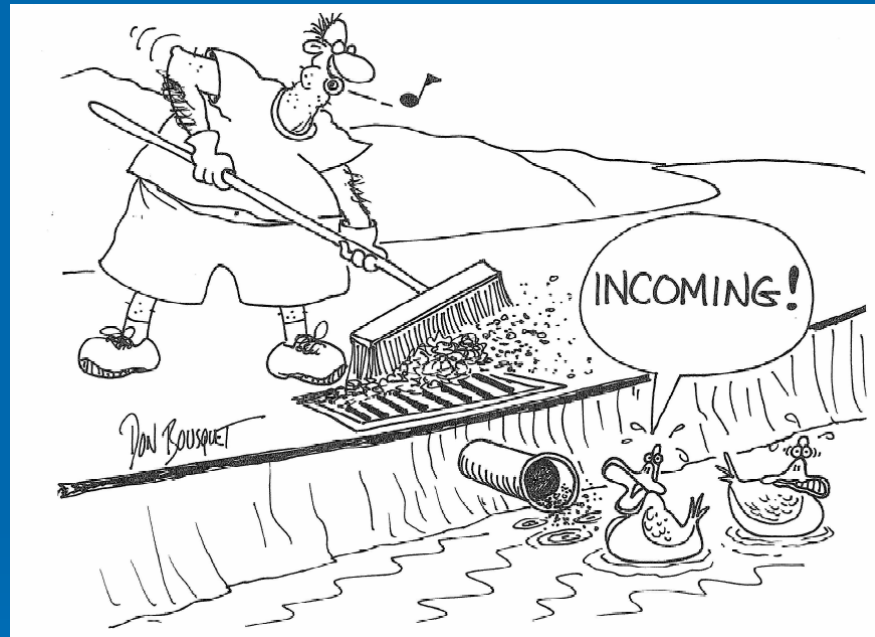
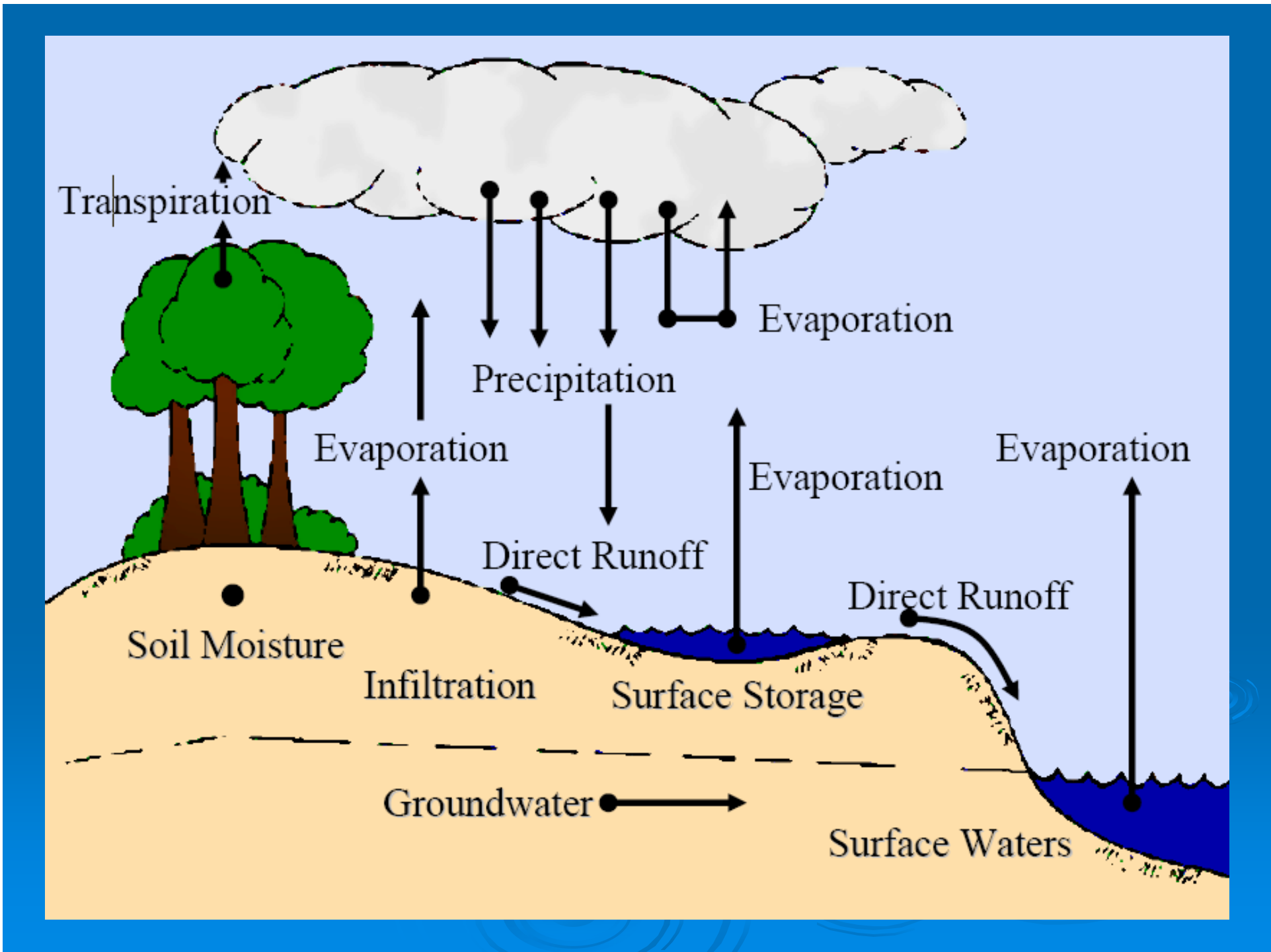


