

Appendix A
Additional Figures and Tables

Figure 2.1 – Average Annual Precipitation for New York State (World Book, 2010)

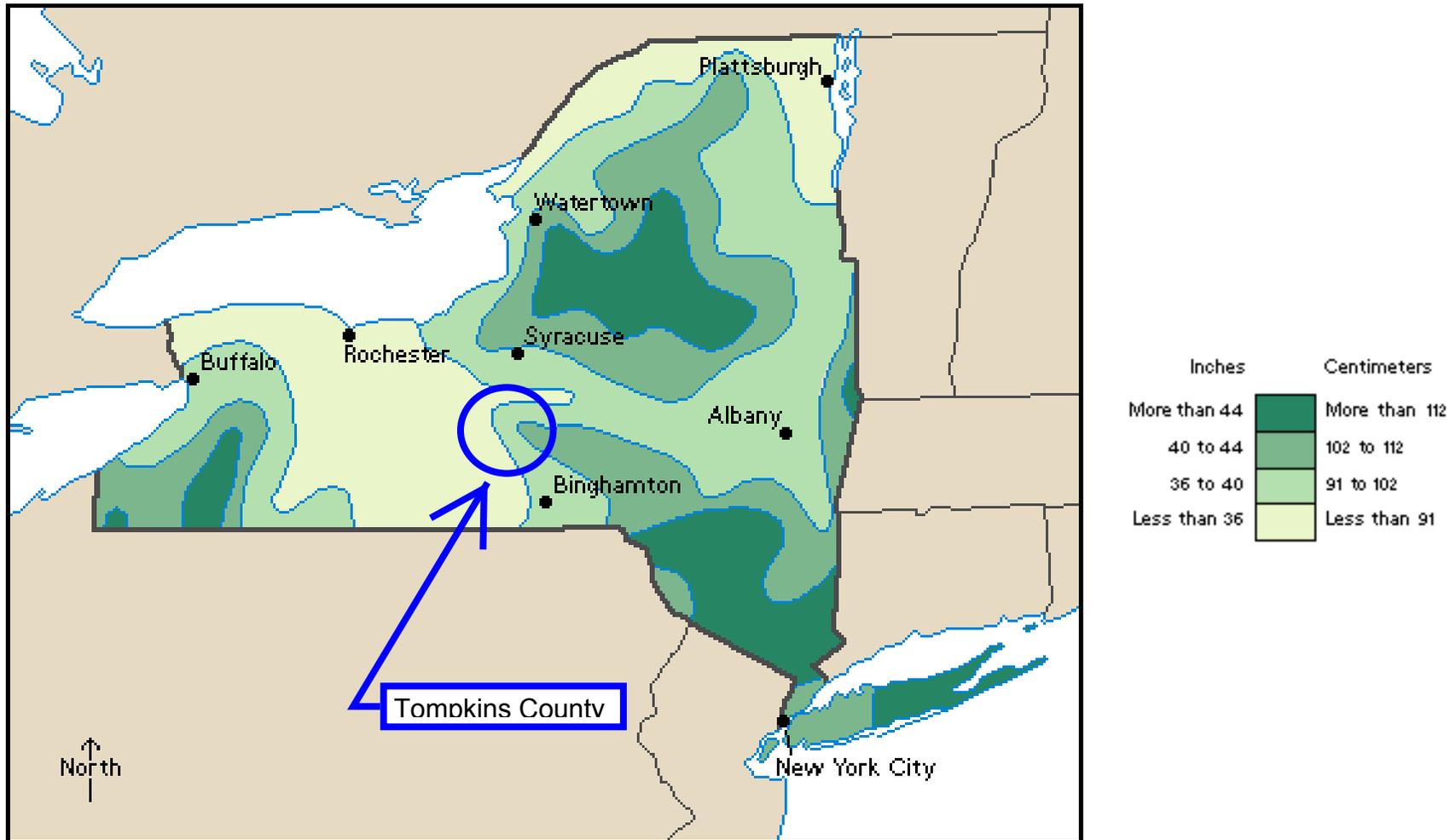


Figure 2.2 – Average January Temperatures for New York State (World Book, 2010)

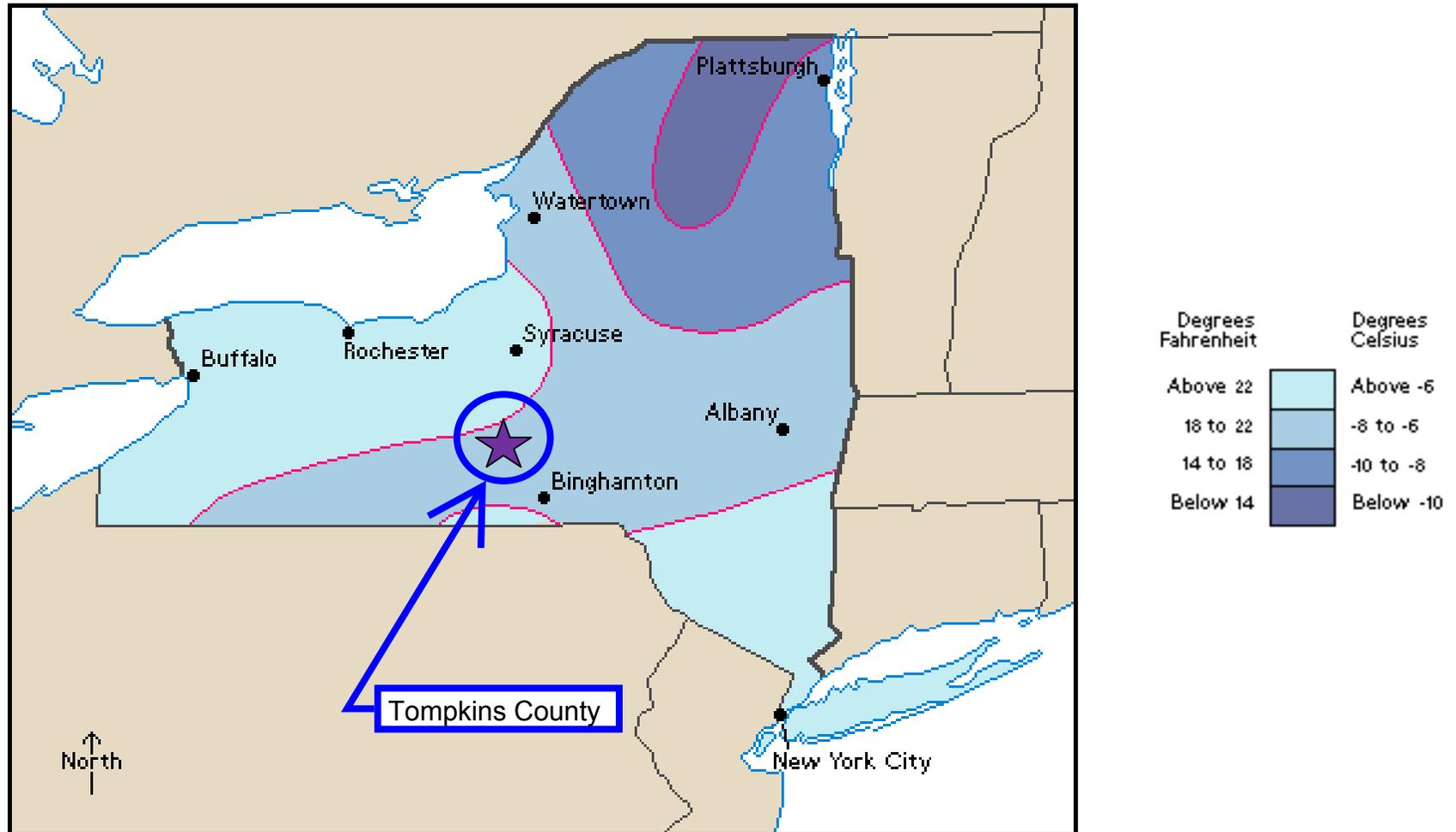


Figure 2.3 – Average July Temperatures for New York State (World Book, 2010)

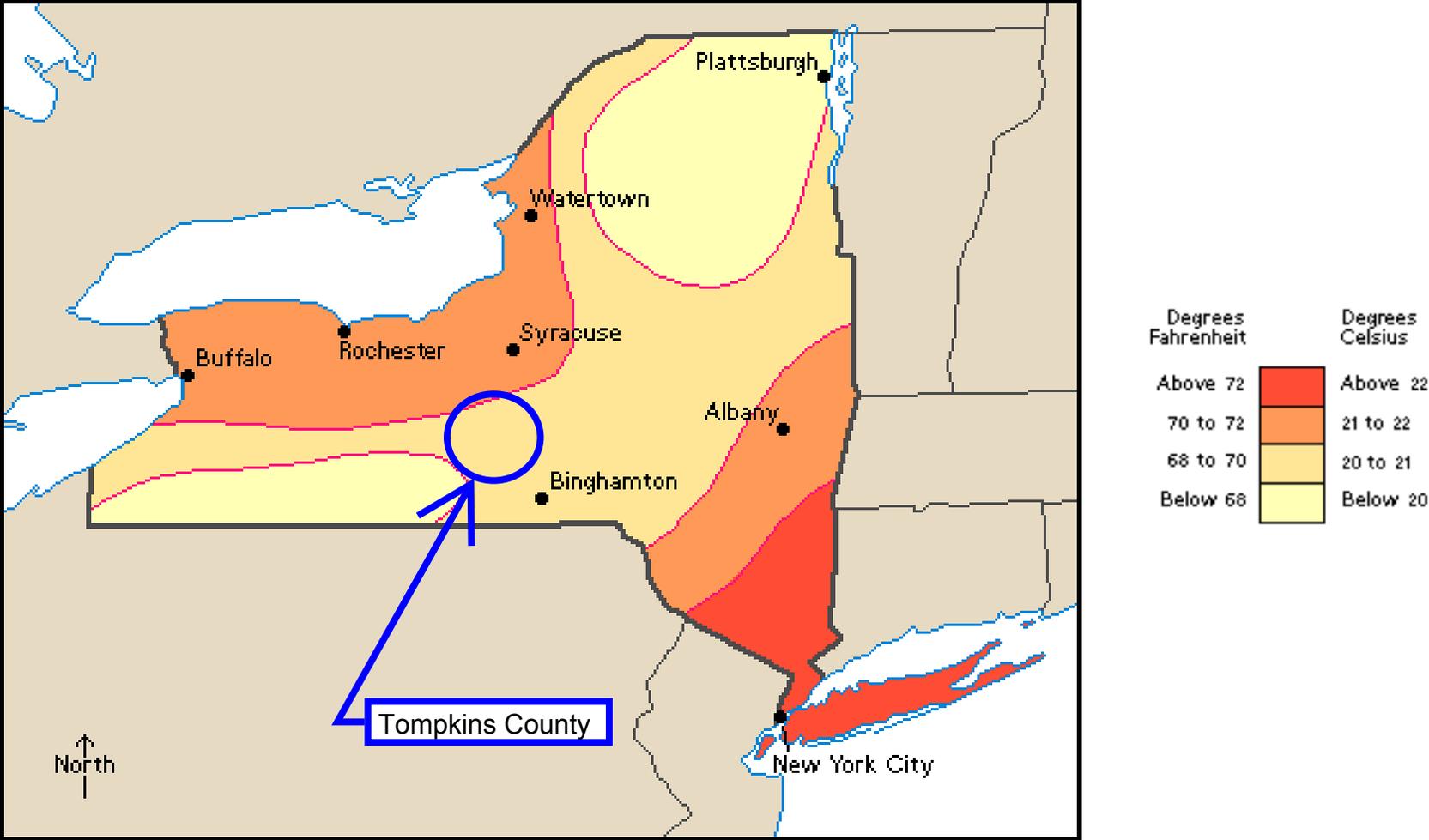


Figure 2.4 - Population Diversity within Tompkins County
(U.S. Census Bureau Interactive Population Search, 2010)

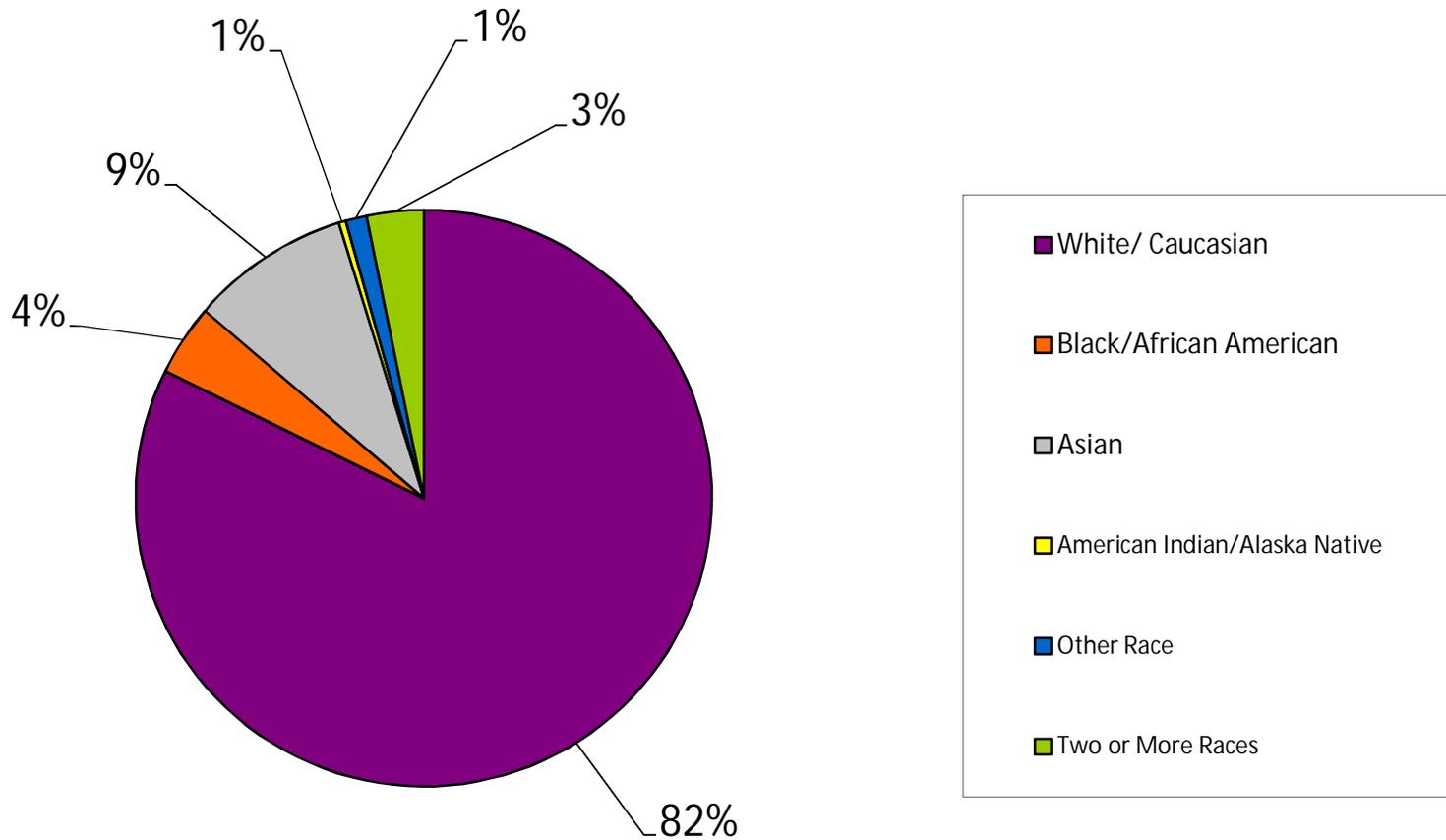


Figure 2.5 – Changes in Land Cover – 1969, 1995, and 2007
(Tompkins County Planning Department, 2007)

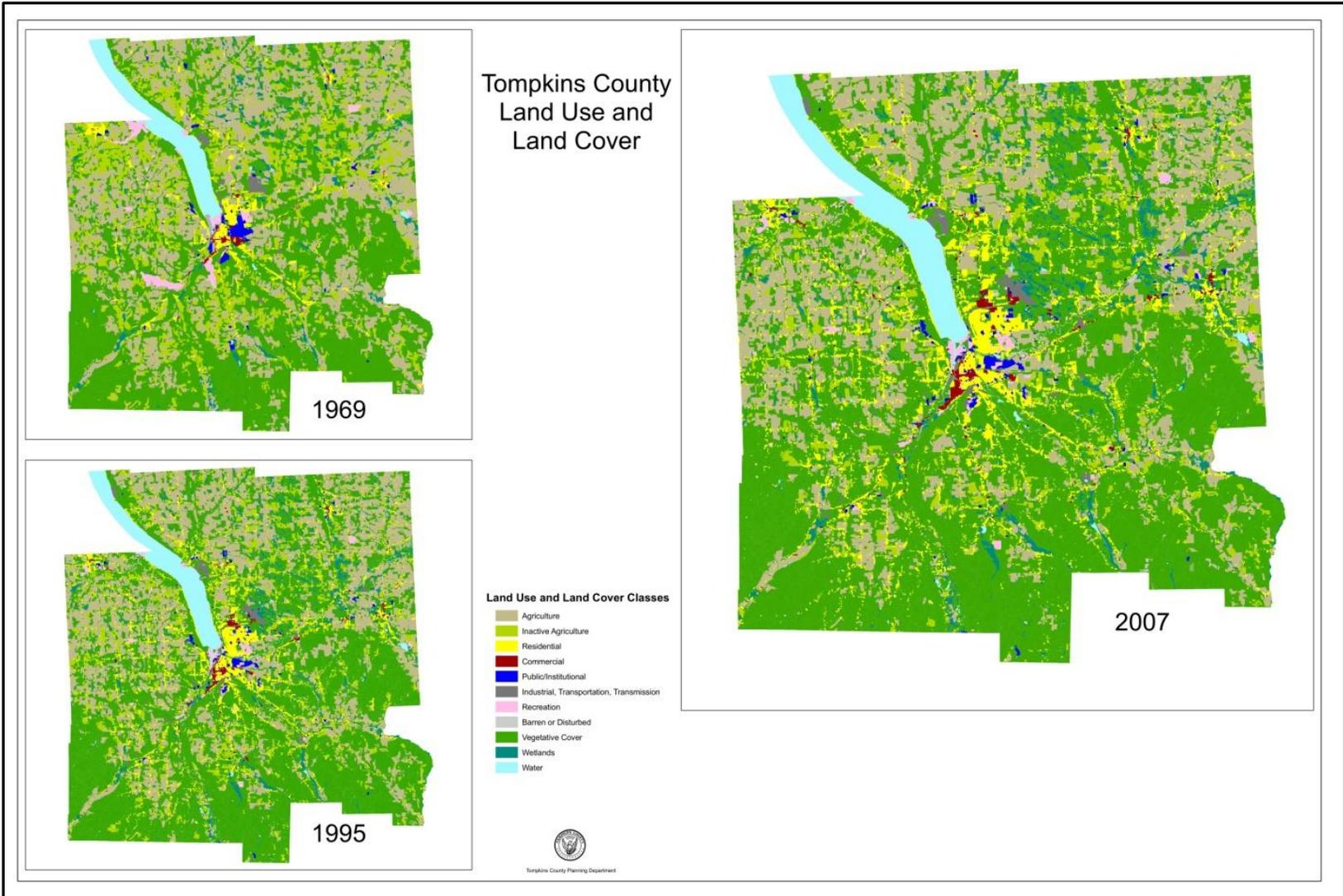


Figure 2.6 - Mapped Agricultural Districts within Tompkins County
(Tompkins County GIS Datasets at CUGIR)

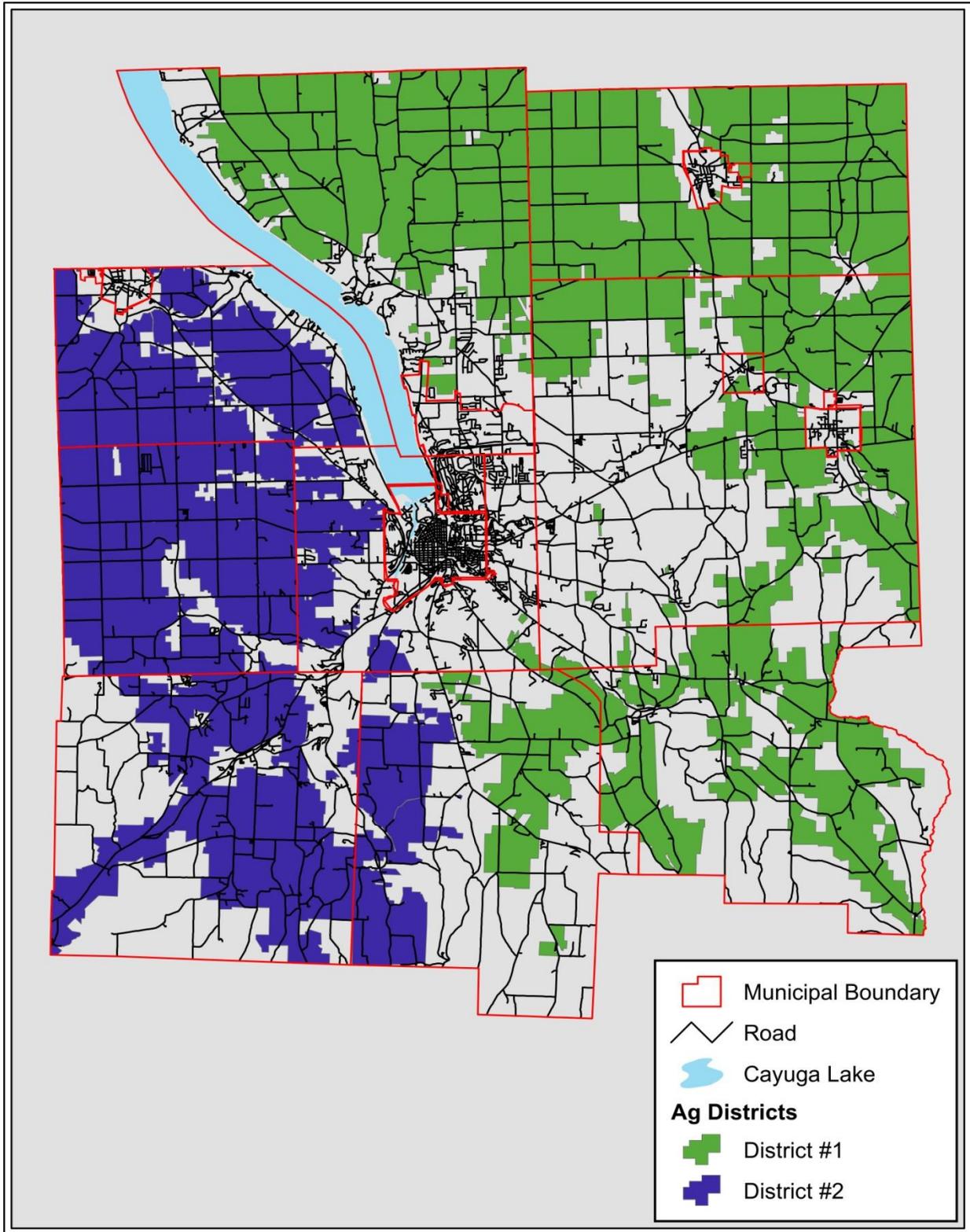
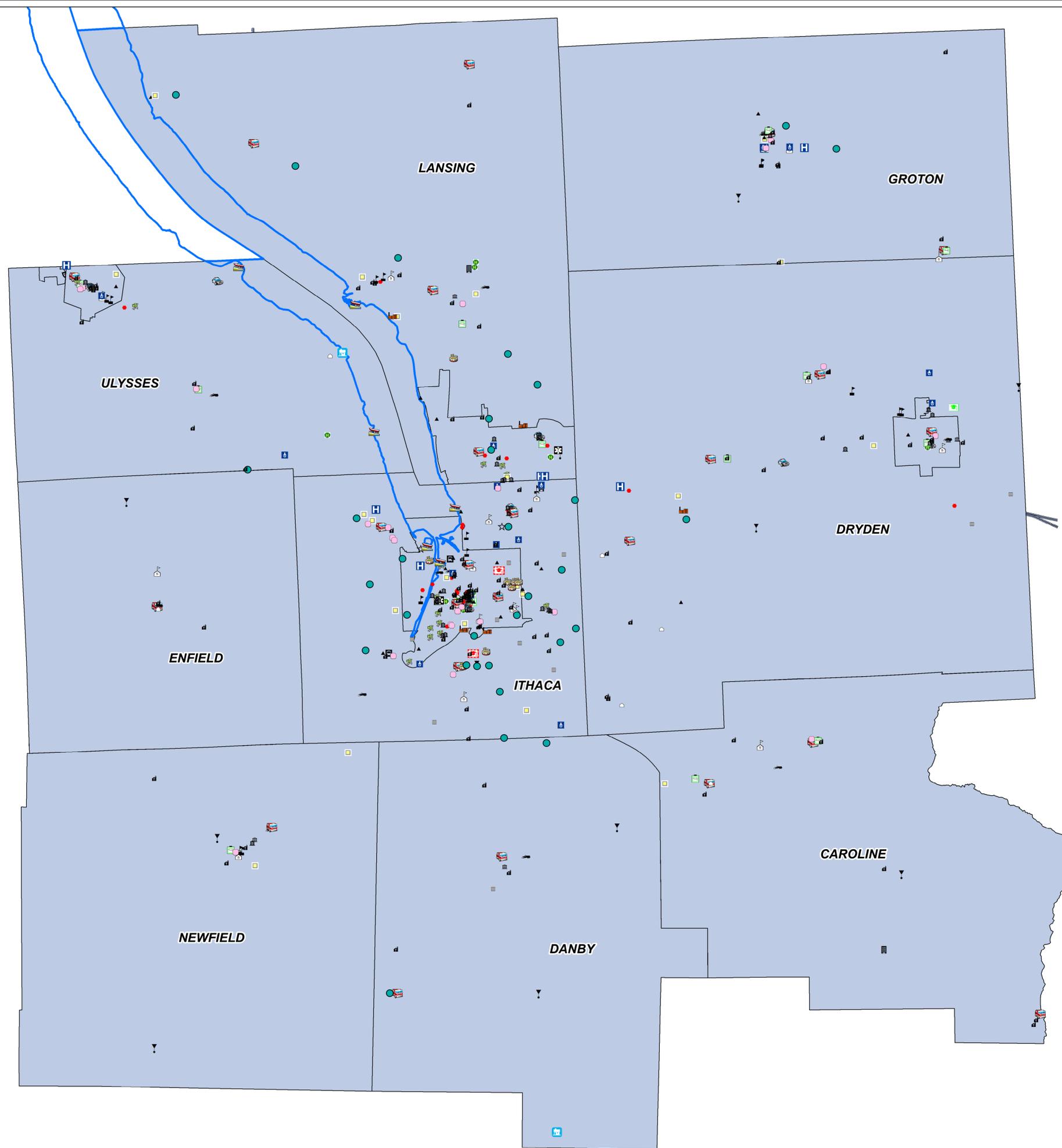


Figure 2.9

Critical Facilities in Tompkins County

Figure 2.9 - Tompkins County Critical Facilities

(Tompkins County GIS - Planning Department)



