

# Partnering for Protection

## *Wetlands Workshop for Municipal Officials*

May 22, 2008



**Please Note:** This presentation is for a workshop only and is not meant to be a substitute for the Freshwater Wetlands Act or the *Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act*.

# **Stormwater Management**

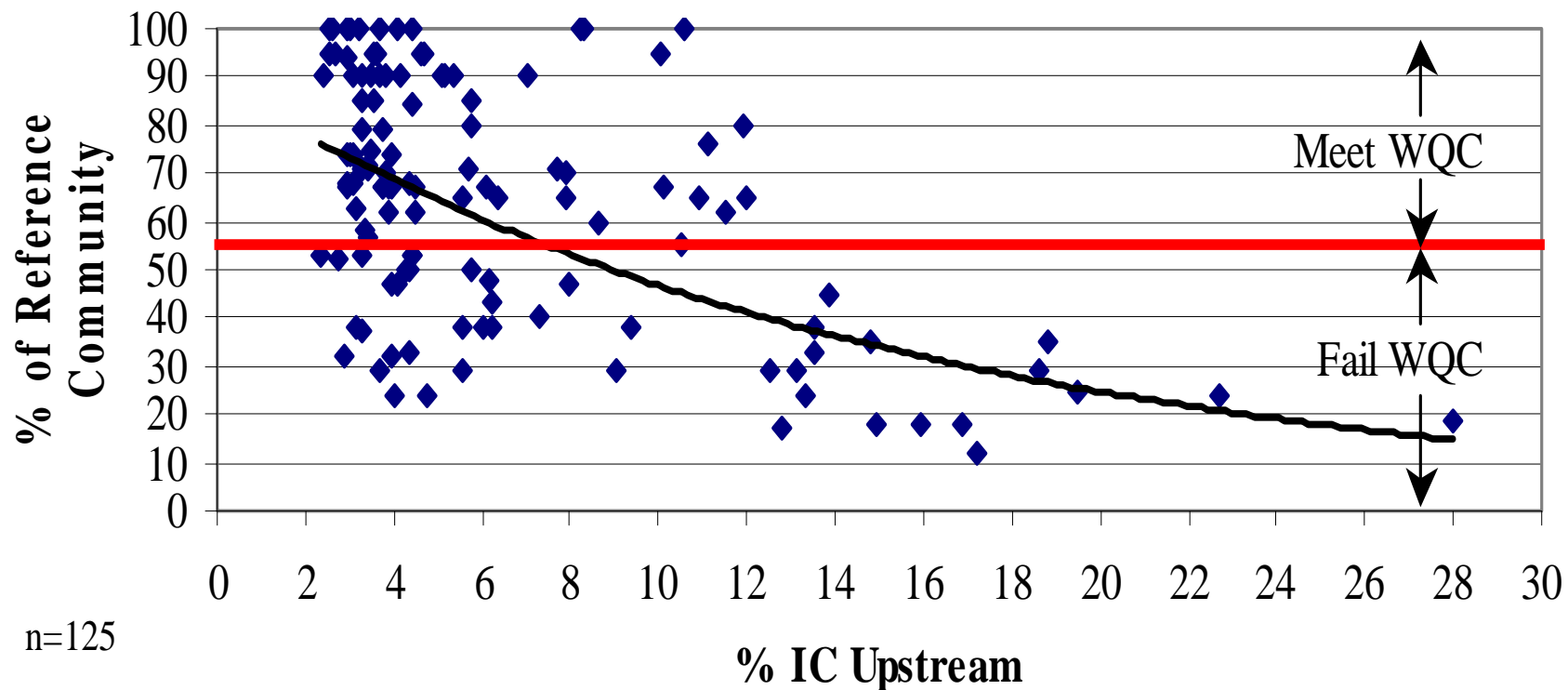
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*DEM Office of Water Resources*

# % Impervious Cover and Macroinvertebrates

Streams with <50 sq miles drainage upstream



C. Bellucci - CTDEP

# Major changes coming in stormwater management

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- Smart Development for a Cleaner Bay Act of 2007 – RIGL 45-61.2-1
  - DEM to amend RISDISM (stormwater manual)
  - Maintain pre-development gwt recharge
  - Control post-development runoff
  - Use Low Impact Design (LID) techniques as primary method of control
  - Incorporate into existing regulatory programs
  - By July 1, 2008

# More ...what's coming

- Minimum Req'mts for groundwater recharge (Draft)

HSG

Required Recharge

A

0.60 inches x impervious area

B

0.35 inches x impervious area

C

0.25 inches x impervious area

D

0.10 inches x impervious area

- LID first – to maximum extent practicable
- Enhanced/Revised WQ treatment guidelines
- Channel Protection
- Downstream effect

