

PE-4



Water Resources Advisory Committee (WRAC) Yearly Review

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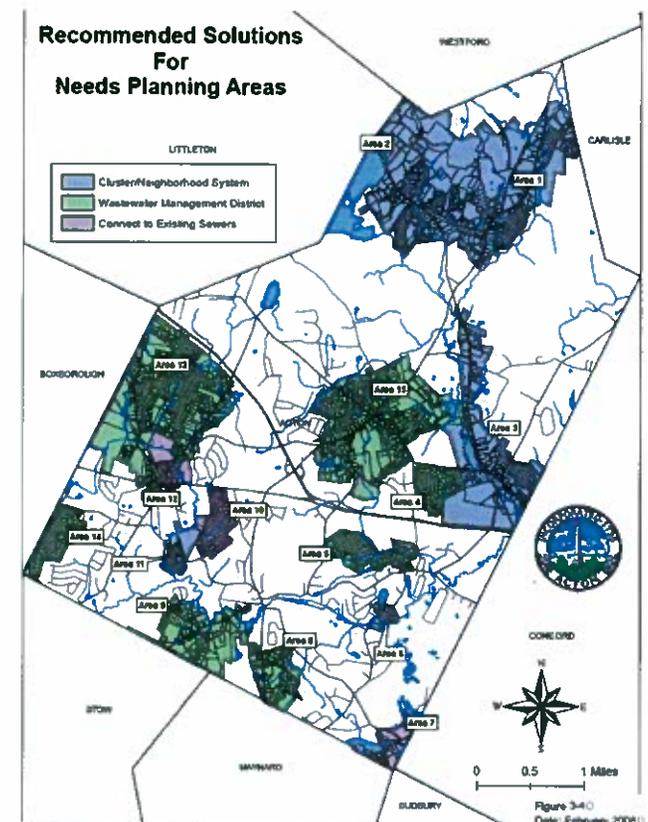
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Focus of this presentation

- Brief review of Town-wide water policy issues
- WRAC: What and why
- 2009-10: Four specific targeted activities
- Summary



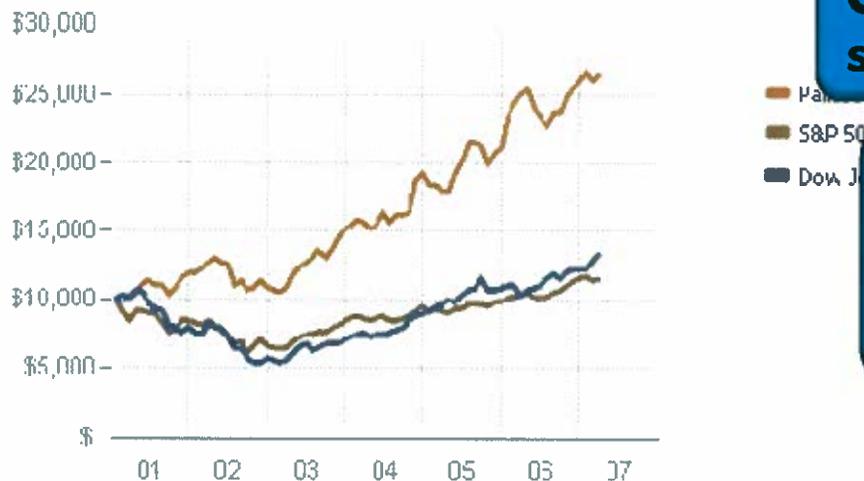
Source: CWRMP Phase II, 2006



Why is Acton water important?