- Water Tank
- Banks
- SeniorHousing
- Boatyard
- Bus Terminal
- Camp
- City Hall; Town Hall; Village Hall; Town Hall/Polling Place
- Community Center
- Correctional Facility
- Courthouse
- Dam
- Day Care Center
- Electrical Substation
- Elementary School
- Emergency Operations
- Fire Department
- High School; Middle School
- Highway Department
- Human Services
- Industrial
- Major University
- Medical Facility
- Other Public Facility
- Performing Arts
- Police Department
- Post Office
- Public Works
- Shopping Area
- Small College
- Stadium or Sports Facility
- Vocational School
- Towers
- Cayuga Lake
- Municipal Boundary
- Transmission Lines

**Table 9 – Economic Characteristics of Tompkins County , 2006-2010
(U.S. Census Bureau, 2012)**

Statistics	Tompkins County 2010		New York State 2010		Tompkins County 2006 to 2010		New York State 2006 to 2010	
	Number	%	Number	%	Number	%	Number	%
Labor Force (#)	51,363	58.2%	9,912,749	63.5%	53,040	61.5%	9,808,150	63.7%
Travel Time to Work (mins)	20.0	-	31.3	-	18.4	-	31.3	-
Median Household Income (\$)	\$52,064	-	\$54,148	-	\$48,655	-	\$55,603	-
Median Family Income (\$)	\$77,131	-	\$91,447	-	\$72,231	-	\$67,405	-
Per Capita Income (\$)	\$25,041	-	\$30,011	-	\$25,737	-	\$30,948	-
Families Below Poverty Line	-	6.8%	-	11.5%	-	6.5%	-	10.8%
Individuals Below Poverty Line	-	21.8%	-	14.9%	-	18.8%	-	14.2%

Table 10 – Airport Facilities Located Within Tompkins County*(Global Aviation Navigator, Inc., 2012)*

Name	Location	ICAO ID No.*	IATA ID No.*	Ownership	Runway(s)
Grund Field Airport	Town of Enfield	NY55	NY55	Private	1 (turf)
Ithaca Tompkins Regional Airport	Village of Lansing	KITH	ITH	Public	2 (1 asphalt, 1 turf)
James Henion Private Field Airport	Town of Danby	NK72	NK72	Private	1 (turf)
Keech Airport	Hamlet of Etna (Freeville)	5NY3	5NY3	Private	1 (turf)
Neno International Airport	Town of Enfield	NY18	NY18	Private	2 (turf)
Tom N' Jerry Airport	Town of Danby	NK05	NK05	Private	1 (turf)
*ICAO = International Civil Aviation Organization					
*IATA = International Air Transport Association					

Figure 4.3 – Total Presidential Disaster Declarations for hazard events, displayed at the County level, 1954 – 2010 (NYSOEM, 2011 NYS Hazard Mitigation Plan)

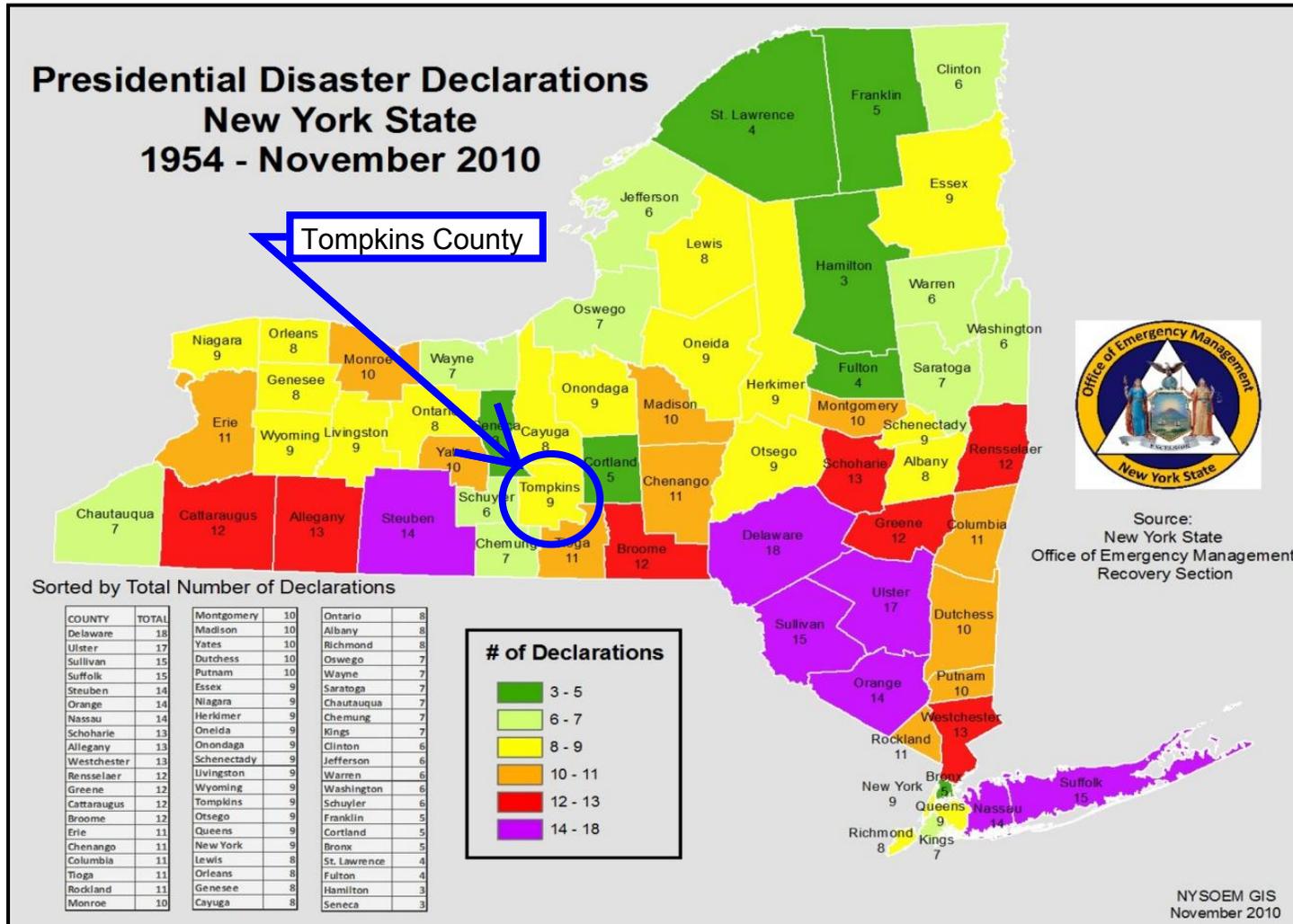


Figure 5.1 – Probability for severe hail (3/4-inch diameter or greater) to occur in the United States, reported in days per year (NOAA, NSSL, 2003)

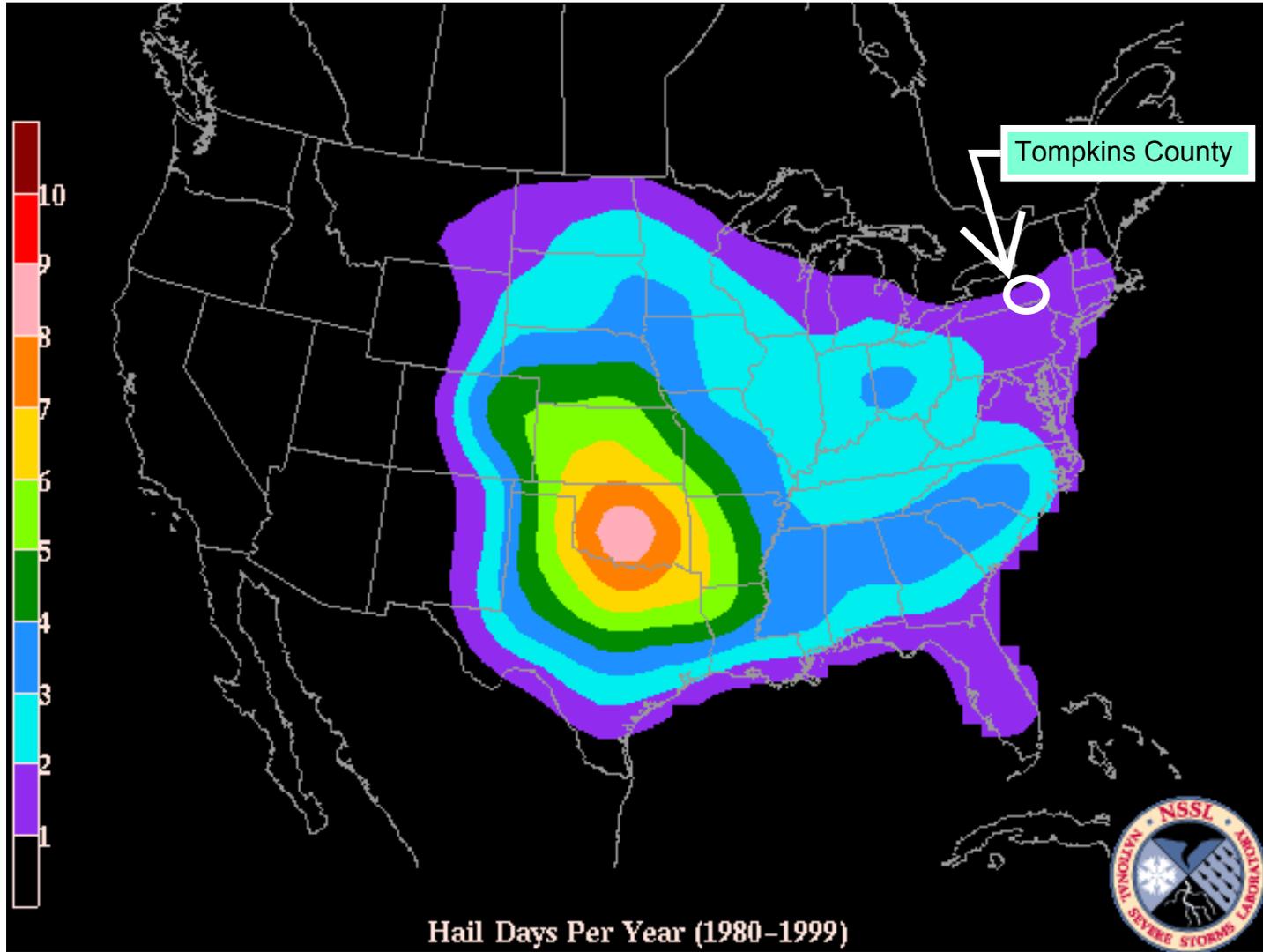


Table 16 – NOAA NCDC Query Results: Severe Storm Events Recorded for Tompkins County, October 2006 – October 2012
(NOAA, NCDC, Storm Events Search, 2012)

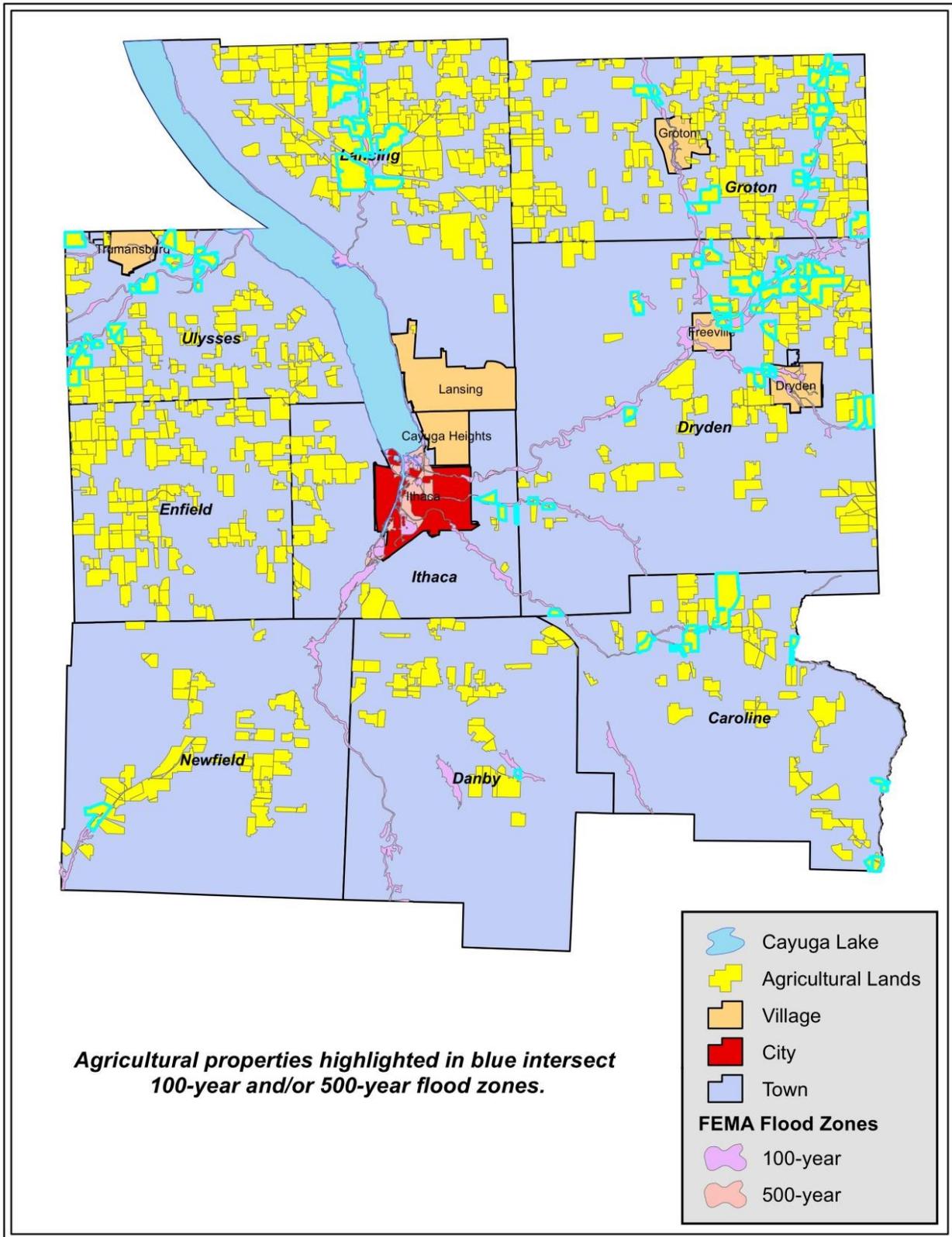
Location	Date	Event	Magnitude	Deaths (#)	Injuries (#)	Property Damage (\$)	Crop Damage (\$)
Groton	11/16/2006	Tstm Wind	50 knots	0	0	1,000	0
Groton	12/1/2006	Tstm Wind	50 knots	0	0	1,000	0
Ithaca	6/21/2007	Tstm Wind	50 knots	0	0	0	0
Caroline	6/27/2007	Tstm Wind	60 knots	0	0	0	0
McKinney's Point	7/27/2007	Tstm Wind	50 knots	0	0	2,000	0
Trumansburg	8/17/2007	Tstm Wind	50 knots	0	0	2,000	0
Ithaca	8/17/2007	Tstm Wind	50 knots	0	0	2,000	0
McKinney's Point	8/24/2007	Tstm Wind	50 knots	0	0	1,000	0
McKinney's Point	8/24/2007	Tstm Wind	50 knots	0	0	0	0
Freeville	8/24/2007	Tstm Wind	60 knots	0	0	2,000	0
Grotto	8/24/2007	Tstm Wind	50 knots	0	0	2,000	0
Dryden	8/24/2007	Tstm Wind	50 knots	0	0	2,000	0
McKinney's Point	8/24/2007	Tstm Wind	50 knots	0	0	3,000	0
Dryden	8/25/2007	Tstm Wind	50 knots	0	0	2,000	0
Ithaca	8/25/2007	Tstm Wind	50 knots	0	0	5,000	0
Grotto	10/9/2007	Tstm Wind	50 knots	0	0	0	0
McKinney's Point	1/9/2008	Tstm Wind	50 knots	0	0	1,000	0
Besemer	6/20/2008	Tstm Wind	50 knots	0	0	1,000	0
Ithaca	6/23/2008	Tstm Wind	50 knots	0	0	1,000	0
Trumansburg	6/27/2008	Tstm Wind	50 knots	0	0	0	0
Tompkins County	9/15/2008	High Wind	50 knots	0	0	4,000	0
Enfield	5/16/2009	Tstm Wind	50 knots	0	0	0	0

Table 16 – NOAA NCDC Query Results: Severe Storm Events Recorded for Tompkins County, October 2006 – October 2012

(NOAA, NCDC, Storm Events Search, 2012)

Location	Date	Event	Magnitude	Deaths (#)	Injuries (#)	Property Damage (\$)	Crop Damage (\$)
Grotto	8/10/2009	Tstm Wind	50 knots	0	0	0	0
Peruville	8/10/2009	Tstm Wind	50 knots	0	0	1,000	0
McKinney's Point	7/21/2010	Tstm Wind	50 knots	0	0	2,000	0
Tompkins County	2/18/2011	High Wind	50 knots	0	0	50,000	0
Danby	4/28/2011	Tstm Wind	87 knots	0	0	100,000	0
Ithaca	4/28/2011	Tstm Wind	50 knots	0	0	5,000	0
Groton	4/28/2011	Tstm Wind	60 knots	0	0	12,000	0
Tompkins County	6/23/2011	Tstm Wind	50 knots	0	0	1,000	0
Tompkins County	6/28/2011	Tstm Wind	50 knots	1	0	5,000	0
Krum Corner	7/19/2011	Tstm Wind	50 knots	0	0	0	0
Totals:	--	--	--	0	0	\$208,000	\$0
Tstm = Thunderstorm							

Figure 5.5 – Agricultural Properties that Intersect Flood Zones

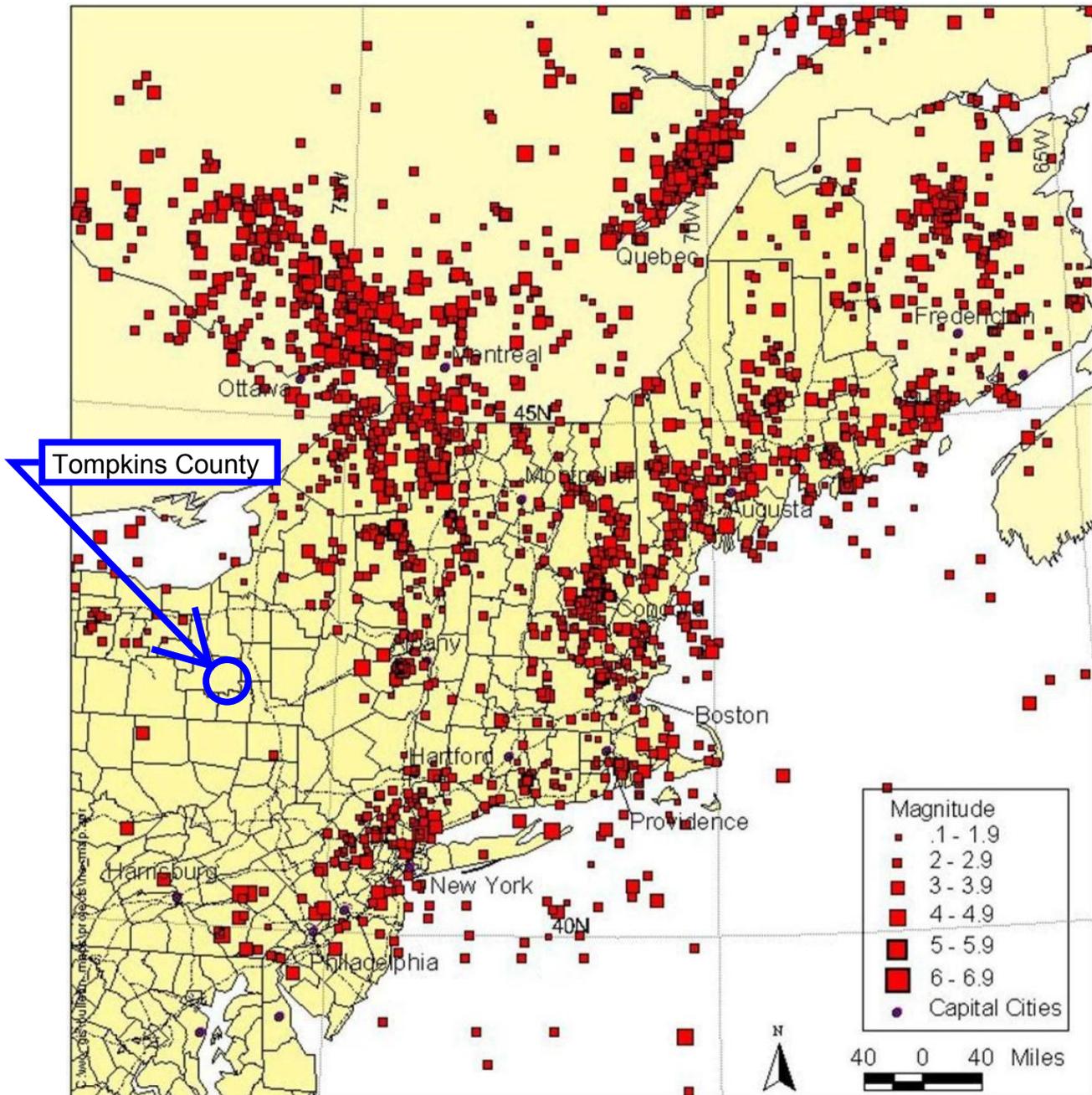


**Table 18 – NFIP Flood Damage Data for Tompkins County,
1978 - August 31, 2012
(FEMA, NFIP, 2012)**

Town/Village/City	Total Flood Loss 1/1/78 - 8/31/12	Average Annual Loss*
Caroline	\$ 72,531.40	\$ 2,133.28
Cayuga Heights	\$ 15,790.79	\$ 464.44
Dryden (T)	\$ 56,450.54	\$ 1,660.31
Dryden (V)	\$ 84,639.71	\$ 2,489.40
Freeville	\$ 17,760.16	\$ 522.36
Groton (T)	\$ 16,773.65	\$ 493.34
Groton (V)	\$ 614,682.96	\$18,078.91
Ithaca (C)	\$ 220,430.64	\$ 6,483.25
Ithaca (T)	\$ 35,396.78	\$ 1,041.08
Lansing	\$ 442,746.94	\$13,021.97
Newfield	\$ 9,297.04	\$ 273.44
Trumansburg	\$ 902.32	\$ 26.54
Ulysses	\$ 5,798.14	\$ 170.53
TOTAL	\$1,593,201.07	\$46,858.85

* Partial year for 2012 included as a full year in annual loss average calculation

Figure 5.6 – Seismic Activity within the Northeastern United States and Eastern Canada, Occurrences Between October 1975 – March 2010
(*NYSOEM, State Hazard Mitigation Plan, 2011*)



Source: Boston College Weston Observatory, <http://www.bc.edu/research/westonobservatory/northeast/eqmaps.html>

Figure 5.7 – Peak Ground Acceleration Values for New York State
(NYSOEM, State Hazard Mitigation Plan, 2011)

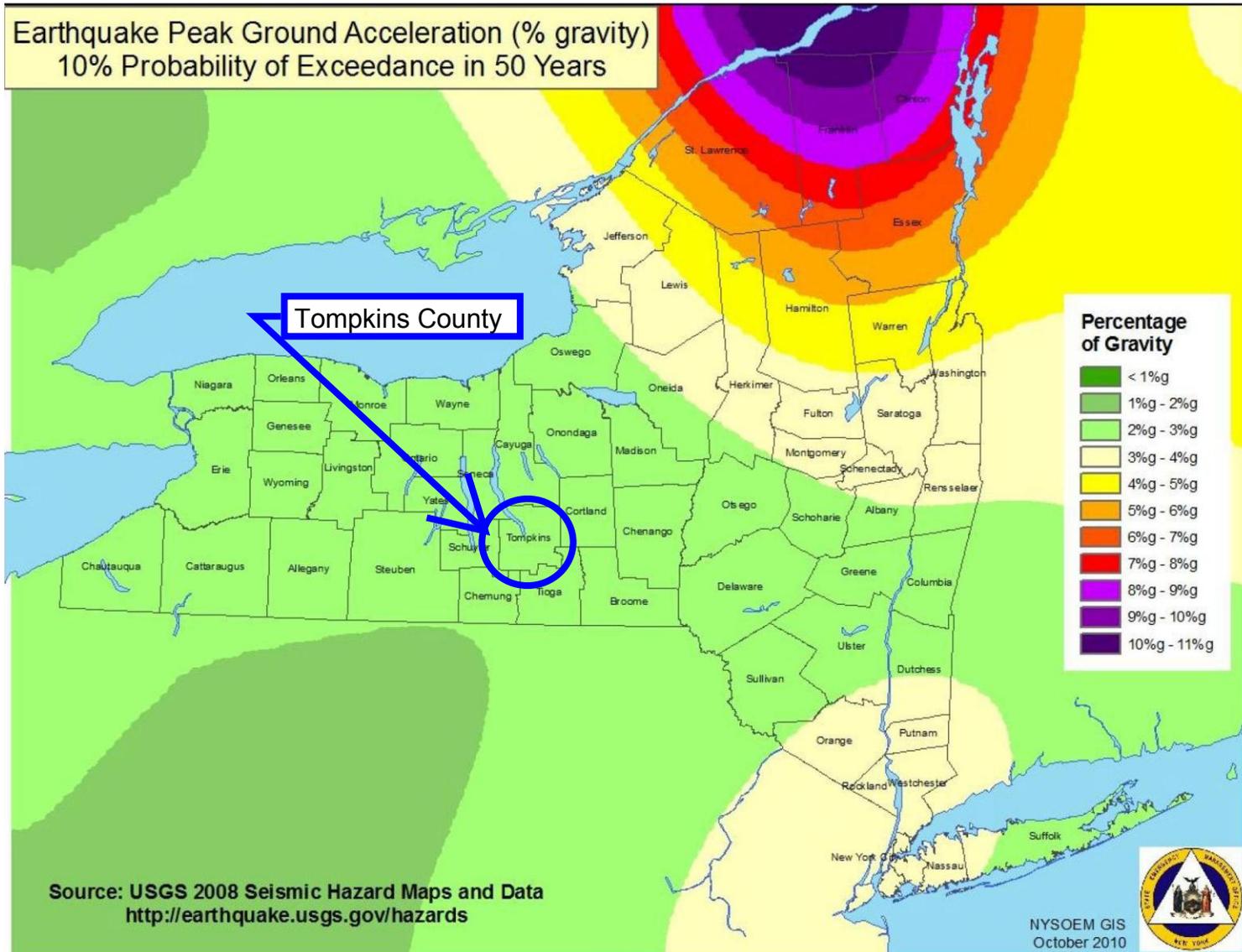


Table 20 – NOAA NCDC Query Results: Severe Winter Storm Events Recorded for Tompkins County, October 2006 – October 2012
(NOAA, NCDC, Storm Events Search, 2012)