What's the problem with stormwater and how can a utility help?



Presentation at Land & Water Summit
March 9, 2013
by Elizabeth Scott
RIDEM/Office of Water Resources



Urbanization



Stream Impairment

Hydrology
Less Groundwater
Recharge
Lower Baseflow
Flashier Streams
More Runoff Volume

Water Quality
Elevated Pollutant
Concentrations
More Sediment
Elevated Temperatures

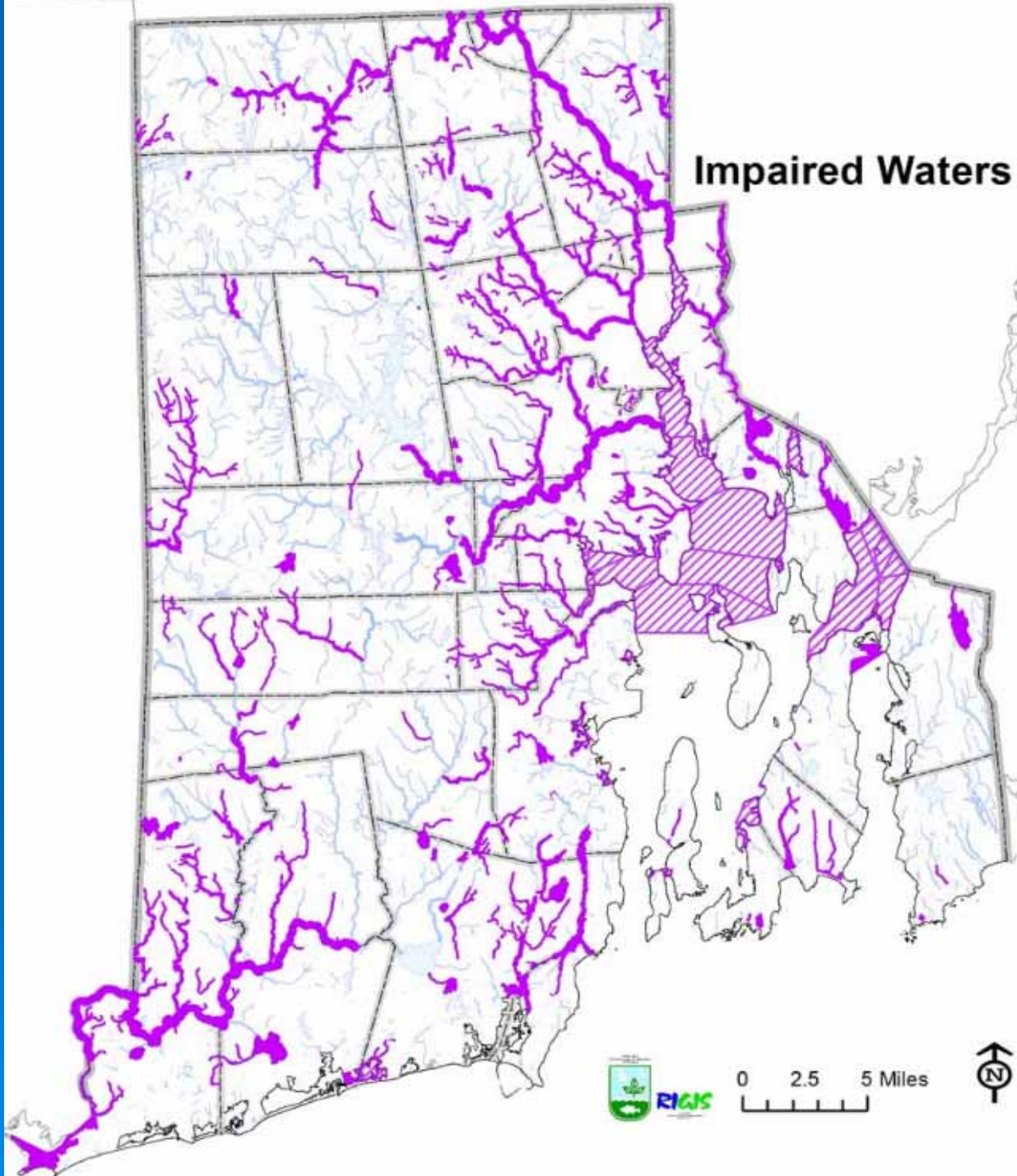
Stream Morphology
Altered morphology and
Stability
Habitat degradation

