

Need for Water

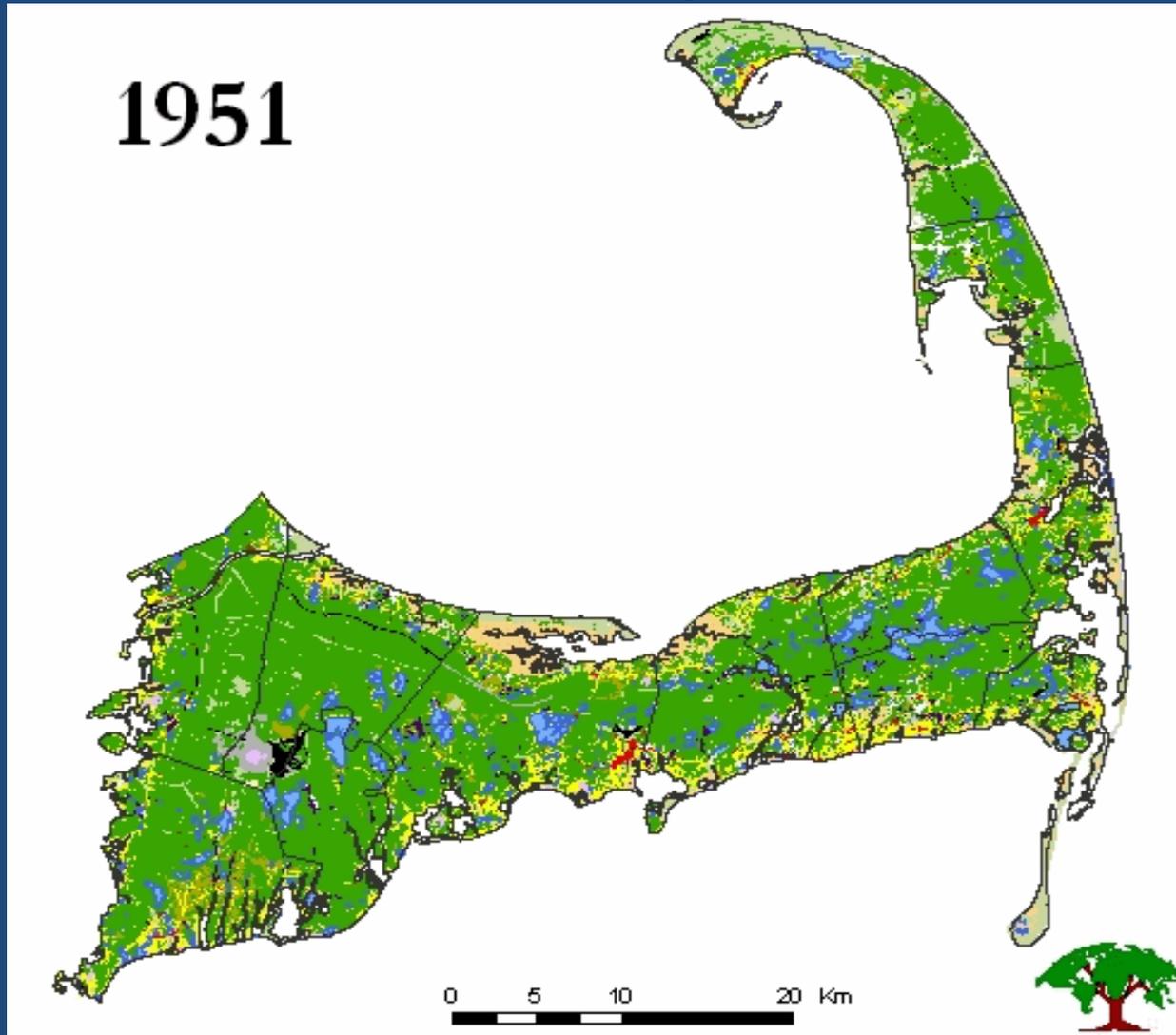
Vision Statement:

“The Board of Selectmen recognize that every citizen of the Town of Eastham has the right to a clean and safe water supply;

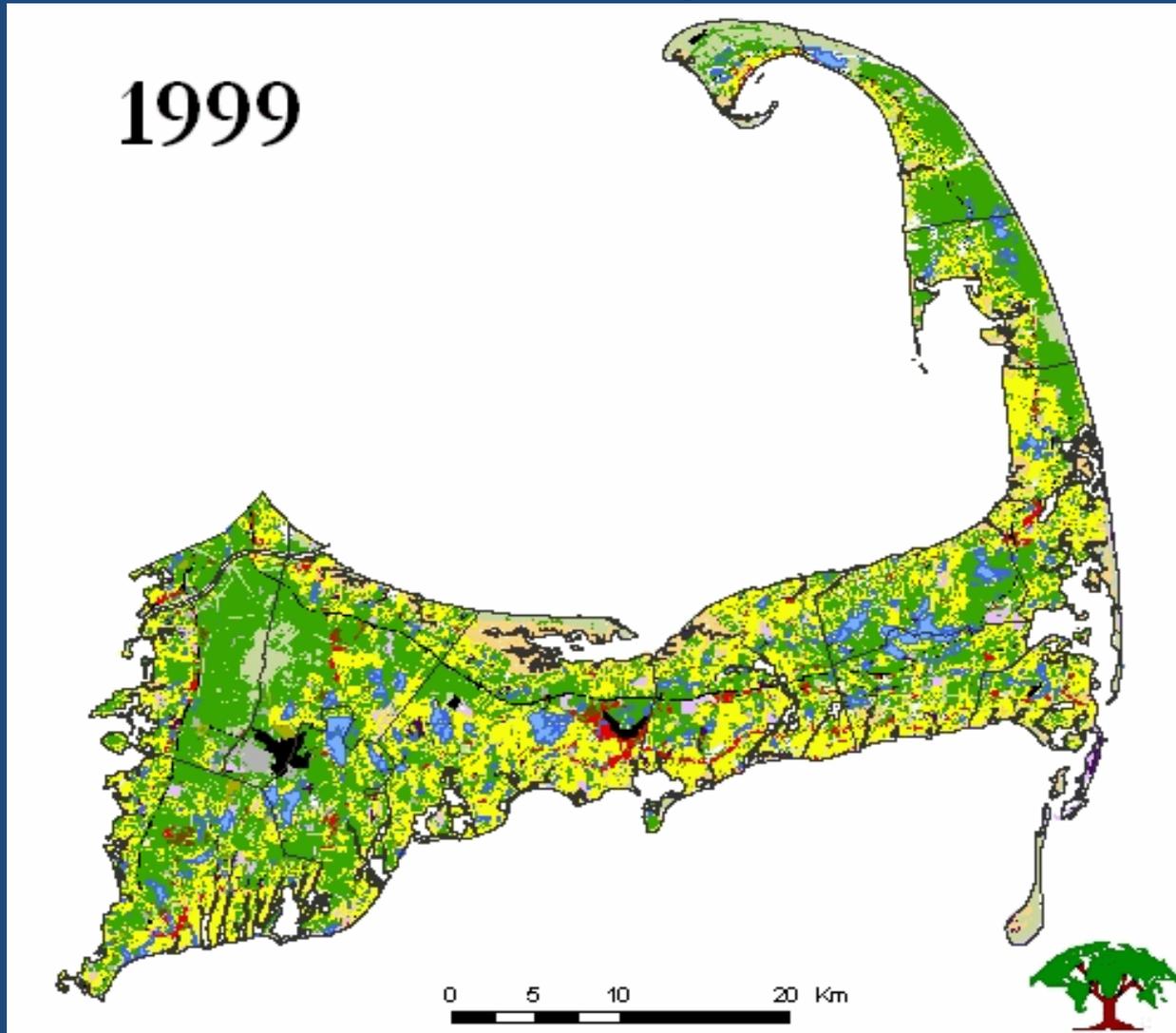
Therefore, we propose the development of a municipal water system for our Town.