Location	Date	Event	Magnitude	Deaths (#)	Injuries (#)	Property Damage (\$)	Crop Damage (\$)
County-wide	02/13/2007	Winter Storm	N/A	0	0	0	0
County-wide	03/17/2007	Lake-Effect Snow	N/A	0	0	0	0
County-wide	04/15/2007	Winter Storm	N/A	0	0	0	0
County-wide	12/13/2007	Heavy Snow	N/A	0	0	0	0
County-wide	02/26/2008	Winter Storm	N/A	0	0	0	0
County-wide	12/11/2008	Winter Storm	N/A	0	0	0	0
County-wide	12/19/2008	Winter Storm	N/A	0	0	0	0
County-wide	02/25/2010	Winter Storm	N/A	0	0	0	0
County-wide	02/25/2011	Winter Storm	N/A	0	0	0	0
County-wide	03/06/2011	Heavy Snow	N/A	0	0	0	0
County-wide	01/13/2012	Heavy Snow	N/A	0	0	0	0
Totals:	--	--	--	0	0	\$0	\$0

Figure 5.10 – Number and Locations of Ice Jams on New York State Waterways
(NYS Hazard Mitigation Plan, 2011)

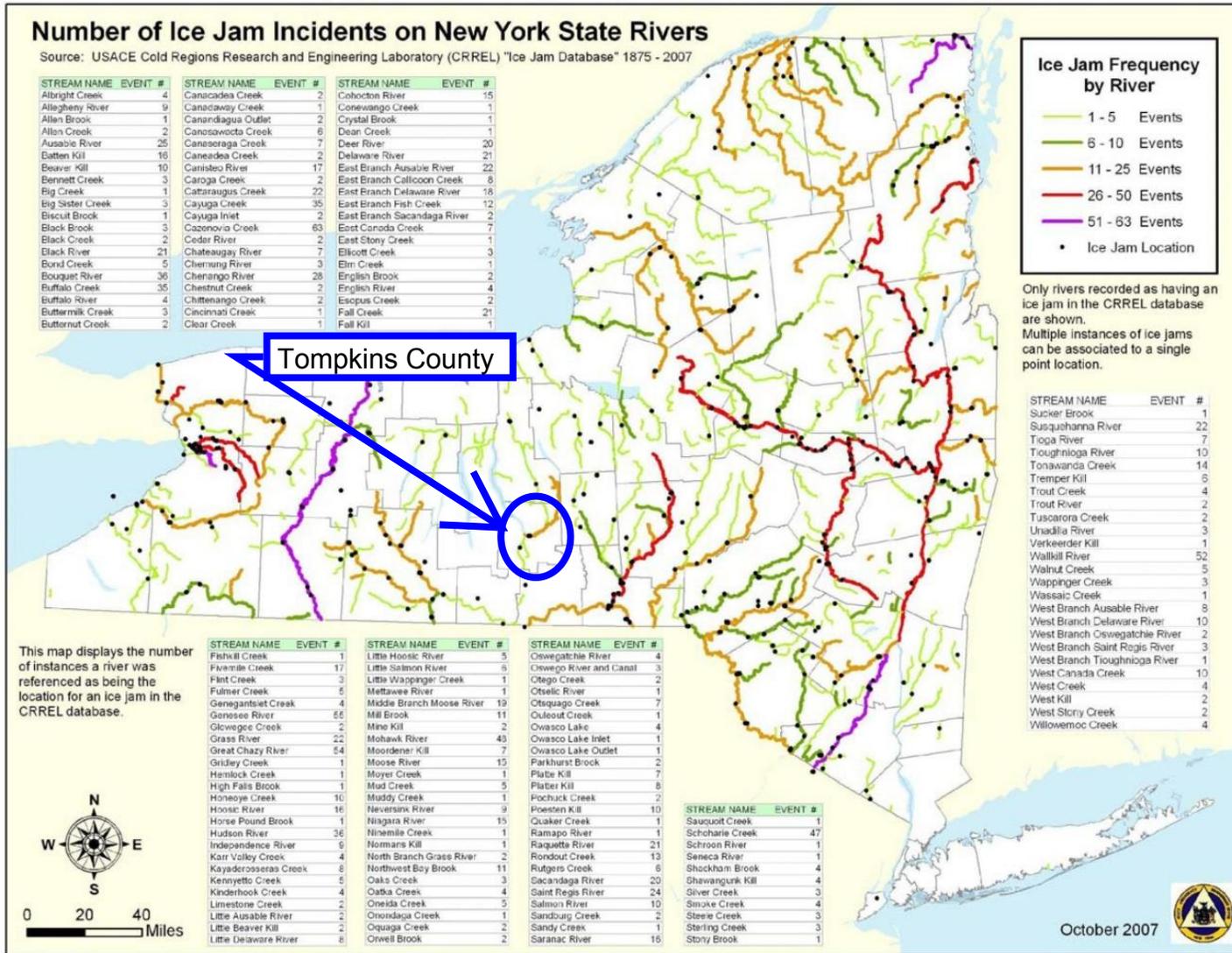


Table 21 – Ice Jam Database Events in Tompkins County
(USACE, CRREL, 2012)

Jam Date	Location	Water	Details
01/19/1926	Ithaca	Fall Creek	Water level effected by backwater from ice
01/22/1927	Ithaca	Fall Creek	Water level effected by backwater from ice
02/08/1928	Ithaca	Fall Creek	Water level effected by backwater from ice
02/27/1929	Ithaca	Fall Creek	Water level effected by backwater from ice
02/20/1930	Ithaca	Fall Creek	Water level effected by backwater from ice
03/04/1934	Ithaca	Fall Creek	Water level effected by backwater from ice
02/16/1935	Ithaca	Fall Creek	Water level effected by backwater form ice
12/01/1944	Ithaca	Cayuga Inlet	Water level effected by backwater from ice
03/02/1946	Ithaca	Fall Creek	Ice effect of 6.3 feet
02/19/1948	Ithaca	Fall Creek	Ice effect of 3.0 feet
12/21/1951	Ithaca	Cayuga Inlet	Water level effected by backwater from ice
12/11/1952	Ithaca	Fall Creek	Ice effect of 0.05 feet
02/22/1955	Ithaca	Fall Creek	Ice effect of 6.0 feet
01/22/1957	Ithaca	Fall Creek	Ice effect of 3.4 feet
02/28/1958	Ithaca	Fall Creek	Ice effect of 1.9 feet
01/21/1959	Ithaca	Fall Creek	Ice effect of 6.3 feet
02/28/1962	Ithaca	Fall Creek	Water level effected by backwater from ice
03/17/1963	Ithaca	Fall Creek	Ice jam increased water level
02/21/1971	Ithaca	Fall Creek	Ice jam increased water level
01/01/1977	Ithaca	Fall Creek	Ice 10 feet thick located beneath Route 13 and RR bridges – caused localized flooding
03/15/1978	Ithaca	Fall Creek	Ice jam increased water level
03/02/1979	Ithaca	Fall Creek	Water level effected by backwater from ice
03/03/2003	Ithaca	Fall Creek	Water level effected by backwater from ice
02/11/2009	Ithaca	Fall Creek	Water temps caused ice to run and jam, resulting in moderate flooding

Figure 5.14 – Asian Longhorn Beetle Susceptible Areas in U.S.
(Don't Move Firewood, 2011)

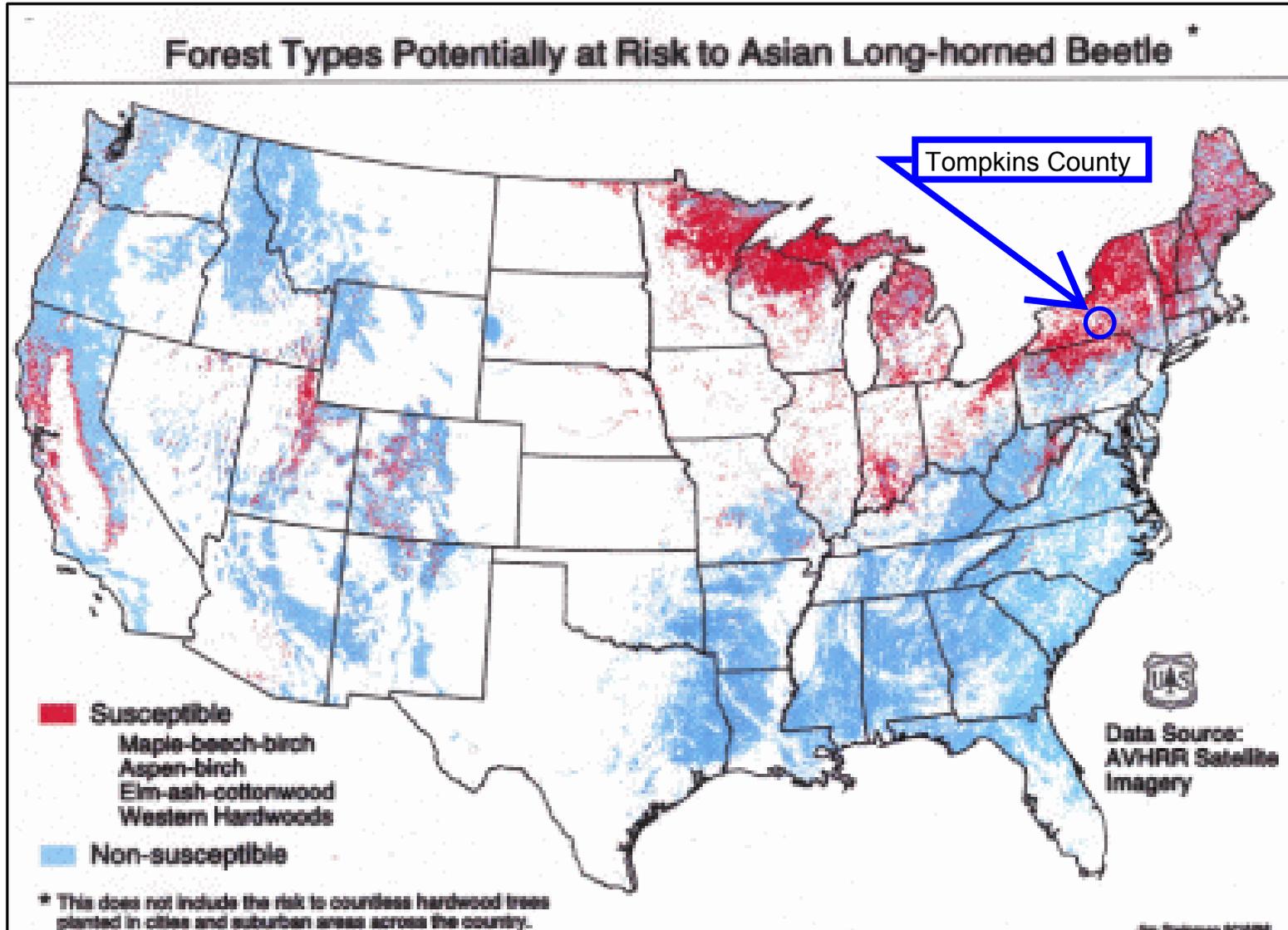
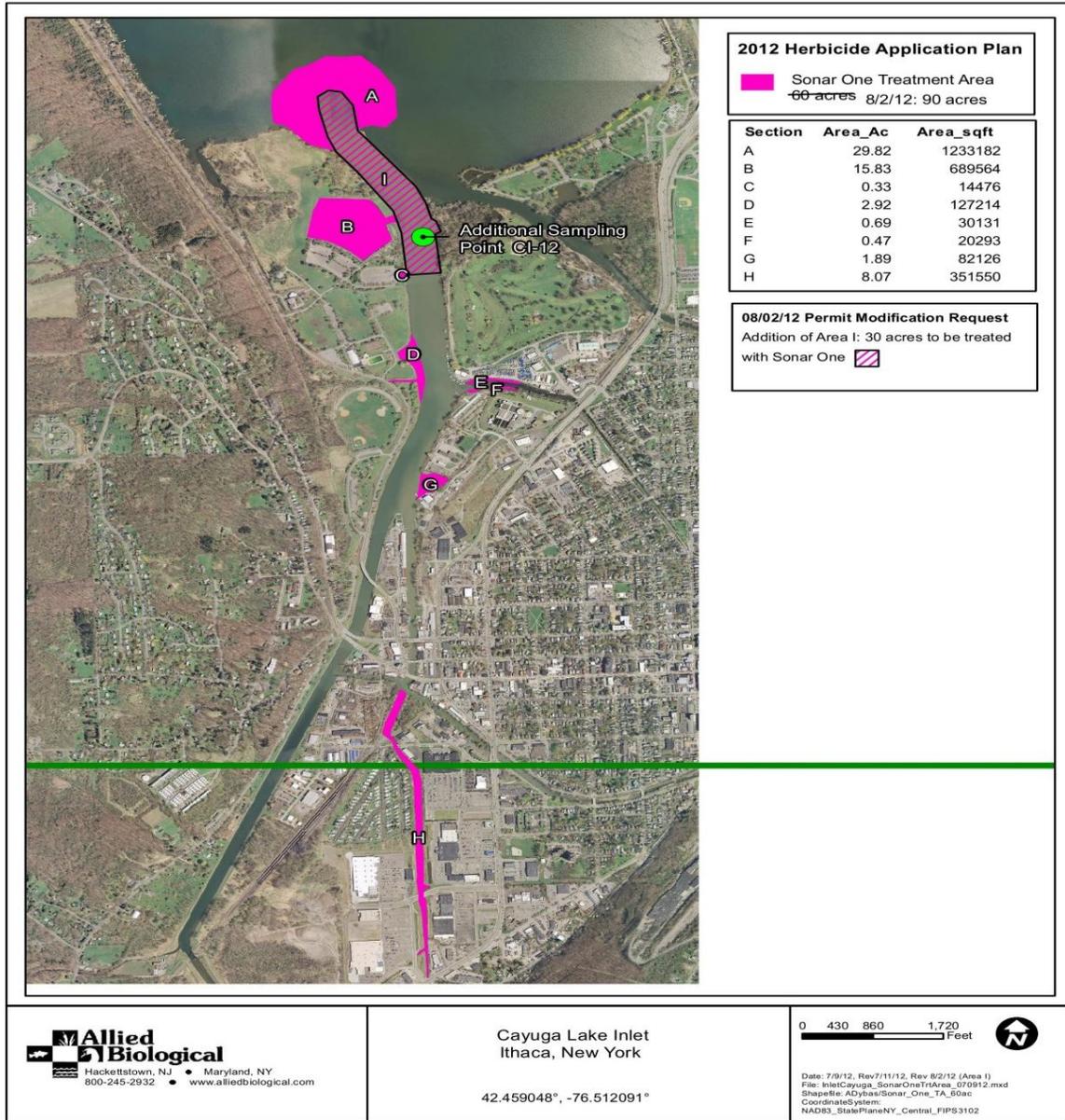


Figure 5.15 – Hydrilla: 2012 Herbicide Application Plan



Allied Biological
 Hackettstown, NJ • Maryland, NY
 800-245-2932 • www.alliedbiological.com

Cayuga Lake Inlet
 Ithaca, New York

0 430 860 1,720 Feet

Date: 7/9/12, Rev7/11/12, Rev 8/2/12 (Area I)
 File: InletCayuga_SonarOneTA_Area_070912.mxd
 Shapefile: ADYbas/Sonar_One_TA_60ac
 CoordinateSystem:
 NAD83_StatePlaneNY_Central_FIPS3102

Table 22 – Enhanced F-Scale System Used to Rate Magnitude of Tornado Events

(NOAA, Storm Prediction Center, Enhanced F-Scale)

Table 22 – Enhanced F-Scale System Used to Rate Magnitude of Tornado Events						
<i>(NOAA, Storm Prediction Center, Enhanced F-Scale)</i>						
Fujita Scale			Derived EF Scale		Operational EF Scale	
F Number	Fastest ¼-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Figure 5.17 – Tornado Activity in U.S., 1950 – 1998

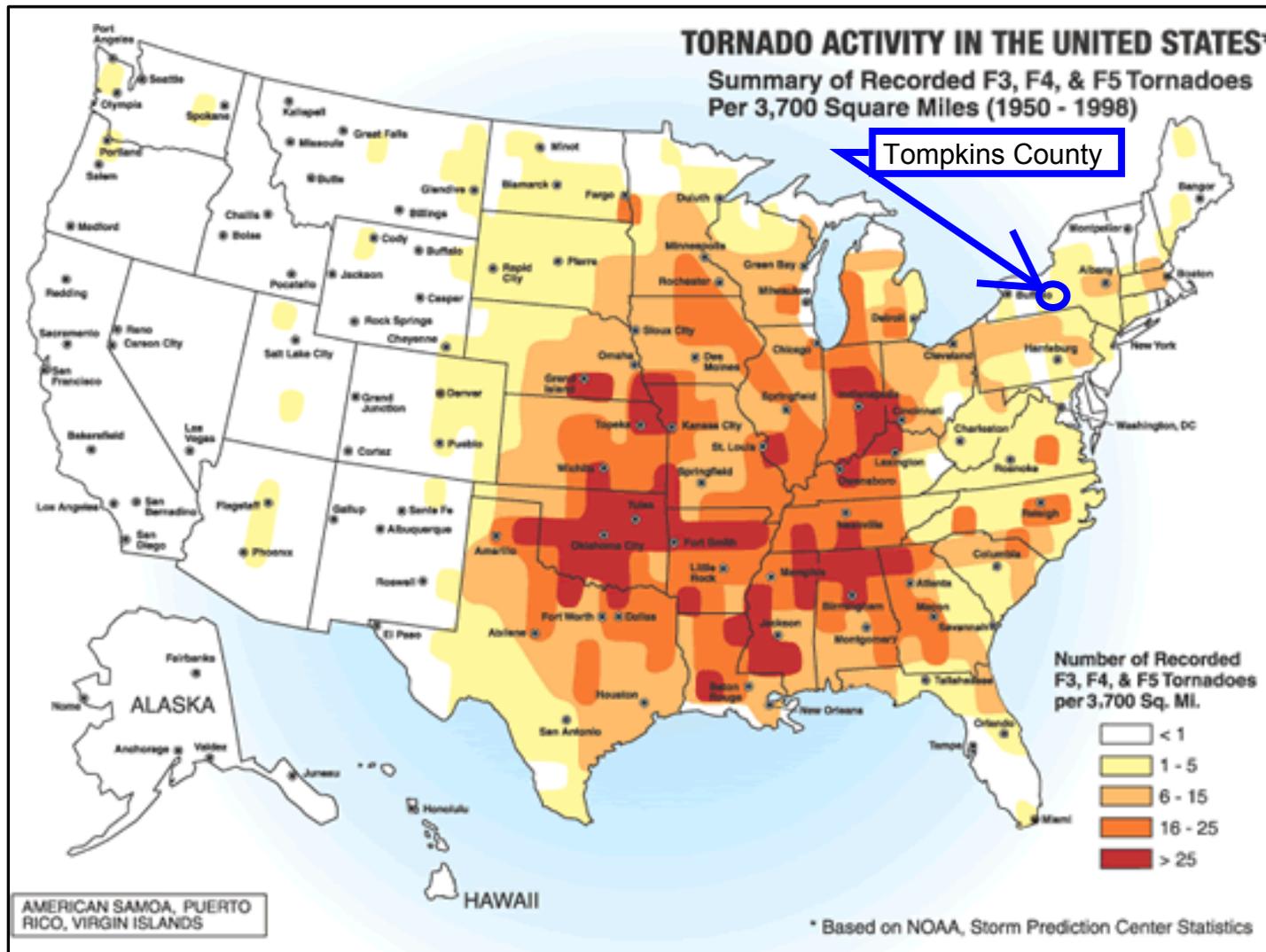


Figure 5.18 –Tornado Risk Areas in the Continental United States

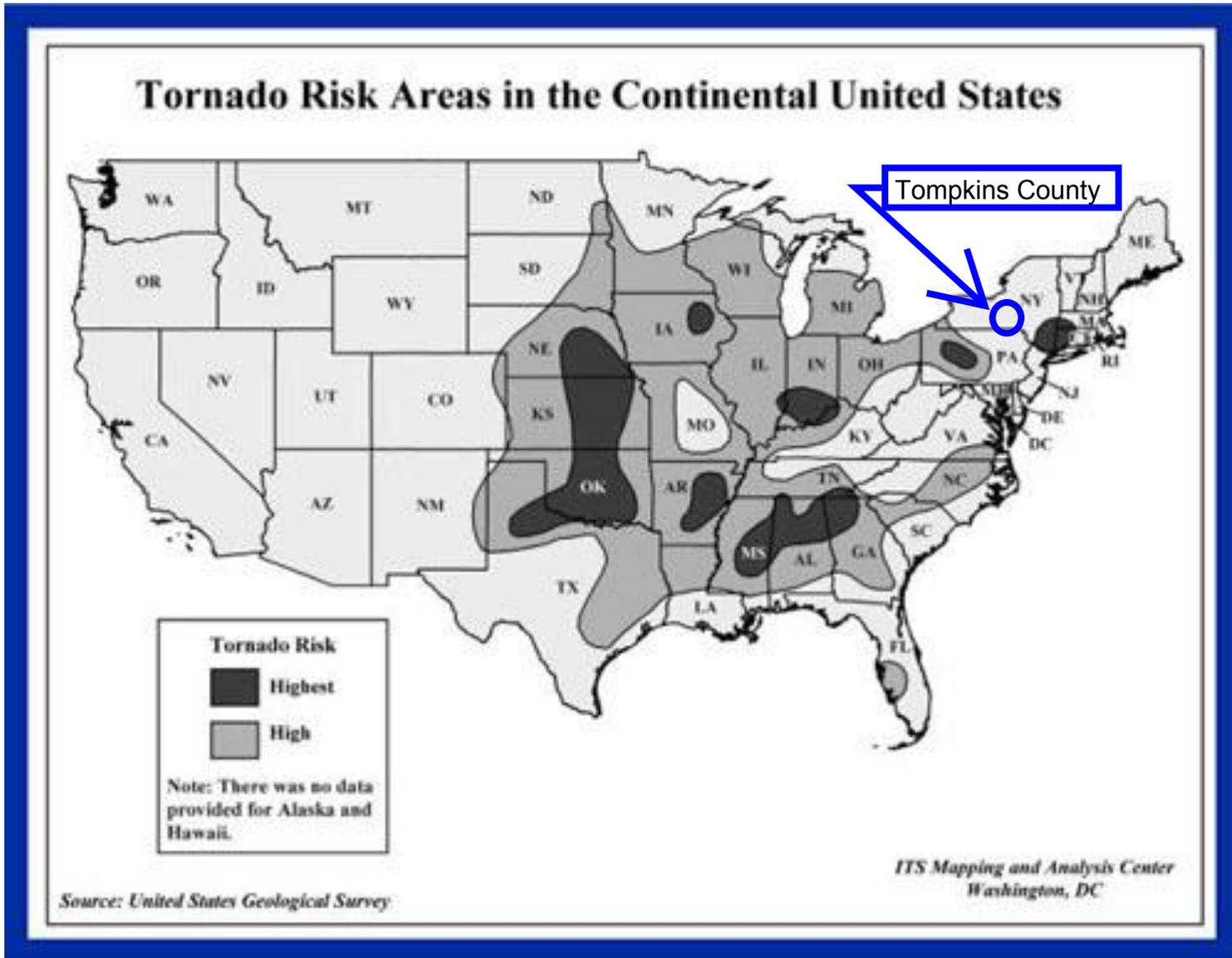


Table 28 – Estimated Property Values of Lands within Tompkins County
(TC Office of Real Property, 2012)

Jurisdiction	# of Properties	Full Market Assessed Value (\$)
Caroline (Town)	1968	249,429,396
Cayuga Heights (Village)	989	452,038,518
Danby (Town)	2016	268,870,442
Dryden (Town)	4799	891,283,394
Dryden (Village)	795	128,119,790
Enfield (Town)	1662	188,971,300
Freeville (village)	233	35,494,500
Groton (Town)	1871	209,018,898
Groton (Village)	908	122,905,410
Ithaca (Town)	4293	2,017,893,667
Ithaca (City)	5555	17,701,001,320
Lansing (Town)	3776	1,083,359,160
Lansing (Village)	1056	532,085,231
Newfield (Town)	2327	289,695,259
Trumansburg (Village)	710	137,661,412
Ulysses (Town)	1928	373,088,800

