

2016

# SEPTIC PUMPOUT INITIAL DATA REVIEW

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A presentation by the Westchester County  
Department of Planning



**Robert P. Astorino**  
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# BACKGROUND

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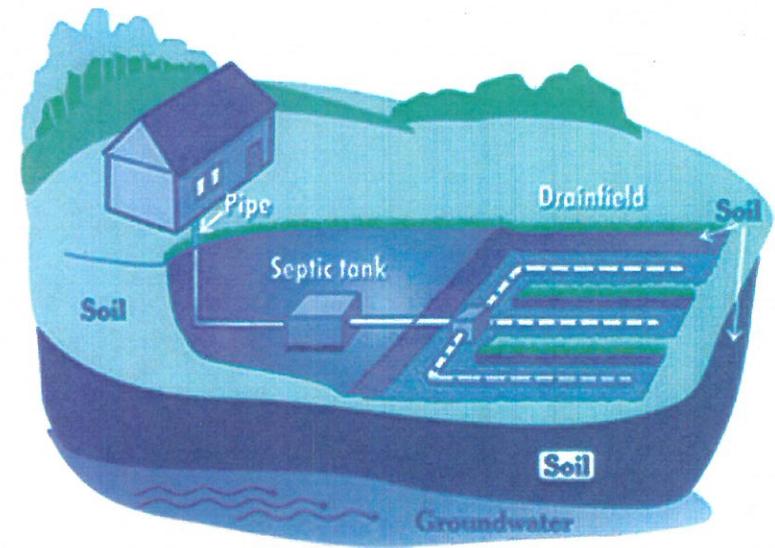
# Septic Systems

- **Septic Tank**

- Solids settle to the bottom and form a sludge
- Pumped every 2-3 years

- **Absorption Field or Drainfield**

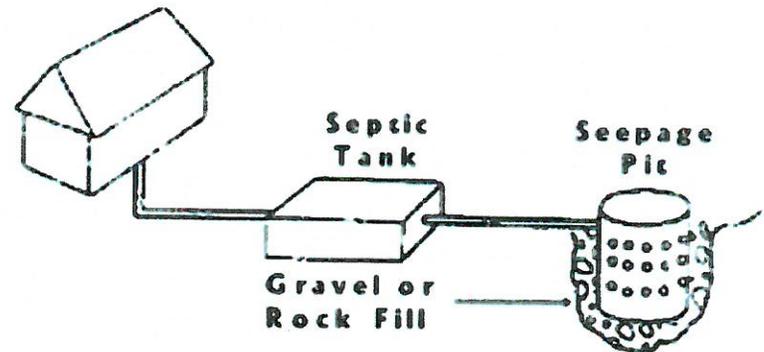
- Narrow trenches partially filled with a bed of washed gravel or crushed stone
- Discharge from septic tank is distributed through pipes into the trenches and surrounding soil
- If tank is not pumped regularly, solids from the tank can clog the absorption field



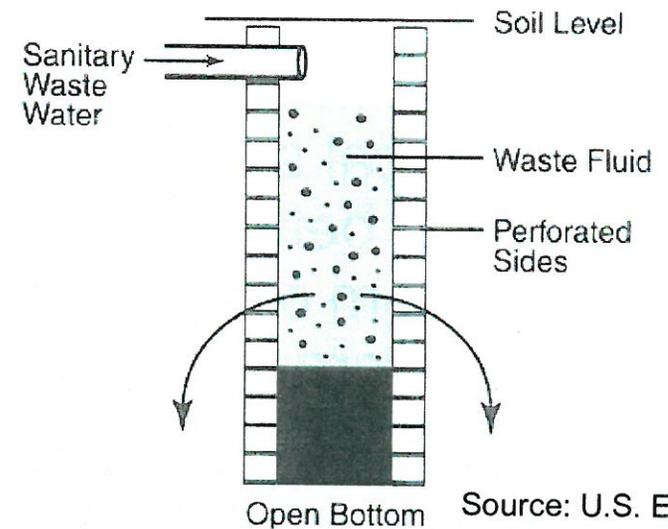
Source: U.S. EPA

# Septic Systems

- **Seepage Pit**
  - Covered pit with open-jointed or perforated lining through which septic tank effluent seeps into the surrounding soil
- **Cesspool**
  - Concrete cylinder with an open bottom or perforated sides
  - Sanitary waste percolates out the bottom



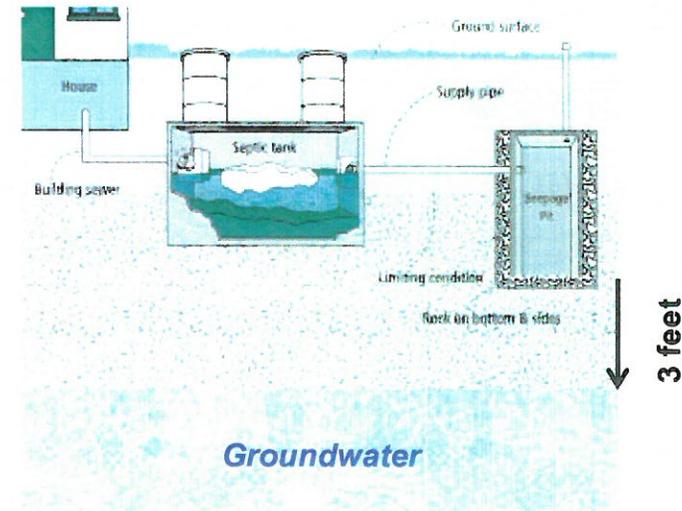
Source: U.S. EPA



Source: U.S. EPA

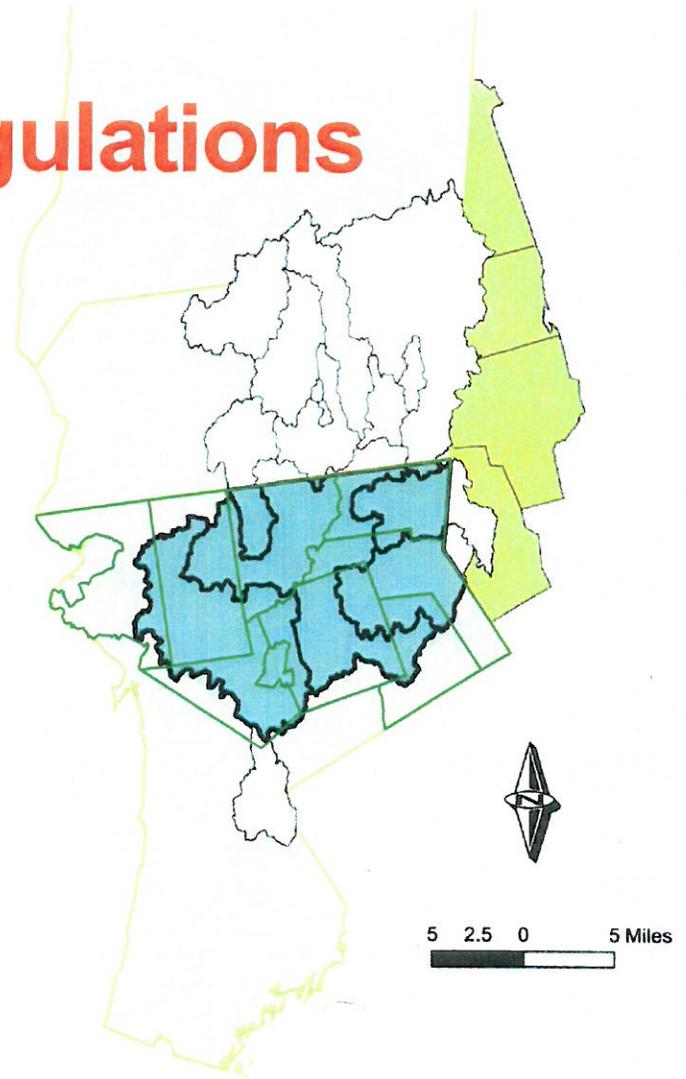
# New York State Regulations

- **Seepage Pit**
  - Not allowed if soil and site conditions are adequate for absorption trenches.
  - A minimum three foot vertical separation must exist between the bottom of the pit and the high groundwater level, bedrock or other impervious layer.

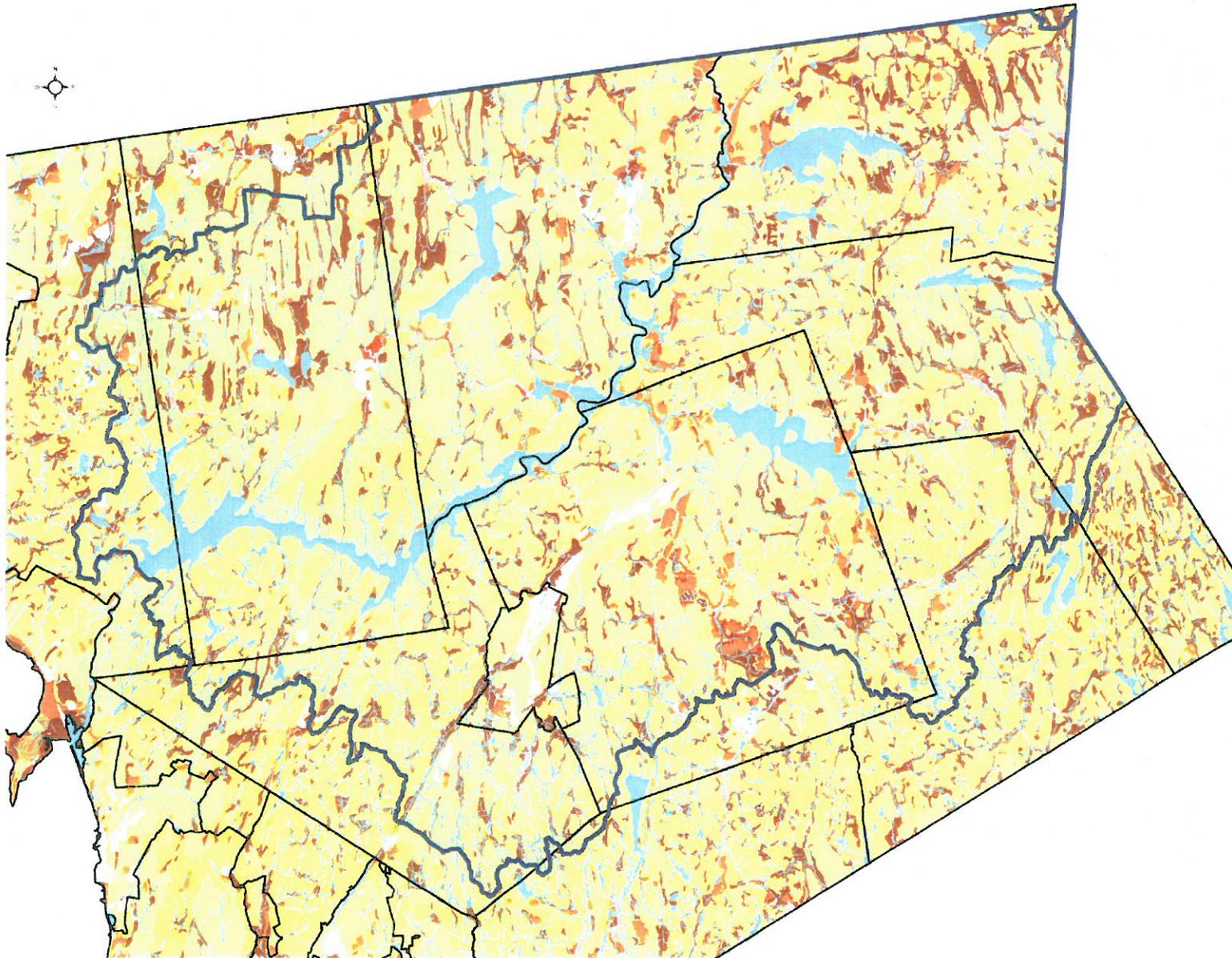


# New York City Watershed Rules and Regulations

- Seepage pits are prohibited from systems installed on or after June 30, 2002
- No part of any absorption field for any new septic system:
  - 100 feet of watercourse or wetland
    - Wetland is any area mapped as a wetland by the NYS DEC which is at least 12.4 acres in size or has been designated as a wetland of unusual local importance.
  - 300 feet of reservoir, reservoir stem



# Soil Drainage: Westchester County Soil Survey



## Soil Drainage

### Draft Working Map

#### Legend

- Road
- Croton Watershed
- Lake
- Stream
- Soil Drainage**
  - Excessively drained
  - Well drained to somewhat excessively drained
  - Moderately well drained
  - Well drained
  - Well drained to very poorly drained
  - Moderately well drained to poorly drained
  - Very poorly drained to somewhat poorly drained
- Municipal Boundary

