

Applied Research and Guidance for Identifying and Correcting Illicit Discharges
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Illicit discharge detection and correction are minimum control measures for communities regulated under EPA's National Pollution Detection Elimination System (NPDES) Phase I and Phase II Stormwater Rules. Illicit connections to the storm drain system can result in significant nutrient loads, toxic conditions for in-stream biota and human health concerns. The Center for Watershed Protection is currently engaged in a research project with Dr. Robert Pitt from the University of Alabama to develop a User's Manual for Identifying and Correcting Illicit and Inappropriate Discharges. This manual is being written to provide guidance for NPDES Phase II communities creating an illicit discharge detection program. It discusses effective techniques to assess for illicit discharges, as well as information on costs and techniques for removal of illicit connections. The manual will also place emphasis on the importance of illicit discharge detection in the context of other non-point pollution sources and overall stream health.

This paper will highlight findings from our field illicit discharge research performed in two Baltimore area locations as part of the project. Technical data was collected for 163 pipe outfalls and 62 samples were analyzed in the lab. Some examples of lessons learned include the importance of: 1) evaluating the physical conditions associated with outfalls, 2) visiting outfalls multiple times, and 3) monitoring for key parameters including ammonia, fluoride, E. Coli and detergents. By combining our technical research with our field and lab experience, we gained insight into the physical conditions and pollutant concentration thresholds that are typically associated with illicit connections.