Table 30

Status and Details of 2006 HMP Mitigation Plan

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.40 Ensure that adequate shelter is available to community residents in the event that a flood event causes displacement.	Goal 4, Objective 4-2	L to M	Ongoing	ARC, ER, HMGP	ARC	TCDER, TST BOCES, NYS Dept. of Education, IC, CU	Action item has been discussed in local planning efforts, and shelters have been clearly identified though more work remains. As such the item has been reincluded in the plan update as "Action Item A4" with an emphasis on sheltering in place and enhanced through heating and cooling centers in "Action Item A16".
Flood	5.1.30 Monitor to ensure that the Cayuga Inlet Flood Control Channel and Levee are well maintained to minimize the threat of levee failure.	Goal 1, Objective 1-1	L	Ongoing	Flood Mitigation Initiatives; recommendations of watershed studies	Canal Corp.	Cayuga Watershed Committee, TCSWCD, TCDPW	The City of Ithaca has worked very closely with local partners to take steps to dredge the Cayuga Inlet so as to ensure the flood control channel functions as design. This has yet to be implemented, and thus has been reincluded in the plan update as "High Priority Action 11" because of the number of properties at-risk in and around the Inlet.
Flood	5.1.46 Continue local stream bank stabilization projects (administered by Caroline Watershed Committee)	Goal 1, Objectives 1-1, 1-3, and 1-5	\$30,000/Year	Ongoing	Programs administered by Caroline Watershed Committee	Caroline Watershed Committee	TC, TCSWCD	Very successful stream corridor work Tompkins County Flood Hazard Mitigation Program led by the Tompkins County Planning Department and Tompkins County Soil and Water Conservation District has resulted in over 2.3 linear miles of stream planted, protected or restored throughout Tompkins County since 2006. Work has resulted in the planting of over 2,000 trees and shrubs with the assistance of over 200 volunteers on 7 creeks, in 5 watersheds and 7 different municipalities. Due to its success the action item has been reincluded in the plan update (TC2, C1, DR1, T11, TL2, VT1).
Civil Unrest	5.11.6 Continue to support City of Ithaca neighborhood police patrol program.	Goal 4, Objective 4-1	Current budget	Ongoing	Neighborhood police patrol program	City of Ithaca Police Department	Town, TC	While support for this work continues, it has been removed from the plan update due to its generality.
Flood	5.1.6 Work jointly with other stakeholders in the Cayuga Lake Basin to manage the lake level to reduce the potential for seasonal flooding.	Goal 3, All Objectives	L	Ongoing	Cayuga Lake Basin Initiatives, CLRPP	CLWN	TC	Action has not been adequately dealt with and is reincluded as "High Priority Action #15" in Plan Update
Civil Unrest	5.11.1 Increase the number of student activities on campus on Friday and Saturday nights.	Goal 1, Objective 1-8	TBD	Ongoing	TBD	College Security Departments	TC EPC, local police, TCDER	While support for this work continues, it has been removed from the plan update due to its generality.
Civil Unrest	5.11.3 Conduct regular training events (e.g., crowd control planning and training) for local and campus police.	Goal 4, Objective 4-2	\$5,000	Ongoing	Existing training protocols	College Security Departments	TC EPC, local police, TCDER	While support for this work continues, it has been removed from the plan update due to its generality.
Civil Unrest	5.11.4 Create emergency plans for backup personnel to support local and campus police, if necessary.	Goal 4, Objective 4-2	\$5,000	2 years	Existing Emergency Protocols	College Security Departments	TC EPC, local police, TCDER	No longer seen as priority in mitigation plan as institutions have developed their own plans. Has been deleted in update.
Civil Unrest	5.11.5 Enforce local ordinances and assembly permits, as necessary.	Goal 1, Objective 1-5	Current budget	Ongoing	Current ordinances and permits	College Security Departments	Local police	While support for this work continues, it has been removed from the plan update due to its generality.
Civil Unrest	5.11.2 Develop a stricter student party ordinance.	Goal 1, Objective 1-5	Current budget	2 years	Ordinances	College Security Departments, Town of Ithaca	TBD	City of Ithaca Noise Ordinance has addressed most of these concerns and has thus been deleted.
Fire (Urban and Wild)	5.6.5 Enhance outreach and education programs aimed at mitigating fire hazards and reducing or preventing the exposure of citizens, public agencies, private property owners, and businesses to natural hazards. TC/ARC should be a support agency for public outreach.	Goal 2, All Objectives	\$1,000/year	Ongoing	Current public outreach initiatives	County and Local Fire Depts.	All towns	Remains active and reincluded as "Action Item A6" which emphasizes work with older structures.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Fire (Urban and Wild)	5.6.10 Identify deficiencies in equipment and training and ensure that local fire departments are adequately equipped to respond safely and effectively to fires.	Goal 4, Objectives 4-2 and 4-3	L to M	1 year	TBD	County and Local Fire Depts.	TC DER	Support for this work continues, included in plan update as Action Item A7.
Severe Winter Storm	5.2.9 Monitor streams for ice jams to minimize damage to infrastructure (bridges).	Goal 1, Objective 1-1	L	Ongoing	Water Quality Monitoring (Volunteer) and Maintenance	County and local public works	Towns	The City of Ithaca Department of Public Works monitors the main problem area on Fall Creek and Lansing monitors Salmon Creek. As such action has been removed in plan update.
Severe Winter Storm	5.2.10 Retrofit critical structures to increase resistance to storm hazards and promote hazard resistant construction of new buildings.	Goal 1, Objective 1-1	L to M	Ongoing	Owners of critical facilities, Code Enforcement Officers	County and local public works	Town officials	Increased focus on this action in light of climate change science. Reincluded as "High Priority Actions 7 and 8" in plan update.
Severe Winter Storm	5.2.11 Minimize the disruption and cost of storm events by maintaining to the extent possible the ability of public works personnel to maintain the safe flow of traffic over streets and highways through DPW specific activities such as purchasing additional equipment, securing funds for additional personnel during winter storm events, and purchasing additional road salt.	Goal 4, Objective 4-2	\$100,000	Ongoing	Existing Transportation and Emergency Plans	County and local public works	TC ERC, HMGP	Actively implemented by DPW staff and has thus been removed from update.
Flood	5.1.29 Retrofit or re-construct bridges at a higher elevation to withstand flood events.	Goal 1, Objective 1-1	H	Ongoing	NFIP, HMGP	County, State	TCPD, TCDPW, TCSWCD, TCAD, NYSDEC, SEMO, FEMA	Increased focus on this action in light of climate change science. Reincluded as "High Priority Actions 7 and 8" and TC3 in plan update.
Utility Failure	5.7.8 Educate home owners on necessity to maintain trees near utility lines on or near their property.	Goal 2, All Objectives	\$1,000/year	Ongoing	Current public outreach initiatives	County, Towns	Towns	Remains an issue especially in light of increased threat of invasives. Reincluded with this emphasis as Action A15, A26 as well as High Priority Action Item 5.
Severe Winter Storm	5.2.6 Obtain funding to purchase backup generators and other redundant utilities for nursing homes and other critical assets that require such emergency power sources.	Goal 4, All Objectives	\$40,000	5 years	HMGP, ARC	County/Towns	ARC, Office of Aging	No longer an issue, action removed for update.
Utility Failure	5.7.2 Conduct major tree pruning initiatives along power lines.	Goal 1, Objective 1-1	M to H	TBD	Preventive maintenance	Energy suppliers	TC DPW	Active issue reincluded as High Priority Action item 5.
Transportation Accident	5.8.1 Support procurement of hardware and software to support a state transportation accident database to track accidents and estimate costs to respond and remediate. (Currently the State provides free software to track transportation and accidents and detect trends, but the hardware requirements are significant).	Goal 2, Objective 2-3; Goal 4, Objectives 4-3 and 4-4	\$400,000	4-5 years	Data Collection Efforts for Mitigation Planning; DMV tracking	ITCTC	TC and Towns	No longer an issue, action removed for update.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Transportation Accident	5.8.9 Conduct an enhanced freight study to better understand the types and volumes of hazardous waste that travel through the County and what routes are used to transport such materials.	Goal 4, Objective 4-4	\$50,000	2 years	Public safety concerns; NYDOT and NYSDEC regulation and support	ITCTC	NYDOT, USDOT, EPA	Enhanced Transportation Study conducted in 2002 and is no longer an active action item.
Terrorism	5.10.9 Acquire a training simulator for the Tompkins County Airport that mimics an airplane fire (originating from a wheel or engine).	Goal 4, Objective 4-3	M	5 years	NA	Ithaca Regional Airport	TC EPC, TC DER	Addressed through existing training program. No longer an issue and not included in update.
Flood	5.1.55 Evaluate the benefits and costs of obtaining flood insurance for public buildings at highest risk.	Goal 1, Objectives 1-2 and 1-3	L	1 year	NFIP	Local government	TBD	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Terrorism	5.10.8 Provide redundant utilities and communications (internet link for government communications) to support critical facilities.	Goal 4, Objective 4-3	M	TBD	Emergency Management Planning	local governments	TC DITS	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Transportation Accident	5.8.13 Ensure that carriers involved in the transportation of hazardous materials comply with all applicable laws through proactive police enforcement of commercial carrier rules and regulations.	Goal 4, Objective 4-2	L to M (to enforce existing laws)	Ongoing	NYDOT regulation, public safety concerns, local enforcement programs	Local Police	NYDOT, County police	While support for this work continues, it has been removed from the plan update due to its generality.
Severe Storm	5.3.2 Enhance public education programs regarding both incoming and outgoing evacuation routes.	Goal 4, Objective 4-4	\$2,000/town	2 years	Public-private partnerships;	Local police and fire	TC, SEMO	Action item that has not received much attention. Included in update as Action Item A4 which changes focus to sheltering in place.
Utility Failure	5.7.12 Enhance public awareness by creating a training course for the public and local jurisdictions on utility emergency situations.	Goals 2 and 3, All Objectives	\$2,000/town	2 years	Public-private partnerships	Local police and fire, NYSEG	TC	Action item that has not received much attention. Included in update as Action Item A4 which changes focus to sheltering in place.
Transportation Accident	5.8.11 Provide public education and outreach materials regarding the appropriate actions to take in the event of a hazardous material spill. TC/ARC should be a support agency for public outreach.	Goal 2, All Objectives	\$2,000/	2 years	Public-private partnerships	Local police and fire, TCDOH	TC	Action item that has not received much attention. Included in update as Action Item A4 which changes focus to sheltering in place.
Flood	5.1.7 Update flood plain (FIRM) maps.	Goal 1, Objective 1-4	H	5 years	NYSDEC, FEMA MMI	NYSDEC	TCPD	Continues to be a problem and one of the County's highest priorities. As such it is reincluded as "High Priority Action 6" in the plan update.
Flood	5.1.33 Develop flood insurance maps for Virgil Creek flood control project and downstream areas (See also 5.1.7).	Goal 1, Objective 1-4	M to H	2 years	NFIP, FEMA, NYSDEC	NYSDEC	TCPD	Continues to be a problem and one of the County's highest priorities. As such it is reincluded as "High Priority Action 6" in the plan update.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Severe Winter Storm	5.2.2 Develop a buddy network of concerned citizens that will check in on elderly, handicapped, low-income, or non-English speaking citizens during major or extended events.	Goal 2, All Objectives and Goal 3, Objective 3-2	L	Ongoing	Office of Aging, ARC, Existing church programs	Office of Aging	ARC	Still remains an issue and has been elevated to "High Priority 1" in the plan update.
Severe Storm	5.3.8 Retrofit critical facilities with wind resistant designs and construction.	Goal 1, Objective 1-1	M	5 years	HMGP	Owners of critical facilities	TC, SEMO	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Fire (Urban and Wild)	5.6.8 Retrofit existing critical facilities to bring them up to fire code, if they are not already.	Goal 1, Objective 1-1	M	Ongoing	Code, enforcement, and zoning	Owners of critical infrastructure	TBD	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Terrorism	5.10.1 Enhance pre-emptive security around critical facilities and infrastructure.	Goal 1, Objective 1-1	L to H	Ongoing	Current anti-terrorism initiatives	Owners of facilities and infrastructure	TC EPC, TC DER	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Fire (Urban and Wild)	5.6.7 Ensure that structures (especially places of public assembly) are maintained and comply with any and all applicable fire and safety codes.	Goal 1, Objective 1-5	L	Ongoing	Code, enforcement and zoning	Owners of structures	TBD	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Transportation Accident	5.8.6 Improve reporting of minor accidents and engineering investigations of collisions to determine patterns to improve signals, traffic markings, and identify educational efforts needed to reduce accidents.	Goal 1, Objective 1-1	See 5.8.1	See 5.8.1	See 5.8.1	See 5.8.1	See 5.8.1	Currently tracked through local transportation agencies. Deleted in plan update.
Transportation Accident	5.8.5 Ensure rapid and coordinated response by emergency responders in the event of a hazardous materials spill event by enhancing the Chain of Command for Emergency Response Flow Chart and identifying notification requirements.	Goal 4, Objective 4-2	See Section 5.4.4	See Section 5.4.4	See Section 5.4.4	See Section 5.4.4	See Section 5.4.4	Not included in plan update as this is being addressed in local emergency response plans.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Severe Storm	5.3.1 Develop and implement programs to keep trees from threatening lives, property, and public infrastructure during storm events.	Goal 3, Objective 3-1 Goal 4, Objective 4-2	See Table 5-4-1-2	See Table 5-4-1-2	See Table 5-4-1-2	See Table 5-4-1-2	See Table 5-4-1-2	Active issue reincluded as High Priority Action item 5.
Flood	5.1.50 Establish a conservation corridor along both stream banks of Six Mile Creek, and other applicable watersheds, to encourage riparian vegetation for channel and floodplain stabilization and wildlife habitat.	Goal 1, Objective 1-7 and Goal 3, All Objectives	\$100,000	6 years	Comprehensive Planning, Watershed initiatives, zoning, site planning, code enforcement, Six Mile Creek Partnership, TCFHMP	Six Mile Creek Partnership	Towns, TCPD, TCSWCD	Very successful stream corridor work through the Tompkins County Flood Hazard Mitigation Program led by the Tompkins County Planning Department and Tompkins County Soil and Water Conservation District has resulted in over 2.3 linear miles of stream planted, protected or restored throughout Tompkins County since 2006. Work has resulted in the planting of over 2,000 trees and shrubs with the assistance of over 200 volunteers on 7 creeks, in 5 watersheds and 7 different municipalities. Due to its success the action item has been reincluded in the plan update (TC2, C1, DR1, T11, TL2, and VT1).
Transportation Accident	5.8.4 Construct new roads and infrastructure in accordance with current land use plans, zoning, and local ordinances.	Goal 1, Objective 1-1	L (to enforce existing codes)	TBD	TBD	TBD	TBD	While support for this work continues, it has been removed from the plan update due to its generality.
Terrorism	5.10.4 Harden (retrofit and upgrade) fixed critical public facilities and infrastructure from the threat of terrorist attack.	Goal 1, Objective 1-1	L to H (based on needs)	Ongoing	Current anti-terrorism initiatives	TBD	TBD	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Flood	5.1.2 Encourage NFIP communities to participate in the CRS.	Goal 1, Objectives 1-2 and 1-3	L	3 years	NFIP, NYSDEC	TC	All jurisdictions, FEMA, SEMO	Remains an important action item that has not gained traction. Is reincluded in update as Action Item A1.
Flood	5.1.15 Develop model ordinances for sediment and erosion control, stormwater control, and stream buffer implementation.	Goal 1, Objectives 1-1, 1-4, 1-5, 1-6, and 1-9	\$3,000	1 year	Phase II Stormwater Regulatory Requirements	TC	Towns; NYSDEC, NYSDOS	County Planning has developed a model stream buffer ordinance and several communities have considered or implemented such measures. The model will continue to be used and the action is removed from the plan update.
Flood	5.1.17 Continue Six Mile Creek, Fall Creek, Salmon Creek, and Cayuga Inlet Watershed Assessments.	Goal 1, Objective 1-4	\$30,000	3 years	Current watershed assessments	TC	Applicable jurisdictions	Watershed Assessments have continued to be developed throughout the County. New assessments include Taughannock and Buttermilk Creeks. The county anticipates working with Cayuga County in developing the Owasco Inlet watershed assessment as well.
Flood	5.1.20 Identify, evaluate, and implement effective flood mitigation activities for specific "hot spots" within the county.	Goal 1, Objective 1-1	L	Ongoing	Flood Mitigation Initiatives	TC	Participating Towns	Currently worked on through the Tompkins County Flood Hazard Mitigation Program and other municipal initiatives. Much of this work has been supported by the development of the various Watershed Assessments. Due to its success the action item has been reincluded in the plan update (TC2, TC3, C1, DR1, T11, TL2, VT1 and High Priority Action 10)
Flood	5.1.52 Address erosion and failure of the stacked rock retaining wall at the Tutton property (reach #3487) in Slaterville Springs.	Goal 1, Objective 1-7	L to M	4 years	HMGP, TCFHMP	TC	TCSWCD, NYSDEC, TCPD	Project complete, action item removed from plan update.
Flood	5.1.53 Develop a stormwater program to ensure the maintenance of stormwater control policies, measures and systems and flood control.	Goal 1, Objectives 1-1, 1-4, 1-5 and 1-9	L to M	2 years	Phase II Stormwater Regulations; County Comprehensive Plan	TC	Local government	Actively implemented and thus removed from plan update.
Severe Winter Storm	5.2.13 Enhance strategies for debris management for severe winter storm (including ice storm) events.	Goal 4, Objectives 4-2 and 4-3	L	1 year	Emergency Preparedness	TC	TC DPW, SEMO	Remains an important action that has not progressed. Included in update as "High Priority Action 3".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Severe Storm	5.3.6 Encourage development and enforcement of wind-resistant building siting and construction codes. Focus to be placed on vulnerable residencies first (i.e. mobile homes).	Goal 1, Objective 1-1	L	TBD	Building code, enforcement	TC	TCPD	Remains an active action. Included in plan update as Action Item A5.
Severe Storm	5.3.7 Enhance strategies for debris management for severe storm events.	Goal 3, Objective 3-1 Goal 4, Objectives 4-2 and 4-3	L	1 year	Emergency Preparedness	TC	TCDPW, SEMO	Remains an important action that has not progressed. Combined with other action and included in update as "High Priority Action 3".
Fire (Urban and Wild)	5.6.4 Encourage development and dissemination of maps relating to the fire hazard to help educate and assist builders and homeowners in being engaged in fire mitigation activities and to help guide emergency services during response.	Goal 2, All Objectives	L	2 years	Community Technology Initiatives	TC	TCDITS, Towns, TCGIS	Support for this work continues, combined, reworded and included in plan update as Action Item A7.
Utility Failure	5.7.1 Implement physical mitigation activities (riprap, etc.), as necessary, to the second, exposed gas pipe crossing the Six Mile Creek, approximately 2,000 feet downstream of German Cross Road, to protect against utility failure and water contamination.	Goal 1, Objectives 1-1 and 1-9	L	5 years	Continued community infrastructure maintenance	TC	Pipeline Group	Project complete, action item removed from plan update.
Utility Failure	5.7.14 Retrofit critical facilities with the latest utility connections.	Goal 1, Objective 1-1	\$18,000	1 year	TBD	TC	Owners of critical facilities	Remains a high priority issue. Included in the broader "High Priority Action 8" which outlines need for mitigation strategies for critical facilities.
Utility Failure	5.7.16 In the event of a utility failure, currently all communications need to go through the City of Ithaca's emergency communication systems because the County's system can only support communication for 4 hours following a power failure. Acquire a generator to support County communication systems as a more sustainable and long-term solution.	Goal 4, Objective 4-3	\$20,000	1 year	TC communications system	TC	TC DITS	Project complete, action item removed from plan update.
Transportation Accident	5.8.14 Enhance public safety through awareness, by releasing timely public service announcements via various media (television, radio) and supplying suggestions for alternate routes.	Goal 2, All Objectives	Current budgets	Ongoing	Newspapers, Radio, Television, PSAs	TC	TCHD	Actively implemented. Combined and reincluded in plan update as Action Item A4.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Water Supply Contamination	5.9.1 Work with major public water suppliers on hazard mitigation and emergency response efforts and to enhance cooperative relationships.	Goal 3, Objective 3-1; Goal 4, Objective 4-1	L	Ongoing	Public-Private Partnerships	TC	Public Water Suppliers, TC EPC	Actively implemented by each water supplier. Combined, restated and included in update as Action Item A12.
Water Supply Contamination	5.9.2 Continue aquifer assessment studies to better understand groundwater dynamics and re-charge areas.	Goal 1, Objectives 1-1, 1-6, and 1-9	\$450,000	7 years	Current aquifer studies	TC	USGS	Actively implemented by each water supplier. Combined, restated and included in update as Action Item TC4.
Water Supply Contamination	5.9.6 Identify and plan for use of backup water supply for the community, should the primary water supply become contaminated.	Goal 1, Objective 1-9; Goal 4, Objective 4-2	L to M	1 year	Public-Private Partnerships, NYSDEC	TC	Public Water Suppliers, TC EPC, other nearby cities, TCWRC	Actively implemented by each water supplier. Combined, restated and included in update as Action Item A12.
Water Supply Contamination	5.9.8 Complete water vulnerability assessments (VA) for water supply and water treatment systems and make improvements to harden security and ensure that appropriate emergency plans are in place.	Goal 1, Objective 1-1	\$35,000/VA; Improvement cost to be based on results of VA	2 years	Current anti-terrorism initiatives	TC	SEMO, water suppliers, TCWRC	Actively implemented by each water supplier. Combined, restated and included in update as Action Item A12.
Water Supply Contamination	5.9.12 Enhance public safety through awareness, by releasing timely PSAs via various media (television, radio).	Goal 2, All Objectives	Current budgets	Ongoing	Newspapers, Radio, Television, PSAs	TC	TC WRC	Actively implemented. Combined and reincluded in plan update as Action Item A4.
Utility Failure	5.7.15 Develop and distribute a list of materials needed for an individual to survive for 3 days without power. TC/ARC should be a support agency for public outreach.	Goal 4, All Objectives	\$10,000	1 year	Public Outreach	TC DER	TC EPC, NYSEG	Actively implemented. Combined and reincluded in plan update as Action Item A4.
Water Supply Contamination	5.9.5 Increase collaboration between government and community organizations regarding containment, response, and cleanup plans.	Goal 3, Objective 3-2	L	Ongoing	Public Private Partnerships	TC DER	Local government, citizen groups	Remains an important action that has not progressed. Combined with other action and included in update as "High Priority Action 3".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Terrorism	5.10.5 Provide real-time information on alert levels from the Homeland Security Advisory System from the U.S. DHS.	Goal 2, All Objectives	Current funds	Ongoing	Emergency Management Planning	TC DER	TC EPC, SEMO	Actively implemented. Combined and reincluded in plan update as Action Item A4.
Terrorism	5.10.6 Respond to increased threat level assessments, as issued by DHS, by providing increased surveillance of fixed critical infrastructure.	Goal 4, Objective 4-2	M to H	As needed	Emergency Management Planning	TC DER	TC EPC, local police and fire	A part of existing protocol, included only as Action A13 in plan update.
Water Supply Contamination	5.9.7 Develop procedures for testing and sampling the water supply and a warning system should any tests reveal contamination.	Goal 1, Objective 1-9; Goal 2, All Objectives	L to M	2 years	Public-Private Partner-ships, NYSDEC, SEMO	TC DER, public water suppliers	NYSDEC, TC DOH, local labs, Cornell	Actively implemented by each water supplier. Combined, restated and included in update as Action Item A12 and likely a part of Action Item A10.
Terrorism	5.10.3 Work with hospitals to ensure there are adequate response procedures in the event of a terrorist event and provide training on these procedures.	Goal 3, All Objectives, Goal 4, Objectives 4-1, 4-2, and 4-3	\$15,000	Ongoing	Emergency Management Planning	TC DOH	Regional Hospitals, local police and fire, TC EPC, SEMO	Cayuga Medical Center has adequately prepared for large scale events. Action item removed from update.
Flood	5.1.44 Analyze and enhance overall drainage system at Boiceville Bridge in Caroline, Hayts, Lansingville Road, Etna Road, Old 76 Road (beyond narrows), Perry City Road in Ulysses, Ludlowville along Salmon Creek, and East King Road.	Goal 1, Objectives 1-1, 1-3, and 1-5	L to H	2 years	Community Infrastructure Maintenance; TCFMP	TC DPW	Towns	Majority of analyses complete through watershed assessments. Action Item TC3 in the plan update addressing the few remaining areas.
Transportation Accident	5.8.3 Continue to conduct regular training for first response personnel.	Goal 4, Objective 4-2	\$10,000/year L (to enforce existing codes)	Ongoing/Annual	Emergency Preparedness Initiatives	TC EPC	SEMO, local police and fire, NYSDEC, NYDOT	Currently implemented through local agencies. Reincluded in part as Action Item A7.
Transportation Accident	5.8.12 Inventory current first response equipment and acquire new equipment as necessary.	Goal 4, Objective 4-3	Current resources	1 year	Emergency preparedness initiatives	TC EPC	Local fire and police	Currently implemented through local agencies. Reincluded in part as Action Item A7.
Terrorism	5.10.2 Identify separate grant programs to obtain additional emergency preparedness and response resources.	Goal 1, Objective 1-1 and Goal 3, All Objectives	L	Ongoing	Emergency Management Planning	TC EPC	SEMO	While support for this work continues, it has been removed from the plan update due to its generality.
Flood	5.1.42 Implement training and public outreach to residents, code officials, and contractors on floodplain management and flood mitigation as well as flood response planning and training.	Goal 2, All Objectives, Goal 3, All Objectives	\$2,000/Town	1 year	NFIP, TCFMP	TC NFIP Managers	Towns	Has not occurred to date, though need still exists. Included in plan update as "High Priority Action 9".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.54 Conduct outreach to property owners, the banking community, and the insurance industry regarding risk management associated with flood.	Goal 2, All Objectives	\$2,000/	2 years	Public-private partnerships, Public Outreach programs, Ithaca Journal; Radio Stations, PBS	TC, SEMO	TCDER	Is a part of regular community outreach. Opportunities for enhanced outreach efforts are anticipated as a result of the reincluded "High Priority Action 6 (Update of Flood Maps)" and Action Item A1 (Enrollment in CRS Program).
Severe Storm	5.3.4 Increase public awareness of storm mitigation activities, including severe storm warnings and advisories.	Goal 2, All Objectives	\$2,000/Town	2 years	Public-private partnerships, Public Outreach programs, Ithaca Journal; Radio Stations, PSAs, PBS	TC, SEMO	TCDER	Actively implemented. Combined and reincluded in plan update as Action Item A4.
Utility Failure	5.7.17 Work with Co-operative Extension to identify mitigation activities for utility failure on dairy farms.	Goal 4. All objectives	Current budget	2 years	Public-Private Partnerships	TC, Towns	CUCC, LF	Actively discussed and reincluded with climate focus as Action Item A14.
Transportation Accident	5.8.16 Encourage adoption of County or local regulation requiring identification of hazardous materials being transported through Tompkins County.	Goal 2, Objective 2-3; Goal 4, Objectives 4-3 and 4-4	TBD	5 years	Public safety concerns	TC/Town	TC/Town	County and local government legislation on road use and hauling routes has been implemented. Aspects of this issue remain especially in light of potential gas drilling in the region. Included as a part of Action Item A10.
Severe Winter Storm	5.2.5 Survey institutions that have specific needs populations to identify their emergency needs.	Goal 4, All Objectives	L	6 years	TBD	TCDER	HNTF, TCDSS, ARC	Actively being addressed. Combined and reincluded with "High Priority Action 1".
Severe Winter Storm	5.2.12 Wherever practicable, coordinate emergency services, public works departments, and public utility responses to winter storm events to ensure efficient use of resources.	Goal 4, Objective 4-2	Current funds	Ongoing	TCDER, local highway agency	TCDER	SEMO, TC, NYSEG	A part of existing protocol, deleted in plan update.
Severe Winter Storm	5.2.14 Enhance weather monitoring to attain earlier severe winter and ice storm warnings.	Goal 2, All Objectives	L to H	Ongoing	Weather Monitoring	TCDER	TCSWCD, NOAA, NWS, County and local public works	A part of existing protocol, deleted in plan update.
Epidemic (Human)	5.5.4 Identify and secure resources to build the appropriate medical stockpile of medicines and medical supplies to address sizable epidemics.	Goal 4, Objective 4-3	M to H	2 years	FEMA, SEMO, DHS preparedness efforts	TCDER	TCEPC, TCDOH, Regional Hospitals	Actively implemented and thus removed from plan update.
Epidemic (Human)	5.5.5 Enhance public safety through awareness, by releasing timely public service announcements via various media (television, radio). TC/ARC should be a support agency for public outreach.	Goal 2, All Objectives	Current budget	Ongoing	Newspapers, Radio, Television, PSAs	TCDER	TCEPC, planning group, TCDOH	Actively implemented, combined and reincluded in plan update as Action Item A4.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Fire (Urban and Wild)	5.6.3 Enhance emergency services to increase the efficiency of wildfire response and recovery activities.	Goal 4, All Objectives	M	Ongoing	Community safety	TCDER	TCEPC County and Local Fire Dept.	Actively implemented, combined and reincluded in plan update as Action Item A4.
Terrorism	5.10.7 Provide a wireless communication command and control channel for use by TC.	Goal 4, Objective 4-3	M	TBD	Emergency Management Planning	TCDER	TC EPC, TC DITS	Project complete, action item removed from plan update.
Severe Winter Storm	5.2.8 Increase public awareness of storm mitigation activities, including storm warnings and advisories. (See also 5.2.1)	Goal 2, All Objectives	\$2,000/jurisdiction	Ongoing	Public-private partnerships, Public Outreach programs, Ithaca Journal, PSAs, Radio Stations, PBS, EBS	TCDER, SEMO, Towns	ARC, NOAA	Actively implemented, combined and reincluded in plan update as Action Item A4.
Epidemic (Human)	5.5.1 Enhance and strengthen communication between regional hospitals and facilities about possible epidemic events.	Goal 3, Objective 3-1	L to M	Ongoing	Current health care communication systems	TCDOH	TCEPC, Regional Hospitals	Actively implemented through the County Emergency Planning Committee. Reincluded as Action Item TC5.
Epidemic (Human)	5.5.3 Continue to support the position of Bioterrorism Preparedness Coordinator at the County level.	Goal 1, Objective 1-1; Goals 2 and 3, All Objectives	Current budget	Ongoing	Bioterrorism preparedness efforts	TCDOH	TCEPC, TCDER	Position remains, thus action removed from plan update.
Flood	5.1.58 Map historical off road drainage ways so the County and local highway departments can explore the possibility of getting access to them and improving stormwater management.	Goal 1, Objective 1-1	M	1 year	Phase II Stormwater Regulations; TCFMP	TCDPW	TCPD	Actively analyzed. Action broadened and reincluded in plan update as Action Item A18.
Severe Winter Storm	5.2.4 Develop and implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure from severe winter storms (including ice storms).	Goal 1, Objective 1-1	M	Ongoing	FEMA Programs	TCDPW	TCDER	Remains active. Reincluded in plan update in the form of various actions such as "High Priority Action 5", TC3, and "High Priority Action 8".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Utility Failure	5.7.11 Maintain all gas pipes across creeks.	Goal 1, Objective 1-1	L	Ongoing	Maintenance of County infrastructure	TCDPW	TBD	Remains a concern. Rephrased and included as Action Item A25.
Flood	5.1.16 Develop system/process for cleaning and maintaining stormwater drains and catch basins.	Goal 1, Objectives 1-1, 1-4, 1-5, 1-6, and 1-9	\$5,000	2 years	Phase II Stormwater Regulations	TCDPW, Towns	Private landowners	Actively implemented, thus removed in plan update.
Epidemic (Human)	5.5.2 Increase collaboration between government and community organizations regarding containment and response plans for epidemic events involving human beings.	Goal 3, Objective 3-2	L to M	Ongoing	TCEPC- planning group integration	TCEPC	City of Ithaca, Regional academic institutions, Regional hospitals	Actively implemented with the County Emergency Planning Committee. Reincluded in plan update as TC5.
Fire (Urban and Wild)	5.6.11 Enhance the Tompkins County Emergency Management Plan to include an emergency fire relief program (to collaborate between the towns to expedite capabilities to fight fires).	Goal 1, Objectives 1-7 and 1-8	Current budget	1 year	Procedural changes	TCEPC	TCPG	Program currently exists, deleted in plan update.
Fire (Urban and Wild)	5.6.1 Conduct a study identifying all water resources in the jurisdictions for fire fighting (urban and wildland), map locations, and develop fire fighting strategies based on this data.	Goal 4, Objective 4-2	L to M	2-5 years	Community Infrastructure Management	TCFPB	TCEPC County and Local Fire Dept.	Slowly implemented, reincluded as "High Priority Action 12".
Fire (Urban and Wild)	5.6.9 Investigate and, where feasible, implement programs that would encourage and assist owners of older commercial structures in rehabilitating and improving the fire resistance of their properties.	Goal 1, Objective 1-1	L	Ongoing	Infrastructure management, code, and zoning	TCFPB	Towns	Action has not occurred in a comprehensive way. Reincluded in plan update as Action Item A6.
Fire (Urban and Wild)	5.6.13 Educate personnel on Federal cost-share and grant programs, Fire Protection Agreements, and other related Federal programs so the full array of assistance available to local agencies is understood.	Goal 3, All Objectives	L	4 years	Interagency cooperation	TCFPB	Local and County Fire Depts.	While support for this work continues, it has been removed from the plan update due to its generality.
Fire (Urban and Wild)	5.6.14 Inventory alternative firefighting water sources and encourage the development of additional sources.	Goal 4, Objective 4-2	L to M	TBD	TBD	TCFPB	Local and County Fire Depts.	Slowly implemented, reincluded as "High Priority Action 12".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Fire (Urban and Wild)	5.6.15 Increase communication, coordination, and collaboration between wildland/urban interface property owners, local and county planners, and fire prevention crews and officials to address risks, existing mitigation activities, and Federal assistance programs.	Goal 2, All Objectives	L	TBD	Public Private Partnerships	TCFPB	Public, Local and County Fire Depts.	WUI has been determined to be a very minimal issue at this time. Specific action deleted though fire mitigation remains in Action Items A6, A7 and A8.
Fire (Urban and Wild)	5.6.16 Undertake vegetation management activities to reduce potential fuel for a wildfire (activities could include tree pruning, selective planting, and establishing vegetative setback distances).	Goal 1, Objective 1-7	M	TBD	TBD	TCFPB	TBD	WUI has been determined to be a very minimal issue at this time. Specific action deleted though fire mitigation remains in Action Items A6, A7 and A8.
Severe Storm	5.3.3 Map and publicize locations around the county that have the highest incidence of severe-storm related impacts.	Goal 1, Objective 1-7; Goal 2, Objective 2-3	\$10,000	2 years	Community Technology Initiatives, NOAA and NWS data	TCGIS	TCDITS, SEMO	Determined to be impractical, deleted in plan update.
Flood	5.1.4 Enhance data and mapping for floodplains within the County and identify and map any flood-prone areas outside of currently designated areas (see also 5.1.7).	Goal 1, Objective 1-4	M to H	2 years	NYCDEC, NAF Managers	TCGIS, NYSDEC	TCPD, TCSWCDTCDITS	Remains one of the highest priority activities in the County as maps have yet to be updated. Reincluded in plan update as "High Priority Action 6" which includes both FIRM and inundation mapping interest.
Fire (Urban and Wild)	5.6.2 Obtain or create a map of existing and planned fire hydrants throughout the county and identify areas that need fire hydrants.	Goal 1, Objective 1-1	L	1 year	Community Technology Initiatives	TCGIS, TC	TCDITS	Continues to be developed and is of interest in the community. Reincluded as "High Priority Action 12"
Flood	5.1.8 Continue to conduct engineering studies and watershed assessments to support the reduction of flood potential.	Goal 1, Objective 1-4	M	1 year	TCFHMP	TCPD	WRC, TCSWCD	Completed for the majority of the County. Owasco Inlet Watershed is the most significant remaining and is included as an action by the Town of Groton as Action TG1.
Flood	5.1.25 Continue maintenance to existing and planned structures, such as structural walls and other vertical barriers.	Goal 1, Objective 1-1	Current funding	Ongoing	Flood Mitigation Initiatives; watershed study follow-up	TCPD	TCDPW, TCSWCD	Actively implemented and reincluded as TC3.
Flood	5.1.26 Encourage development of acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in the floodplain.	Goal 1, Objective 1-7	\$40,000	6 years	County Comprehensive Plan, FLLT strategic plan	TCPD	FLLT, Towns	Several local agencies are actively involved with this work. Action is restructured to include consideration in green infrastructure in these projects as Action A18.
Flood	5.1.32 Further coordinate multi-jurisdictional mitigation activities as outlined in the Flood Mitigation Needs Assessment for Six Mile Creek.	Goal 3, All Objectives	L	6 years	TCFHMP, 6 Mile Creek Partnership	TCPD	Local government, TCSWCD	Actively implemented by the Tompkins County Stream Corridor Restoration and Flood Hazard Mitigation Program. This remains a priority as "High Priority Action 10", TC2 and others.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.41 Identify or update existing land use in major stream corridors and floodplains in Tompkins County.	Goal 1, Objectives 1-4 and 1-6	\$1,000	1 year	Land Use and County Comprehensive Planning	TCPD		Actively implemented by the Tompkins County Stream Corridor Restoration and Flood Hazard Mitigation Program. This remains a priority as "High Priority Action 10", TC2 and others.
Flood	5.1.49 Re-emphasize watershed approaches by developing a strategy to address needs at the watershed level, including cumulative flood mitigation activities and priorities.	Goal 1, Objective 1-4	L	Ongoing	Comprehensive Planning, Watershed initiatives	TCPD	Towns, TCSWCD	Actively implemented by the Tompkins County Stream Corridor Restoration and Flood Hazard Mitigation Program. This remains a priority as "High Priority Action 10", TC2 and others.
Severe Winter Storm	5.2.7 Map and publicize locations around the county that have the highest incidence of severe storms related events.	Goal 1, Objective 1-7	\$10,000	2 years	NOAA and NWS data, HMGP, TCFHMP, NYSDOT	TCPD	TC Municipal Officials	Considered a part of Flood Inundation Mapping project identified in "High Priority Action 6"
Fire (Urban and Wild)	5.6.6 Amend county policies to require the use of fire-retardant materials in new construction.	Goal 1, Objective 1-1	L	TBD	Code, zoning, enforcement, engineering	TCPD	TBD	Existing practice, removed from plan update.
Utility Failure	5.7.13 Enhance GIS coverage and analysis of existing and planned, future utility lines in the county. Managed data security.	Goals 2 and 3, All Objectives	M	TBD	County Information Databank	TCPD, TCGIS	TCDITS	Existing practice, removed from plan update.
Flood	5.1.9 Continue analysis of resistance of mobile homes to flood events.	Goal 1, Objectives 1-1, 1-2, and 1-5	Current resources	Ongoing	Community Infrastructure Improvements	TCPG	Towns	Practice to be considered as a part of CRS program. Included in plan update as Action Item A1.
Flood	5.1.61 Introduce programs/measures to reduce impervious surfaces	Goal 1, Objective 1-9	M	4 years	Existing land use and stormwater management programs; zoning	TCPG	Towns	Actively implemented by the Tompkins County Stream Corridor Restoration and Flood Hazard Mitigation Program. This remains a priority as "High Priority Action 10", TC2 and others.
Utility Failure	5.7.5 Continue discussion with planning group and EPC on costs and benefits of purchasing generators for critical facilities or installing generator hook ups.	Goal 4, Objective 4-3	Current budget	Ongoing	TCPG, TCEPC	TCPG	TC EPC	Actively discussed with County Emergency Management Planning Committee and reincluded as "High Priority Action 8".

