

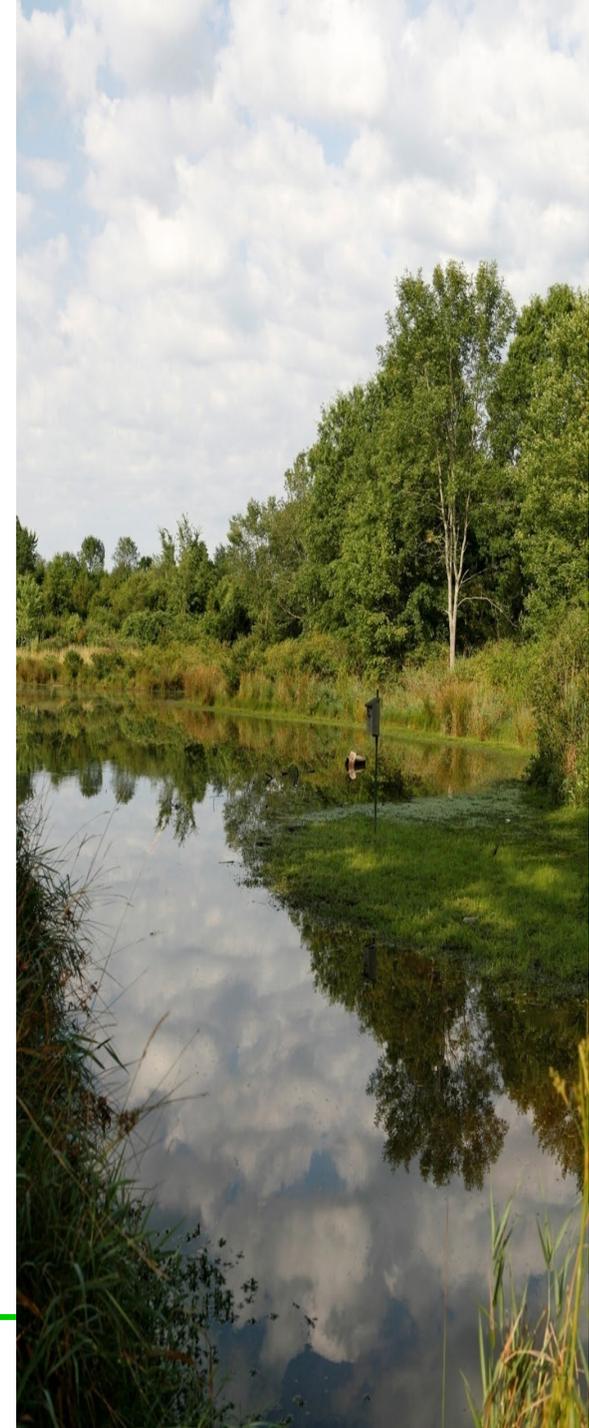
Stormwater Management: Enhancements

October 23, 2020

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Your water. Your environment. Your voice.



