

Some water quality considerations with an example

Acton has four stream sub-basins

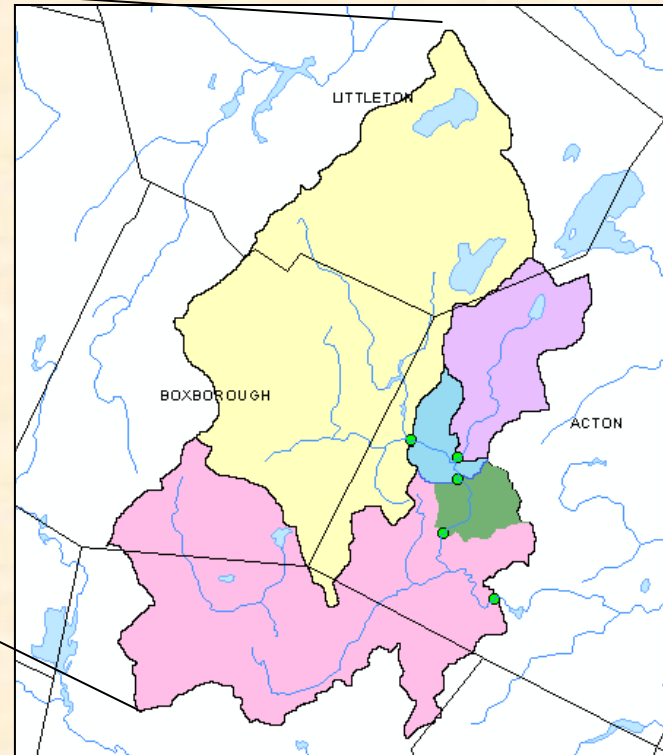
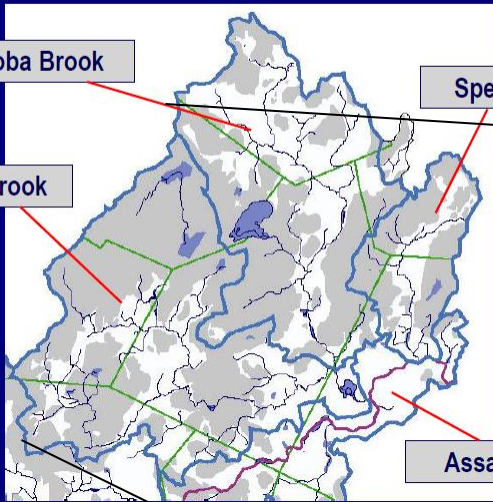
Nashoba Brook