This will provide for immediate and long term public health, improve fire safety, and protect property values; ensuring the continued vitality of the Town and its citizens, now and for future generations.”

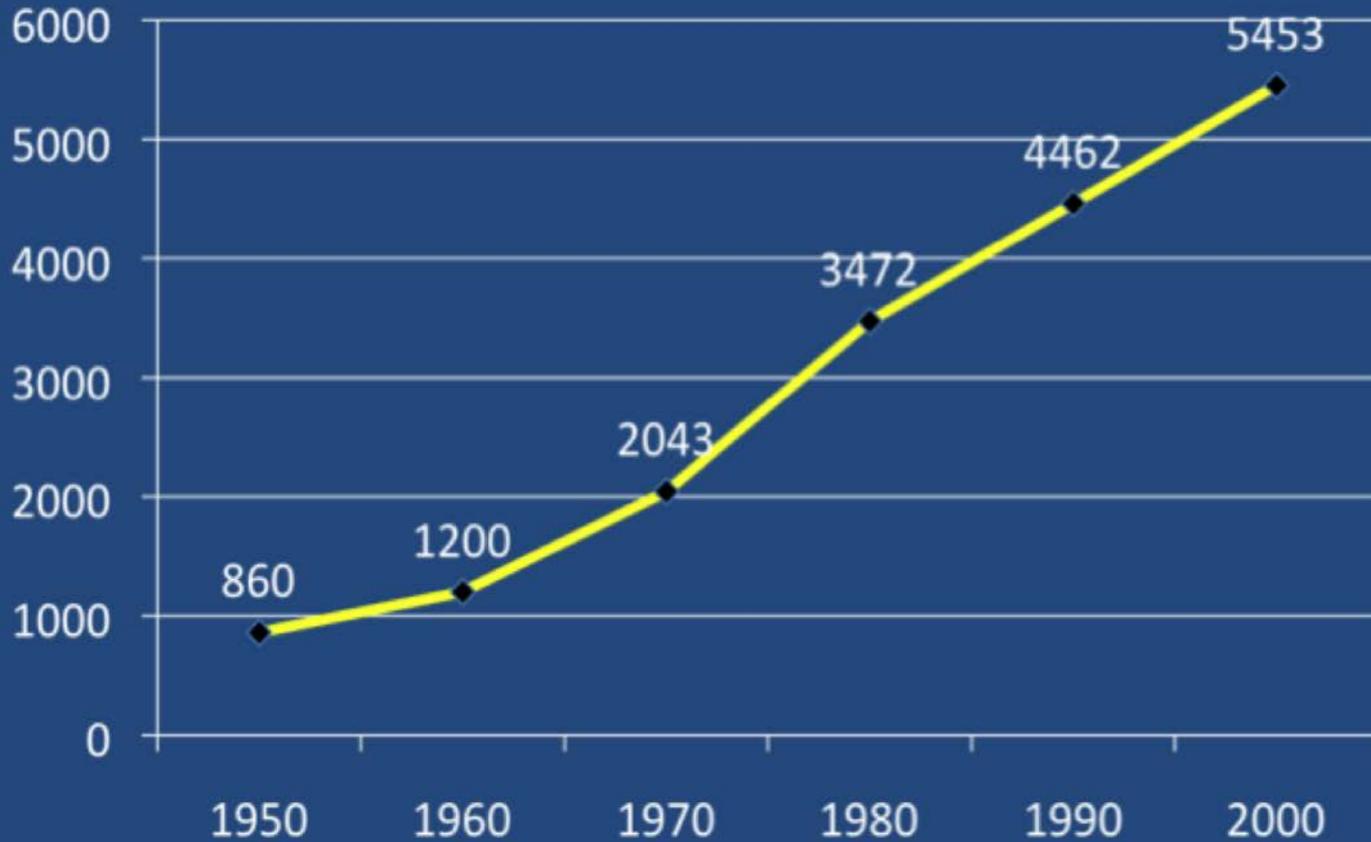
Eastham's Development Over Time



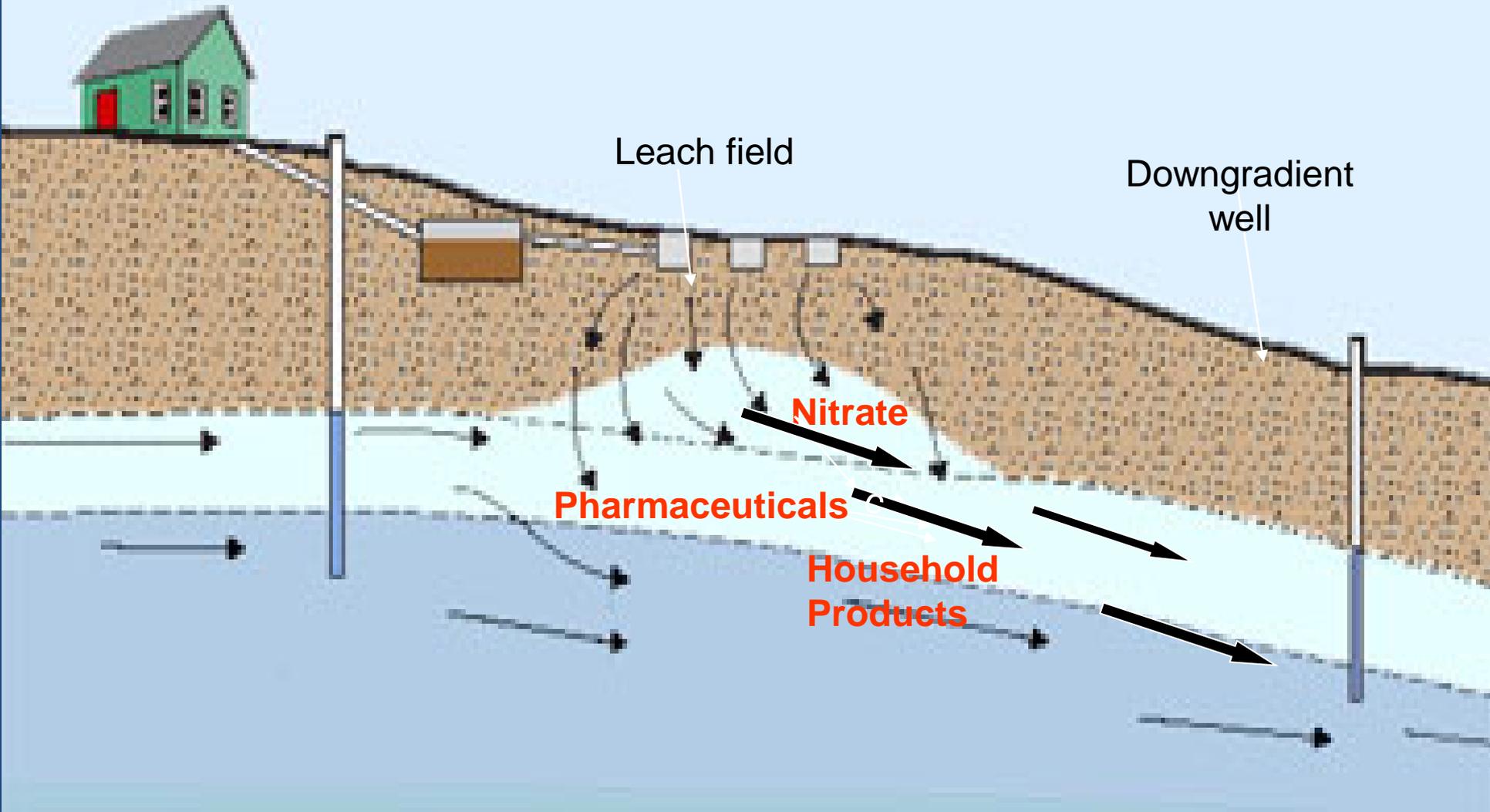
