



Department of
Environmental
Conservation



Building Flood Resiliency at the Local Level

This webinar will start shortly.

Office of Climate Change
NYS Department of Environmental Conservation
September 14, 2017

Welcome!

Today's webinar topic: *Flood Resiliency*

Connect to the audio with your phone:

- 1) Go to the “***Event Info***” tab for call-in details, and
- 2) Enter ***your unique attendee ID*** when prompted.



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Quick Start **Event Info**

Building Flood Resiliency at the Local Climate Smart Communities Webinar

Host: Dazzle Ekblad

Audio connection: US Toll Free: 1-844-633-8697
Local: 1-518-549-0500

Access code: 645 179 573

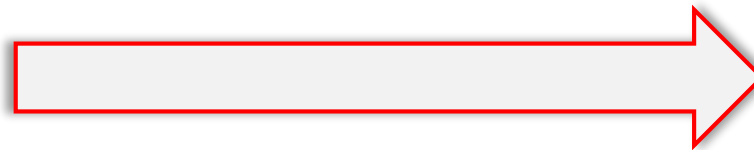
Attendee ID: 3

Today's webinar topic:

Flood Resiliency

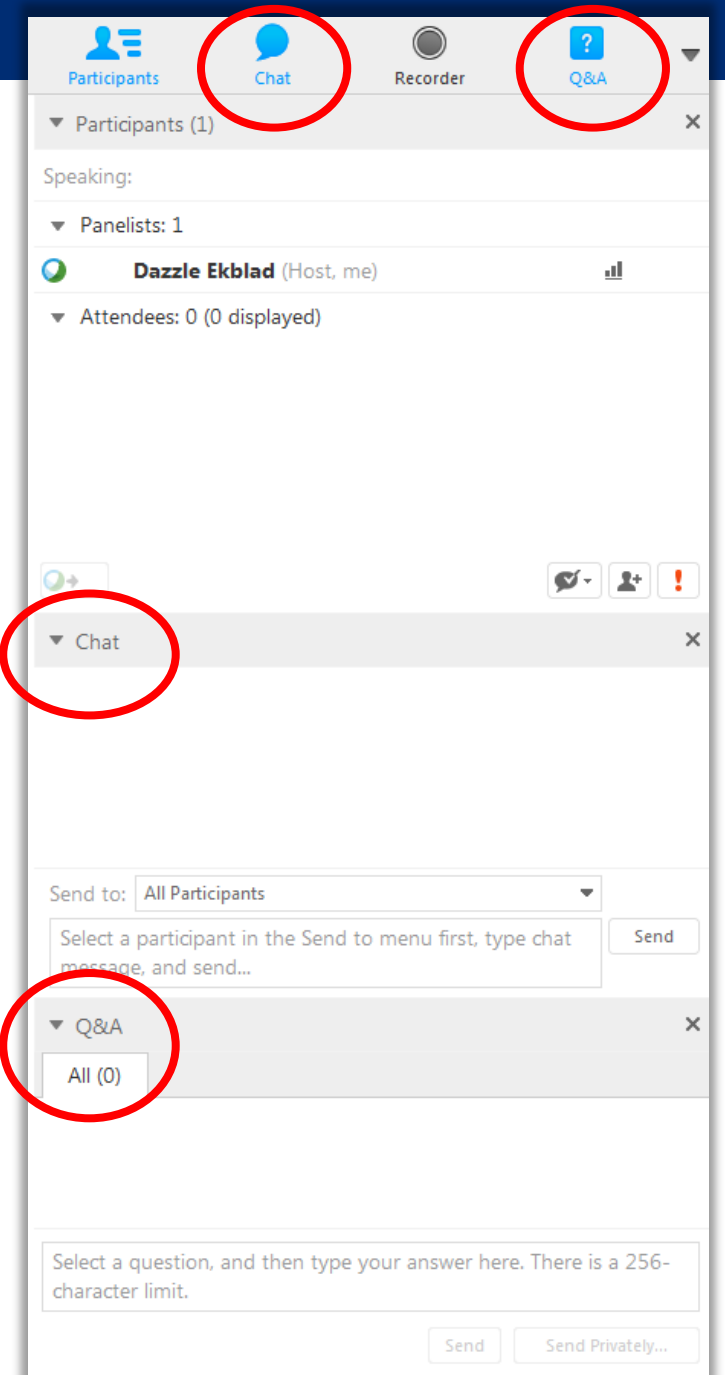
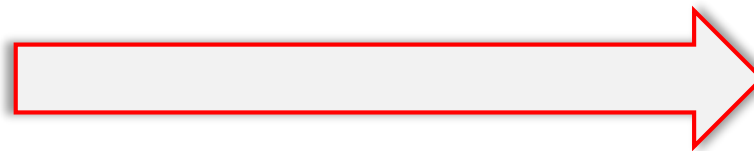
Problems or technical questions?

Use WebEx Chat



Content questions for speakers?

Use WebEx Q&A



Agenda



- **Announcements** – *Dazzle Ekblad, DEC*
- **Flood Resiliency: National & Regional Context** – *Jayme Thomann, Genesee/Finger Lakes Regional Planning Council*
- **Flood Resiliency & Town of Greece's Community Rating System** – *John Gauthier, Town of Greece*
- **Flood Smart Communities** – *Stevie Adams, The Nature Conservancy*
- **Q & A** – *All speakers*



Save on EVs through NYS Programs

NYSERDA Drive Clean Rebate

- Local gov'ts are eligible
- Up to \$2k for plug-in electric hybrids or battery-powered cars
- Stackable with DEC Municipal ZEV Rebate Program

DEC Municipal ZEV Rebates - **Now open!**

- Purchases/leases of eligible zero-emission vehicles (ZEVs)
- Eligible infrastructure for charging/fueling ZEVs (20% match)

Join the 3rd NYS EV Aggregate Purchase

- Open to any authorized user of state contracts
- Contact pamela.hadadhurst@dec.ny.gov



Upcoming Events

- Sept. 15, [NYS Bike Summit](#), Albany
- Sept. 18-24, [Climate Week NYC](#)
- Sept. 28-29, [Building Sustainable Communities](#), Ithaca
- Oct. 12, CSC Webinar: Social Equity & Local Climate Action Planning
- Oct. 14, [Hudson Valley Climate Summit](#), Poughkeepsie,
- Oct. 18, [Southeast NY Stormwater Conference](#), Beacon

Upcoming Events

- Oct. 25-26, [Clean Energy Economy Conference](#), Glens Falls
- Nov. 6, [Nature Across Boundaries: What Can We Do to Keep Lands and Waters Connected?](#), New Paltz
- Nov. 7-9, [NYSAR3 Keeping Cool in the Age of Climate Change: Impacts of Materials Mgmt](#) (annual recyc. conf.), Cooperstown
- Nov. 8-9, [ADK Youth Climate Summit](#), Tupper Lake
- Nov. 17-18, [NYSACC Conference on the Environment](#), Kingston



**Climate Smart
Communities**
Certified

CSC Certification

- **CSC Certification Workbook:** Excel tool for estimating points for past actions, tracking progress & submitting documentation; email climatechange@dec.ny.gov for a copy
- Actions from the [CSC Certification Program](#) related to today's webinar:
 - **#7.10 – Create/update a watershed assessment to identify flooding priority (4 pts.)**
 - **#7.18 – Use natural, nature-based or ecologically enhanced shoreline protection (8 pts.)**
 - **#7.19 – Extend areas in which 2 ft. freeboard requirement applies (3 pts.)**



**Department of
Environmental
Conservation**



Climate Smart Communities Certified

• BRONZE:

- Ulster County
- City of Kingston
- Village of Dobbs Ferry

• CERTIFIED:

- Madison County
- Orange County
- Sullivan County
- Schenectady County
- Tompkins County
- City of Albany
- City of Rochester



- City of Watervliet
- Town of Mamaroneck
- Town of Ithaca
- Town of East Hampton
- Town of Cortlandt



Get Help from Regional Coordinators

- Coordinators provide free consulting services to local governments participating in NYSERDA's [Clean Energy Communities Program](#)
 - Approximately 50 hrs of free, on-demand technical assistance per municipality
 - Includes support for becoming a Certified Climate Smart Community
- Contact the coordinator in your region to get started:
<https://www.nyserda.ny.gov/Contractors/Find-a-Contractor/Clean-Energy-Community-Coordinators>



From left, CEC Coordinators for Mohawk Valley (Dan Sullivan), North Country (Jamie Rogers), Capital Region (Robyn Reynolds), and Mid-Hudson (Carla Castillo)



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How are the two programs related?

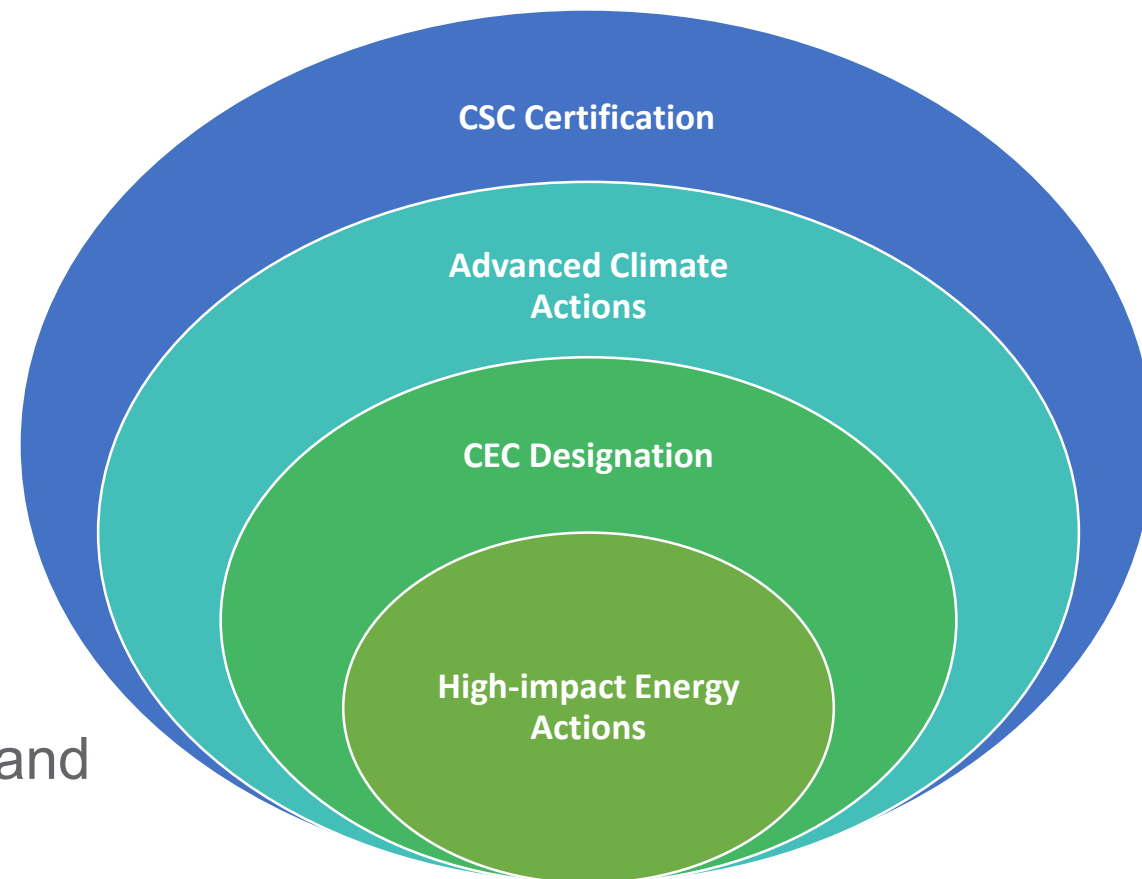
Climate Smart Communities Certification

- Comprehensive climate program
- 138 unique actions
- Accumulate points toward certification and improve score on CSC grant applications

Clean Energy Communities

- Focused on clean energy
- 10 high-impact actions
 - 1 of the 10 is becoming a Certified CSC
- Complete 4 actions to be designated a CEC and gain access grant funding

