Stormwater in Ocean City, MD

Joanne Throwe, Director
Environmental Finance Center
University of Maryland
October 6, 2010

What is stormwater?

- Stormwater is the flow of water that runs off property when it rains and flows into streets, storm sewers, and ditches.
- The amount of stormwater increases as the amount of impervious area increases.
  - Impervious surface is any hard surface that does not readily absorb water.
  - Driveways, rooftops, parking lots, swimming pools, compacted soil (most lawns), and streets are considered to be impervious surfaces.
- Curb and gutter increase the rate of flow - pollutants have no time to settle

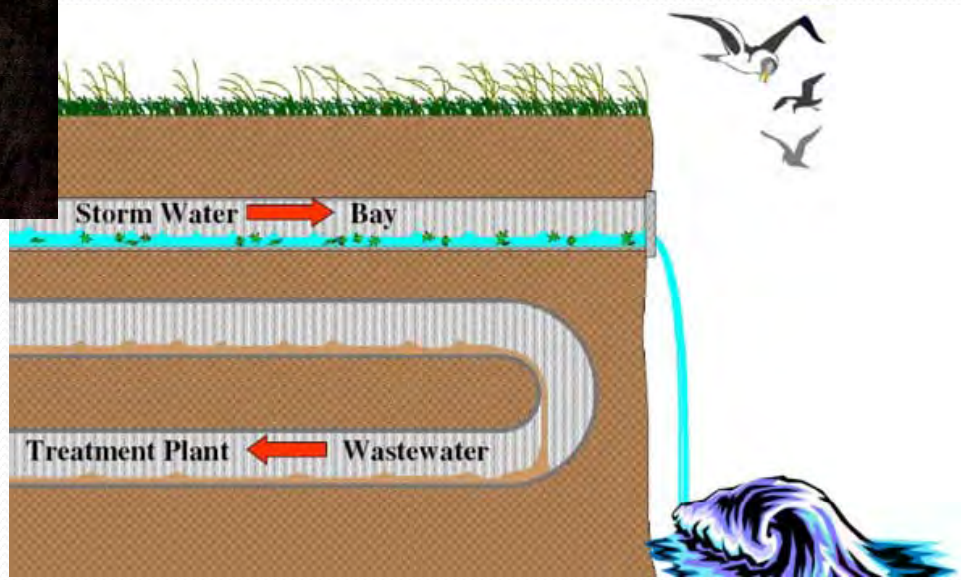
What is in stormwater?

- Runoff picks up pollutants such as:
  - grit and sediment
  - oil
  - heavy metals from car emissions
  - pesticides and fertilizers from lawns
  - trash
  - pet waste

- The pollutant load is dumped wherever the storm drain has an exit pipe – into a river, stream, bay, or ocean

The stormwater we can see…

The stormwater we can't see…



Hydrology in Ocean City

- All of Ocean City drains into the Coastal Bays which, in turn, drain into the Atlantic Ocean.
- Average monthly rainfall is 3 inches.
- 90% of all storms are less than 1 inch.
- 800 sq ft roof with 2 downspouts produces 114 gallons from a ½ inch storm.
- Ocean City is a barrier island so the land is only a few feet above sea level and extremely flat.
- Landscape is 100% urban.

Hydrology in Ocean City (cont.)

- Storm drain inlets connect to a system of underground pipes. The pipes rely on gravity flow and discharge into the bay.
- Stormwater is not treated at a sewage treatment plant before it reaches the bay.
- Flooding of roads during storms impedes transportation and business by limiting road access.

How does it impact Ocean City and the Coastal Bays?

- Flooding
- Water Quality
- Impacts on business & tourism

Top 5 Reasons that Stormwater Management is a Challenge in Ocean City

- Population growth and urbanization
- Aging conveyance system
- Inadequate system maintenance
- Pavement settlement
- Sea level inhibits drainage

What is the town doing about it?

- Volunteer Beach Clean Ups
- Rain gardens, permeable pavers, pilot projects
- Comprehensive Plan calls for Low Impact Development (LID)
- Ocean City Engineering Department: http://oceancitymd.gov/Engineering/

What could the town do with dedicated funding?

- Address backlog of stormdrain and pavement repair requests
- Build a long term maintenance program
- Install best management practices (BMP) controls: storm drain interceptors, catch basin inserts
- Outreach and education to residents, businesses, and visitors

Thank you!

Joanne Throwe

301/405-5036

jthrowe@umd.edu

www.efc.umd.edu