Water promises to be to the 21st century what oil was to the 20th century – Fortune Magazine

Acton is not immune from This global phenomenon



* Source: EOEa Water Assets Study for Acton, MA 2004

** Source: WLMAC Final Report 2007

*** Source: MaDEP Acton SWAP Report 2002

Acton's groundwater is our sole source for drinking water

We are currently pumping close to 85% of our permitted amount *

Concord "owns" the main surface water source in Acton **

Wastewater, stormwater, non-point and incidents and spills all put groundwater & surface water at risk***

Acton lies 100% in the SuAsCo river watershed, defined as a "stressed watershed" by MA EOEa *



All Acton water policy decisions will impact long term liveability

○ Drinking water quality

Public water capacity is a precious resource

Recharge needs close management to ensure long-term quality

Zoning, sewerage and growth can impact available supply

Long-term quality a key 21st century quality of life issue

○ Surface water quality (including Assabet River)

Surface water inter-related with ground water (level, quality)

Wetlands provide invaluable "natural treatment"

Water resource relates to quality of life and aesthetics

○ Wastewater sources and management

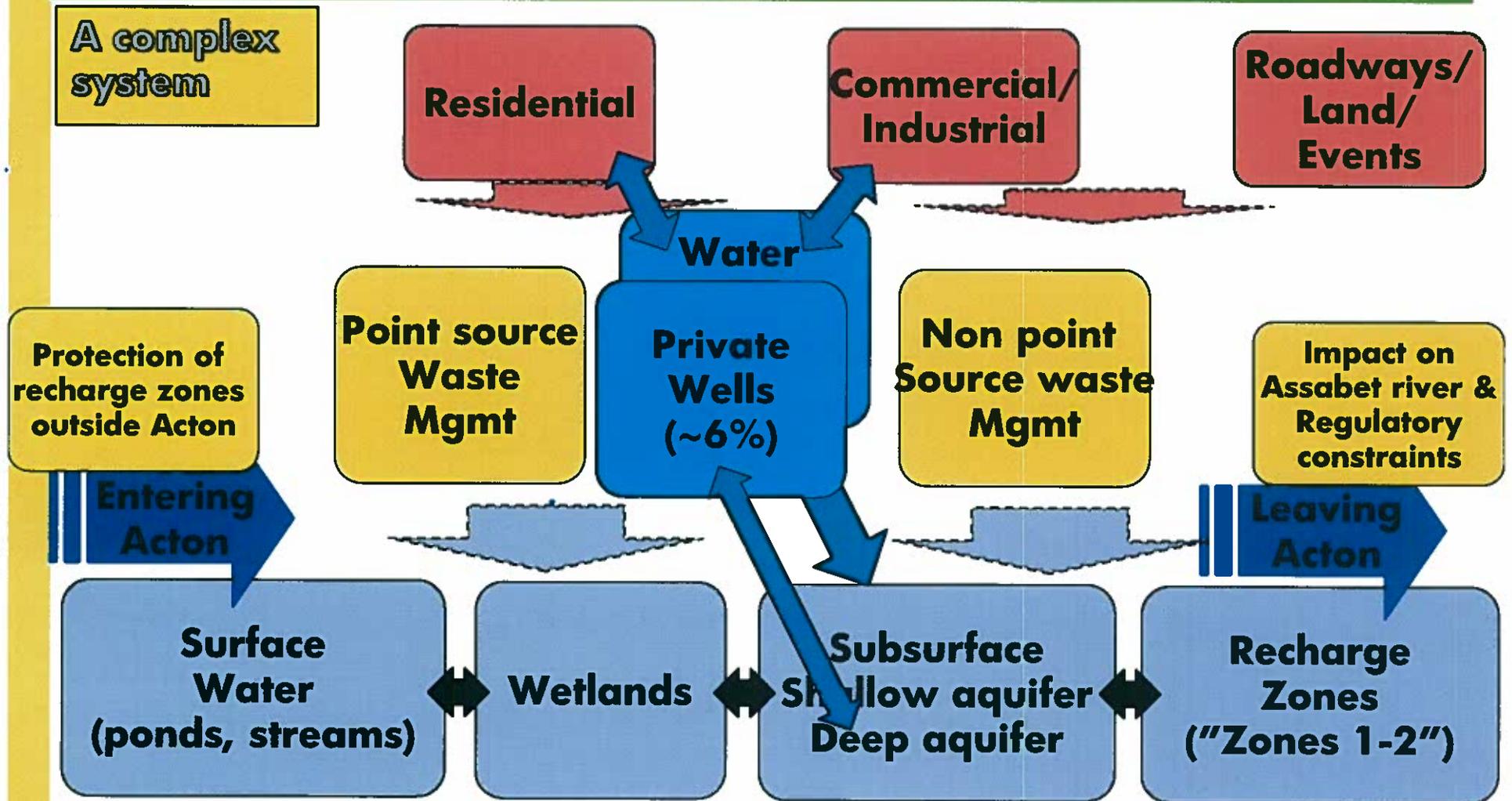
Waste treatment always involves economic/environment tradeoff

