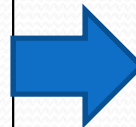




Impacts of Human Alterations

- Water withdrawal
- WWTP discharges
- On-site septic systems
- Dams
- Forest clearing
- Urbanization =
Impervious surface



- Streamflow (*August*)
- Water quality
- Habitat integrity
- Fish & Aquatic Biota

USGS 2010– Indicators of Stream Flow Alteration, Habitat Fragmentation, Impervious Cover and Water Quality for Massachusetts Stream Basins



Watershed Management

1972 CWA - To restore and maintain the chemical, physical, and biological integrity of the Nation's waters

- Management of Water Use Goals
 - Water Supply
 - Fishable & Swimmable
 - Aquatic Life Support
- Surface Water Quality Monitoring (evaluate water quality)
 - Restore Impacted Water
 - Protect Clean Water

SuAsCo - Water Quality Status

Nashoba Brook –

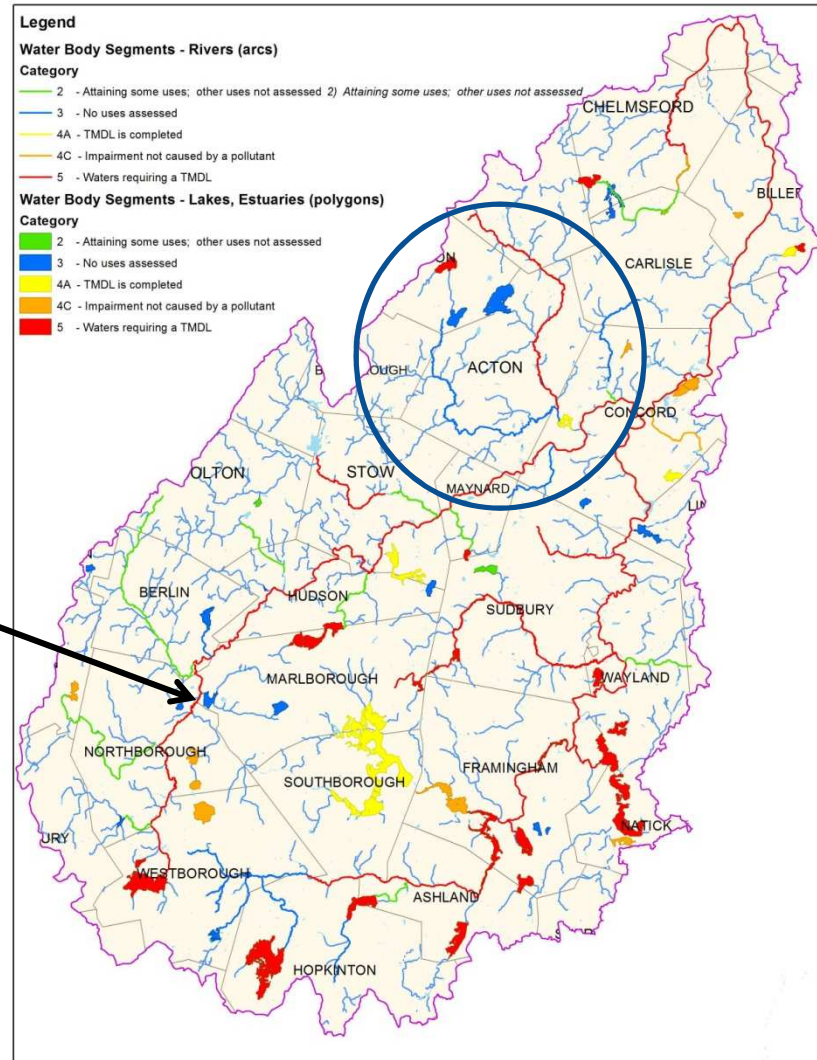
- ✓ Low Flow/Habitat Alterations



Assabet River - Allen St.

