A Flood Mitigation Plan for the Non-Tidal N.J. Section of the Delaware River Basin

Delaware River Basin Commission
DELAWARE · NEW JERSEY
PENNSYLVANIA · NEW YORK
UNITED STATES OF AMERICA

Mercer County Planning Workshop (2nd Meeting)

March 6, 2007

Study Area Participation:

Hunterdon:

16 Eligible Municipalities

15 Statements of Intent

Mercer:

9 Eligible Municipalities

6 Statements of Intent

Sussex:

17 Eligible Municipalities

11 Statements of Intent

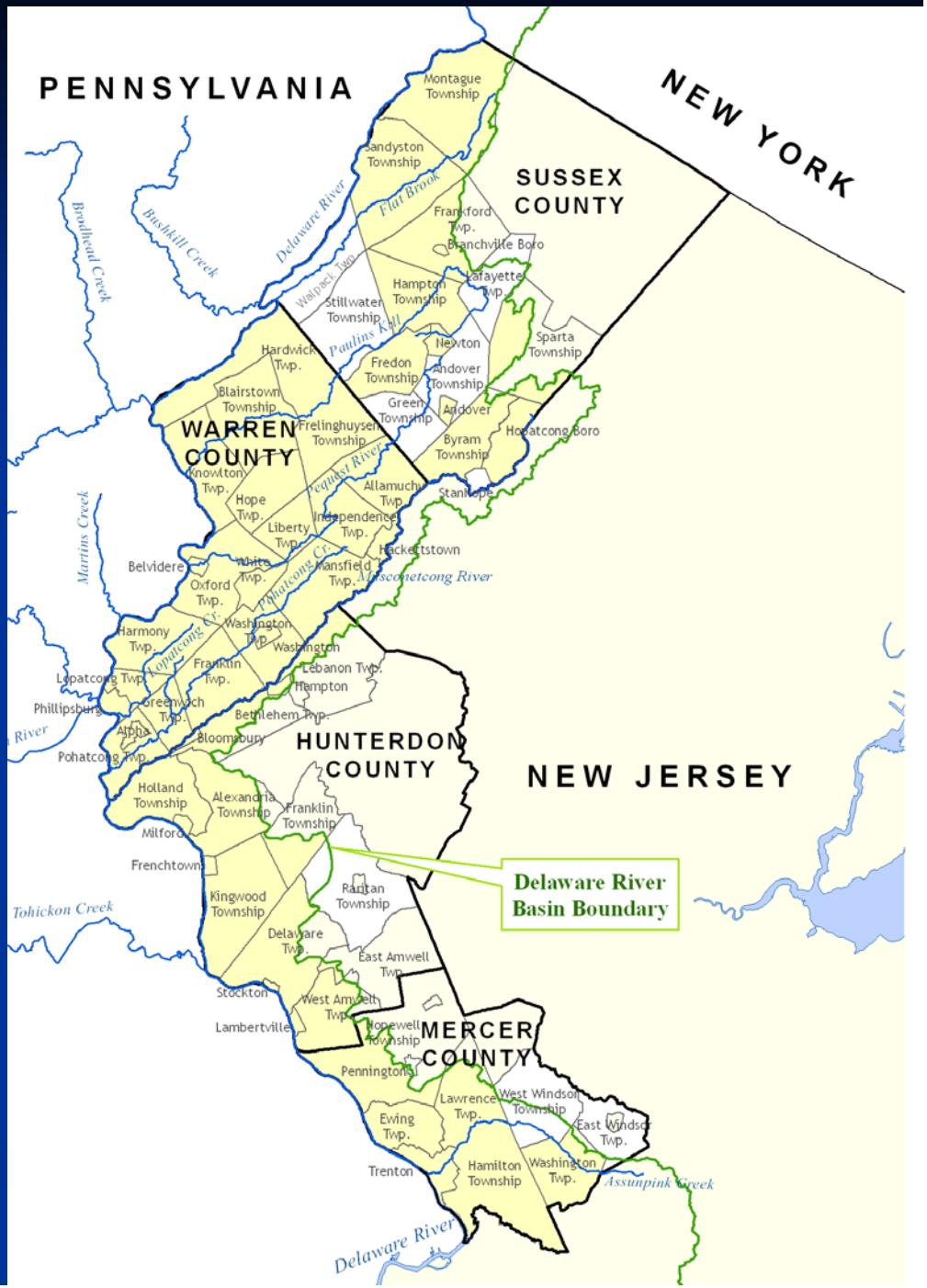
Warren:

