

Implementing A Watershed Management Program

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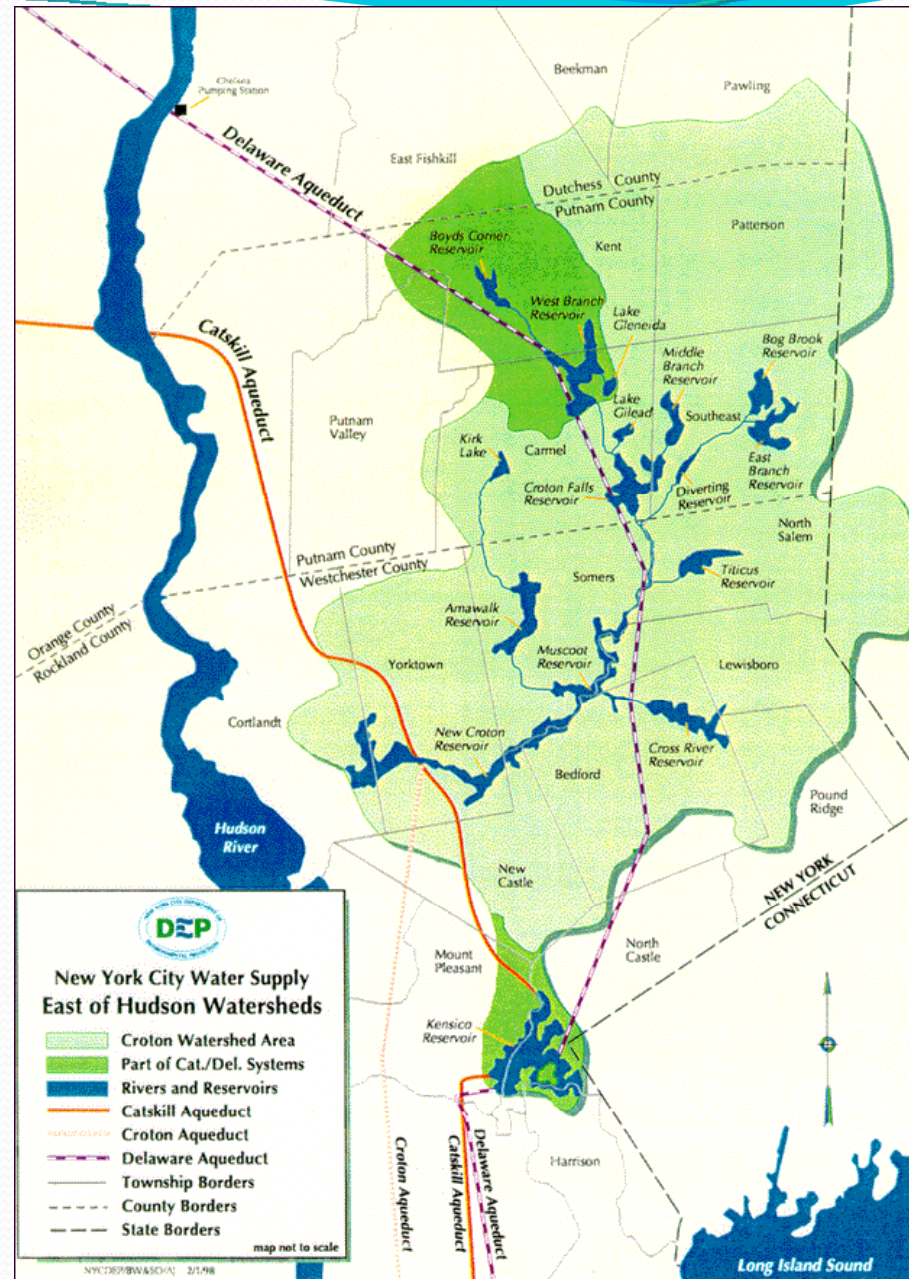
Where?

- East of Hudson Watershed
- ~ 375 sq. mi.
- 12 reservoirs & 3 lakes
- Drinking water for ~9.5 million people.
- ~130 MGD



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Why?

- EPA TMDL for phosphorus
- NYSDEC MS4 Permit
- Regional Stormwater Entity (RSE)
- 460 kg (1,012 lbs) over a 5-year period
- Bubble compliance



Table IX.A - Pollutant Load Reduction and Timetable for New York City East of Hudson
Phosphorus Watershed Improvement Strategy Area

Watershed	Watershed Improvement Strategy Deadline	Retrofit Plan Submission Deadline	Pollutant Load Reduction (Load Allocation)	Pollutant Load Reduction Deadline
New York City East of Hudson Watershed	05/01/2011	03/09/ 2009 (single) and 12/ 31/2009 (RSE)	In accordance with the TMDL Implementation Plan	03/09/2019 (single) 12/31/2019 (RSE)



Who?

- 19 Members
 - Carmel (T)
 - Putnam Valley (T)
 - Kent (T)
 - Southeast (T)
 - Patterson (T)
 - Bedford (T)
 - Cortlandt (T)
 - Lewisboro (T)
 - Mt. Kisco (T/V)
 - New Castle (T)
 - North Castle (T)
 - North Salem (T)
 - Pound Ridge (T)
 - Somers (T)
 - Yorktown (T)
 - Brewster (V)
 - Pawling (T/V)
 - Putnam County

Who?



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Implementation

- Regulatory Driver
- Funding
- Legal Entity
- Work Plan
- People
- Coordination
- Improvement
- Completion



Funding

- 4 Primary Funding Sources
 - 2010 Water Supply Permit: \$15 million
 - 2007 FAD: \$5 million
 - 1997 MOA to Westchester County: \$10 million
 - 1997 MOA to Putnam County: \$8.2 million
- NYSDEC Grants
- Taxing Entity?