Assabet River -

- ✓ High phosphorus
- ✓ Organic enrichment/low DO
- ✓ Macrophytes
- ✓ Duckweed



Acton - 1912

Population: ~2100

Landuse: > 95% *Ag., Forested, Water & Wetland*

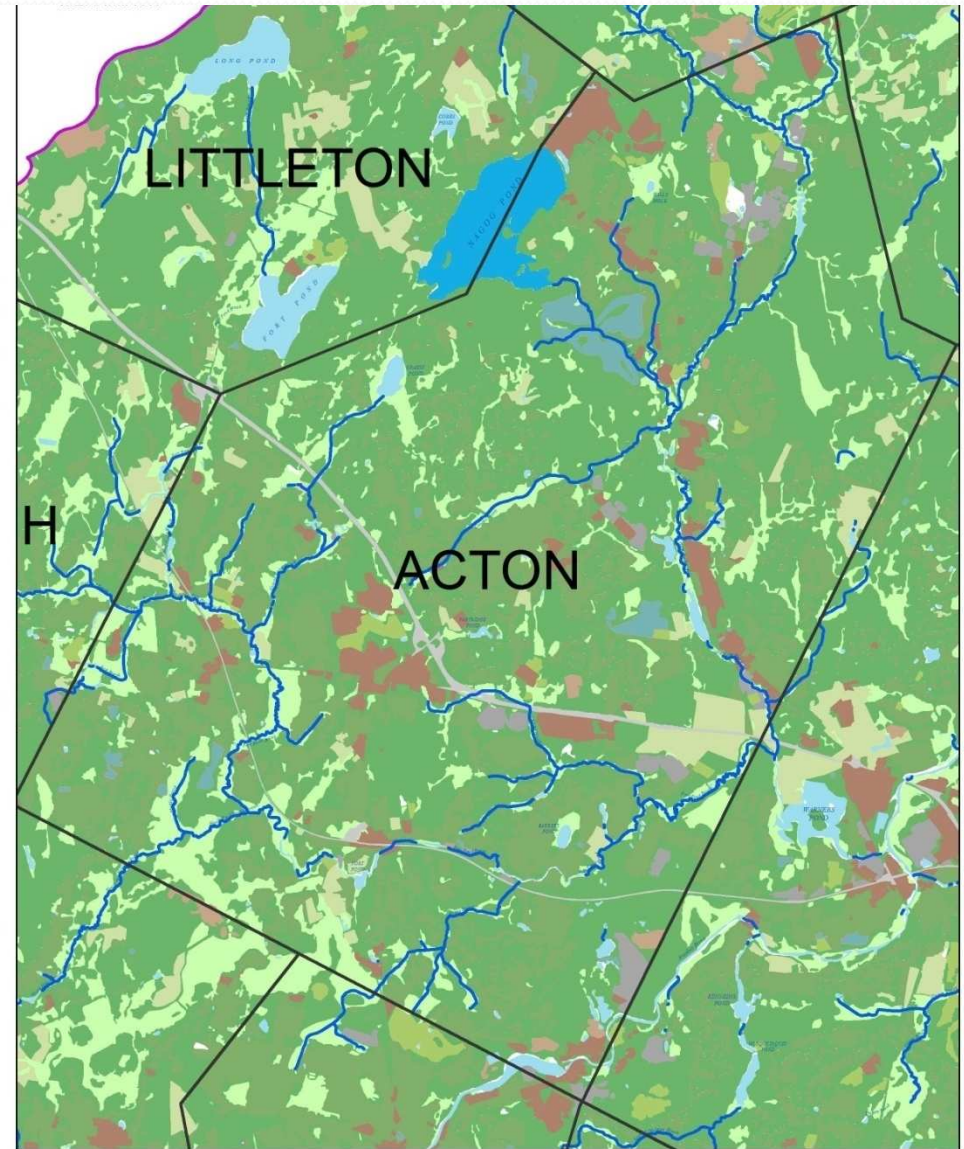
Water Features: *Impoundments*

Business : *Agriculture, Mills, Merriam Company*

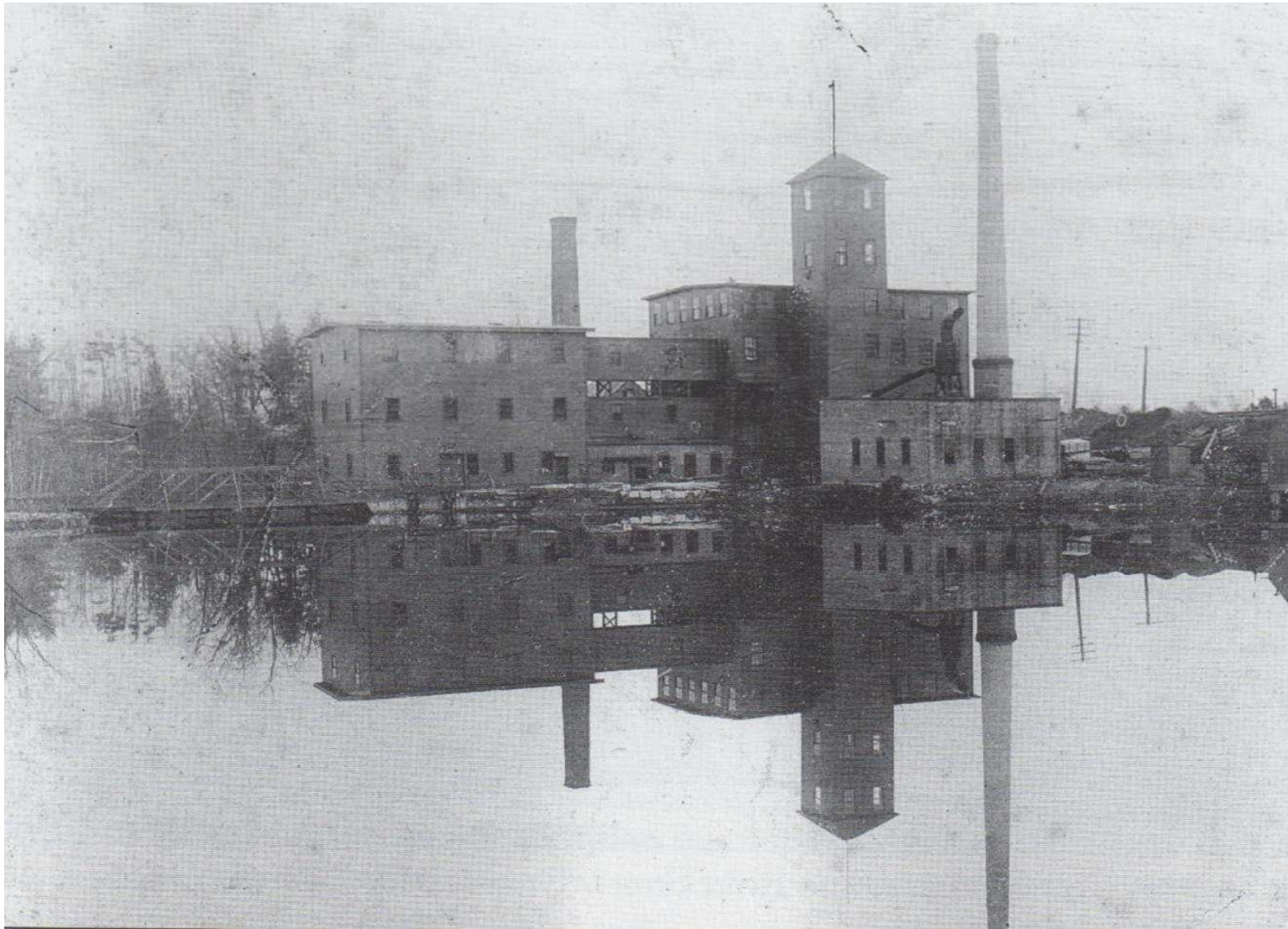