22 Municipalities

22 Statements of Intent

Total Participating:

54 municipalities



Mercer County Participation

Municipality	Submitted Statement of Intent	Submitted Municipal Questionnaire	Attended County Kick-off Meeting
Mercer County			
East Windsor Township			-
Ewing Township	X		X
Hamilton Township	X		X
Hopewell Township	X	X	X
Lawrence Township	X	X	X
Pennington Borough			-
Trenton City	X	X	X
Washington Township	X		-
West Windsor Township			X

**Participation as of 03/01/2007*

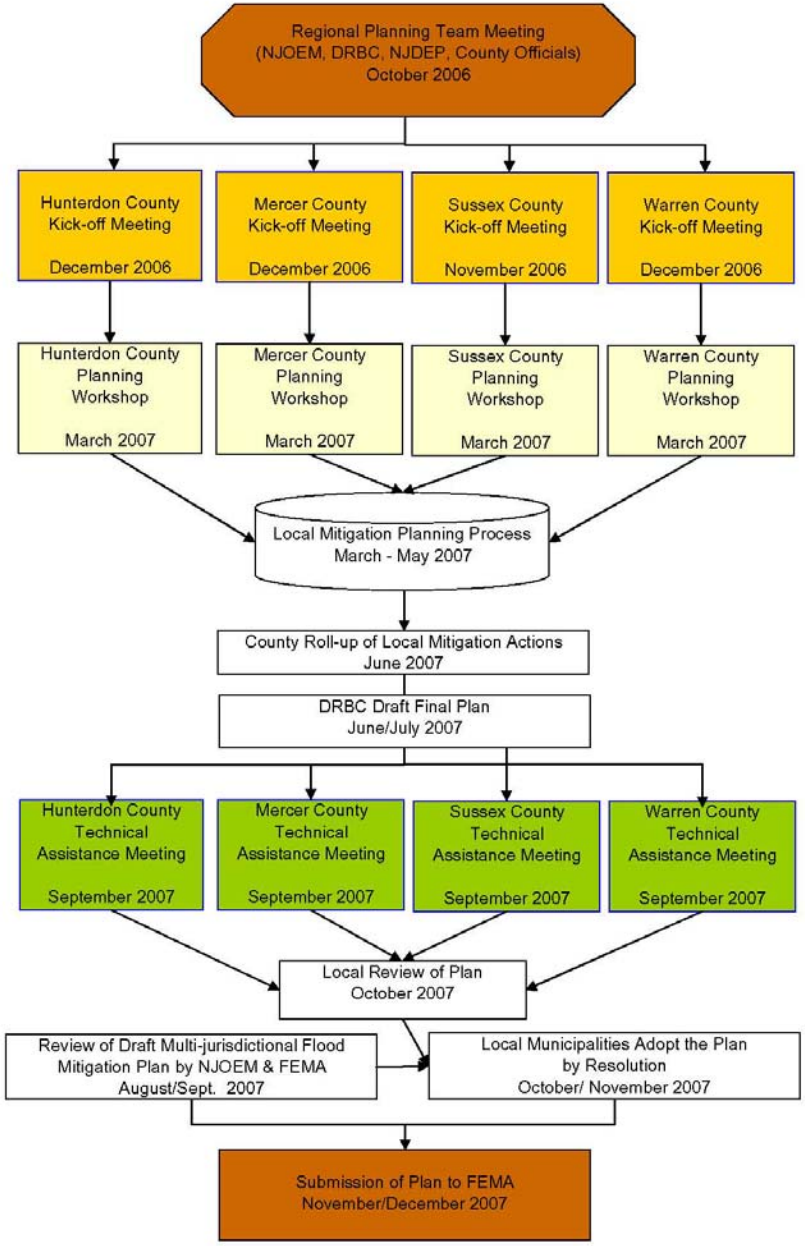
Next Steps in the Planning Process

Lambertville, NJ - April 2005

- Project Management Team
- Regional Planning Team
- Local Municipalities

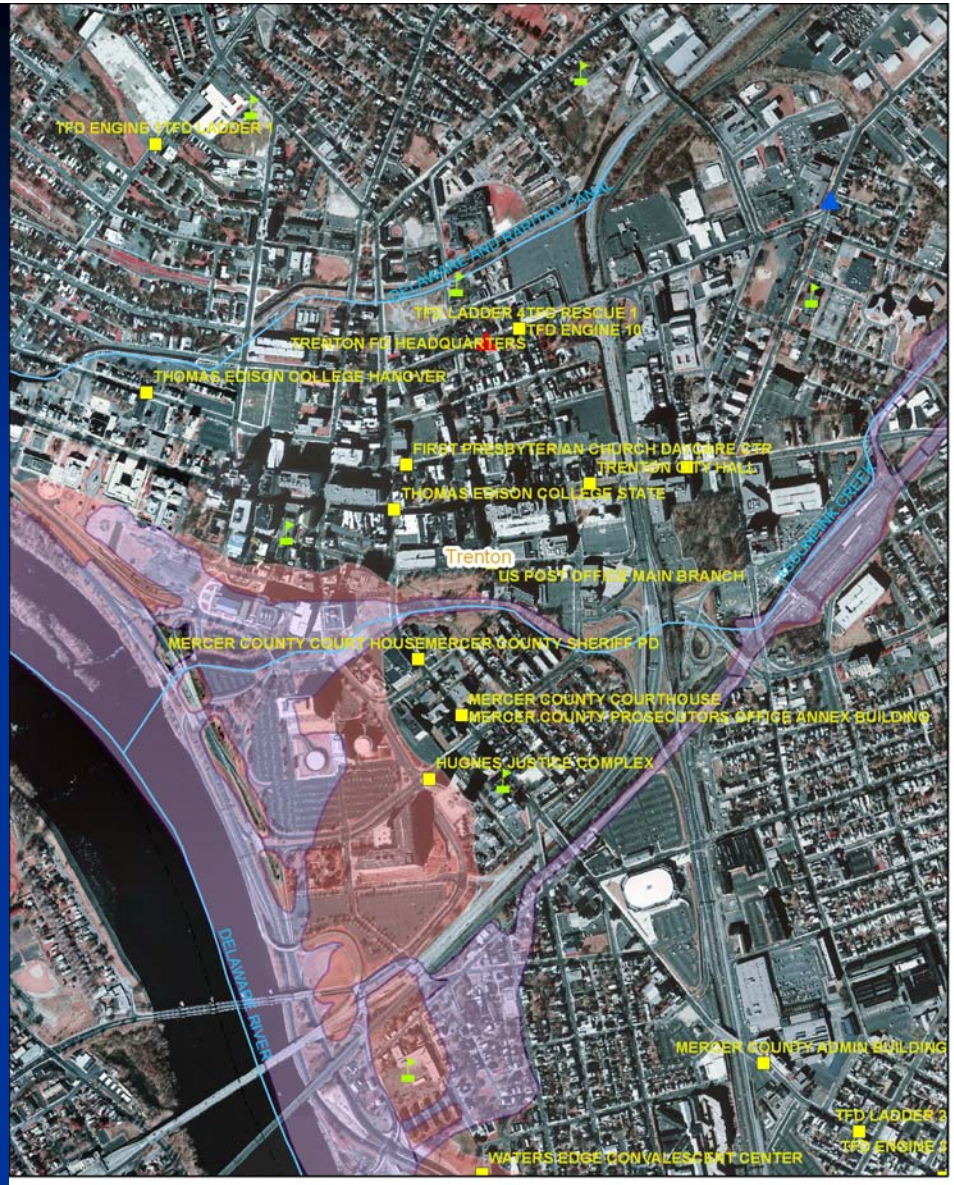
A Multi-Jurisdictional Flood Mitigation Plan for the Non-Tidal N.J. Section of the Delaware River Basin