Impacted Recreational Use and/or
Poor Aquatic Life



Chronic Street Flooding



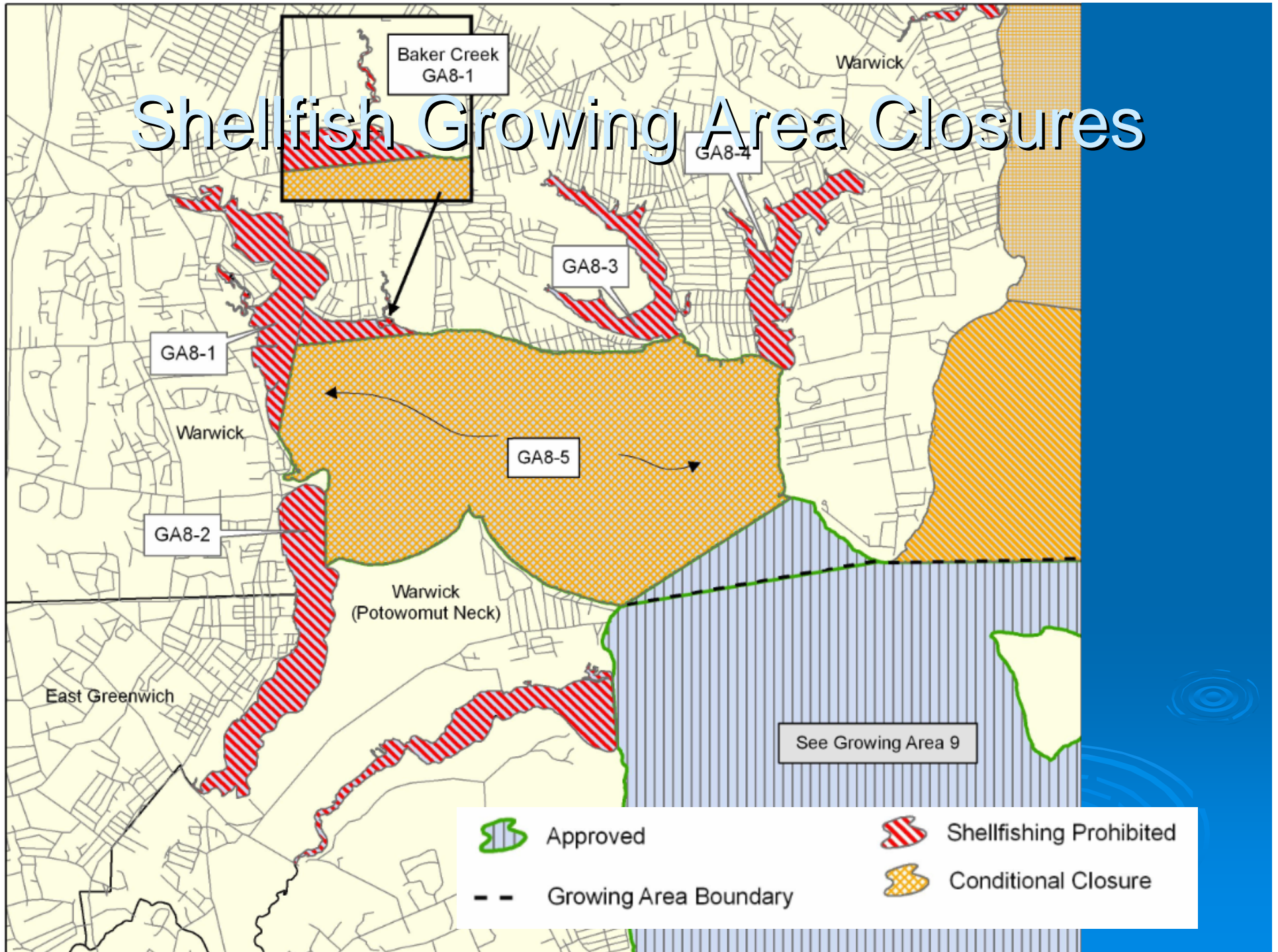