Transportation: *Train, Foot, Horse*

Utilities: *PWS, Electricity?*

Roads: *Unpaved*



Artists Depiction - J. Swigor

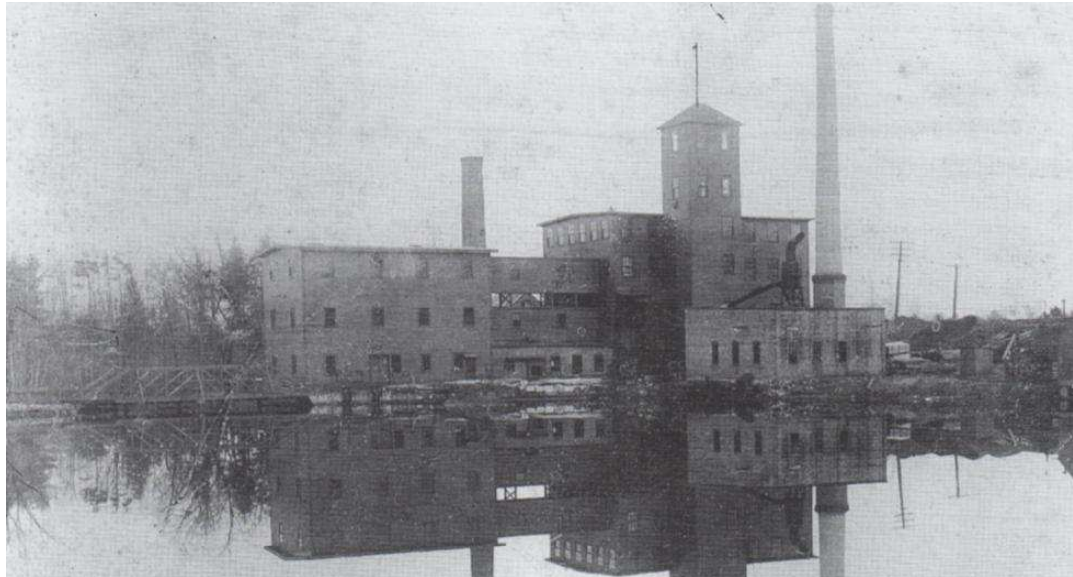


Images of America - Acton William A. Klauer

1895 –

- *Merriam Company*
- *115 River Street*
- *Manufacture piano stools, benches*

(WWII radio cabinets & Airplane propellers)



