

When it Rains, it Drains



An Overview of our Community's
Stormwater Management
Program

What is Stormwater?

- Rain events
- Snow melt
- Other surface runoff and drainage



Where does Stormwater go in Beaver County?

Travels over land



Carried through municipal separate storm sewer systems (MS4)



Discharges into bodies of water
(Ohio River, Beaver River, Raccoon Creek, etc.)

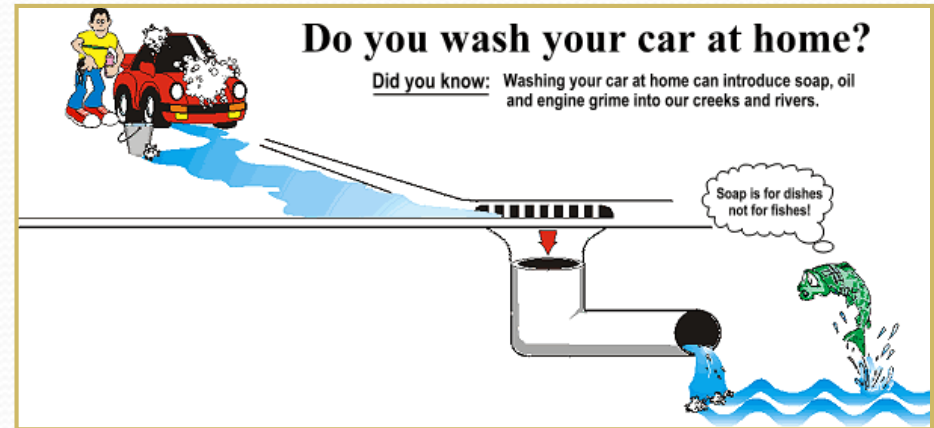
Why is Stormwater a Problem?

- Decrease in water quality
- Increase in water quantity
- Non-stormwater discharges enter system (illicit discharges)



What is an “illicit discharge”?

- Sanitary wastewater
- Effluent from septic tanks
- Car wash wastewaters
- Oil and grease disposal
- Laundry wastewaters
- Auto and household toxic chemicals



Stormwater and the EPA

- In 1990 the EPA established the National Pollutant Discharge Elimination System (NPDES) Stormwater Program
- It requires operators of medium to large MS4 systems to implement control programs
 - Polluted stormwater runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), from which it is often discharged untreated into local waterbodies. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a NPDES permit and develop a stormwater management program.
 - MS4's are owned by a state, city, town, village, or other public entity that discharges to waters of the U.S., are designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.), and are not part of a publicly owned sewage treatment plant.
- Extended coverage to certain “small” MS4s

Stormwater and the EPA: MS4 Sizes

- Small MS₄ – Any MS₄ not covered by the Phase I stormwater program (smaller than 10,000/sq. mile population)
- Medium MS₄ – Population between 100,000 – 249,999
- Large MS₄ – Population larger than 250,000

Stormwater Common Pollutants

- Sediment
- Nutrients
- Bacteria
- Oil and Grease
- Trace Metals
- Toxic Chemicals
- Pesticides
- Trash: Cigarette butts, wrappers, plastic bottles, etc.



Stormwater Permit Program for Small Communities

- The Federal Regulation Program requires a permit, so the PADEP (Pennsylvania Department of Environmental Protection) created a permitting program to meet federal regulations
 - What do the permits require?
 - Implementation of a stormwater management program
 - Track progress toward goals
 - Report on progress

The Stormwater Program Components: 6 “MCM’s” (Minimum Control Measures)

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Good Housekeeping/Pollution Prevention



MCM #1: Public Education and Outreach

- Develop and maintain a community outreach plan
- Identify a list of audiences
- Distribute educational materials



MCM #2: Public Involvement/Participation

- Create an public involvement plan
- Hold a public meeting on the program
- Provide opportunity for public feedback
- Start a volunteer program
 - Examples:
 - Water Quality Monitoring
 - Storm Drain Stenciling
 - Stream Clean-Ups



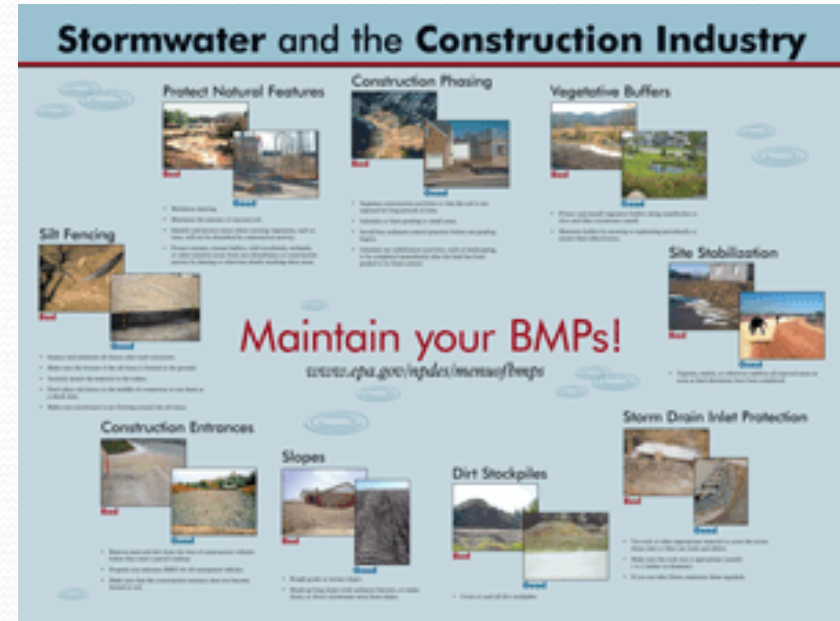
MCM #3: Illicit Discharge Detection and Elimination