Eastham's Development Over Time



Population Changes since 1950

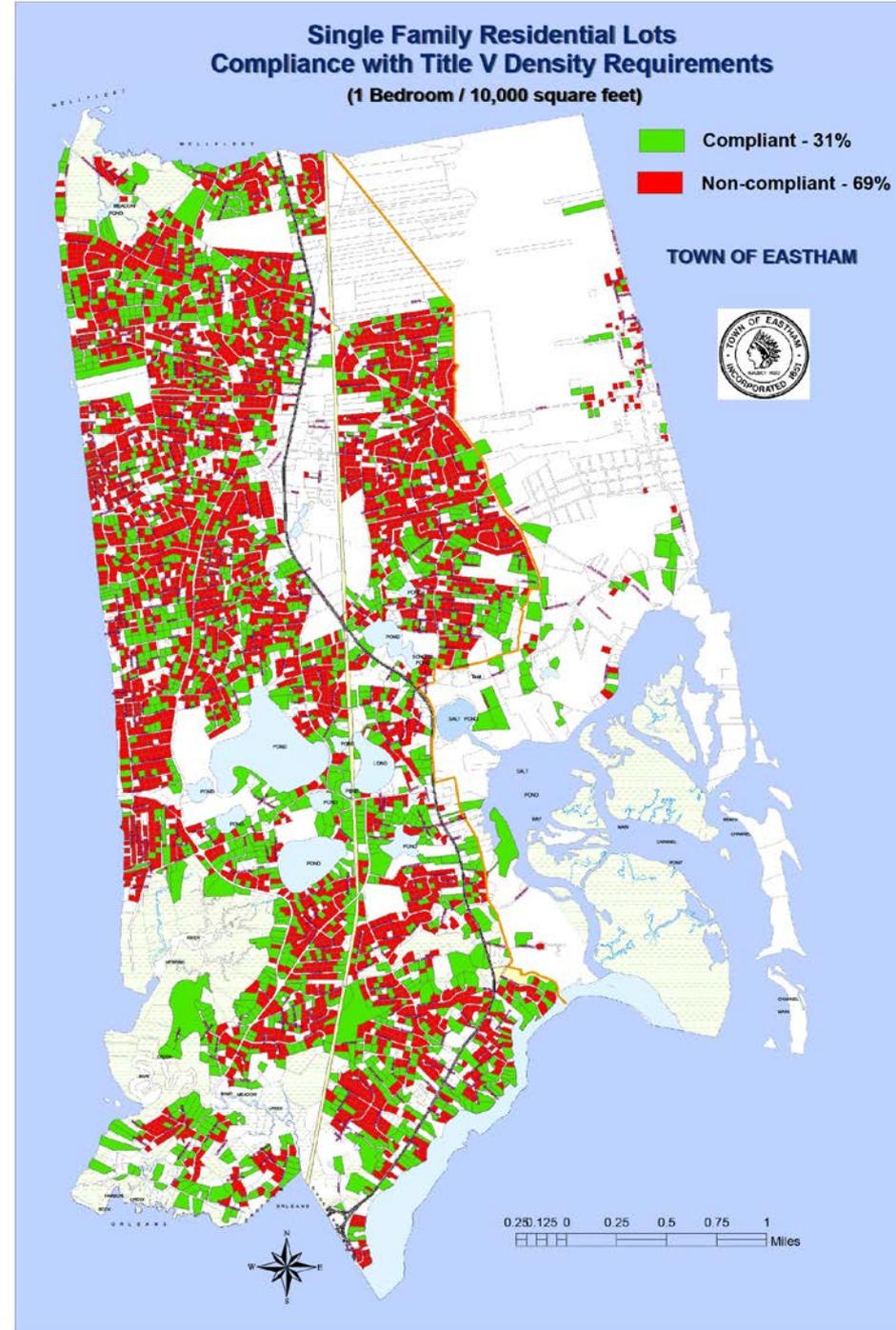


Title V septic System



Bedroom density and nitrate levels

70% of single family residences (7 out of 10 homes) exceed the Title 5 standard for density on nitrogen sensitive lots



