

Discovery Report Appendix G

Discovery Meeting Presentation

Mid-Hudson Watershed

HUC 02020006

June 2017



FEMA

Federal Emergency Management Agency
Department of Homeland Security
26 Federal Plaza
New York, NY



FEMA

Discovery Meeting: Mid-Hudson Watershed

October 18th – 20th, 2016






Department of
Environmental
Conservation

RiskMAP

Increasing Resilience Together

Agenda

- Introductions
- Purpose of This Meeting
- Risk MAP Program Overview
- Discovery Process
- Flood Risk Products
- Mid-Hudson Watershed Data
- Mitigation Planning
- NFIP and Community Rating System
- Next Steps
- Discussion Session



Mid-Hudson Watershed Risk MAP Discovery Project

Join us in capturing a more complete picture of flood risk in your community and watershed.

The FEMA Risk MAP Program
Risk Mapping, Assessment, and Planning (Risk MAP) is the Federal Emergency Management Agency (FEMA) program that provides communities with quality flood maps and other tools they can use to enhance their mitigation plans and take action to reduce flood risk. As part of the Risk MAP program, FEMA, in partnership with the New York State Department of Environmental Conservation (NYSDEC), has started a Risk MAP Discovery project for the Mid-Hudson Watershed.

Mid-Hudson Watershed Discovery Project
The Discovery process of FEMA's Risk MAP program is about the "discovery" of flood hazards and flood risk in a particular watershed. As part of the Mid-Hudson Watershed Discovery project (map on next page), FEMA and NYSDEC will work closely with local communities and organizations to collect information about flooding issues and flood mitigation activities; flood mapping needs; recent development; and other issues related to flood risk. The Discovery process helps communities identify areas at risk for flooding and solutions for reducing that risk.

The project team is currently collecting watershed-wide data and will coordinate with local stakeholders to obtain additional data about flood risk. The information collected during this Discovery process will be used to develop recommendations for a future Risk MAP project that may be initiated if funding is available. Such a follow up project could include the creation of digital flood maps, risk assessment or mitigation planning assistance. The Discovery process does not necessarily mean that a new Risk MAP project will take place – instead, it is the process through which FEMA and NYSDEC learn about local flooding issues and prioritize the need for new studies.

Upcoming Discovery Meetings!
FEMA and NYSDEC are hosting five Discovery Meetings in your watershed soon. During the meetings, we will review the flood risk data collected, discuss your community's floodplains, mitigation plans, flood risk concerns, and the vision of the watershed's future. Attendees will be able to meet one-on-one with project team members to discuss local flooding issues, provide feedback on their community's existing floodplain maps and learn more about programs and activities that may help reduce flood risk.

Attend an Upcoming Discovery Meeting -
This is your opportunity to ensure that FEMA and NYSDEC are aware of local flooding issues and flood mapping needs. Make sure your community's voice is heard!

RSVP for any of the Mid-Hudson Watershed Discovery Meetings below by contacting Grace Vinson of the project team by email at gracevinson@clarkgroupplc.com or call (802) 917-0582.

Tuesday, October 18, 2016
9:00 AM - 11:30 AM
Greene County Emergency Training Facility
25 Volunteer Drive, Cairo, NY 12413

Tuesday, October 18, 2016
1:30 PM - 4:00 PM
Kingston Library, Training Room
55 Franklin Street, Kingston, NY 12401

Wednesday, October 19, 2016
1:30 PM - 4:00 PM
Albany County Cooperative Extension, Meeting Room
24 Martin Road, Voorheesville, NY 12186

Thursday, October 20, 2016
9:00 AM - 11:30 AM
Scholack Town Hall
265 Schuurman Road, Castleton, NY 12033

Thursday, October 20, 2016
1:30 PM - 4:00 PM
Columbia County Soil & Water Conservation District, Conference Room
1024 NY Route 66, Ghent, NY 12075



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Introductions

- ***FEMA Region II:***

- Justin Barnes
- Paul Hoole

- ***NYS DEC Support Team***

- Samara Ebinger, Dewberry
- Phil Hipley, Dewberry
- Grace Vinson, The Clark Group

- ***New York State Department of Environmental Conservation (NYS DEC)***

- William Nechamen – Chief of Floodplain Management Section
- Kelli Higgins-Roche – NYS DEC Project Lead
- Elizabeth Ketcham – Floodplain Management Coordinator
- David Sherman – Floodplain Management Coordinator
- Brad Wenskoski– Floodplain Management Coordinator

Who's Here?

- **State or Federal Representatives**
- **County Officials**
- **Local Communities**
 - CEOs/Elected Officials
 - Floodplain Administrators
 - Code Enforcement Officers/Engineers
 - Emergency Planners
- **Non-Governmental Organizations**
- **Private sector**
- **Other**



Purpose of This Meeting

- **Explain the Discovery process**
- **Share your concerns about flood risk**
- **Share any additional flood data you may have:**
 - Areas of recent or proposed development
 - Areas of historical flooding
 - Overstated or understated flood hazard areas
 - Areas of possible mitigation interest
 - Risk communication/training needs
- **Share your thoughts on which FEMA flood risk products / mitigation projects you would like in your community**



What is Risk MAP?

- **FEMA works with communities to develop flood risk products and flood hazard maps that are:**
 - Based on the best available data from the community and latest technologies.
- **You can use Risk MAP tools and data to:**
 - improve / implement your Hazard Mitigation Plans.
 - influence decisions about development, ordinances, and flood mitigation projects.
 - communicate with citizens about flood risk.



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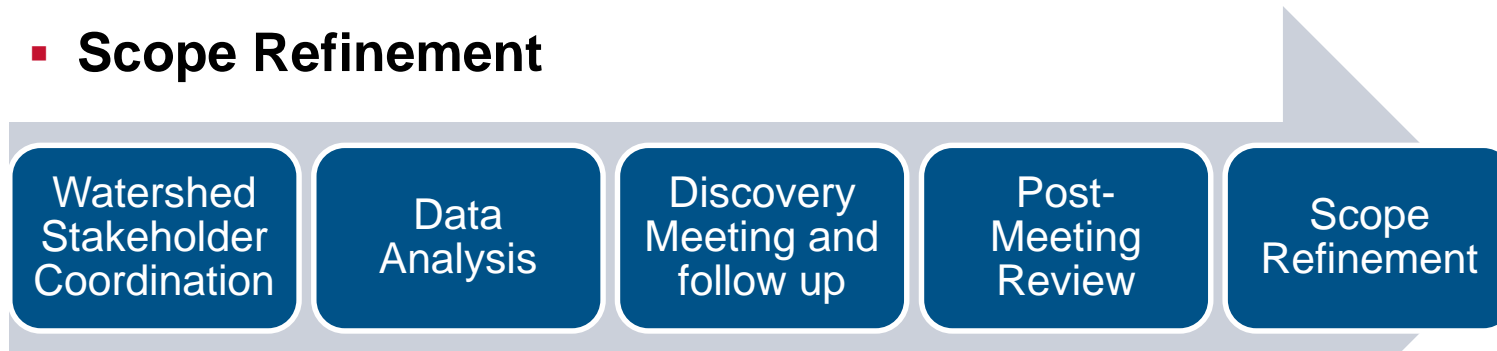
What is Risk MAP?