2012 -

- *115 River Street*
- *No Impoundment*

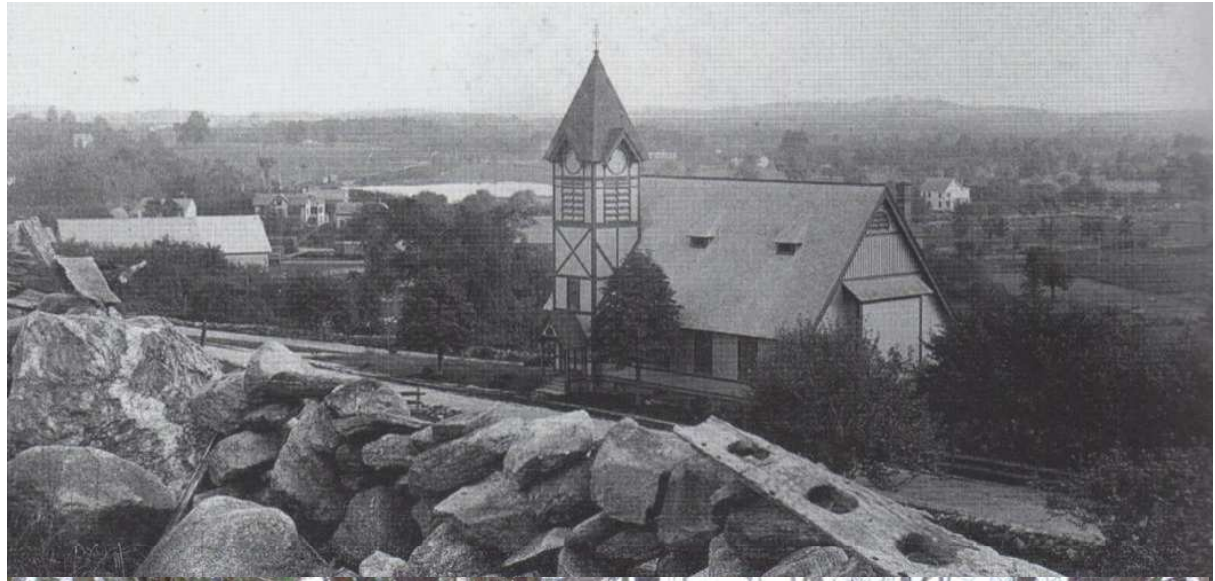




Images of America - Acton William A. Klauer

Circa 1900 –

- *South Acton*
- *Universalist Church*



2012 -

- *South Acton
looking West from
Nylander Way*





Images of America – Acton William A. Klauer

Circa 1900 –

- *West Acton*
- *Looking East*
- *Train Station*
- *Church*



2012 -

- *West Acton Center*
- *Rt 111*