NITRATE IS AN INDICATOR OF WASTEWATER IN WELL WATER

MORE NITROGEN = MORE CONTAMINANTS

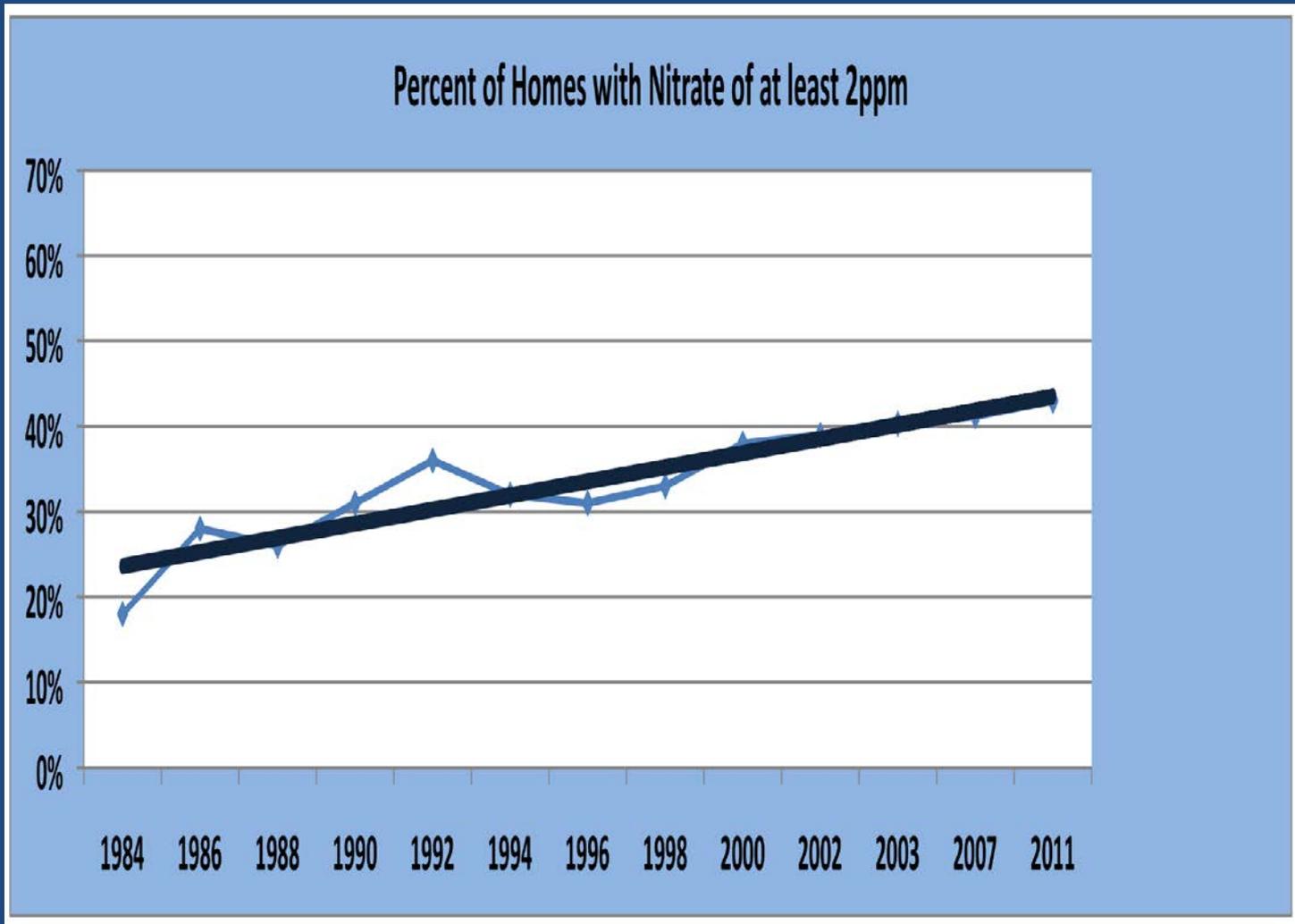
Nitrate > 1.0 ppm is above background

From: Cape Cod Commission

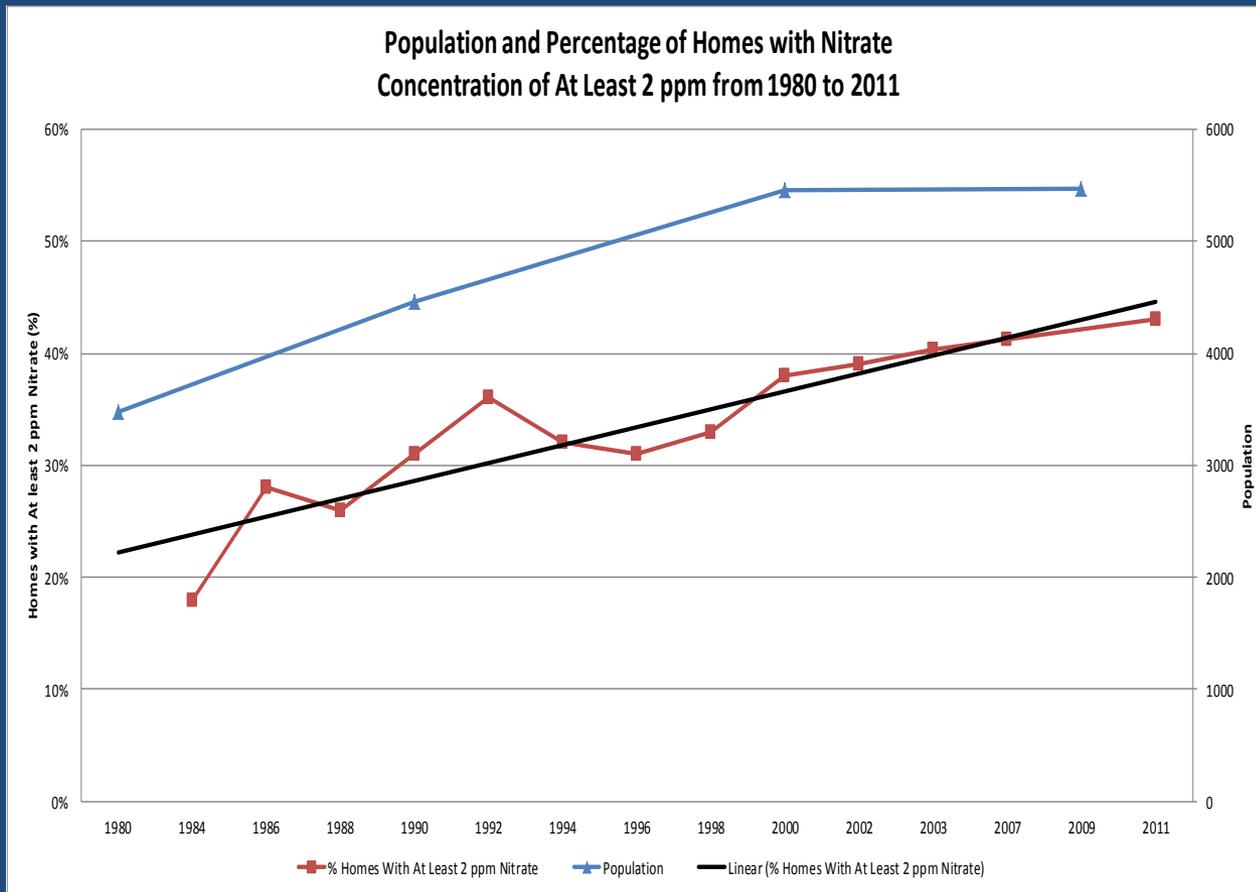
Nitrate > 2.0 ppm influenced by septic system