- **Our common goal: to maintain the sustainability of your community by increasing its resilience from floods and other natural hazards**



Discovery Process

- **FEMA and local communities/organizations “discover” and assess flood risk data**
- **Discovery Data Collection Period**
 - Stakeholder coordination and data analysis
- **Discovery Meeting**
 - Initial Discovery Maps and Report
- **Post-Meeting Review**
 - Final Discovery Map and Discovery Report
- **Scope Refinement**



Discovery Products and Results

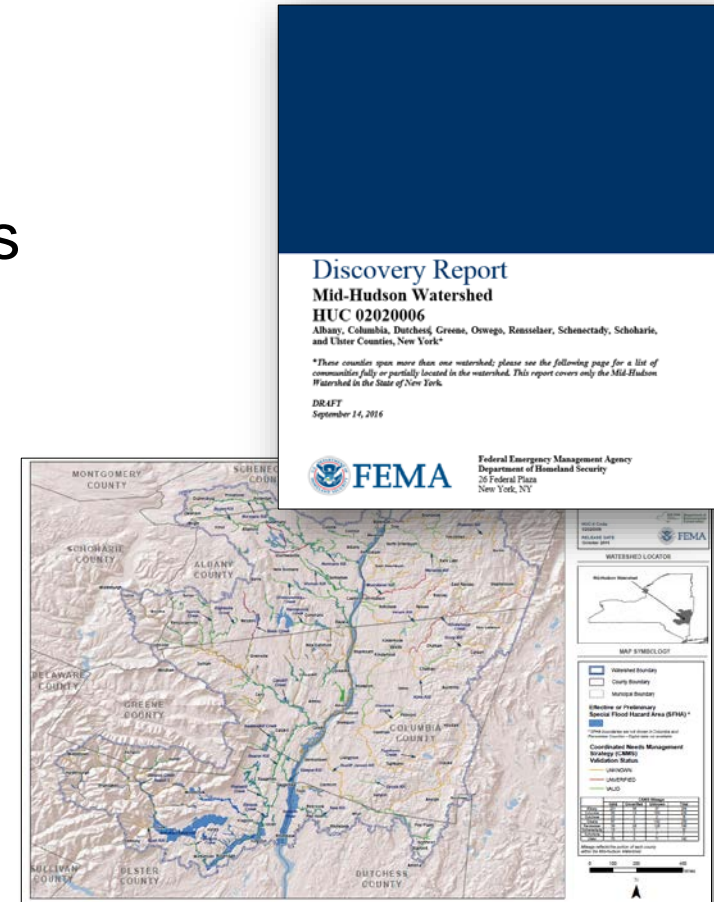
- **Discovery Report**

Including summary of data/needs, analysis, meetings, and action items or decisions

- **Discovery Maps**

Visual representation of data collected, including feedback from stakeholders

- **Recommended scope for future Risk MAP project (e.g., updated digital FIRMs)**



Flood Risk Products

Traditional Regulatory Products

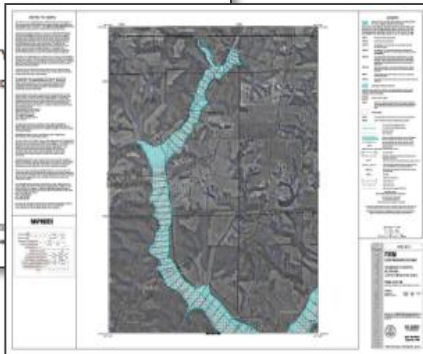
DFIRM Database

- Flood_Hazard_Data
- Political_Boundaries
- Public_Land_Survey_System
- TopoData
- Community_Panel
- L_Comm_Info
- L_MT1_LOMC
- L_Pan_Revis
- L_Pol_FHBM
- L_Riv_Model
- L_Stn_Start
- L_Wtr_Nm
- S_Bfe
- S_DOQ_Index
- S_Firm_Pan
- S_Gen_Struct
- S_Label_Id
- S_Label_Pt
- S_LOMR
- S_Perm_Bmk
- S_Quad
- S_Riv_Mrk
- S_Trnsport_Ar

FLOOD INSURANCE STUDY



FLOOD COUNT USA AND INCORPORATED

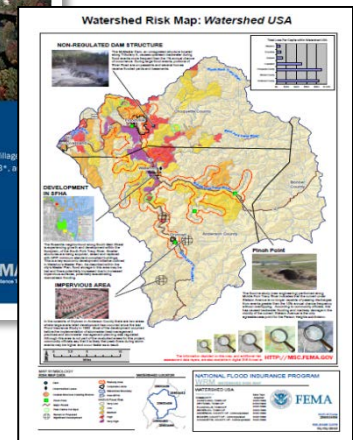
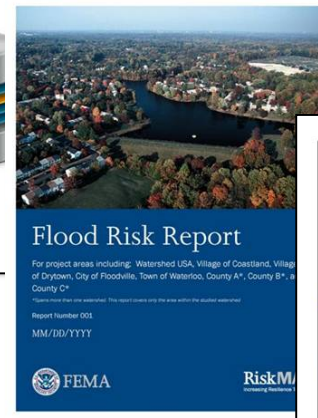


Traditional products are regulatory and subject to statutory due-process requirements

Non-Regulatory Products (new for Risk MAP)

