



On-Site Wastewater Treatment Programs in the Watershed – A Status Update

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Section Chief - Community Planning

- Program partners
- Population and wastewater use in NYC Watershed
- Potential water quality issues and various means of wastewater treatment and disposal
- Programs to improve treatment and disposal in the NYC Watershed
- Program expenditures and cost effectiveness



- County Government
- Municipal Government
- Local Development Corporations
- State and Federal Agencies



Water Supply Users



New York City water is provided by a 2,000 square mile watershed and travels up to 125 miles before reaching the 9 million downstate consumers

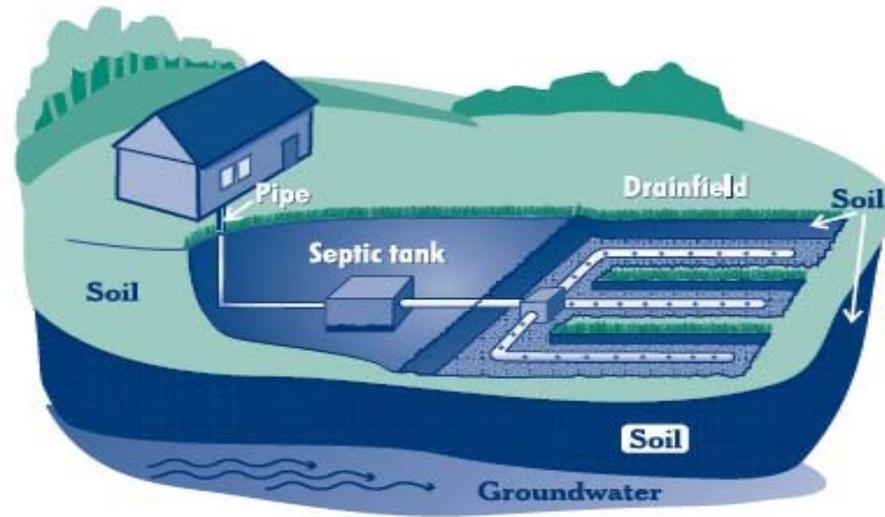


- Population in the watershed is approximately 250,000 people
- Approximately 80% of the residents live in the EOH portion of the watershed



- Nationally, approximately 75% of wastewater flow is treated via WWTP
- In the NYC Watershed, approximately 25% of wastewater flow is treated via WWTP
- Those in sewer districts are treated by the over 120 treatment facilities with tertiary treatment or at WWTP facilities outside the watershed
- The remaining 75% of wastewater is treated via approximately 100,000 on-site subsurface sewage treatment systems (SSTS)



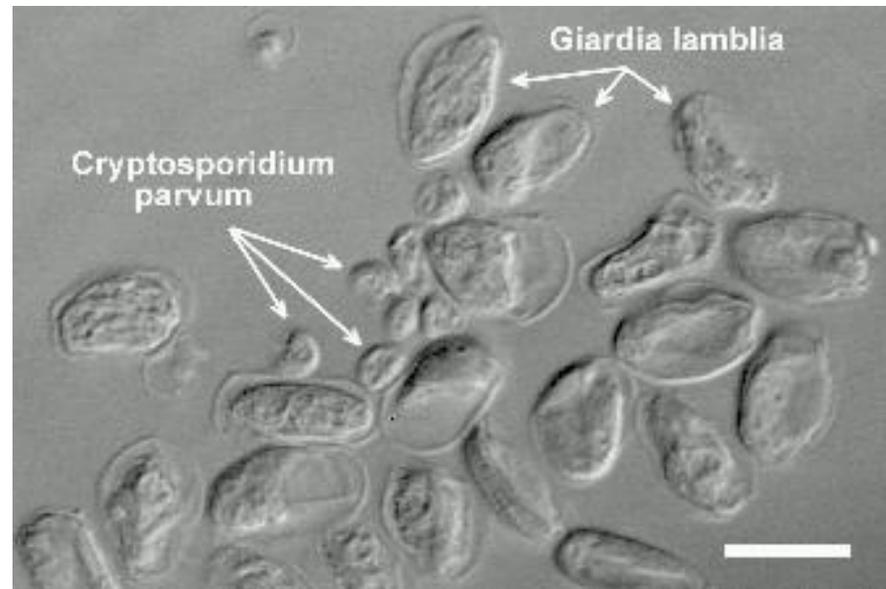


Potential problems associated with SSTS

- Insufficient lot size
- Inadequate soil conditions
- Runoff and groundwater levels
- Improper use maintenance
- Hydraulic overload