From: Barnstable County Department of Health

Homes with nitrate of at least 2 ppm continue to increase over time.

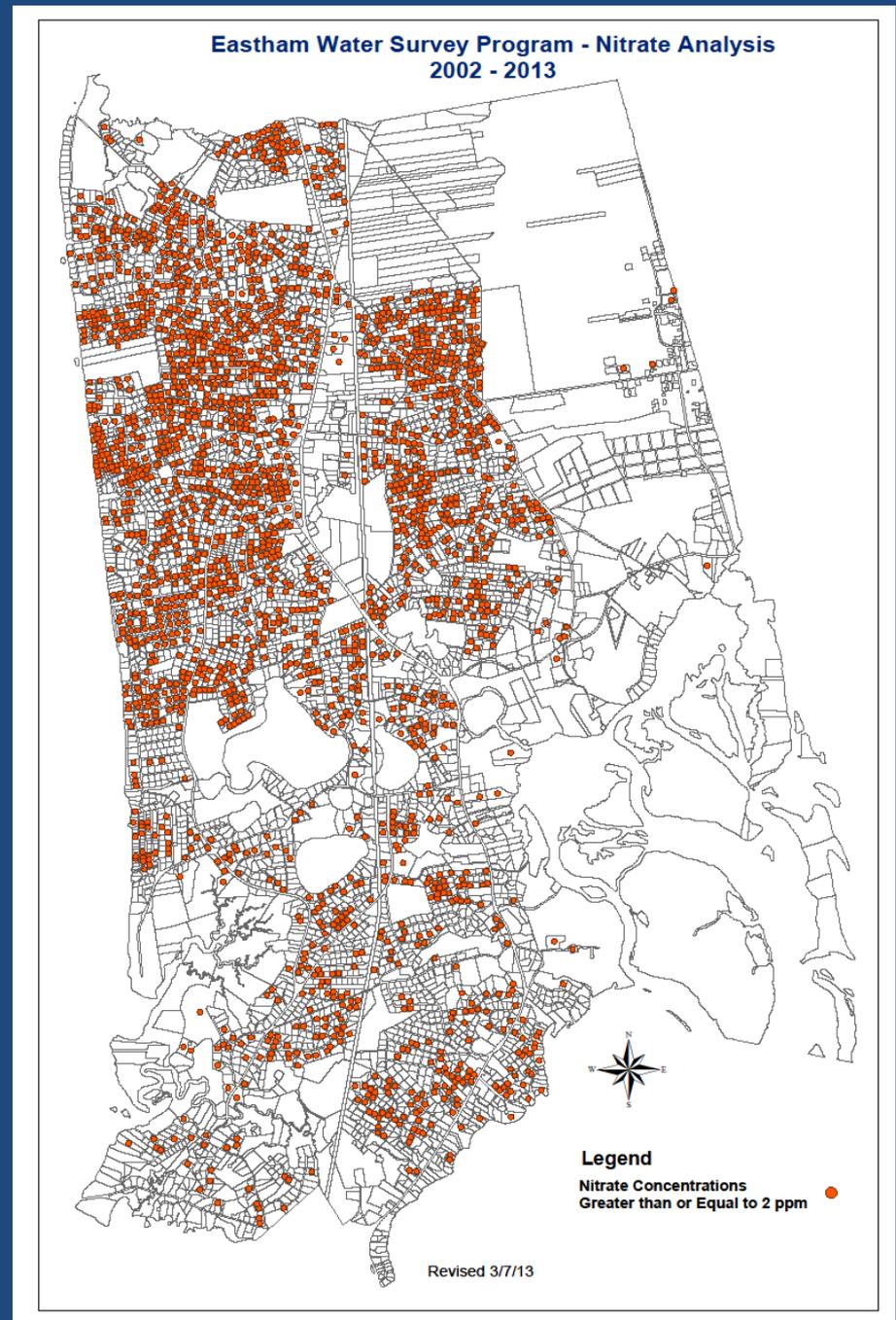


Population and Nitrate Increase with Time



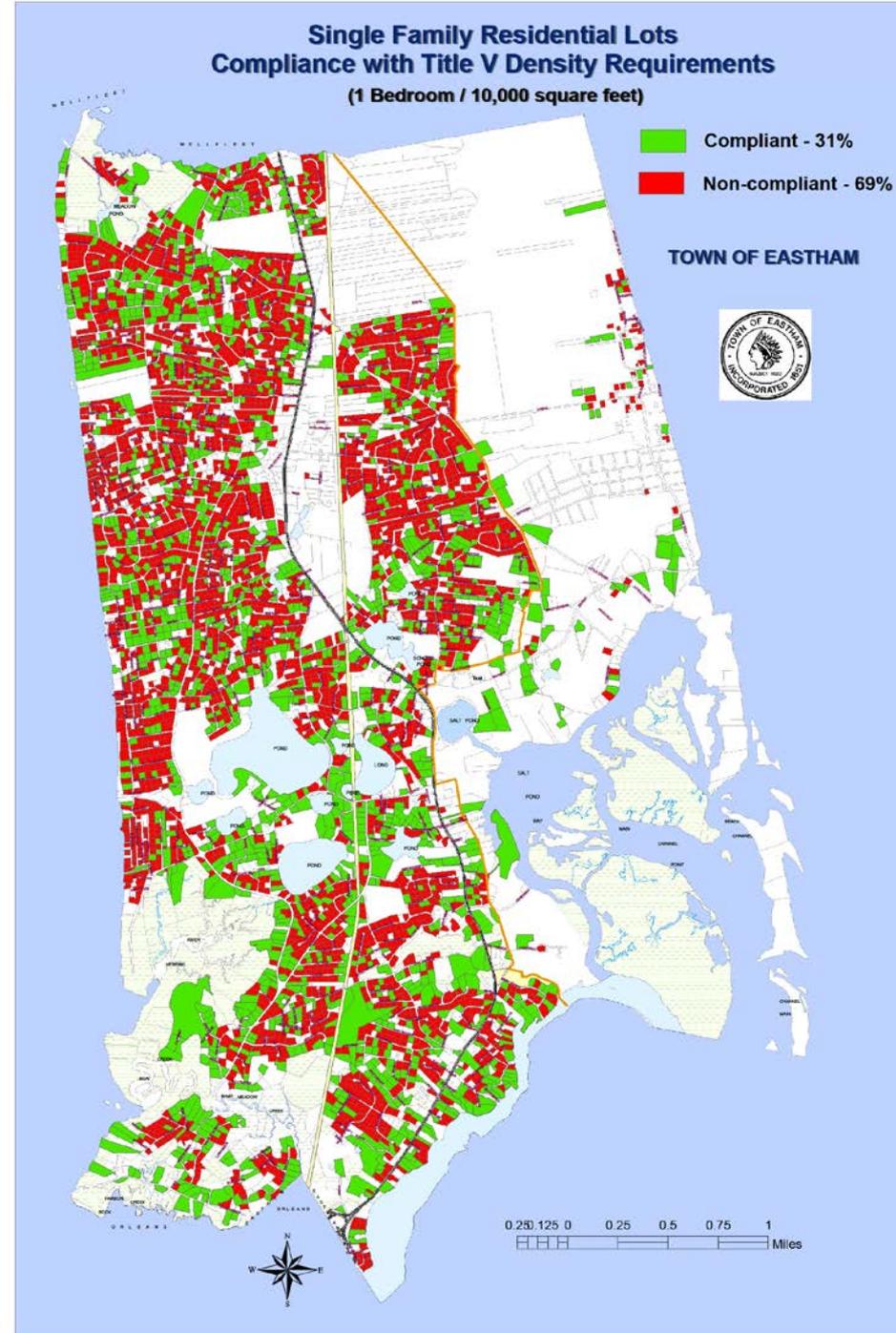
This is a Town-Wide Problem

(Red = properties with
2 ppm Nitrate or greater)



Bedroom density and nitrate levels

70% of single family residences (7 out of 10 homes) exceed the Title 5 standard for density on nitrogen sensitive lots



Other “stuff” in our water...

- Pharmaceuticals and “emerging contaminants” (Silent Spring study)
- Lawn fertilizers and pesticides
- Road Runoff
- Landfill contaminants

- What was once considered safe is no longer the case!
- What will we learn tomorrow?

1,4 Dioxane

- Showing up in wells down gradient from capped landfill.
- First appeared offsite in November of 2012
- Current MassDEP standard is 3ppb
- 9 households offered bottled water
- 1 new well installed
- July 2013 standard to change to 0.3ppb

Need for Water

Eastham Wastewater Mgmt Plan

GHD Inc., 2009

Principal Conclusions

“The Town needs to protect the public health by providing a reliable public water supply from a protected source.”

Need for Water

Issues:

- Overdevelopment
- Septic impacts Town-wide
- Landfill contaminates

Benefits:

- Protect public health
- Increased fire protection
- Increased property values
- Investment for future generations
- Water during power outages