RI&ES

0 2.5 5 Miles

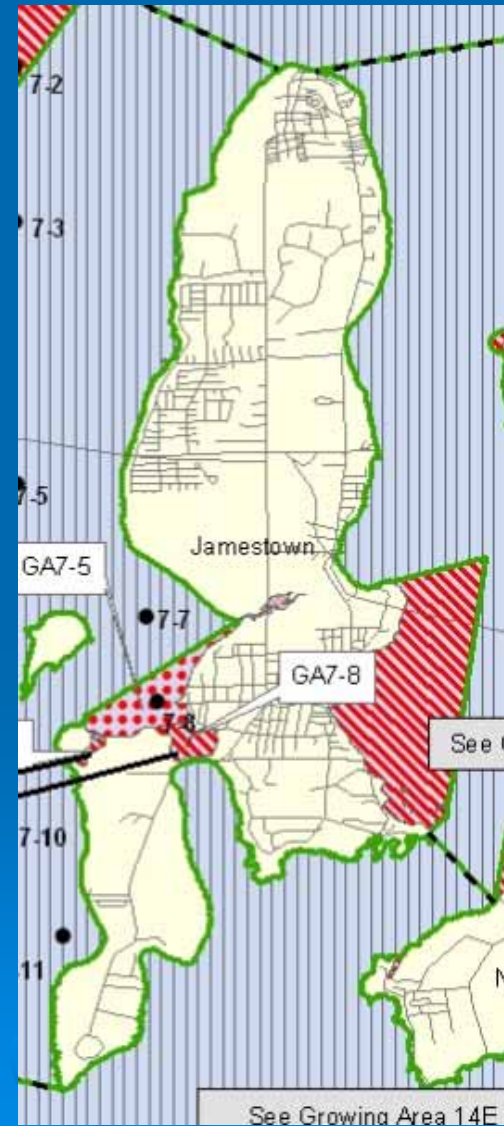
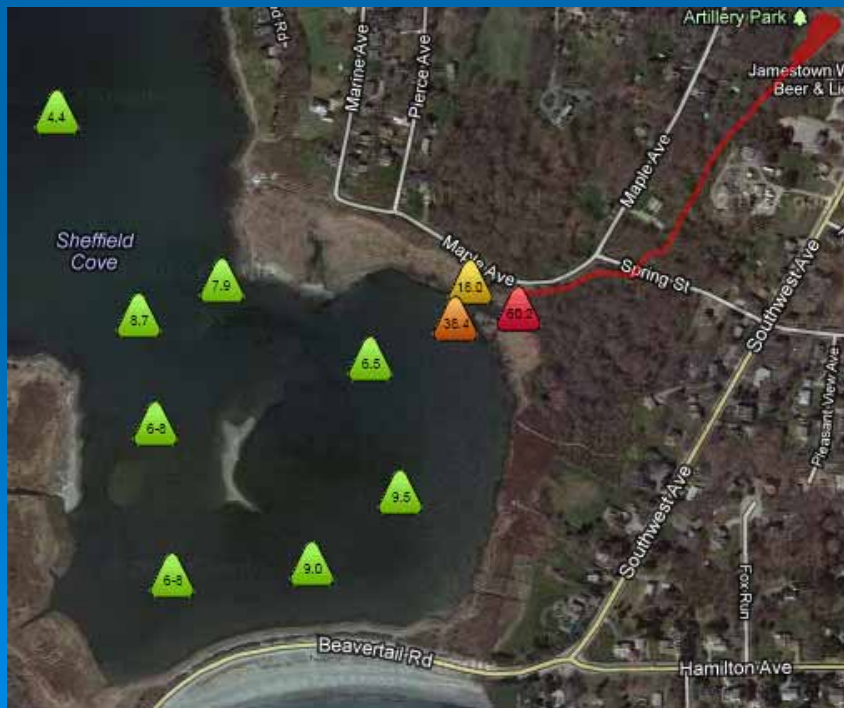