Improperly treated water may result in water quality impairments

- Pathogens
 - Cryptosporidium
 - Giardia
- Nutrients
 - Phosphorus
 - Nitrogen



- New wastewater treatment facilities
- Sewer extensions to existing wastewater treatment facilities inside or outside the watershed
- Septic repair/replacement



New wastewater collection and treatment facilities for watershed communities in priority areas

- Wastewater Treatment Plants
- Community SSTS





- 14 new wastewater treatment facilities have been constructed since 1997
- Elimination of over 2,600 SSTs
- Expenditure of over \$151 million of City Funds

- 3 additional facilities are in the planning and design stage
- 5 additional communities are eligible to participate





Connecting priority residences not already served by a public sewer system

- Treatment facilities inside the watershed
- Treatment facilities outside the watershed





- 10 projects are complete or are in design
- Elimination of over 450 SSTs



Expenditure of approximately \$24 million of City Funds

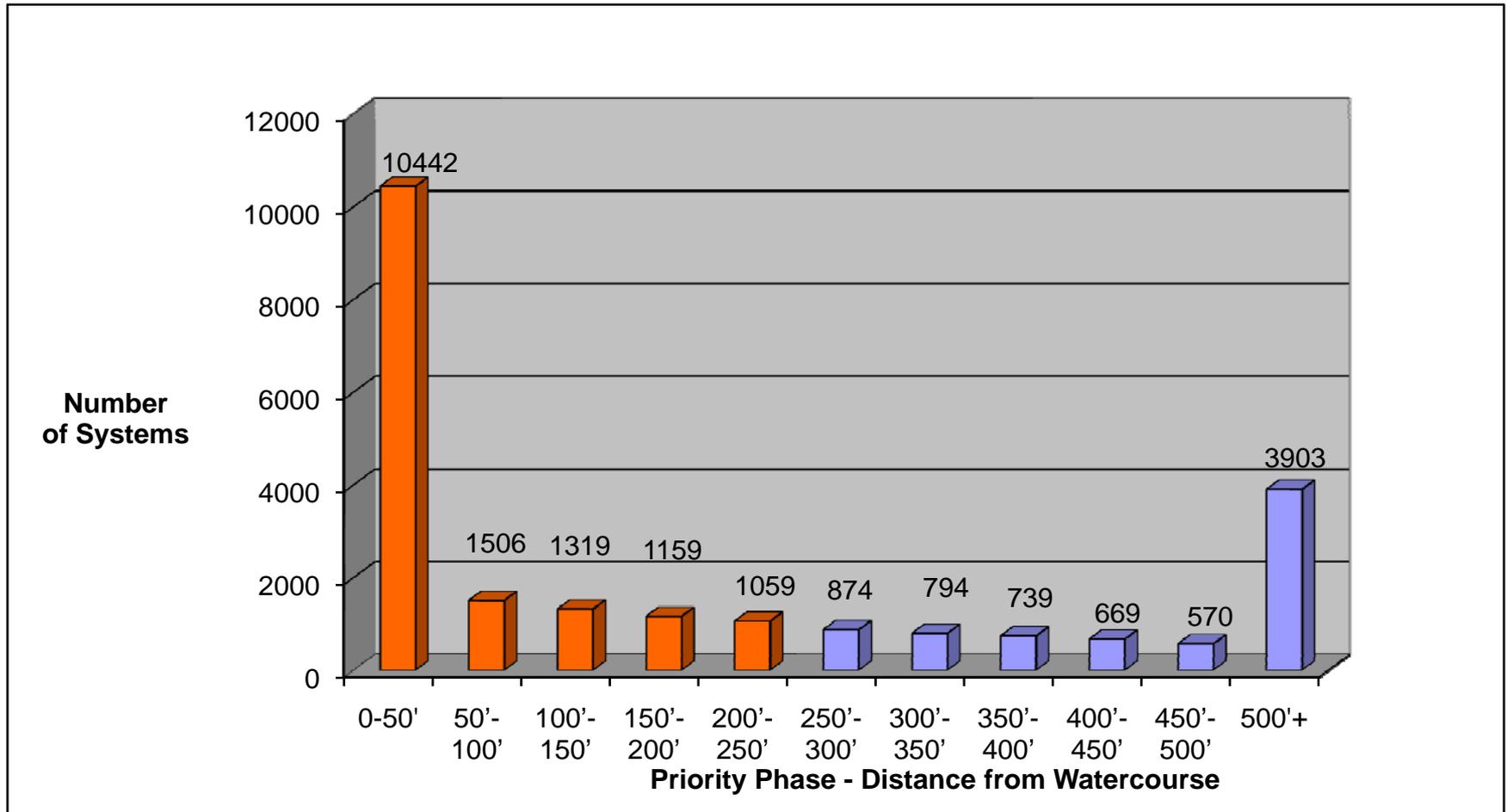


- Over 4,200+ residential SSTs repaired, replaced or part of a septic maintenance district



- Expenditure of over \$60 million of City Funds to date