Images of America – Acton William A. Klauer

Circa 1900 –

- *Acton Center*
- *Looking South*



2012 -

- *Acton Center*
- *Rt 27*





Images of America - Acton William A. Klauer

Circa 1900 –

- *Nagog Pond*
- *Great Road*
- *Vacation Camps*



2012 -

- *Nagog Pond*
- *Rt 2A*
- *Concord PWS*



Acton - 2012

Population: >22,000

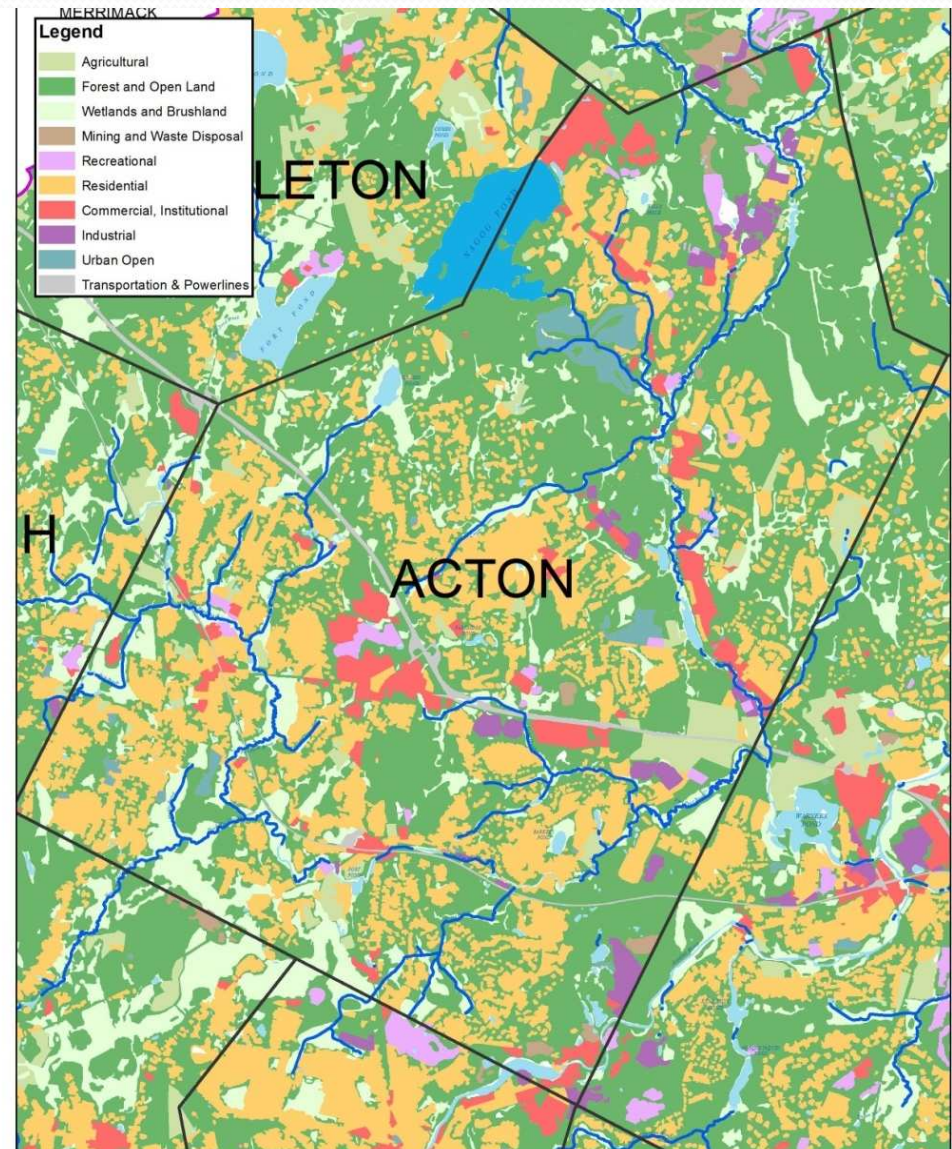
Landuse: ~66% (Ag., Forest
Water), 30% (Residential)