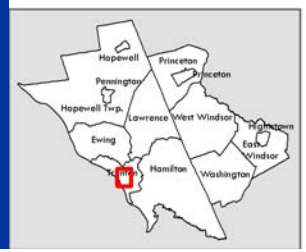
-Planning Process-



Next Steps – Project Management Team

- Use data from Municipal Questionnaires and other sources to compose Flood Mitigation Plan
- Revise GIS Analysis of flood insurance claims and repetitive loss properties when needed
- Complete Flood hazard identification and vulnerability assessment (HAZUS)
  - Verification of Critical Facilities Important

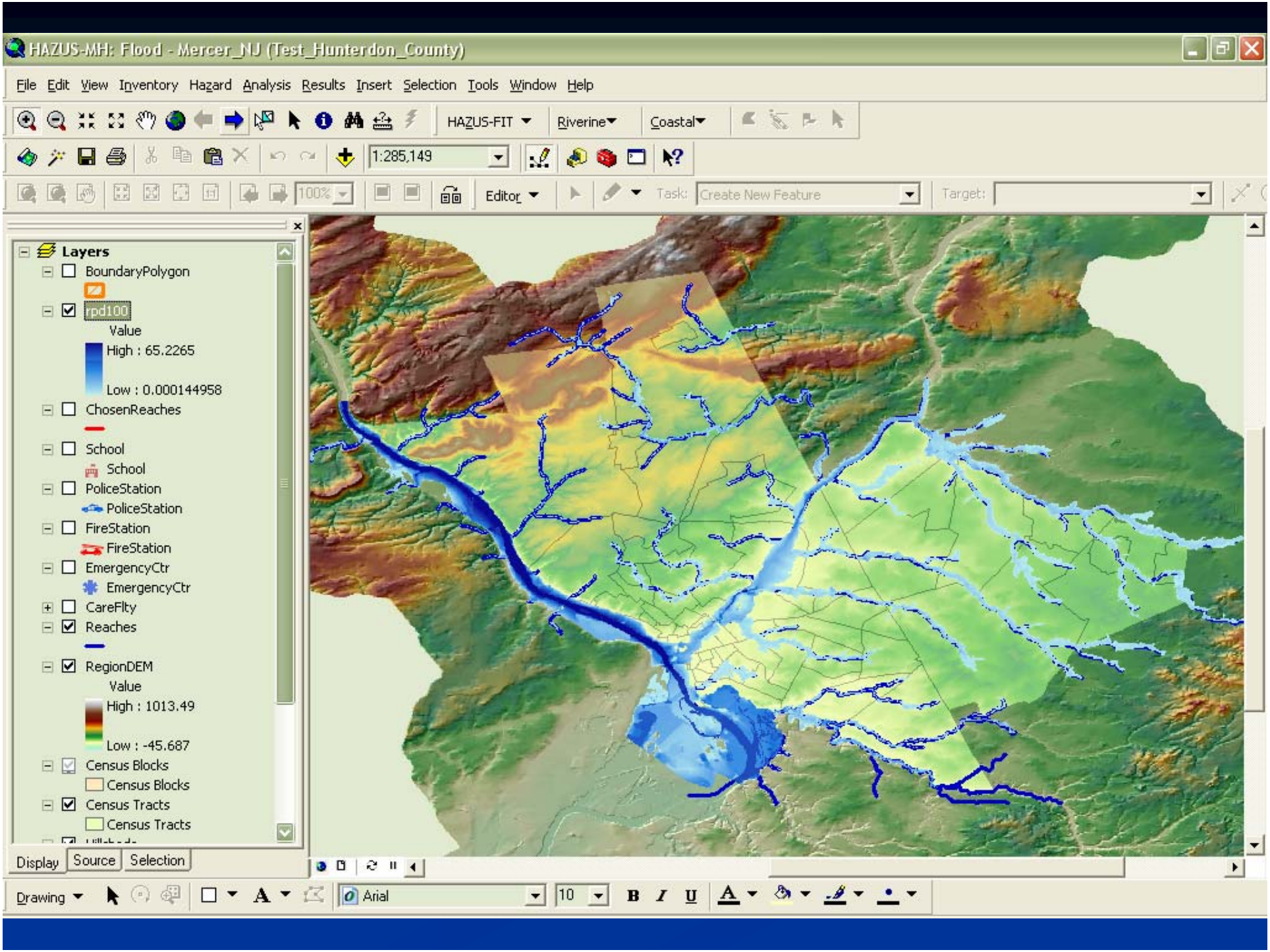




Mercer County Critical Facility
Waste Water Facility
hzSchool
Water Facility
Police Station
Fire Station
Emergency Center
Care Facility
100 Year Flood Plain
500 Year Flood Plain
Municipal Boundary

N

0 500
Feet


HAZUS-MH: Flood - Mercer_NJ (Test_Hunterdon_County)
File Edit View Inventory Hazard Analysis Results Insert Selection Tools Window Help
HAZUS-FIT
Riverine
Coastal
1:285,149
Editor
Task: Create New Feature
Target:
Layers
BoundaryPolygon
rpd100
Value
High : 65.2265
Low : 0.000144958
ChosenReaches
School
School
PoliceStation
PoliceStation
FireStation
FireStation
EmergencyCtr
EmergencyCtr
CareFlty
Reaches
RegionDEM
Value
High : 1013.49
Low : -45.687
Census Blocks
Census Blocks
Census Tracts
Census Tracts
Display
Source
Selection
Drawing
Arial
10

HAZUS Flood Model Results

- Hazard maps
  - Flood depth
- Building losses
  - By occupancy and by building type
  - By full replacement value and depreciated replacement value
- Essential facilities
  - Building and content losses
- Vehicles and agriculture losses
- Shelter requirements

Next Steps – Regional Planning Team

- Critical Facilities Mapping
- Regional Collaboration of Flood Hazard Data (National Park Service, NJWSA, Watershed Associations)

Counties:

