



New Flood Hazard Mitigation Programs and Resources in the NYC Watershed

2014 Schoharie Watershed WQ Summit

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- ❖ Storm of record within Watershed
- ❖ In some locations (esp. Greene) Irene was a 500 year storm
- ❖ Devastating to communities in Greene, Delaware, Ulster counties
- ❖ Prattsville, Margaretville, Windham particularly hard hit
- ❖ FHM Working Group Established, Agreement Reached Sept 21, 2012



❖ NYC-Funded Programs:

❖ NYC DEP Stream Management Program: \$10.1M

- ❖ Local Flood Analysis (LFA)

- ❖ Stream Management Implementation Program, FHM Category (SMIP)

❖ CWC's Local Flood Hazard Mitigation Implementation Program: \$17M

❖ NYC DEP's Flood Buy-out Program: \$15M

- ❖ Schoharie Watershed SMP
 - Greene County Soil and Water Conservation District
- ❖ Ashokan Watershed SMP
 - Ulster County Soil and Water Conservation District
 - Cornell Cooperative Extension of Ulster County
- ❖ Rondout-Neversink Stream Program
 - Sullivan County Soil and Water Conservation District
- ❖ Delaware Basin (East and West Branch Delaware Rivers) Stream Corridor Program
 - Delaware County Soil and Water Conservation District


For Contact Information: www.CatskillStreams.org

Local Flood Analysis:

A community-driven engineering analysis to identify the community's options to effectively reduce their flood risks.



LFA is Critical to Successful Mitigation

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- An aerial photograph showing a residential area that has been severely impacted by flooding. A wide, muddy river flows through the center of the scene, with large areas of brown silt and debris deposited on the banks. Several houses and buildings are partially submerged or surrounded by floodwater. The surrounding landscape is a mix of dense green trees and open fields. The overall scene conveys the scale and impact of the flooding event.
- ❖ Confirms the causes of flooding and hazards
 - ❖ Develops a range of mitigation alternatives
 - ❖ Evaluates & compares the technical effectiveness and the benefit - cost effectiveness of the alternatives
 - ❖ Develops a plan for mitigating flood hazards

Municipality:

- ❖ Establishes Flood (Hazard Mitigation) Advisory Committee
- ❖ Identifies their “Population Center” Planning Area(s)
- ❖ Establishes their Public Outreach Process
- ❖ Hires Consultant
- ❖ Reviews Engineering Analysis
- ❖ Selects Projects for Benefit Cost Analysis
- ❖ Identifies Final Projects for Funding Applications