- **Earn points toward CSC Certification by doing CEC actions**
 - **Do both!**

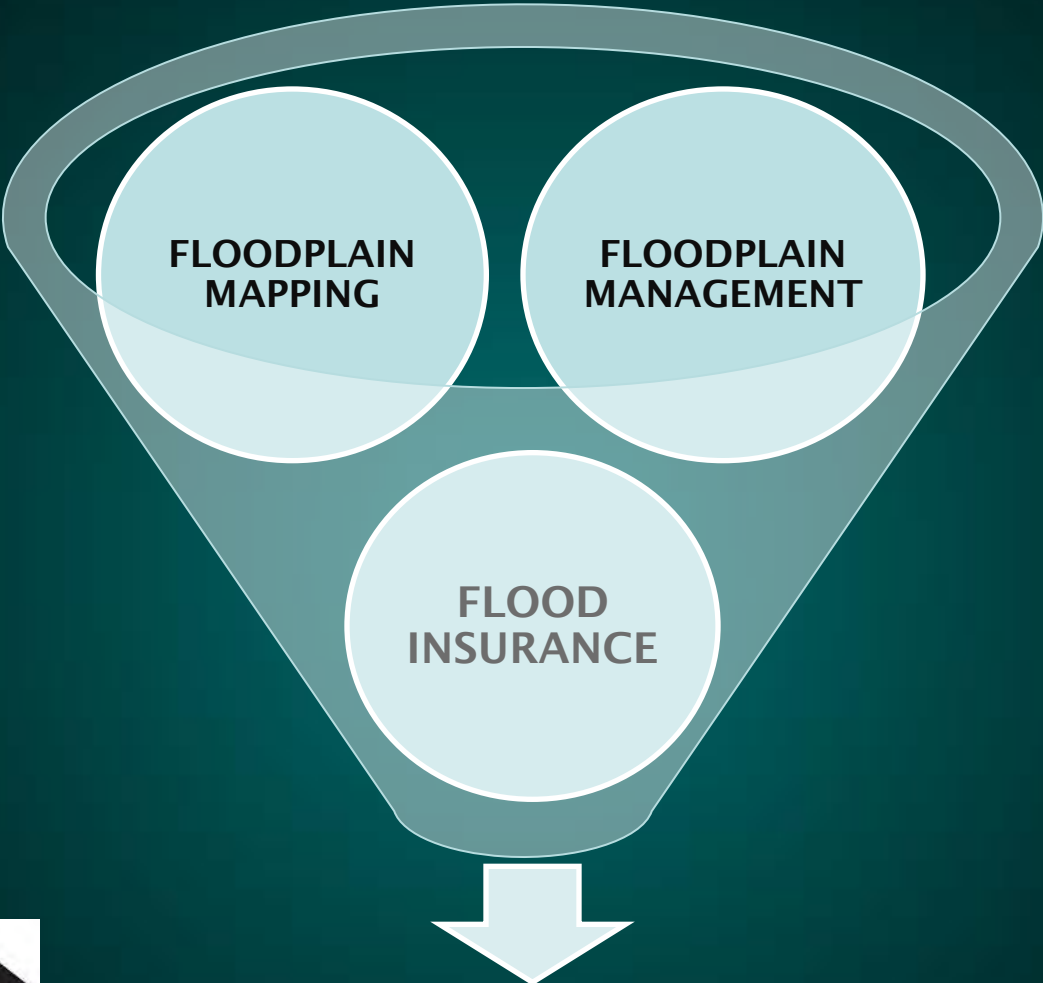


Building Flood Resiliency at the Local Level



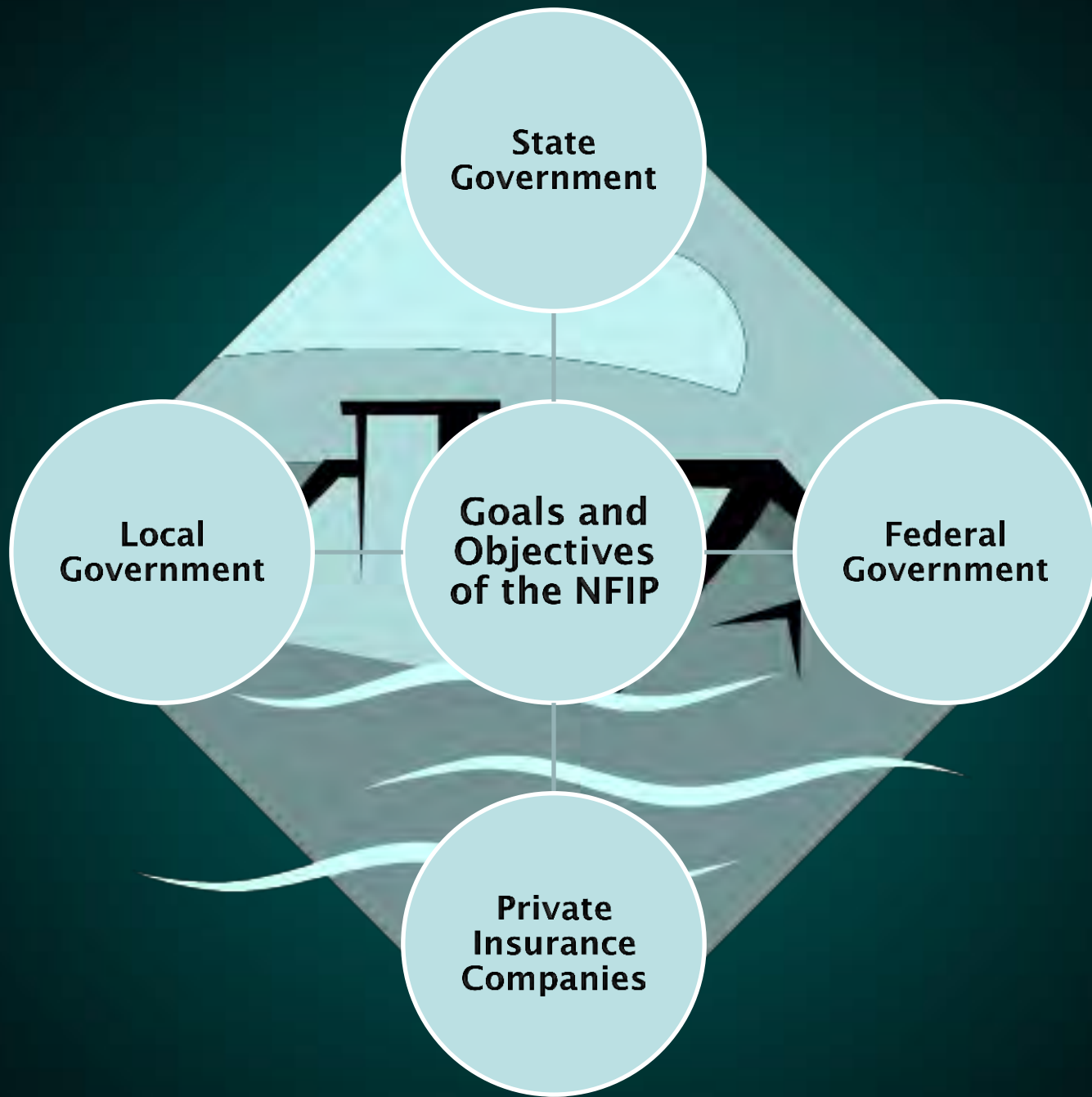
Jayne B. Thomann, AICP, CFM
Senior Planner
Genesee/Finger Lakes Regional Planning Council

National Flood Insurance Act of 1968



National Flood
Insurance Program

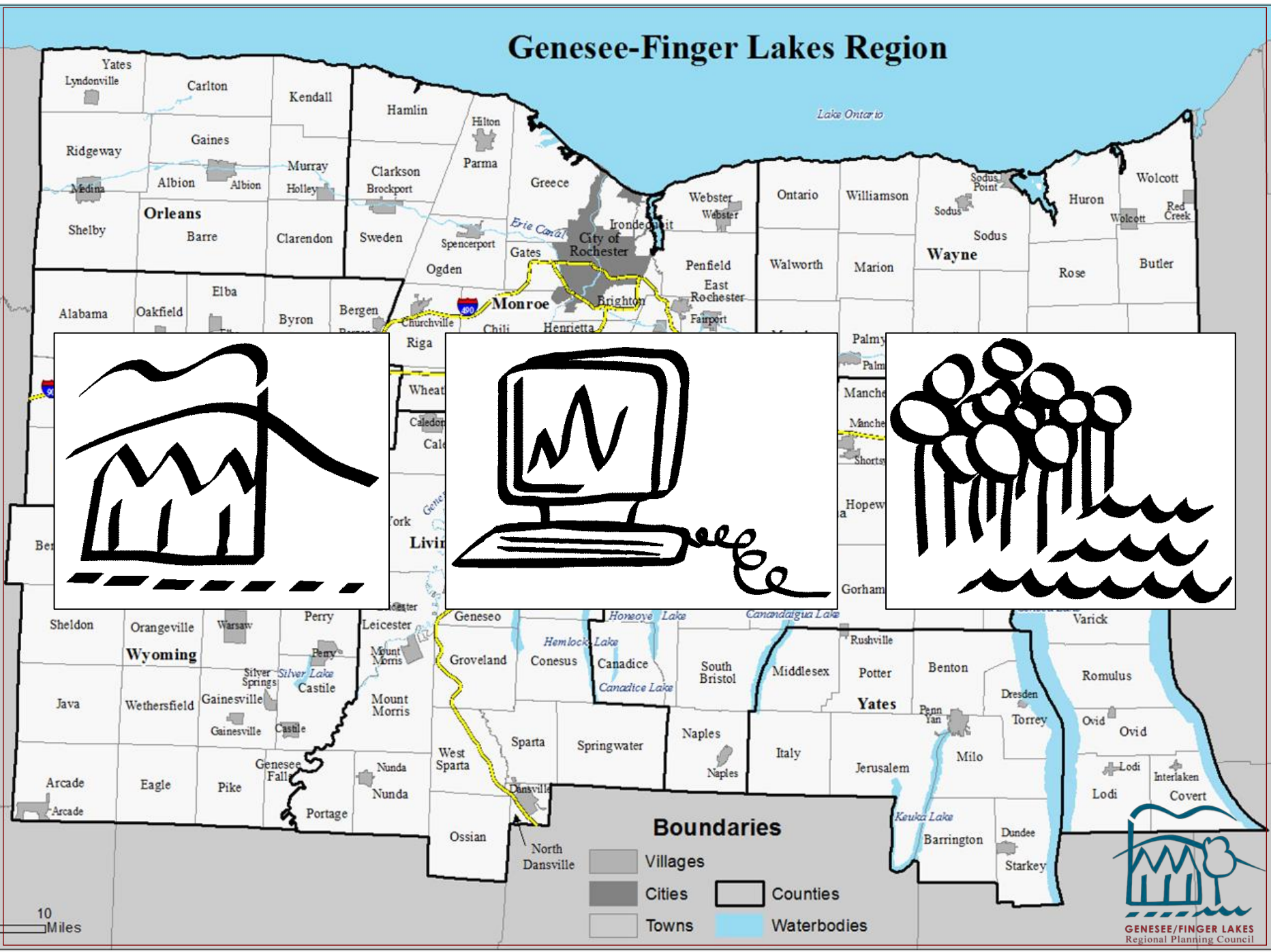




Participating Communities

- Issuing or denying floodplain development/building permits
- Inspecting all development to assure compliance with the local ordinance
- Maintaining records of floodplain development
- Assisting in the preparation and revision of floodplain maps
- Helping residents obtain information on flood hazards, floodplain map data, flood insurance and proper construction measures

Genesee-Finger Lakes Region



Lake Ontario

Erie Canal

Hemlock Lake
Honey Lake
Canadice Lake
Canadice Lake
Kawica Lake

Boundaries

-  Villages
-  Cities
-  Towns
-  Counties
-  Waterbodies

10 Miles



GENESEE/FINGER LAKES
Regional Planning Council

Water Quality Management

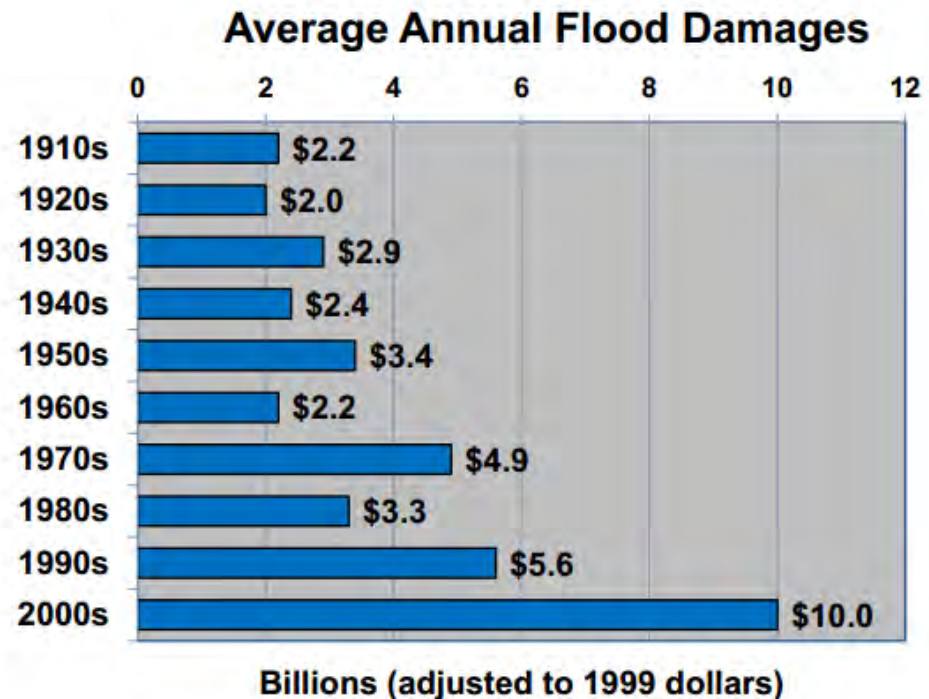
- Watershed planning
- Nonpoint source pollution control
- Stormwater and floodplain management
- Streambank and soil erosion
- Outreach, training, and educational programs
- Technical assistance
- GIS mapping
- Data collection
- State public participation assistance
- Watershed restoration and protection strategies





Flood Damages Are Increasing!