Our Proposed Plan for the Water System

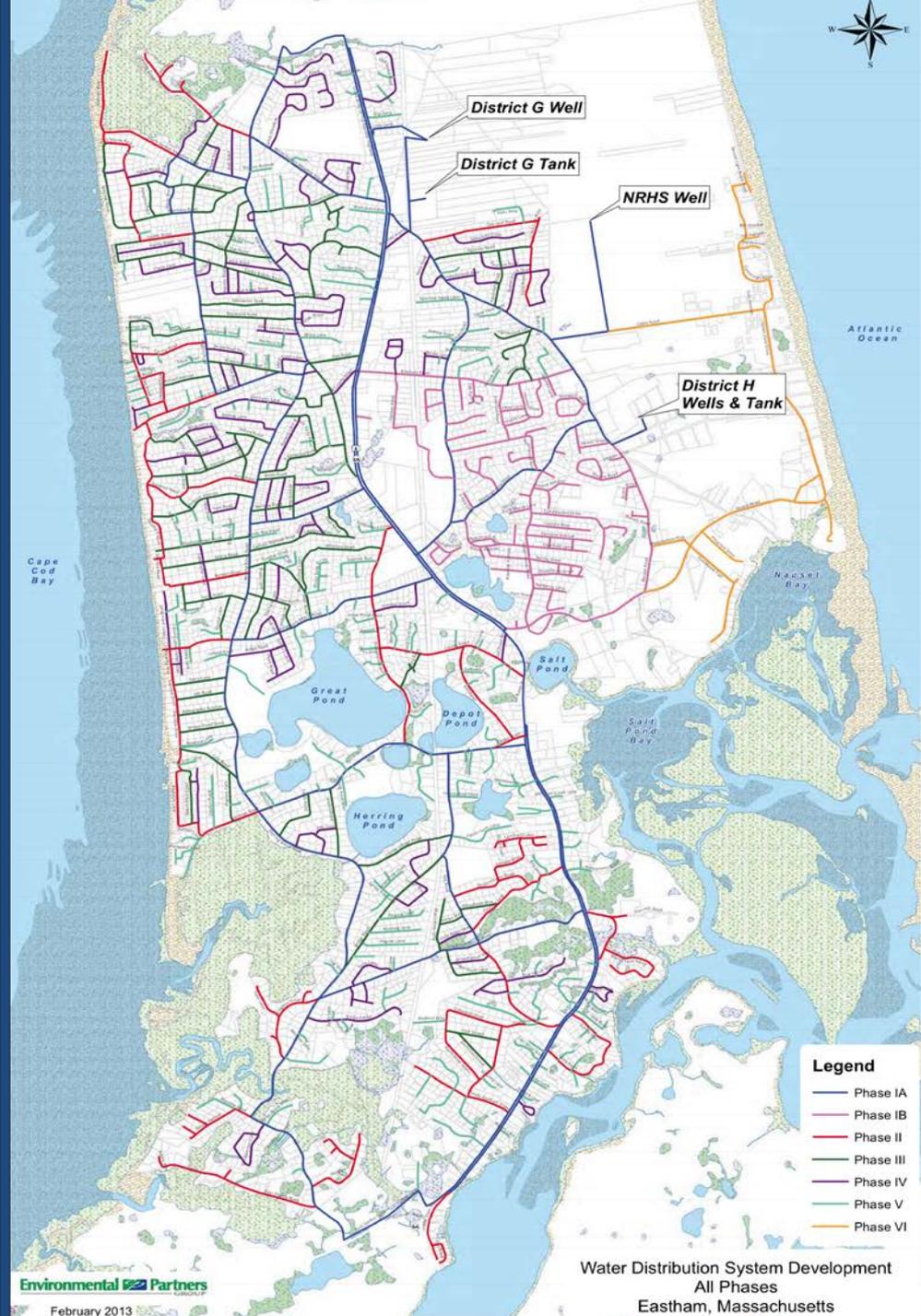
Town-wide Water System

6 Phases

6646 connections

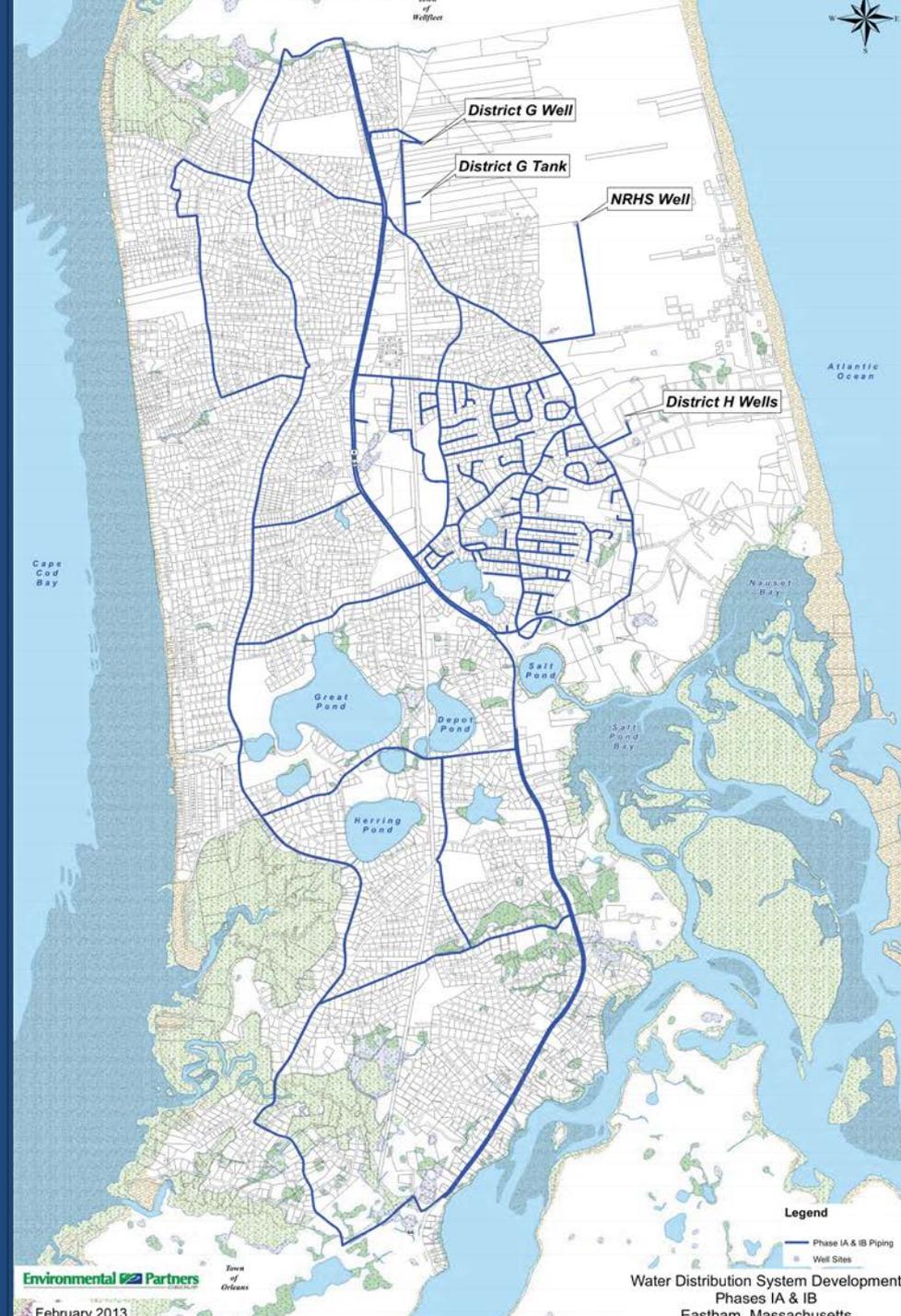
12-year construction program

2 years per phase



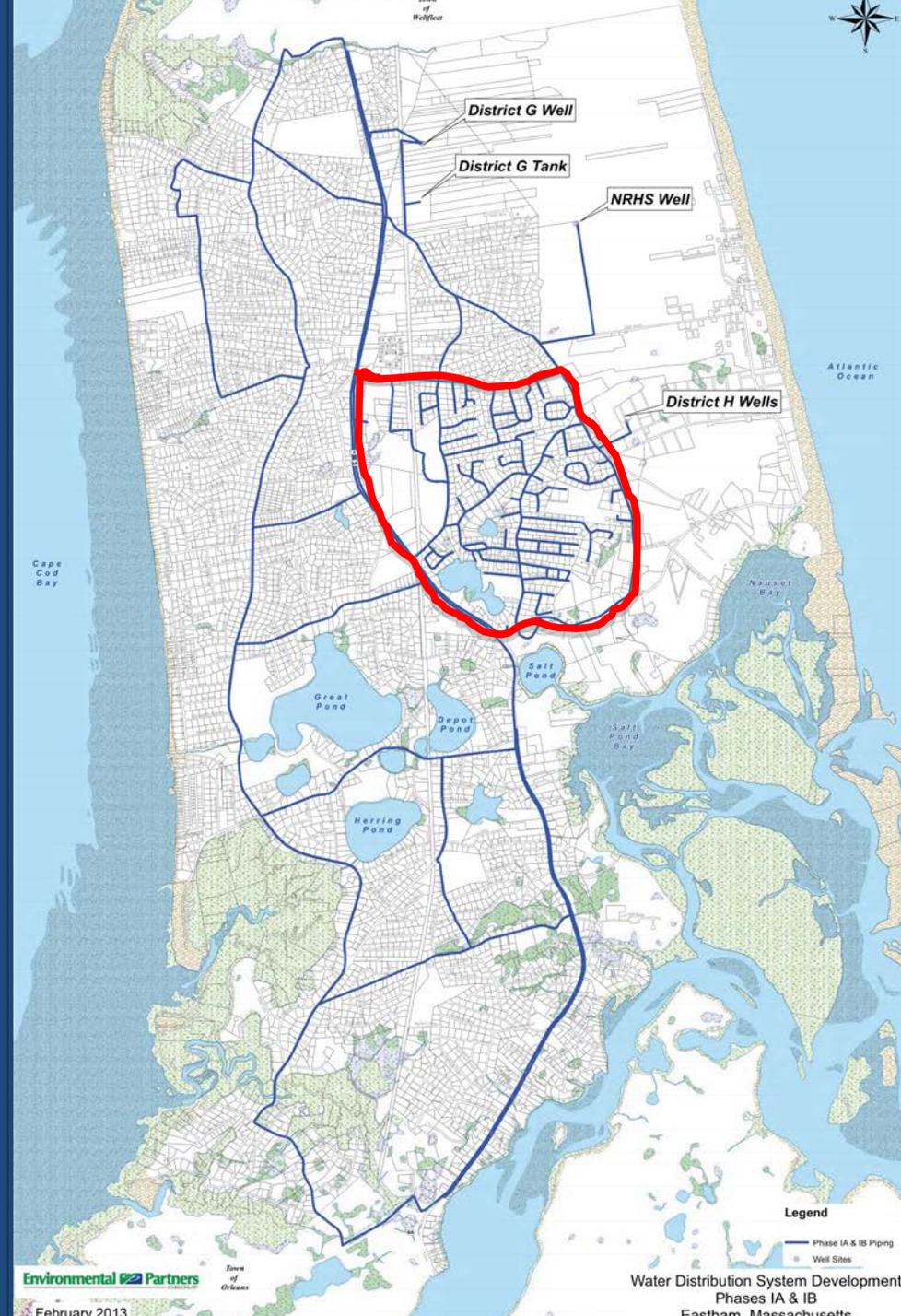
PHASE 1

- WELLFIELDS
- TRANSMISSION MAINS
- STORAGE TANK
- CONNECTION OPPORTUNITIES:
 - 2056 Total



PHASE 1

- WELLFIELDS
- TRANSMISSION MAINS