Phoenicia, NY August 2011

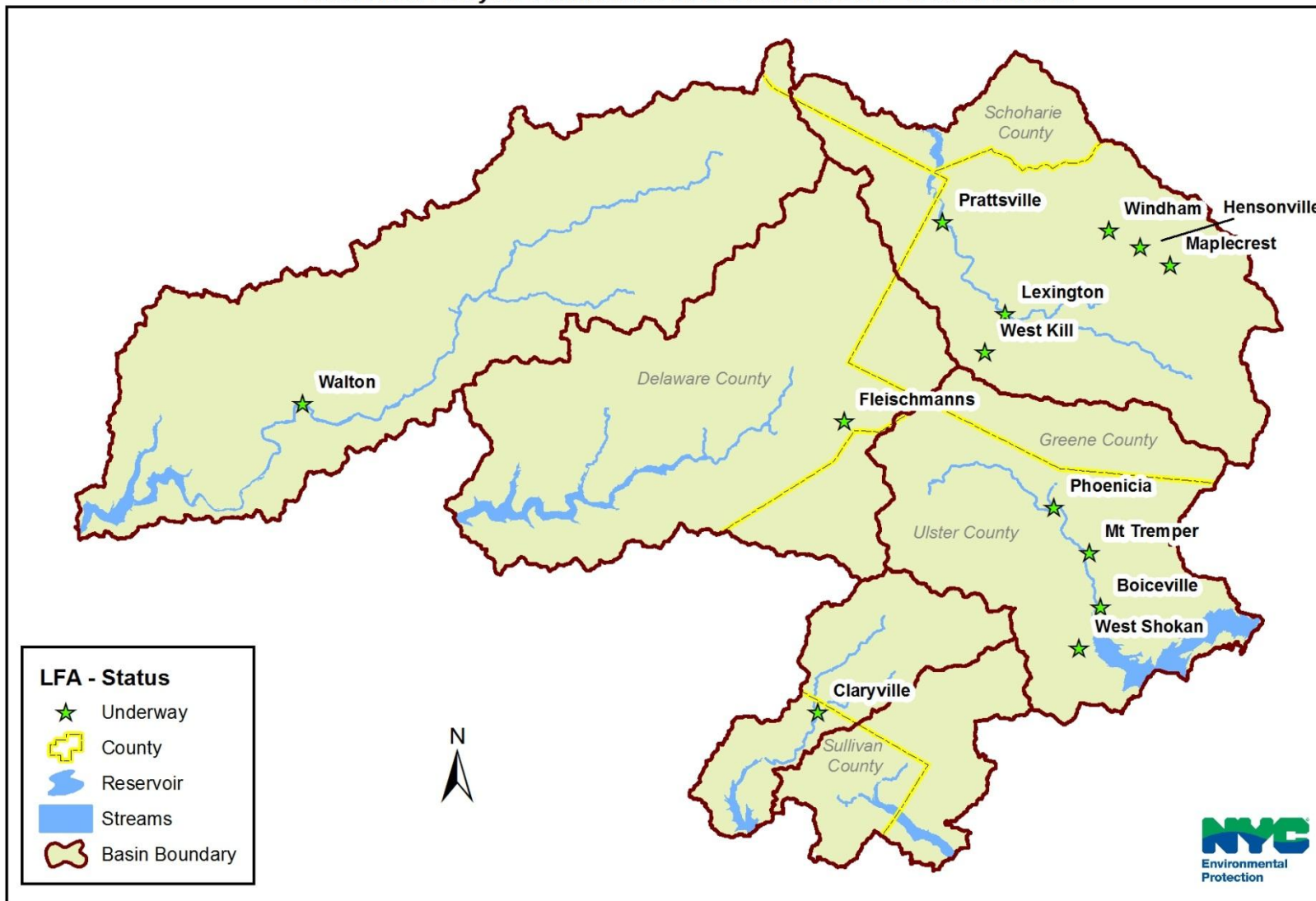
Local Flood Analysis is conducted in two phases:

- ❖ Phase I: Flood Engineering Analysis - Identifies the specific causes of flood inundation hazards in population centers.
- ❖ Phase II: Feasibility Analysis and Action Plan - Community chooses options for more detailed benefit cost analysis.

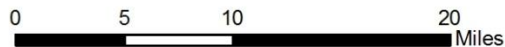
- ❖ Examples of Questions Addressed:
 - What are the relative costs of the modeled scenarios?
 - What are the relative water quality benefits?
 - How feasible are the scenarios?
 - How long will respective benefits last?

Local Flood Analysis – Active Areas

New York City DEP - Stream Management Program
Local Flood Analysis Communities as of December 2014 - West of Hudson



NOTE: GIS data are approximate according to their scale and resolution. They may be subject to error and are not a substitute for on-site inspection or survey.



DATA SOURCES: NYCDEP, 2014
Produced by SMP GIS (DD), 1/2015

Once projects are recommended by an LFA, they can seek funding from Federal, State and these Watershed funding programs:

- ❖ DEP SMP Stream Management Implementation Programs (SMIP)
- ❖ CWC's Flood Hazard Mitigation Implementation Program

Stream Management Implementation Grant Programs:

- ❖ Administered by the Schoharie, Delaware, Ashokan & Rondout - Neversink Stream Management Programs
- ❖ www.CatskillStreams.org

Eligible Projects for SMIP FHM Funding:

All projects must have a modeled off site flood reduction benefit or be a component of a larger LFA recommended project that was shown through LFA to have this benefit. BCR has to be ≥ 1 .

Projects include partial (and potentially full) funding for:

- ❖ Design and/or construction of floodplain restoration and reconnection.
- ❖ Design and/or construction of naturally stable stream channel dimensions and sediment transport processes.
- ❖ Design and/or construction of infrastructure modification to reduce water elevations and/or velocities.
- ❖ Design and/or construction of projects that address hydraulic constrictions.

Ineligible Projects for DEP SMP Implementation Funding:

- ❖ Structural control practices such as flood walls, berms and levees.
- ❖ Stream dredging or channelization.
- ❖ Projects where cost outweighs benefit.
- ❖ Projects consisting of routine annual maintenance.
- ❖ Replacement of privately owned bridges, culverts or roads.

Who Can Apply?

- ❖ Any municipality for one or more population center areas.

How to Apply?

- ❖ Contact your Stream Management Program Coordinator, information available at www.CatskillStreams.org.