



**RURAL**

# **Stormwater Management**

**Planning now for the future**

Municipal Officials Workshop  
January 17, 2007



# What is Stormwater Management?

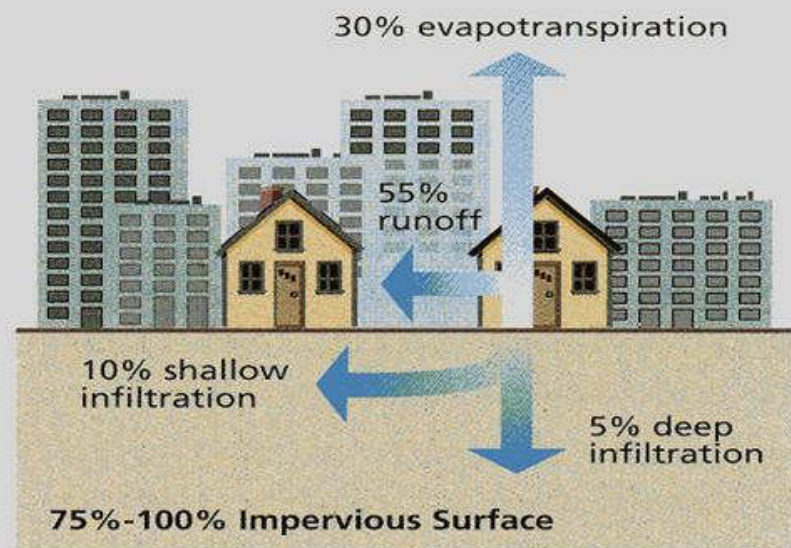
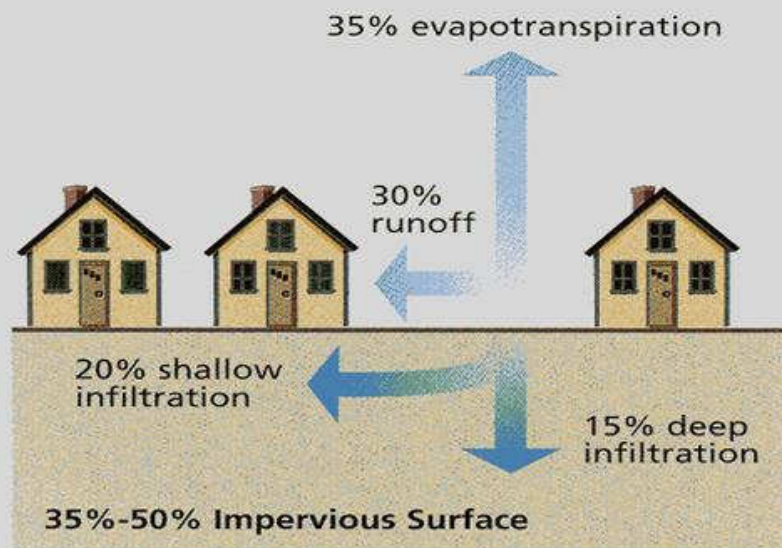
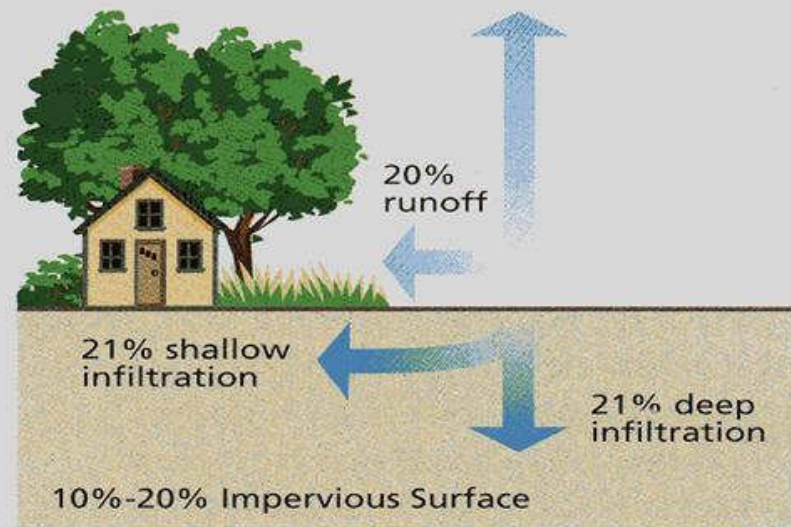
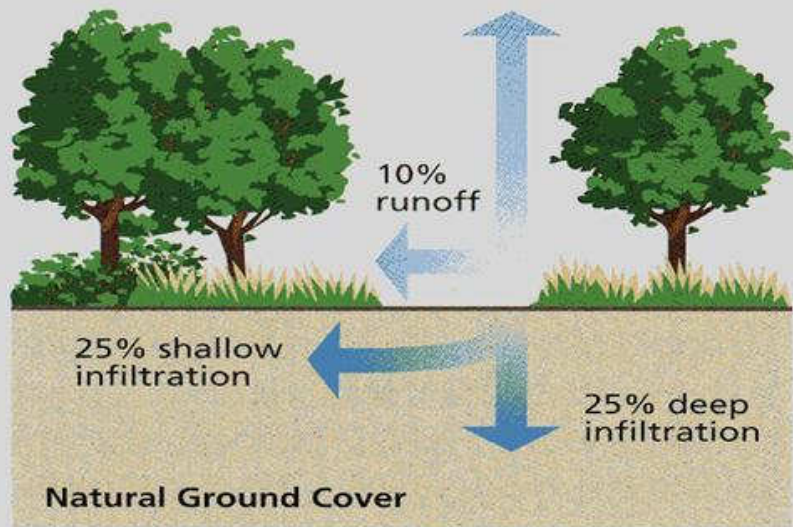
The control of water that runs off the surface of the land from rain or melting ice or snow.

