

Paving the Way for *Change*

New report critiques U.S. EPA storm water efforts

By Kathy Robb

On Oct. 15, the National Research Council (NRC) released its long-anticipated report, "Urban Stormwater Management in the United States." The council's fundamental conclusion is that "radical changes to the U.S. Environmental Protection Agency's (EPA) storm water program are necessary to reverse degradation of freshwater resources and ensure progress toward the Clean Water Act's (CWA) goal of 'fishable and swimmable' waters." Increased levels of pollutants and higher volumes of storm water have degraded water quality and habitats in virtually every urban stream system, according to the report.

The NRC is the principal operating agency of the National Academy of Sciences. The more than 500-page report is the result of a 26-month study of the EPA storm water program and was sponsored by the agency. The NRC used testimony from regulated and environmental stakeholders.

This new storm water report is expected to have a significant impact on EPA and state approaches to storm water management. The NRC concluded that to provide meaningful regulation, all storm water and other wastewater discharge permits should be based on watershed boundaries instead of the current political boundaries. Moreover, the NRC has urged that the program should integrate storm water management and land management practices while focusing less on chemical pollutants in storm water and more on the increased flows.

Then & Now

In 1987, Congress brought storm water regulation into the CWA and placed it under the supervision of the EPA, which now oversees storm water discharged by cities, industries

and construction sites. The nation's water quality is regulated under the CWA's National Pollutant Discharge Elimination System. The program was initially developed to control pollution from industrial wastewater and municipal sewage discharges.

The EPA asked the NRC to assess the current regulatory framework for storm water and evaluate the EPA's current effectiveness at improving water quality. The report is critical of the current approach, finding that it is not likely to control storm water's contribution to impairing water quality. The report described EPA's current monitoring requirements as "so benign as to be of little use for the purposes of program compliance."

Currently, storm water and wastewater regulations require separate permits; within storm water regulations, different types of permits exist for municipalities, industries and construction sites. The committee recommended that the EPA should adopt a watershed-based permitting system that would encompass all discharges, including storm water and wastewater, which could impact waterways in a particular drainage basin rather than having many individual permits. Responsibility and authority for implementing watershed-based permits would be centralized with a lead municipality that would work in partnership with other municipalities. The NRC expects that lead municipalities would receive enhanced funding to compensate for the increased responsibility.

Council's Counsel

The NRC's key findings include several general recommendations.

First, convert the EPA storm water program's current piecemeal regulatory system into a new watershed-based

permitting system with a focus on all discharges. The NRC has proposed an entirely new permitting structure that would place authority and accountability for storm water discharges at the municipal level for watershed-based permits. The municipal-lead permittee essentially would regulate and enforce all other industrial and construction activities within the watershed.

The EPA should provide guidance on what constitutes a design storm for water quality purposes, for use by municipal, industrial and construction permittees. The agency should issue guidance on methods to identify high-risk industrial facilities for inspection/enforcement prioritization as well, for use by municipal permittees.

Furthermore, the EPA should support the compilation and collection of quality industrial storm water effluent data and develop numerical expressions to represent the municipal "maximum extent practicable" standard.

Finally, communities should use an urban stream classification system, such as a regionally adapted version of the impervious cover model, to establish realistic water quality and biodiversity goals for individual classes of subwatersheds.

The NRC has acknowledged that implementing these recommendations would require "radical" changes. The group has suggested that the EPA consider beginning with a pilot-scale program to demonstrate the advantages of these new approaches. The EPA has already indicated that the report will influence its next Construction General Permit (deferred until 2010).

The report also suggests additional adjustments that could be made to the storm water program in the absence of

adopting watershed-based permitting, such as bringing construction and industrial sites under the jurisdiction of their associated municipalities—referred to as “integration” in the report. The report suggests that federal and state permitting authorities do not have—and cannot be expected to have—sufficient personnel to inspect and enforce storm water regulations on more than 100,000 discrete point source facilities discharging storm

water. The report found that the newly proposed structure would allow operators of municipal storm sewer systems to act as the first tier of control. It also states that the EPA’s “successful treatment program” for municipal and industrial wastewater sources could serve as a model for integration.

The report urges that because the area being appropriated for urban land use is growing faster than the population, storm water management

will be ineffective without also considering land use management. The NRC stated that future land development and its potential increases in storm water must be considered and addressed in the EPA’s storm water regulatory program. Permit programs could be based on projections of future growth and changes in impervious cover, and regulators could be encouraged to use incentives to lessen the impact of land development.

The NRC recommended that the storm water program focus less on chemical pollutants and more on the increased volume of water. In urban areas, storm water flows rapidly across the land surfaces and arrives at streams in short, concentrated bursts of high water discharges, which in turn increases streambank erosion and accompanying sediment pollution of surface water. The volume of discharges is generally not regulated by the EPA, the report noted. Furthermore, most discharges are regulated on an individual basis. The new regulatory program suggested by the report would consider cumulative effects on a watershed basis.

The number of permit holders in the current storm water system has grown from about 100,000 to more than 500,000 in the past decade as a result of extensive regulation. The report estimates that it could take up to 10 years to put into place the NRC’s suggested regulatory changes.

In the coming months, the findings in the report are sure to generate more attention from the EPA, the regulated community and stakeholders. **SWS**

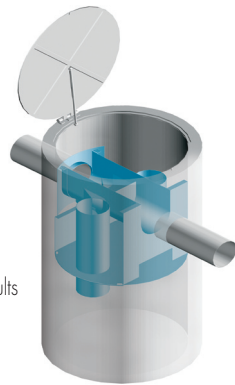
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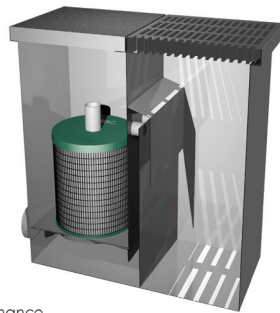
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