- \$10 billion annually*
- Almost doubled from 1990s
- Per capita damages increased by more than a factor of 2.5 in the previous century in real dollar terms
- What we have been doing isn't working

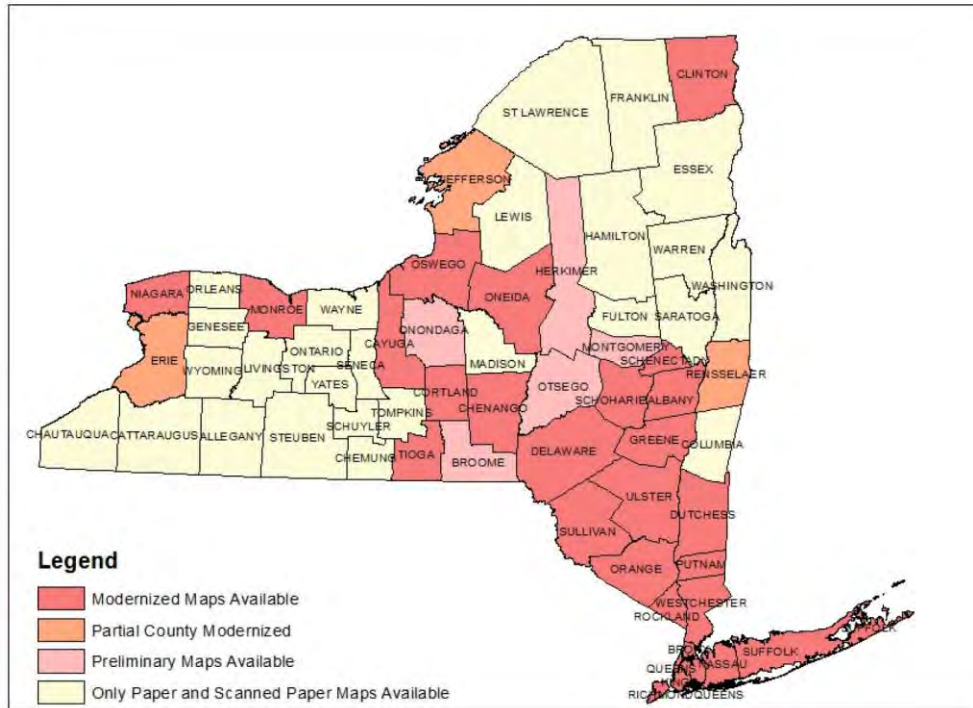


Source: *Flood Loss Data*, National Weather Service, Hydrologic Information Center (<http://www.nws.noaa.gov/hic/>)

Further Information: *Flood Damage in the United States, 1926-2003 A Reanalysis of National Weather Service Estimates* (<http://www.flooddamagedata.org/>)

Current Flood Zones

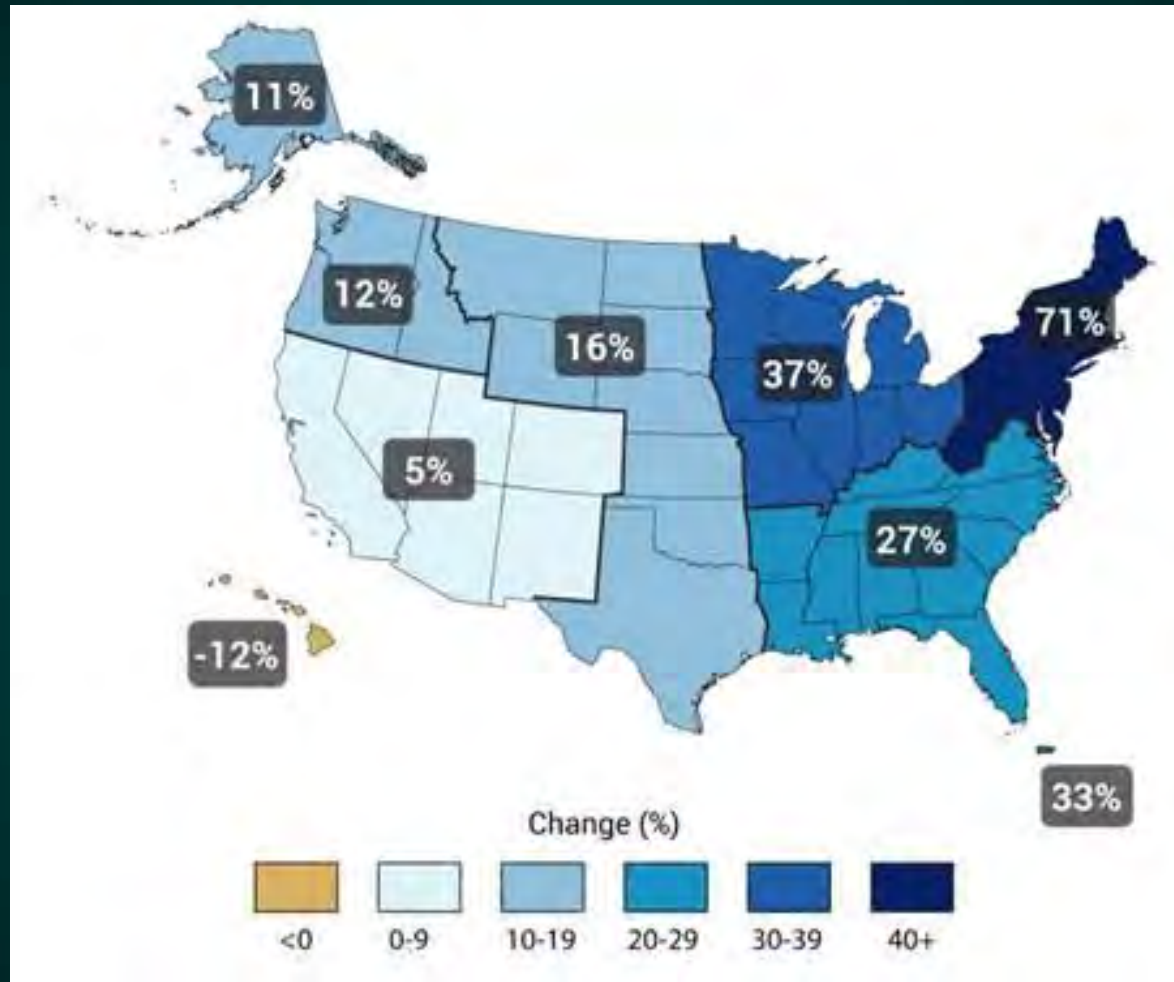
FIRM Map Status 2016



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G-FL Region County	Flood Map Status	Census 2010 Total Population
Genesee	Q3	60,079
Livingston	Q3	65,393
Monroe	DFIRM	744,344
Ontario	Q3	107,931
Orleans	Not Digitally Mapped	42,883
Seneca	Q3	35,251
Wayne	Q3	93,772
Wyoming	Not Digitally Mapped	42,155
Yates	Q3	25,348

Increasing precipitation patterns



Karl, T. R., J. T. Melillo, and T. C. Peterson, 2009: *Global Climate Change Impacts in the United States*. T.R. Karl, J.T. Melillo, and T.C. Peterson, Eds. Cambridge University Press, 189 pp.

Questions?

Jayne Breschard Thomann, Senior Planner, AICP, CFM
Genesee/Finger Lakes Regional Planning Council
50 West Main Street, Suite 8107
Rochester, New York 14614
jbreschard@gflrpc.org
(585) 454 -0190 x12

Flood Resiliency and the Town of Greece's Community Rating System Program



John Gauthier, PE, CFM
Town of Greece

Overview

- Town of Greece Physical Setting
- Improving Flood Resiliency through participation in the National Flood Insurance Program and
- The use of the Community Rating System (CRS) in improving Flood Resiliency.

Town of Greece Physical Setting

Greece Drainage System

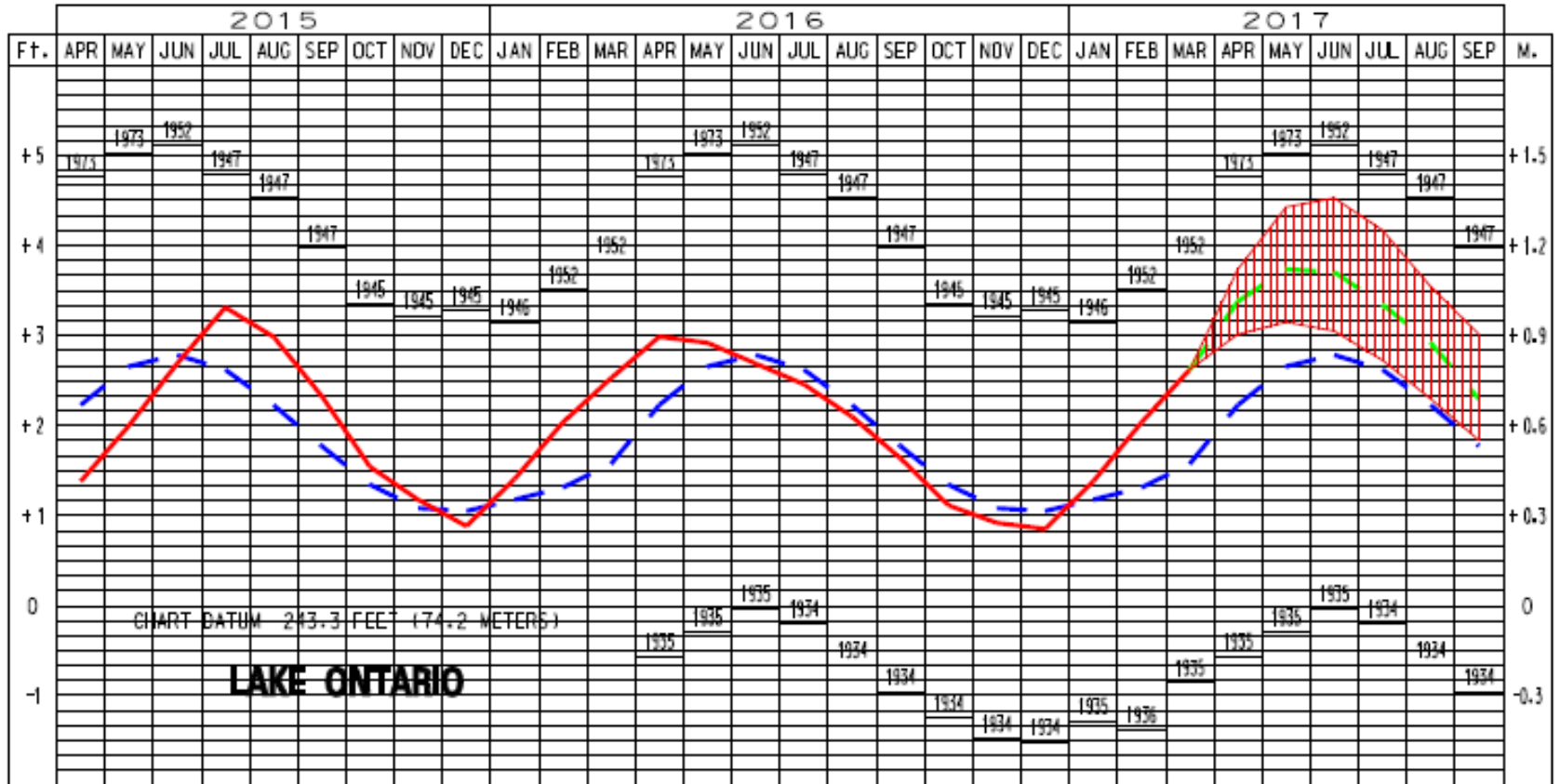
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Great Lakes Drainage Basin