Construction of impervious surface such as roofs, parking lots, and roads effect the impact of this runoff.

It's not just controlling runoff, it's keeping water in a system for drier or drought conditions.

Lack of storm water management leads to increased flooding, damage to roads, bridges and other infrastructure.





**Figure 3.21: Relationship between impervious cover and surface runoff.** Impervious cover in a watershed results in increased surface runoff. As little as 10 percent impervious cover in a watershed can result in stream degradation.

# Stormwater Management Act of 1978

- States ALL Municipalities needed to have stormwater management plans and ordinances within two years.
- In 1985, PA established program to provide up to 75% of costs for developing plans.
- Stormwater was traditionally treated as a waste product and planning was to just get it away from a site.
- The “NEW” approach is to keep it clean and get it back into the ground.
- Plans have gone from intensive and expensive watershed based to county –wide.



# Stormwater Management

- Sullivan County, not unlike many rural counties, has had little to do with stormwater management.
- *We're rural, we don't have big development!*
- What little stormwater management that has been done through various program requirements.
  - E&S, NPDES, minor development rules
  - Something to think about.
    - Real Estate trends show buyers are not local.
    - Business shift from production to public service.
    - School student numbers continue to decrease.
    - Are we becoming another "Poconos"?







# Physical Indicators

- Loss of Headwater Streams
- Floodplain encroachment
- Loss of intact riparian buffer
- Stream interruption
- Increased number of fish barriers



# Hydrological Indicators

- Increased runoff during storms
- Increased frequency of flooding
- Floodplain expansion
- Diminished base flow
- Increased bank full flooding



# Stream Indicators

- Channel enlargement
- Increased sediment load
- Declining stream habitat
- Large woody debris
- Stream warming