Shellfish Growing Area Closures



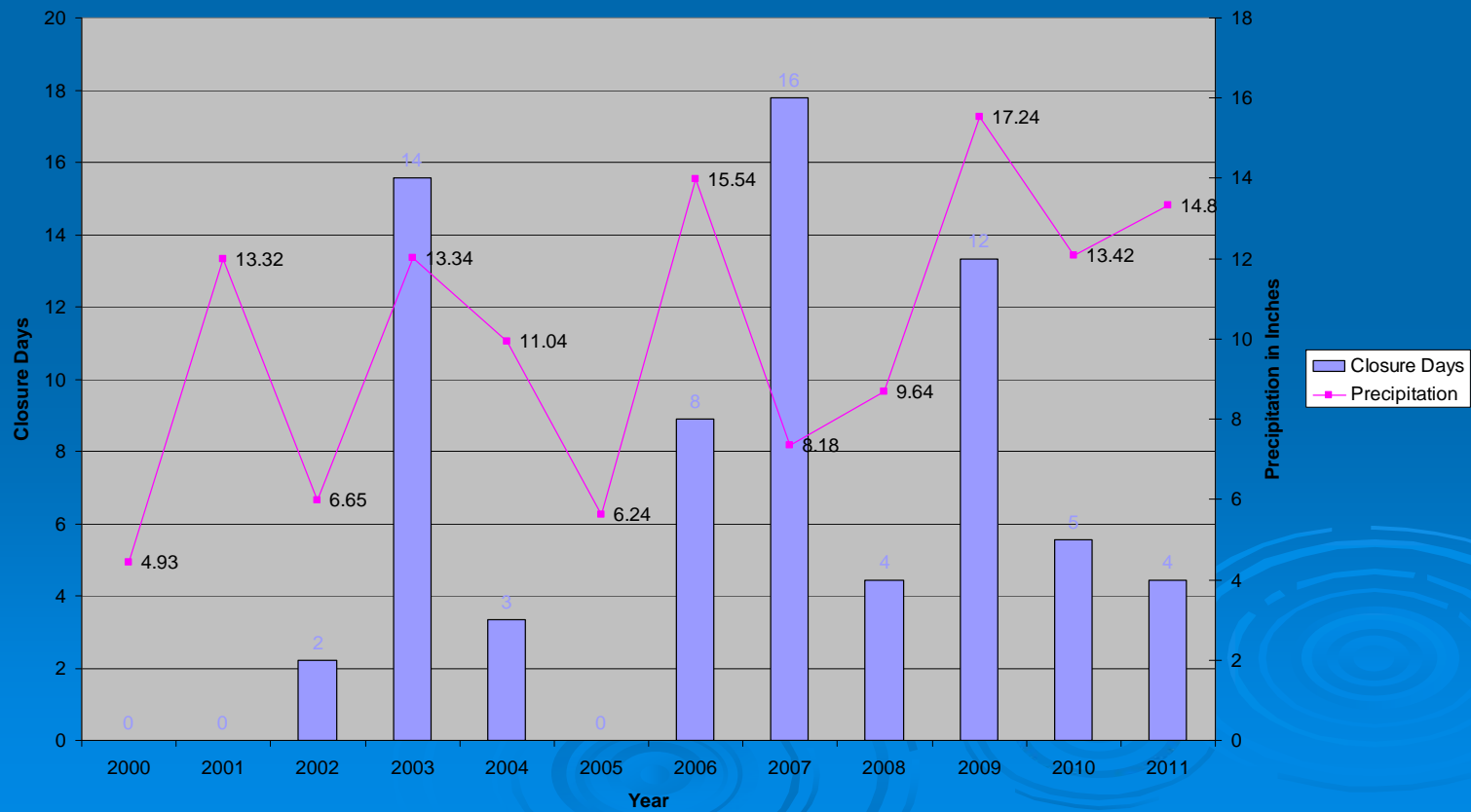


Shellfish Growing Area Closures





Wet Weather Beach Closure





Stormwater Polluted Freshwater Ponds

- Cyanobacteria blooms
 - Roger Williams Park Ponds, Providence
 - Mashapaug Pond, Providence
 - Spectacle Pond, Cranston
 - J.L Curran Reservoir, Cranston
 - Warwick Pond, Warwick
 - Newport Water Supply Reservoirs
 - Almy Pond, Newport
- Other nutrient related problems
 - Kickemuit Reservoir, Warren
 - Brickyard Pond, Barrington
 - Gorton Pond, Warwick
 - Sand Pond, Warwick
 - Upper Dam Pond, Coventry





Sediment filled surface waters





What is being done to protect the state's waters from stormwater impacts?