- Document the county-level planning process
- Identify county critical facilities and unique flooding hazards
- Develop a list of county-level desired mitigation actions
- Allow time for public comment
- Collect, Review and Summarize Local Data (Municipal Worksheets) and Submit to DRBC

Next Steps - Municipalities

- Continue to Document Local Planning Process
- Encourage Public Participation
  - Publish Notice of Intent
  - Distribute, Collect and Summarize Flood Prone Resident Questionnaire
  - Allow Time for Comment at Two (2) Public Meetings
  - Summarize Public Comment
- Develop Flood Mitigation Goals
- Compose List of Desired Local Mitigation Actions
- Prioritize List of Local Mitigation Actions
- Submit Information to County by June 1st

Delaware River Basin Commission's Home Page

Page Tools

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Welcome to the Delaware River Basin Commission's Web Site

"A river is more than an amenity, it is a treasure."
(U.S. Supreme Court Justice Oliver Wendell Holmes, 1931 Delaware River Diversion Case)

What We Do

Who We Are

Basin Location Map

Web Site Index

Photo of the Week

Delaware River Sojourn

Wild and Scenic Delaware River

HIGHLIGHTS

Reservoir Storage Graph

Flow & Storage Data

Flooding Information Home Page *including* June 2006 Flooding Information

Toxics and PCB Information

(Link to EPA web site)

Revised Calibration of the Water Quality Model for the Delaware Estuary for Penta-PCBs and Carbon
(Adobe Reader required)

Water Resources Plan (Basin Plan)

"Ed. Web" Education Web Page

Map Gallery

Project Application Status Page

Information for Local Watershed Groups, Including Basinwide Listing

WHAT'S NEW?