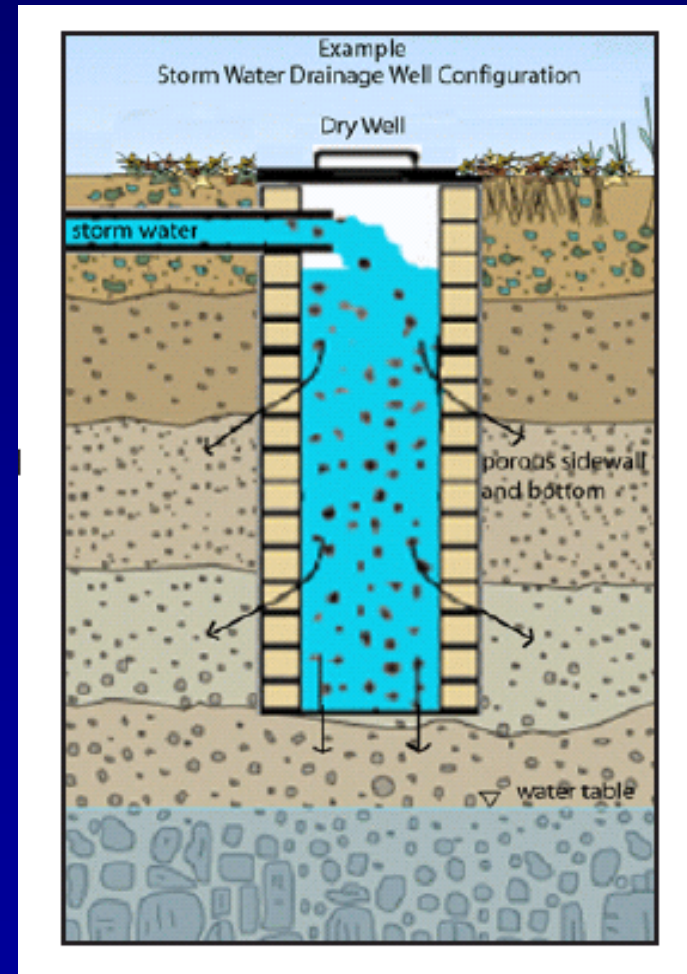
# General considerations for use of stormwater infiltration

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- Appropriate soils and groundwater depth
- Slope or gradient
- Importance of maintenance of site hydrology
- Space limitations for other traditional methods
- Use as WQ treatment in combination with other control facilities
- Urban areas with CSOs
- Proximity to private or public drinking water wells, septic systems, or aquifers
- Avoid areas with soil contamination, remediation sites, and hot-spots

# Infiltration permitting - UIC

- Underground Injection Control (UIC)
- UIC permit required; where wetlands present, both apps req'd; reviews coord. @ DEM
- Exemptions from UIC permit
  - Residential UIC's up to five home lots (no street runoff allowed)
  - Roofs runoff only up to 1 ac



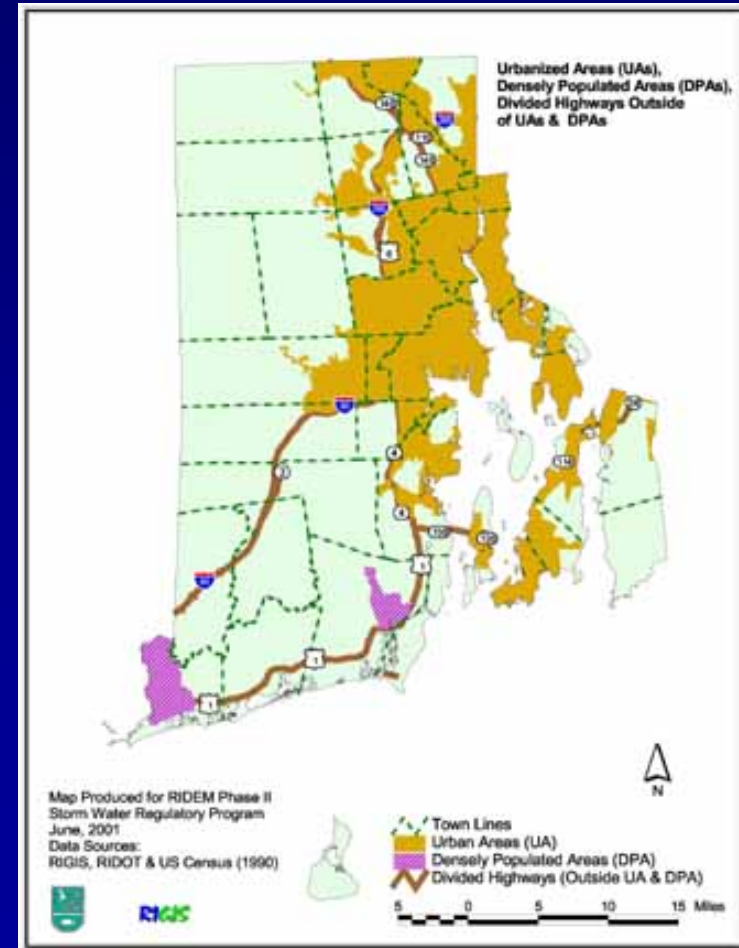
# Is a wetland permit needed even if you are not filling wetland?

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- Rule 5.01 Prohibitions: permit needed if project results in an alteration of wetland –
  - B(1): Increase impervious areas; changing run-off characteristics; diversion from or concentration of run-off into wetlands
  - B(2): Diversion of groundwater into or away from wetlands (e.g. subdrains, wells, consumptive water uses)
  - B(3): Water quality change
- Thresholds or permit triggers

# Phase II Stormwater Permits

- Statewide?
  - Urbanized areas
  - Densely pop. areas
  - Major highways
  - SRPWs
- Covers const. and post-const. stormwater impacts on site > 1 acre
- New const & redevelopment
- RISDISM is the standard



# Drainage is not always a wetland regulatory concern

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- Infill lot development
- Street flooding problems

# Porous Pavement

Contaminant	Influent Concentration (ug/l)	Effluent Concentration (ug/l)	Removal Efficiency (%)
Total Suspended Solids (TSS)	20,000	200	99
Total Zinc (TZ)	67	2	97
Total Petroleum Hydrocarbons (TPH)	10	0.1	99
Total Phosphorus (TP)	86	50	42

UNH Stormwater Center

- One of many pervious pavement options
- Advantages
  - Minimal space
  - Reduces runoff
  - Reduced need for salt application
  - Helps retain gwt recharge
  - WQ benefits – T°
- Uses: Parking lots, ??

UNH Stormwater Center website:  
<http://www.unh.edu/erg/cstev/index.htm>