Spenser Brook

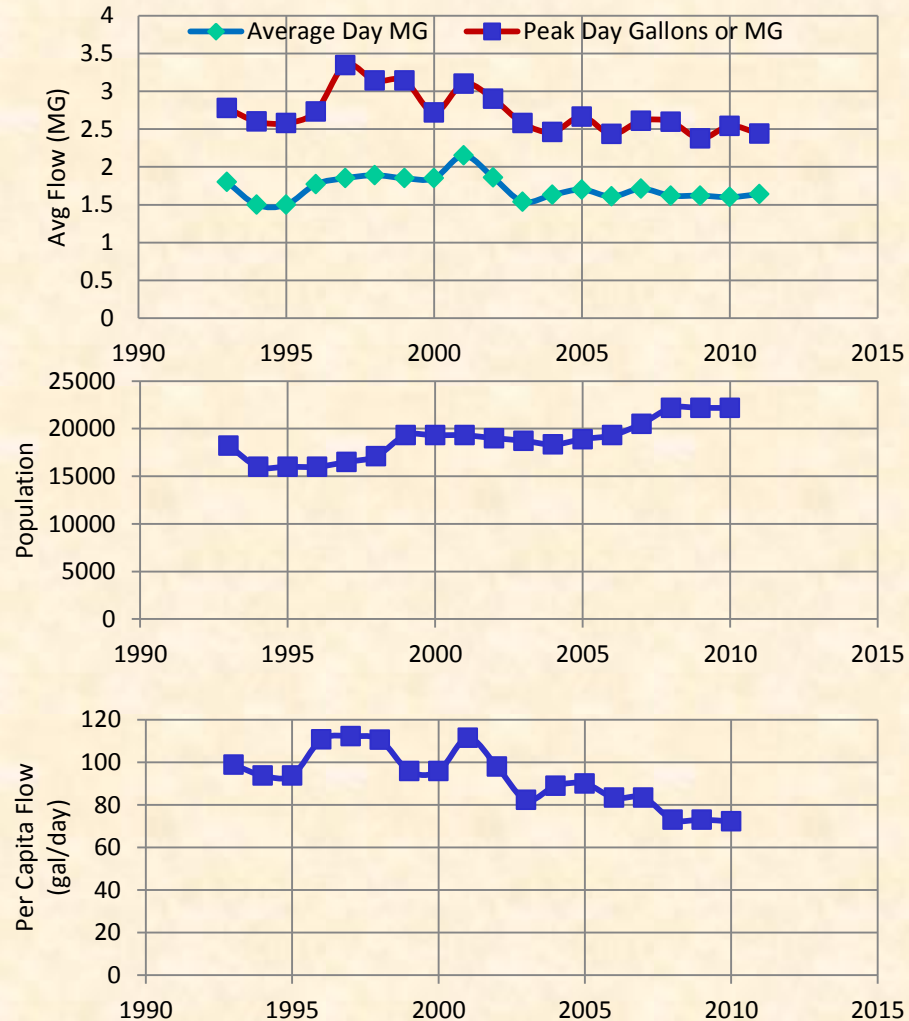
Fort Pond Brook

Assabet River

From
Denis



Clean Water: Quantity



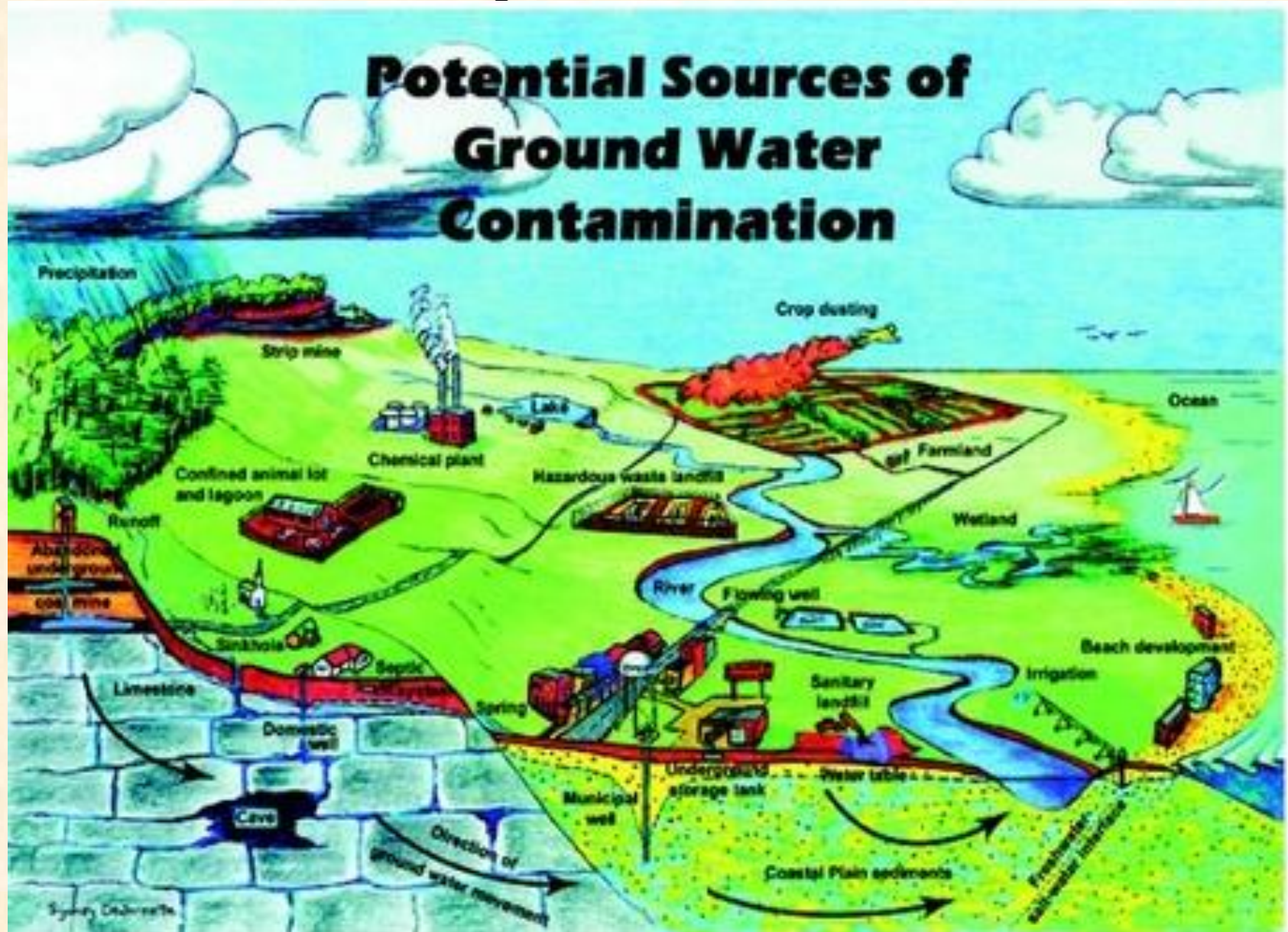
From Acton Water District

Clean Water: Quality

~Regulated by Safe Drinking Water Act~

- Many constituents are just fine
- Some things we don't want our water include:
 - Viruses and bacteria
 - Various inorganics (e.g. ammonium, nitrate)
 - Radioactive contaminants