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Utility Failure	5.7.9 Support/encourage electrical utilities to use underground construction methods where possible to reduce power outages from other hazard events.	Goal 3, Objective 3-2	L	TBD	Zoning	TCPG	NYSEG	Actively advocated where appropriate. Included in plan update as Action Item A9.
Utility Failure	5.7.3 Local agencies will work with NYSEG to ensure smooth communication and response coordination with NYSEG's principal crews, which are now located in the County of Broome.	Goal 4, Objectives 4-1 and 4-2	Current budget	1 year	N/A	TCPG, NYSEG	TC EPC	Currently coordinated with several jurisdictions. Reincluded as "High Priority Action 5".
Utility Failure	5.7.4 Identify contact point at NYSEG and work to evaluate and increase responsiveness to utility failure. Increase coordination and communication with NYSEG during and between emergencies.	Goal 3, Objective 3-2; Goal 4, All Objectives	Current budget	1 year	N/A	TCPG, NYSEG	TC EPC	Currently coordinated with several jurisdictions. Reincluded as "High Priority Action 5".
Utility Failure	5.7.18 Conduct discussions with NYSEG about dispatching from highway departments and work in teams with highway department to expedite response to power failure.	Goal 3, Objective 3-2; Goal 4, All Objectives	Current budget	1 year	N/A	TCPG, NYSEG	TC EPC	Currently coordinated with several jurisdictions. Reincluded as "High Priority Action 5".
Flood	5.1.3 Analyze repetitive loss properties within Tompkins County and identify feasible mitigation options (through the Tompkins County Flood Mitigation Program).	Goal 1, Objective 1-4	M	1-2 years	NFIP, TCFHMP	TCSWCD	TCPD	Has been conducted. Repetitive loss properties in Tompkins County are fortunately very few. They are however actively considered through the Stream Corridor Restoration and Flood Hazard Mitigation Program and other programs (Action Item A2 and TL3).
Flood	5.1.21 Construct synthetic floodways to disperse flow and reduce velocity of water in the Six Mile Creek.	Goal 1, Objective 1-1	M to H	6 years (2010)	County Comprehensive Planning, TCFHMP, OSC	TCSWCD	TCPD	Currently actively implemented. Included in plan update as Actions C1, C2 and "High Priority Action 10.
Flood	5.1.22 Increase channel roughness of the Six Mile Creek, including introducing large woody debris in the banks, creating boulder and log sills in the riverbed, installing individual boulders and boulder clusters in the channel, and redefining the channel's thalweg.	Goal 1, Objective 1-1	L to M	Ongoing	Flood Mitigation Initiatives; recommendations of watershed studies; EPF, EPA, NYSDEC	TCSWCD	USFWS	Currently actively implemented. Included in plan update as Actions C1, C2 and "High Priority Action 10.
Flood	5.1.23 Construct additional detention ponds and wetlands upland and upstream of the Six-Mile Creek, for other appropriate watersheds, and for repeat flash flooding areas to help control peak runoff rates.	Goal 1, Objective 1-1	M to H	Ongoing	Flood Mitigation Initiatives; recommendations of watershed studies; EPF, EPA, NYSDEC	TCSWCD	FWS	Currently actively implemented. Included in plan update as Actions C1, C2 and "High Priority Action 10.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.48 Implement other Susquehanna initiatives.	Goal 1, Objectives 1-1, 1-3, and 1-5	\$200,000	2 years	Susquehanna initiatives TCSWCD	TCSWCD	Town	Considered as a part of Stream Corridor Restoration and Flood Hazard Mitigation Program and other programs (Action Item A2 and TL3).
Epidemic (Agricultural)	5.4.4 Increase coordination with organizations such as NYSCHAP and CLEAR.	Goal 3, Objective 3-1	L	Ongoing	TC, Agriculture & Farmland Protection Board	TCSWCD	TCSWCD, CLEARCUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.5 Distribute NYSCHAP assessment checklist.	Goal 2, All Objectives	L	2 years	NYSCHAP checklist, local paper, mailer to local farmers	TCSWCD	TCSWCD, CLEAR, LF, CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.6 Distribute guidelines and specific procedures to prevent Johnes Disease and Foot and Mouth Disease.	Goal 2, All Objectives	L	1 year	local paper, mailer to local farmers, See also 5.4.11	TCSWCD	TCSWCD, CLEAR, LF, CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.7 Increase awareness in farming communities of precautions for livestock before shows, fairs, and other events.	Goal 2, All Objectives	L	Ongoing	See 5.4.11	TCSWCD	CLEAR, LF, CUCC, USDA	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.8 Increase awareness of precautions against zoonotic diseases, including rabies, ringworm, water-borne pathogens, lyme disease, anthrax, and west nile virus.	Goal 2, All Objectives	L	Ongoing	See 5.4.11	TCSWCD	CLEAR, LF, CUCC, USDA	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.11 Advertise availability of the Tompkins County Emergency Action Plan for Farms.	Goal 1, Objective 1-8; Goal 3, All Objectives	N/A	1 year	<i>Ithaca Journal</i> , flyers, libraries	TCSWCD	CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.10 Enhance public safety through awareness, by releasing timely public service announcements via various media (television, radio).	Goal 2, All Objectives	N/A	Ongoing	<i>Ithaca Journal</i> , Radio & TV announcements	TCSWCD	CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Epidemic (Agricultural)	5.4.1 Increase collaboration between government and community organizations regarding containment and response plans for epidemic events involving animals.	Goal 3, Objective 3-2	L to M	Ongoing	TC, Agriculture & Farmland Protection Board	TCSWCD, CLEAR	LF, CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.2 Participate in the integrated disease prevention program with the New York State Cattle Health Assurance Program (NYSCHAP)	Goal 1, Objective 1-1	M	Ongoing	Disease prevention programs	TCSWCD, CLEAR	NYSCHAP, NYDAM, LF	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Epidemic (Agricultural)	5.4.3 Strengthen communication with farmers regarding procedures to prevent the entry of pathogens onto farms.	Goal 2, All Objectives	L	Ongoing	TC, Agriculture & Farmland Protection Board	TCSWCD, CLEAR	NYSCHAP, NYDAM, LF, CUCC	Has not occurred to date, action item combined with others and addressed with farm emergency planning (Action Item A14).
Flood	5.1.35 Conduct a mailing campaign to property owners in the 100- and 500- year flood plains.	Goal 2, All Objectives	\$500	3 years	TCFHMP	TCWRC	TCPD, TCGIS	Anticipated as a part of "High Priority Action 6".
Water Supply Contamination	5.9.9 Identify appropriate protection measures for groundwater drinking water systems.	Goal 1, Objectives 1-1, 1-6, and 1-9	L (to identify)	5 years	SWAP	TCWRC	NYSDEC, USGS	Currently considered by jurisdictions of Danby and Dryden in the form of aquifer recharge area protections. Combined and reincluded in plan update as action A12 and likely action A10.
Water Supply Contamination	5.9.10 Support and implement measures to reduce contamination potential of public groundwater wells.	Goal 1, Objectives 1-1, 1-5, and 1-9	L, plus current SWAP funding	5 years	Source Water Assessment Program	TCWRC	NYSDEC, USGS	Currently considered by jurisdictions of Danby and Dryden in the form of aquifer recharge area protections. Combined and reincluded in plan update as action A12 and likely action A10.
Epidemic (Agricultural)	5.4.9 Include a reference in the Tompkins County Soil and Water Conservation District Farm Emergency Management Plan to the All Hazard Mitigation Plan.	Goal 1, Objective 1-8	L	1 year	Farm Emergency Management Plan, Multi-Jurisdictional All Hazard Mitigation Plan	Tompkins County	TCSWCD	Included in plan update as a part of action A14.
Flood	5.1.59 Complete the flood protection berm at the Speedville Mill Road bridge site.	Goal 1, Objectives 1-1, 1-3, and 1-5	Current resources	1 year	TCFMP	Tompkins County DPW	TC	No longer an issue, action removed for update.
Flood	5.1.5 Identify and address obstructions to surface water drainage.	Goal 1, Objective 1-4	L to M	Ongoing	TCFHMP, Ongoing highway official work, stormwater programs	Town	TCSWCD	Actively implemented and removed from plan update.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.19 Conduct regular maintenance and inspections on the local flood control dams.	Goal 1, Objective 1-1	L	Ongoing	Joint ownership of structures	Town	TC	Currently a part of updated state regulations. Removed from plan update.
Water Supply Contamination	5.9.3 Continue Six Mile, Virgil, and Willseyville Creek Aquifer Studies.	Goal 1, Objectives 1-1, 1-6, and 1-9	\$750,000	6 years	Current aquifer studies	Town	TC, USGS	Active - under development
Water Supply Contamination	5.9.4 Take thermal images of the lake front area to identify locations of failing septic systems.	Goal 1, Objectives 1-1, 1-6, and 1-9	\$8,000	3 years	Current stormwater and water quality initiatives	Town	TBD	Complete, most recent work completed by the Town of Ulysses, and removed from plan update.
Flood	5.1.13 Replace the pipes under West Jersey Hill Road at Lick Brook Creek to prevent further undermining of the road.	Goal 1, Objectives 1-1, 1-3, and 1-5	M	1 year	Current DPW activities	Town	TC DPW	Complete, deleted in plan update.
Flood	5.1.14 Implement Barrile stream bank stabilization.	Goal 1, Objectives 1-1, 1-3, and 1-5	\$250,000-\$300,000	1 year	Current stream bank stabilization projects	Town	TC, NYSDEC	Significant project led by Tompkins County Soil and Water District complete in Sixmile Creek Watershed, as such deleted in plan update.
Flood	5.1.15 Stabilize the Brooktondale Road stream bank.	Goal 1, Objectives 1-1, 1-3, and 1-5	L	1 year	Current stream stabilization projects; Programs administered by Caroline Watershed Committee	Town	TC DPW	Much of this work complete led by Tompkins County Highway Division, aspects reincluded in plan update as a part of "High Priority Action 10".
Flood	5.1.60 Restore West Creek.	Goal 1, Objectives 1-1, 1-3, and 1-5	L to H	3 years	TCFMP; Interagency Initiatives	Town	TCSWD, Tioga County	Work completed and thus deleted in plan update.
Severe Winter Storm	5.2.15 Evaluate and develop, as appropriate, a parking ordinance for emergency snow removal.	Goal 4, Objectives 4-2 and 4-3	\$3,000	Ongoing	Existing zoning policies and procedures	Town	NA	Regulations developed and removed from plan update.
Utility Failure	5.7.6 Provide backup power to the West Danby Water District System.	Goal 4, Objective 4-3	\$15,000	1 year	TBD	Town	ARC	Completed action, removed in plan update.
Utility Failure	5.7.7 Purchase back up generator for the Town of Caroline Senior Center.	Goal 4, Objective 4-3	\$20,000	1 year	TBD	Town	TCDOH	Complete action, removed in plan update.
Utility Failure	5.7.19 Purchase backup generator for Slaterville Fire Company.	Goal 4, Objective 4-3	\$20,000	1 year	N/A	Town	Fire Department	Complete action, removed in plan update.
Transportation Accident	5.8.2 Involve NYSDOT in making safety improvements to the area near the Walding Lane intersection with NYS Routes 34/96.	Goal 1, Objective 1-1; Goal 3 Objective 3-1	L to M	2 years	Public safety concerns; routine community improvements	Town	NYDOT, TC DPW	No longer an issue, action removed for update.
Transportation Accident	5.8.7 Alleviate traffic congestion at the intersection of Route 13N and Triphammer Road.	Goal 1, Objective 1-1	TBD	TBD	Public safety concerns;	Town	TCPG, TCHD	Remains an issue, combined and reincluded in the broader Action Item A23.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Transportation Accident	5.8.8 Make safety improvements to the area near the East and West Miller Road intersections with NYS Route 96B.	Goal 1, Objective 1-1	TBD	1 year	Public safety concerns; routine community improvement	Town	NYDOT	Remains an issue, combined and reincluded in the broader Action Item A23.
Transportation Accident	5.8.15 Involve NYDOT in making additional safety improvements to the intersection of Sylvan Lane with NYS Routes 34/96.	Goal 1, Objective 1-1; Goal 3 Objective 3-1	L to M	1 year	Existing safety concerns	Town	NYDOT, TC DPW	Remains an issue, combined and reincluded in the broader Action Item A23.
Flood	5.1.43 Replace the pipe under La Rue Road at Sulphur Springs Creek (west branch) to prevent further road undermining, and consult with NYSDEC and private landowners related to possible diversion ditching and cross pipes uphill.	Goal 1, Objectives 1-1, 1-3, and 1-5	L to M	1 year	Community Infrastructure Maintenance; TCFMP	Town of Danby	NYSDEC, TC DPW	Remains an issue, combined and reincluded in the broader Action Item A23.
Flood	5.1.56 Replace the pipe under Howland Road at Sulphur Springs Creek (east branch) and raise road elevation, to prevent recurrent flooding.	Goal 1, Objectives 1-1, 1-3, and 1-5	M to H	2 years	Community Infrastructure Maintenance; TCFMP	Town of Danby	TC DPW	Pipe replaced, no longer an issue and removed in plan update.
Flood	5.1.57 Encourage interagency collaboration in the humane management of beaver populations, especially where beaver activities compromise drainage structures and transportation routes.	Goal 3, All Objectives	L	Ongoing	Interagency Cooperation; Natural Resource Initiatives	Town of Danby	TC	A part of regular environmental review process, deleted in plan update.
Fire (Urban and Wild)	5.6.12 Continue to work with Tompkins County Soil and Water Conservation District in planning for and installing dry hydrants at accessible ponds.	Goal 1, Objectives 1-6 and 1-8, Goal 3, Objective 3-1	Low if grant program is ongoing	Ongoing	Interagency cooperation	Town of Danby	TCSWCD	Actively implemented and reincluded as "High Priority Action 12"
Fire (Urban and Wild)	5.6.17 Work with NYSDEC on assessing fire hazards and emergency access needs related to the Danby State Forest.	Goal 1, Objectives 1-6 and 1-8, Goal 3, Objective 3-1	L to M	3 years	Interagency cooperation	Town of Danby	NYSDEC	Not actively developed to date, reincluded in plan update as Action Item A8.
Fire (Urban and Wild)	5.6.18 Install supervised fire/security alarm system at Danby Town Hall.	Goal 1, Objective 1-1	\$20,000	2 years	Continued building upgrades	Town of Danby	NA	No longer an issue, action removed for update.
Transportation Accident	5.8.10 Arrange for NYDOT to survey West Danby fire station site distance to determine if intersection requires physical requirements or additional lighting when fire station is used for other purposes.	Goal 1, Objective 1-1; Goal 3 Objective 3-1	L (to arrange)	1 year	Public safety concerns; NYDOT regulation and support	Town of Danby	NYDOT	Addressed with NYSDOT through West Danby Fire, continue to be tracked in plan update through Action Item A23.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.1 Encourage the Town of Enfield to join the National Flood Insurance Program (NFIP).	Goal 1, Objectives 1-2 and 1-3	L	2 years	NFIP, NYSDEC	Town of Enfield	TC, DEC	Discussed but not implemented. Remains Enfield's #1 priority. Application materials provided to Supervisor. Listed in plan update as Action Item E1.
Civil Unrest	5.11.7 Conduct training events (e.g., crowd control planning and training) for local law enforcement.	Goal 4, Objective 4-2	\$5,000	Ongoing	Existing training protocols	Town of Ulysses Police Department	TC EPC, local police, TC DER	Existing practice, removed from plan update.
Civil Unrest	5.11.8 Create emergency plans for backup personnel to support local police.	Goal 4, Objective 4-2	\$5,000	2 years	Existing Emergency Protocols	Town of Ulysses Police Department	TC EPC, local police, TC DER	Existing practice, removed from plan update.
Flood	5.1.12 Implement Phase 2 Stormwater regulation compliance, and focus on efforts under S4 that also help to reduce flood risk.	Goal 1, Objectives 1-1, 1-4, 1-5, 1-6, and 1-9	\$100,000	5 years	Phase II Stormwater Regulatory Requirements	Towns	TC	Existing practice, removed from plan update.
Flood	5.1.24 Continue use of the NYSDEC's Stormwater Management Manual to minimize the impact of future land use changes.	Goal 1, Objective 1-7	L	Ongoing	Phase II Stormwater Regulatory Requirements, NYSDEC	Towns	TCSWCD, NYSDEC, TCAD	Existing practice, removed from plan update.
Flood	5.1.28 Retrofit, acquire, and/or relocate buildings in flood-prone areas (including wet or dry flood proofing).	Goal 1, Objective 1-1	H	Ongoing	NFIP, HMGP	Towns	TCPD, TCDPW, TCSWCD, TCAD, NYSDEC, SEMO, FEMA	Actively analyze flood prone areas through the Stream Corridor Restoration and Flood Hazard Mitigation Program. Reincluded in plan update as Action Item A2 and A1.
Flood	5.1.31 Implement physical mitigation activities, as necessary, within Six-Mile Creek and other appropriate watersheds (including stacked rock walls, installation of riprap, installation of check dams, and vegetation plantings).	Goal 1, Objectives 1-1 and 1-7	M to H	Ongoing	TCFHMP, Bond Act, EPF	Towns	TCPD, TCDPW, TCSWCD, TCAD	Much work has occurred in this watershed over the last 5 years. Continues to be focus and is reincluded in plan update in "High Priority Action 10" and several other actions.
Flood	5.1.36 Continue to develop and/or enforce existing floodplain regulations to encourage the continued function of naturally controlling flood control mechanisms.	Goal 1, Objective 1-5	L	Ongoing	Site plan review, code enforcement	Towns	TCPD	Through CRS development and update of floodmaps the County will work with municipalities in addressing regulations. County has advocated and worked closely with the Town of Ulysses, Town of Ithaca and Village of Trumansburg in developing stream buffer regulations. Continues to be a focus in plan update as Action Item A3.
Flood	5.1.37 Limit, to the extent practicable, development within floodplain areas to avoid degradation of their capacity to control flood levels and to reduce potential future losses due to flooding.	Goal 1, Objective 1-5	L	Ongoing	Site plan review, code enforcement, zoning	Towns	TCPD	Through CRS development and update of floodmaps the County will work with municipalities in addressing regulations. County has advocated and worked closely with the Town of Ulysses, Town of Ithaca and Village of Trumansburg in developing stream buffer regulations. Continues to be a focus in plan update as Action Item A3.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.38 Ensure that property development that occurs within floodplain areas is constructed to be flood proof, to the extent practicable.	Goal 1, Objective 1-5	L	Ongoing	Site plan review, code enforcement, zoning	Towns	NYSDEC	Through CRS development and update of floodmaps the County will work with municipalities in addressing regulations. County has advocated and worked closely with the Town of Ulysses, Town of Ithaca and Village of Trumansburg in developing stream buffer regulations. Continues to be a focus in plan update as Action Item A3.
Flood	5.1.39 Wherever practicable, use zoning and other growth management techniques to channel intensive development to areas outside of floodplains.	Goal 1, Objective 1-5	L to M	Ongoing	Site plan review, code enforcement, zoning, NFIP	Towns	TCPD	Through CRS development and update of floodmaps the County will work with municipalities in addressing regulations. County has advocated and worked closely with the Town of Ulysses, Town of Ithaca and Village of Trumansburg in developing stream buffer regulations. Consulting with Towns without zoning in how to protect these areas and properties. Continues to be a focus in plan update as Action Item A3.
Flood	5.1.51 Address the bifurcated flow in Six Mile Creek, upstream of Banks Road at the property of Scott Whitman (reach #3505) by redirecting the flow into the left channel and converting the right channel into a riparian wetland floodplain.	Goal 1, Objective 1-7	M to H	6 years	TCFHMP	Towns	Cornell, TCSWCD TCPD	No longer an issue, action removed for update.
Severe Winter Storm	5.2.3 Develop and implement programs to keep trees from threatening lives, property, and public infrastructure during storm events.	Goal 3, Objective 3-1 Goal 4, Objective 4-2	M	Ongoing	FEMA Programs	Towns	TCDPW, NYSEG	Still remains an issue and has been included as "High Priority 6" in the plan update.
Severe Storm	5.3.5 Develop tree trimming and removal efforts in the Towns of Ulysses and Caroline.	Goal 3, Objective 3-1 Goal 4, Objective 4-2	\$7,000	Ongoing	TBD	Towns	TCDPW	Still remains an issue and has been combined and included as "High Priority 6" in the plan update.
Utility Failure	5.7.10 Provide adequate redundant utilities (such as backup electrical power and alternative communication methods) for designated emergency mass care shelters and other critical facilities.	Goal 4, Objectives 4-2 and 4-3	M	TBD	TBD	Towns	TC	Slowly implemented, reincluded as "High Priority Action 8".
Water Supply Contamination	5.9.11 Implement training and public outreach to residents, code officials, and contractors about water supply contamination and response planning and training.	Goal 2, All Objectives, Goal 3, All Objectives	\$2,000/ton	2 years	Public-private partnerships	Towns	TC	Part of current practice, removed from plan update.
Severe Winter Storm	5.2.1 Inform citizens about winter storm events how to prepare for such events. Indicate locations of shelters and tips for staying at home. Provide advisories to avoid road travel combined with safe travel tips. Provide information on hazards of unheated houses, guidance on the use of portable and standby generators, fire hazards associated with space heaters, protecting plumbing during a winter storm, and coping with power failures.	Goal 2, All Objectives	\$2,000	1 year	Mailing pamphlet or page in newspaper, annually. PSAs; FEMA mitigation resources, public education grant	Towns	ARC	Currently implemented through the Tompkins Ready program. Generally supported through Action Item A4.