Education and best-practices management a key component

Critical long-term linkage to drinking and surface water quality



Impacts of decisions are complex in Acton





Environmental risk factors

Water pollutants:

EPA regulated contaminants and others:

- Coliform, Total dissolved O2
- nutrients: N, P
- salts
- toxic metals (mercury, lead ...)
- Volatile Organics (VOC)
- Petroleum products
- Other organics
- EMERGING.
- Pharmaceuticals and other bio-hazards

Environment:

- river & stream quality and eutrophication
- Wetland quality and water table
- Watershed management
- Development pressures



Ice house pond



CWRMP “vision” (excerpts)

“The result is a holistic approach to management of **drinking water, wastewater, stormwater,** and **surface** and **groundwater** resources...

“This CWRMP relates water resource health to wastewater disposal and incorporates programs focused on management of drinking water, storm water, surface water, and groundwater as integral components of a sustainable program.” - CWRMP page ES-2

“Maintaining **sustainable water resources** includes management of drinking water, stormwater, and surface and groundwater resources ... not only relates the protection of the water resources to wastewater disposal but **also looks at water resources from other perspectives**...

“...The Town’s historical focus on planning for water resources protection, not on a traditional facilities plan targeting centralized solutions, has been on the forefront of regulatory trends. - page 1-2

The Project Team and CAC recognize that **technology improves over the 20-year** planning period; therefore, the recommended plan is deliberately adaptive and flexible to accommodate new technologies and capture their benefits for Acton’s overall water resources. – page 1-6

Source: CWRMP Phase II, 2006



WRAC Scope

- Town-wide wastewater/water protection “big picture” issues
- CWRMP Plan Implementation:
 - Town-wide treatment options and beyond ...
 - 2006 Recommendations exist ***with multiple options***
 - Review/update town-wide recommendations/priorities
 - What to change based on new information
 - Progress implementation to achieve best town-wide benefit
- Costs / benefits
 - Evaluation criteria
 - Most value for town at large
 - Balance long term and short term
 - Measure and report trends
- Public education



2009-2010 WRAC focus

1. Summarize and advise on sewer issues:
 - **Provide advice/input to BOS for their fall “capacity summit”**

2. Progress the management district / distributed approach:
 - **Define the approaches to bring forward – *Public workshops***
 - **Consider storm-water (e.g. low impact development)**
 - **Provide focus and recommendations on “alternative” distributed treatment**

3. Safeguarding public water
 - **Stormwater/Nonpoint source**
 - **Specific action plans for zone 1, zone 2 areas, private wells**
 - **Begin to address “emerging pollutants” (e.g. pharmaceuticals)**

4. Education – underlies all activities of WRAC, a core activity



BOS Requested Actions

- Confirm WRAC “focused” direction for 2009/10:
In particular
 - Provide informational input for options for remaining sewer capacity to BOS (for Nov. policy workshop)
 - Management district focus area
 - Community education focus area
 - Stormwater and Zone 1 and 2 protection
- Due to complexity of hydrology and hydrogeological issues, continue reporting to BOS
- Proposed membership addition



Targeted for 2012 +

- Town-wide philosophy for wastewater and water resource management
 - Workshop approach to getting views of all stakeholders
- Have in-place a trend reporting policy and first two years of town-wide trend reports
 - Key part of a broader public education process
- All stakeholders buy in to approach to utilizing remainder of treatment district capacity
- Make progress on the management district approach