Business : Commercial, Industrial

Utilities: AWD, Electric, Gas, Cable,
Sewer, Stormwater Collection

Transportation: Train, Car

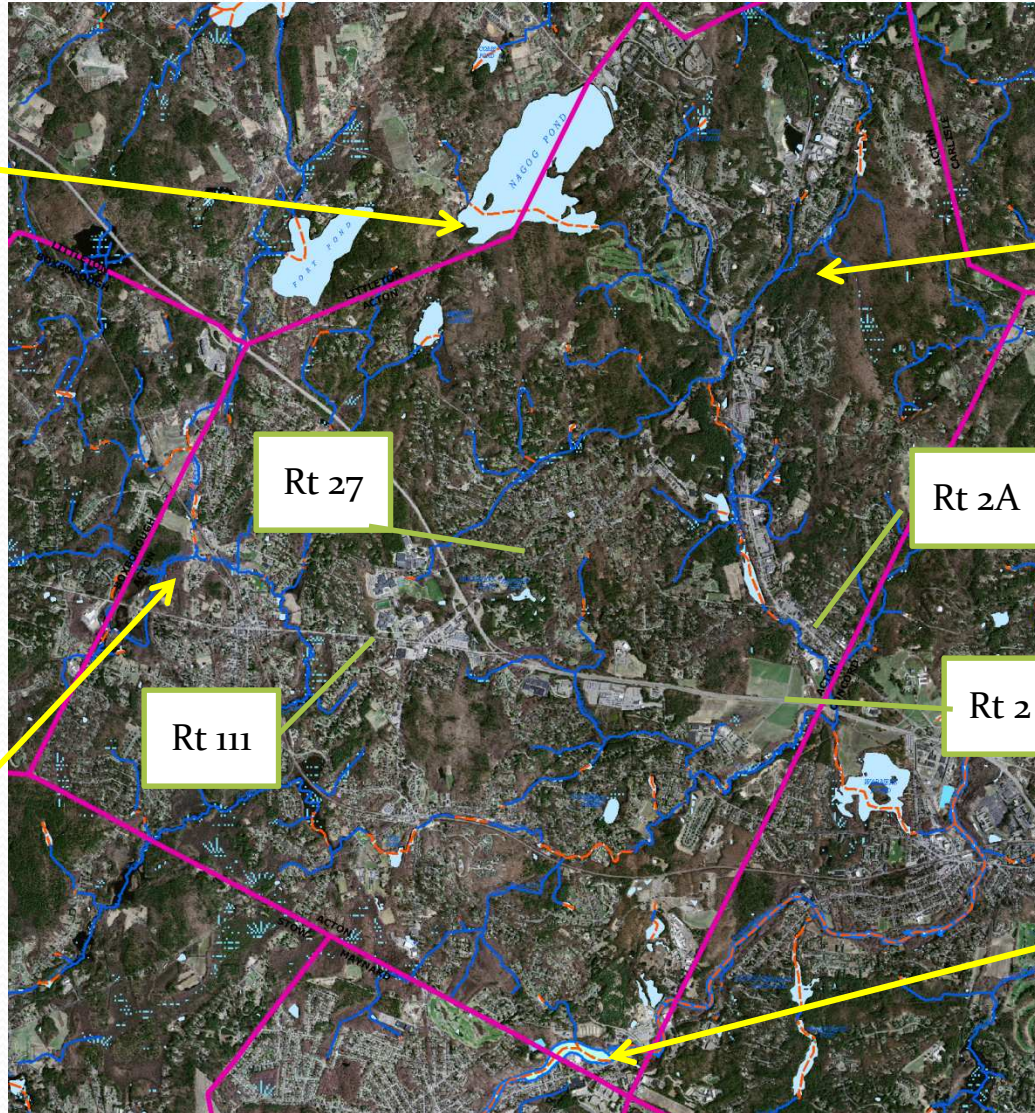
Roads: Paved



Surface Water Features



Nagog
Pond



Nashoba
Brook

Fort Pond
Brook



Assabet
River



Water Quality Stressors



Water Use,
Fertilizer &
Septic



Water & Fertilizer



Impervious Surface



Discharges