Appendix A - Table 30 - Status of 2006 HMP Mitigation Actions

Hazard	Mitigation Activity	Evaluation Against Goals and Objectives	Budget	Implementation Timeline	Existing Policies, Programs, and Resources to Support Implementation	Lead Agency	Support Agency	STATUS
Flood	5.1.34 Develop a program to ensure the maintenance of stormwater control measures.	Goal 1, Objective 1-4	L to M	Ongoing	Phase II Stormwater Regulatory Requirements	Towns, developers	TCPD	A part of current practice by Public Works/Highway departments. Removed in plan update.
Flood	5.1.18 Continue to operate the USGS stream flow gauge for Six Mile Creek. Collect flow data for other sub-watersheds to determine their potential flood risk.	Goal 1, Objective 1-4	Current funding	Ongoing	Aquifer program	USGS	Towns	Continual problem to keep gages funded. While the region has mainly been successful with this, it remains a Action Item in plan update (A24).
Flood	5.1.47 Conduct an assessment of groundwater resources within major glacial valleys in Tompkins County to better understand current surface and groundwater resources in the region.	Goal 1, Objective 1-4	\$4.5M	20 years	Continued County groundwater aquifer studies	USGS	TCPD, NYSDEC, Towns	Actively supported through the County Aquifer Study program. Support remains for this in Action Item TC4.
Water Supply Contamination	5.9.13 Harden (retrofit) fixed public water facilities and infrastructure from the threat of terrorist attack.	Goal 1, Objective 1-1	Contingent on retrofits selected	TBD	Current anti-terrorism initiatives	Water utilities	TBD	Focused on in City of Ithaca Water Plant rebuild and other critical infrastructure improvements. Remains in a general sense a part of plan update in "High Priority Action 8".
Flood	5.1.27 Establish a framework to compile and coordinate surface water management plans and data across the county.	Goal 1, Objective 1-4	L	2 years	WRC workplan, CLWN, Cornell	WRC	TCPD, TCDOH	A part of the current practice of the Water Resources Council. Deleted in plan update.

Table 33

**Additional Mitigation Action Strategies
Lower Priority**

Appendix A – Table 33 - Additional Multi-Jurisdictional Mitigation and Adaptation Action Strategies

#	Mitigation Action	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Cost Level	Potential Funding Sources	Implementation Timeframe	Targeted Development (new or existing)
Multi-Jurisdictional									
A1	Encourage NFIP communities to participate in the Community Rating System (CRS) which would result in lower flood insurance premiums	Flood (Flash & Lake)	1	DOER	Municipalities, FEMA, NYSOEM	Low	FEMA, NYSOEM, Local Funds	Moderate	New & Existing
A2	Prioritize high risk floodplains for protection and conservation through acquisition, easement and green infrastructure improvements	Flood (Flash & Lake)	3	TCPD	Tompkins County Conservation Partners	Medium (\$40,000)	NYSDEC, NYSDAM, Foundations	Long	Existing
A3	Develop regulations to prohibit future building in flood-prone areas as well as create incentives to encourage property owners to protect and improve streams and buffers. This should include improving gorge safety and carefully designed and maintained trails within these buffer areas.	Flood (Flash & Lake)	1	Municipalities	TCPD, NYSDDEC, FEMA, NYSOEM, Cornell University, NYS Parks	High	Capital Improvement Project (CIP) funding or bonds	Ongoing	New & Existing
A4	Support existing preparedness campaigns including sheltering in place during storm events	Severe Storms	2	DOER	TC Public Info	Low	County budget	Moderate	N/A
A5	Identify wind-resistant building siting and construction codes and incorporate in code updates and work with vulnerable structures	Severe Storms	1	Municipalities	Building Code Officials, FEMA	Low	Local budgets, County budget	Long	New & Existing
A6	Develop a program that would encourage owners of older structures to make improvements for better fire resistance	Fire	1	CCE	DOER	Low-Medium	County Budget	Long	Existing
A7	Identify deficiencies in equipment and training and ensure that local fire departments are adequately equipped to respond safely and effectively to fires	Fire	4	DOER	Municipal Fire Departments	Low	Municipal budgets	Long	N/A
A8	Work with NYSDDEC on assessing fire hazards and emergency access needs related to the Danby, Yellow Barn and Shindagin Hollow State Forests	Fire	3, 4	DOER	NYSDEC	Low	NYSDEC grant, County budget	Long	N/A
A9	Encourage the use of underground utilities for new development	Utility failure	1	Municipalities	None	Low	N/A	Long	New

Goals: 1-Protect Life and Property, 2-Increase Public Education, Outreach and Partnerships, 3-Protect and Restore Natural Ecosystems, 4-Enhance Emergency Services

Agencies: DOER – Tompkins County Department of Emergency Response; TCPD – Tompkins County Planning Department; FEMA – Federal Emergency Management Agency, NYSOEM – New York State of Emergency Management; FLLT – Finger Lakes Land Trust; NRCS – US Natural Resource Conservation Service; IC – Ithaca College.

Appendix A – Table 33 - Additional Multi-Jurisdictional Mitigation and Adaptation Action Strategies

#	Mitigation Action	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Cost Level	Potential Funding Sources	Implementation Timeframe	Targeted Development (new or existing)
A10	Develop mitigation/response plan for oil and gas operations	Water supply contamination, Trans. accidents, Hazmit In-transit	1, 2, 3, 4	TC Emergency Response Planning Committee	TCCOG	Medium	State grant, County budget	Short-Moderate	New
A11	Identify model regulations that buffer aquifer recharge areas	Water supply contamination	3	TCPD	Municipalities	Medium	Enviro protection grant, state funds, County budget	Moderate	New
A12	Complete water vulnerability assessment for water supply, water treatment systems and ground water systems and make recommended improvements	Water supply contamination	1, 3	TCPD	SWCD, Municipalities, NYSDEC	High	USDA funding, state grants, County budget	Long	N/A
A13	Enhance pre-emptive security around critical facilities and infrastructure	Terrorism	1	Municipalities	None	Medium	County and Municipal budgets	Long	Existing
A14	Assist farm support agencies in providing support and guidance for farm community in preparation for climate change including assisting dairies in building resilience to utility failures, extreme weather events and increasing drought conditions as well as working with crop farmers to assess the viability of current and potential future crops. This outreach should also include publicizing availability of TCSWCD's Farm Emergency Action Plan.	Utility failure, All Natural Hazards	2, 3	TCSWCD	NRCS, TCPD, Municipalities	Medium	Federal, State	Moderate	New
A15	Inventory Ash and Hemlock trees to assist in preparations of entrance of invasives and plant native tree species known to have a broad range of environmental tolerances	Infestation	1, 3	Tompkins County Conservation Partners	TCPD	Medium	NYSDEC WQIP	Long	New
A16	Develop and publicize heat response plan which includes the use of cooling centers	Extreme Temperatures	1, 2	DOER	City of Ithaca, Cornell, IC	Low	Federal and Local	Short	New

Goals: 1-Protect Life and Property, 2-Increase Public Education, Outreach and Partnerships, 3-Protect and Restore Natural Ecosystems, 4-Enhance Emergency Services

Agencies: DOER – Tompkins County Department of Emergency Response; TCPD – Tompkins County Planning Department; FEMA – Federal Emergency Management Agency, NYSOEM – New York State of Emergency Management; FLLT – Finger Lakes Land Trust; NRCS – US Natural Resource Conservation Service; IC – Ithaca College.

Appendix A – Table 33 - Additional Multi-Jurisdictional Mitigation and Adaptation Action Strategies

#	Mitigation Action	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Cost Level	Potential Funding Sources	Implementation Timeframe	Targeted Development (new or existing)
A17	Incentivize and regulate the use of Energy Star and LEED building rating systems which save energy while also building resilience to extreme temperature events	Extreme Temperatures	2	Municipalities	TCPD	Low	Local	Long	New
A18	Encourage the use of green infrastructure to encourage water conservation, open space protection, and flood mitigation to reduce vulnerability, both in upstream areas and in urban areas. This should include the development of a watershed adaptation plan which prioritizes areas in which these improvements would have the most benefit in being implemented.	Drought, Flash Flood	3	Municipalities	NYSDEC	Medium	TC Stream Corridor and Local	Ongoing	New & Existing
A19	Promote the use of design techniques to shade buildings and windows or use highly reflective roof paints and surfaces to reduce warming in buildings from sun exposure	Extreme Temperatures	1	Municipalities	TCPD	Low	(None)	Moderate	New
A20	Work with the scientific community to update and refine regional climate projections/impacts and utilize this information in planning and management	Multi-Hazard	2	TCPD	Cornell, Federal Agencies	Low	(None)	Long	N/A
A21	Enhance our understanding of the impacts of climate change on public health	Multi-Hazard	1, 2	Tompkins County Human Services Cabinet	TCPD	Low	(None)	Long	N/A
A22	Create partnerships between the business and insurance industry to understand coverage and advance mitigation efforts	Multi-Hazard	1, 2	Tompkins County Chamber of Commerce	TCPD	Low	(None)	Moderate	New

Goals: 1-Protect Life and Property, 2-Increase Public Education, Outreach and Partnerships, 3-Protect and Restore Natural Ecosystems, 4-Enhance Emergency Services

Agencies: DOER – Tompkins County Department of Emergency Response; TCPD – Tompkins County Planning Department; FEMA – Federal Emergency Management Agency, NYSOEM – New York State of Emergency Management; FLLT – Finger Lakes Land Trust; NRCS – US Natural Resource Conservation Service; IC – Ithaca College.

Appendix A – Table 33 - Additional Multi-Jurisdictional Mitigation and Adaptation Action Strategies

#	Mitigation Action	Hazard(s) Mitigated	Goals Met	Lead Agency	Support Agencies	Estimated Cost Level	Potential Funding Sources	Implementation Timeframe	Targeted Development (new or existing)
A23	Utilize NY State Accident Location Information System (ALIS) traffic accident database to analyze high risk locations based on vehicle classification and relay that information to municipalities to advance mitigation measures as needed.	Transportation Accident	1	Ithaca-Tompkins County Transportation Council	Municipalities	Low	None	Short	Existing
A24	Continue to support the funding of the USGS gage stations which assist in forecasting and mitigating flood risk	Flood (Flash and Lake Flood)	1,2,3,4	USGS	Municipalities	Medium	Federal and Local	Ongoing	Existing
A25	Develop a plan with regional partners including local government, utility providers, agencies and engineers for analyzing and prioritizing pipeline crossings mitigation.	Water Supply Contamination	1,2,3	TCSWCD	TCPD, Municipalities, Utility Providers	Medium	None	Moderate	Existing
A26	Develop a coordinated strategy for reducing risk and conservation damage associated with tree fall related to the anticipated arrival of the Emerald Ash Borer	Infestation	1,2,3	Tompkins County Conservation Partners	Municipalities	Low	NYSDEC	Short	Existing

Goals: 1-Protect Life and Property, 2-Increase Public Education, Outreach and Partnerships, 3-Protect and Restore Natural Ecosystems, 4-Enhance Emergency Services

Agencies: DOER – Tompkins County Department of Emergency Response; TCPD – Tompkins County Planning Department; FEMA – Federal Emergency Management Agency, NYSOEM – New York State of Emergency Management; FLLT – Finger Lakes Land Trust; NRCS – US Natural Resource Conservation Service; IC – Ithaca College.

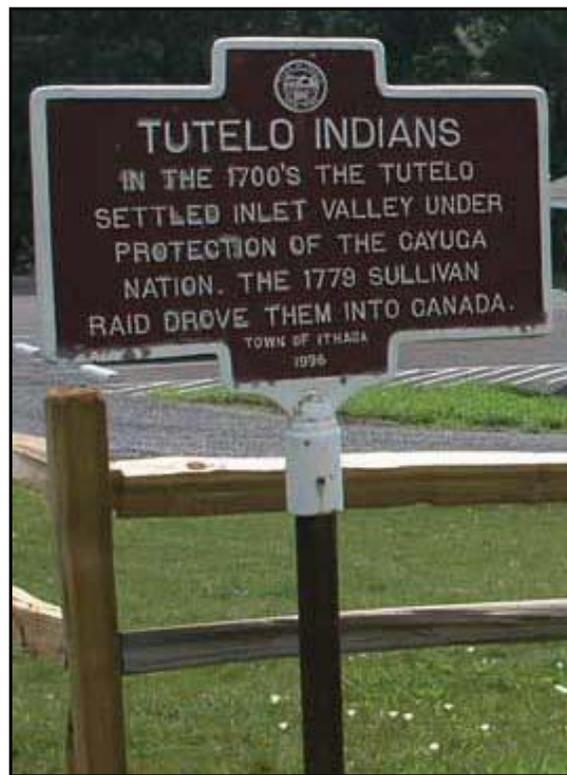
Appendix B

Tompkins County Historical Information

Appendix B – Tompkins County Historical Information

The Office of the Tompkins County Historian has compiled a history of Tompkins County. According to the County Historian, the earliest inhabitants of Tompkins County were the Cayugas, one of the five nations of the Iroquois Confederacy, also called the Haudenosaunee or “People of the Longhouse.” The term ‘Cayuga’ names the people of that Nation and the lake by which they lived, although they primarily inhabited the area around the northern half of the lake. In the 1700s, the Sapony and Tutelo Tribes journeyed north to lands inhabited by the Iroquois Confederacy after being forced to leave their lands by early settlers. The Cayugas provided the people of these Tribes land at the southern end of Cayuga Lake. Figure 2.2 depicts a photograph of a plaque marking Tutelo Park, located in the Town of Ithaca, as a place where the Tutelo Tribe had settled and built a village called Coreorgonel (Kammen, 2004).

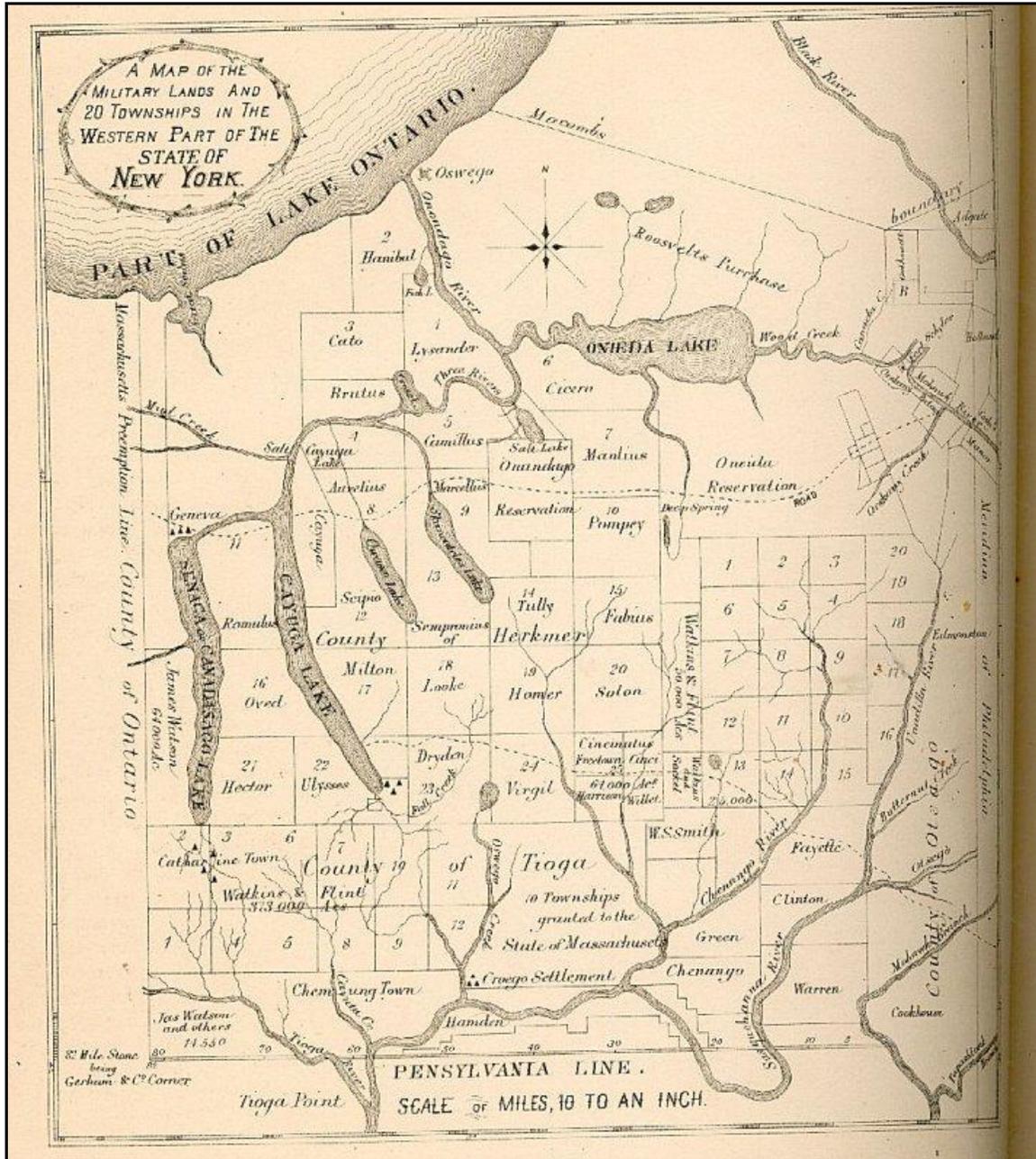
Figure 2.2 – Town of Ithaca Landmark in Tompkins County
(*Tompkins County Historian, 2012*)



In 1779, during the Revolutionary War, Lieutenant Colonel Henry Dearborn and Lieutenant Colonel William Butler, under Major General John Sullivan, marched men down either side of Cayuga Lake. This raid destroyed Native American villages and forced the Cayugas to surrender their land (Tompkins County Comprehensive Plan, 2004). Upon conclusion of the Revolutionary War in 1783, land in Central New York was designated as Military Tract, broken up, and provided to soldiers who had fought in the war as payment for their services (Kammen, 2004). This Military Tract land stretched from Lake Ontario south to the head waters of Cayuga and Seneca Lakes, spanning from the eastern shore of Seneca Lake, west, to present day Cortland County. This Military Tract area contained, at least in part, present day Tompkins

County (Kammen, 2004). Figure 2.3 displays the military lands and 20 Townships recognized in the western part of New York (current Finger Lakes and Southern Tier Regions) during this post-Revolutionary War period.

Figure 2.3 – Historic Map of the Finger Lakes, Central, and Southern Tier Regions of New York State Post-Revolutionary War
(Family Search, 2012)



Settlement in the Tompkins County area began in 1792. Early settlers consisted of squatters and others cashing in their Military Tract land allocations. Ministers, lawyers, and merchants followed the first settlers and by 1810, Ithaca had been formed as an unincorporated village. The

Ithaca-Owego Turnpike opened in late 1810, connecting Cayuga Lake with the Susquehanna River and providing for the transportation of goods south to cities like Baltimore, Maryland. This transportation system helped to identify Ithaca as an important transportation point for the shipment of goods. The opening of the Erie and Seneca Canals, as well as railroad development throughout the nineteenth (19th) century, provided a constant supply of local goods to regional markets (Tompkins County Comprehensive Plan, 2004).

On April 7, 1817, Tompkins County was formally established through an act of the New York State Legislature. Tompkins County was formed from portions of Cayuga and Seneca counties, and the unincorporated village of Ithaca was named county seat. Tompkins County was named after Daniel D. Tompkins, a former governor of New York State and the vice president of the United States from 1817 to 1825. Between 1819 and 1854, the boundaries of Tompkins County were altered three times, reaching the present limits in 1854 when a portion of the Town of Newfield and the entire Town of Hector became part of Schuyler County (Kammen, 2004).

Soon after, Cornell University was established (1865), bringing solidity to the County's economy by attracting students, faculty, and many new residents. The Cornell University campus, officially opened in 1868, was sited in the City of Ithaca on a hillside chosen by its namesake, Ezra Cornell. Figure 2.4 depicts a photograph of the current Cornell University campus overlooking Cayuga Lake. Ithaca College opened almost thirty years later in 1892 in downtown Ithaca. Ithaca College began as the Ithaca Conservatory of Music before expanding course offerings and adding additional schools in the 1920s. Today, Ithaca College offers a variety of private, coeducational undergraduate and graduate programs in business, communications, health sciences and human performance, humanities and sciences, music, and interdisciplinary studies.

Figure 2.4 – Photograph of Cornell University Overlooking Cayuga Lake
(*Cornell University, 2012*)



The land uses within Tompkins County slowly began to shift from an array of farms and mills to an area of towns and villages, accessible by various forms of transportation (Tompkins County Comprehensive Plan, 2004). Significant industries that came to be established in Tompkins County in the early 1900s include the Ithaca Gun Company, the Thomas-Morse airplane company, and the Groton Iron Bridge Company. Beginning in the 1960s, the local economy began to shift again, this time from manufacturing and industry toward education and public service sectors (Tompkins County Comprehensive Plan, 2004).

Appendix C

Hazard Mitigation Plan Implementation Committee Meeting Notes – 2007 & 2008

Tompkins County Multi-Jurisdictional All-Hazard Mitigation Plan (TCHMP) – 2007 Implementation Report

As outlined in the 2006 TCHMP, “a report summarizing the previously mentioned activities will be written and maintained. These annual reports will provide data for the 5-year update of this plan and will assist in pinpointing implementation challenges. By monitoring the implementation of the plan on an annual basis the planning group will be able to assess which projects are completed, which are no longer feasible, and if funding is being provided.”

I. Meetings Update

The **Tompkins County Multi-Jurisdictional All-Hazard Mitigation Plan – Implementation Committee** was formed in December 2007 and met for the first time on January 30th 2008. The group, made up of representatives of each of the municipalities involved in development of the TCHMP, met to both lay the groundwork for the plan’s update in 2011 and develop strategies for implementation of the plan. The focus of the meeting was to examine the plan’s action items and update them based on accomplished items, repetition, and new realities. To assist with this review a consolidated list of hazard mitigation plan action items was built. This review document noted 181 action items over 11 hazards (flood, severe winter storm, severe storm, epidemic (agricultural), epidemic (human), fire (urban and wild), utility failure, transportation accident, water supply contamination, terrorism, civil unrest). The action items were listed by hazards and by lead agency responsible for implementation. Just flood hazard action items (59 action items) were examined as a part of the January meeting, future meetings will address other action items. Based on clarification from New York State Emergency Management Office (SEMO) no formal reporting is required as of yet for this update process, though they do encourage a group being formed. This group will meet annual for 2008 and 2009, and meet with greater regularity in 2010 to prepare for the required update. **An agenda of the meeting is attached.** Other results of the meeting included:

- Interest in reaching across County lines for assistance with various efforts.
- Need to reconvene post-disaster event to see if mitigation measures have been useful, what added steps need be taken.
- Emergency awareness will be greatly enhance through obtaining LIDAR data (due summer 2008).
- Local communities could use assistance with grant development and implementation. A “grants day” was recommended.
- The committee did not think the plan should take on an “adaptation” role in dealing with global climate change at this juncture. They did indicate that “thinking green” certainly did relate to hazard mitigation planning.

The **Tompkins County Emergency Management Planning Group (TCEMPG)** met bi-monthly throughout 2007. Meetings were held the third Tuesday of the month beginning in February. Meetings were held February 20, April 17, June 19, August 21, October 16 and December 18. The TCEMPG is the group of representatives from throughout the County whom are involved in emergency management issues. This group includes representatives from County government, local fire/police, the area College and University, American Red Cross, local utilities and several others.