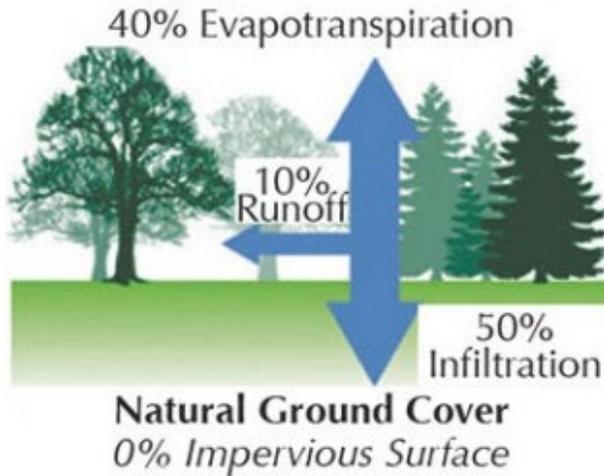
Flooding is a major problem



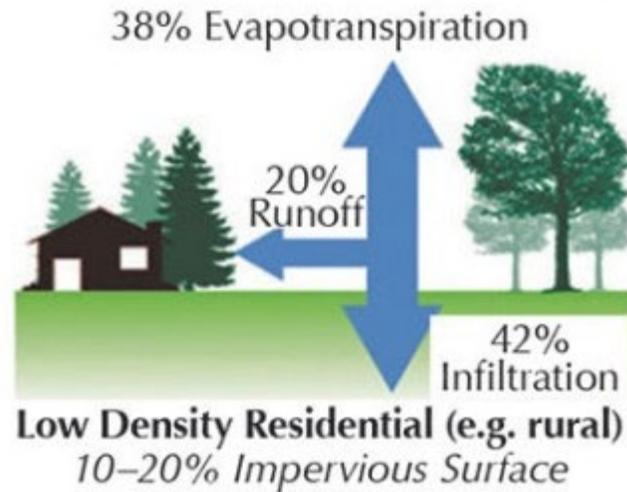
Tim Hawk / NJ Advance Media 6/20/2019

The Water Cycle has been altered

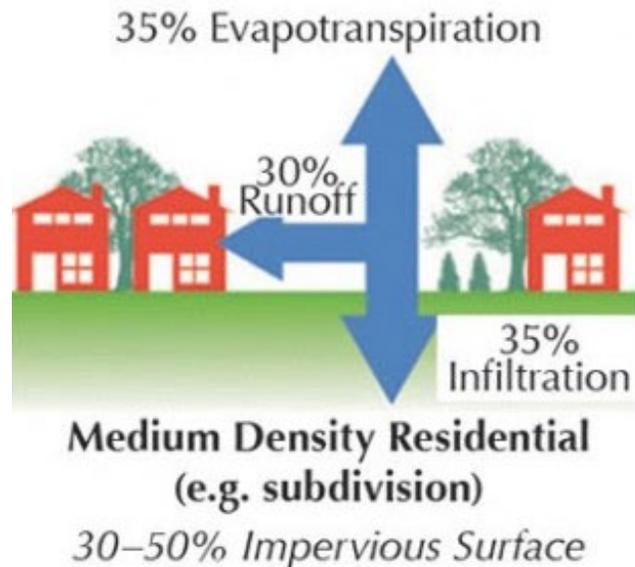
“Natural” Watershed



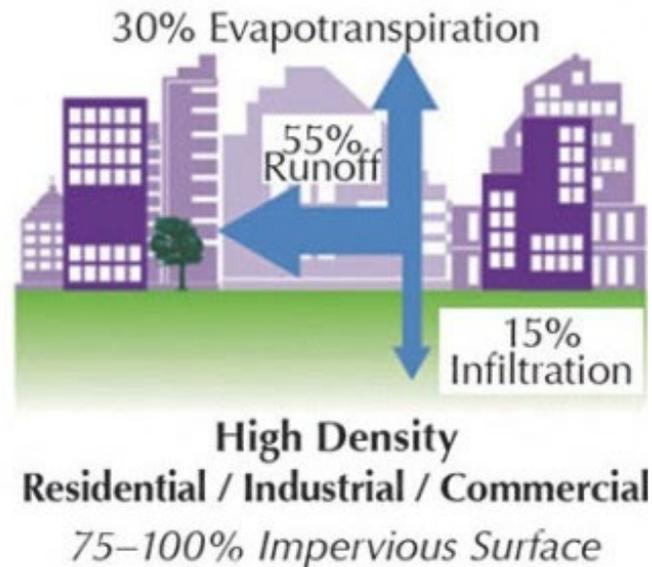
Low Density Residential



Medium Density Residential



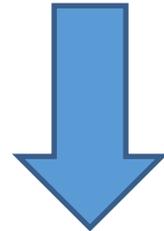
Urban Watershed



Average Annual Precipitation Has Increased

Ave. Annual Precip. for 1 st 7 decades of 20 th Century:	44.16"
Ave. Annual Precipitation for 21 st Century:	47.62"
Ave. Annual Precipitation Increase:	3.45"

Source: Office of the NJ State Climatologist David Robinson <http://climate.rutgers.edu/stateclim/>

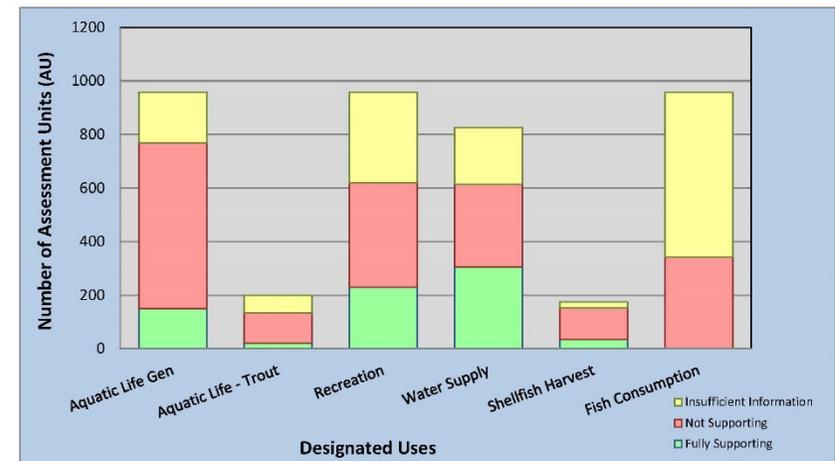


526.74 billion more gallons per year in NJ!

