

When it rains it pollutes - A short history of stormwater pollution

“When it rains it pollutes” is an easy shorthand for stormwater pollution. It is pollution that occurs when rain and snowmelt washes pollutants from streets, parking lots, yards, and storage areas and into lakes, rivers, and wetlands. Stormwater pollution, along with agricultural runoff pollution, are two main reasons we are not meeting “fishable and swimmable” goals for our nation’s rivers and lakes.



Stormwater is piped largely untreated to lakes and rivers – what washes off the land goes into the water!

Contending with stormwater dates back to the earliest cities. The basic structures of cities, roofs and paving, prevents rain from soaking into the ground and leads to flooding during storms. The Indus city of Mohenjo-Daro (now West Pakistan) dealt with this problem in 3000 B.C. by building drains into their streets. The Romans built drainage systems in 1000 B.C. that not only handled stormwater runoff, but also overflows from public baths and fountains.

Stormwater drainage systems soon lead to sanitary sewers. Once it was noted that a good rainfall would flush a storm drainage way clean, people started putting household waste in them in anticipation of the next rain. However, when rains were infrequent, unsanitary and repulsive conditions would result. The solution was to cover over the drainage ways and create what the Romans called *cloacae* and we call sewers. Initially, sewers dumped untreated waste directly into receiving waters. By the 1930’s wastewater treatment became common in developed countries.

When North American cities were built, combining stormwater runoff and sanitary waste into one sewer was common practice - a practice stopped in the 1960’s in the interest of water

pollution control. Combined sewers ended up at wastewater treatment plants. Runoff from small storms would be treated along with sanitary waste – a good thing. But runoff from large storms would overwhelm treatment plants, causing raw sewage to be dumped into rivers and lakes – a bad thing.

Now for the most part, storm sewers are separate from sanitary sewers. This means stormwater, and the pollutants it

picks up, are routed largely untreated into surface water, resulting in:

- Sediment from road sand and construction sites clogging waterways.
- Nutrients from leaves, grass clippings, and fertilizer causing algae blooms.
- Bacteria from pet waste, urban wildlife, and illegal sanitary connections causing beach closing.
- Toxics entering water by people disposing wastes down storm drains.

Another article is needed to share the “best management practices” being promoted to reduce stormwater pollution. Included are innovative designs for new developments, “good housekeeping” practices to keep pollutants from being washed away by rain, education to keep stormwater drains from being used as disposal sites, and constructed practices such as ponds and wetlands to provide a degree of stormwater cleanup before it is released. A good basic publication on yard care practices can be found at: www.moea.state.mn.us/campaign/garden/.