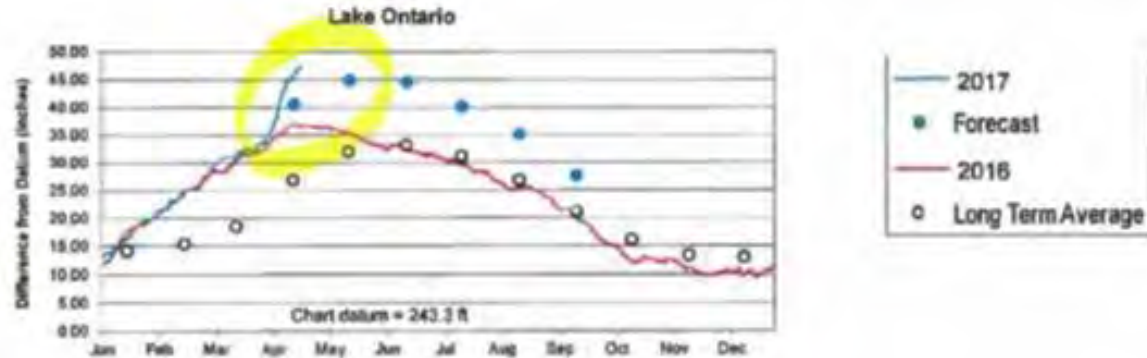
Lake Ontario Levels



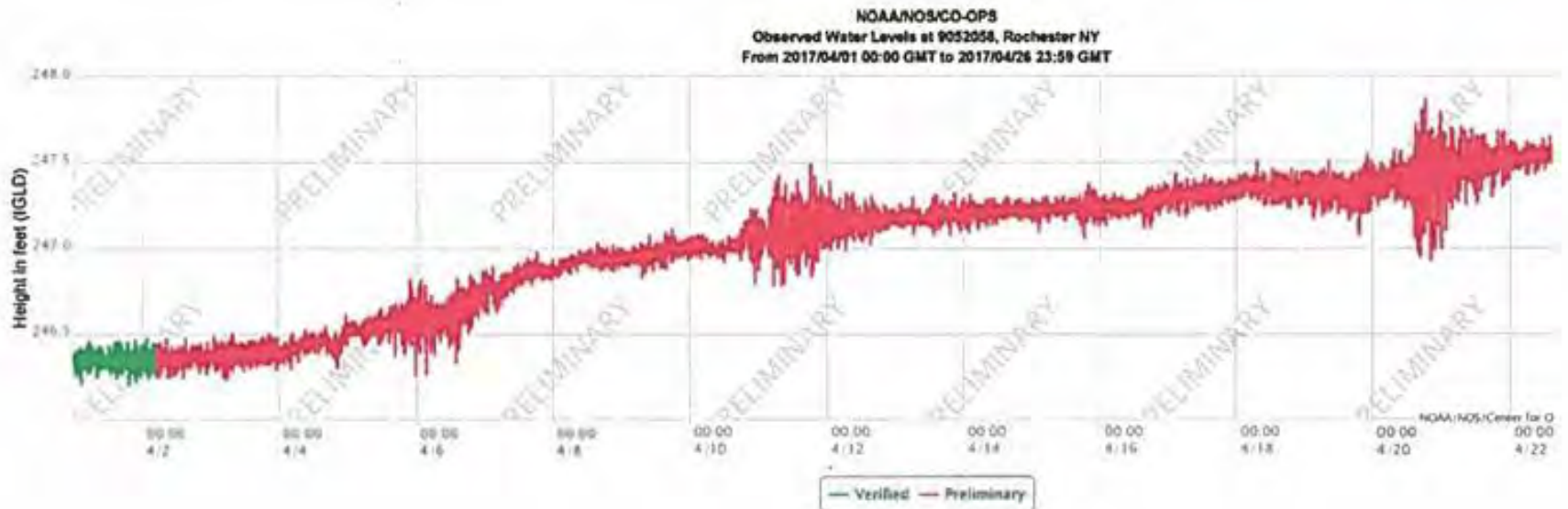
Lake Ontario Levels



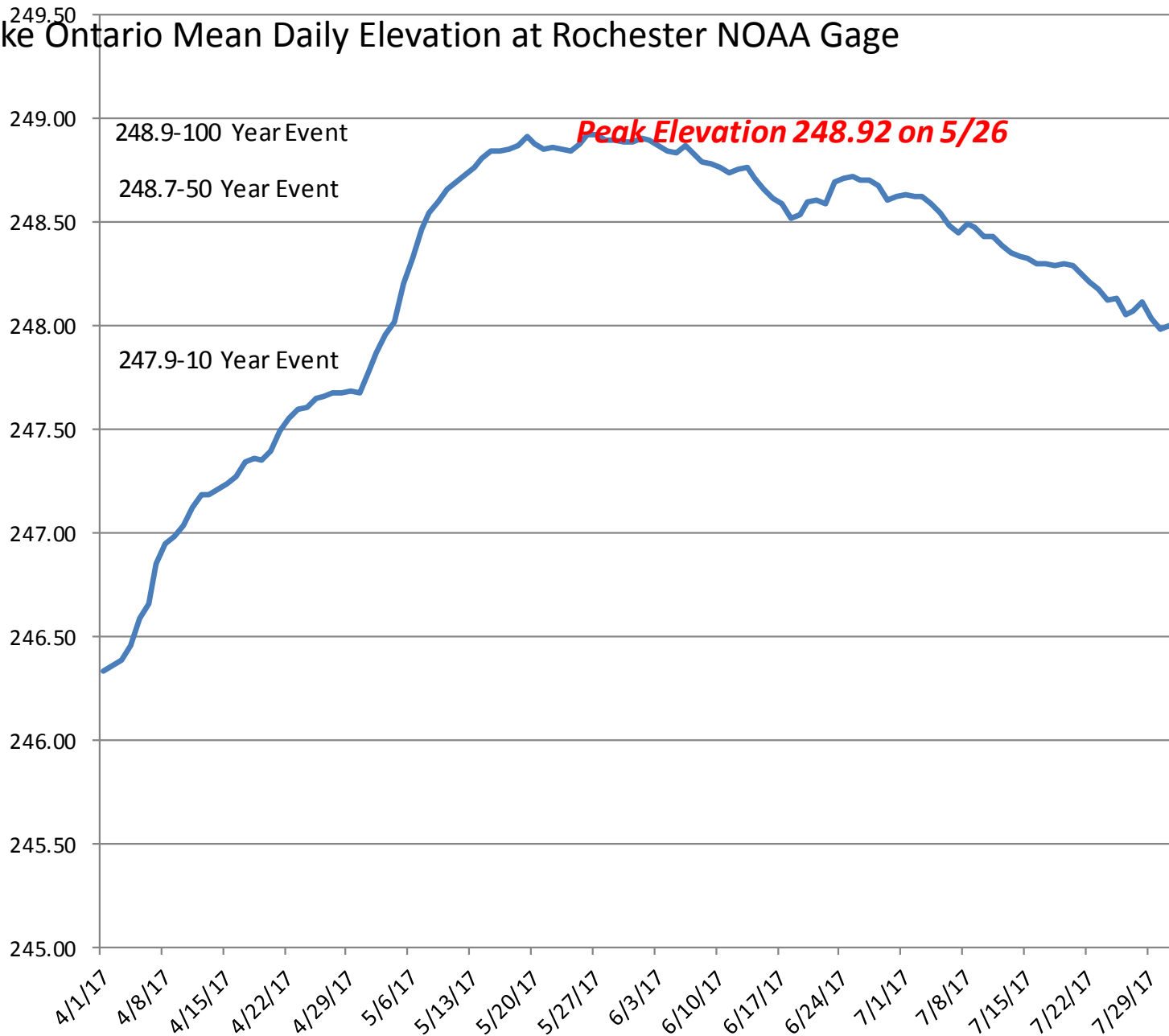
U.S. Army Corps of Engineers
 Detroit District
<http://www.lre.usace.army.mil>