Flood Risk Database

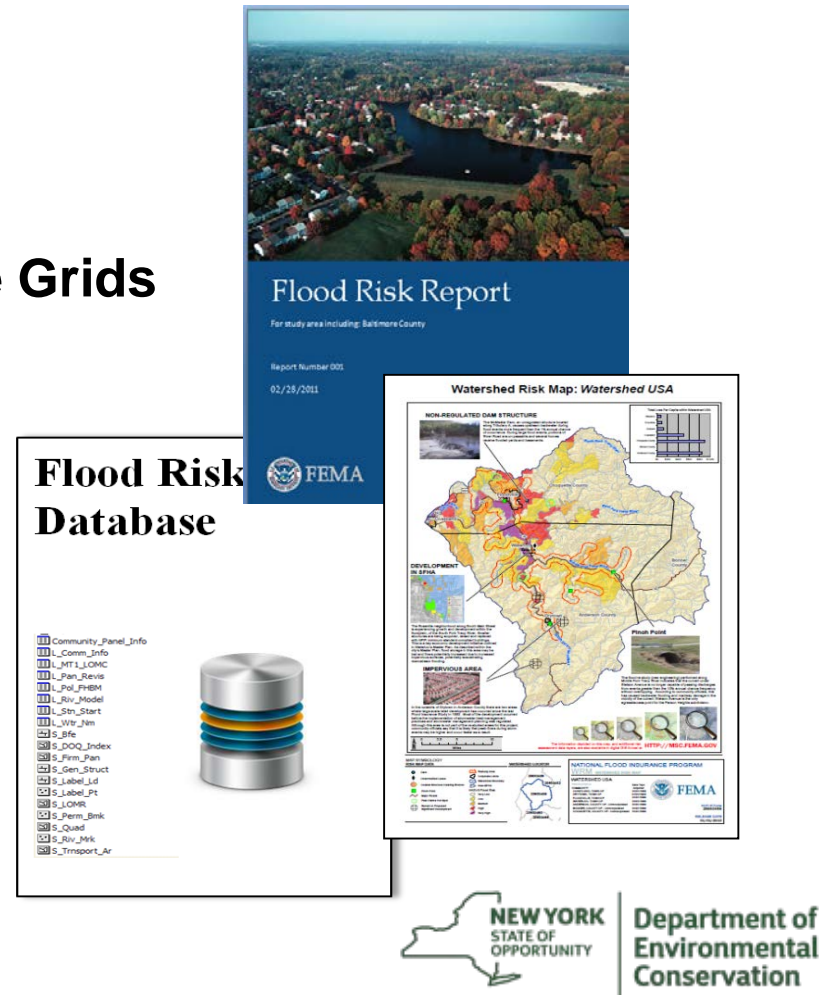
- Community_Panel_Info
- L_Comm_Info
- L_MT1_LOMC
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- S_DOQ_Index
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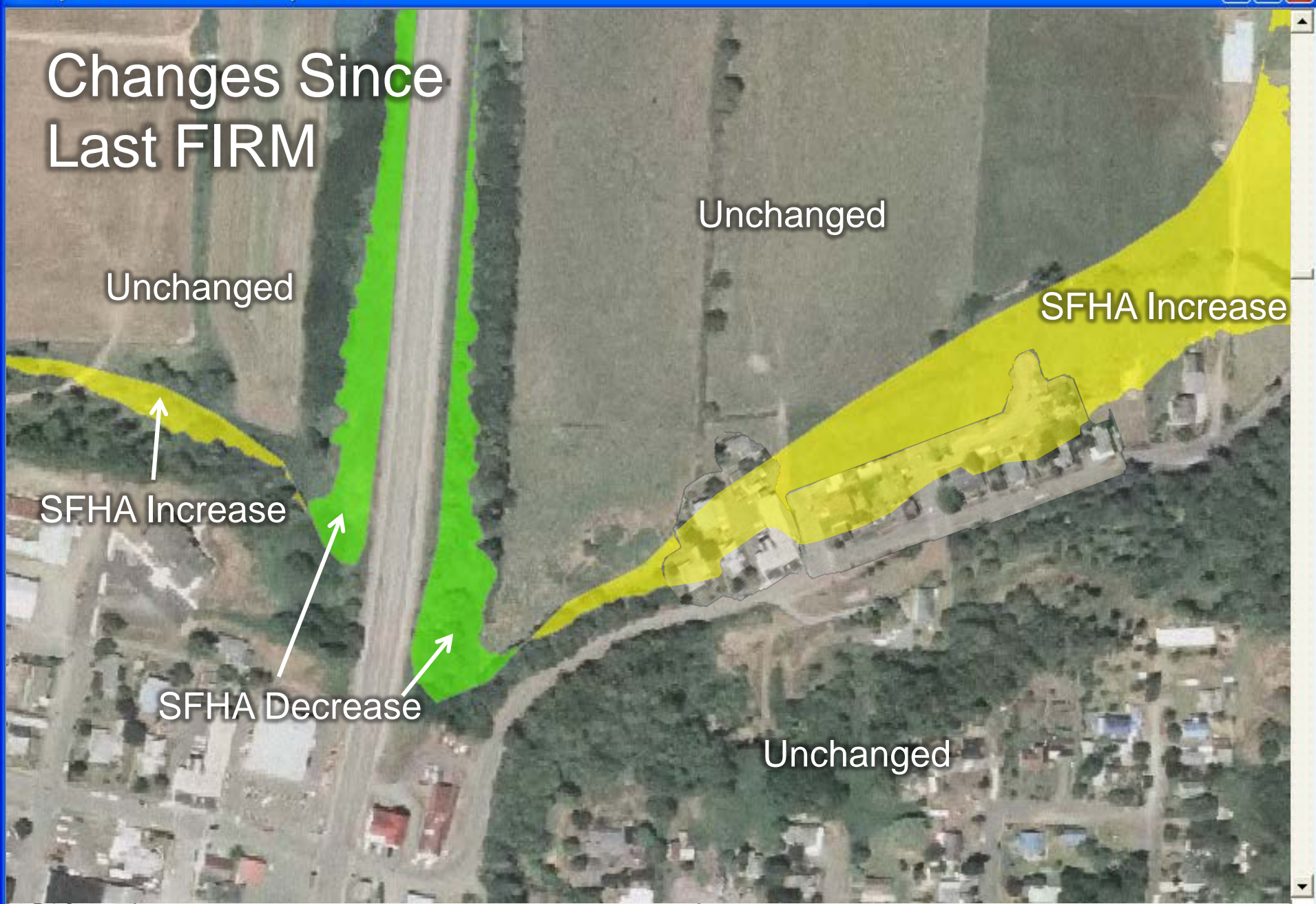
Risk MAP products are non-regulatory and are not subject to statutory due-process requirements

