

Updating EPA's Rates Constants and Kinetics Manual Using MediaWiki Technology

Tim A. Wool
US EPA Region 4
Atlanta, GA
404-562-9260
Wool.tim@epa.gov

Abstract

In 1985, EPA published Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. This document remains a mainstay on the bookshelves of surface water quality modelers around the country, because it remains the best compilation of the available research on the rates of action of the key chemical and biological processes that affect water quality. As such, it is an EPA scientific product of great relevance to the programs that implement the Clean Water Act and particularly the TMDL program. In the last ten years, due in large part to a number of lawsuits around the country, the TMDL program has greatly expanded its activities. In support of this expansion, the number of water quality modeling assessments for TMDLs has expanded accordingly. This expansion has occurred primarily in the states, which have primacy for TMDL development under the Clean Water Act.

Although EPA managers and water quality modeling experts across ORD agreed that updating this document was a priority, costs of updating the initial document were viewed to be prohibitive (initial publication cost was on the order of \$500K in 1985, including collection of data, peer review panel, and publication). In addition, one concern expressed by the Office of Water was that any investments in updating the manual would be out of date as soon as a new document was published.

To overcome some of these challenges, EPA has initiated a phased development of an updated, "living" document using MediaWiki technology. Capabilities of the MediaWiki server include:

- User registration for accessing text editing features
- Review of edits by site administrator and potential to reject and/or reverse and unauthorized or inappropriate changes
- Registration of identities of authors or site content
- Board of Editors established consisting of recognized international experts in the field of water quality modeling

Participation of Regional and state scientists in data collection efforts is expected to dramatically reduce costs of the document update. In addition, the "living" document supported by the wiki format can be periodically reviewed, to ensure that a peer-reviewed manual with the best available scientific information is always available to the states and Regions.

KEYWORDS

Water Quality Models, Constants, Kinetics, MediaWiki