0 0.5 1 2 3 4 Miles

# SEPTIC PUMPOUT DATA

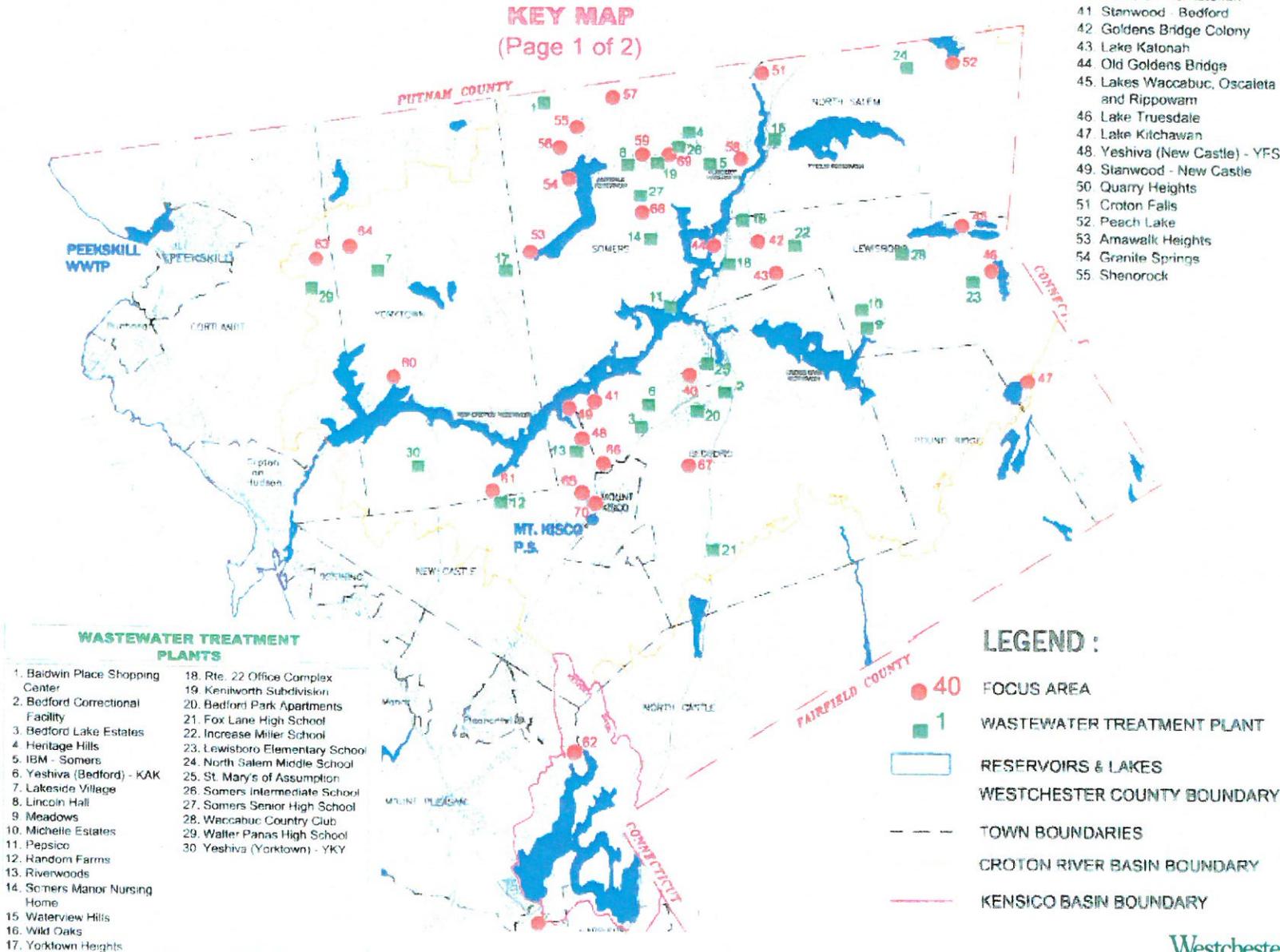
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# Diversion Study Focus Areas - 1998

**KEY MAP**  
(Page 1 of 2)

**FOCUS AREAS**

- |   |                                    |
|---|------------------------------------|
| 40. Bedford Hills/Katonah                 | 56. Horton Estates                 |
| 41. Stanwood - Bedford                    | 57. Lake Lincoln Dale              |
| 42. Goldens Bridge Colony                 | 58. Lake Purdy                     |
| 43. Lake Katonah                          | 59. Dykeer                         |
| 44. Old Goldens Bridge                    | 60. Hayes Drive Area               |
| 45. Lakes Waccabuc, Oscaleta and Rippowam | 61. Saw Mill River Rd at Dell Ave. |
| 46. Lake Truesdale                        | 62. Usonia Road                    |
| 47. Lake Kitchawan                        | 63. Parkway Colony/Quarry Acres    |
| 48. Yeshiva (New Castle) - YFS            | 64. Hunterbrook Expansion          |
| 49. Stanwood - New Castle                 | 65. Kisco Park                     |
| 50. Quarry Heights                        | 66. Deer Ridge                     |
| 51. Croton Falls                          | 67. West Patent School             |
| 52. Peach Lake                            | 68. Somers Elementary School       |
| 53. Amawalk Heights                       | 69. Somers Middle School           |
| 54. Granite Springs                       | 70. Parkview Place                 |
| 55. Shenorock                             |                                    |



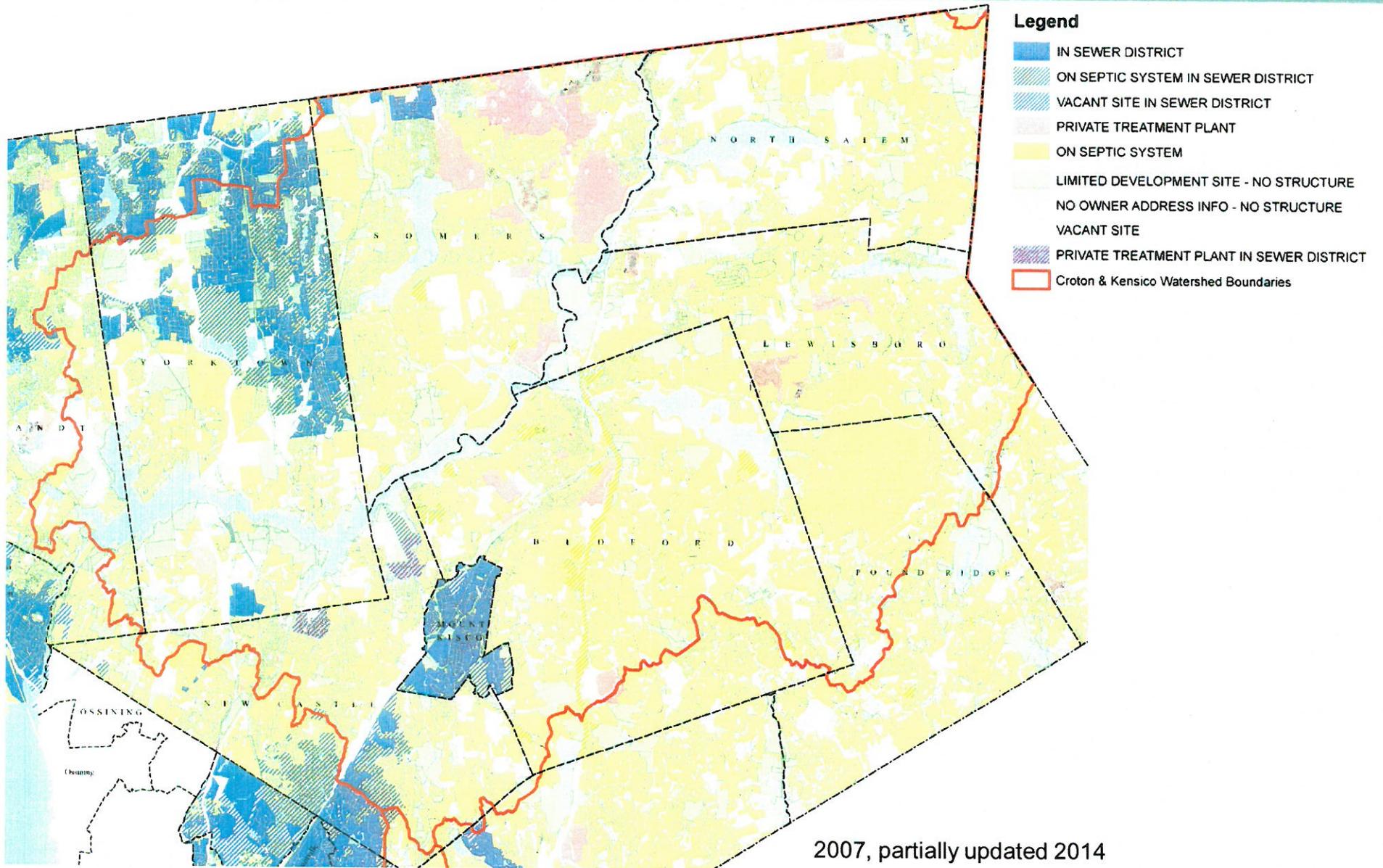
**WASTEWATER TREATMENT PLANTS**

- |                                  |                                 |
|----------------------------------|---------------------------------|
| 1. Baldwin Place Shopping Center | 18. Rte. 22 Office Complex      |
| 2. Bedford Correctional Facility | 19. Kenilworth Subdivision      |
| 3. Bedford Lake Estates          | 20. Bedford Park Apartments     |
| 4. Heritage Hills                | 21. Fox Lane High School        |
| 5. IBM - Somers                  | 22. Increase Miller School      |
| 6. Yeshiva (Bedford) - KAK       | 23. Lewisboro Elementary School |
| 7. Lakeside Village              | 24. North Salem Middle School   |
| 8. Lincoln Hall                  | 25. St. Mary's of Assumption    |
| 9. Meadows                       | 26. Somers Intermediate School  |
| 10. Michelle Estates             | 27. Somers Senior High School   |
| 11. Pepsico                      | 28. Waccabuc Country Club       |
| 12. Random Farms                 | 29. Walter Panas High School    |
| 13. Riverwoods                   | 30. Yeshiva (Yorktown) - YKY    |
| 14. Somers Manor Nursing Home    |                                 |
| 15. Waterview Hills              |                                 |
| 16. Wild Oaks                    |                                 |
| 17. Yorktown Heights             |                                 |

**LEGEND :**

- 40 FOCUS AREA
- 1 WASTEWATER TREATMENT PLANT
- RESERVOIRS & LAKES
- WESTCHESTER COUNTY BOUNDARY
- TOWN BOUNDARIES
- CROTON RIVER BASIN BOUNDARY
- KENSICO BASIN BOUNDARY

# Sanitary Waste Disposal Method by Parcel



Croton Watershed

# Septic Pumpout Data

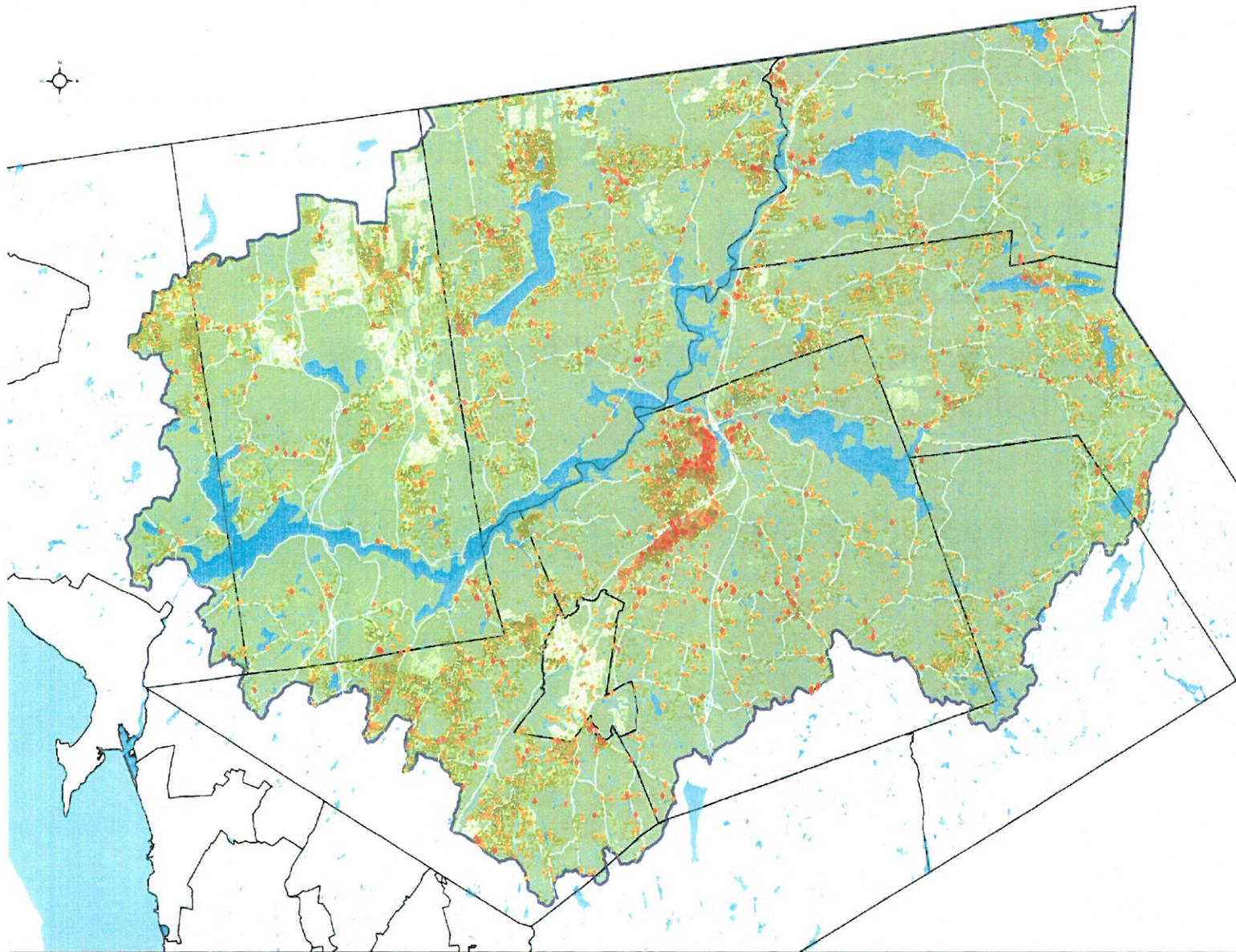
- Collected by haulers
- Input by Westchester County DOH
- Analyzed data from 2007-2015
  - Data collected 2006 but lacks inspection info and doesn't align with other datasets
  - No inspection data for 2007
  - Over 46,000 records
- Data Parameters includes:
  - Date of Pumpout
  - Address
  - Tank Type
    - Septic Tank
    - Cesspool
    - Seepage Pit
    - Other
      - All 950 records for 2007
      - Grease pit, pump chamber, sometimes absorption trench
  - Tank Size
  - Number of Tanks
  - Seepage & Failure