Non-Regulatory Flood Risk Products - Examples

- **Flood Risk Datasets**
 - Changes Since Last FIRM
 - Flood Depth Grids
 - Water Surface Elevation Change Grids
 - Areas of Mitigation Interest
- **Flood Risk Database**
- **Flood Risk Report**
- **Flood Risk Map**



Changes Since Last FIRM



Unchanged

SFHA Increase

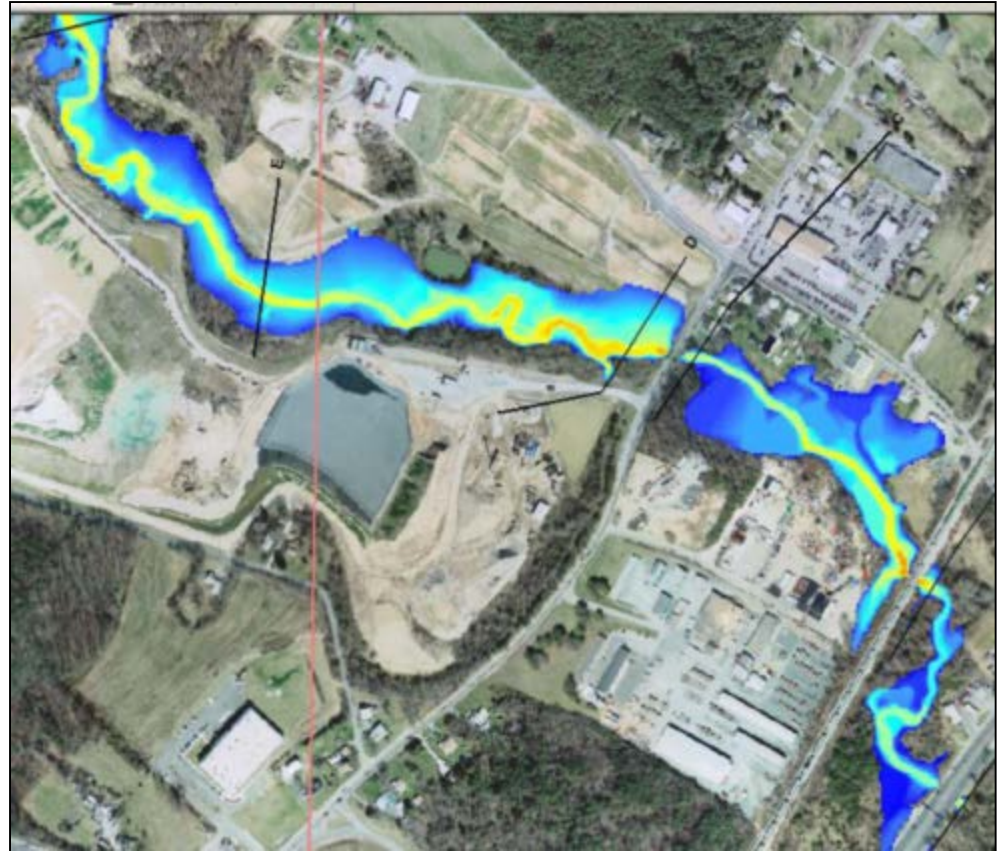
SFHA Increase

SFHA Decrease

Unchanged

Flood Depth and Analysis Grids

- Datasets that show depth, velocity, and probability of flood inundation as functions of event's magnitude
- Serves as key inputs to HAZUS Risk Assessment Analyses
- Increases flood risk awareness

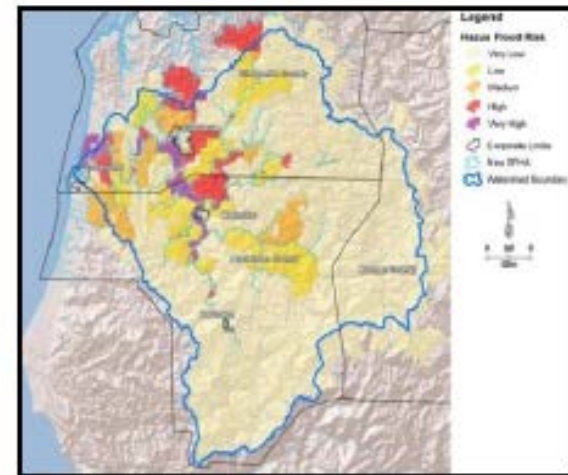


Flood Risk Assessment

- Identifies flood-prone areas and vulnerable people and property
- Provides estimate of potential damage



