

W A T E R R E S O U R C E S

# IMPACT

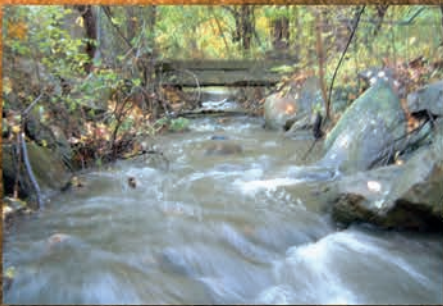
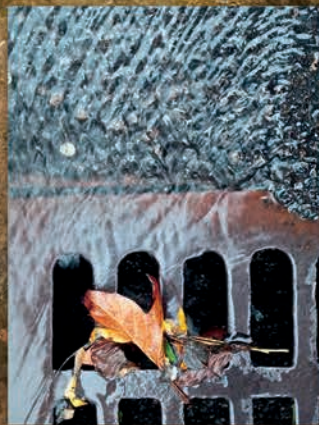
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TMDLs IN THEORY  
AND PRACTICE

**AWRA**

*Community, Conversation, Connections*

AMERICAN WATER RESOURCES ASSOCIATION





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- PhD Doctorate
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## TMDLs IN THEORY AND PRACTICE

JOE BERG

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Total Maximum Daily Loads (TMDLs) for both nonpoint and point source discharge controls to receiving streams is a long established management approach to address increasing discharges and decreasing water quality. While a concentration-based (e.g., do not exceed 1 mg/l of substance) management approach to discharges has been used in the past, such a threshold discharge control does not work well with increasing population and volume of discharge. As a result, a load-based discharge that in theory is linked to the assimilative capacity of the receiving stream has become the preferred approach. TMDLs, in combination with watershed-based implementation plans, hold great promise for improving water quality, aquatic resources, and human use (e.g., water contact recreation) of our surface waters. In the articles contained in this issue of *Water Resources IMPACT*, we hope to provide our readers with a broader understanding of TMDLs, how they are being implemented and funded, and how TMDL compliance is driving the industry.

### FEATURE ARTICLES

#### 3 **Lighting a New Candle: A New Long-Term Vision for the Clean Water Act Section 303(3) Program** ... *Thomas C. Stiles*

The author provides an excellent overview of the history of the TMDL environment at the Federal, state, and tribal levels. With up to 100,000 TMDLs in place or in development, and a poor implementation track record to date, we are looking at major changes in how TMDLs will be funded and implemented.

#### 9 **Significant New Requirements of the Next Generation of California Stormwater Permits** ... *Ken J. Susilo*

The next generation of California's stormwater permits are discussed, including the compliance challenges presented to the regulated communities. The development of watershed implementation plans prioritizing pollutant concerns and identifying a suite of improvement projects sufficient to attain reduction goals form the foundation for permit compliance.

#### 12 **Overview of the National Research Council Report "Assessing the TMDL Approach to Water Quality Management"** ... *H. Steve McDonald and Kenneth H. Reckhow*

The EPA's migration from effluent-based water quality standards to protect aquatic life to load-based discharge limits below the assimilative capacity of the receiving waters has been slow in gaining traction. This is due in part to the large number of impaired waters for which TMDLs need to be developed, and the need for increased personnel, data, and dollars required to develop meaningful TMDLs. The National Research Council has studied this situation with a focus on evaluating the TMDL approach. This article summarizes the salient points of the NRC's report.

#### 15 **The Road Map to Restoration** ... *Erik Michelsen*

This article summarizes how a county in Maryland, is planning to comply with the sediment and nutrient reduction goals and implementation timeline of the Chesapeake Bay TMDL.

#### 16 **Stream Restoration as a Means of Meeting Chesapeake Bay TMDL Goals** ... *Joe Berg*

Describes how stream restoration can be used as a form of green infrastructure to help meet the TMDL pollutant reduction goals and schedule requirements. Ecologically engineered stream restoration projects designed to address runoff in watersheds developed prior to stormwater regulations will be an important tool to cost effectively meet TMDL requirements. Stream restoration has been documented to reduce significant sources of pollutants associated with untreated storm water runoff and stream channel erosion.

WATER RESOURCES

# IMPACT

VOLUME 16 • NUMBER 4 • JULY 2014

### Other features in this issue ...

#### ▲ **AWRA BUSINESS**

- 8 **Highlights of June 2014 *Journal of the American Water Resources (JAWRA) Papers***
- 8 **Send Us Your Feedback for This Issue**
- 23 **AWRA at 50: Boggess Award Winners Over the Years**
- 24 **Advertising Opportunities in IMPACT**
- 25 **"Featured Collection" Highlights From the June 2014 JAWRA Issue**
- 26 **AWRA 2014 Executive Committee**
- 27 **AWRA at 50: A Celebration of Our History**
- 28 **Scheduled AWRA Meetings to be Held in 2014 & 2015 ... Mark Your Calendars!**
- 28 **Topics for September and November 2014 Issues of *Water Resources IMPACT***
- 29 **AWRA 2015 Spring Specialty Conference: In Review**
- 29 **AWRA 2015 Summer Specialty Conference: In Review**
- 30 **Why You Should Become a Member of AWRA Today ... Join ... Participate ... Change Water Resources Management Forever**

#### ▲ **OPINION/INFO COLUMNS**

- 19 **The New Economy of Water ... Water Today, Water Tomorrow ... *Brian Bourquard***
- 20 **What's Up With Water ... The Rivers of Hades and the Road to Hell ... *Eric J. Fitch***
- 33 **President's Message ... "New and Improved" - AWRA Technical Committees ... *C. Mark Dunning***

*(Opinions expressed by our columnists are their own and do not represent the opinion or position of AWRA.)*

- ▲ **WATER RESOURCES PUZZLER** . . . . . 22
- Answers** . . . . . 24

#### ▲ **ADVERTISERS**

- GoldSim Technology Group, LLC** . . . . . 24
- Dynamic Solutions International, LLC** . . 26



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