

Street Dirt: An Alternative to Analyzing Stormwater

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It can be challenging to measure the effectiveness of best management practices (BMPs) intended to reduce environmental pollutants from entering our rivers and streams. Many departments rely on stormwater analysis to measure the BMP effectiveness of reducing pollutants, which can be costly and produce inaccurate results. Another alternative is to analyze street dirt. Street dirt may be more useful than stormwater to learn BMP effectiveness of reducing pollutants.

Stormwater is typically analyzed to study homeowner pesticide and fertilizer use, cleaning of public and private inlet sumps, street sweeping, and pickup of dog feces, among others. There are many disadvantages of using stormwater to study environmental pollutants, such as high cost, the need for extensive technical expertise and specialized equipment, dependency on weather conditions, and the production of unclear results. Most importantly, it is difficult to connect a specific BMP to the collected data so one cannot decipher which BMP is most or least effective.

There are many advantages to using street dirt to study environmental pollutants. First, street dirt analysis results are much more accurate than stormwater at indicating which BMP caused the pollutant reduction. Second, you don't have to wait for a storm to occur in order to collect the discharge, which often sends workers out in inclement weather or dangerous conditions. Instead, street dirt analysis can be conducted during good weather, ensuring that municipal workers stay safe (and dry!). Third, the equipment needed for the collection and analysis of street dirt is not nearly as complex as what is needed for stormwater analysis. This saves municipalities money on the purchase of equipment, training and labor costs. For example, equipment costs for stormwater outfall are around \$10,000 (*Minton and Sutherland*). In contrast, the equipment necessary for monitoring street dirt chemistry is around \$1,500. Also, the cost of labor for monitoring one stormwater outfall can cost upwards of \$100,000 and can take one year. In contrast, the cost of street dirt analysis, per dirt sample, is only upwards of \$1,000. Fourth, the street dirt analysis samples offer a more holistic idea of the chemical and pollutant make-up of a municipality's streets since the dirt is collected at any time and during any weather condition.

Overall, monitoring and analyzing the chemistry of street dirt may provide municipalities with a cheaper and more effective alternative to using stormwater to measure BMP effectiveness.

Reference: Minton, Gary R. and Roger C. Sutherland. "Street Dirt: A better way of measuring BMP effectiveness." Stormwater. March/April 2010: 12-21. Print.

Retroreflectometer Loan Program

NH LTAP has three retroreflectometers available to rent to NH municipalities.

The fee for the equipment loan is \$25, and municipalities may keep the retroreflectometer for up to six weeks (*additional time may be requested*).

For more information:

- www.t2.unh.edu/retroreflectometer
- t2.center@unh.edu
- 603-862-2826