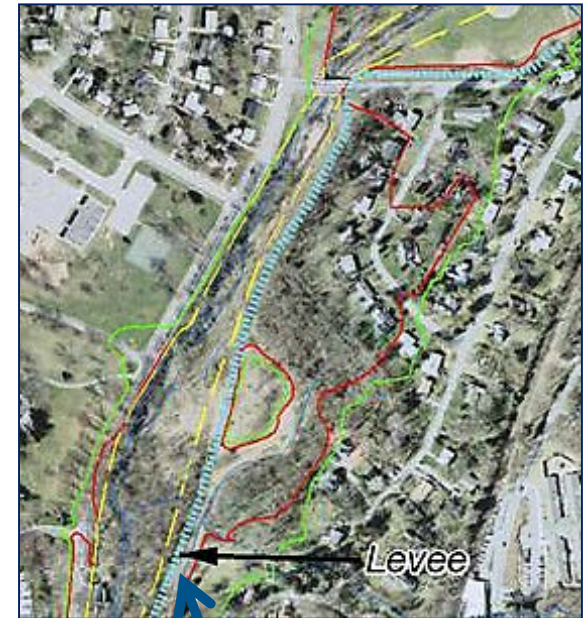
HAZUS MH



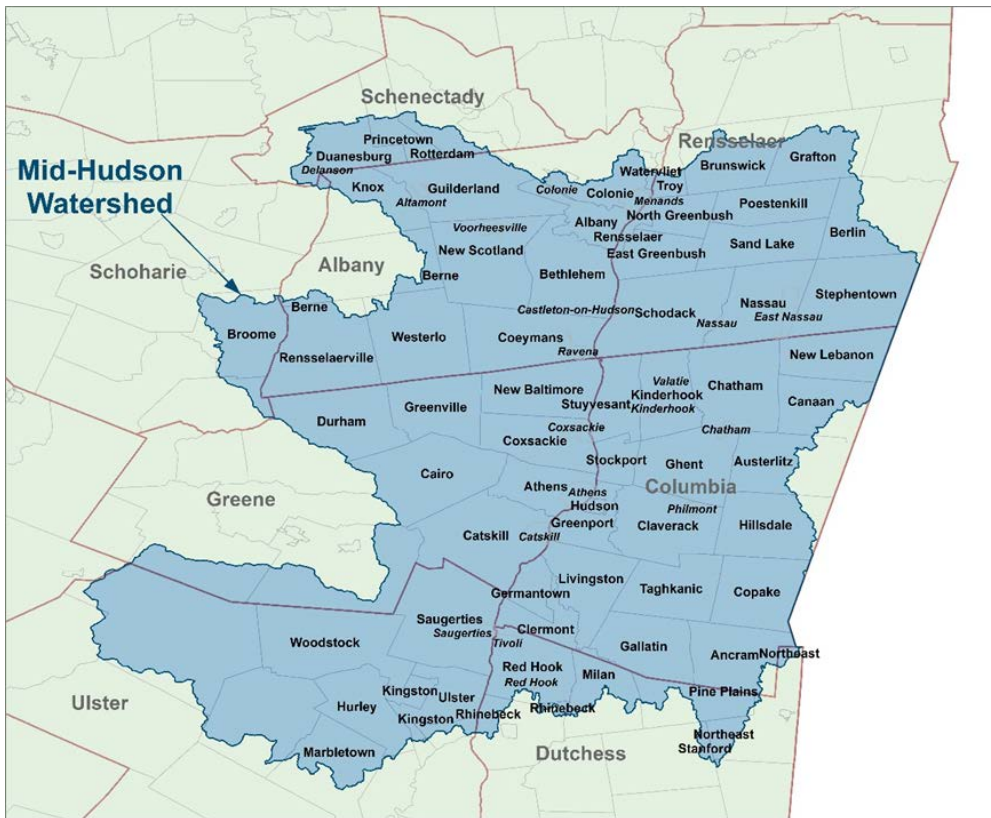
Flood Risk Assessment

Areas of Mitigation Interest

- **Dataset that shows items that may have an impact (positive or negative) on the identified flood hazards and/or flood risks**
- **Examples include:**
 - Riverine and coastal flood control structures (e.g. dams, levees, coastal berms, etc.)
 - At risk essential facilities and emergency routes that could be overtopped
 - Stream flow constrictions (e.g. undersized culverts and bridge openings, etc.)
 - Previous assistance and claims “Hot Spots” (clusters of IA and PA claims, RL)
 - Significant land use changes
 - Significant riverine or coastal erosion
 - Locations of successful mitigation projects
- **Enhanced/optional product**



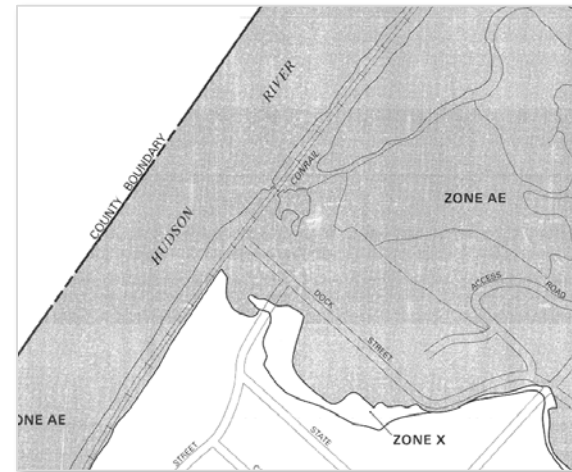
Mid-Hudson Watershed Discovery Project Area



- **8 counties**
 - Albany
 - Columbia
 - Dutchess
 - Greene
 - Rensselaer
 - Schenectady
 - Schoharie
 - Ulster
- **86 communities, including towns, cities, and villages**
- **Communities within the NYC West of Hudson Watersheds not included**

Why the Mid-Hudson Watershed?

- Severe flooding in the area in 2011
- FIRMs for certain communities are not yet digital
- Many flooding sources on digital FIRMs have not been recently restudied.



Recently Updated Stream Segments on area FIRMs: Albany County

Coeymans Creek
Dry River
Hannacrois Creek and Tributary
Krum Kill
Normans Kill and certain tributaries
Patroon Creek
Tributary to Bozen Kill

Recently Updated Stream Segments on area FIRMs: Greene County

Acra Tributary
Batavia Kill
Beaver Dam Lake
Broadstreet Hollow
Bushnellsville Creek
Catskill Creek
CD Lane Dam
Climax Tributary
Colgate Lake
Coxsackie Creek
Coxsackie Reservoir
East Branch Murderers Creek
East Kill
Gooseberry Creek
Hollow Tree Brook
Hudson River

Kaaterskill Creek
Lake Rip Van Winkle
Mitchell Hollow
Potic Reservoir
Red Kill
Reservoir Tributary
Sawmill Creek
Schoharie Creek
Schoharie Reservoir
Shingle Kill
Sleepy Hollow Lake
Stony Clove Creek
Tributary 4 to Shingle Kill
Tributary to Sawmill Creek
Trout Brook
West Branch Murderers Creek
West Kill

Recently Updated Stream Segments on area FIRMs: Ulster County

Alton Creek and Tributary

Beaver Kill

Birch Creek

Black Creek

Broadstreet Hollow

Bush Kill

Bushnellsville Creek

Cross Mountain Hollow

Dry Brook

Dwaar Kill East

Dwaar Kill West

East Branch Neversink River

East Branch Tannery Brook

Englishmans Creeks

Esopus Creek

Fox Hollow

Hudson River

Kaaterskill Creek and several
tributaries

Kate Yaeger Kill

Little Beaver Kill

Maltby Hollow Brook

Mara Kill

Mill Brook

Mink Hollow

Muddy Brook

Preymaker Brook

Rochester Creek

Rondout Creek

Sandburg Creek

Saw Kill

Shawangunk Kill

Shawangunk River

Stony Clove Creek

Stony Creek

Sundown Creek

Tannery Brook

Tributary 1 to Mill Brook

Tributary 1 to Rochester Creek

Twaalfskill Brook

Twaalfskill Creek

Unnamed tributaries (Town of
Hurley)

