# Enviro FACTS

# COMBINED SEWER OVERFLOWS (CSOs)

## *Managing risk to water quality*

Since the mid-1800s, cities have been constructed with sanitary sewer collection systems that carried both wastewater and storm water in the same pipe. Original designs were configured to carry all the wastes and runoff to local streams, lakes and rivers. By the 1950s, citizens and municipal authorities recognized the need to separate these flows and began constructing wastewater treatment plants. As sewers were replaced, or when new ones were constructed, storm water collection was confined to its own drainage system, and wastes were sent to the treatment plant.

Without proper monitoring and management, combined sewer overflows (CSOs) from existing sewer systems pose a significant threat to communities where they are in place. Currently 40 million people in 900 communities nationwide (about 390,000 people in 58 communities in West Virginia) live in areas with CSOs. CSOs contain untreated domestic waste and may contain commercial and industrial wastes, surface runoff containing contaminant from various sources and particulate pollution in the air.

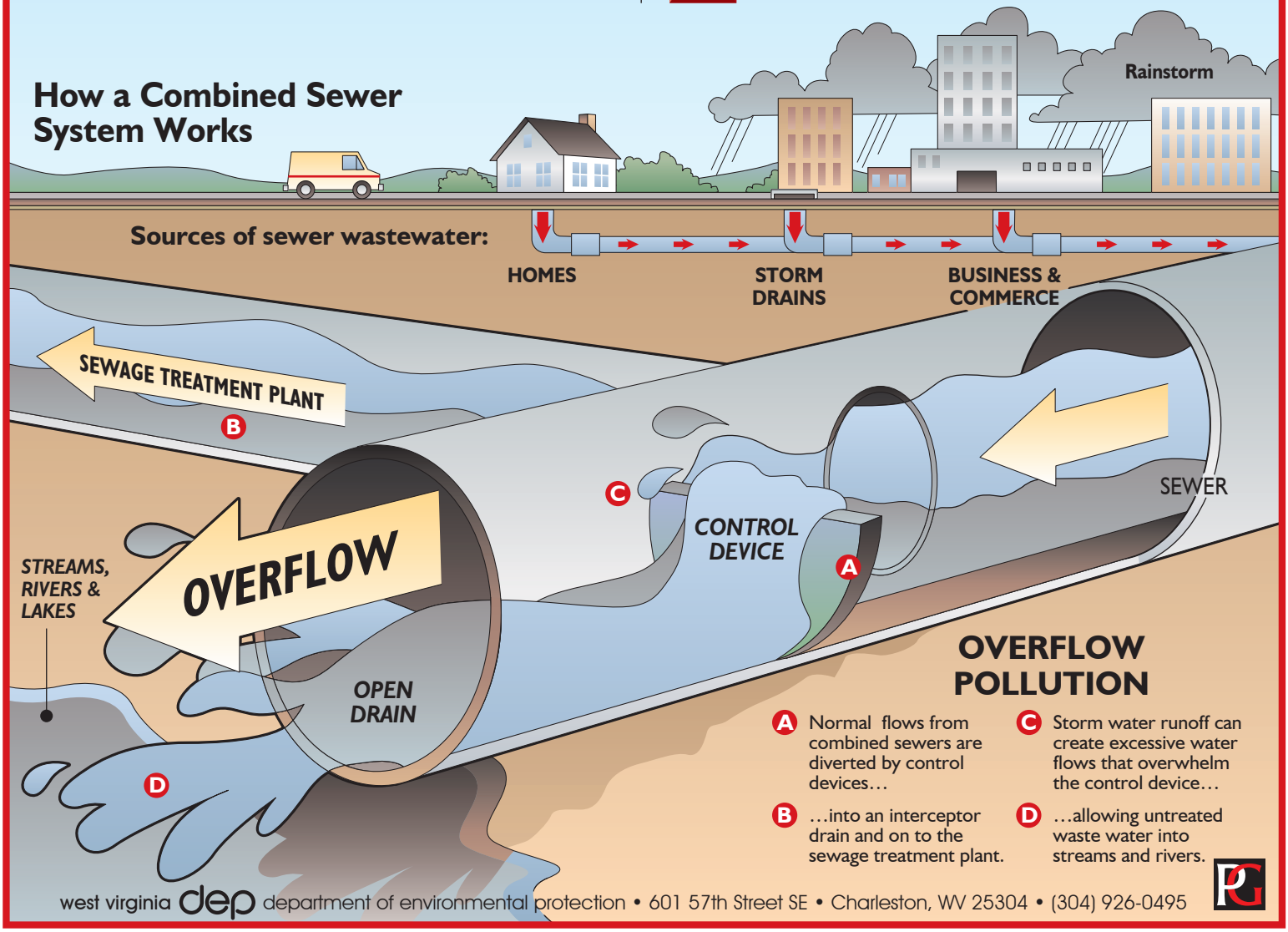
Outbreaks of communicable diseases such as typhoid, cholera, dysentery and hepatitis have been traced to contaminated drinking water. Swimming and other water contact recreation in areas affected by CSOs also can put you at risk, especially if you have cuts or scrapes where bacteria can enter the body.

The EPA and the DEP are taking steps to address hazards created by CSOs. In 1994, the EPA issued a national CSO Control Policy for better managing CSOs. This strategy requires states to identify all CSOs and categorize them according to their level of compliance with Clean Water Act requirements. In 2005, WVDEP issued a new CSO Long-Term Control Plan Implementing Policy.

The EPA also developed nine control measures to help reduce the effects CSOs have on water quality. These measures include proper operation and regular maintenance programs for sewer systems and CSO outfalls, maximizing collection systems for storage and minimizing the flow of storm water into the CSO.

**For more information contact:**
WVDEP Division of Water & Waste Management
at (304) 926-0495 or at www.dep.wv.gov

## How a Combined Sewer System Works




## OVERFLOW POLLUTION

**A** Normal flows from combined sewers are diverted by control devices…

**B** …into an interceptor drain and on to the sewage treatment plant.

**C** Storm water runoff can create excessive water flows that overwhelm the control device…

**D** …allowing untreated waste water into streams and rivers.

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