Restoring the Bronx River and Estuary for the Community: Challenges and Achievements

Restore America’s Estuaries Conference

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Bronx River Reach Types

- **Impoundment**
- **Flat, sand bedded** (Dune-ripple / C5, F5)
- **Steep, gravel-cobble bedded** (Plane-bed / B3, F3)
- **Estuarine /tidal**
Urban river restoration: Stressors / Constraints

- Flashy flood flows
- High sediment loads
- Invasive species
- Fill and Development
Objectives

- Increase native plant cover and diversity on stream bank and floodplain
- Improve vegetation structure and function
- Increase in-stream habitat variability
- Improve access and involvement
Approach – Reach level assessment

Increase connections between the channel and floodplain
Approach – stream bank re-vegetation

Clearing, grubbing, erosion control

Grading and toe stabilization

Bioengineering, cribbing

Dense planting
Approach – In-stream structures

Rock vanes

Cabled large woody debris
Bronx Forest: floodplain connections and access
Shoelace Park: increased native vegetation cover
Lessons in native vegetation establishment

Sediment brings more invasive plants

Bioengineering: success with poles

More invasive plants!

Minimum of five years maintenance
Concrete Plant Park: Shoreline restoration
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Soundview Park: Salt marsh, grassland, forest restoration
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Oyster reef habitat restoration

ORRP (Oyster Reef Restoration Partnership): NY-NJ Baykeepers, HRF, USACE, Rocking the Boat, Bronx River Alliance, UNH, NYSDEC
Fish run restoration
Alewife & Blueback herring (*Alosa spp.*) and American eel (*Anguilla rostrata*)

- Alewife stocking (2006 & 2007)
- Monitoring 2009-2011
- Fish Ladder installation 2014
On-going

• Watershed restoration

• Adaptive, coordinated management and maintenance

• Community engagement
Thanks to:

Bronx Borough President
National Fish and Wildlife Foundation
NOAA
NYS Dept. of Conservation
NYS Dept. of State
U.S. Army Corps of Engineers
U.S. EPA
USGS

Bronx River Alliance
Columbia University
Hudson River Foundation
Natural Areas Conservancy
NY-NJ Baykeeper
Queens College
Rocking the Boat
Sustainable South Bronx
Youth Ministries for Peace and Justice

and others…