# Defining Septic Failure

- Failure is defined as 'seepage on the ground' validated by the Department of Health
- 'Failures' mapped include:
  - Septic systems where the hauler identified seepage, but DH noted repairs occurred before inspection
  - Official 'Failures'



# Septic System Type



**Septic System  
Pumpouts  
2007-2015**

**Draft  
Working  
Map**

## Legend

### System Type

- Other
- Septic Tank
- Cesspool
- Seepage Pit
- Major Road

□ Croton Watershed

■ Lake

■ Stream

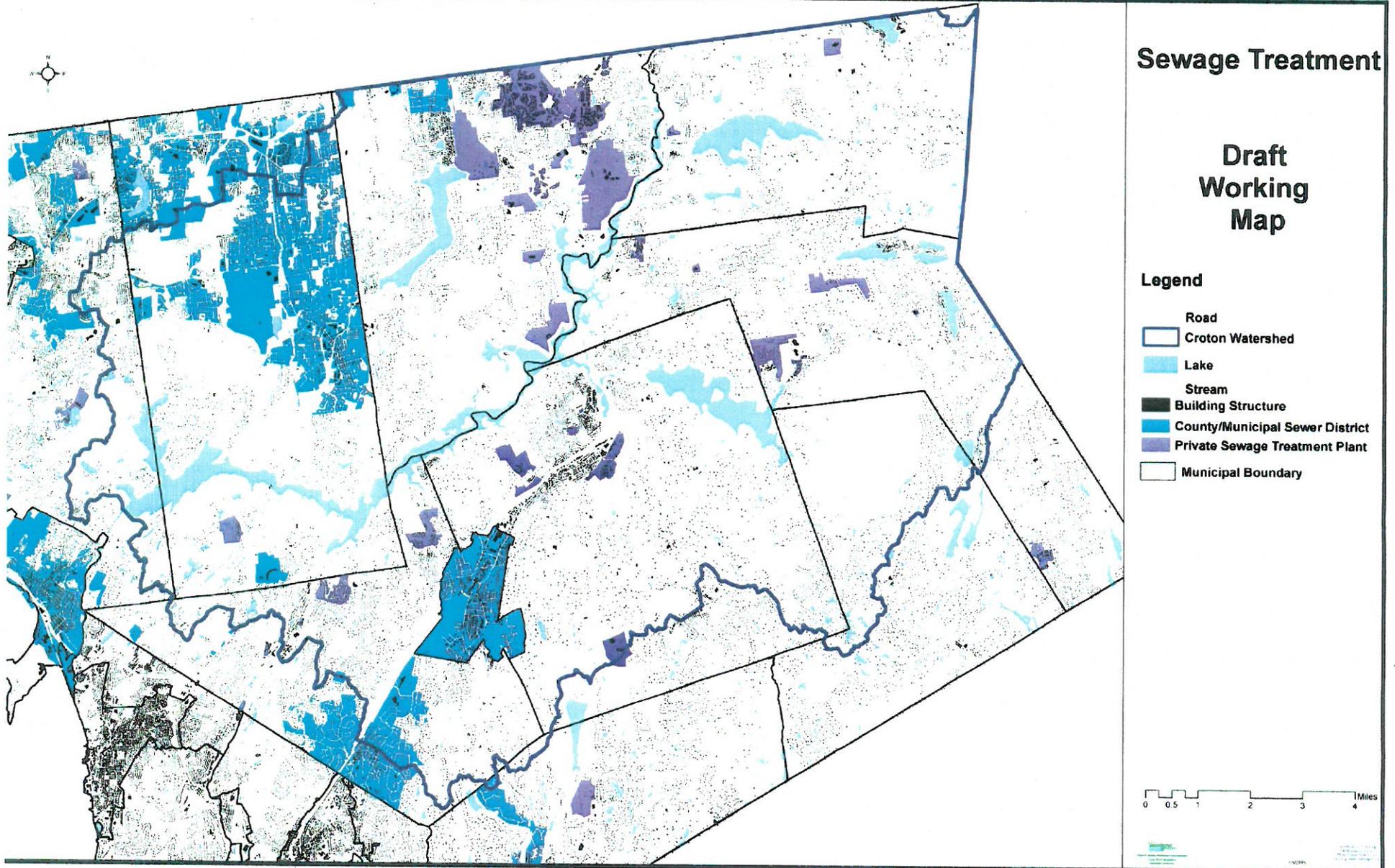
### Parcel Size

- Less than 1/2 acre
- 1/2 - 1 acre
- 1 - 2 acres
- 2 - 5 acres
- greater than 5 acres
- Municipal Boundary

