

Preface

The mission of the Federal Highway Administration (FHWA) is to continually improve the quality of our Nation's highway system and intermodal connections in a manner that protects and enhances the natural environment and communities affected by transportation. In enacting the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA); the Transportation Equity Act for the 21st Century (TEA-21) in 1998; and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, the U.S. Congress has consistently emphasized the need for an integrated and multimodal transportation system that reflects environmental sensitivity and community values. Protecting and enhancing the environment and communities affected by transportation requires that principles of environmental stewardship be incorporated in all of the FHWA's policies, procedures, and decisions. This means that the FHWA responsibly considers and evaluates all aspects of the environment throughout the highway design, planning, and development process. Beyond its obligations embodied in environmental stewardship, the FHWA must demonstrate leadership on environmental matters in its collaboration with State and local agencies that implement transportation projects and programs throughout the country. The FHWA also has a responsibility to streamline the complex environmental stewardship process to ensure that highway projects are done in the most efficient and economical manner possible. To meet these goals, the FHWA must develop and disseminate research products that help FHWA and its partners implement surface transportation programs in a manner that protects and enhances the natural and human environment. More specifically, the Mitigation Team of the FHWA Office of Project Development and Environmental Review strives to develop and disseminate skills, tools, and information to redesign Federal environmental and transportation decisionmaking, and to ensure an integrated process at the Federal, State, tribal, and local levels. These tools, techniques and methods are designed to reduce direct and indirect adverse impacts of highways on water quality, habitat, and ecosystems to preserve and enhance human health, biological productivity, and ecological diversity.

The Stochastic Empirical Loading and Dilution Model (SELDM) provides tools and techniques for developing planning-level estimates of precipitation, stormflows, event mean concentrations, and loads in highway runoff and in streams and lakes that receive highway runoff. SELDM also provides information about the potential effectiveness of runoff mitigation measures. This information is vital for assessing the potential for adverse effects of runoff on receiving waters throughout the Nation. Ready availability of methods, statistics, and computer applications provides transportation agencies with the tools and information necessary to estimate runoff quality and the potential effect of mitigation measures so that they can improve project delivery without compromising environmental protection.

Susan C. Jones, P.E.
Civil Engineer
Office of Project Development and Environmental Review
Federal Highway Administration

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