 - Organics
 - Wastewater
 - Pesticides and herbicides
 - Oils
 - Pharmaceuticals and personal care products (PPCPs)
- Fortunately, we have a well protected water supply

Where do the problems come from?



Ex - Septic systems and subsurface wastewater effluent discharges

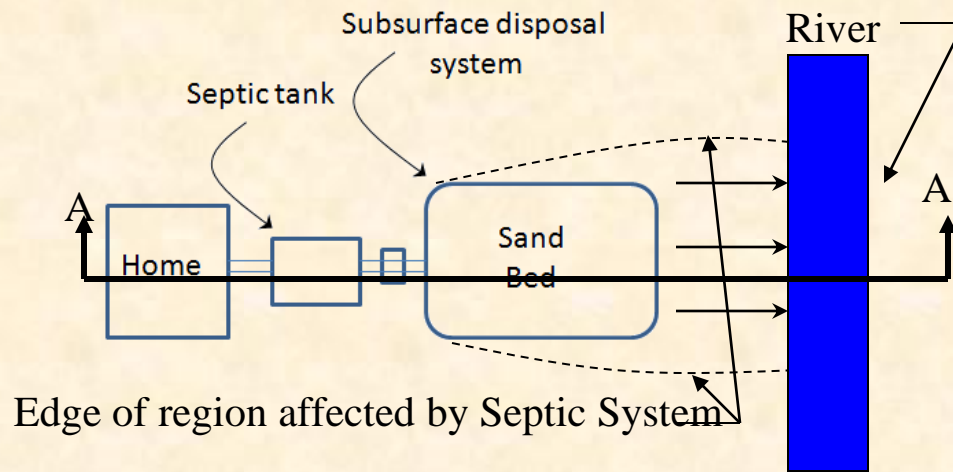
- Purpose

- to reduce nutrient and contaminant loads entering environment
- to avoid direct discharges to surface water bodies

