

National Pollutant Discharge Elimination System



NPDES – National Pollutant Discharge Elimination Systems

In 1972, Congress amended the Federal Water Pollution Control Act [commonly referred to as the Clean Water Act (CWA)] to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. The NPDES program is designed to track point sources and require the implementation of the controls necessary to minimize the discharge of pollutants.

Phase II of the storm water program expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb one acre, or more of land.

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to a degradation of water quality by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans.



Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways,

sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground.

In addition to impervious areas, urban development creates new pollution sources as population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. Studies have shown that discharges from MS4s (Municipal Separate Storm Sewer System) often include wastes and wastewater from non-storm water sources.

Pollution

Federal regulations define an illicit discharge as “... any discharge to an MS4 (Municipal Separate Storm Sewer System) that is not composed entirely of storm water....,” with some exceptions. These discharges are “illicit” because municipal storm sewer systems are not designed to accept, process, or discharge such wastes. Sources of illicit discharges include, but are not limited to, sanitary wastewater; effluent from septic tanks; car wash, laundry, and other industrial wastewaters; improper disposal of auto and household toxins, such as used motor oil, heavy contents of fertilizers, and pesticides; and spills from roadway and other accidents.