At the August 21st meeting a short presentation was made regarding the TCHMP maintenance and implementation through a formal mitigation planning group. This group would include a representative from each of the jurisdictions involved with the development of the plan and would update aspects of the plan and evaluate the overall progress of mitigation action items. The proposal for the formation of the mitigation planning group, which would be a formal reporting subgroup to the TCEMPG, was formally submitted to the group at the October 16th Meeting.

The August 21st meeting also served as an opportunity to update the group on a presentation that the County Emergency Manager, the County Hazard Mitigation Coordinator, Public Works Administrator and planning department staff provided to the Tompkins County Council of Governments (TCCOG). TCCOG is a representative body of the municipalities that lie within Tompkins County. The bulk of TCCOG participants represent jurisdictions covered by the TCHMP. Mayors, Town Board Members and Town Supervisors are among those who attend. The July 26th presentation outlined the four levels of emergency management (Preparedness, Response, Recovery and Mitigation) with a special emphasis on mitigation. The mitigation discussion outlined current activities and the need for the development of a mitigation planning committee to implement and update the mitigation plan.

A variety of Town-County and inter-County meetings laid the ground work for the items the mitigation planning committee will tackle for annual meetings. In essence the plan's action items will be revisited to determine what has moved forward, what hasn't, what is still relevant and also examine if any new risk assessment data is available to provide updates to the plan. Due to a turnover at the Hazard Mitigation Coordinator position and elections at several of the involved municipalities the mitigation planning committee will not meet until the first quarter of 2008.

II. Local Mitigation Activity Update

A variety of mitigation activity happened throughout 2006 and 2007 that activity is outlined below.

- Ludlowville Stormwater Control Project
 - Flood Action Item 5.1.44 – Analyze overall drainage system at Lansingville Road
 - The Tompkins County Planning Department applied for and received funding from the NYS Department of Environmental Conservation's Water Quality Improvement Program (WQIP) to study the drainage and design an engineered system to reduce property damage from area stormwater runoff.
- Watershed Assessments
 - Flood Action Item 5.1.8 – Continue to conduct engineering studies and watershed assessments to support the reduction of flood potential
 - Flood Action Item 5.1.17 – Continue Six Mile Creek, Fall Creek, Salmon Creek, and Cayuga Inlet Watershed Assessments
 - Watershed, flood mitigation needs assessment were conducted for Six Mile Creek, Salmon Creek, Fall Creek & Cayuga Inlet. Priority issues and recommendations were identified for each of these waterbodies.
- Reorganization of the Tompkins County Flood Hazard Mitigation Program
 - Flood Action Item 5.1.49 - Re-emphasize watershed approaches by developing a strategy to address the needs at the watershed level, including cumulative flood mitigation activities and priorities
 - Flood Action Item 5.1.20 - Identify, evaluate, and implement effective flood mitigation activities for specific "hot spots" within the county
 - In using information gained from the previously mentioned watershed assessments the Tompkins County Flood Hazard Mitigation Program was re-organized to provide a more watershed based approach. Several of those projects were addressed in implementing the following action items.
- Implementation of the Barrile stream bank stabilization
 - Flood Action Item 5.1.14 - Implement Barrile stream bank stabilization
 - Flood Action Item 5.1.21 - Construct synthetic floodways to disperse flow and reduce velocity of water in Six Mile Creek
 - Flood Action Item 5.1.22 - Increase channel roughness of Six Mile Creek
 - Significant sized project helped to reduce flood risks for a number of property owners in the Town of Caroline. Most recently the project was vegetated through the County Flood Hazard Mitigation Program. The Town of Caroline is currently planning a follow up project further down Six Mile Creek.
- As a part of the 2007 Tompkins County Flood Hazard Mitigation Program, the Salmon Creek Bank Erosion project was conducted that reduced erosion and dispersed the flow and velocity of Salmon Creek
 - Flood Action Item 5.1.46 - Continue local stream bank stabilization projects
 - Flood Action Item 5.1.31 - Implement physical mitigation activities, as necessary within Six Mile Creek and other appropriate watersheds
 - Flood Action Item 5.1.45 - Stabilize the Brooktondale Road stream bank
- Banks Road – Six Mile Creek Readjustment
 - Flood Action Item 5.1.51 - Address the bifurcated flow in Six Mile Creek, upstream of Banks Road
 - Funding allocated to implement a project on this site, though follow up indicated that the Creek shifted and remained canalized, requiring no added work
- The County financially committed to support the Tompkins County Soil and Water District's contract to fly the County to collect LiDAR data that is the first step in updating flood plain (FIRM) maps.

- Flood Action Item 5.1.4 – Enhance data and mapping for floodplains within the County and identify and map any floodprone areas currently outside the County (see also 5.1.7)
 - Flood Action Item 5.1.7 – Update flood plain (FIRM) maps.
- Various municipalities have implemented aspects of their Phase 2 Stormwater Regulations – efforts have been made
 - Flood Action Item 5.1.12 – Implement Phase 2 Stormwater regulation compliance, and focus on efforts under S4 that help to reduce flood risk.
- Obtained grant to develop countywide stream buffer protection
 - Flood Action Item 5.1.41 - Identify or update existing land use in major stream corridors and floodplains in Tompkins County.
- Continuing to conduct aquifer studies in the Towns of Caroline, Danby and Dryden and actively initiating new studies
 - Flood Action Item 5.1.47 – Conduct an assessment of groundwater resources within major glacial valleys in Tompkins County to better understand current surface and groundwater resources in the region.
 - Water Supply Contamination 5.9.2 – Continue aquifer assessment studies to better understand groundwater dynamics and re-charge areas.
 - Water Supply Contamination 5.9.3 – Continue Six Mile, Virgil and Willseyville Creek Aquifer Studies.
- Help to coordinate funding for local USGS stream flow gauge operation
 - Flood Action Item 5.1.18 – Continue to operate the USGS stream flow gauge for Six Mile Creek. Collect flow data for other sub-watersheds to determine their potential flood risk.
- The Tompkins County Planning Department coordinated the development of the Tompkins County Conservation Plan which identifies priority protection areas throughout the County. This plan, among other things, sets forth a strategy to preserve open space for flood mitigation, fish habitat and water quality in the floodplain.
 - Flood Action Item 5.1.26 – Encourage development of acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in the floodplain.
- The Town of Danby conducted surveys of special needs populations to help identify those who may need extra assistance during a hazard event.
 - Severe Winter Storm Action Item 5.2.5 – Survey institutions that have specific needs populations to identify their emergency needs.
- The Town of Ithaca developed a stricter noise ordinance to assist in dealing with recurring student party concerns on South Hill.
 - Civil Unrest Action Item 5.11.2 – Develop a stricter student party ordinance
- Other mitigation measures not previously mentioned...

III. Information Distribution Update

The following information was distributed or obtained relating to the TCHMP this year:

- SEMO provided 3 mitigation funding opportunities in the fall of 2007 that was provided to the local municipalities and interested parties within Tompkins County. This continues to be a difficult process as the information from FEMA and SEMO is provided just weeks or days prior to a formal Letter of Intent is requested.
- Conversations with SEMO indicated that a State Emergency Management Conference would likely be reinstated in the approaching years. This is certainly something the County and mitigation team should be involved with as it is developed.
- A Tompkins County Planning Department staff member attended an energy/climate change conference in November and indicated some discussion statewide of adaptation planning for climate change – in essence conducting planning work to prepare for community wide changes associated with climate change. At the first quarter, mitigation planning group meeting in 2008 one agenda item will be this issue and its relationship to the TCHMP.

IV. Resource Update

In May 2007, Tompkins County hired a new Senior Planner, Scott Doyle, to assume recent department vacancies, including that of County Hazard Mitigation Officer, Kate Hackett. Scott will assume the hazard mitigation coordinator role among others and coordinate the implementation and update of the Plan. He has previously worked on hazard mitigation planning issues, including PDM, throughout the State of Oregon. He can be reached at 607-274-5560 or at sdoyle@tompkins-co.org.

Tompkins County Multi-Jurisdictional All-Hazard Mitigation Plan (TCHMP) – 2008 Implementation Report

As outlined in the 2006 TCHMP, “a report summarizing the previously mentioned activities will be written and maintained. These annual reports will provide data for the 5-year update of this plan and will assist in pinpointing implementation challenges. By monitoring the implementation of action items included in the plan on an annual basis the planning group will be able to assess which projects are completed, which are no longer feasible, and if funding is being provided.”

I. Meetings Update

The **Tompkins County Multi-Jurisdictional All-Hazard Mitigation Plan – Implementation Committee** was formed in December 2007 and met for the first time on January 30th 2008. The group, made up of representatives of each of the municipalities involved in development of the TCHMP, met to both lay the groundwork for the plan’s update in 2011 and develop strategies for implementation of the plan. The focus of the meeting was to examine the plan’s action items and update them based on accomplished items, repetition, and new realities. The initial meeting attendees included:

- Beth Harrington (Tompkins County Emergency Response)
- Ric Dietrich (Danby)
- Lee Shurtleff (Tompkins County Emergency Response)
- Glenn Morey (Groton)
- Dick Coogan (Ulysses)
- Jessica Verfuss (Tompkins County Emergency Response)
- Peter Hoyt (Caroline)
- Charlie Purcell (Lansing)
- Scott Doyle (Tompkins County Planning)

To assist with this review a consolidated list of hazard mitigation plan action items was built. This review document noted 181 action items over 11 hazards (flood, severe winter storm, severe storm, epidemic (agricultural), epidemic (human), fire (urban and wild), utility failure, transportation accident, water supply contamination, terrorism, civil unrest). The action items were listed by hazards and by lead agency responsible for implementation. Just flood hazard action items (59 action items) were examined as a part of the January meeting, future meetings will address other action items. Based on clarification from New York State Emergency Management Office (SEMO) no formal reporting is required as of yet for this update process, though they do encourage a group being formed. This group will meet again in 2009 at least one time, and meet with greater frequency in 2010 to prepare for the required update. An agenda of the 2008 meeting is attached. Other results of the meeting included:

- Interest in reaching across County lines for assistance with various efforts.
- Need to reconvene post-disaster event to see if mitigation measures have been useful, what added steps need be taken.
- Emergency awareness will be greatly enhance through obtaining LIDAR data (Obtained Summer 2008).
- Local communities could use assistance with grant development and implementation. A “grants day” was recommended.
- The committee did not think the plan should take on an “adaptation” role in dealing with global climate change at this juncture. They did indicate that “thinking green” certainly did relate to hazard mitigation planning.

The 2009 meeting has been set for February 29, 2009.

The Tompkins County Emergency Management Planning Group (TCEMPG) met bi-monthly throughout 2008. Meetings were held the third Tuesday of the month beginning in February. The TCEMPG is the group of representatives from throughout the County whom are involved in emergency management issues. This group includes representatives from County government, local fire/police, Ithaca College, Cornell University, American Red Cross, local utilities and several others.

At the October 2008 meeting a short presentation was made regarding the TCHMP maintenance and implementation through a formal mitigation planning group. A goal of updating all action items in early 2009 and mapping a timeline for the plan update

A variety of Town-County and inter-County meetings laid the ground work for the items the mitigation planning committee will tackle for annual meetings. In essence the plan's action items will be revisited to determine what has moved forward, what hasn't, what is still relevant and also examine if any new risk assessment data is available to provide updates to the plan.

II. Local Mitigation Activity Update

A variety of mitigation activity happened throughout 2008 which is outlined below.

- Ludlowville Stormwater Control Project
 - Flood Action Item 5.1.44 – Analyze overall drainage system at Lansingville Road
 - The Tompkins County Planning Department applied for and received funding from the NYS Department of Environmental Conservation's Water Quality Improvement Program (WQIP) to study the drainage and design an engineered system to reduce property damage from area stormwater runoff.
 - A consultant, Barton & Loguidice, PC, was hired in the spring of 2008 and has conducted an existing conditions analysis for the region. One public meeting was held in 2008 to introduce the project. A follow up meeting will be held in 2009 to detail the initial report and introduce proposed design solutions.
- Watershed Assessments
 - Flood Action Item 5.1.8 – Continue to conduct engineering studies and watershed assessments to support the reduction of flood potential.
 - Ground work was laid for watershed assessment for the Owasco Inlet.
 - Flood Action Item 5.1.17 – Continue Six Mile Creek, Fall Creek, Salmon Creek, and Cayuga Inlet Watershed Assessments
 - Watershed, flood mitigation needs assessment were conducted for Six Mile Creek, Salmon Creek, Fall Creek & Cayuga Inlet. Priority issues and recommendations were identified for each of these waterbodies. Several of these projects were investigated and implemented in 2008.
- Reorganization of the Tompkins County Flood Hazard Mitigation Program
 - Flood Action Item 5.1.49 - Re-emphasize watershed approaches by developing a strategy to address the needs at the watershed level, including cumulative flood mitigation activities and priorities
 - Flood Action Item 5.1.20 - Identify, evaluate, and implement effective flood mitigation activities for specific "hot spots" within the county
 - In using information gained from the previously mentioned watershed assessments the Tompkins County Flood Hazard Mitigation Program was re-organized to provide a more watershed based approach. Several of those projects were addressed in implementing the following action items.
- Implementation of the Barrile stream bank stabilization
 - Flood Action Item 5.1.14 - Implement Barrile stream bank stabilization
 - Flood Action Item 5.1.21 - Construct synthetic floodways to disperse flow and reduce velocity of water in Six Mile Creek
 - Flood Action Item 5.1.22 - Increase channel roughness of Six Mile Creek
 - Significant sized project helped to reduce flood risks for a number of property owners in the Town of Caroline. Most recently the project was vegetated in 2007 through the County Flood Hazard Mitigation Program. The Town of Caroline is currently planning a follow up project further down Six Mile Creek.
- As a part of the 2008 Tompkins County Flood Hazard Mitigation Program, the Salmon Creek Bank Erosion project was conducted that reduced erosion and dispersed the flow and velocity of Salmon Creek. Projects were identified, designed and implemented in the Fall Creek, Salmon Creek, Cayuga Inlet and Sixmile Creek watersheds. These projects included the stabilization of over 3,000 feet of stream bank and the vegetation of banks with over 600 trees,
 - Flood Action Item 5.1.46 - Continue local stream bank stabilization projects
 - Flood Action Item 5.1.31 - Implement physical mitigation activities, as necessary within Six Mile Creek and other appropriate watersheds

- Working closely with property owner, the project was stabilized with the assistance of natural in stream structures and a redesigned bank, vegetated with over 100 native trees and reseeded. The project runs 350' along the bank of Sixmile Creek and has created a protected 50' Riparian Buffer Area.
 - Flood Action Item 5.1.45 - Stabilize the Brooktondale Road stream bank
 - Flood Action Item 5.1.22 – Increase channel roughness of the Six Mile Creek, including introducing large woody debris in the banks, creating boulder and log sills in the riverbed, installing individual boulders and boulder clusters in the channel, and redefining the channel's thalweg.
- Banks Road – Six Mile Creek Readjustment. Funding was allocated to implement a project on this site, though follow up indicated that the Creek shifted and remained channelized, requiring no added work.
 - Flood Action Item 5.1.51 - Address the bifurcated flow in Six Mile Creek, upstream of Banks Road
- Tompkins County Soil and Water District with some financial support from the County obtained LiDAR data that is useful in a number of projects and is the first step in updating flood plain (FIRM) maps.
 - Flood Action Item 5.1.4 – Enhance data and mapping for floodplains within the County and identify and map any floodprone areas currently outside the County (see also 5.1.7)
 - Flood Action Item 5.1.7 – Update flood plain (FIRM) maps.
- Various municipalities continue to implement aspects of their Phase 2 Stormwater Regulations.
 - Flood Action Item 5.1.12 – Implement Phase 2 Stormwater regulation compliance, and focus on efforts under S4 that help to reduce flood risk.
- Obtained grant to develop countywide stream buffer protection and designed and implemented a number of protection tools including a model riparian buffer ordinance. Outreach for these tools will be conducted in 2009.
 - Flood Action Item 5.1.41 - Identify or update existing land use in major stream corridors and floodplains in Tompkins County.
 - Flood Action Item 5.1.15 – Develop model ordinances for sediment and erosion control, stormwater control, and stream buffer implementation.
- Continuing to conduct aquifer studies in the Towns of Caroline, Danby and Dryden and actively initiating new studies. Outreach to the Towns of Newfield and Groton as well as the Village of Groton regarding this program.
 - Flood Action Item 5.1.47 – Conduct an assessment of groundwater resources within major glacial valleys in Tompkins County to better understand current surface and groundwater resources in the region.
 - Water Supply Contamination 5.9.2 – Continue aquifer assessment studies to better understand groundwater dynamics and re-charge areas.
 - Water Supply Contamination 5.9.3 – Continue Six Mile, Virgil and Wilseyville Creek Aquifer Studies.
- Help to coordinate funding for local USGS stream flow gauge operation. A variety of efforts were conducted to continue funding for gauges. One gauge, on Salmon Creek, did not receive funding for continued use.
 - Flood Action Item 5.1.18 – Continue to operate the USGS stream flow gauge for Six Mile Creek. Collect flow data for other sub-watersheds to determine their potential flood risk.
- The Tompkins County Planning Department coordinated the development of the Tompkins County Conservation Plan which identifies priority protection areas throughout the County. This plan, among other things, sets forth a strategy to preserve open space for flood mitigation, fish habitat and water quality in the floodplain. A variety of outreach was conducted for this planning effort.

- Flood Action Item 5.1.26 – Encourage development of acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in the floodplain.
- Bridge upgrades in Tompkins County continue to be designed to support natural stream functions further withstand flooding events.
 - Flood Action Item 5.1.29 – Retrofit or re-construct bridges at a higher elevation to withstand flood events.
- Retrofit of Caroline Town Barn to support streambank stabilization
 - Severe Winter Storm Action Item 5.2.10 – Retrofit critical structures
- Obtained funding for purchasing backup generators in Caroline and Danby
 - Severe Winter Storm Action Item 5.2.6 – Obtain funding to purchase backup generators
- Public awareness of storm mitigation activities, including warnings and advisories were distributed via NY-ALERT
 - Severe Winter Storm Action Item 5.3.4 – Increase public awareness of storm mitigation activities
 - Epidemic (Human) Action Item 5.5.5 – Enhance public safety through awareness, by releasing timely public service announcements via various media
- Resources were secured and identified to build the appropriate medical stockpiles
 - Epidemic (Human) Action Item 5.5.4 – Identify and secure resources to build the appropriate medical stockpile of medicines and medical supplies
- Outreach and education programs continue to be advanced by local fire departments in particular, through national fire prevention month (October)
 - Fire Action Item 5.6.5 – Enhance outreach and education programs aimed at mitigating fire hazards
- Fire and security alarm system installed at Danby Town Hall
 - Fire Action Item 5.6.18 – Install supervised fire/security alarm system at Danby Town Hall
- Backup power to West Danby Water District
 - Utility Failure Action Item 5.7.6 – Provide backup power to the West Danby Water District System
- Backup generator purchased for Slaterville Fire Company
 - Utility Failure Action Item 5.7.19 – Purchase backup generator for Slaterville Fire Company
- Some signal improvements to improve safety around West Danby Fire Station
 - Transportation Accident 5.8.10 – Arrange for NYSOT To survey West Danby fire station site distances

III. Information Distribution Update

The following information was distributed or obtained relating to the TCHMP this year:

- SEMO provided 3 mitigation funding opportunities in the fall of 2008 that was provided to the local municipalities and interested parties within Tompkins County. This continues to be a difficult process as the information from FEMA and SEMO is provided just weeks or days prior to a formal Letter of Intent is requested.
- Conversations with SEMO indicated that a State Emergency Management Conference would likely be reinstated in the approaching years. This is certainly something the County and mitigation team should be involved with as it is developed.
- Emergency response and recovery training opportunities continue to be coordinated through the Tompkins County Department of Emergency Response.
- It continues to be the goal of the Implementation Committee to have priority projects ready to implement as funding opportunities arise.

IV. Resource Update

Scott Doyle continues to serve as the County Hazard Mitigation Officer and will coordinate the implementation and update of the Plan. He has previously worked on hazard mitigation planning issues, including PDM, throughout the State of Oregon. He can be reached at 607-274-5560 or at sdoyle@tomppkins-co.org.

Appendix D

Website Links to Tompkins County Planning Resources

County Resources Links:

Tompkins County Comprehensive Plan - 2004

http://www.tompkins-co.org/planning/compplan/compplan_for_web.pdf

Tompkins County Conservation Strategy – 2012

<http://www.tompkins-co.org/planning/nri/documents/ConservationStrategyfinal08-28-12.pdf>

Tompkins County Conservation Plan - 2010

http://www.tompkins-co.org/planning/Rural%20Resources/documents/FINAL_Tompkins_Conservation_Plan_Part_II_04-10_000.pdf

Tompkins County Conservation Plan – 2007

http://www.tompkins-co.org/planning/nri/documents/Tompkins_County_Conservation_Plan09-24-07.pdf

Tompkins County Natural Resources Inventory - 2001

<http://www.tompkins-co.org/planning/nri/inventory.pdf>

Tompkins County Scenic Resources Inventory – 2007

<http://www.tompkins-co.org/planning/nri/documents/TCSRreportJan17.pdf>

NYS Local Waterfront Revitalization Program – Cayuga Lake Waterfront Plan - 2004

<http://www.cayuga-heights.ny.us/doc/oth08132012.pdf>

Tompkins County Forest Management Plan – 2007

<http://www.tompkins-co.org/planning/Rural%20Resources/documents/Oct10MainPlan.pdf>

Tompkins County Multi-Jurisdictional All-Hazard Mitigation Plan - 2013

http://www.tompkins-co.org/planning/haz_mit.htm

Tompkins County Workforce Strategy – 2010

<http://www.tompkinsworkforceny.org/workforcestrategy.pdf>

Tompkins County 2020 Energy Strategy – 2010

http://www.tompkins-co.org/planning/energyclimate/documents/EnergyStrategy20208-20-10_2.pdf

Development Focus Areas Strategy – 2012

http://www.tompkins-co.org/planning/community%20planning/documents/DevelopmentFocusAreasStrategy_adopted_10-2-12_000.pdf

Appendix E

Hazard Mitigation Plan Update Process Meeting Timeline and Attendees

Appendix E
Hazard Mitigation Plan Update Process Meeting Timeline and Attendees

In updating the plan, the County established two committees assist in guiding the process, the Steering Committee of municipal representation and the Technical Committee which consists of local experts in fields addressed in the plan update. The following is a list of that membership.

Hazard Mitigation Update Project Steering Committee

Name		Municipality/Agency
Beth	Harrington	Tompkins County Department of Emergency Response
Lee	Shurtleff	Tompkins County Department of Emergency Response
Jessica	Verfuss	Tompkins County Department of Emergency Response
Katie	Borgella	Tompkins County Planning Department
Scott	Doyle	Tompkins County Planning Department
Cheryl	Nelson	Tompkins County Public Works
Kevin	Romer	Town of Ulysses
Don	Barber	Town of Caroline
Dominic	Frongillo	Town of Caroline
Irene	Weiser*	Town of Caroline
Jeff	Overstrom*	Town of Lansing
Creig	Hebdon*	Town of Ithaca
Dan	Thaete	Town of Ithaca
David	Sprout*	Town of Dryden
Mary Ann	Sumner	Town of Dryden
Elizabeth	Thomas	Town of Ulysses
Darby	Kiley*	Town of Ulysses
Susan	Beeners*	Town of Danby
Matt	Cooper	Town of Danby
Ric	Dietrich	Town of Danby
Richard	Driscoll*	Town of Newfield
Glenn	Morey*	Town of Groton
Julie	Holcomb*	City of Ithaca
Guy	Van Benschoten	City of Ithaca
Roy	Barriere	Town of Enfield

Name		Municipality/Agency
Larry	Stilwell*	Town of Enfield
Ann	Rider	Town of Enfield
Don	Hartill*	V. Lansing
Marty	Moseley	V. Lansing
Tammy	Morse	V. Trumansburg
Martin	Petorvic*	V. Trumansburg
Randall	Sterling*	V. Dryden
Abby	Homer	V. Dryden
Kevin	Ezell	V. Dryden
Lotte	Carpenter*	V. Freeville
Stephanie	Mulinos	V. Freeville
Jeffery	Evener	V. Groton
Chuck	Rankin*	V. Groton
Kate	Supron*	V. Cayuga Heights
Mary	Mills	V. Cayuga Heights
James	Steinmetz	V. Cayuga Heights
George	Tamborelle	V. Cayuga Heights
Brent	Cross	V. Cayuga Heights

*Lead municipal contact

Hazard Mitigation Plan Technical Committee

Name		Agency/Muni	Field
Art	Pearce	Community Volunteer	Gas Drilling
Darby	Kiley	Town of Ulysses, Former County Staff for Gas Drilling Work	Gas Drilling
Jonathan	Comstock	Cornell Horticulture	Climate/ClimAid
Frank	Kruppa	County Health	Public Health
Craig	Schutt	Tompkins Co. Soil & Water Conservation District (TCSWCD)	Ag +
Mark	Whitmore	Cornell Nat. Res.	Invasives
Jack	Rueckheim	Bolton Point	Water
Roxanna	Johnston	City of Ithaca	Water
Bob	Passe	NYSEG	Utilities

Name		Agency/Muni	Field
Jack	French	Lansing Highway	Transp
Jessica	Verfuss	Emergency Response	EM
Ed	Bugliosi	USGS	Water
Bill	Gray	City of Ithaca	Public Works

The following is the meetings held as a part of the plan update process and a list of attendees.

