

Diminishing Returns



By Derek Berg

Is green infrastructure hindering innovation?

Since the U.S. Environmental Protection Agency—and, in turn, state and local regulators—have gone “all-in” on green infrastructure (GI) and low impact development (LID) concepts, a seemingly regrettable consequence has emerged. Topics specific to the broader adoption and implementation of GI have monopolized our collective dialogue on storm water management of late. The predominantly positive press and barrage of GI-heavy conference agendas seemingly suggest that if we apply GI far and wide, then water quality impairments caused by urban runoff will soon be a thing of the past. GI provides storm water practitioners with invaluable tools to aid in the storm water fight, but many site-specific challenges cannot be surmounted with GI solutions alone. To that end, should we be concerned that overemphasis on GI is discouraging innovation?

GI is routinely labeled as a cheaper, more effective and easier-to-maintain alternative to traditional grey infrastructure. Experience is revealing that sometimes that is true, other times only partly true, and in some cases, GI is not the best or even a feasible solution. This knowledge has spawned yet another storm water buzzword: smart grey infrastructure, the idea behind which is to make smart investments in grey infrastructure when GI alone does not address impairments. The need for complementary green and grey strategies is particularly high in urban areas where limited space, compacted or contaminated soils, and existing infrastructure make GI deployment especially challenging. Additionally, GI is often poorly suited for addressing large storms and the flooding they can produce. Knowing that grey solutions remain crucial, storm water tools should fuel a collective desire

to deploy innovative solutions that maximize water quality benefits at the lowest possible life-cycle cost.

Historically, innovation in storm water has emerged from both the public and private sectors. It is not uncommon for the academic community to partner with the private sector to broadly deploy a promising innovation. It has been equally common for the private sector to work with the academic community to validate the performance of in-house research through third-party evaluation. With much of the academic community now focused squarely on GI research, those partnerships are becoming less common. In the private sector, where an entire industry was born in the wake of NPDES Phase II implementation, investment in R&D is made less appealing by regulations that put innovative solutions at the back of the BMP line regardless of how well they perform.

Expanded deployment and understanding of GI is a sensible goal, but GI is not going to fully address adverse storm water impacts on every site. Accordingly, we also should be encouraging innovation in smart grey infrastructure by establishing flexible regulations that clearly define water quality goals and allow for the use of the BMPs that best address them given site-specific constraints. Encouraging innovation also means providing a path for new solutions to be evaluated and accepted as viable tools, whether they are green, gray, blue or brown. **SWS**

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