Flood Risk Management Projects in the Passaic River Basin

Passaic River Institute Symposium

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Purpose

- Provide a historic summary of flooding in the Passaic River Basin and the Corps involvement
- Provide an overview of the basin in terms of flood risk management and damages
- Provide an update on projects currently being worked on by the Corps
  - Passaic River Main Stem
  - Joseph A. Minish River Front Park
  - Passaic River Tidal Protection Area
  - Peckman River
  - Passaic River Preservation of Natural Storage
  - Passaic River Floodway (Buyout)
Passaic River Basin Facts

- 935 square mile basin
- ~2.5 million people
- 20,000 homes, businesses, & public buildings in 35 communities in the floodplain
- Main Stem & major tributaries 100 year floodplain covers 40,000 acres (~60 mi²) of which half is fully developed
- One of the most densely developed floodplains on the eastern seaboard
- Extensive environmental degradation to river system coupled with significant repetitive flooding
- Eight Congressional Districts
The Basin Today

Passaic River Basin Floodplain Today

AREA IMPACTED BY 100-YEAR FLOOD (SHOWS CENTRAL BASIN AND LOWER VALLEY MAIN STEM ONLY)

- PRESERVATION OF NATURAL STORAGE AREA
- LOCAL FLOOD PROTECTION PROJECT
- NOT SHOWN
  - BASIN FLOOD WARNING SYSTEM
  - LIMITED FLOODWAY BUYOUT

Current as of January 2014
Passaic River Basin Flood Facts

• April 2007 Flood - $792 million in losses
• Mar 2010 Flood - $772 million in losses (two flood events)
• Mar 2011 Flood - estimated $700 million in losses
• Aug 2011 Irene - estimated $1 billion in losses
• The occurrence of the 100-year flood (1903 flood equivalent) would result in over $2.24 billion in damages
• Annual expected damages in the basin due to flooding are over $240 million
• Eleven Federal disaster declarations since 1968
• Since 1900 – more than 26 lives lost & over $6 billion in losses
• Since 1990 – over $3.5 billion in losses
Passaic River Main Stem

Scope: Provides a comprehensive 100-year level of protection to the Main Stem through a combination of a diversion tunnel, levees, flood walls, and non-structural measures

Current Work: Reevaluation of the project authorized in 1990

Milestones:
• Original General Design Memorandum (GDM) and Environmental Impact Statement (EIS) Approved 1995
• NJDEP requested USACE to renew its study 2010
• USACE began new General Reevaluation (GRR) effort 2012
• USACE completed its Preliminary Alternatives Analysis Report 2013
• Complete General Reevaluation TBD

Issues:
• No unified position of what plan is supported
Passaic River Tidal Protection Area  
(Hurricane Sandy Funded)

**Scope:** Protects the cities of Newark, Harrison, and Kearny using 5.5 miles of levees and 5.0 miles of floodwalls to provide a 500 year protection against hurricane and tidal surges.

**Current Work:** Broken our from Passaic Main Stem and authorized for Construction under Public Law 113-2, reevaluation of project costs, benefits and environmental impacts underway.

**Milestones:**
- Original GDM and EIS Approved 1987
- Complete Hurricane Sandy GRR w/EIS 2016
- Execute Project Partnership Agreement (PPA) 2017

**Issues:**
- No significant work has been accomplished since 1995
- Significant HTRW concerns in the area
- Significant Redevelopment in Harrison and Kearny may reduced benefits
Tidal Passaic – Key Terrain
1 – Passaic Valley Sewerage Commission WWTP
2 – Essex County Power Generation Plant
3 – Port Authority Tunnels Hudson (PATH) Train Yards
4 – Amtrak Kearny Sub Station
5 – NJ Transit Train Yards
6 – Kearny Power Generation Plant
Passaic River Floodway - Buyouts

Scope: The acquisition and removal from the State-defined Floodway of approximately 800 homes in the municipalities of Fairfield, Lincoln Park, Wayne, Pompton Lakes, Montville, East Hanover, Pequannock, Little Falls, and Riverdale. These homes are subject to frequent flood damages. The initial set of homes (30) to be acquired are in Hoffman Grove and Pompton Lake areas.

Current Work: Reevaluation of the project authorized in 1990 underway

Milestones:
Draft Report Submittal to Higher Headquarters          October 2014
Final Report Submittal to Higher Headquarters          December 2014
PPA Submittal to NAD                                    March 2015
PPA Execution                                          June 2015

Issues:
• Low budgetary priority.
Passaic River – Preservation of Natural Storage

Scope: The Preservation element includes the acquisition of approximately 5,350 acres of natural storage areas, 5,200 acres of which are wetlands and could conceivably be developed, worsening existing flood problems.

Current Work: Acquisition underway.

Milestones:
- General Design Memorandum Completed 1996
- Project Cooperation Agreement Executed 1999
- Acquired to date: 3,400 acres

Issues:
- Remaining acquisitions involve real estate processes, including condemnation
Peckman River

Scope: A tributary to the Passaic River, the Peckman River originates in the Town of West Orange and flows northeasterly through the towns of Verona, Cedar Grove, and Little Falls to its confluence with the Passaic River in Woodland Park. Extensive development in the Basin has resulted in flood damages and ecosystem degradation. The Basin experiences frequent flooding from intense thunderstorms and heavy rainfall.

Current Work: Feasibility Study underway, National Economic Plan and potential locally preferred plan identified

Milestones

- Complete Reconnaissance Phase 2001
- Execute Cost sharing Agreement and begin Feasibility Study 2002
- Final Feasibility Report Jul 2015
- Civil Works Review Board (CWRB) Sep 2015
- Chief of Engineers Report Dec 2015

Issues

- Lack of optimal funding stream has delayed the study
Peckman River Watershed

- Geographically separate from Lower Passaic by Great Falls in Paterson; Peckman River upstream of any impacts of Lower Passaic contamination.
- Study area has a drainage area of approximately 9.8 square miles and contains areas that are densely developed with commercial and residential buildings.
Joseph G. Minish Waterfront Park
(Hurricane Sandy Funded)

Scope: Phase I is 6,000 feet of new bulkhead, and 3,200 feet of restored riverbank and creation of wetlands. The project will reduce erosion and provide environmental restoration, and economic development benefits.

Current Work: Drafting Hurricane Sandy Limited Reevaluation Report (HSLRR) for Phase I. Draft expected to be complete by end of 2014.

Milestones:
- A total of 2,920 linear feet of new bulkhead has been completed under Phase I.
- Contract 3A (STA 9+05 to 20+03) plans and specifications are being reviewed and completed early 2015.

Issues: Phases 2 and 3 are not economically justified and have low budgetary priority.
Joseph G. Minish
Passaic River Waterfront Park
and Historic Area, Newark, NJ

This Project consists of 6,000 feet of new bulkhead, 3,200 feet of riverbank restoration, and 9,200 feet of riverfront walkway, park facilities, plazas and landscaping.
Points of Contact

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- Passaic River Buyout
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