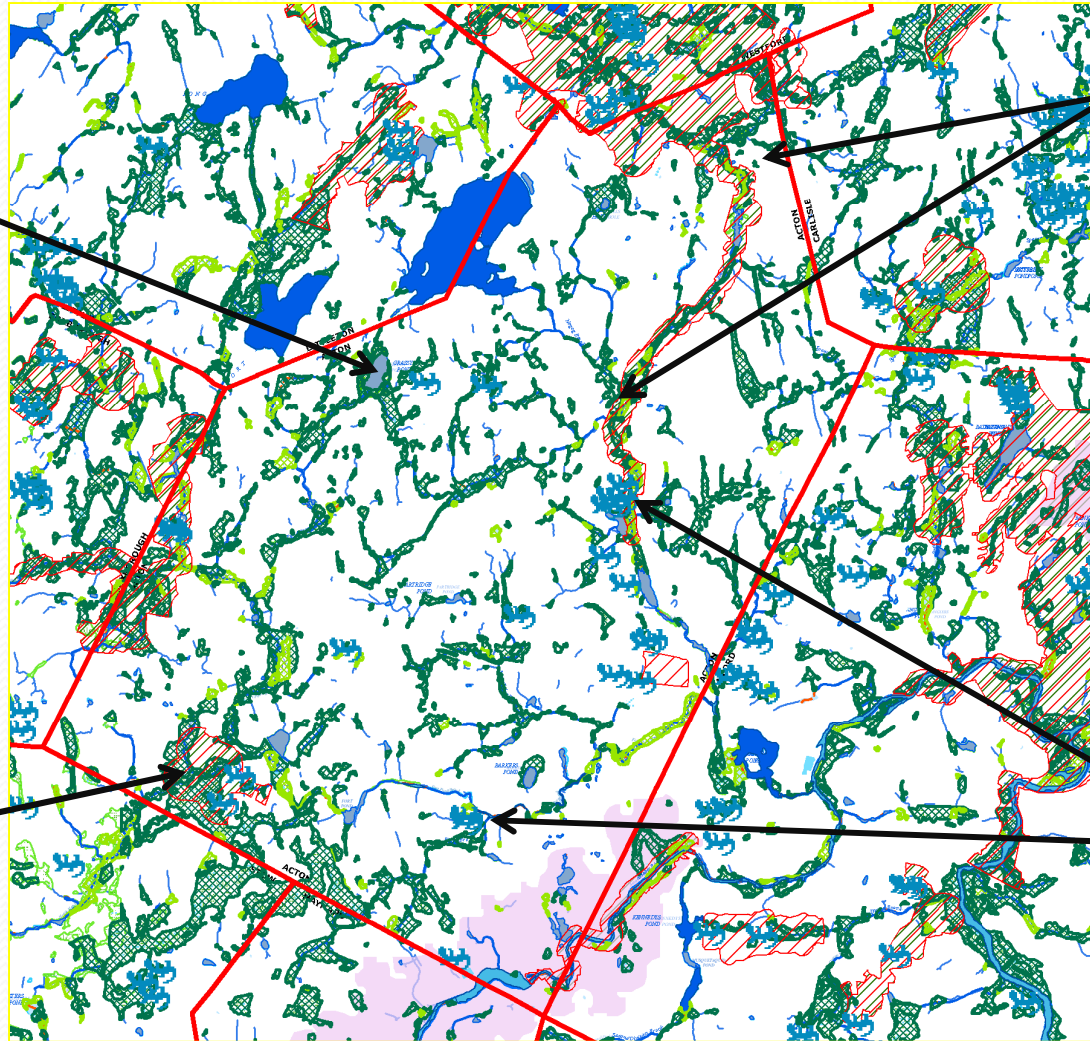


Priority Habitat & Wetlands



Grassy Pond -
Swamp Marsh

Heath Hen
Meadow -
Priority Habitat
& Wetland



Nashoba
Brook -
Priority
Habitat &
Rare Species

Vernal Pool

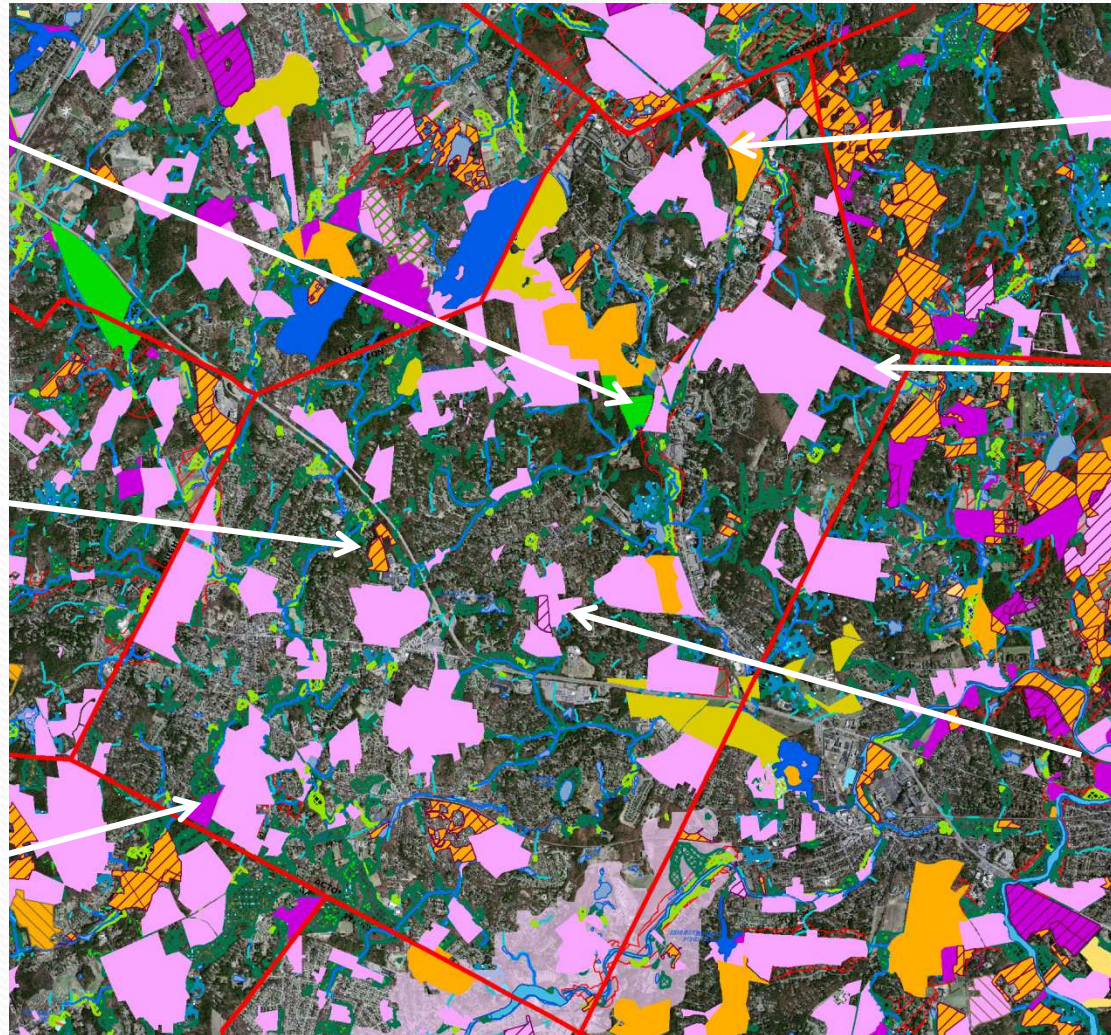


Striking A Balance: Open Space

Department of
Fish and
Game:
Whittier
Forest Area

Conservation
Restriction:
Haartz Corp

Acton
Conservation
Trust:
Heath Hen
Meadow



Municipal:
Nara Park
Town forest

Municipal:
Camp
Acton

Municipal:
Acton
Arboretum



Promoting Healthy Watersheds

CWA Goals = Restoration & Preservation

- Water conservation – observe AWD restrictions
- Household Chemical Use – proper disposal
- Gardening –
 - Less Lawn
 - Less Fertilizer
 - Less Water
- Green Strategies - rain barrels, pervious paving