Summary

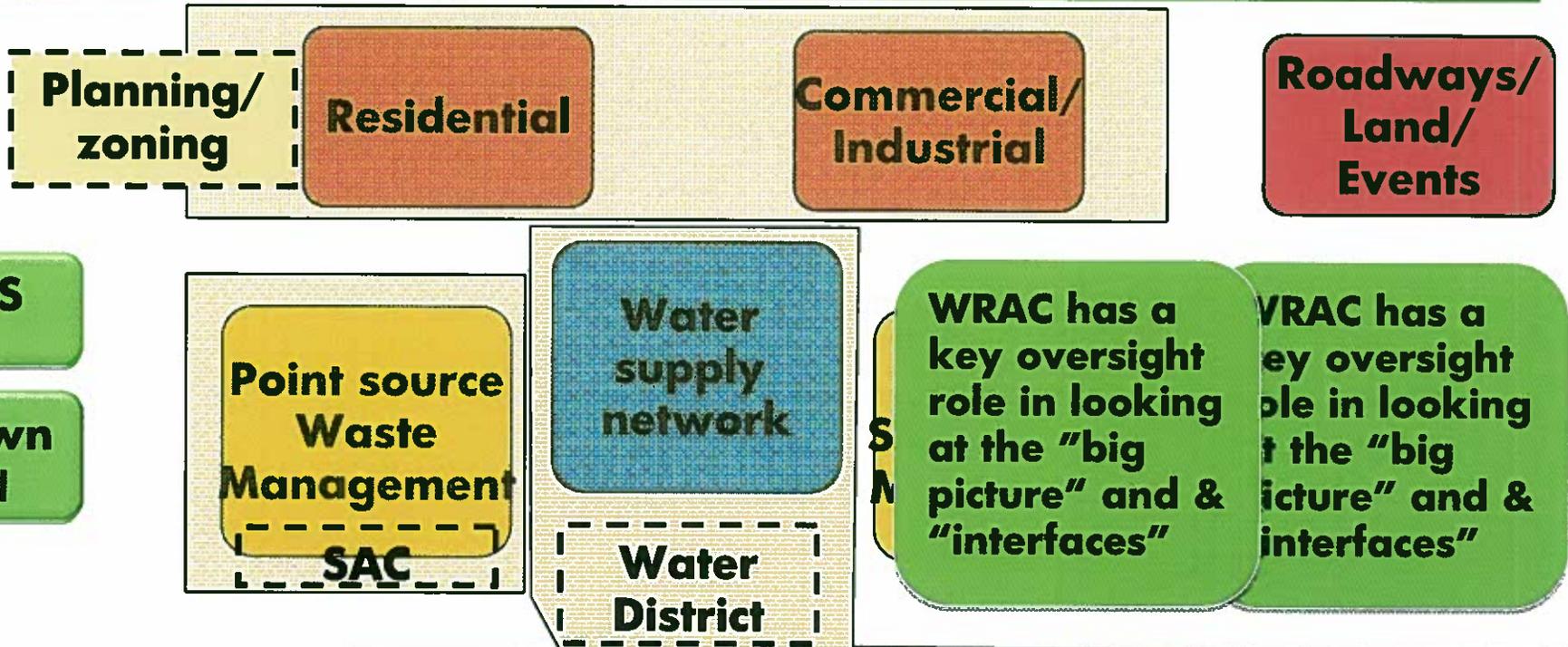
- Wastewater ↔ water is fundamental to town long term liveability
- It is a complex issue
- WRAC has defined clear and achievable priorities within a complex technical, regulatory and oversight picture
- Steady, town-wide education is crucial
- Issue has three sides (technical/environmental, financial, political); WRAC's role derives from the first of those



Appendix – supporting slides



Water Resources Oversight



BOS

Town Hall

Wastewater and water protection decisions
SHOULD
Invest the town's resources and financial resource
SO THAT
The town as a whole benefits from best possible
protection of water quality and quantity



Water supply factors

Figure 1: Average Daily Demand versus Water Management Act (WMA) Regulated Annual Withdrawal Capacity