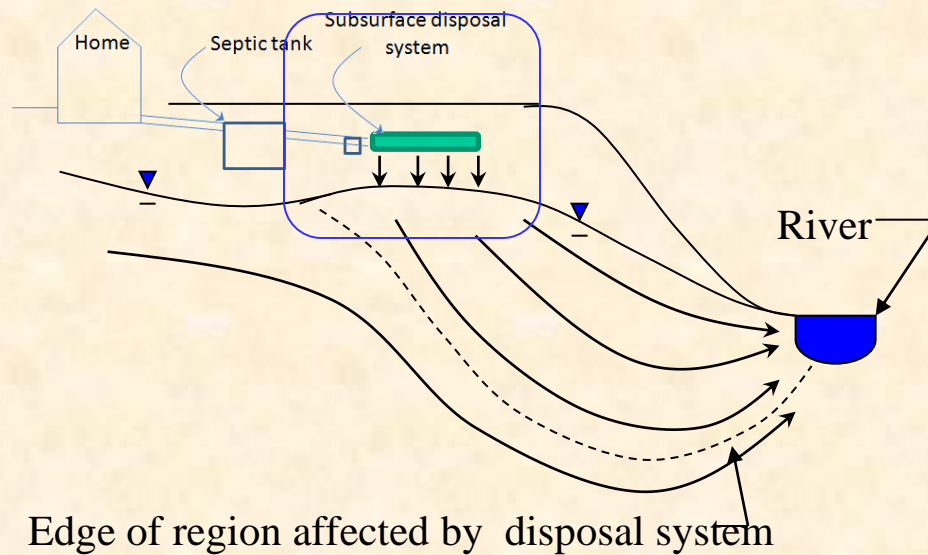
- Applications:

- septic and small-scale systems
- larger treatment facilities