Verkeerder Kill

Vernooy Kill

Wagner Creek

Wall Kill

Wallkill River

Warner Creek

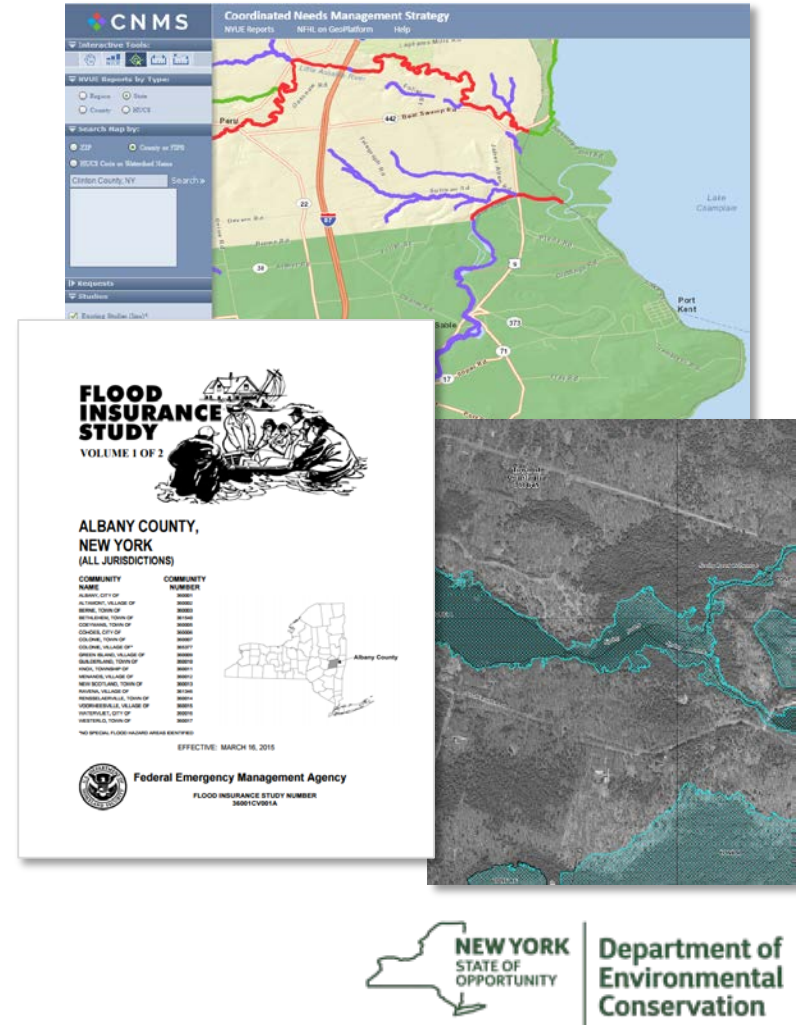
West Branch Tannery Brook

Woodland Creek and Tributary

Data Collection: Background Data

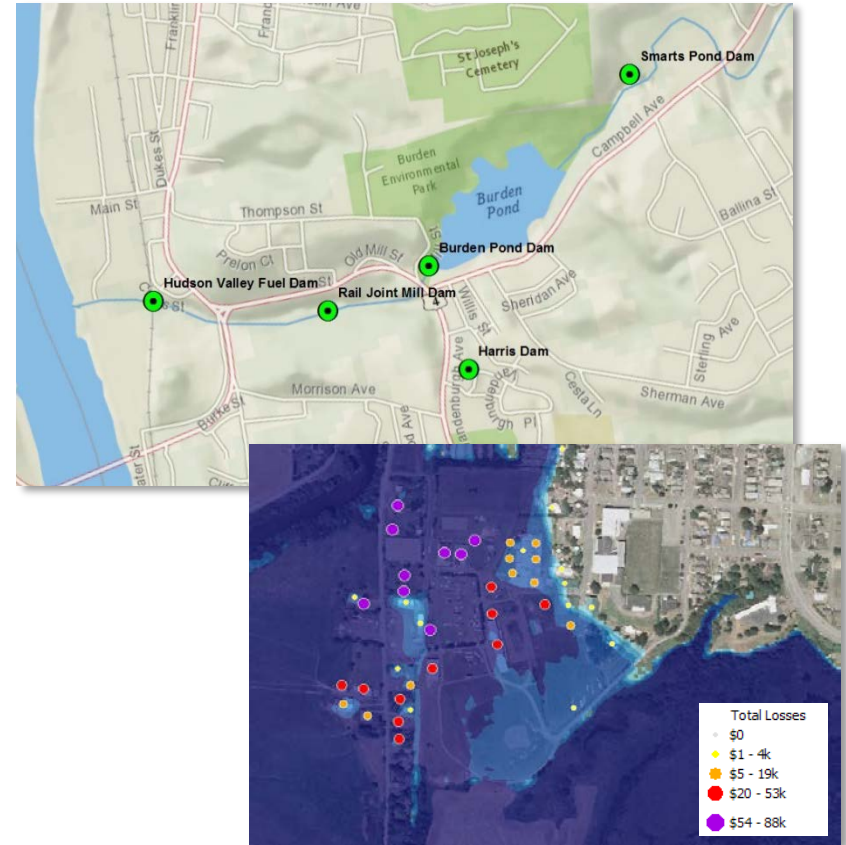
■ Flood Data

- FIRMS/DFIRMS and Flood Insurance Study reports
- Community Rating System class
- Stream/lake locations
- Repetitive loss data
- Flood insurance policies and claim information
- Letters of Map Amendment and Letters of Map Revision
- Clusters of Letters of Map Change
- Coordinated Needs Management Strategy information



Data Collection: Background Data

- **Census information**
- **Transportation features**
- **State & Federal lands**
- **Stream Gages**
- **Topography & Bathymetry**
- **Dams (GIS and Dam Specific Reports)**
- **Federal and State Disasters**
- **Additional Studies:**
 - Average Annualized Loss (AAL) information
 - FEMA-approved Hazard Mitigation Plans
 - Community Ordinances



What information do we need from you?

- Historical flooding problems
- FIRM inaccuracies
- Recent/ongoing mitigation projects/activities
- Recent or planned development activities
- Availability of GIS and other data
- Training needs



**Mid-Hudson Watershed: Risk MAP Discovery Project
Stakeholder Survey**

Thank you for taking the time to complete this Discovery Data survey. The Discovery process is designed to provide important information to help the Federal Emergency Management Agency (FEMA) and the New York State Department of Environmental Conservation (NYSDEC) better understand flood risk issues and mapping needs in the Mid-Hudson watershed, and to help you increase your community's resilience to flooding through implementation of the Risk MAP (Risk Mapping, Assessment, and Planning) program. Please answer any and all questions to the best of your ability and/or knowledge. Any response can help us assess the risks for your community.