0 0.5 1 2 3 4 Miles

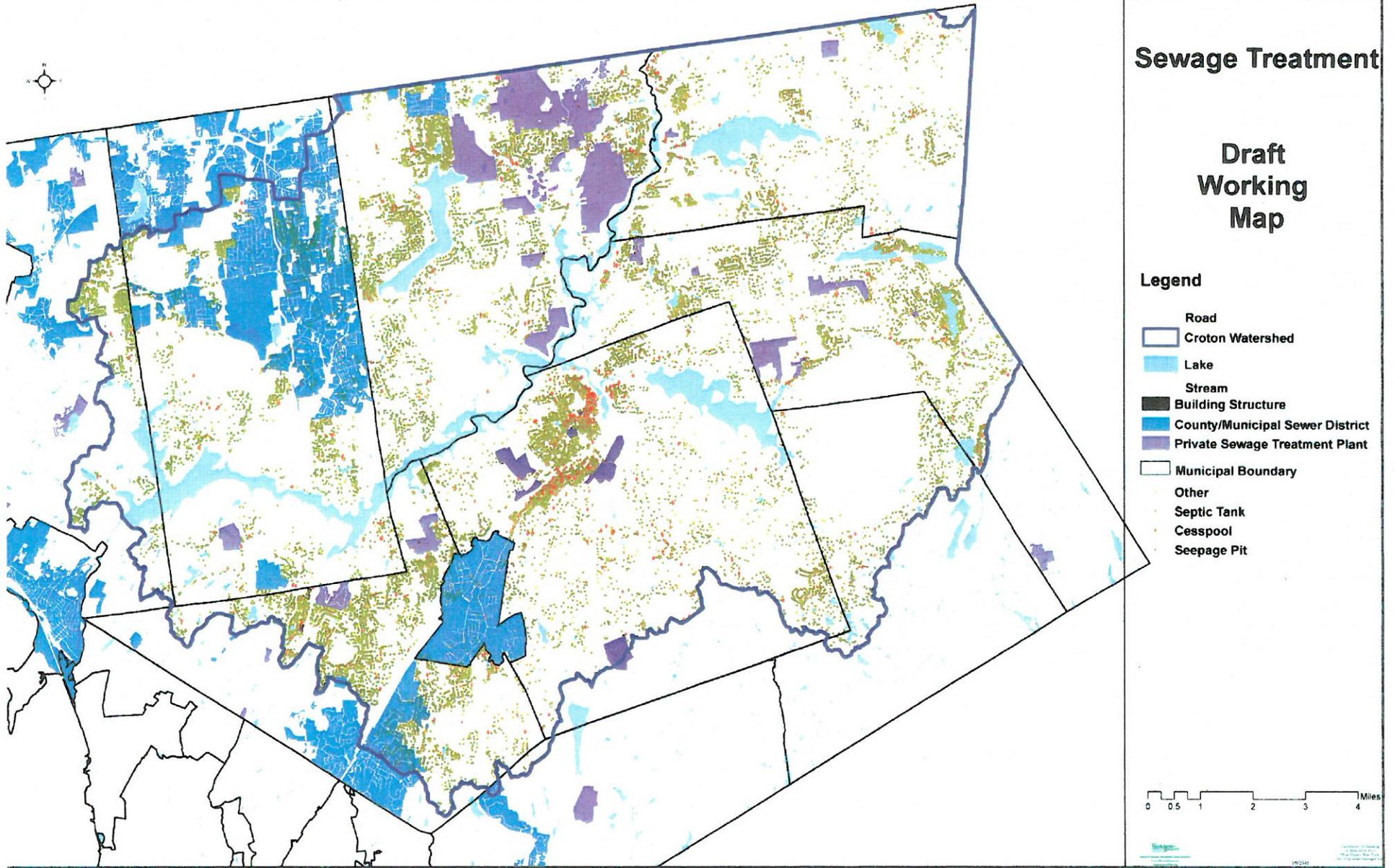
**Croton Watershed**

# Sewer Districts



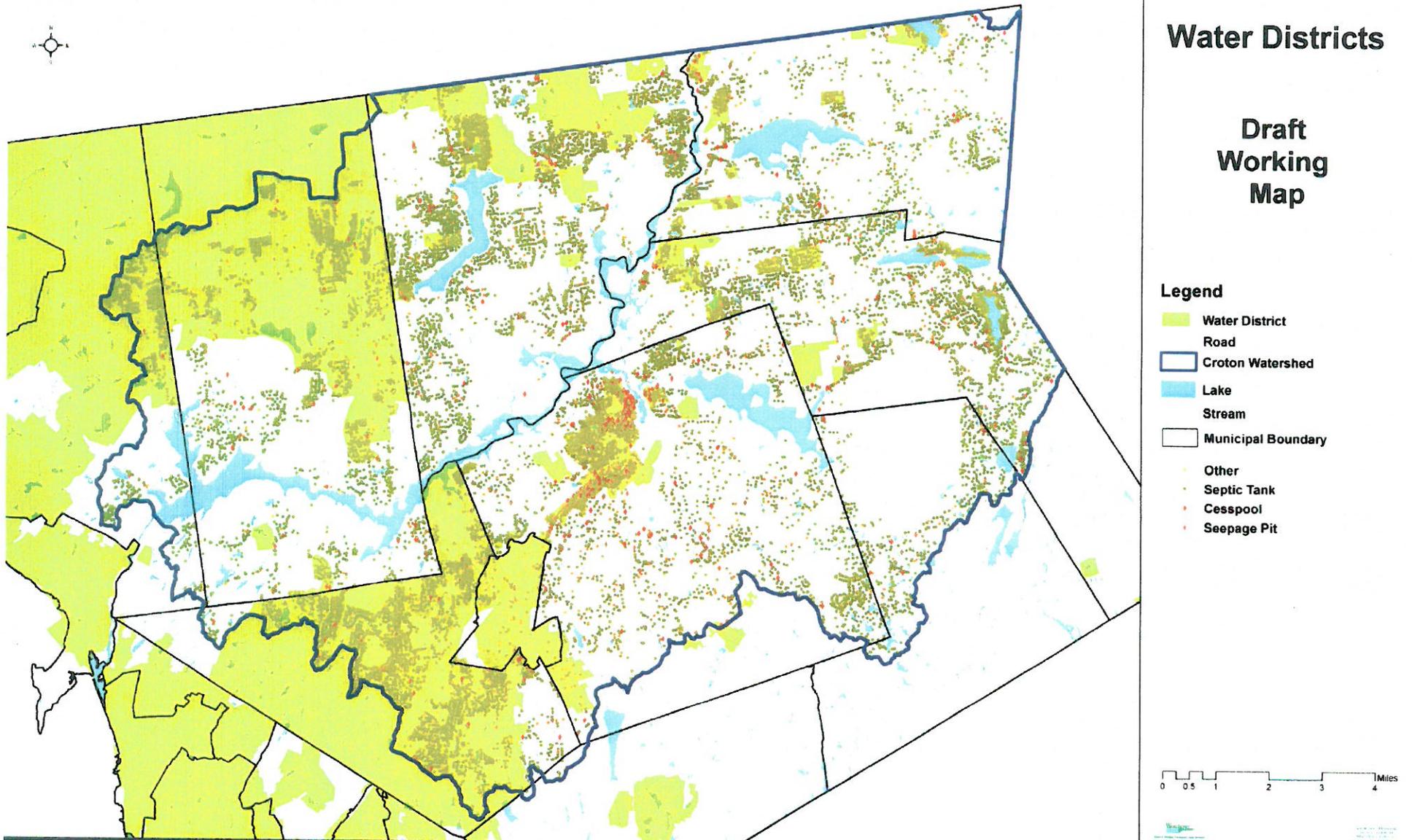
Croton Watershed

# Sewer Districts & Pumpout Data



Croton Watershed

# Water Districts



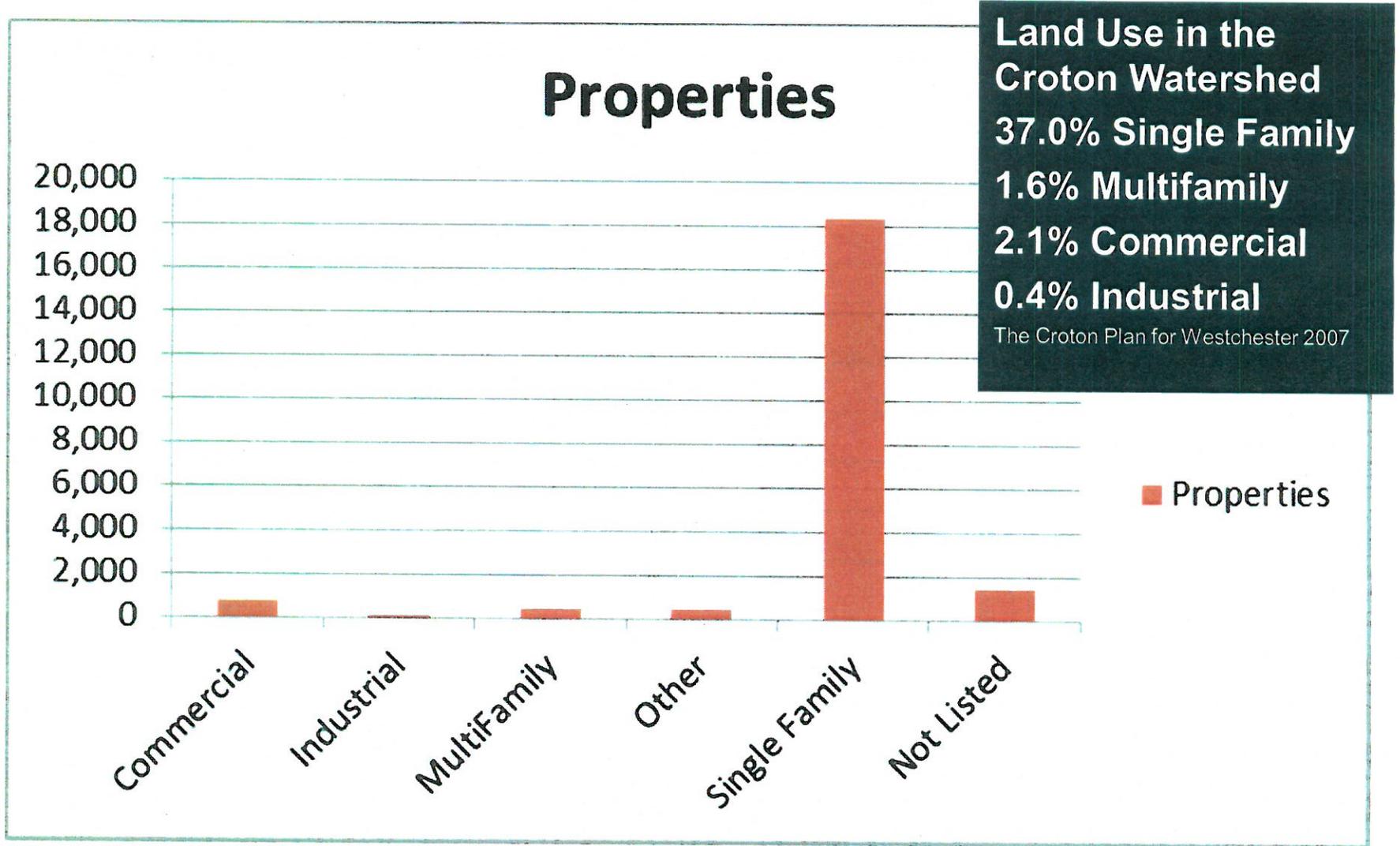
Croton Watershed

# Septic System Failures

<b>Year</b>	<b>Failures</b>	<b>Total Records</b>
<b>2008</b>	<b>63</b>	<b>7691</b>
<b>2009</b>	<b>19</b>	<b>5165</b>
<b>2010</b>	<b>4</b>	<b>3907</b>
<b>2011</b>	<b>5</b>	<b>2622</b>
<b>2012</b>	<b>24</b>	<b>7385</b>
<b>2013</b>	<b>28</b>	<b>7201</b>
<b>2014</b>	<b>16</b>	<b>7324</b>
<b>2015</b>	<b>4</b>	<b>4526</b>
<b>TOTAL</b>	<b>163</b>	<b>45821</b>

