A New Era

By Derek Berg

Monitoring & evaluating BMPs

We have made significant progress toward characterizing storm water pollutant loads and evaluating the performance of storm water best management practices (BMPs). The evolution of monitoring practices, equipment and preferred analytical methods has yielded many insights into what lurks in storm water runoff and how well the solutions we deploy to protect receiving waters are functioning. Characterizing storm water pollutant loads and BMP performance remains an imprecise science at best, however, so we need to continue to refine our approach moving forward.

Early storm water monitoring often involved simplistic approaches like grab sampling at outfalls, but we have learned an incredible amount about storm water since then—perhaps most importantly, that storm water transports significant pollutant loads that negatively impact receiving waters, and accurately measuring those pollutant loads often proves difficult. We have grown to rely on automatic samplers, flowmeters and quality assurance project plans while executing monitoring efforts; however, the highly dynamic nature of storm water still relegates even the most complex sampling strategy to being a best effort. This uncertainty can prove frustrating at times in making policy decisions relative to expected BMP performance.

We have focused a lot of attention over the past 10 to 15 years on evaluating manufactured treatment devices (MTDs). A number of different regulatory entities have tried their hand at implementing programs to evaluate the performance of these BMPs and provide a path for acceptance, at least locally. Early movers generally focused on laboratory testing, which is simpler and less costly to implement and allows for greater data comparability between different technologies. Field studies tend to be more complex and costly, but provide more information about long-term BMP performance than can be gleaned in the lab.

Many MTD evaluation programs have failed or been scaled back considerably because of a lack of resources to sustain them. Even established programs, such as the New Jersey Department of Environmental Protection's certification process and Washington's Technology Acceptance Protocol-Ecology program, have been strained by limited resources. Without a means to evaluate MTDs, many local regulators are reluctant to use them, which is a losing proposition for all stakeholders. Without a path to acceptance, there is no incentive to invest in the development of new technology, and there are fewer solutions available to meet site development and water quality challenges.

The good news is that a new wave of MTD evaluation programs is on the horizon. The Water Environment Federation, with support from the U.S. Environmental Protection Agency and a diverse stakeholder group, is developing a national evaluation program. Stakeholders also are devising a program that would be applicable across the Chesapeake Bay States (and likely beyond). In Canada, a new national verification process recently was developed for oil and grit separators and may be expanded to address other MTDs in the future.

The emergence of sustainable programs to evaluate MTDs is critical. MTDs often are genuinely needed in highly urbanized areas or other sites with constraints that limit land-based options. We all should recognize that implementing and supporting strong MTD evaluation programs helps us reach the ultimate goal: clean water. SWS

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