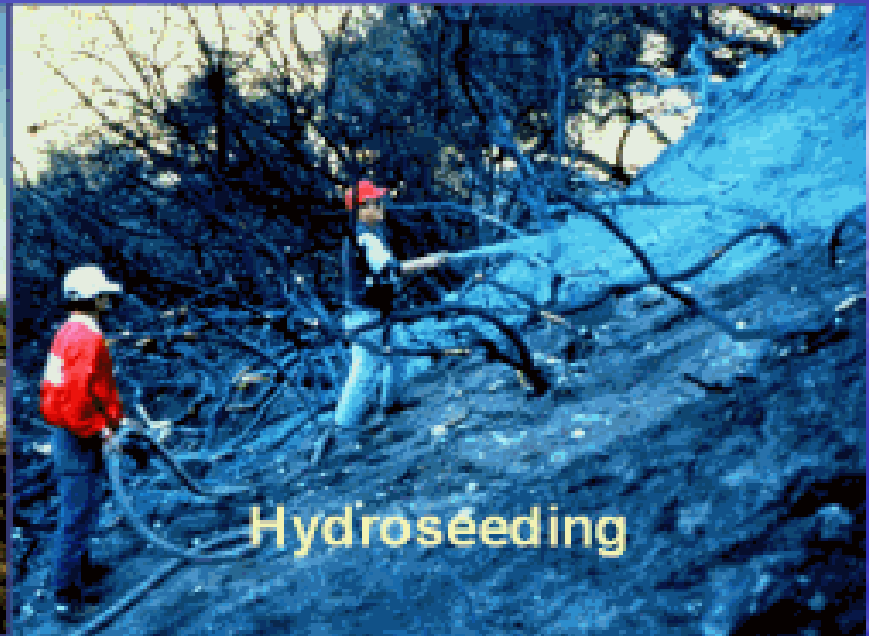
# Construction Trends

- For every new structure, a new pipe goes in the ground for water supply.
- New piping takes the stormwater to the nearest stream. “out of site, out of mind”, “no longer my problem”.
- The only way we can assure ample water supply is to keep the water close to where it falls.
- The “NEW” practices for stormwater management address groundwater recharge and keeping water clean.





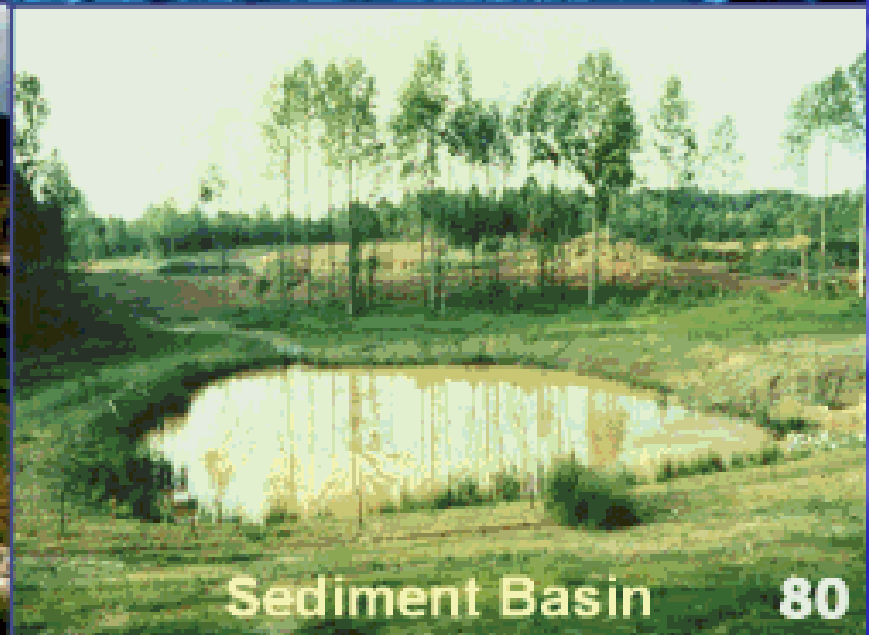
Silt Fence



Hydroseeding



Check dams



Sediment Basin





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**Stream bank fencing**

**Cover cropping**

**Riparian buffer establishment  
and protection**





# Backyard Stormwater Management Programs





Old



New





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# County wide Planning

- Less Cost
- Same rules apply across a county.
- The county does the bulk of the work, the municipality adopts and enacts the ordinances.
- A one size fits all, plan for a very diverse system of watersheds and land uses.





**Effective storm water management is important to Sullivan County**

**We need to address it now in preparing for the future.**

**Storm water management is a critical component to the longevity of stream restoration projects, water availability, property values, infrastructure stability, and quality of life.**



All the water that will ever be is, right now.  
*National Geographic, October 1993*

# Questions

