

Strategies for Success

Wetlands Training Workshop for Consultants

December 6, 2007



Please Note: This presentation is for a training 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*.

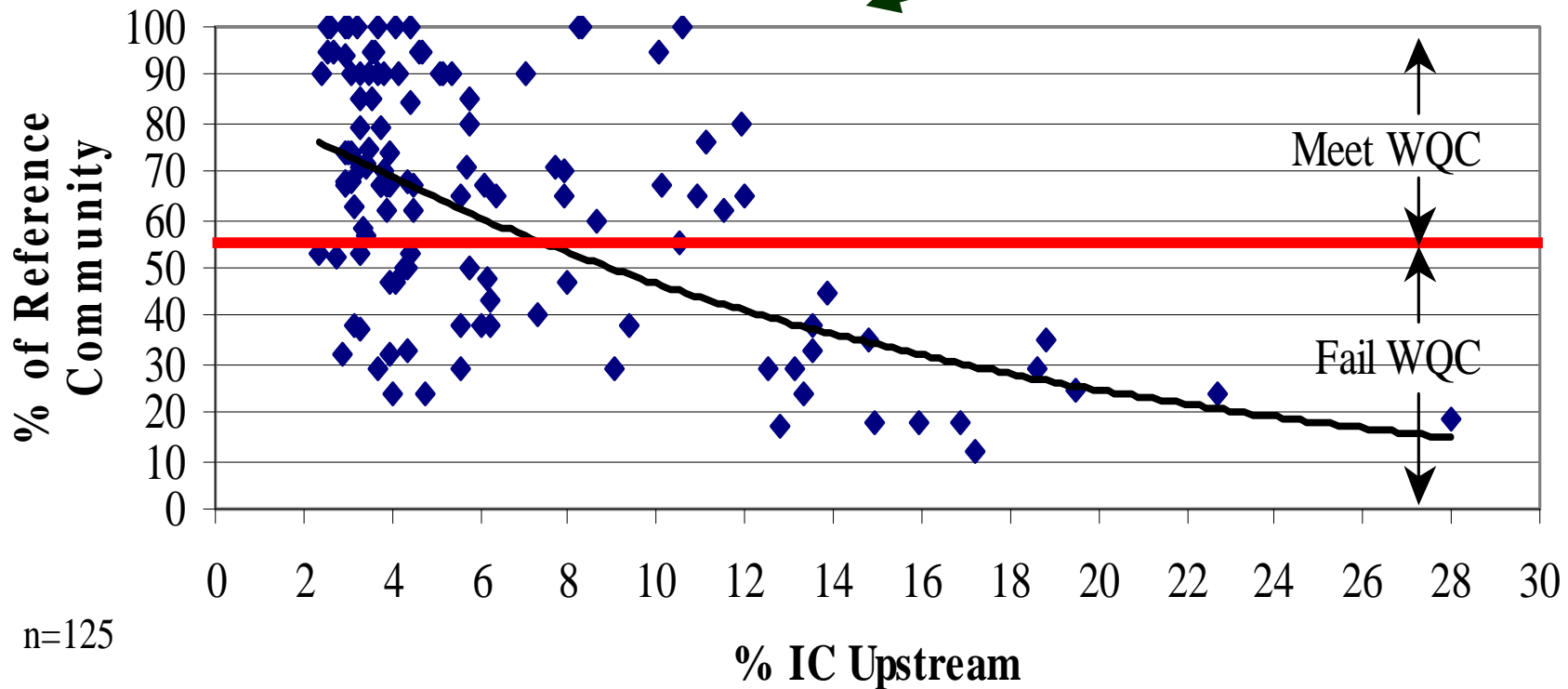
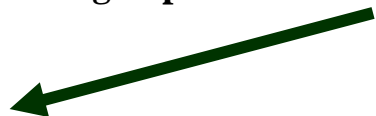
Stormwater Management and Infiltration

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Streams with <50 sq miles drainage upstream



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Major changes coming in stormwater management

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

General Considerations for use of stormwater infiltration

- Appropriate soils and groundwater depth
- Importance of maintenance of site hydrology
- Space limitations for other traditional methods
- For 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

Gathering site-specific data

- Soil infiltration rate and determination of groundwater table design depth
- Soil Evaluator or PE
- Groundwater monitoring useful
- Ledge or other impervious surfaces should be > 4 ft BGS
- Note - Percolation rates can be 2.5 x infiltration rates or more
- Double Ring Infiltrometer recommended for sites larger than 10 acres

Design criteria

- 3 ft separation to gwt; 5 ft to ledge or impervious
- Infiltration rates between 0.15 and 7.5 inches per hour; sand interlayer for very porous soils
- Reduce by at least half, the field measured rate to allow for clogging with usage
- Location with respect to foundations (25' down gradient - 100' Upgdnt) and walls
- Wells > 100 feet; more desired for public wells
- Pretreatment to trap sediment, floatables, oily contaminants and accidental spills
- Sized at least for increased discharge
- Empty within 36 to 72 hour following storm

Infiltration permitting

- 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