Interstate Flood Mitigation Task Force *including* Public Review Draft of Preliminary Action Plan
(Written Comments Accepted until March 7, 2007)

Basinwide Hydrologic Conditions Report -- February 27, 2007

Dockets Approved at the February 27, 2007 Commission Meeting

Notice of Proposed Rulemaking and Public Hearing Concerning a Flexible Flow Management Plan

Proposed Flexible Flow Management Plan (FFMP)
(Adobe Reader required)

Related Decree Party Background Documents

2007 Spring Conference: Emergency Response and Drinking Water Resources in the Delaware River Basin
(Adobe Reader required)

UPDATED Multi-Jurisdictional Flood Mitigation Plan for the Non-Tidal N.J. Section of the Delaware River Basin

Resolutions to Address Flooding Adopted at the Sept. 27, 2006 DRBC Meeting *including* Explanation of Temporary Spill Mitigation Program

Requests for Proposal and Quotation
March 5, 2007

Flood Mitigation Goals:

Overall Goal: *"To make the Delaware River Basin more disaster resistant by reducing the long-term risks to loss of life and property damage from flooding. The aim is to build sustainable communities that, when confronted by a natural disaster, will sustain fewer losses and recover more quickly."*

State of New Jersey Hazard Mitigation Plan Goals:

1. Protect Life
2. Protect Property
3. Promote a Sustainable Economy
4. Protect the Environment
5. Increase Public Preparedness

Flood Mitigation Goals

Examples of Common Goals:

- Increase the coordination and cooperation among intergovernmental entities in carrying out hazard mitigation
- Heighten public awareness and support for hazard mitigation
- Protect and promote public health and safety
- Safeguard critical public facilities and infrastructure
- Protect existing and new development
- Promote growth in a sustainable manner
- Support natural resource protection

Flood Mitigation Goals

Examples of Municipal Specific Goals:

- Educate our citizens regarding flood risk, sustainable development, disaster preparedness and hazard mitigation opportunities
- Maintain emergency access to all township residents and critical facilities
- Mitigate a specific critical facility and/or infrastructure and promote reliability and maintenance of operations during a flood event
- Reduce flood damages along __(specific area prone to flood damages)

Flood Mitigation Goals

Examples of Municipal Specific Goals (continued):

- Reduce flood loss to promote and maintain a stable tax base
- Promote measures to ensure that development will not put people in harm's way or increase threats to existing properties
- Ensure training for local officials and enforcement of existing ordinances, codes and regulations

Flood Mitigation Action Categories

1. **Prevention**
   - Planning and zoning
   - Building codes
   - Hazard mapping
   - Open space preservation
   - Floodplain regulations
   - Stormwater management
   - Drainage system maintenance
   - Capital improvements

Flood Mitigation Action Categories

2. **Property Protection**
   - Acquisition
   - Building elevation
   - Relocation
   - Structural Retrofits (i.e., flood proofing, elevate utilities, etc.)
   - Stormwater Retrofits (i.e., backflow prevention device, culvert resizing, etc.)
   - Critical facilities protection
   - Insurance

Flood Mitigation Action Categories

3. Public Information and Awareness

- Outreach and education
- Training
- Speaker series, demonstration events
- Real estate disclosure

4. Emergency Services

- Warning systems; Reverse 9-1-1
- Search and rescue
- Evacuation planning and management

Flood Mitigation Action Categories

5. Natural Resource Protection

- Floodplain protection
- Riparian buffers
- Erosion and sediment control
- Stream corridor restoration
- Watershed management
- Wetland restoration
- Habitat preservation