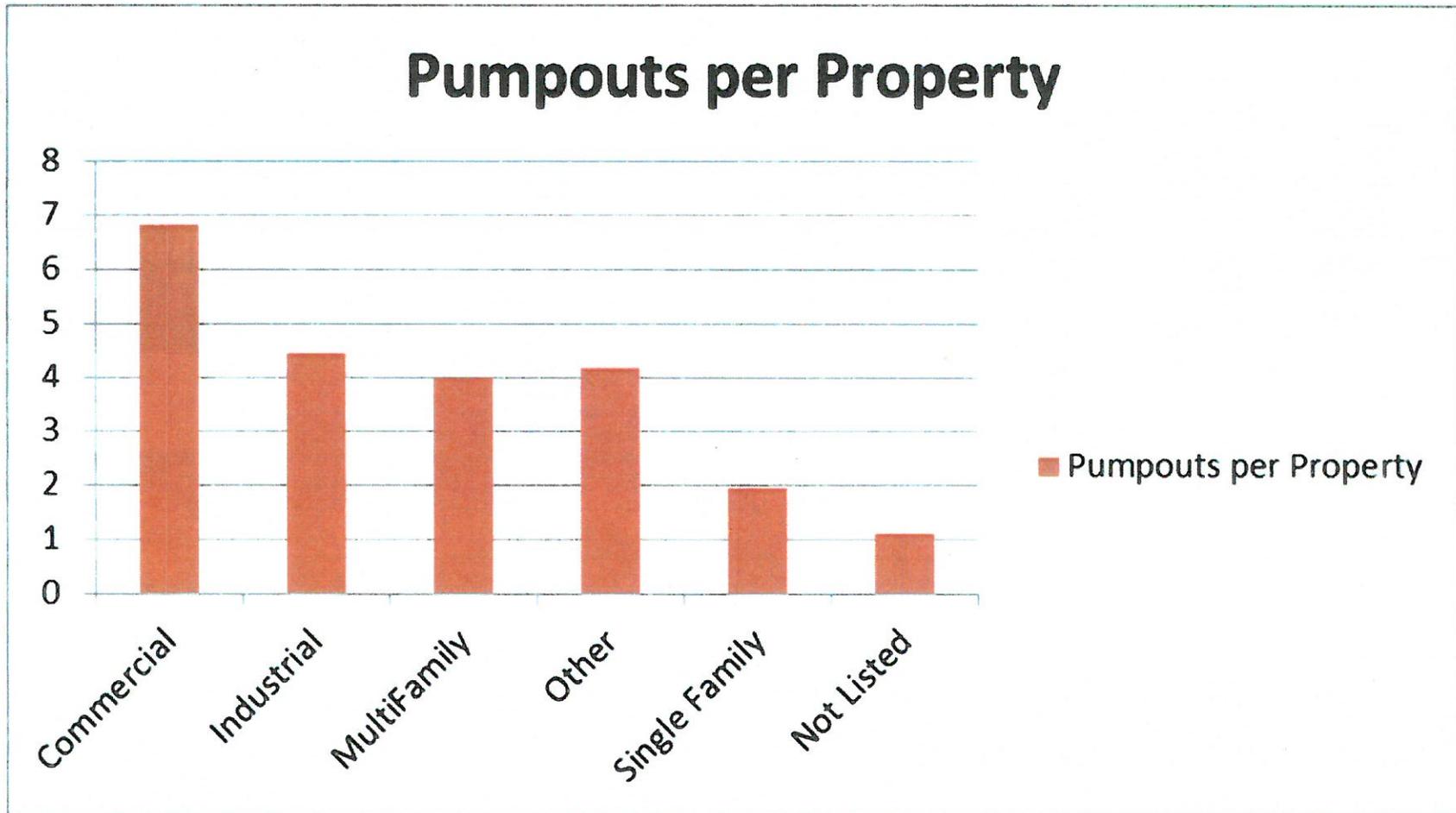
No inspection data for 2007

# Land Use of Tank Pumped Properties



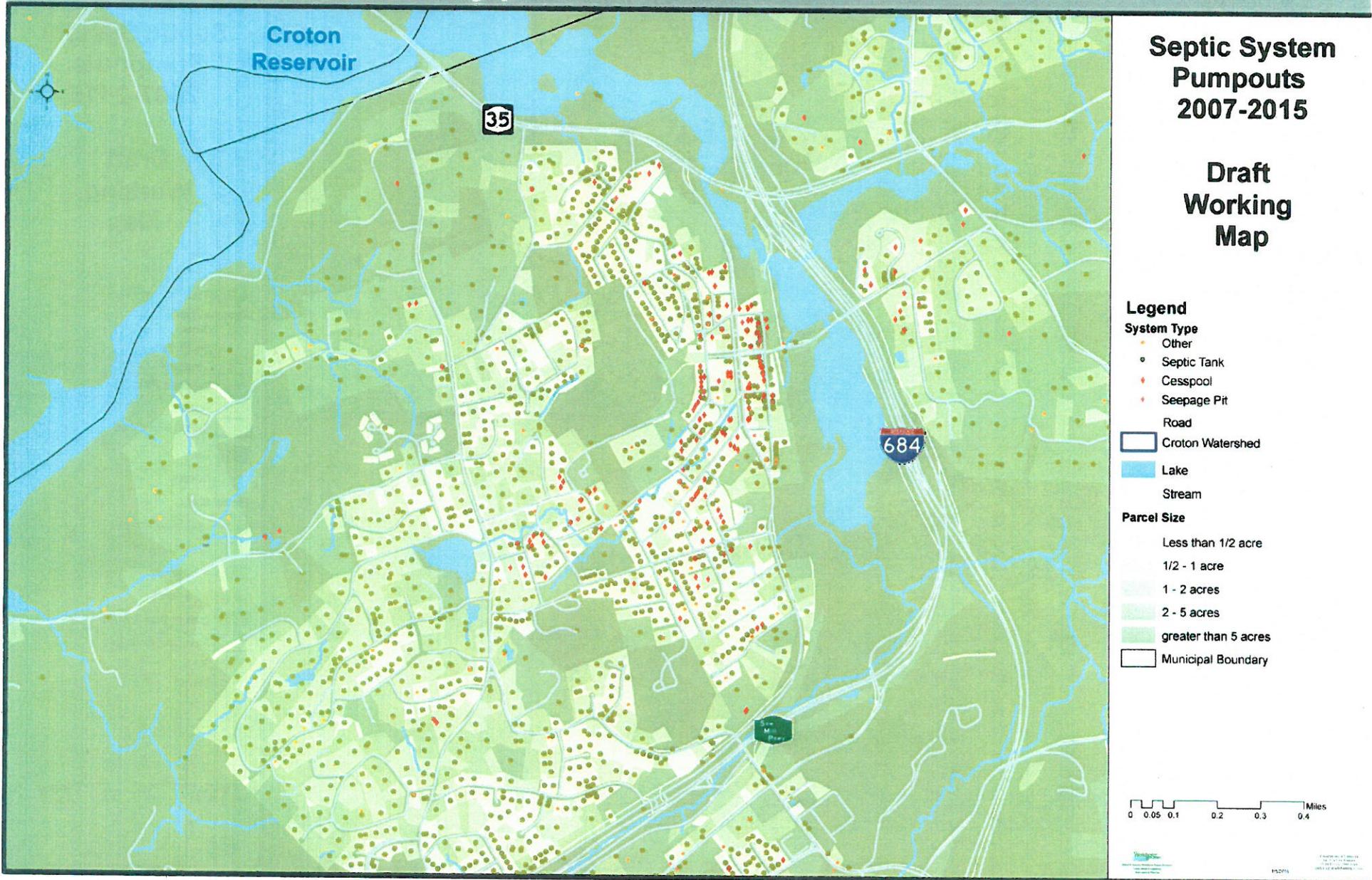
Data from 2007-2015

# Rate of Pumpouts



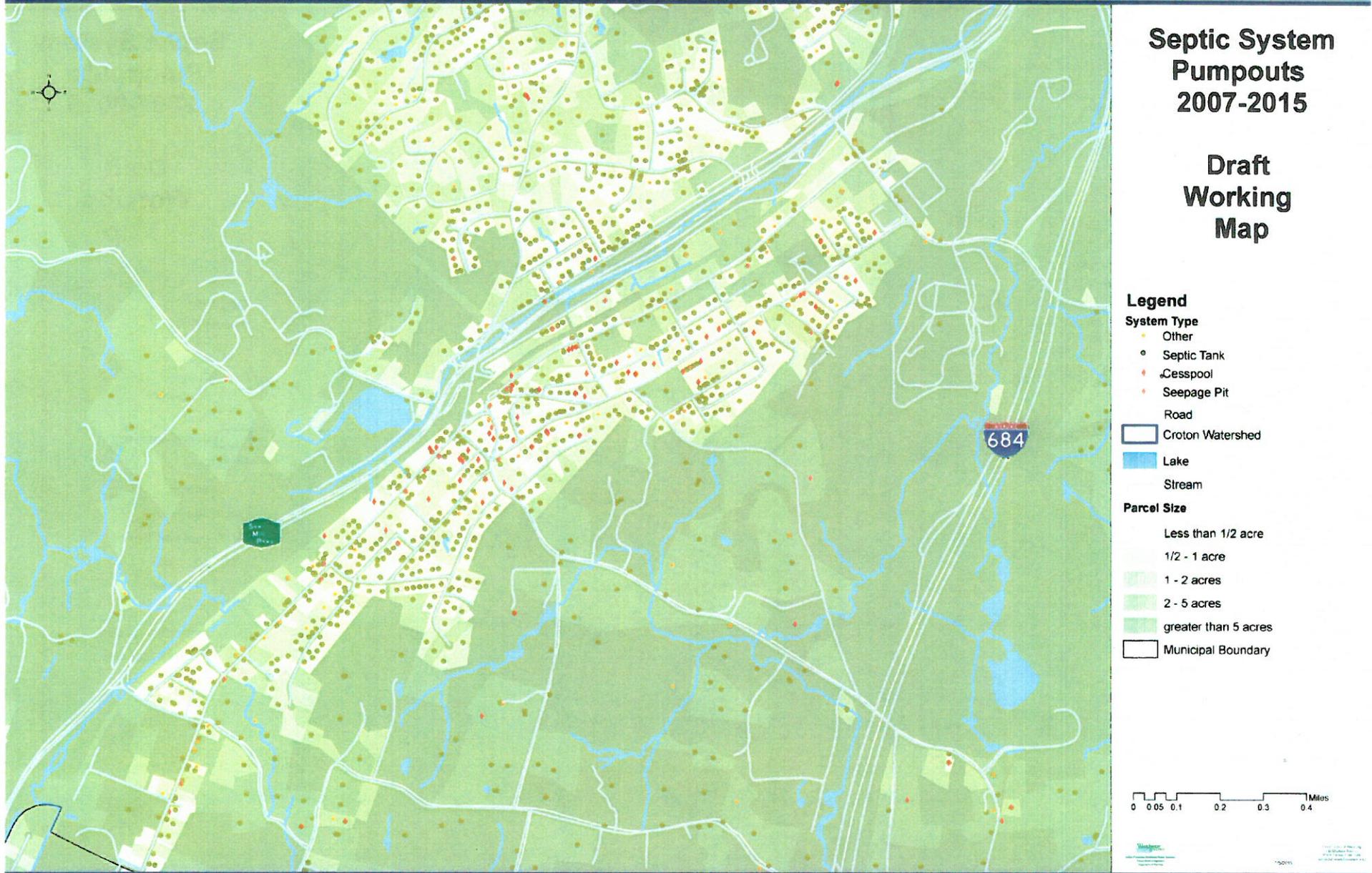
Data from 2007-2015

# Septic System Type



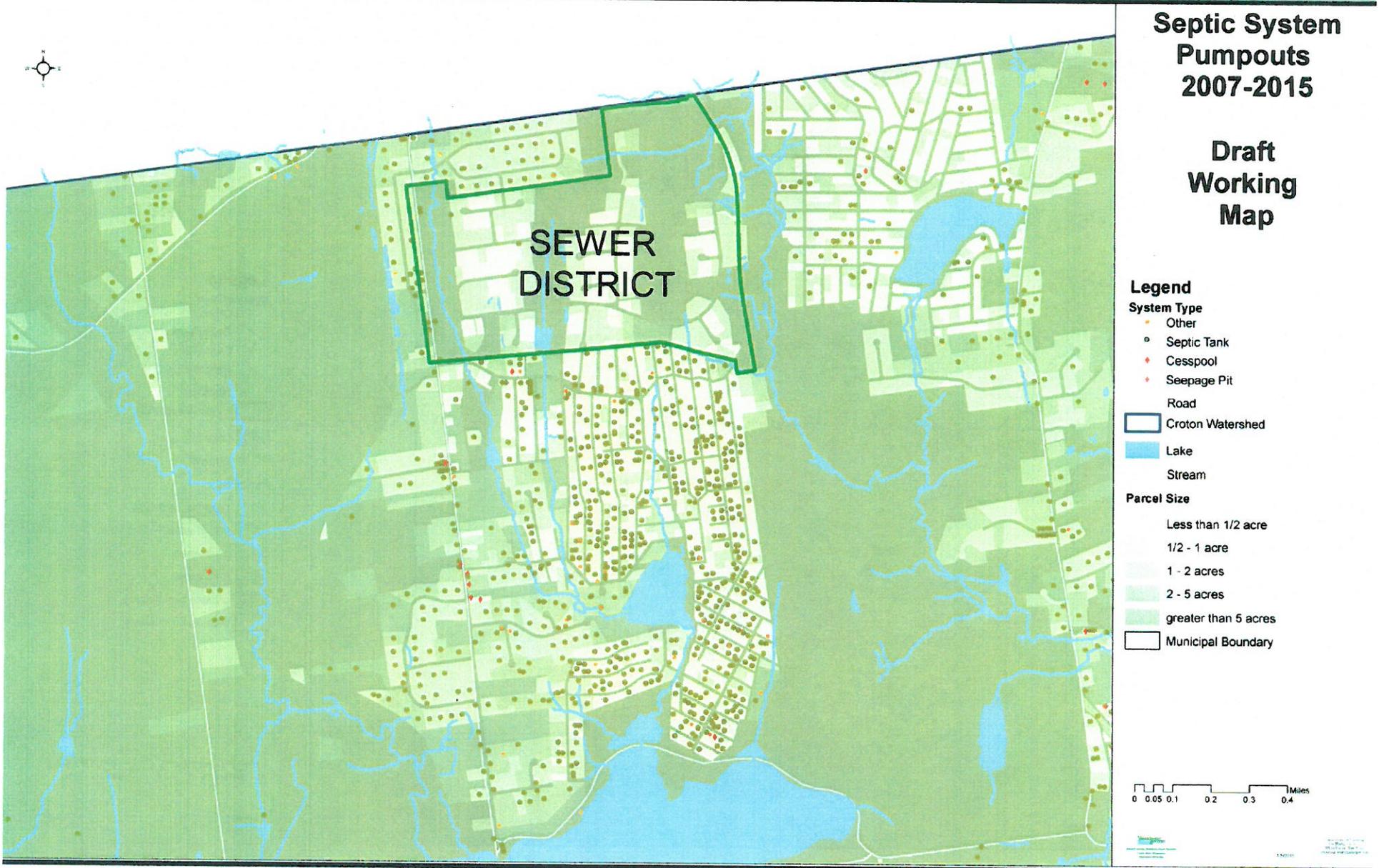
Katonah, Town of Bedford

# Septic System Type



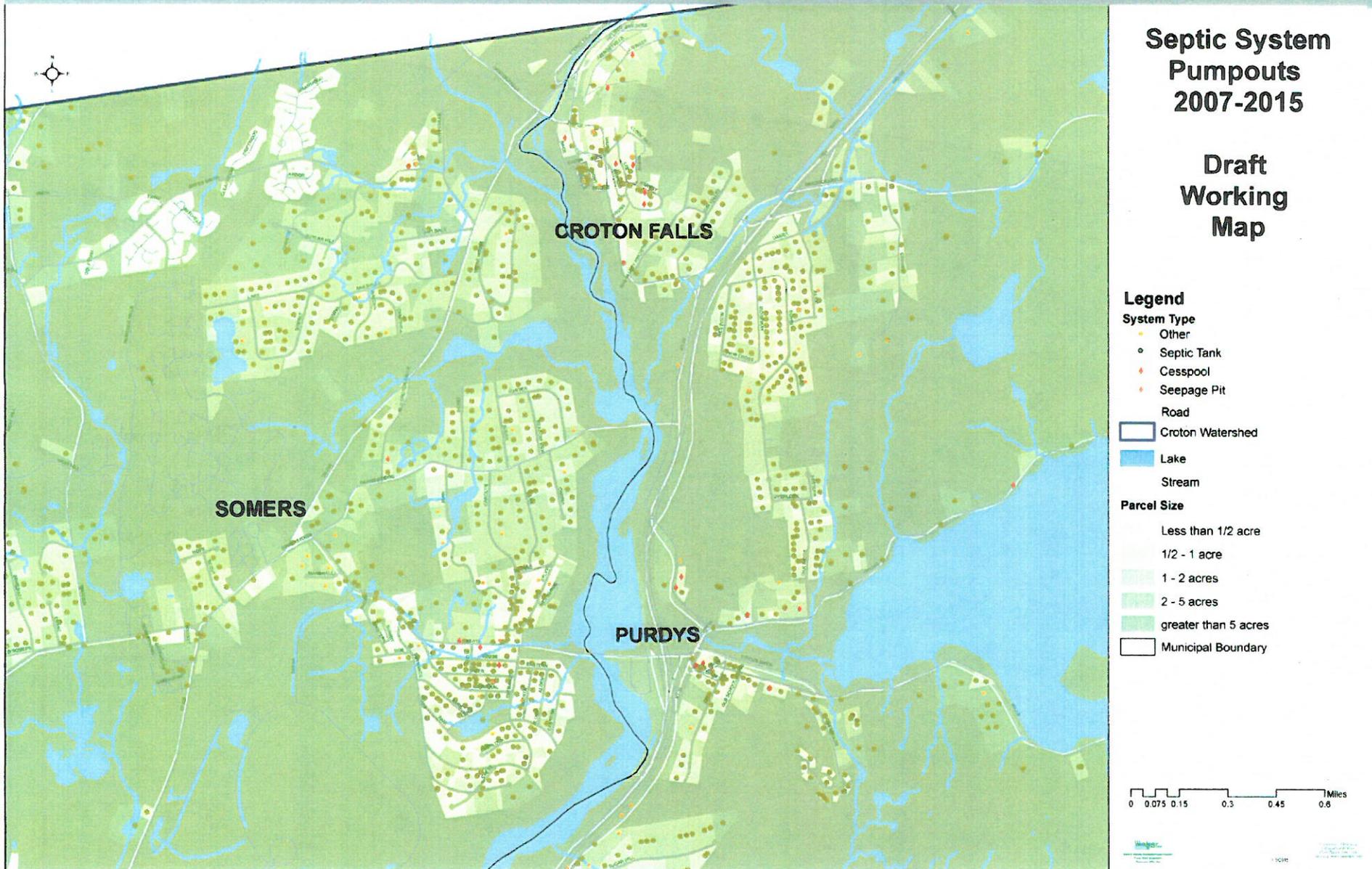
Bedford Hills, Town of Bedford

# Septic System Type



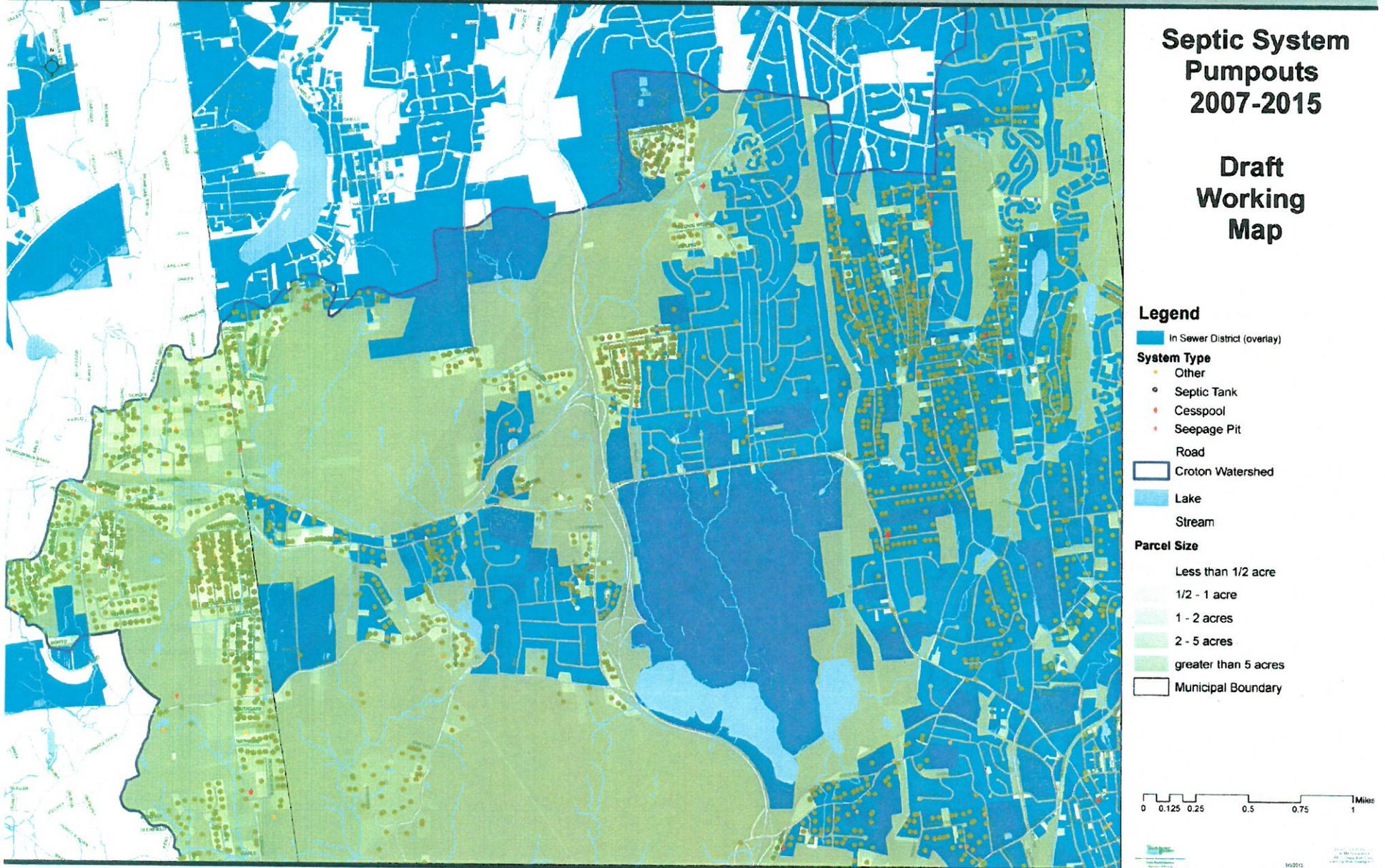
Shenorock/Lincolndale, Town of Somers

# Septic System Type



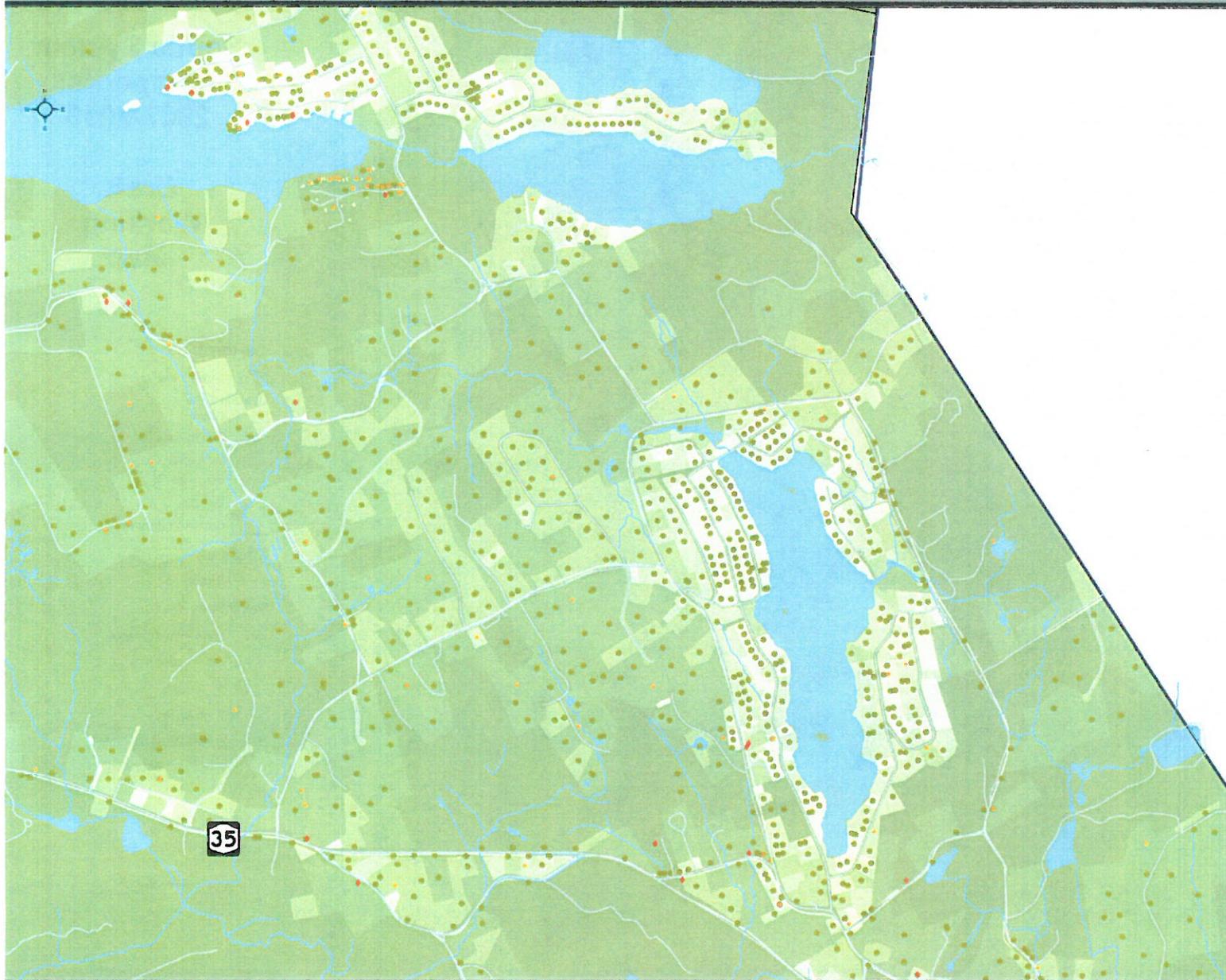
Croton Falls/Purdys/Somers Hamlet