4/20/2017

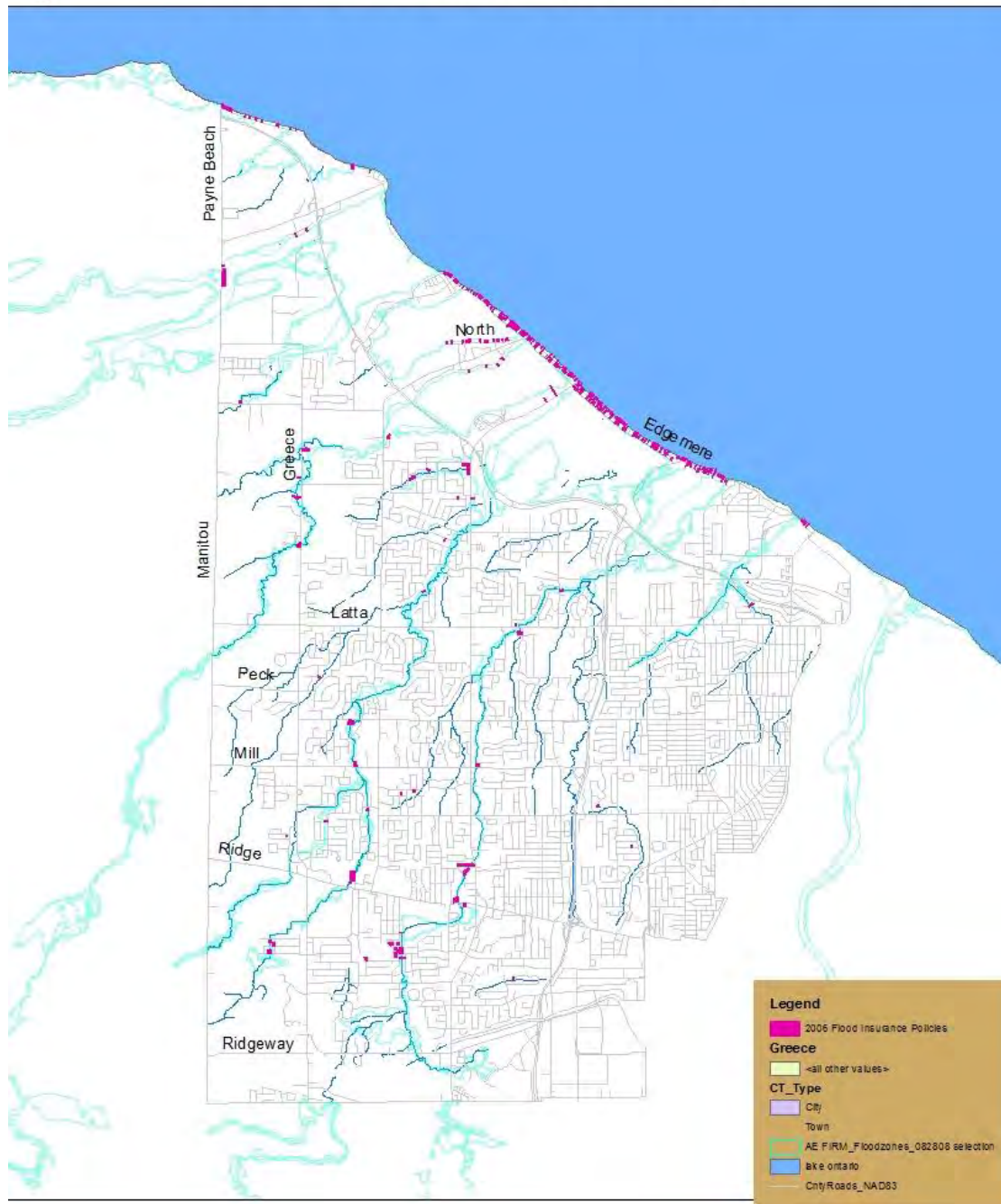


Lake Ontario Mean Daily Elevation at Rochester NOAA Gage





Greece Flood Insurance Policies 1 in = 1 miles



Lakeshore Dr. Sunday April 30, 2017

Lake @ 248 Ft. with Wind From NE



Lakeshore Drive April 30th



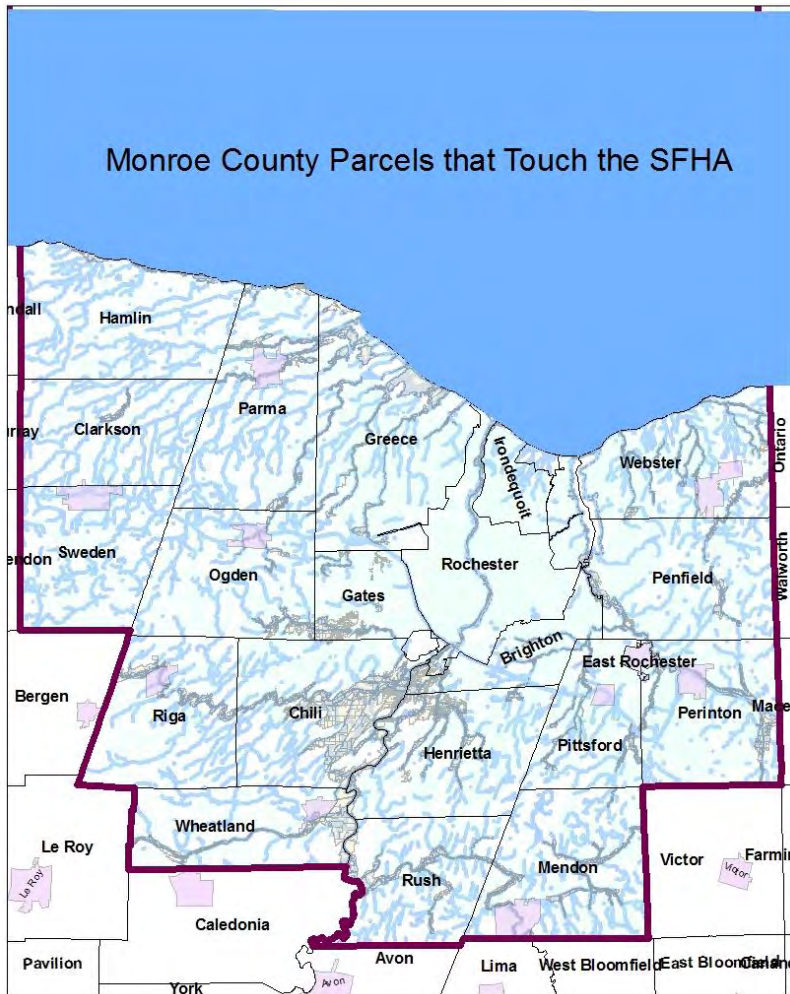
Improving Flood Resiliency through participation in the National Flood Insurance Program

Participation in the National Flood Insurance Program

- Participation is voluntary (non-participating communities may face sanctions that include loss of Federal aid for insurable buildings in the floodplains and homeowners will not be able to obtain conventional mortgages).
- In New York State:
 - ✓ 1471
- In Monroe County:
 - ✓ 1 City
 - ✓ 10 Villages
 - ✓ 19 Towns

All enrolled in the regular program.

Monroe County AE Zone Properties By Community



Municipality	Flood Insurance Policies in Force *	Parcels in AE Zone**	% Policies / Parcels in AE
Brighton	110	1131	10%
Chili	182	1140	16%
Churchville Village	7	88	8%
Clarkson	7	77	9%
East Rochester	N/A	26	N/A
Fairport Village	7	65	11%
Gates	336	1700	20%
Greece	200	2501	8%
Hamlin	82	355	23%
Henrietta	179	1313	14%
Hilton Village	20	116	17%
Honeoye Falls Village	18	164	11%
Irondequoit	265	436	61%
Mendon	22	680	3%
Ogden	26	447	6%
Parma	101	997	10%
Penfield	105	519	20%
Perinton	60	756	8%
Pittsford	80	968	8%
Riga	7	207	3%
Rochester	90	392	23%
Rush	10	474	2%
SCOTTSVILLE	18	111	16%
SPENCERPORT	14	171	8%
WEBSTER	70	2104	3%
Webster Village	8	27	30%
Wheatland	21	349	6%
Total	2045	17314	12%
	* Per FEMA 7/23/15	**2008 SFHA intersection with 2012 Monroe County Parcels	

Local Floodplain Law Required

Existing Town of Greece Law

- Based on NYSDEC model from the 1990s
- Generally allows the filling of the Floodway Fringe
- Although the basic law is relatively lenient, it is closely scrutinized with planning and engineering review

“Higher Standard Law”

- Prohibits net Filling of Flood Plain
- Prohibits new buildings in the Floodplain
- Provides substantial CRS credit (1,000 points) for enactment and enforcement.

ELEVATION CERTIFICATE – Bottom Floor

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No. 3067-0077
Expires December 31, 2005

ELEVATION CERTIFICATE

Important: Read the instructions on pages 1 - 7.

SECTION A - PROPERTY OWNER INFORMATION		For Insurance Company Use:
BUILDING OWNER'S NAME		Policy Number
BUILDING STREET ADDRESS (Including Apt., Unit, Suite, and/or Bldg. No.) OR P.O. ROUTE AND BOX NO.		Company NAIC Number
CITY	STATE	ZIP CODE
PROPERTY DESCRIPTION (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)		
BUILDING USE (e.g., Residential, Non-residential, Addition, Accessory, etc. Use a Comments area, if necessary.)		
LATITUDE/LONGITUDE (OPTIONAL) (##° - ##' - ##.###" or ###.#####")	HORIZONTAL DATUM: <input type="checkbox"/> NAD 1927 <input type="checkbox"/> NAD 1983	SOURCE: <input type="checkbox"/> GPS (Type): <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Other

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP COMMUNITY NAME & COMMUNITY NUMBER		B2. COUNTY NAME		B3. STATE	
B4. MAP AND PANEL NUMBER	B5. SUFFIX	B6. FIRM INDEX DATE	B7. FIRM PANEL EFFECTIVE/REVISED DATE	B8. FLOOD ZONE(S)	B9. BASE FLOOD ELEVATION(S) (Zone AO, use depth of flooding)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in B9.
 FIS Profile FIRM Community Determined Other (Describe) _____

B11. Indicate the elevation datum used for the BFE in B9: NGVD 1929 NAVD 1988 Other (Describe) _____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No
 Designation Date: _____

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction
 *A new Elevation Certificate will be required when construction of the building is complete.

C2. Building Diagram Number _____ (Select the building diagram most similar to the building for which this certificate is being completed - see pages 6 and 7. If no diagram accurately represents the building, provide a sketch or photograph.)

C3. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO
 Complete items C3.a-l below according to the building diagram specified in item C2. State the datum used. If the datum is different from the datum used for the BFE in Section B, convert the datum to that used for the BFE. Show field measurements and datum conversion calculation. Use the space provided or the Comments area of Section D or Section G, as appropriate, to document the datum conversion.
 Datum _____ Conversion/Comments _____

Elevation reference mark used _____ Does the elevation reference mark used appear on the FIRM? Yes No

<input type="checkbox"/> a) Top of bottom floor (including basement or enclosure)	_____	ft. (m)	License Number, Embossed Seal, Signature and Date
<input type="checkbox"/> b) Top of next higher floor	_____	ft. (m)	
<input type="checkbox"/> c) Bottom of lowest horizontal structural member (V zones only)	_____	ft. (m)	
<input type="checkbox"/> d) Attached garage (top of slab)	_____	ft. (m)	
<input type="checkbox"/> e) Lowest elevation of machinery and/or equipment servicing the building (Describe in a Comments area.)	_____	ft. (m)	
<input type="checkbox"/> f) Lowest adjacent (finished) grade (LAG)	_____	ft. (m)	
<input type="checkbox"/> g) Highest adjacent (finished) grade (HAG)	_____	ft. (m)	
<input type="checkbox"/> h) No. of permanent openings (flood vents) within 1 ft. above adjacent grade _____			
<input type="checkbox"/> i) Total area of all permanent openings (flood vents) in C3.h _____ sq. in. (sq. cm)			

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information in Sections A, B, and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME	LICENSE NUMBER		
TITLE	COMPANY NAME		
ADDRESS	CITY	STATE	ZIP CODE
SIGNATURE	DATE	TELEPHONE	

A substantial Change !

Biggert -Waters Reform Act 2012

24 Billion NFIP Debt to the Treasury –close to borrowing limit –increased due to Sandy.

Actuarial premiums on sale of property and all non-residential structures-sometime as much as 10 fold increase.

2014 Homeowners Flood Insurance Affordability Act delayed implementation due to public outcry.

The Community Rating System (CRS) in improving Flood Resiliency

Goals of the CRS

- Reduce flood damage,
- Strengthen and support the insurance aspects of the NFIP, and
- Encourage a comprehensive approach to floodplain management.





Community Responsibilities

- Designate a CRS Coordinator
- Cooperate with the ISO/CRS Specialist
- Implement CRS activities to degree desired
- Annual recertification & documentation
- Advise FEMA and ISO of program changes
- Maintain records, and FIRM maps forever

Program Benefits



FORMER BANK

- Reduced flood insurance rates
- Improved flood protection
- Enhanced public safety
- Improved Resiliency
- Technical assistance
- Accurate risk assessment
- Incentive to continue proper care

CRS Class	Credit Points	*Premium Reduction	
		IN SFHA	Outside SFHA
1	4,500	45%	10%
2	4,000	40%	10%
3	3,500	35%	10%
4	3,000	30%	10%
5	2,500	25%	10%
6	2,000	20%	10%
7	1,500	15%	5%
8	1,000	10%	5%
9	500	5%	5%
10	0	0%	0%
		* Subject to several conditions	

	Community Name	Current Class
1	Batavia, City of	7
2	Freeport, Village of	7
3	Greece, Town of	7
4	Long Beach, City of	7
5	Middletown, Town of	7
6	Syracuse, City of	7
7	Amherst, Town of	8
8	Bayville, Village of	8
9	Bigflats, Town of	8
10	Canandaigua, City of	8
11	East Fishkill, Town of	8
12	Elmira, City of	8
13	Erwin, Town of	8
14	Great Neck Estates, Village of	8
15	Harrison, Town of	8
16	Mamaroneck, Village of	8
17	Margaretville, Village of	8
18	Moravia, Village of	8
19	Niagara Falls, City of	8
20	Scarsdale, Village of	8
21	Union, Town of	8
22	Walton, Town of	8
23	Walton, Village of	8
24	Wellsburg, Village of	8
25	Ashland, Town of	9
26	Chemung, Town of	9
27	Chenango, Town of	9
28	Corning, City of	9
29	East Rockaway, Village of	9
30	Esperance, Town of	9
31	Fleischmanns, Village of	9
32	Horseheads, Town of	9
33	Horseheads, Village of	9
34	Ilion, Village of	9
35	Johnson City, Village of	9
36	Southport, Town of	9

CRS Activities and Credit

	Elevation Certificates	Map Information Service	Outreach Projects	Flood Protection Information	Open Space Preservation	Higher Regulatory Standards	Flood Data Maintenance	Stormwater Management	Floodplain Management Planning	Drainage System Maintenance	Dams	Total Points
	c310	c320	c330	c350	c420	c430	c440	c450	c510	c540	c630	
New York Average Credit	67.3	134.8	66.1	28.4	106.0	243.7	74.1	55.0	22.9	85.1	58.7	979.2
New York % of Communities	100%	96%	85%	96%	81%	100%	85%	67%	22%	52%	100%	
National Average Credit	68	140	99	45	182	291	97	111	129	201	63	1,528
National % of Communities	100%	93%	89%	92%	91%	99%	90%	90%	49%	78%	91%	

CRS Scoring

Activity / Number	2010	2016	2018*	Comment
Elevation Certificates 310	112	38	38	Mandatory Activity for CRS Communities
Map Information Services 320	140	0	0	
Outreach Projects 330	0	7	7	
Hazard Disclosure 340	5	15	15	
Flood Protection Information 350	23	7	7	
Flood Protection Assistance 360	5	0	0	
Open Space 420	528	1,155	1,166	This was a major push to formalize the preservation of open space in the floodplain
Higher Standards 430	219	204	206	This category has a very broad range of activities available
Flood Data Maintenance 440	112	140	141	
Stormwater Management 450	150	167	169	These activities are very similar to the Stormwater Permit requirements for MS4 communities
Floodplain Management Planning 510	0	0	261	The expected gains are based on participation in a county-wide Hazard Mitigation Plan
Drainage System Maint 540	195	207	207	These activities are very similar to the Stormwater Permit requirements for MS4 communities
Dams 630	60	0	0	
Total Points	1,549	1,940	2,217	
CRS Class	8	7	6	

422.c – NFOS (Natural Functions Open Space)

NFOS1 (1822.20 Ac) – The attached spreadsheet titled “2015 Town of Greece OSP and NFOS Credit” includes a breakdown of which OSP parcels are claimed for NFOS1 credit. NFOS1 credit is also labelled on the attached “2015 Town of Greece OSP Impact Adjustment Map”, adjacent to the associated blue “OSP ID” number.