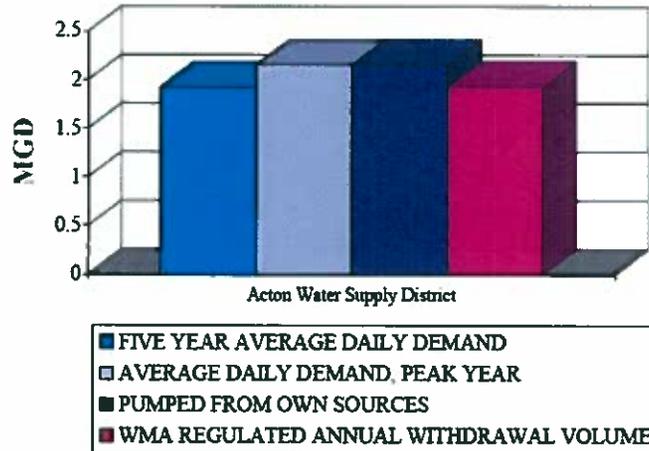
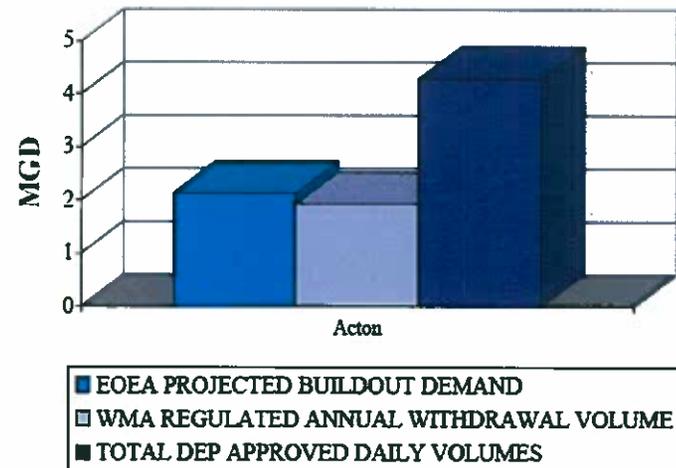


Figure 3: EOEA Projected Buildout Demand versus WMA Regulated Annual Withdrawal Capacity and DEP Approved Daily Volumes



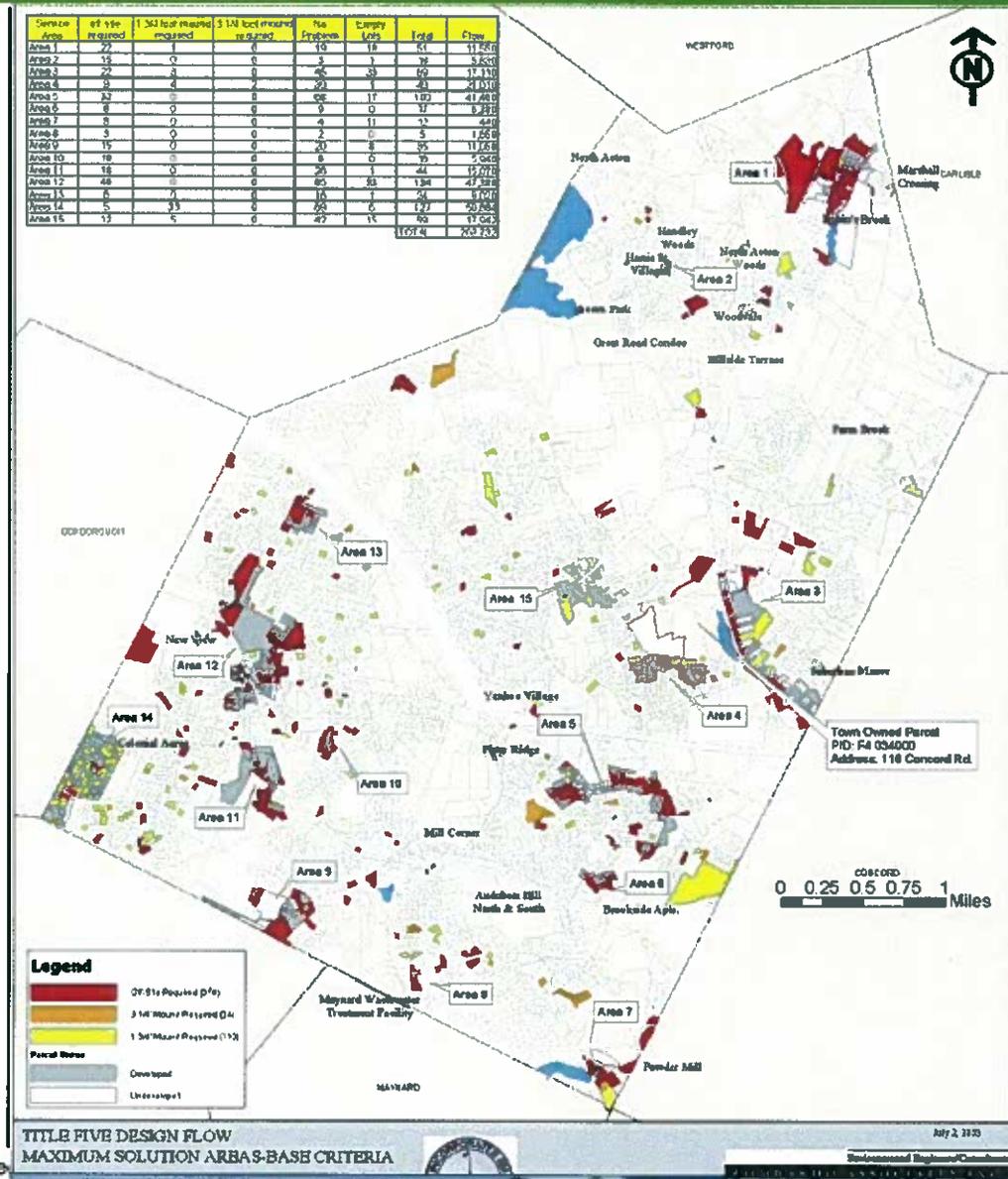
- Groundwater is sole source
- Understand & manage zones 1,2,3 (align overlay with AWD)
- Wastewater can create aquifer stress and contamination
- Sewering can indirectly create additional water demand
- Sewering can alter town water balance