# Septic System Type



Route 202/35 Corridor, Town of Cortlandt/Yorktown

# Septic System Type



## Septic System Pumpouts 2007-2015

### Draft Working Map

#### Legend

##### System Type

- Other
- Septic Tank
- Cesspool
- Seepage Pit

##### Road

Croton Watershed

Lake

Stream

##### Parcel Size

- Less than 1/2 acre
- 1/2 - 1 acre
- 1 - 2 acres
- 2 - 5 acres
- greater than 5 acres
- Municipal Boundary

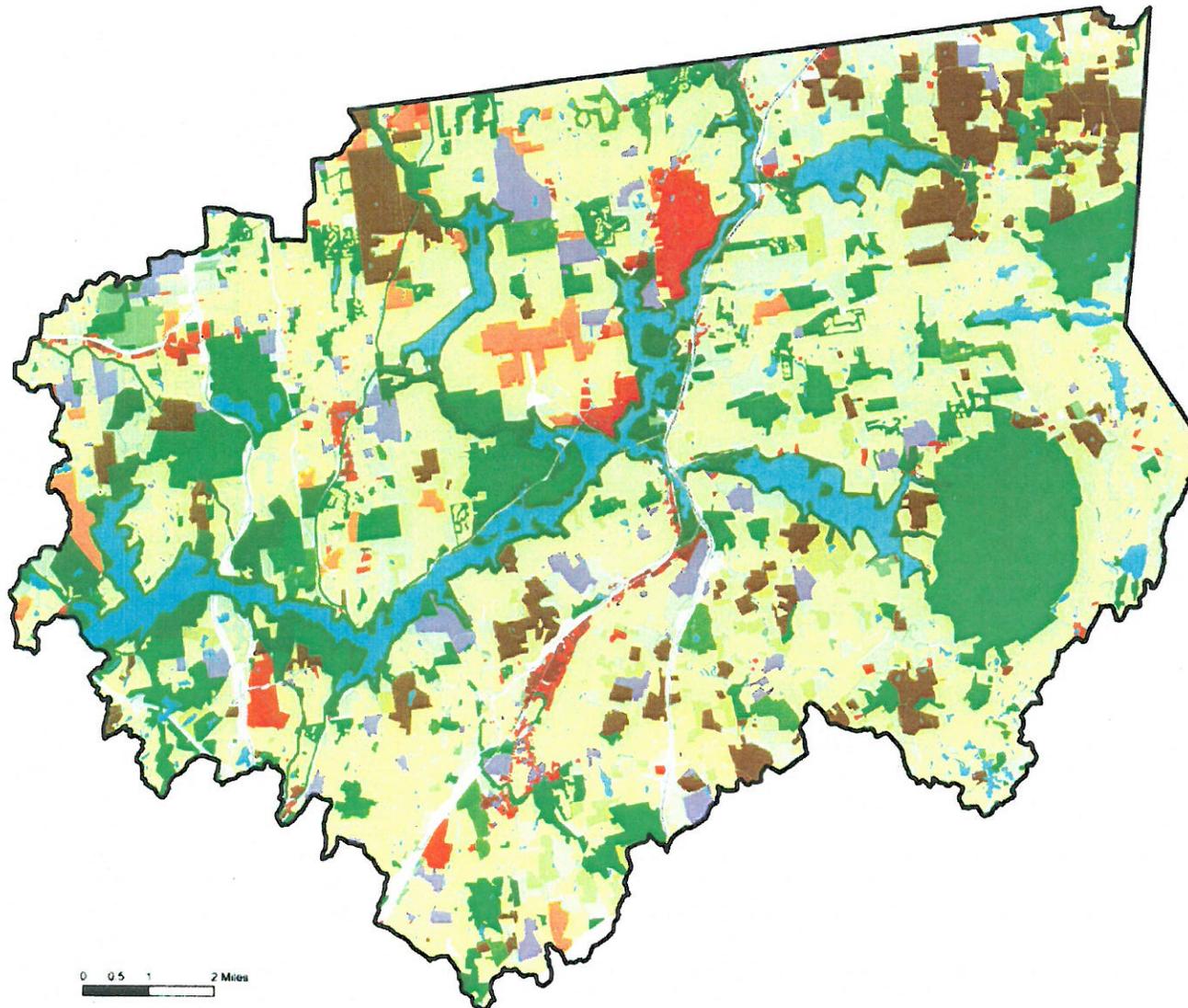
0 0.05 0.1 0.2 0.3 0.4 Miles

Oscaleta, Waccabuc, Rippowam & Truesdale - Lewisboro

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# Croton Watershed Land Use -2005