- Vast majority of repairs have occurred through CWC

WOH Septic Program Status

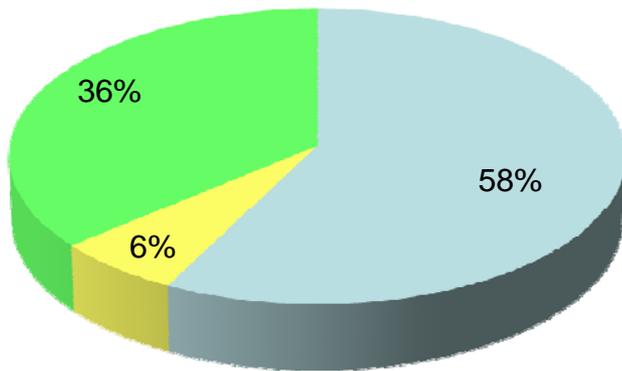


- Residential properties in priority areas.
- Residential properties outside priority areas.

Cost per SSTS repaired/eliminated

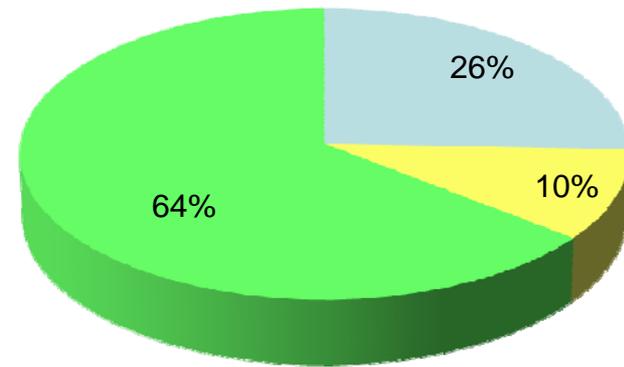
- New Wastewater Treatment Facilities
 - Per unit connection cost ranges from \$35K to >\$110K
 - Average cost nearly \$60K
- Sewer Extension Program
 - Per unit connection cost ranges from \$30K to >\$110K
 - Average Cost ~\$54K
- SSTS Repair Programs
 - Per unit repair/replacement cost between \$15K and \$20K

Number of SSTS's Managed



- Septic Repair Programs
- Sewer Extensions
- New Wastewater Treatment Facilities

City Funding



- Septic Repair Programs
- Sewer Extensions
- New Wastewater Treatment Facilities

- Population in the watershed of approximately 250,000 people generate a significant volume of wastewater
- The majority of wastewater in the watershed is treated by SSTS
- More than \$230M in City funds have been expended on programs to eliminate and/or repair SSTSs to continue to improve water quality
- When septic repair/replacement is feasible, it is a more cost effective means of treatment.

Questions?