* Source: EOEa Water Assets Study for Acton, MA 2004



Fifteen maximum needs areas defined in 2006 CWRMP

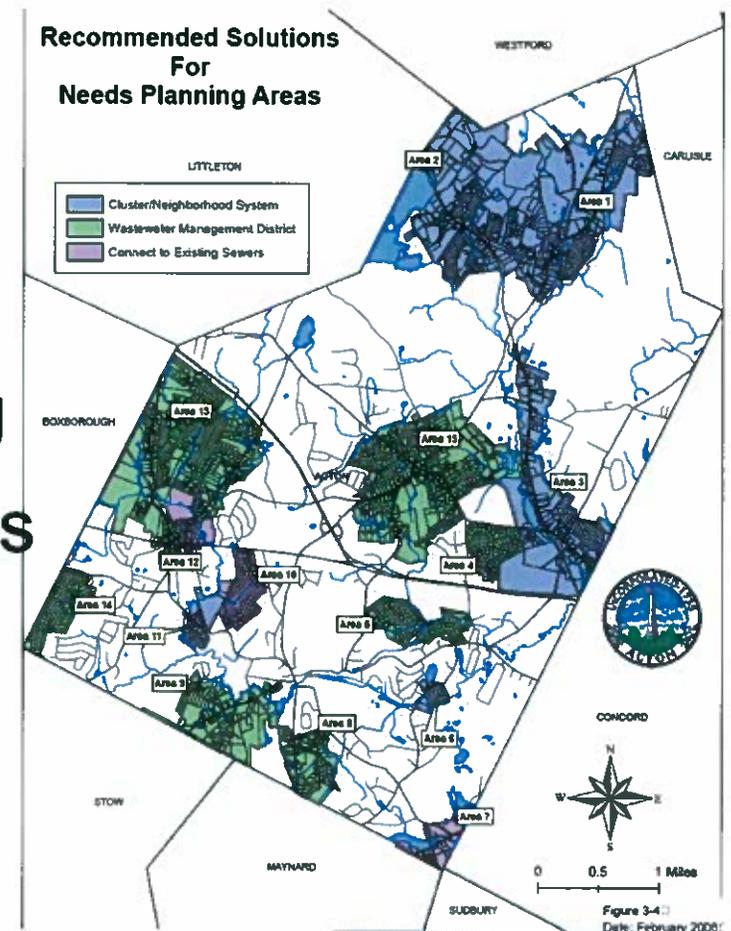
- 15 needs areas:
 - Mgmt options
 - Cost to address
 - Benefit in addressing
- Review:
 - Data and reporting
 - Townwide scattered needs
 - Zone 1&2 protection
- Alternatives:
 - Management districts
 - Cluster approaches
 - Advanced individual treatment
 - Remaining Fort Pond sewer capacity
 - Other





