BUGS, RAIN AND PIPES: Studying Baltimore's Water System

Community Update

Baltimore Ecosystem Study: BES

www.beslter.org

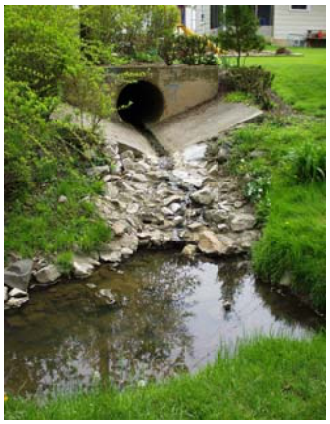
WHY?

A city's infrastructure affects the cleanliness of its water and undesirable elements get into streams, lakes, and reservoirs. Bacteria and other pathogens can enter streams from:

- Storm drainage and surface runoff.
- Damaged sewage pipes, infiltration from septic systems, and exchanges the natural stream channel.

HOW ?

To study the pathogens in Baltimore's water, we test samples from watersheds of Baltimore City and County, including the Gunpowder River basin, an important metropolitan drinking water source. We measure concentrations of *E. coli* bacteria, to learn about their ecology in the urban environment.



Storm drains wash pollutants straight into streams and lakes.

A city's water system moves around the built environment.

What it means for Baltimore

Runoff from streets, parking lots, rooftops and lawns are important sources for pathogens carried into streams, lakes, and reservoirs because they bypass the soil (a natural filter). Pathogens are also a problem when sanitary sewer networks leak. Aging sanitary and damaged pipes, and overflows result in significant sewage pollution because these systems coexist wth natural stream systems. Contaminated water endangers the health of people and other living things. If we understand the ecology of water borne pathogens in our city, we will be better able to prevent contamination.

Scientists from BES, US Forest Service, USDA ARS Environmental Microbial Pathogen Lab, UMBC CUERE, CEE, GES and JHU are working with Baltimore City DPW, to monitor pathogens in Baltimore streams. As the City improves its sanitary sewer infrastructure over the next few years, we expect large improvments in the water quality of these streams.

LTER Long Term Ecological Research — Baltimore Ecosystem Study

Contact:
Dr. Peter Groffman
Institute of Ecosystem Studies
Tel: (845)677-7600
groffmanp@ecostudies.org