## LEGEND

### Water Body

Blue Lake, Pond, Stream

### Residential

Light Yellow Residential

Yellow Estate with Multiple Residences

### Commercial

Red Retail/Service/Mixed Use

Brown Automotive/Manufacturing/Industrial

### Public/Semi-Public

Purple School/Institution/Cemetery

White Utility/Parking/Municipal

### Parks and Open Space

Light Green Private Recreation/Golf Course

Medium Green Public Park/Conservation Land

Dark Green NYC Water Supply Land

### Agriculture

Brown Crop/Orchard/Wholesale Nursery/Horse Farm

### Undeveloped

Orange Pending Subdivision

Light Green Undeveloped - Private

Medium Green Undeveloped - Public

### Right-of-Way

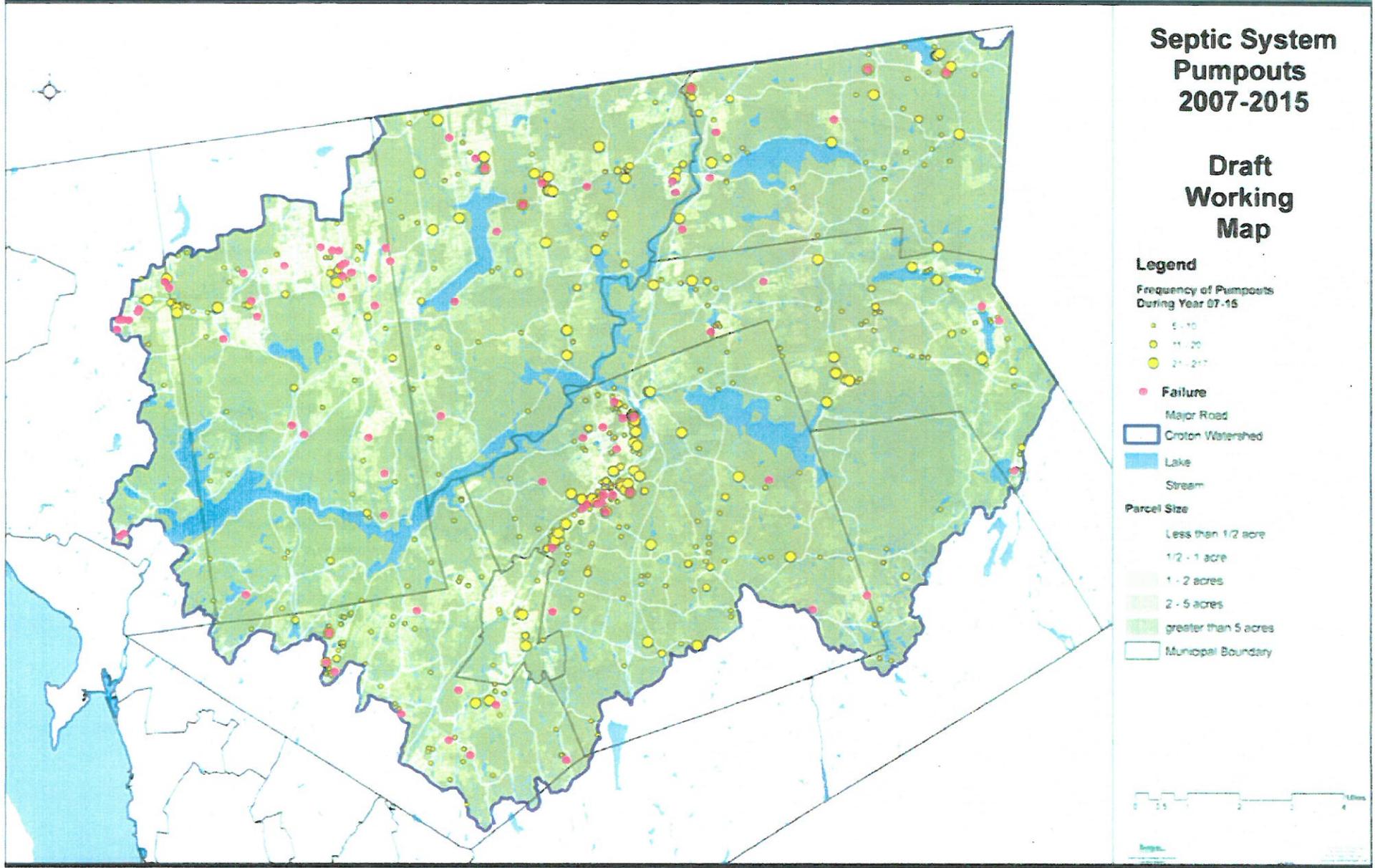
White Road/Parkway

source: Westchester County, 2004

The Croton Plan For Westchester

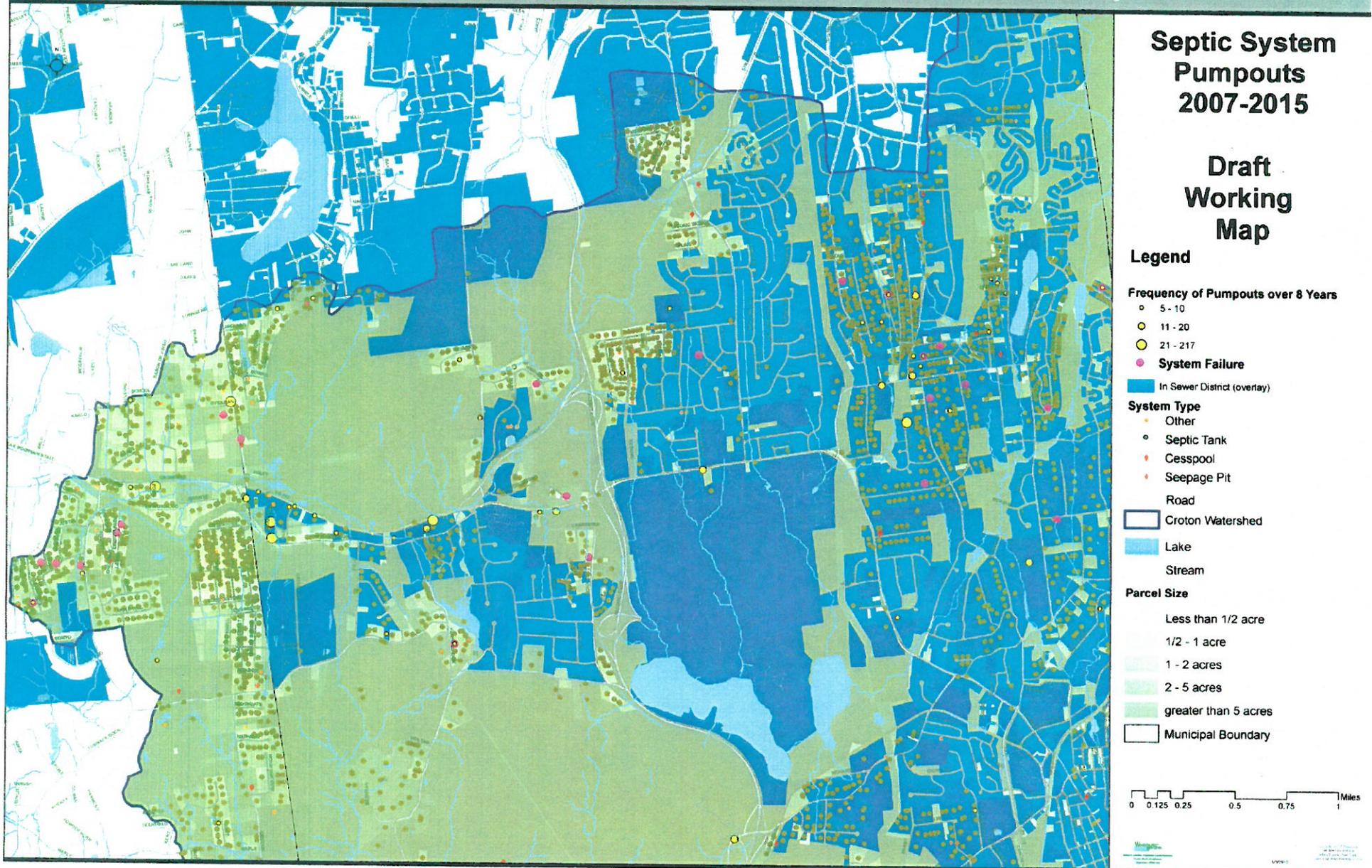
0 0.5 1 2 Miles

# Septic System Failures & Frequent Pump-outs



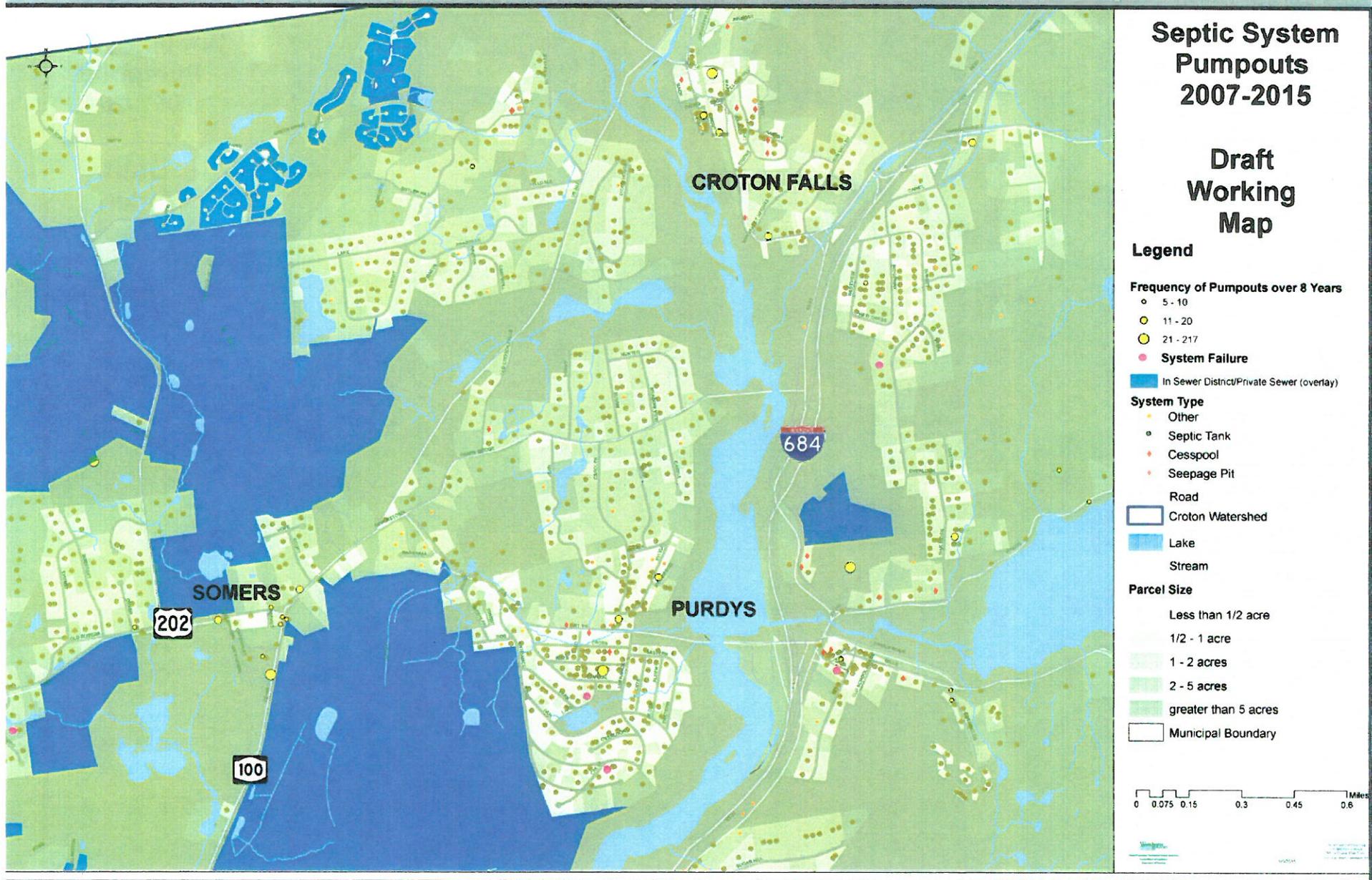
Croton Watershed

# Septic System Failures & Frequent Pumpouts



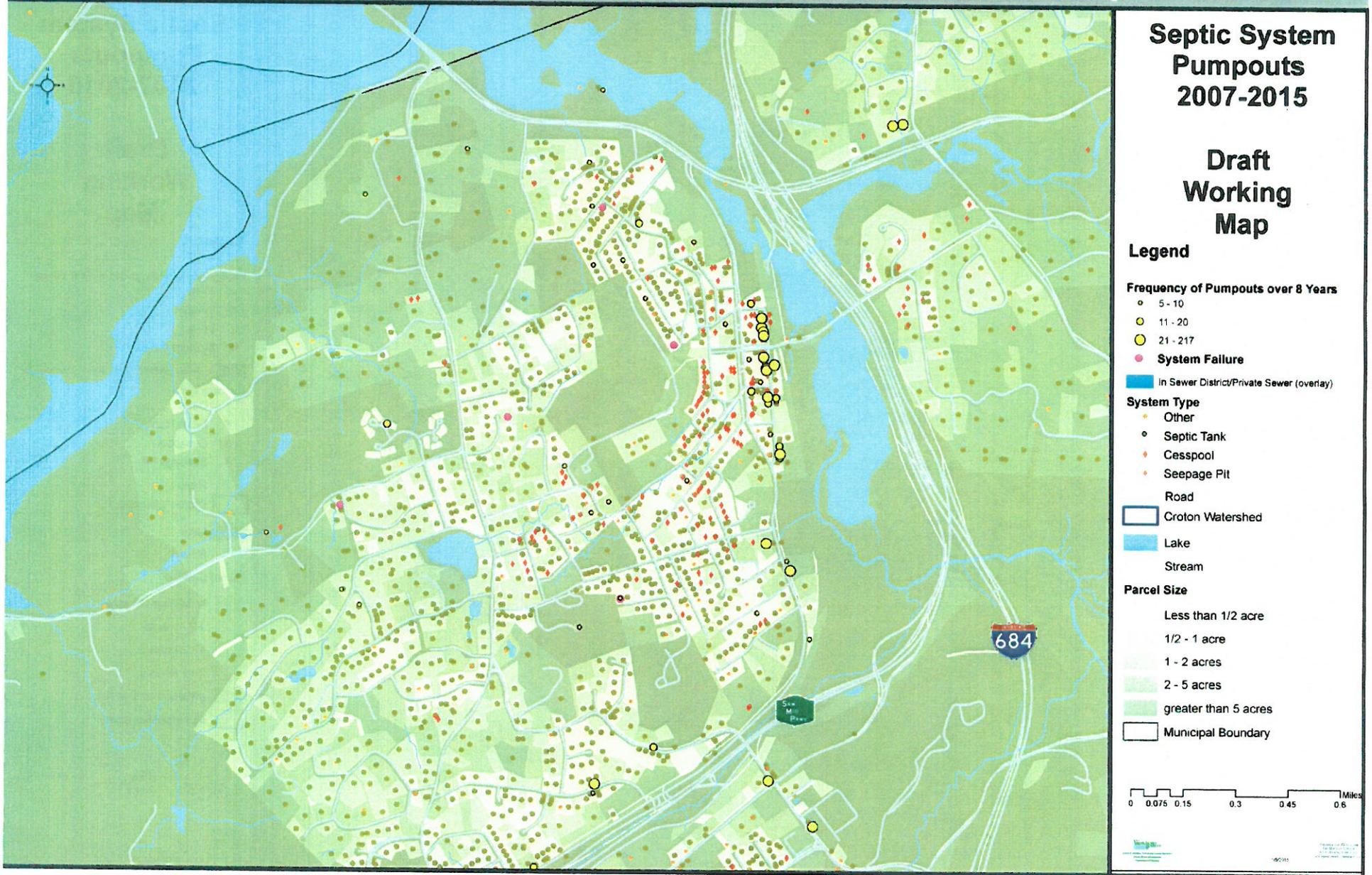
Route 202/35 Corridor, Town of Cortlandt/Yorktown