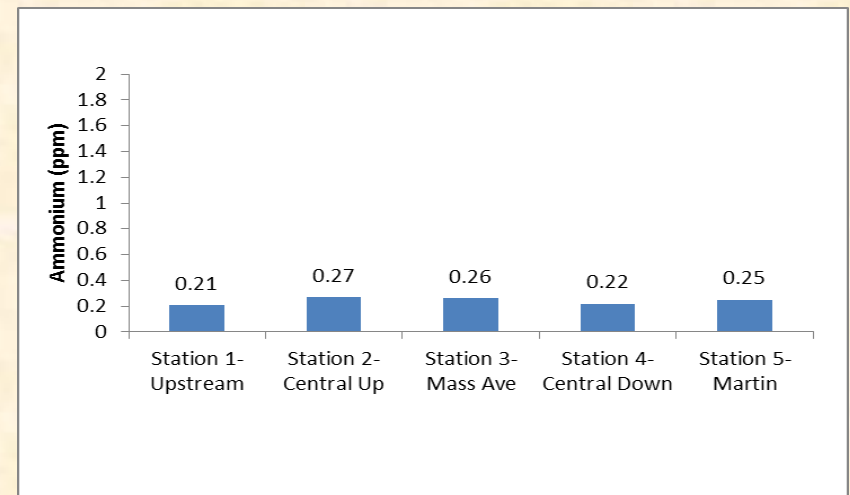
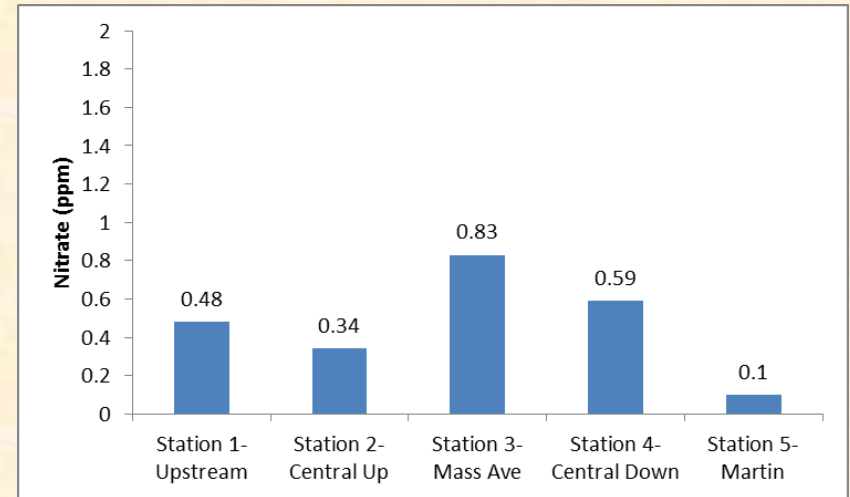
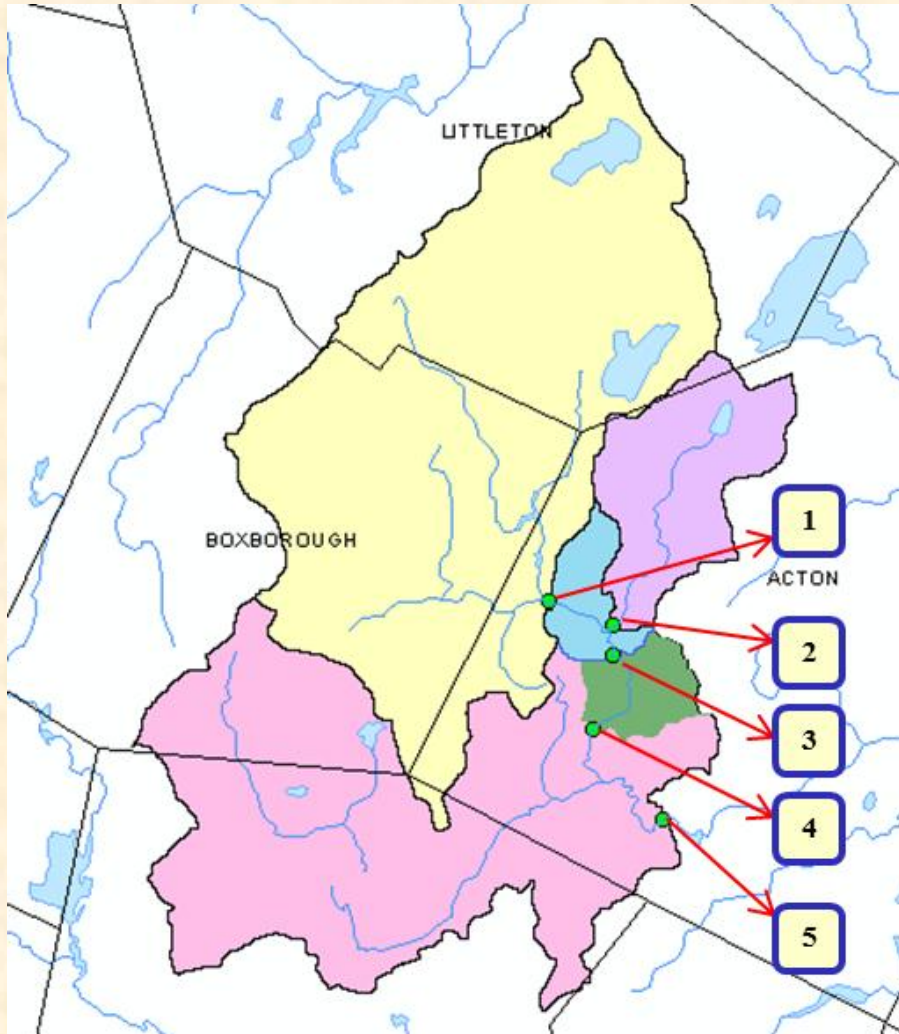


