plan Review and will be invited to review the Plan and provide comments and questions at the Annual Review Meeting.

Annual Plan Review Meeting - Wayne County Emergency Management will coordinate the Annual Plan Review Meeting to be held one year after FEMA approval and then again during each successive year. Hazard Planning Committee members, county agencies, municipalities and interested citizens will meet to discuss progress made in

implementing the Mitigation Strategy; possible updates to the hazard ranking if needed; the addition, removal, and modification of specific mitigation projects; and any necessary updates to the Risk Assessment. The group must also evaluate the effectiveness of the plan and if changes or updates are needed to make the plan more effective.

During the annual review, the Planning Committee will use the FEMA publication *Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA 386-4), specifically *Step 4: Revise the Plan*, as a guide. This document explains the procedures and techniques the Planning Committee should consider and follow while reviewing and potentially revising the Plan.

These meetings will be publicized by press releases published in local newspapers and on the Internet. These notices will announce the annual review process, provide the location where copies of the Plan can be obtained, and request the submittal of comments to the Planning Committee, before the meeting. The notice will be made early enough to give at least 30 days for public review and comment prior to meeting.

In addition to the regular annual Plan Review Meetings, the Planning Committee will hold a Plan Review Meeting 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 strategy.

Annual Plan Review Meeting Summary/Progress – Wayne County Emergency Management will record discussions from the Annual Meeting and distribute the summary to Committee members. Emergency Management will report the meeting summary/progress to the Board of Supervisors. Committee members will report meeting summary/progress to their respective departments or municipalities.

Plan Updates – Information gathered from Annual Meetings will be retained for use during Plan Updates. In most cases, due to limited staff and funding the information and changes will be saved and incorporated in the 5-year update, rather than making changes and updates each year. If the Planning Committee decides there are major additions or changes that can't wait to be incorporated during the next 5 year update, these changes can be incorporated into a Plan Amendment.

Plan Maintenance is included as a mitigation action for the County and Municipalities in Appendix Ch-8.1: *Mitigation Action Plan*.

SECTION 9.6: PLAN UPDATE PROCESS

The plan update process will remain the same as it did in the existing plan.

The Plan will be updated every 5 years based on the annual review of the Planning Committee, the comments of the general public, adoption of the municipal boards, and submission to NY SEMO and FEMA for review. The five year cycle will commence with the initial approval of the plan by SEMO and FEMA.

The update process will incorporate changes discussed during Annual Review Meetings, and will also include an in-depth review and revision of every section. Each process completed during Plan creation will be redone, but will be guided by information and processes completed in the Existing Plan.

When the Update is complete, the Emergency Management Office will forward the Plan to NYSOEM for review. NYSOEM will either return the plan to the Emergency Management Office with comments to address, or will forward the Plan to FEMA for review. Necessary changes will be made and the Plan will be returned to NYSOEM and FEMA.

After FEMA approves the updated Plan, the Wayne County Board of Supervisors and the town and village boards will adopt a resolution approving a revised and updated version of the Plan.

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[iv] *Table 3.11c Historical and Recent High Wind Events and Losses*, 2014 New York State Hazard Mitigation Plan Draft, NYS Office of Emergency Management, http://www.dhses.ny.gov/oem/mitigation/hm-plan-2013.cfm
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[vi] *Historic Tornado Tracks 1960-2012*, 2013 New York State Hazard Mitigation Plan Draft, NYS Office of Emergency Management, http://www.dhses.ny.gov/oem/mitigation/hm-plan-2013.cfm
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[xv] 3.5 Coastal Erosion Hazard, 2013 New York State Hazard Mitigation Plan Draft, p3.5-5, NYS Office of Emergency Management, http://www.dhses.ny.gov/oem/mitigation/hm-plan-2013.cfm
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