CWRMP – a planning document: suggested actions

- Cost benefit criteria
- Progress all needs areas as defined by CWRMP 1 & 2
- Next steps for “management district” concept
- Next steps for monitor/reporting
- Review technologies & practices and make recommendations
AND
- PUBLIC EDUCATION

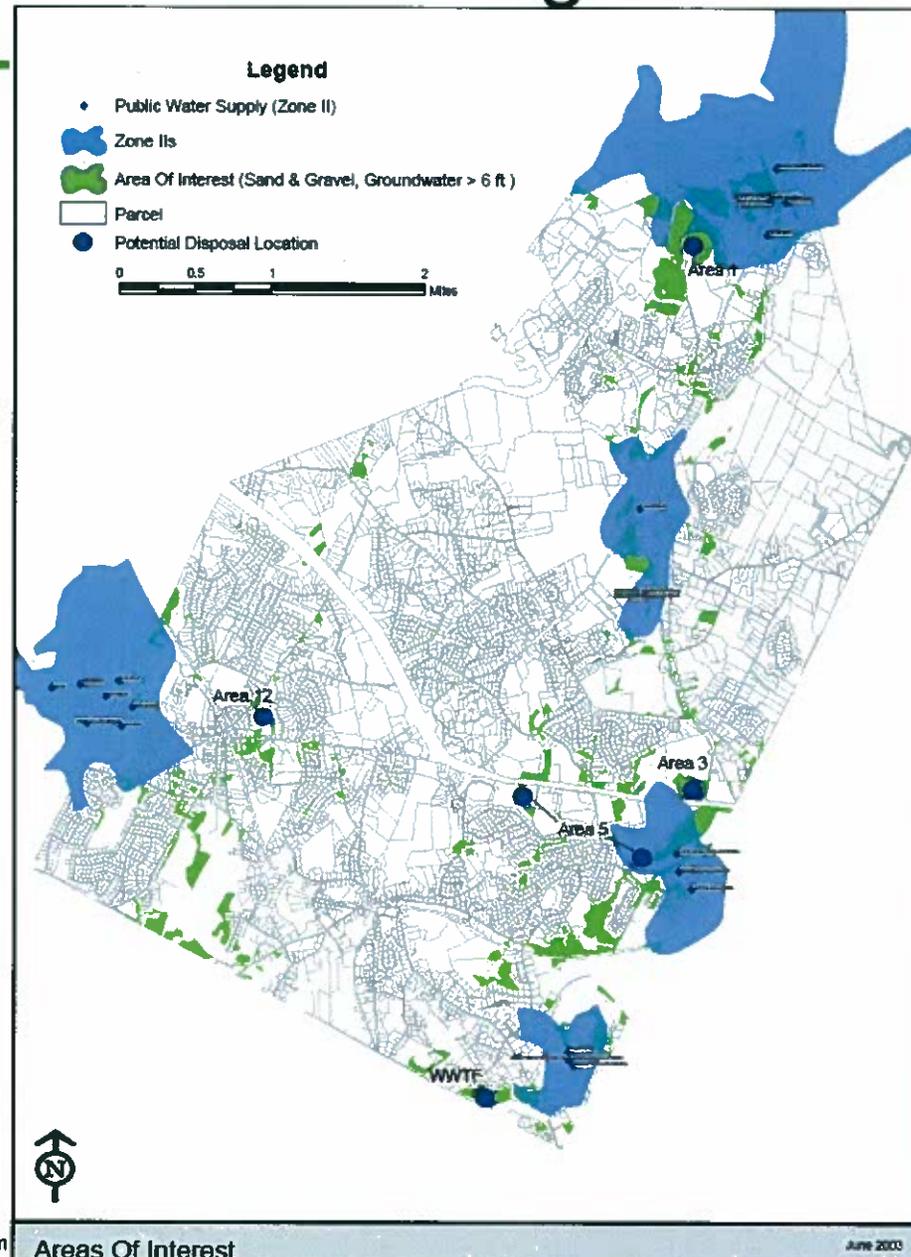




Supply wells and recharge zones

• Wastewater & water supply

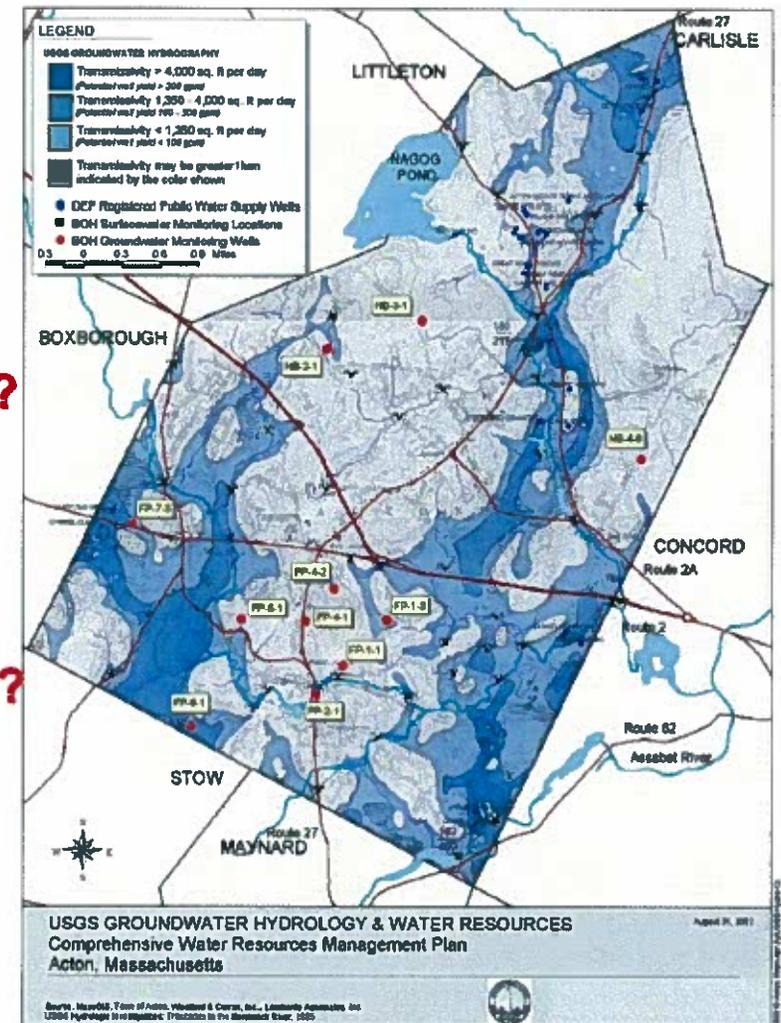
- Zone one protection
- Zone two definitions
- Zone two protection
- Monitoring data
- Water balance
- Point sources:
 - Nutrients
 - Other pollutants
- Nonpoint:
 - Stormwater, lawns ...
- Spills:
 - zones 1,2





Education: Quality trends

- Take new look at sampling plan/strategy and reporting
- Issues
 - Locations
 - **Are we measuring in the right places?**
 - Frequencies
 - **Do we have appropriate information?**
 - What to measure
 - **Are we looking at the right pollutants?**
 - What and how to report
 - **Is the information provided to the public understandably?**





Immediate actions for “quick wins”

- Enforcement of biannual pumping rules
 - Health Dept database nearly ready, short term opportunity
 - Carrot (notification), stick (penalties?)
- Water issues public workshop (s)
- Review alternative systems / Acton performance data and educate/recommend
 - Health Dept database in progress