a. Plan view

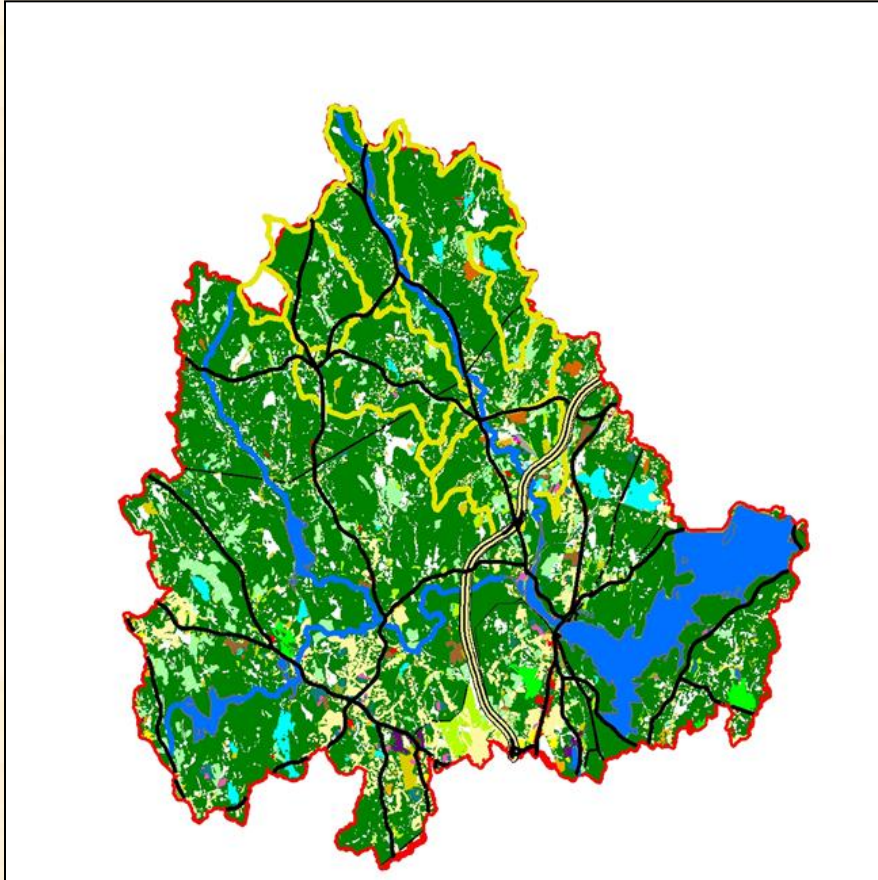


b. Profile view (Section A-A)

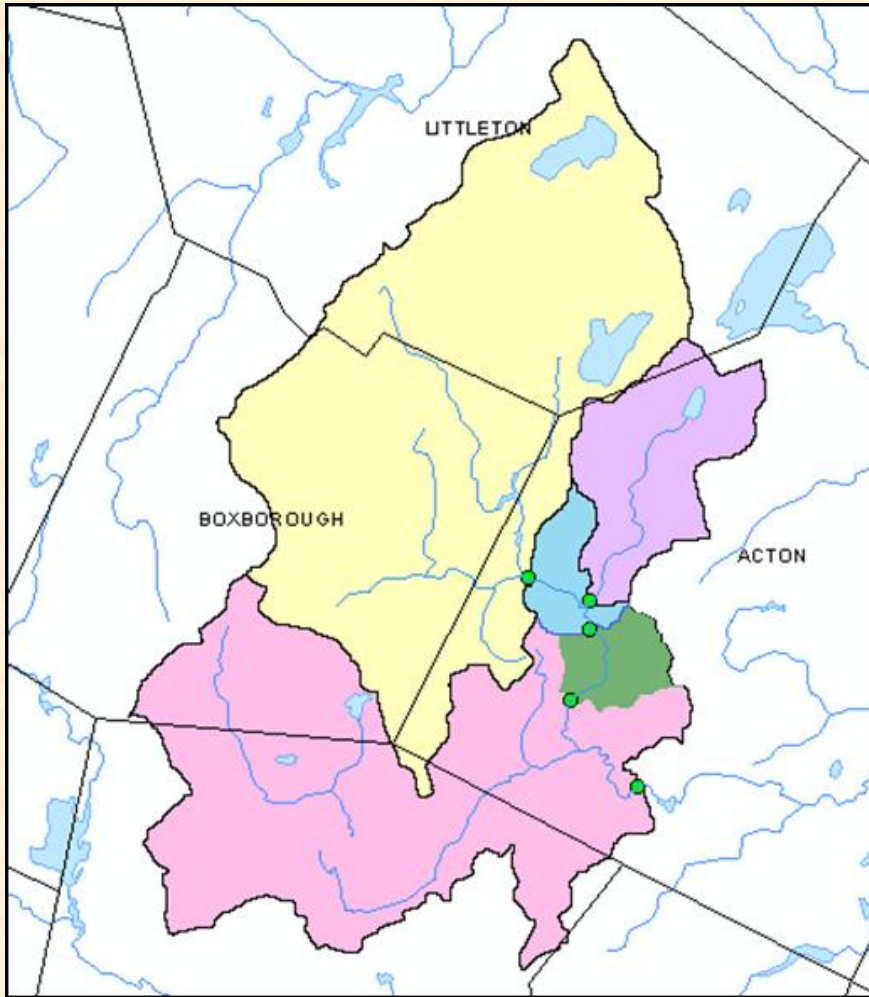
Ex - Nutrients in Fort Pond Brook



Notes - Stormwater and recharge



Maintaining Clean Water



➔ Protection