Calculations - GIS analysis resulted in the following values and calculations:

$$\text{rNFOS1 (.64)} = \frac{\text{aNFOS1 (1822.2)}}{\text{aSFHA (2851.66 Ac)}}$$

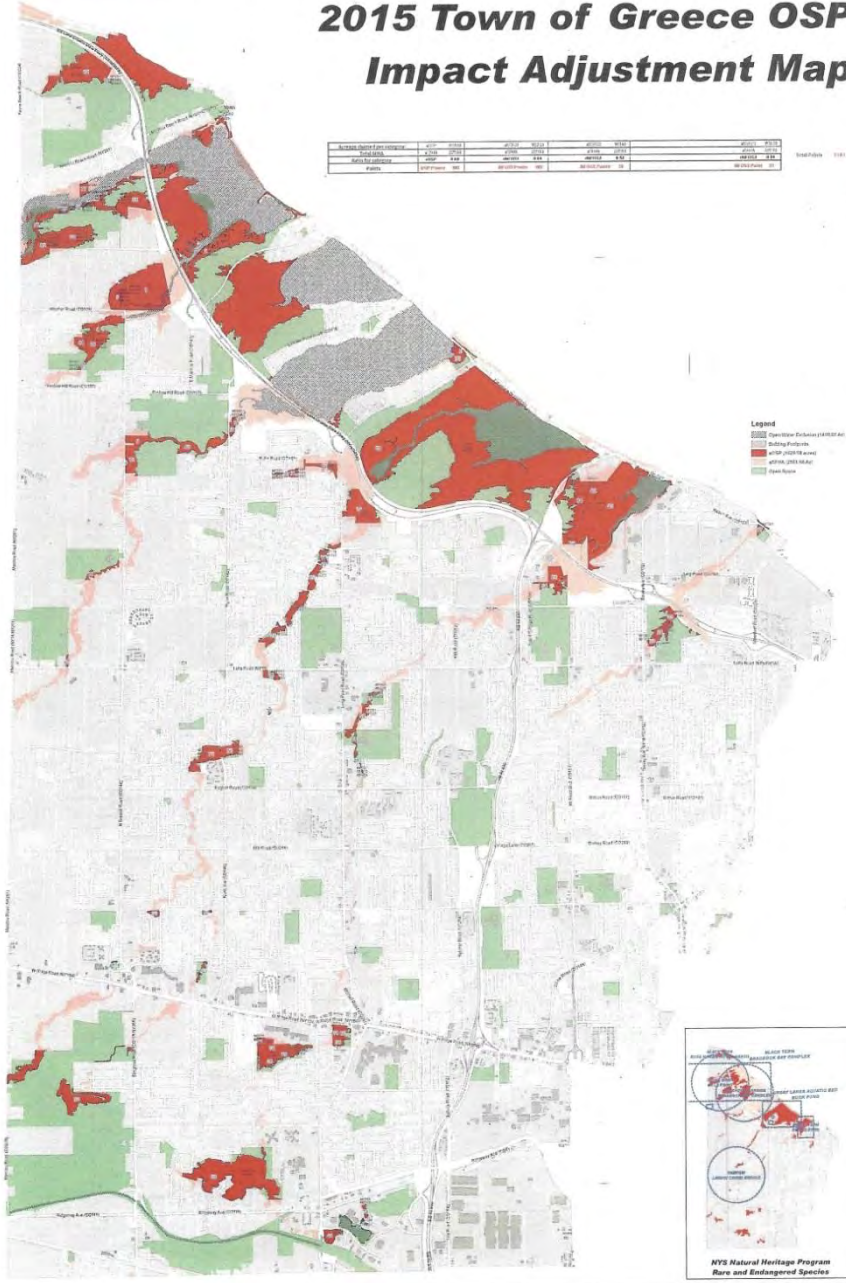
$$\text{cNFOS1 (1.09)} = [\text{rNFOS1 (.64)} \times 170]$$

Discussion -

- Over half of Greece’s NFOS1 acreage lies in the NYSDEC Braddock Bay Wildlife Management Area, managed under the Braddock Bay WMA Management Plan. The Braddock Bay area is a regionally significant wildlife habitat, especially in terms of migratory song birds, waterfowl, and raptors. The WMA is managed to maintain the existing wetland habitat and hydrologic regime. The WMA Management Plan is attached, along with a map of the WMA.
- The Town of Greece partners with NYSDEC to manage the Braddock Bay WMA. A number of town-owned properties are managed under the WMA plan, including the Bisig and Buttonwood parcels which are included in the aOSP with NFOS credits. These properties were purchased by the town with New York State Environmental Protection Fund open space grant money, which restricts development indefinitely.
- Several hundred acres are maintained in their natural state under the Town of Greece Stormwater Management Plan. These riparian buffers and regional stormwater management facilities are maintained in their natural state specifically for the intent of mitigating flood hazards and maintaining water quality. Note that certain stormwater facilities (#30 – Ridgemont Estates pond for instance) are claimed for OSP credit but not for NFOS credit; these particular parcels are managed for flood control and water quality purposes but are mowed regularly and therefore are not maintained in a “natural state”.
- A portion of the NFOS1 acreage is managed to be retained in its natural state under the town’s 2015 Parks Master Plan. The Parks Master Plan recommended no improvements in the OSP portions of any town parks. OSP portions of parks like Badgerow Park and Sawyer Park will continue to be maintained in their natural state, as they have been for decades. Note that other parks (#5 - Goodwin Park for instance) are claimed for OSP credit but not for NFOS credit because OSP portions of that park are mowed regularly and therefore are not maintained in a “natural state”.
- A portion of the NFOS1 acreage is owned or managed by the Monroe County Parks Department and maintained in its natural state.
- A portion of the NFOS1 acreage is owned and maintained as a nature preserve by the Genesee Land Trust. Genesee Land Trust is a non-profit organization whose mission is to preserve sensitive environmental lands. For more information visit <http://geneseeandtrust.org>

2015 Town of Greece OSP Impact Adjustment Map

Area Type / Category	2011	2012	2013	2014	2015	2016	2017
Total Area	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Open Space	300	300	300	300	300	300	300
Buildings/Infrastructure	400	400	400	400	400	400	400
Other	500	500	500	500	500	500	500



Legend

- Other (2015 OSP)
- Buildings/Infrastructure
- Open Space



ASCE Policy Statement 421 - Floodplain Management

The American Society of Civil Engineers (ASCE) urges governments at all levels to adopt proactive floodplain management policies that:

- Hold paramount the public's safety, health, and welfare.
- Protect and restore natural floodplains in situations where the benefit is greater than the costs.
- Enact and enforce land use policies, ordinances and building codes that consider life safety and account for increased risk due to development or major redevelopment of communities in floodplains.
- Inform residents and community planners of the risk associated development in the floodplain.
- Develop flood disaster mitigation and relief plans commensurate with residual risk.
- Develop and exercise flood disaster preparedness and evacuation plans commensurate with residual risk.
- Support creative partnering between federal, state and local governments to adopt floodplain management policies.
- Fund the design and implementation of floodplain management policies and flood mitigation projects.
- Incorporate the concept of building disaster resistant communities consistent with sustainable development.
- Encourage risk appropriate, multiple-uses of flood prone areas.
- Pursue nonstructural flood mitigation facilities, including river restoration and wetland restoration that include improvements in habitat, ecosystems, recreation and open space use.
- Incorporate floodplains into comprehensive watershed management programs.



John Gauthier, PE, CFM
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Flood Smart Communities

Stevie Adams, Freshwater Specialist, The Nature Conservancy

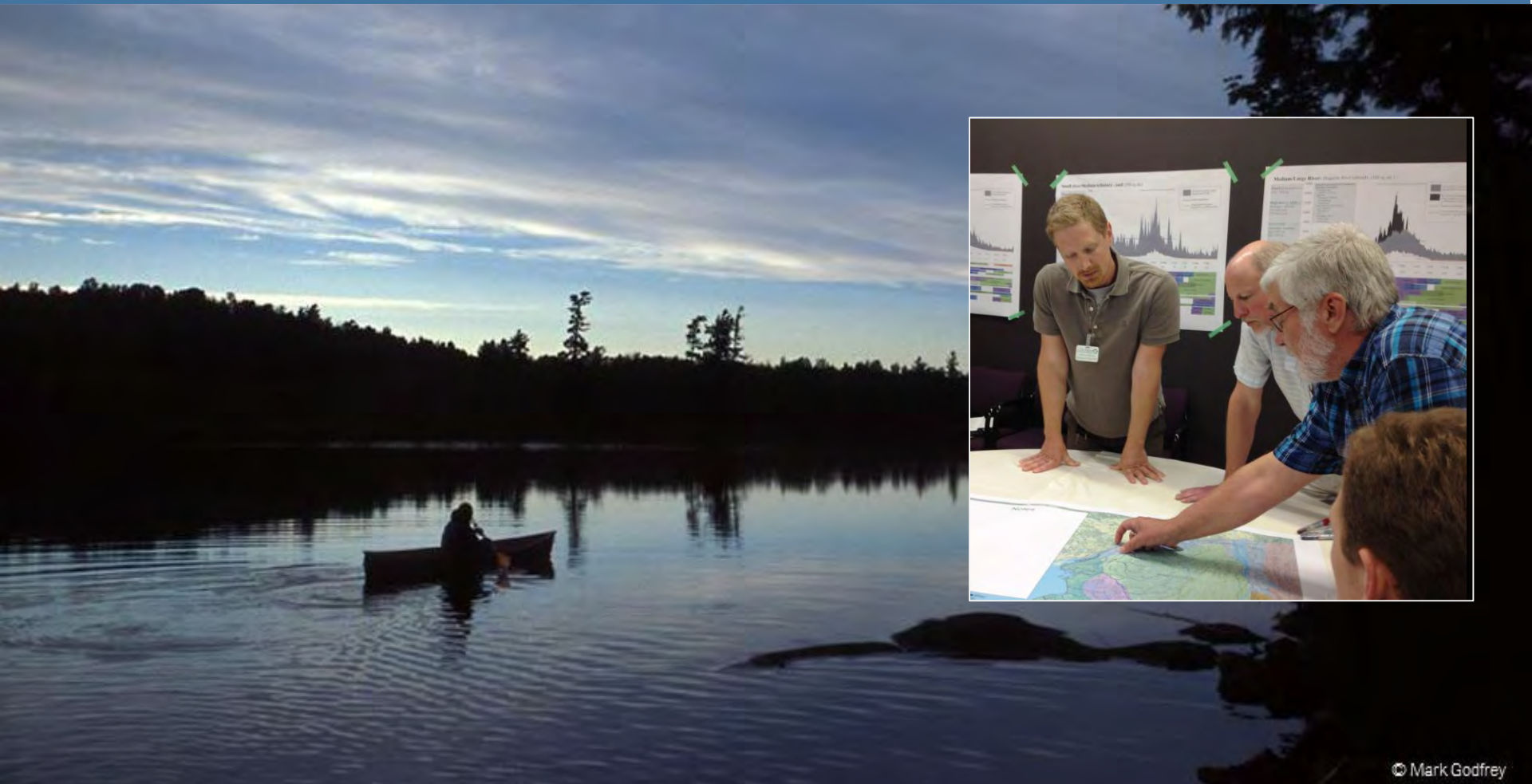


Funding provided by NOAA Coastal Storms Program through Ohio Sea Grant



To conserve the lands and waters on which all life depends.

