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University of Pennsylvania



# Institute for Environmental Studies

presents

## Tom Schueler

Center for Watershed Protection

### Urban Watershed Management: The Relationship Between Impervious Cover and Stream Quality and its Use in Management

In recent years, impervious cover (IC) has emerged as a key paradigm to explain and sometimes predict how stream indicators will respond to different levels of watershed development. We have integrated this approach into a simple watershed planning framework, known as the impervious cover model (ICM). While the ICM is deceptively simple, it raises complex and profound policy implications for watershed managers. The presentation examines the proper application of the ICM in watershed planning and regulation, for sensitive, impacted and non-supporting streams. The ICM predicts that most stream indicators decline when watershed IC exceeds 10% and show severe degradation beyond 25% IC. We have recently reviewed more than 200 research studies that have tested the ICM model with respect to more than 25 indicators of stream quality. Particular emphasis was placed on recent studies that explored the effect of stream buffers and other forms of watershed treatment in modifying the ICM. In addition, the value of watershed forest cover and riparian forest continuity in maintaining stream quality was also assessed. The presentation concludes with an assessment on how stream buffers, forest conservation and innovative stormwater/forestry practices can be used to protect and restore urban watersheds.

**Date:** Thursday, October 10, 2002

**Time:** **NOON - 1:30 pm**

**Place:** **Auditorium at Wistar Institute**

On Penn's campus: Spruce Street & Penn's 36<sup>th</sup> Street Walkway

#### **NO REGISTRATION REQUIRED**

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