# Septic System Failures & Frequent Pumpouts



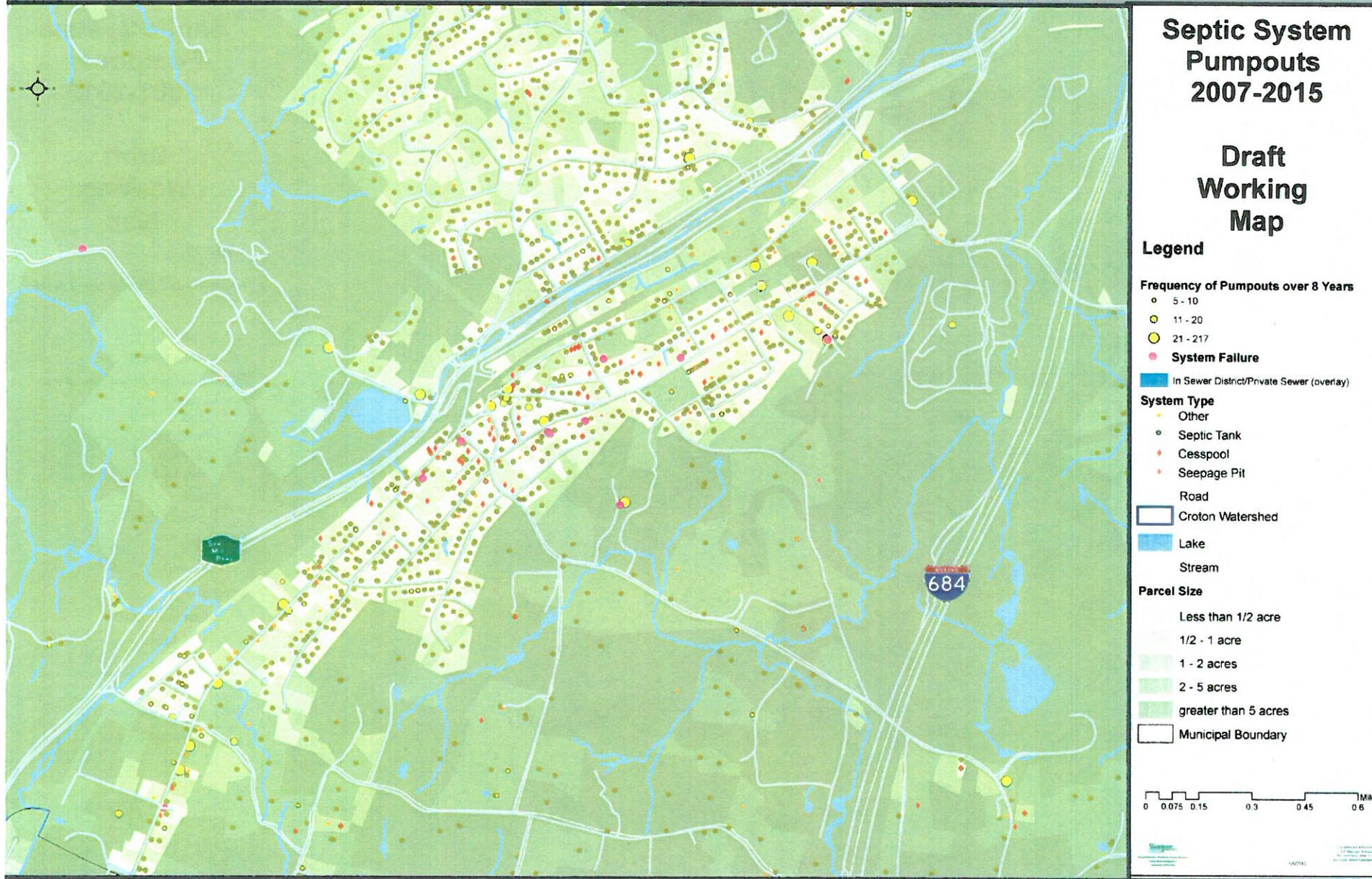
Croton Falls, Purdys & Somer's Hamlet

# Septic System Failures & Frequent Pumpouts



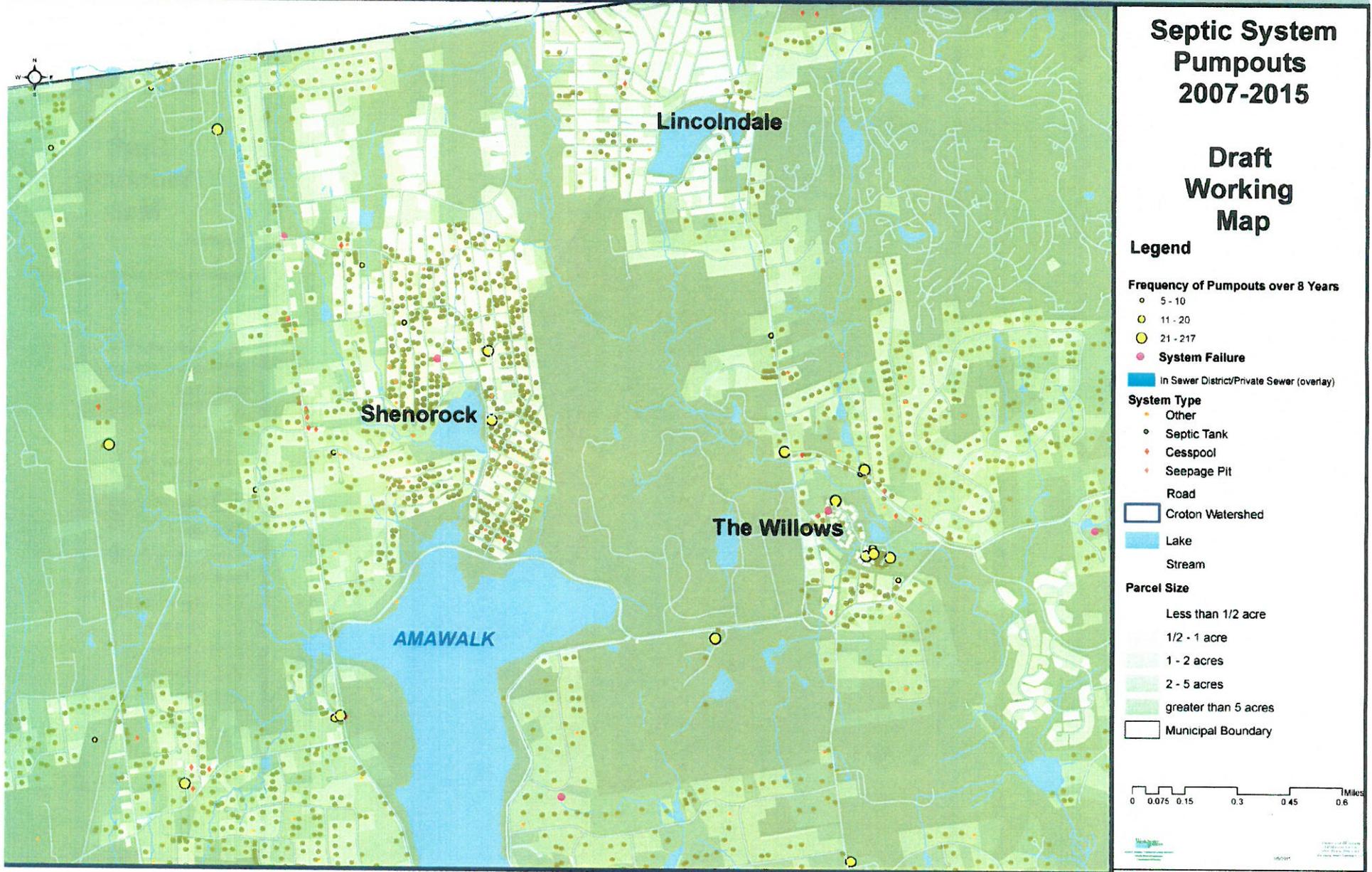
Katonah

# Septic System Failures & Frequent Pumpouts



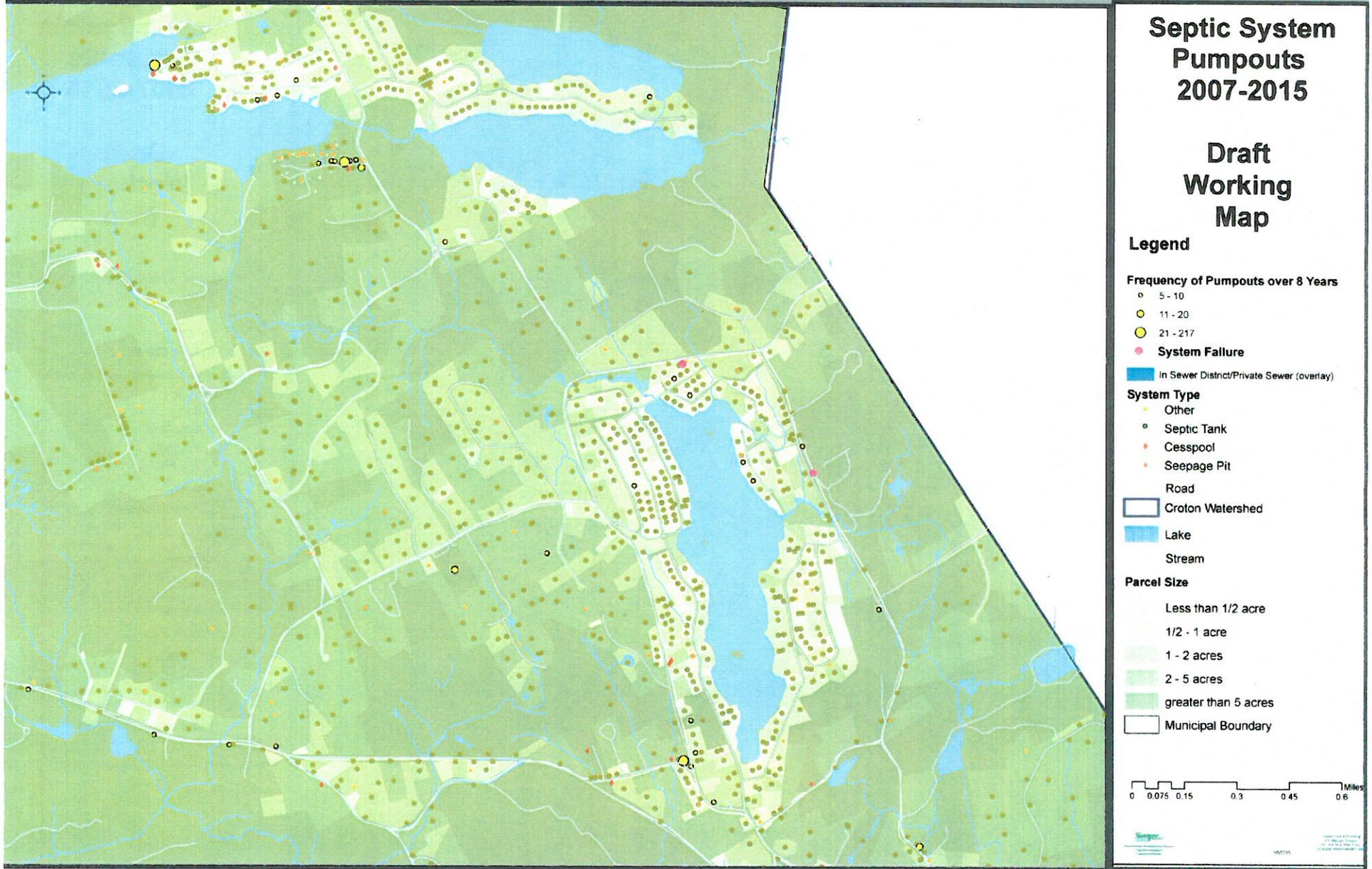
Bedford Hills

# Septic System Failures & Frequent Pumpouts



Shenorock/Lincolndale, Somers

# Septic System Failures & Frequent Pumpouts

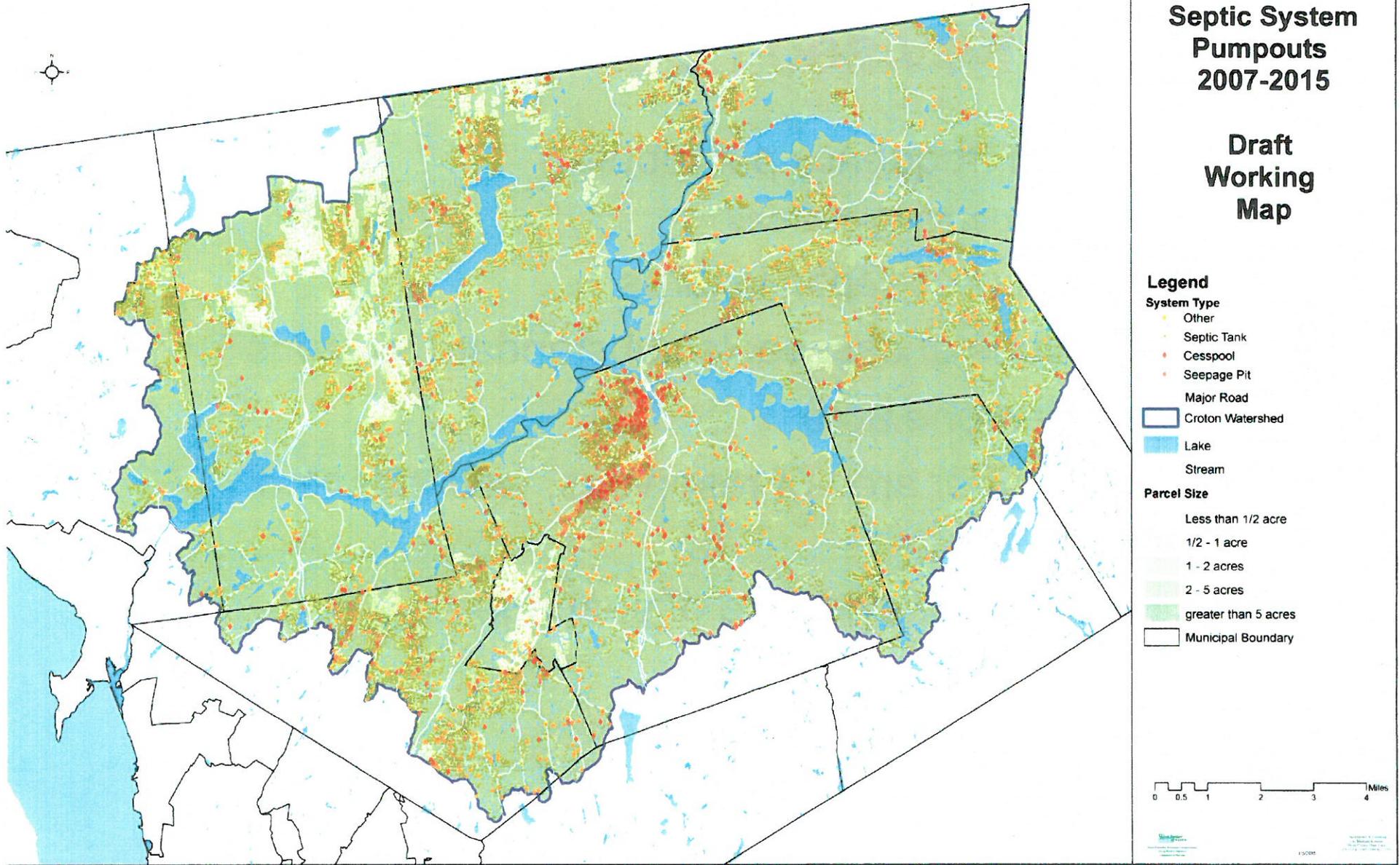


Oscaleta, Waccabuc, Rippowam & Truesdale - Lewisboro

# Potential Revised Focus Areas?

- Areas of high frequency pumpouts
  - Common in commercial areas
- Concentrations of septic failures
- Concentrations of cesspools/substandard systems
- Lots less than one acre
- Lots within buffer area of reservoirs, wetlands and tributary streams
- Concentrations of evidence of seepage

# Discussion



Croton Watershed



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This presentation has been prepared by the Westchester County  
**Department of Planning**

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Call Tracey S. Corbitt, AICP at (914)995-2090 for assistance.



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