- Permits for New Construction and Re-development Projects
 - Freshwater Wetlands/WQC
 - CRMC permits
 - RIPDES Construction General Permit
- General Permits for Existing Stormwater Discharges
 - Municipal/State/DOT stormwater systems
 - Industrial
- Water Quality Restoration Studies –TMDLs
 - Stormwater is commonly identified as a significant cause of pollution
 - TMDL document establishes additional requirements on permitted entities to address pollutants of concern



RIPDES Phase II General Permit Program Requirements

- Stormwater Management Program Plan (SWMPP) describes how municipalities will reduce the discharge of pollutant
- Six Minimum Control Measures
 - Public Education and Outreach
 - Public Involvement/Participation
 - Illicit Discharge Detection and Elimination
 - Construction Site Runoff Control
 - Post-Construction Runoff Control
 - Pollution Prevention/Good Housekeeping



Additional efforts needed to address water quality impacts

Where required as a result of a TMDL:

- Target efforts to identify and eliminate illicit discharges
- On prioritized basis beginning with TMDL identified priority outfalls, conduct study to identify where and what type of structures can be constructed to reduce runoff volume and/or pollutant load/concentrations
- Design and construct structural retrofits
- Revise ordinances to better control stormwater sources of the pollutants of concern from new construction and re-development sites.

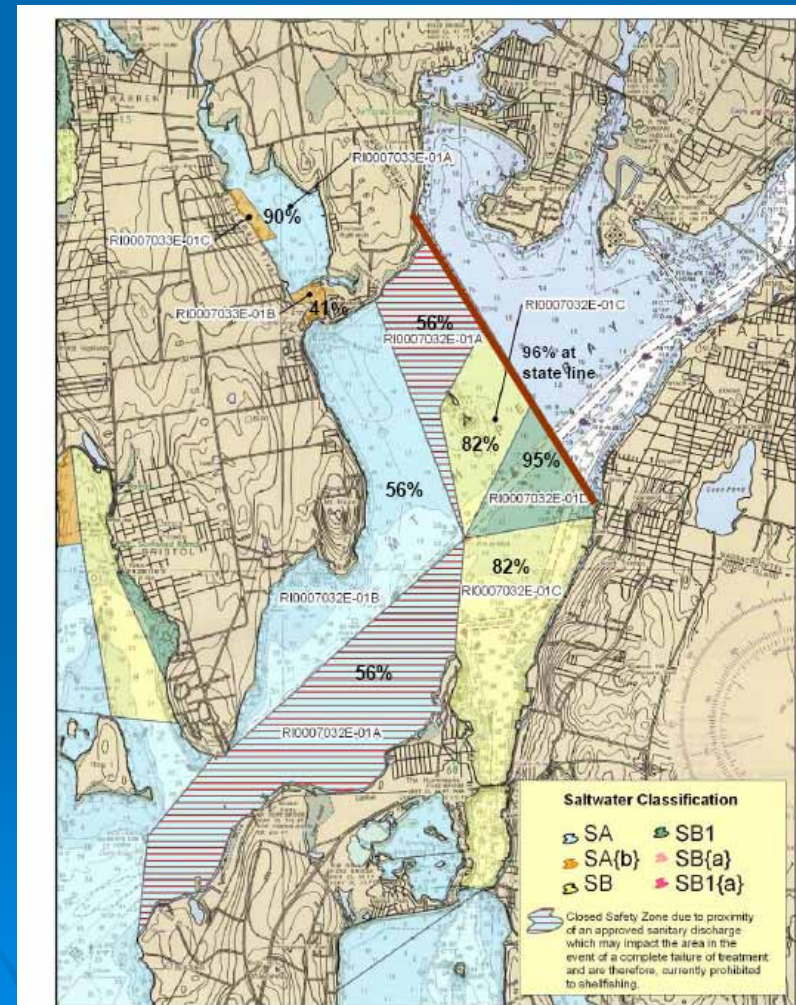


Figure 5.2 Graphical display of required waterbody segment reductions the study area.



Managing stormwater is one of the biggest water quality challenges facing the state





Funding Options for Local Stormwater Programs

- Property tax supported general revenue
- Grants (state and/or federal)
- RI Clean Water Finance Agency loans
 - Municipalities currently eligible for SRF loans for stormwater planning, design and construction projects
 - Loans are up to 20 year term w/ standard interest subsidy of 1/3 off borrower's market interest rate
 - Lack of definitive loan repayment source a hindrance to more municipalities taking advantage of loans
- Stormwater Utility





What is a stormwater utility and what activities can it fund?