Legal Entity

- NYS Local Development Corporation
- Intermunicipal Agreements
- NYCDEP Funding Agreement



Work Plan

- Croton-Kensico Intermunicipal Watershed Coalition
- Putnam County MS4 Coordinating Committee
- Dutchess County MS4 Coordinating Committee
- Develop “master” plans
- Lists of potential SRP sites and types
- Useable?



Work Plan

- Year 1 and Year 2 projects implemented by members.
- Projects for Years 3, 4, and 5 by EOHWC.
- Change Orders?

People

- Executive Director
- Operations Staff
- Board of Directors
- Consultants/contractors



Coordination

- Regulatory Requirements
- Technical Requirements
- Legal Requirements
- Fiscal Management
- Project Reviews
- Local issues
- Construction



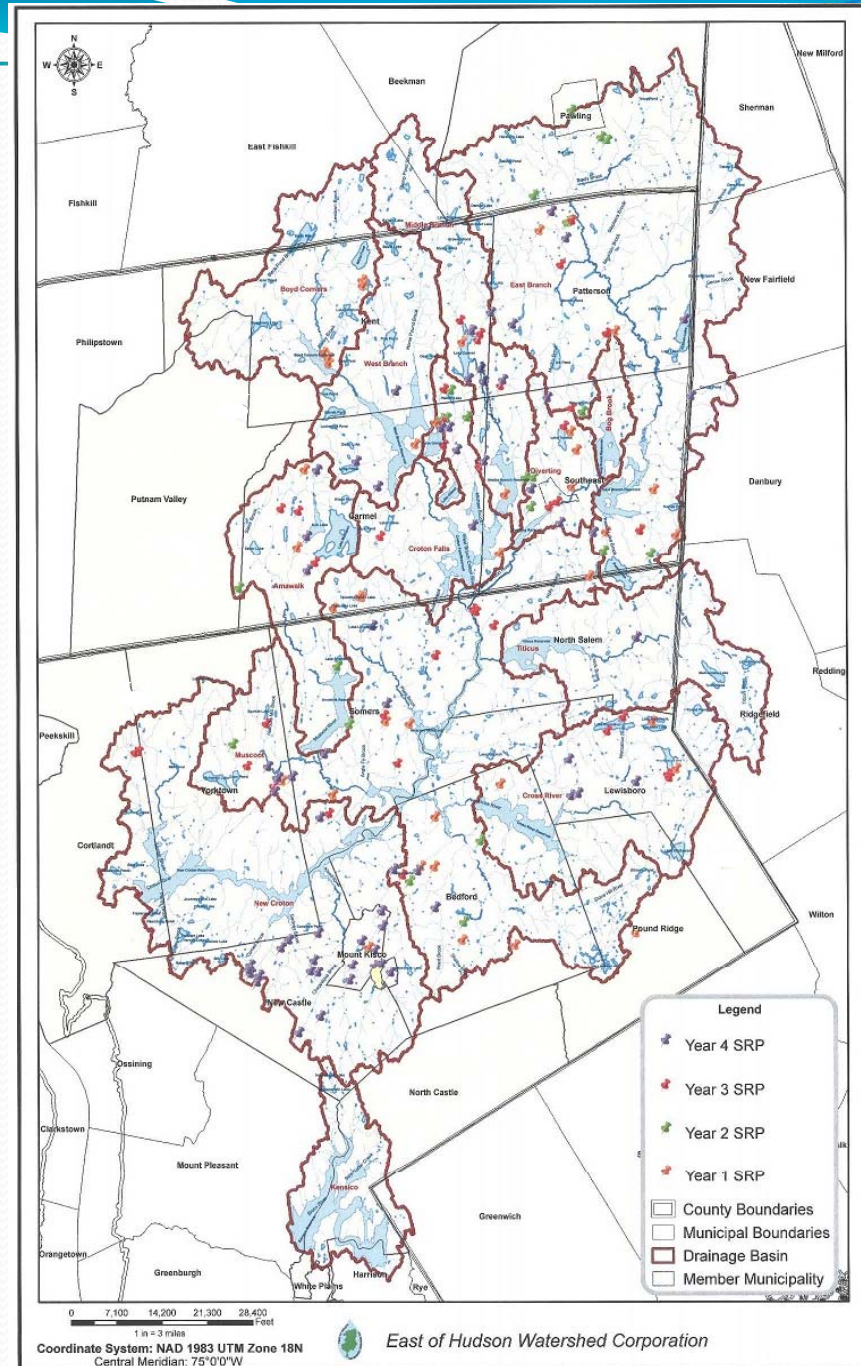
Improvement

- Execute
- Evaluate
- Review
- Revise



Completion

- Approximately 84 SRPs
- Approximately 400 kg
- Submit Record Plans and calculations to NYSDEC for verification.



Questions?

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How?

- Types of stormwater retrofit projects:
 - Micropool Extended Detention Pond
 - Wet Pond
 - Wet Extended Detention Pond
 - Multiple Pond System
 - Pocket Pond
 - Shallow Wetland
 - Extended Detention Shallow Wetland
 - Pond/Wetland System
 - Pocket Wetland
 - Infiltration Trench
 - Infiltration Basin
 - Dry Well
 - Surface Sand Filter
 - Underground Sand Filter
 - Perimeter Sand Filter
 - Organic Filter
 - Bioretention
 - Dry Swale
 - Wet Swale
 - Hydrodynamic Separator