- Enact DEP's model ordinance or update an existing ordinance
- Develop and maintain a storm sewer system map of regulated outfalls
- Implement a program to detect non-stormwater in system
- Educate community on problems related to dumping in storm sewers



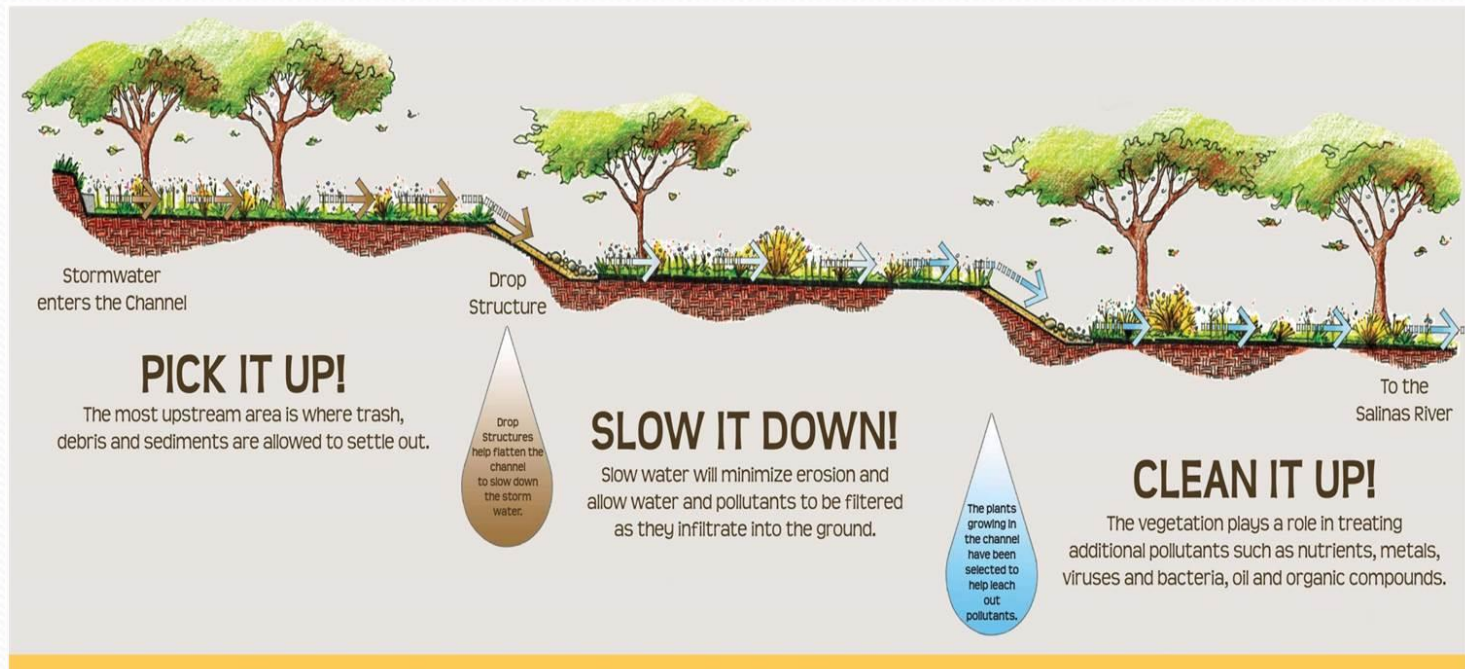
MCM #4: Construction Site Stormwater Runoff Control

- Enact DEP's model ordinance or update an existing ordinance
- Educate construction industry on Best Management Practices (BMPs)
- Coordinate with Beaver County Conservation District
 - Erosion and Sediment Control Program
 - NPDES Construction Stormwater Permitting



MCM #5: Post Construction Stormwater Management

- Develop a written program and tracking system
- Ensure proper operation and maintenance of post construction controls
- Encourage low impact development



MCM #6: Good Housekeeping/Pollution Prevention

- Develop and implement an O&M program that focuses on pollution prevention
 - Vehicle washing, fueling, and maintenance
- Train community employees on good housekeeping practices
- Educate community on pollution prevention



Benefits of Stormwater Management Programs

- Enhanced fishing and other outdoor recreation opportunities
- Reduced flood damage
- Cleaner drinking water
- Navigational benefits
- Reduced illness
- Enhanced aesthetic value