We use science and partnerships to find solutions to environmental challenges.



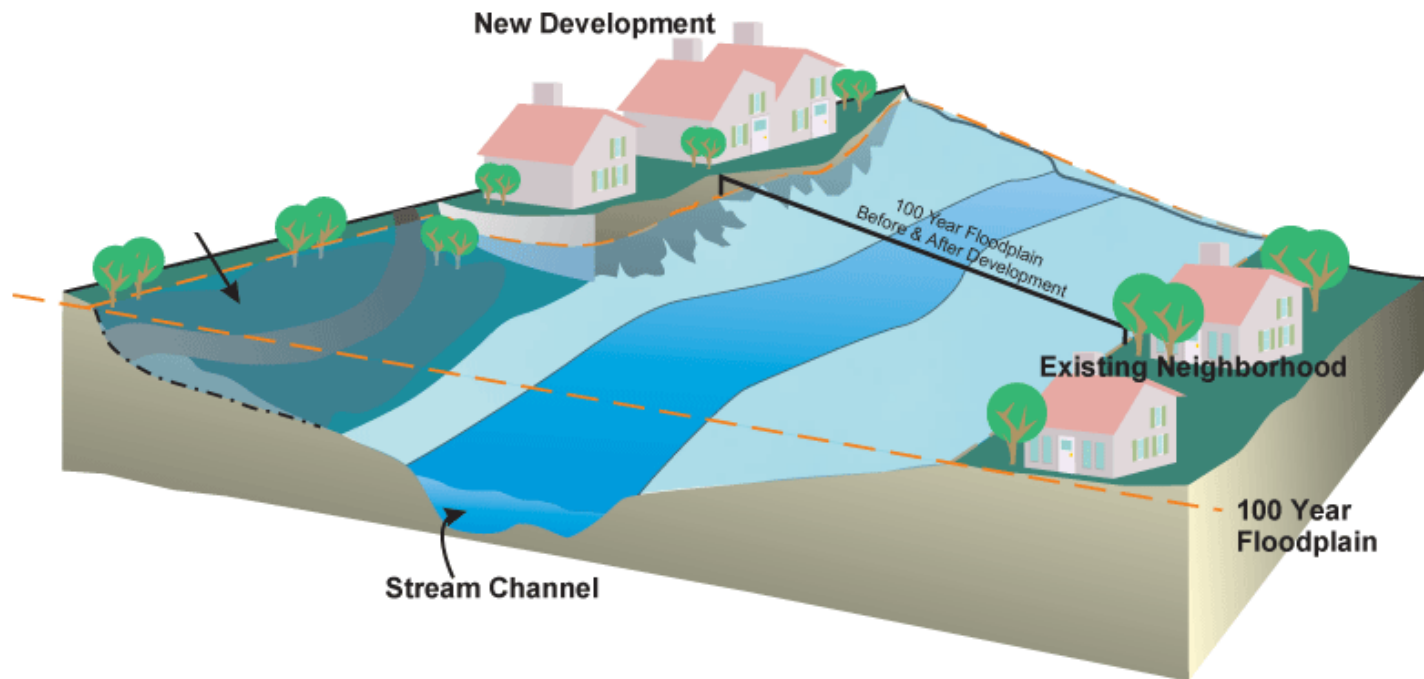
Functioning Floodplains



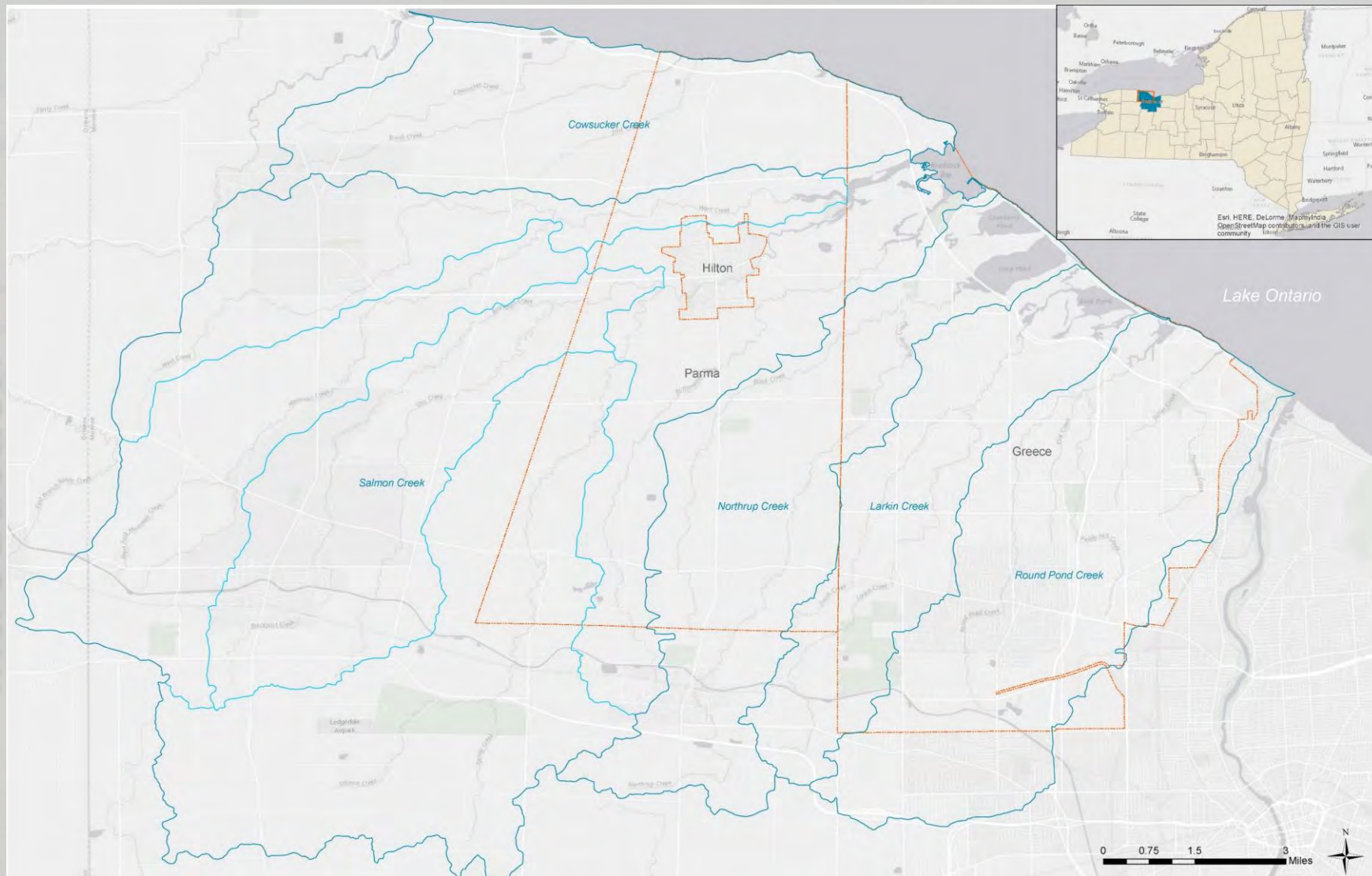
Functioning Floodplains

Conversion of natural floodplains can lead to:

- At risk development
- Reduced or eliminated flood storage of the floodplain
- Altered hydrology downstream



Introduction



Who We Are

Municipal representatives:

- Scott Copey, Planner, Town of Greece
- Paul Czapranski, Technical Services Coordinator, Town of Greece
- John Gauthier, Engineer and MS4 Permit Manager, Town of Greece
- Sue Duggan, Assistant to the Building Inspector, Town of Greece
- Mike Lissow, Code Enforcement Officer, Building Inspector and Fire Marshall, Village of Hilton
- Mike McHenry, Public Works Superintendent, Village of Hilton
- Dennis Scibetta, Building and Development Coordinator, Town of Parma

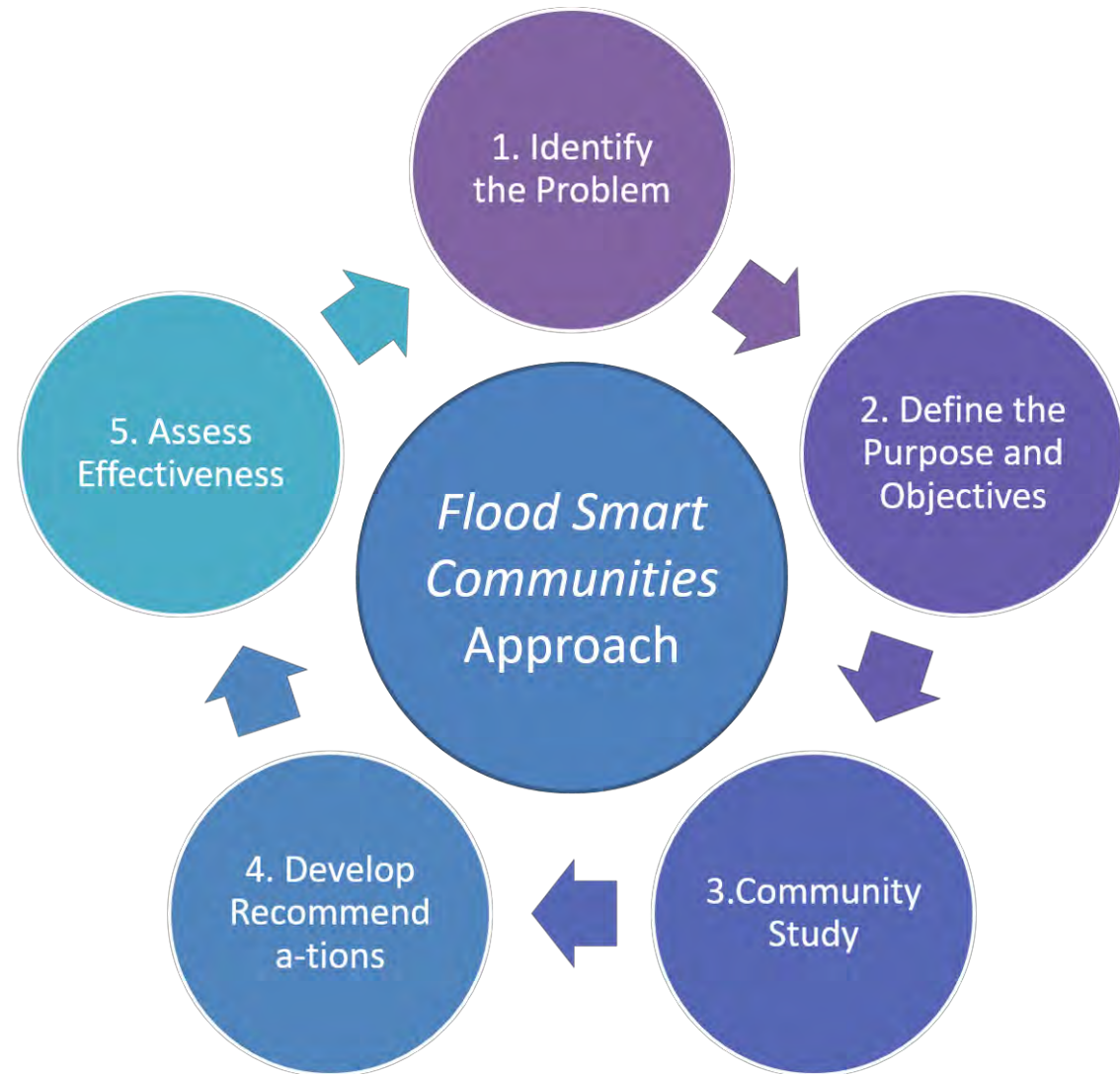
Study team:

- Stevie Adams, Freshwater Specialist, TNC
- Jayme Thomann, Senior Planner, G/FLRPC
- Dr. Kathryn Bryk Friedman, Research Associate Professor of Law and Policy, UB
- Ha Hwang, PhD Candidate, UB
- Sharon Entress, Associate Director of Research, Regional Institute, UB
- Brian Conley, GIS Research Analyst, Regional Institute, UB



The Flood Smart Approach

- Watershed approach to floodplain management
- Community-specific assessments
- Systematic decision making



The Flood Smart Approach

1. Identify
the Problem

Describe Flooding

What kind of flooding

What are the causes and impacts

Community Resilience Building Workshop - Key stakeholders identify top flood hazards, current challenges, strengths, and priority actions

2a. Define the
Purpose and
Objectives

Statement of purpose

What do munis want to get out of project?