However, there was an observable trend in the number of “Excellent” conditions and “Poor” conditions migrating toward the “Good” and “Fair” categories. **The trends also show a correlation between biological impairment and anthropogenic factors** such as land use, total urban land, increase in impervious surface, and decrease in forests and wetlands in a stream’s drainage basin. **The replacement of pervious land with impervious surfaces increases storm water and the associated impacts** such as degraded riparian zones, unstable streambanks, higher turbidity, nutrients and other chemicals.

-2016 New Jersey Integrated Water Quality Assessment Report

Figure ES-1: Statewide Designated Use Assessment Results, 2016



- Current program may be **slowing** not stopping the rate at which the stormwater problem is getting worse.
- But only large developments are addressed.
- Program not addressing existing stormwater problems.
- ***Current rules do not address volume of runoff.***

This sample ordinance represents the *minimum standards and expectations*, except where noted otherwise. It is the goal of stormwater management to minimize pollution caused by stormwater in order to restore, enhance and maintain the integrity of waters of the State. **Federal, as well as, State water pollution laws permit municipalities to undertake additional actions** including ordinances with standards stronger than the statewide minimum requirements. **Under New Jersey Municipal Separate Storm Sewer System Permits (MS4), the stormwater program may also include Optional Measures (OMs), that prevent or reduce the pollution of the waters of the State. A municipality may choose these stronger or additional measures in order to address local water quality and flooding conditions as well as other environmental and community needs.** For example, municipalities may choose to define “major development” with a smaller area of disturbance and/or smaller area of regulated impervious cover or regulated motor vehicle surface; apply stormwater requirements to both major and minor development; and/or require groundwater recharge, when feasible, in urban redevelopment areas.

- Redefine Major Development
- Address smaller developments
- Address Redevelopment
- Capture and treated stormwater onsite
- Enhanced analysis of environmental impacts from development
- Permitting and Reporting Requirements
- Place stormwater management requirements in zoning code

Major Development

- Currently- one acre of soil disturbance
- Reduce trigger to 1/2 acre of soil disturbance (21,780 SF)
- Currently – 1/4 acre of impervious cover
- Reduce to 5,000 square feet of impervious cover
- Treat all impervious surfaces for water quality not just motor vehicle traveled surfaces
- Include redevelopment
- Retain onsite the 95% rain event

Minor Development

- Define as 250 SF or more of impervious surface
- Treat 2 gallons of stormwater per square feet of impervious surface
- Retain on site 95% rain event
- Include Redevelopment
- Require mitigation fee to secure waiver of requirements

Enhanced analysis of environmental impacts from development

- Map onsite and adjacent environmental features including forests, core forests, all waterways
- Examine the short and long term impacts on environmental features. Example, maintaining sufficient water supply for wetlands.
- Examine impacts to adjacent property owners.
- Calculated the impacts of increased volume downstream

- Continue use of nonstructural or low impact design requirements.

Require inspection of all stormwater management features

- Annual stormwater permit
- Quarterly reports submitted by property owners
- Inspections by municipality auditing compliance with maintenance requirement
- Fee paid by property owners for inspection program
- Assists municipality in complying with MS4 requirements.

Webinars/Documentation:

- [Green Infrastructure Rule Webinar-April 23, 2020](#)
- [Webinar for Municipal Professionals on New Stormwater Rules](#)
- [The Watershed Institute's Enhanced Model Ordinance](#)
- [The Watershed Institute Green Infrastructure Certification](#)
- RSIS Webinar – Dec. 2nd.

Training:

- Green Infrastructure education for municipal employees, engineers, landscape architects and the public:
 - Watershed Institute Green Infrastructure Certification Court
 - Feb. 4&5
 - Green Infrastructure Maintenance Training- Feb. 26, 2020



Thank You

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