A stormwater utility is primarily a revenue generating mechanism that allows municipalities to better manage stormwater by creating a designated fund. It can fund:

- Administration & operation of stormwater utility district
- Operation and maintenance of existing drainage system
- Upgrading/Retrofitting structures
- Preparation of stormwater management plans
- Planning & Engineering
- Site plan reviews and Inspections





Rhode Island Stormwater Management and Utility District Act of 2002

- Authorizes cities and towns to adopt ordinances creating stormwater management districts
- Purpose: to eliminate and prevent the contamination of the state's waters, and to operate and maintain existing stormwater conveyance systems.
- Establish a fee system that shall be reasonable and equitable so that each contributor of runoff shall pay to the extent to which runoff is contributed
- State properties exempt

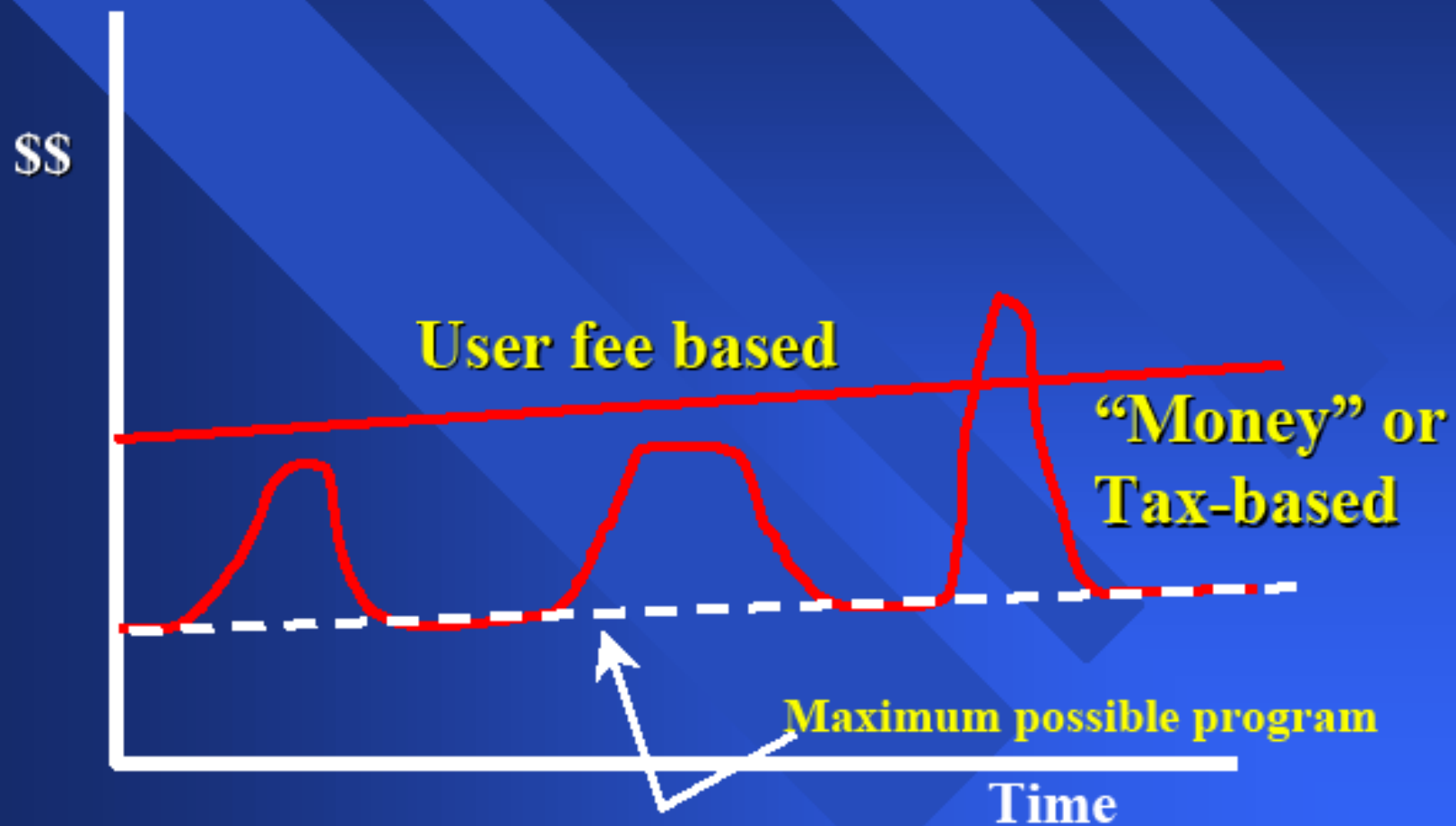


What are the benefits of a stormwater utility?

