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The stormwater monitoring coalition: Stormwater research needs in southern California

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ABSTRACT

In response to growing concerns about the adequacy of existing stormwater monitoring approaches, all of the Phase I municipal stormwater NPDES lead permittees and all of the NPDES regulatory agencies in southern California recently formed the Stormwater Monitoring Coalition (SMC). This coalition is based on a common understanding that existing scientific knowledge and technical tools are not fully adequate to assist with necessary stormwater management. The SMC goal is to improve the basic knowledge and tools for creating effective monitoring and assessing efficient management techniques through collaborative, regional research. The SMC's first action was to develop a research agenda to guide their efforts. They convened a panel of both local and nationally recognized experts to identify and prioritize possible research topics and then develop project descriptions for the highest priority project ideas. The projects identified by the research panel fell into one of three broad categories including developing a stormwater monitoring infrastructure, understanding fundamental stormwater mechanisms and processes, and assessing receiving water impacts. Building a monitoring infrastructure consisted of four projects designed to improve comparability and enhance integration among monitoring agencies. These projects included integrating and evaluating currently available data, standardizing sampling and analysis protocols, developing a regional data infrastructure, and assessing BMP effectiveness. One problem that hinders our ability to manage stormwater effectively is our incomplete understanding about the mechanisms and processes that control how pollutants move through a watershed. Four projects were identified for this category that included developing a systemwide conceptual model, determining appropriate reference conditions, developing a regional method for assessing beneficial use condition, and identifying relative contributions of nonpoint sources of pollutants. Finally, protecting receiving waters is one of the primary objectives of stormwater management. Therefore, seven projects were identified in this category that related to identifying receiving water impacts. These projects include identifying the causes of impacts in receiving waters, developing bioassessment indicators and protocols, developing improved toxicity testing procedures, developing rapid response indicators for microbial contamination, developing microbial source tracking protocols, evaluating BMP effects on receiving waters, and developing improved indicators of peak flow impacts. Altogether, these 15 projects form an integrated research program that will eventually lead to an integrated stormwater monitoring program.

Full Text

http://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2001_02AnnualReport/31_ar17-ken.pdf