What are their constraints?

What is in their power to influence?

The Flood Smart Approach

2b. Define the Purpose and Objectives

Objectives

What should the recommendations achieve?

3. Conduct Community Study

1. Land use and planning environment
2. Natural infrastructure
3. Findings from CRB Workshop
4. Vulnerability assessment to flooding
5. Road/stream crossing assessment
6. Barriers and challenges to flood risk management
7. Local and State policy gap analysis

The Flood Smart Approach

4. Develop
Recommen-
dations

Recommendations

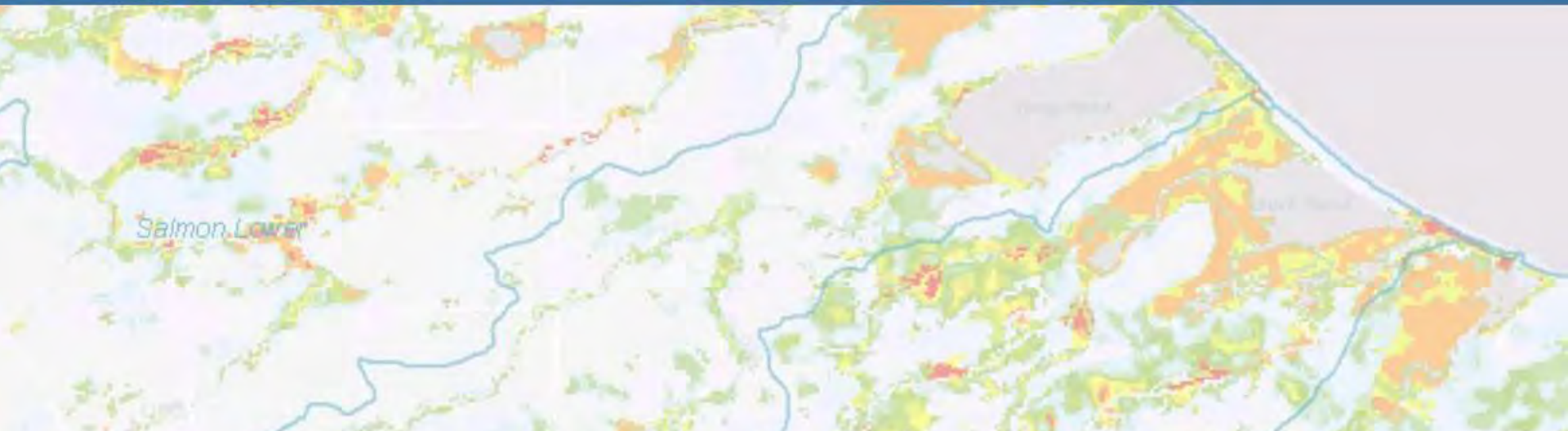
What actions can be taken to make communities more resilient to flooding (achieve objectives)?

5. Assess
Effective-
ness

Measure effectiveness of implementing recommendations and effectiveness of reducing vulnerability



The Community Study



Flooding Vulnerability Assessment

Physical

Soil, hydrological and topographic conditions

Social

Socioeconomic factors that indicate a higher risk of residents being impacted by flooding, weighted by population density

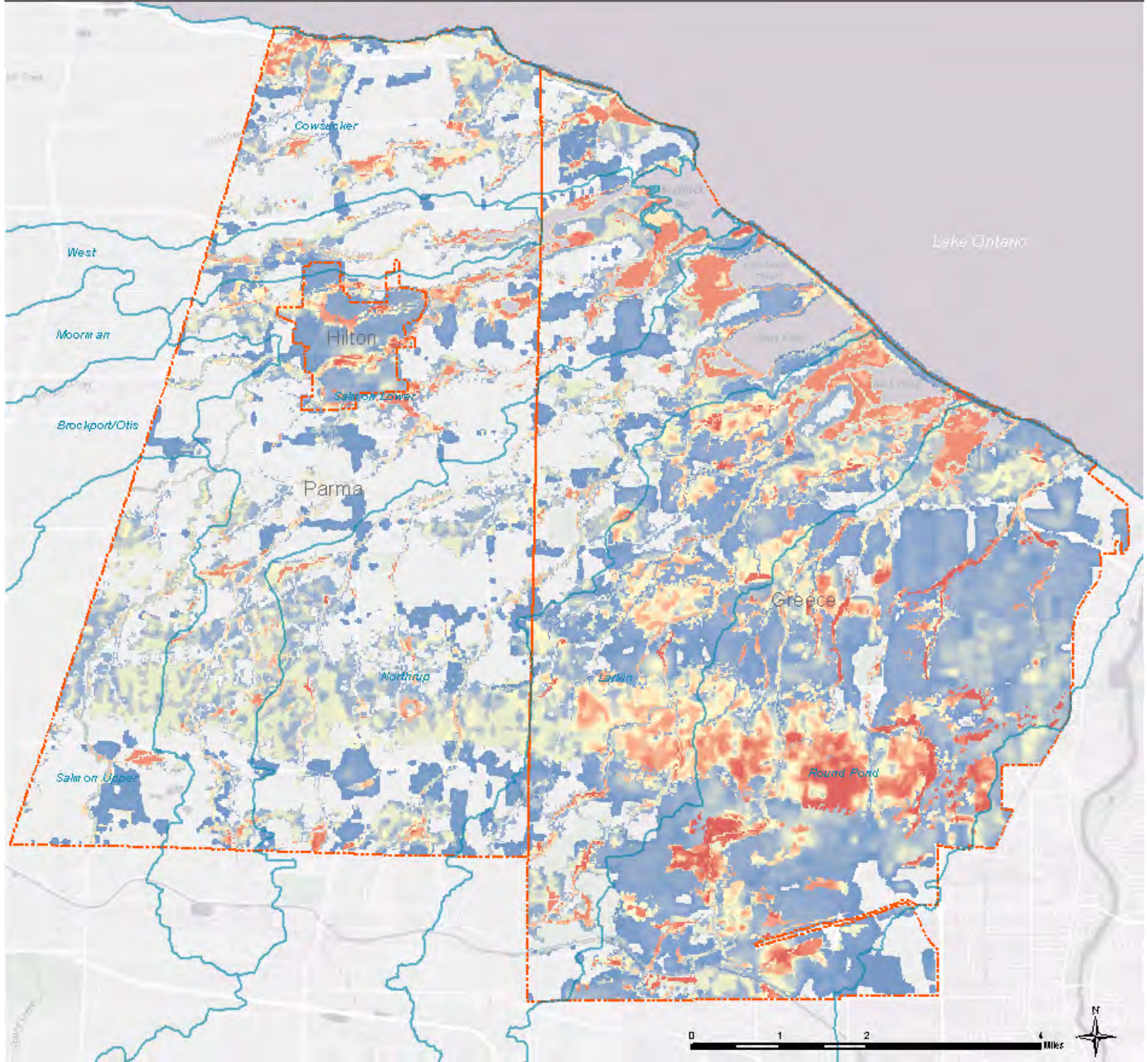
Structural

The number of structures located in floodplains and flood prone areas and certain characteristics

Economic

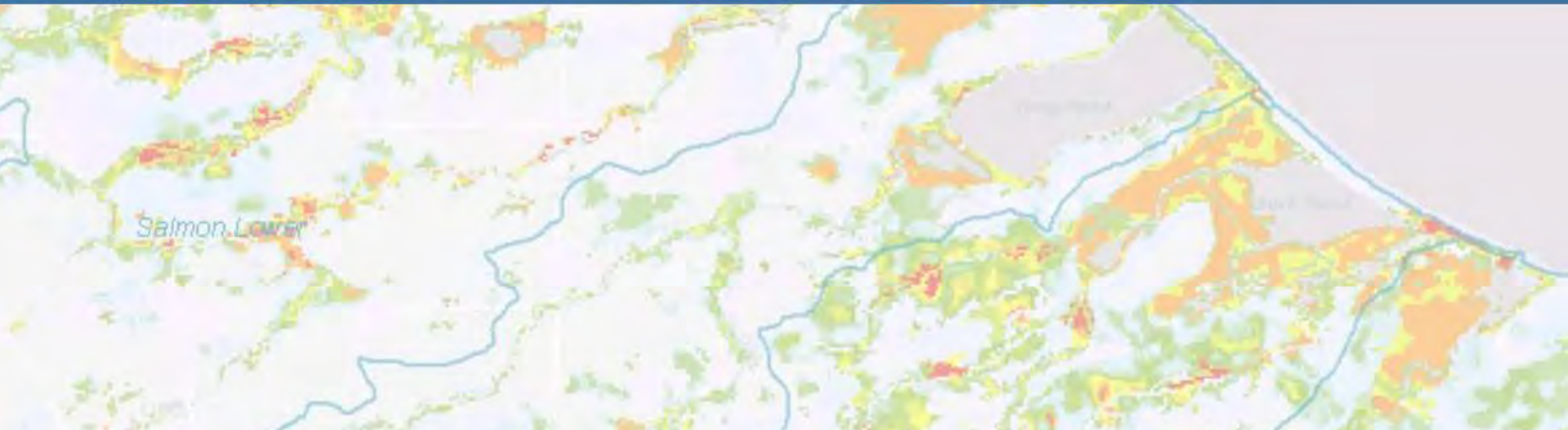
The value of structures, the contents within and the productivity of local workers and businesses

Composite Vulnerability to Flooding





The Recommendations and Implementing the Plan



The Recommendations

1. Convene intermunicipal work group

- Meets regularly
- Is responsible for implementing the Flood Smart Action Plan
- Provides a forum for communication and information sharing
- Builds and maintains partnership and collaboration between Greece, Parma, and Hilton and upstream municipalities

2. Develop training requirements or program for municipal boards

- Power to protect development from the impacts of flooding
- Empower member with information

3. Adopt intermunicipal floodplain protection overlay district (POD)

- Acknowledges the upstream-downstream connection of communities
- Requires additional and intermunicipal review of site plans for building permits
- Includes floodplains not mapped by FEMA

4. Strengthen local flood damage prevention laws

- Commit to higher standards that will better protect people and assets
- Can also secure more Community Rating System points which benefits community resilience and flood insurance policy holders

5. Convene agricultural interests

- Strengthen relationships with agricultural interests to protect this important component of the local economy
- Reduce flooding contributions from these lands.

The Recommendations

6. Educate at-risk property owners

- Help residents be more prepared so that they can respond to and recover from flooding more effectively

7. Prioritize and protect natural infrastructure

- Helps reduce impacts of flood events by storing water and releasing it more slowly to the stream network and groundwater
- Protect floodplains and wetlands that lie upstream of population centers so they continue to provide flood attenuation services

8. Share data with municipalities and the public

- Compiling GIS data and other data produced during this project
- Make info available to the public so it can be used in decision making
- Improve communication by providing the same info to everyone

9. Utilize the Community Rating System

- A voluntary incentive program to exceed minimum NFIP requirements
- Improve public safety, reduce property loss, protect open space and natural resources, and recover better post-disaster
- A discount of up to 45% off flood insurance premiums

Implementing the Plan

1. Flood work group → Subcommittee of Stormwater Coalition of Monroe County
2. Training opportunities → Local Government Workshops and Silver Jackets inter-agency education opportunity and site visit
3. Floodplain Protection Overlay District → G/FLRPcC secured grant funds and is in midst of project to develop model local law
4. Local Flood Damage Prevention Law → Updating Comprehensive Plan
5. Educate property owners → Greece is working with H₂O Hero program to include flooding messages.
6. Prioritize Natural Infrastructure → Completed floodplain function assessment, map of priority areas for flood mitigation/abatement
7. Share data → Submitted grant proposals for statewide online mapper
8. Utilize CRS → Completed CRS Quick Check as a next step to application



Questions?

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For more information: <http://www.gflrpc.org/FloodSmartCommunities.htm>



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Questions?

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Webinar slides & recordings available at
<http://www.dec.ny.gov/energy/84359.html>

CSC Funding Programs:

<http://www.dec.ny.gov/energy/109181.html>

NYS Climate Change Sci. Clearinghouse:

<https://www.nyclimatescience.org/>

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