Flood Mitigation Action Categories

6. Structural Projects

- Levees, dikes, or floodwalls
- Detention and retention basins
- Channel modification
- Stormwater Retrofits
- Maintenance of existing flood control structures

Municipality	Program	Project	Federal	Non-Federal
Harmony Township	Flood Mitigation Assistance Program (FMA)	Acquisition of 3 structures	$ 674,640	$ 224,880
Wayne Township	FMA	Acquisition	$ 5,749,500	$ 1,916,500
Little Falls Township	Repetitive Flood Claims Program	Acquisition of 5 structures	$ 1,900,000	$ -
Harmony Township	Hazard Mitigation Grant Program (HMGP)	Acquisition of 4 structures	$ 858,900	$ 286,300
Harmony Township	HMGP	Elevation of 8 structures	$ 372,300	$ 124,100
Pohatcong Township	HMGP	Acquisition of 2 structures	$ 365,550	$ 121,850
Fairfield Township	HMGP	Elevation of 6 structures	$ 193,073	$ 64,358
Carneys Point Township	Pre-Disaster Mitigation Grant Program (PDM)	Pump Station Upgrade	$ 1,210,069	$ 407,023

- Compose and prioritize a list of desired local mitigation actions (include estimated cost, organization responsible for implementation, implementation schedule, priority and potential funding sources)

Implementation Strategy Table Sample
(adapted from Draft FEMA 386-8 Multi-jurisdictional How-To)

(Name of Jurisdiction) Town A

Mitigation action, program or project	Hazard(s) addressed	Applies to existing or new assets	Existing local planning mechanism through which action will be implemented	Responsible Party	Target date	Estimated cost ($)	Funding source	Priority
Action 2.1.1: Bridge Replacement	Flood	Existing	Capital Improvement Plan	Planning Department	2 years from plan adoption date	$90,000	Capital Improvement budget	High
Action 2.1.2: Property Acquisition	Flood	Existing	Floodplain Management Plan	Village Administrator	1 year	$80,000	Pre-Disaster Mitigation Program (75%) and local match (open space program) (25%)	High
Action 2.3.1: Elevate critical facility (hospital)	Flood	Existing	NFIP participation	NFIP coordinator	2 years	$50,000	Flood Mitigation Assistance Program grant	High
Action 5.3.1: Public awareness program on local TV channel	All	New and existing	NA	County Emergency Management Agency	6 months	$5,000	Private Channel I	Medium
Action 1.4.1: Code update	Seismic and wind	New	Building Code Ordinance	Building Department of each jurisdiction	3 years	Staff time	Department budget	Medium

Prepared by:
Name _____
Title _____
Telephone _____

Sample STAPLEE ACTION EVALUATION TABLE: Town A

STAPLEE Criteria Considerations

+ Favorable - Less favorable N Not Applicable

Alternative Actions	S (Social)		T (Technical)			A (Administrative)			P (Political)			L (Legal)			E (Economic)				E (Environmental)				
	Community Acceptance	Effect on Segment of Population	Technically Feasible	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocation	Maintenance/ Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/ Water	Effect on Endangered Species	Effect on HAZMAT/ Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Laws
Action 2.1.1: Bridge Replacement	+	N	+	+	+	+	+	-	+	+	+	+	+	N	+	+	+	N	+		+	+	+
Action 2.1.2: Property Acquisition	-	-	+	+	+	-	-	-	-	-	+	+	+	+	+	-	-	-	+	+	+	+	+
Action 2.3.1: Elevate critical facility (hospital)	+	+	-	+	-	-	-	+	+	+	+	+	+	+	+	-	+	-	+	+	N	+	+
Action 5.3.1: Public awareness program on local TV channel	+	+	+	+	+	-	-	-	+	+	-	+	N	N	+	+	+	-	N	N	N	+	+
Action 1.4.1: Code update	-		N	+	+	-	+	+	+	+	-	+	+	-	+	+	+	+	N	N	N	+	+