Steering Committee Kick Off Meeting – September 20, 2011 — Organizing meeting, discussed why updating the plan, what new aspects we would explore, how we would engage the public and other items. The meeting included the following attendees:

- Beth Harrington, Tompkins County Department of Emergency Response (DOER)
- Kevin Romer, Town of Ulysses
- Don Barber, Town of Caroline
- Jeff Overstrom, Town of Lansing
- Creig Hebdon, Town of Ithaca
- Katie Borgella, Tompkins County Planning Department (TCPD)
- David Sprout, Town of Dryden
- Elizabeth Thomas, Town of Ulysses
- Lee Shurtleff, DOER
- Jessica Verfuss, DOER
- Susan Beeners, Town of Danby
- Cheryl Nelson, Tompkins County Public Works
- Richard Driscoll, Town of Newfield
- Scott Doyle, TCPD

Technical Committee Meeting #1 – February 10, 2012 – Overview of the process, discussion of committee’s role, risk assessment preparation, and other items. The meeting included the following attendees:

- Darby Kiley, Town of Ulysses
- Jonathan Comstock, Cornell University Horticulture
- Frank Kruppa, Tompkins County Health Department
- Roxy Johnston, City of Ithaca Water Treatment Plant
- Craig Schutt, Tompkins County Soil and Water Conservation District
- Mark Whitmore, Cornell University Department of Natural Resources
- Jack French, Town of Lansing Highway Department
- Ed Bugliosi, United States Geological Survey (USGS)
- Katie Borgella, TCPD
- Scott Doyle, TCPD
- John Condino, Barton & Loguidice (B&L)
- Johanna Duffy, B&L

Hazard Analysis Workshop - March 8, 2012 - A group of County staff, local officials, agency/interest group representatives, and technical experts was assembled to complete a HIRA-NY risk assessment process for Tompkins County. Such a risk assessment was previously conducted as part of the County's original 2006 Hazard Mitigation Plan, and was performed again for this Plan Update. NYSOEM Region IV personnel facilitated the March 2012 risk assessment and input the results in the HIRA-NY computer program. Detailed meeting notes were recorded throughout the process by Beth Harrington with the Department of Emergency Response, and reviewed by the project team in subsequent meetings. The following individuals attended this event:

- Ronald Raymond, NYSOEM Region IV
- Tom M^cCartney, NYSOEM Region IV
- Beth Harrington, Lee Shurtleff, Jessica Verfuss, DOER
- Irene Weiser, Town of Caroline
- Creig Hebdon, Town of Ithaca
- David Sprout, Town of Dryden
- Larry Stilwell, Town of Enfield
- Susan Beeners, Town of Danby
- Ric Dietrich, Town of Danby
- Matt Cooper, Town of Danby
- Richard Driscoll, Town of Newfield
- Julie Holcomb, City of Ithaca
- Darby Kiley, Town of Ulysses
- Scott Doyle, TCPD
- Katie Borgella, TCPD
- Jonathan Comstock, Cornell University Horticulture Department
- Dan Maas, Cornell University Environmental Health and Safety
- Leah Stoner, Cornell University Environmental Health and Safety
- Jack Rueckheim, Bolton Point Water Treatment Plant
- Ed Bugliosi, USGS
- Cheryl Nelson, Tompkins County Department of Public Works
- Dave Nicosia, National Weather Service
- Kevin Carpenter, American Red Cross
- Marcia Lynch, Tompkins County Public Information Office
- Bob Lampman, Tompkins County Sheriff's Department
- Paula Younger, Tompkins County Administration
- Adam Hartwig, Tompkins County Health Department
- Al Fiorille, Tompkins County Assessment Office
- John Condino, B&L
- Johanna Duffy, B&L

In addition, representatives from the following agencies, groups, and jurisdictions were also invited: Town of Lansing, Town of Groton, Village of Lansing, Village of Trumansburg, Village of Dryden, Village of Freeville, Village of Groton, Village of Cayuga Heights, Tompkins County Soil and Water District, NYS Electric & Gas, NYS

Police, Ithaca College, Tompkins County Community College, Cayuga Medical Center, and T-S-T BOCES.

Technical Committee Meeting #2 – March 29, 2012 – Overview of hazard analysis workshop and refinement of risk assessment data. The meeting included the following attendees:

- Frank Kruppa, Tompkins County Health Department
- Ed Bugliosi, USGS
- Craig Schutt, TCSWCD
- Darby Kiley, Town of Ulysses
- Roxanna Johnston, City of Ithaca
- Mark Whitmore, Cornell University Department of Natural Resources
- Katy Borgella, TCPD
- Scott Doyle, TCPD
- Jessica Verfuss, DOER

Steering Committee Meeting #2 – April 19, 2012 – Review of plan requirements, the update process, hazard history refinement and action item updates. The meeting included the following attendees:

- David Sprout, Town of Dryden
- Darby Kiley, Town of Ulysses
- Larry Stilwell, Town of Enfield
- Katie Borgella, TCPD
- Creig Hebdon, Town of Ithaca
- Kevin Ezell, Village of Dryden
- Irene Weiser, Town of Caroline
- Jeff Overstrom, Town of Lansing
- Susan Beeners, Town of Danby
- Jessica Verfuss, DOER
- Beth Harrington, DOER
- Glenn Morey, Town of Groton
- Matt Cooper, Town of Danby
- Julie Holcomb, City of Ithaca
- Cheryl Nelson, Tompkins County Public Works
- Dominic Frongillo, Town of Caroline
- Scott Doyle, TCPD
- Lee Shurtleff, DOER
- John Condino, B&L
- Johanna Duffy, B&L

Steering Committee Meeting #3 – May 24, 2012 – Work Session to refine hazard history and map critical infrastructure. The meeting included the following attendees:

- Darby Kiley, Town of Ulysses
- Dan Thaete, Town of Ithaca
- Johanna Duffy, B&L
- John Condino, B&L
- Larry Stilwell, Town of Enfield
- James Steinmeiz, Village of Cayuga Heights
- George Tamborelee, Village of Cayuga Heights Fire Department
- Glenn Morey, Town of Groton
- David Sprout, Town of Dryden
- Jessica Verfuss, DOER
- Beth Harrington, DOER
- Scott Doyle, TCPD
- Irene Weiser, Town of Caroline
- Susan Beeners, Town of Danby
- Guy Van Benschoten, City of Ithaca
- Lee Shurtleff, DOER

Steering Committee Meeting #4 – October 18, 2012 – Reviewed the hazard vulnerability section of the HMP Update document. Introduced mitigation action concepts and discussed goals and objectives of the actions. The following jurisdictions were represented at this meeting:

- Jessica Verfuss, DOER
- Darby Kiley, Town of Ulysses
- David Sprout, Town of Dryden
- Katie Borgella, TCPD
- John Condino, B&L
- Beth Harrington, DOER
- Irene Weiser, Town of Caroline
- Susan Beeners, Town of Danby
- Scott Doyle, TCPD
- Johanna Duffy, B&L
- Lee Shurtleff, DOER
- Glenn Morey, Town of Groton
- Creig Hebdon, Town of Ithaca

Steering Committee Meeting #5 – November 20, 2012 – Action Item Workshop where plan’s hazard profile section was reviewed and the statuses of the 2006 HMP actions were discussed. Started to identify new action items to include in the Plan Update. The meeting included the following attendees:

- Katie Borgella, TCPD
- Darby Kiley, Town of Ulysses
- Susan Beeners, Town of Danby
- Matt Cooper, Town of Danby
- Jessica Verfuss, DOER
- Beth Harrington, DOER
- Guy VanBenschoten, City of Ithaca
- Scott Doyle, TCPD
- Johanna Duffy, B&L
- John Condino, B&L
- David Sprout, Town of Dryden
- Irene Weiser, Town of Caroline

Steering Committee Meeting #6 – January 23, 2013 – Fine-tuned and discussed new or combined mitigation actions to include in the HMP Update. Discussed action prioritization and ranked the Plan’s action items. The following individuals were in attendance:

- Johanna Duffy, B&L
- Beth Harrington, DOER
- Katie Borgella, TCPD
- John Condino, B&L
- Darby Kiley, Town of Ulysses
- Matt Cooper, Town of Danby
- Guy Van Benschoten, City of Ithaca
- Scott Doyle, TCPD
- Irene Weiser, Town of Caroline
- Chuck Rankin, Village of Groton
- Brent Cross, Town of Danby
- Creig Hebdon, Town of Ithaca
- Larry Stilwell, Town of Enfield
- Marty Moseley, Village of Lansing
- Lee Shurtleff, DOER
- Glenn Morey, Town of Groton
- Julie Holcomb, City of Ithaca
- David Sprout, Town and Village of Dryden
- Ann Rider, Town of Enfield

Hazard Mitigation Plan Update – Public Meetings - March 20, 2013

Town of Dryden Town Hall – 3PM

Attendee List

- Craig Schutt – TCSWCD
- Barry Goodrich – Caroline/Water Resources Council
- Glenn Morey – Town of Groton
- Dan Kwasnowski – Town of Dryden
- Josh Bogdon – Town of Dryden
- Jane Nicholson – Town of Dryden
- David Sprout – Town of Dryden
- Scott Doyle – Tompkins County
- John Condino – B&L
- Johanna Duffy – B&L

Comment and Notes from meeting

- Has there been much conversation with NYSEG? Particularly in relation to Emerald Ash Borer impacts (increased tree loss/debris, plugged culverts), local power production and supply?
- Pipelines are referenced throughout document to specific locations though this topic deserves much more attention. Calculations are that there are 160 pipeline crossing in throughout the County, many in need of attention. Particularly along Sixmile and the Inlet. Damage to pipelines could result in substantial disruption. Make this topic a more general County-wide issue - do not focus on it from a jurisdictional level.
- Is there much in terms of a generator inventory? Like for the Varna Community Center? Were previous opportunities through Project Impact for solar generators – perhaps could be investigated further?
- How about deer impacts? Likely connected with infestation.
- How is agriculture addressed in the plan? Ag generators? Fires? Epidemics like hoof and mouth? Manure spills?
- Access to hydrant action items? Does this include dry hydrants? Dryden is working with Bolton Point to map currently.
- Doesn't FEMA have a post hazard focus? Starting to move more toward mitigation. Example of Banks Road rebuild through FEMA funding, culverts on Beaver Creek.

Tompkins County Public Library – City of Ithaca – 6PM

Attendee List

- Brian Eden – EMC
- Tom Shelley – Ithaca CAC
- Barry Stein – Tompkins County Red Cross
- Gay Nicholson – Sustainable Tompkins
- Scott Doyle – Tompkins County
- John Condino – B&L
- Johanna Duffy – B&L

Comment and Notes from Meeting

- The clarification of who and where vulnerable populations are is very important. Red Cross in Cortland has initiated a self reported registry that may be worth looking more into. Who currently holds this info? Who needs to? Religious orgs? Should it be online and available to planners and responders? Example of Chicago/Cuba and research related to social isolation of elderly populations.
- Important to place emphasis on natural systems resiliency – much research related to this recently and NYS support (2100 Commission Report). Brian Eden to follow up with more detail.
- Green infrastructure also important
- Our region, particularly the City, is behind on Stream Buffer protection. Much interest in promoting added protections and regulations.
- Undergrounding of utilities on The Commons. District Heating and CHP interesting resilient options being utilized locally.
- Dredging a key locally. Have you worked with Army Corps? Like to see sediment prevention plan, climate/development discussion. Implement projects to prevent sediment accumulation in lake – focus on problem before lake
- Look into COAST model through Department of State. Used in areas like Kingston, NY and allows users to visualize investments in mitigation measures and what benefits they can achieve.
- City of Ithaca updating their comprehensive plan – it will be important to weave this planning effort with that one.
- What happens when the grid goes down? Extra vulnerability. Examples of renewable energy based cooling center. Something to look into locally? Energy/Hazard relationship.
 - Warming centers as well. History of those in Ithaca – example the RIBS building.
- Emphasize generator maintenance.
- Need to normalize preparedness (talk about it enough and people get used to incorporating it into their everyday lives/routines)
- Town of Lansing – provide information to Katrina
- Mitigation as grassroots action? How does that fit here?
- Public awareness on mitigation very important
 - B&L to provide examples to Gay
- Civic engagement as mitigation.

Tompkins County Hazard Mitigation Plan Update Comments Summary

- Todd Bittner – Cornell Plantations – Suggestion to add language related to trail improvements and gorge safety – previously had trouble applying for FEMA funds to support trail improvements in gorges as it wasn't mention in previous plan
- Rob Gallinger – USDA Farm Service Agency – asked if foreign animal disease response and agro tourism should be included. Wondered if plan was intended to be used for response
- Matt Cooper – Danby CEO – noted Table 11 should show their gas prohibition is finalized
- Gay Nicholson – provided link to COAST model
- Water Resources Council – Advocated for supporting stream gages and support for farm agencies
- Dave Herrick – TG Miller – Submitted letter noting concern over pipeline crossings and felt this should be further addressed
- DOER – Various comments directly on plan, would like to see critical facility mapping
- EMC – comments based on old plan? Would like to see more emphasis on adaptation, green infrastructure, ties to NYS 2100 Commission, gas drill ban

Appendix F

Plan Adoption Resolution and Sample Resolution

Name of Jurisdiction: _____

**RESOLUTION
TO AUTHORIZE THE ACCEPTANCE AND ADOPTION OF THE
MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN UPDATE FOR
TOMPKINS COUNTY, NEW YORK**

WHEREAS, the Tompkins County Planning Department, with the assistance from Barton & Loguidice, P.C., has gathered information and prepared the Multi-Jurisdictional All-Hazard Mitigation Plan Update for Tompkins County, New York; and

WHEREAS, the Multi-Jurisdictional All-Hazard Mitigation Plan Update for Tompkins County, New York has been prepared in accordance with the Disaster Mitigation Act of 2000 and Title 44 Code of Federal Regulations (CFR), Part 201; and

WHEREAS, Title 44 CFR, Chapter 1, Part 201.6(c)(5) requires each local government participating in the preparation of a Multi-Jurisdictional Mitigation Plan or Plan Update to accept and adopt such plan; and

WHEREAS, the Town/Village of _____, has reviewed the 2013 Hazard Mitigation Plan Update, has found the document to be acceptable, and as a local unit of government, has afforded its citizens an opportunity to comment and provide input regarding the Plan Update and the actions included in the Plan;

WHEREAS, the Town/Village of _____, will consider the Tompkins County HMP Update during the implementation and updating of local planning mechanisms, and will incorporate the hazard assessment data, hazard vulnerabilities, and mitigation actions in these mechanisms, where applicable;

NOW THEREFORE, BE IT RESOLVED, that the Town/Village of _____, as a participating jurisdiction, adopts the Multi-Jurisdictional All-Hazard Mitigation Plan Update for Tompkins County, New York, dated March 2013.

This resolution was thereupon declared duly adopted on _____.

(Mayor/Supervisor)

(Clerk)

Appendix G

Tompkins County Critical Facilities List

Appendix G

Tompkins County Critical Facilities List

Locations of these facilities are generally shown on Figure 2.9 in Appendix A.

Boatyards:

- Johnson's Boatyard and Marina
- Treman Marina
- East Shore Sailing
- Ithaca Yacht Club
- Myers Point
- Taughannock Falls State Park Marina

Bus Terminals:

- Lansing CSD Bus Garage
- Ithaca Bus Terminal
- Ithaca Tompkins Transit Center

Camps:

- Empire State Speech and Hearing Camp
- Camp Barton Girl Scout Camp

Community Centers:

- Cayuga Nature Center
- Bethel Grove Community Center
- Ellis Hollow Community Center
- Enfield Community Center
- Brooktondale Community Center
- Hillside Children's Center
- Southside Community Center
- Coddington Road Community Center
- Varna Community Association
- American Red Cross Community Center

Correctional Facilities:

- Lansing School for Girls
- Tompkins County Jail
- NYS McCormick Training Center

Dams:

- Jennings Pond
- Treman Lake at Buttermilk State Park
- Cayuga Inlet Fish Ladder
- Dryden Lake Dam
- Virgil Creek Dam
- Second Dam
- First Dam
- Van Natta Dam
- Flat Rock
- Beebe Lake

Day Care Centers:

- Groton Head Start
- TCAction Head Start
- FSA Child Care Center at Tompkins County Community College
- Ithaca Community Childcare at Kendal
- Community Nursery School
- Franziska Racker Center
- Coddington Child Care Center
- Drop-in Children's Center
- Happy Way Child Care
- Ithaca Montessori School
- Stepping Stones Preschool
- Cornell Child Care Center
- Namaste Montessori
- IC3
- Groton Day Care

Electrical Substations:

- Trumansburg Substation
- South Lansing Substation
- Cayuga Heights Substation
- South Hill Substation
- Etna Substation
- Peruville Substation
- Groton Substation
- Milliken Substation
- East Hill Substation
- County Hospital Substation
- Kite Hill Substation
- 4th Street Substation
- West Hill Substation
- State Hospital Substation

- Newfield Substation
- Brooktondale Substation
- Dryden Substation
- Ludlowville Substation
- Cayuga Rock Salt Substation

Elementary Schools:

- Montessori School
- Dryden Elementary School – Dryden Central School District
- Freeville Elementary School – Dryden Central School District
- Trumansburg Elementary School – Trumansburg Central School District
- Newfield Elementary School – Newfield Central School District
- Groton Elementary School – Groton Central School District
- Cassavant Elementary School – Dryden Central School District
- R.C. Buckley Elementary School – Lansing Central School District
- Caroline Elementary School – Ithaca City School District
- South Hill Elementary School – Ithaca City School District
- Northeast Elementary School – Ithaca City School District
- Beverly J Martin Elementary School – Ithaca City School District
- Fall Creek Elementary School – Ithaca City School District
- Enfield Elementary School – Ithaca City School District
- Cayuga Heights Elementary School – Ithaca City School District
- Belle Sherman Elementary School – Ithaca City School District

Emergency Operations:

- Tompkins County Emergency Rescue (EOC)

Fire Departments:

- Neptune Hose – Company #1
- Newfield Fire Company
- Varna Fire Station
- Ithaca Fire Department – Central Station
- West Danby Fire Hall
- Trumansburg Fire Department
- Speedsville Fire Hose
- Slaterville Springs Fire House
- McLean Fire Department
- Lansing Fire Department – Company #5
- Lansing Fire Department – Company #4
- Lansing Fire Department – Company #3
- Lansing Fire Department – Central Station, Company #1 and #2
- Ithaca Fire Department – College Avenue Station #9
- Ithaca Fire Department – Fall Creek Station #7
- Ithaca Fire Department – West Hill Station #6

- Ithaca Fire Department – South Hill Station #5
- Groton Fire Station
- Freeville Fire Department
- Etna Volunteer Fire Department
- Enfield Fire Station
- Danby Volunteer Fire Company
- Cayuga Heights Fire Department
- Brooktondale Fire Station

Government Centers:

- Ithaca City Hall
- Ithaca City Courthouse
- Tompkins County Courthouse
- Post Offices
- Groton Town Hall
- Newfield Town Hall
- Enfield Town Hall
- Ithaca Town Hall
- Danby Town Hall
- Lansing Town Hall
- Ulysses Town Hall
- Caroline Town Hall
- Dryden Town Hall
- Dryden Village Hall
- Village of Freeville Office
- Lansing Village Office
- Cayuga Heights Village Office
- Trumansburg Village Office
- Groton Village Hall

High Schools and Vocational Schools:

- Lehman Alternative School
- William George Agency
- Newfield High School – Newfield Central School District
- Charles O. Dickerson High School – Trumansburg Central School District
- Dryden High School – Dryden Central School District
- Groton High School – Groton Central School District
- Lansing High School – Lansing Central School District
- Ithaca High School – Ithaca City School District
- Tompkins-Seneca-Tioga BOCES

Highway Departments:

- Town of Groton Highway Department
- Town of Lansing Highway Department
- Town of Dryden Highway Department
- Town of Caroline Highway Department
- Town of Danby Highway Department
- Town of Newfield Highway Department
- Town of Ithaca Highway Department
- Town of Enfield Highway Department
- Town of Ulysses Highway Department
- City of Ithaca Streets and Facilities
- NYSDOT Barn

Human Services:

- Franziska Racker Center
- Tompkins County Health Department
- Occupational Services of the Finger Lakes
- Loaves and Fishes
- Community Dispute Resolution Center
- Lansing Residential Center
- Finger Lakes Residential Center

Industrial:

- NYS Electric & Gas
- Borg Warner
- Emerson Power Transmission
- THERM, Inc.
- Cargill Salt Mine

Major University or Small College:

- Ithaca College
- Cornell University
- Tompkins County Community College
- Empire State College – SUNY
- TCCC Extension Center

Medical Facility:

- Parkview Medical Campus
- Convenient Care
- Cayuga Medical Center
- Guthrie Clinic
- Trumansburg Family Health Center
- Groton Intermediate Care Facility
- Groton Community Health Care Center

Middle School:

- Boynton Middle School – Ithaca City School District
- DeWitt Middle School – Ithaca City School District
- Lansing Middle School – Lansing Central School District
- Groton Middle School – Groton Central School District
- Dryden Middle School – Dryden Central School District
- Russell I. Doig Middle School – Trumansburg Central School District
- Newfield Junior High School – Newfield Central School District

Other Public Facility:

- Chamber of Commerce
- Ithaca City Youth Bureau
- Tompkins County Airport
- Tompkins County Annex Building
- Old Jail
- Old Courthouse
- Tompkins County Mental Health
- NYS Department of Motor Vehicles
- Tompkins County Soil & Water Conservation District
- Clinton House
- Greater Ithaca Activities Center
- NYS Army National Guard
- NYS Department of Environmental Conservation
- Northeast Transit/Swarthout & Ferris
- US Coast Guard Auxiliary
- US Army Reserve Center
- US Geological Survey
- American Auto Association
- GIAC Community Pool
- State Theatre
- Trumansburg Fairgrounds
- YMCA

Performing Arts:

- Ballet Center of Ithaca
- Ithaca Academy of Dance
- Hangar Theatre
- Firehouse Theatre
- Kitchen Theatre

Police Department:

- Ithaca Police Department
- Village of Cayuga Heights Police Department
- Village of Dryden Police Department
- Village of Trumansburg Police Department
- New York State Police
- Tompkins County Public Safety
- Groton Police Department
- State Parks Headquarters

Public Works:

- Tompkins County Public Works
- Tompkins County Recycle and Solid Waste Center
- Bell Atlantic
- Ithaca City Water & Sewer
- Ithaca City Streets & Facilities
- Ithaca Wastewater Treatment Plant
- Groton Sewage Treatment Plant
- Milliken Station Power Plant
- Bolton Point Water Treatment Plant
- Ithaca City Water Treatment Plant
- Groton Municipal Light & Power Plant
- Cornell Heating Plant
- Hydroelectric Plant
- Cayuga Heights Sewage Treatment Plant
- Trumansburg Sewage Treatment Plant
- Village of Groton Public Works Department
- Cornell Water Treatment Plant
- Cornell Water Filtration Plant
- Bolton Intake
- Dominion Transfer Station
- Dryden Sewage Treatment Plant

Shopping Area:

- Pyramid Mall
- Triphammer Mall
- Ithaca Commons
- Ithaca Farmers Market
- Community Corners
- Greenstar Co-op Market
- Center Ithaca
- East Hill Plaza
- Cayuga Mall
- Trumansburg Farmer's Market

Stadium or Sports Facility:

- Barton Hall
- Schoelkopf Field
- Lynah Rink
- Ithaca College Events Center
- Cass Park Rink and Pool
- Butterfield Stadium
- The Rink
- Bartels Hall

Appendix H

Tompkins County Transportation Infrastructure with Reoccurring Flooding Issues

Appendix H

Tompkins County Transportation Infrastructure with Reoccurring Flooding Issues

The replacement/rehabilitation/or other mitigative measures to prevent or minimize the impacts to these structures from flood events has been included as Individual Municipality Mitigation Action Strategy TC3 for Tompkins County (Table 28). Priority sites are denoted by an asterisk (*).

Roadway Locations with Flooding Concerns and Reoccurring Problems:

- *Ringwood Road (CR 164), from the intersection with Ringwood Court to approximately ½-mile northeast in Dryden. This location is subject to frequent washouts from flooding where two Cascadilla Creek tributaries converge as a roadside ditch on a steep hill with narrow shoulders.
- Stevens Road (CR 104), just south of the bridge over Fall Creek in Groton. During flood events, Fall Creek floods outside of its main channel and some of the sub-channels that form are cut-off from re-entering the main channel due to a turn at the bridge location. Elevated water levels from flood events have damaged the road and adjacent properties from the bridge to Cemetery Lane.
- Fall Creek Road (CR 105), just south of the bridge over Fall Creek that is located between Peruville and North Roads in Dryden. Fall Creek floods outside of its channel upstream of the bridge and waters flow over the roadway south of the bridge as a result.
- Sheldon Road (CR 180), at Mill Creek just south of Bone Plain Road in Dryden. This is a double-barrel culvert that is frequently plugged by local beaver populations. The County is hoping to replace the existing structure with a single box culvert.
- Station Road (CR 188), just east of Brown Road in West Danby. The outfall from a double-barrel culvert that has filled with sediment needs to be re-graded to encourage flow to Cayuga Inlet, approximately 1400 feet away. The double-barrel culvert may also need to be replaced.

County Bridges that are Scour-Critical and would Benefit from Flood Mitigation/Scour Protection:

- Boiceville Road over Sixmile Creek (also prone to over-topping in major storm events)
- *German Cross Road over Sixmile Creek (also prone to over-topping in major storm events)
- *Hines Road over Enfield Creek (has a downstream check dam to prevent bed degradation – check dam needs work)
- *Freese Road over Fall Creek
- West Malloryville Road over Fall Creek
- Davis Road over Fall Creek
- Stevens Road over Fall Creek (roadway included above)
- Connecticut Hill Road over Pony Hollow Creek
- South George Road over Virgil Creek

- Johnson Street over Virgil Creek
- Dodge Road over Cascadilla Creek
- Genung Road over Cascadilla Creek
- Salmon Creek Road over Salmon Creek (prone to debris build-up during flood events)
- Lockerby Hill Road over Salmon Creek
- South Street Extension over Bolter Creek

Appendix I

Hazard Mitigation Plan Update Process Checklist

**Tompkins County
Multi-Jurisdiction All-Hazard Mitigation Plan
Monitoring, Evaluation and Update Checklist**

Steps to be completed, at a minimum, at the end of Years 1, 2, 3, and 4:

Meeting

- Identify members of the Hazard Mitigation Plan Implementation Committee (may need to be revised year-to-year)
- Set a meeting date and notify Implementation Committee members
 - Members should come prepared to specifically discuss status and details of pre-disaster mitigation projects or actions executed by their respective agency/organization
- Publish meeting date in newspaper and online to invite public participants
- Hold meeting – discuss hazard events that have occurred since last meeting or Plan Update, including:
 - Type of hazard event
 - Damages incurred
 - Cost of repairs
 - Hazard response
 - Hazard duration and recovery time
- Discuss how the HMP actions, strategies, and other information has been incorporated into local planning mechanisms and agency efforts over the past year (if applicable)
- Evaluate the HMP Update by assessing:
 - Whether the goals and objectives address current and expected conditions
 - Whether the nature, magnitude, and/or type of risks have changed
 - Whether the current resources are appropriate for implementing the plan
 - Whether there are implementation problems or coordination issues with other agencies
 - Whether the outcomes, thus far, have occurred as expected
- Update the HMP by addendum if any significant changes are needed

Documentation

- Tompkins County Planning Department to prepare annual summary of collected information, hazard occurrences and damages, completed mitigation actions and costs, and other applicable information
- Post this annual summary on County website for public review and keep in files for next formal HMP Update process

Steps to be completed end of Year 3/early in Year 4:

Grant Funding

- Submit application to FEMA for grant funding to complete next HMP Update

Steps to be completed in early/mid-way Year 4:

Plan Document

- Determine who will be the primary author of Plan Update (Consultant or In-house)

Meeting

- Inform Implementation Committee members of first meeting to begin formal Plan Update process

HIRA-NY Risk Assessment (if needed)

- Send email to participants with date and time of HIRA-NY event
- Complete HIRA-NY program with NYSOEM facilitation

Steps to be completed in Year 5:

Plan Document

- Update pertinent sections of the Plan, including Appendices
- Add-in hazard related details that were collected during annual Implementation Committee meetings

Meetings

- Hold Implementation Committee meeting(s) to discuss and revise Plan Update
- Hold meetings and discussions with participating jurisdictions to update information relevant to each jurisdiction and revise each jurisdiction's previous risk assessment
 - Discuss how the HMP actions, strategies, and other information has been incorporated into local planning mechanisms since the last Plan Update
- Hold public information meeting(s) to solicit comments on Plan Update

Plan Approval Process

- Submit final draft to NYSOEM for review
- Complete NYSOEM revisions and respond to comments, if necessary, and submit Plan Update to NYSOEM/FEMA for pre-approval
- Complete FEMA comments, if necessary, and re-submit
- County and participating jurisdictions pass resolutions accepting the Plan Update – include these in Appendix F