- **It is Stable** –not as vulnerable to the vagaries of the annual budgetary process as taxes
- **It is Adequate** – the fee is based on a well thought out stormwater program to meet the needs and demands of the community.
- **It is Flexible** – it can adapted to changing program and funding needs over time.
- **It is Equitable** – the cost is borne by the user on the basis of demand placed on the drainage system.

Stable

Utility vs. Tax or "Money" Funding





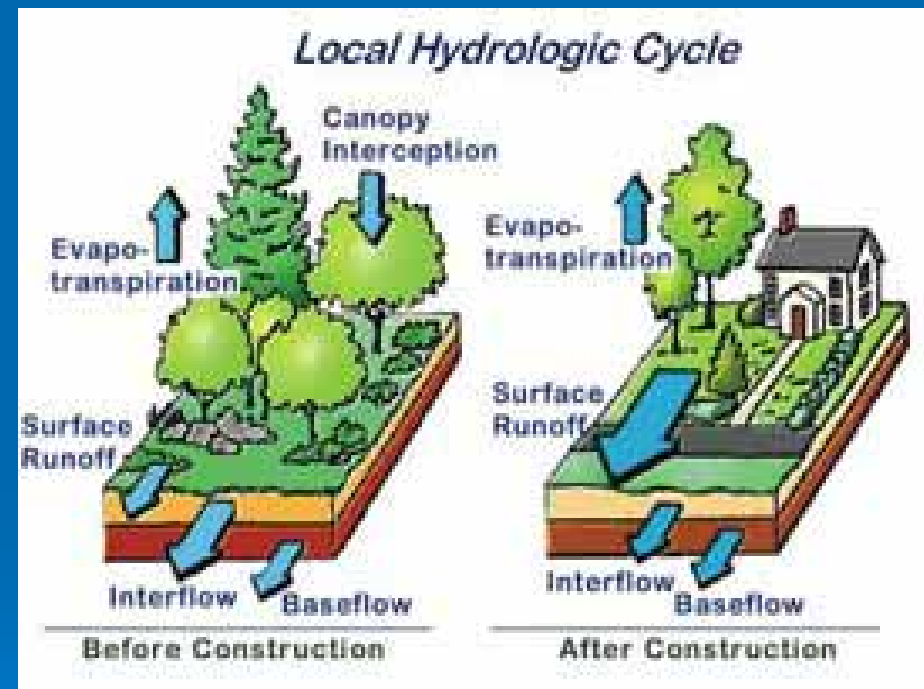
Credit System

- Stormwater utility may offer offset for on-site management of stormwater
- Creates incentives for property owners to retrofit sites – to install “Green Infrastructure”
- Reduces burden on municipally owned drainage systems

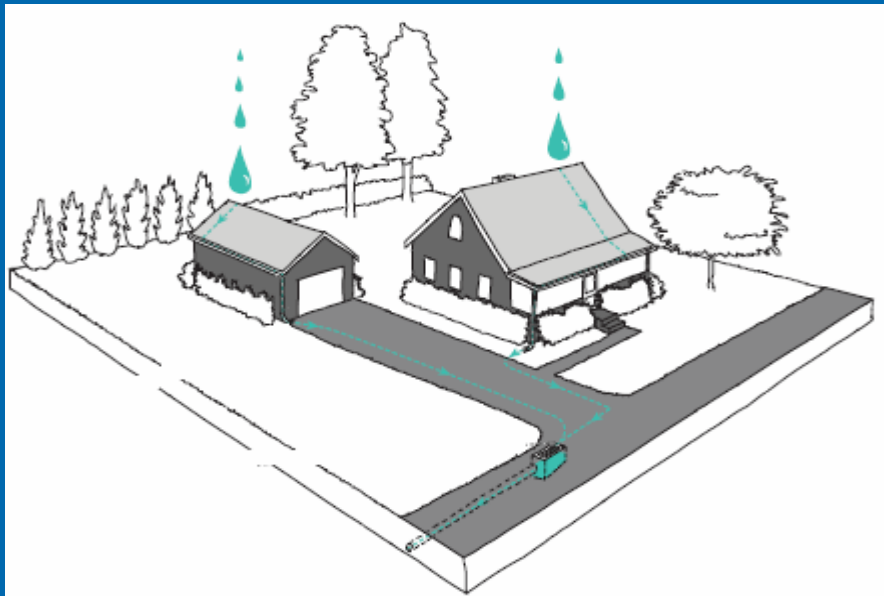


What physical changes are we talking about?

- Practices or systems that use or mimic natural processes to infiltrate, allow vegetative uptake, or reuse stormwater on the site where it is generated



Low Impact Development



De-Paving



Green Infrastructure



Examples