- STORAGE TANK
- CONNECTION OPPORTUNITIES:
 - 2056 Total
 - Expanded to address landfill issues



Detail of design and Installation:

March 19th @ 5 p.m.

March 23rd @ 10 a.m.



Detail of Financing and Operating costs

Total cost for 6 Phases: \$114,800,000

Information Sessions:

March 26th @ 5 pm

March 30th @ 10 am

Educate yourself at future meetings!

- Design & implementation:
 - March 19th @5p.m. & 23rd @10 a.m.
- Financing & Operation:
 - March 26th @5 p.m. & 30th @10 a.m.
- Wrap up (all 3 presented)
 - April 13th & 27th @10 a.m. & 1 p.m.

Town of Eastham

Website:

www.eastham-ma.gov

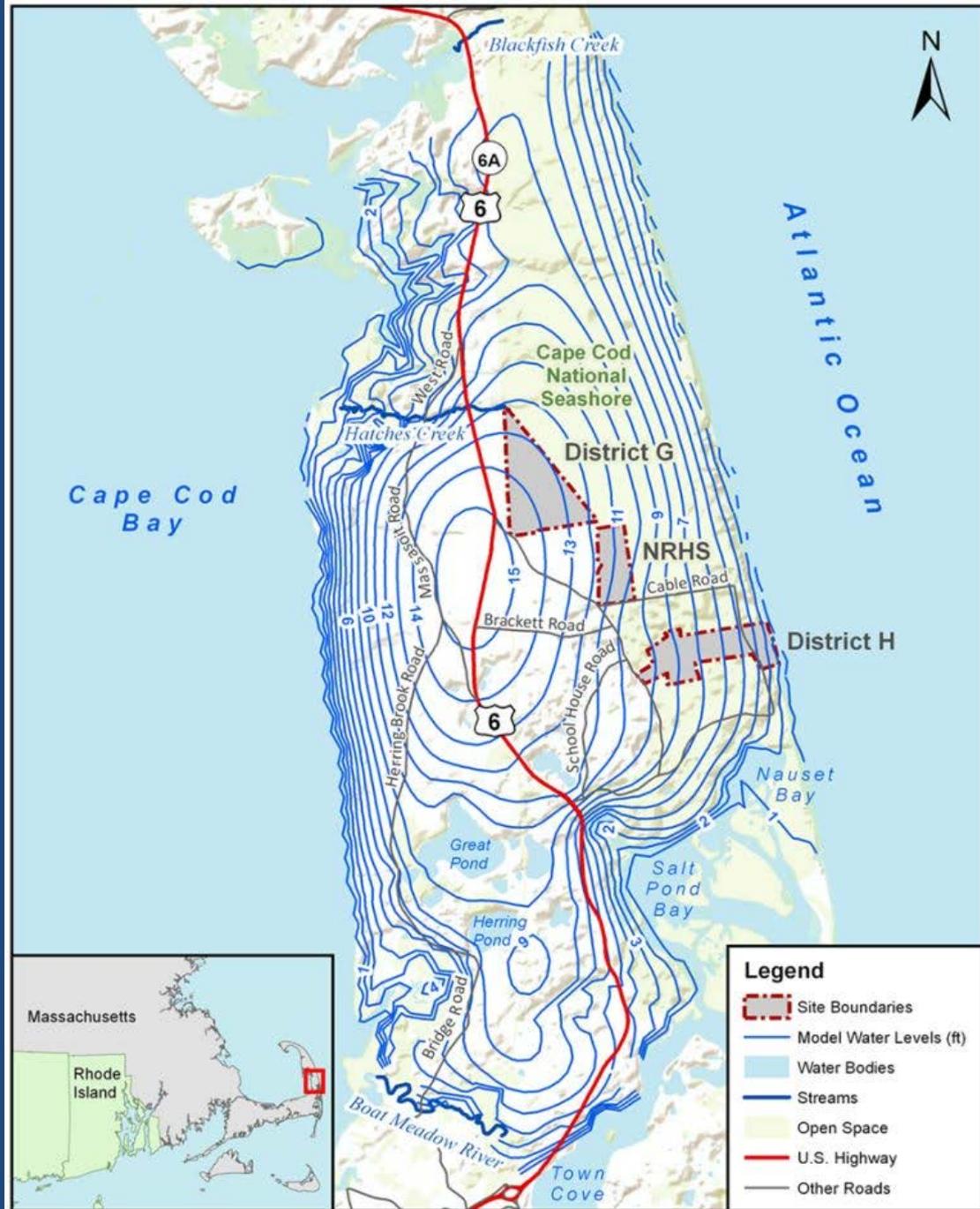
Questions?

“Need for Water”

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Nauset Lens Groundwater Model



Basemap Sources: USGS, ESRI, TANA, AND, and MassGIS

0 0.5 1
Miles