A map of the watershed can be found at the end of this survey. The map shows the Mid-Hudson Watershed area and the jurisdictional areas included in the watershed.

Background
Discovery is the initial phase of a Risk MAP project, in which FEMA and NYSDEC work with local stakeholders to collect data and learn about unique issues in a watershed. This includes gathering information about current flood risk, historical flooding, flood mapping and analysis needs, and local mitigation activities. All information collected will be considered when developing recommendations for future Risk MAP projects. These projects may include the creation of revised flood analysis, maps, or other products that can be used to reduce local flood risk. The Discovery process does not necessarily mean that a new Risk MAP project will take place - rather it is a process by which FEMA and NYSDEC learn about the issues in a watershed and prioritize the need for new studies.

Discovery Meeting
After compilation and evaluation of survey responses, a series of in-person Discovery meetings will be held within the watershed in the summer or early fall of 2016 to present and discuss the preliminary results, as well as provide an additional opportunity for input.

Completing and Sharing This Survey
We respectfully request that you complete the survey by June 6, 2016 in order for the Discovery team to develop preliminary materials to be reviewed during the in-person Discovery meetings with affected stakeholders. If you have any questions about FEMA's Discovery process or about completing this survey, please contact the NYSDEC Floodplain Management team at floodplain@dec.ny.gov. If you believe there are other stakeholders that should receive this survey, please provide their contact information to us and we will send them a copy.

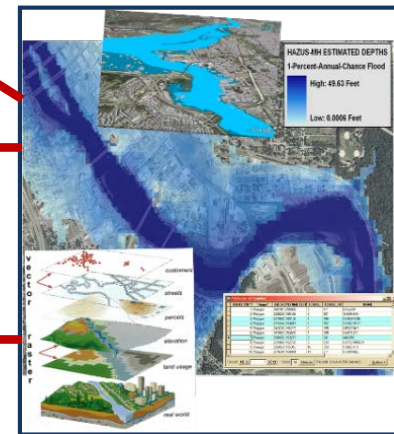
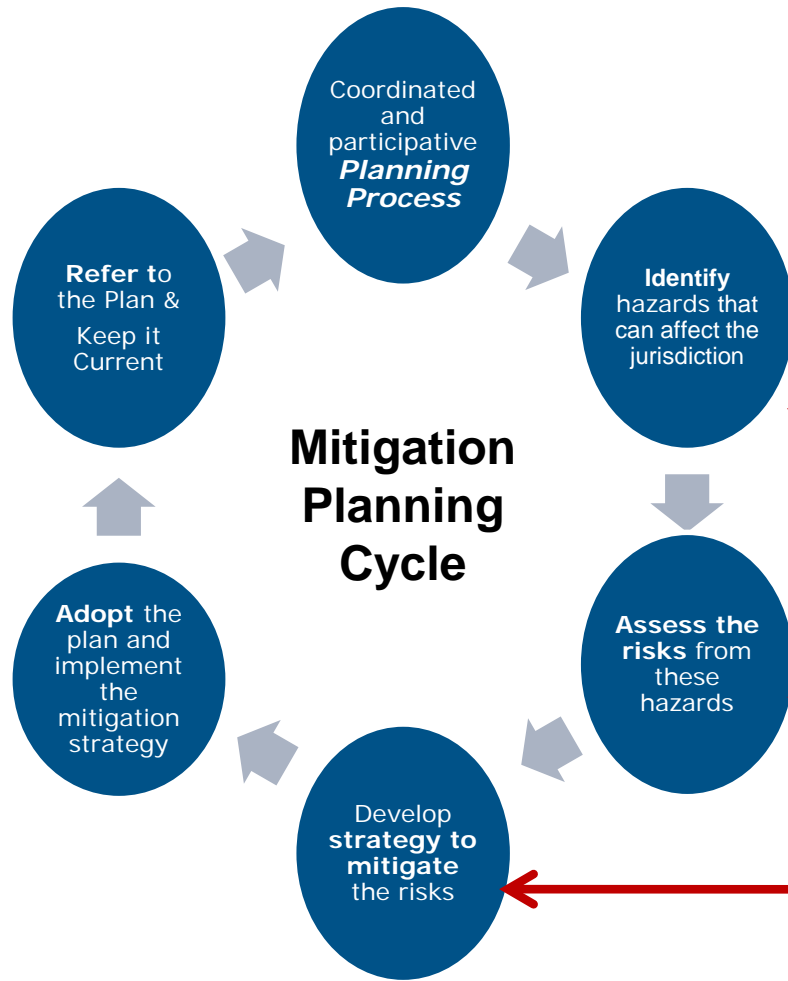
Sending us the Completed Survey
You may either complete the survey online at <https://www.surveymonkey.com/r/Mid-Hud> or instead mail or email your completed survey form to:

Samara Ebinger
Dewberry
8401 Arlington Blvd.
Fairfax, VA 22031
sebinger@dewberry.com (Email)

Hazard Mitigation Planning

■ Risk MAP and Mitigation Planning

- Local hazard mitigation plans must be updated every five (5) years.
- Use new Risk MAP information to update local HMP.
 - Flood Hazard Profile
 - Risk Assessment
 - Mitigation Strategy



Categories of Flood Mitigation Activities



Property Protection Measures

- Buy outs
- Flood proofing
- Relocation
- Structure elevation



Education and Outreach Measures

- Brochures
- Booths at fairs and festival
- Annual meetings



Prevention Measures

- Flood ordinance
- Stormwater programs
- Building codes



Natural Resource Protection Measures

- Wetland and stream restoration
- Riparian buffer ordinances



Structural Project Measures

- Levees
- Dikes
- Floodwall
- Culvert replacement
- Bridge Replacement
- Stream maintenance



Emergency Services Measures

- Reverse 911
- Swift water rescue equipment



Possible Mitigation Activities

Mitigation should be part of overall hazard mitigation plan

- 2 foot of freeboard for new structures.
- Cumulative substantial improvement clause.
- List of publicly owned buildings that have flood risk.
- Acquisition of flood prone structures.
- County GIS system.
- Update weather tracking equipment.
- Stream bank stabilization projects.
- Identify sanitary sewer mains vulnerable to erosion from flood.

- Adopt a wellhead protection ordinance.
- Vulnerability assessment of water and wastewater infrastructure.
- Elevate, move and acquire flood damaged structures.
- Identify vulnerable critical facilities.
- Implement mitigation measures for repetitive loss properties.
- Require elevation of new structures and substantially improved structures.
- Natural stream restoration.

Mitigation Grant Programs (FEMA)

- **Hazard Mitigation Grant Program (HMGP)**

Available after a major disaster declaration - the amount of funding is 15% of the total federal assistance provided by FEMA for disaster recovery under the major disaster declaration.

- **Pre-Disaster Mitigation (PDM)**

Nationally competitive grant program that funds cost effective, comprehensive mitigation activities that reduce injuries, loss of life, and damage to property.

- **Flood Mitigation Assistance (FMA)**

Provides funding to assist States and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the NFIP.

Mitigation Grant and Loan Programs

- NYS OEM Manages FEMA Mitigation Grant Programs
- NYS DEC: Stream Restoration and Water Quality Improvement Grants
- NYS Office of Community Renewal
- NYS Department of State
- NYS Environmental Facilities Corporation
- NYS Energy Research and Development Authority
- NYS Department of State Office of Communities and Waterfronts
- Corps of Engineers
- HUD
- NRCS

National Flood Insurance Program

- Allows property owners to purchase flood insurance at below market rates
- State and local governments agree to adopt and enforce floodplain management ordinances
- Over 20,300 communities participate in the NFIP
 - 1,490 in New York



Community Rating System (CRS)

- **Flood insurance premiums discounted to reward community actions that reduce flood losses and promote the awareness of flood insurance**
- **Class rating system from 1 to 10**
- **Each Class improvement (500 point increments) results in additional 5% discount**
- **Credits awarded for activities implemented at the state level**
- **19 creditable activities, organized under four categories:**
 - Public Information
 - Mapping and Regulations
 - Flood Damage Reduction
 - Warning and Response



Recommended Higher Standards

- Go beyond 2 feet of freeboard
- Restrictions on hazardous material storage
- Regulated high risk land uses (e.g. manufactured homes/critical infrastructure)
- Setbacks/Buffers
- Conservation/open space area
- Cumulative Substantial Damage/Substantial Improvement
- Lower threshold for Substantial Damage
- Subdivision design triggering flood study
- Prohibitions
 - SFHA development
 - Manufactured homes
 - Fill

Next Steps

- Local communities / organizations provide their input
- NYS DEC will:
 - finalize Discovery Maps and Discovery Report and distribute to local communities and other stakeholders
 - update FEMA systems (CNMS, National Digital Elevation/Orthophotography Programs, etc.)
 - prepare recommended scope of work for a future Risk MAP project based on prioritized needs

Contacts

NYS DEC Floodplain Management

518.402.8185

- William Nechamen

william.nechamen@dec.ny.gov

- Kelli Higgins-Roche

kelli.higgins-roche@dec.ny.gov

- Elizabeth Ketcham

elizabeth.ketcham@dec.ny.gov

- David Sherman

david.sherman@dec.ny.gov

- Brad Wenskoski

brad.wenskoski@dec.ny.gov

FEMA Region II

- Andrew Martin

andrew.martin@fema.dhs.gov

202.716.2721

- Justin Barnes

justin.barnes@fema.dhs.gov

202.322.6301

NYS DEC Support Team

- Samara Ebinger

sebinger@dewberry.com

703.849.0392

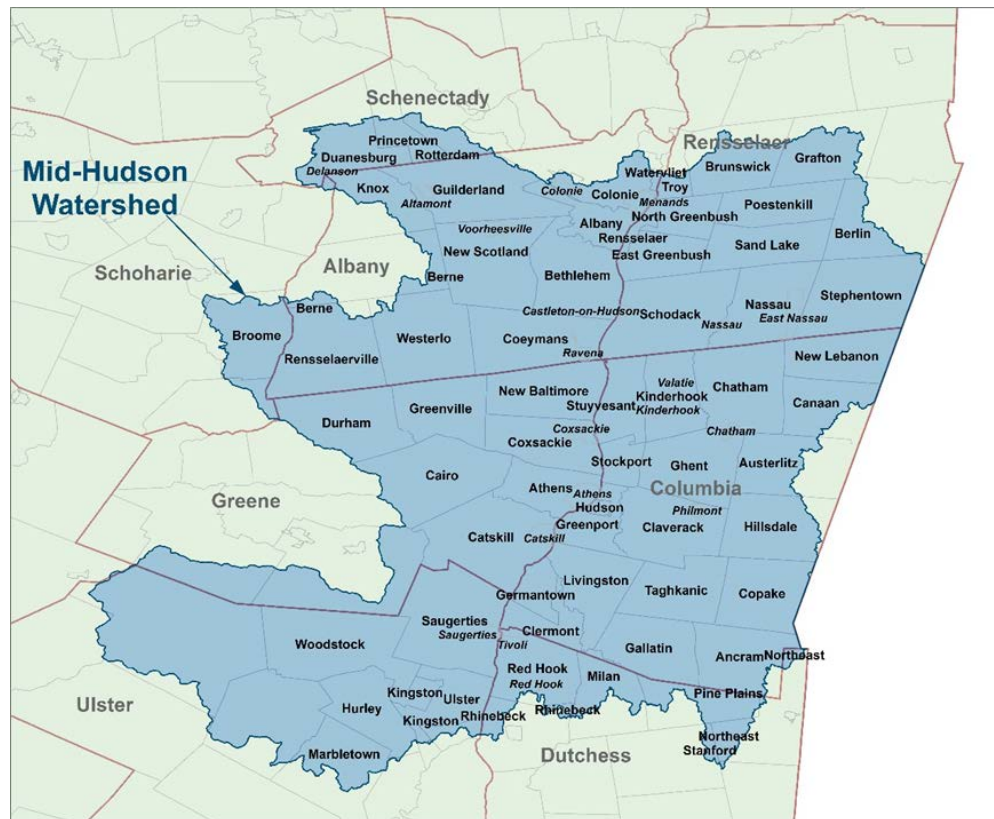
- Grace Vinson

gracevinson@clarkgroupllc.com

802.917.0582



Questions?



Break Out Discussion Sessions

We want to hear from you about:

- Historical flooding problems
- FIRM inaccuracies/needed updates
- Recent/ongoing mitigation projects/activities
- Recent or planned development activities
- Availability of GIS and other data
- Training needs
- Other flood-related concerns or issues