

## IMPACT TABLE OF CONTENTS – INDEX (through MAY 2012)

### **January 1999, Vol. 1, No. 1 – Putting the People in Watershed Management – Peter E. Black, Associate Editor**

- 5-6 Putting the People in Watershed Management – Peter E. Black
- 7-8 The Growing Popularity of Watershed-Based Organizations – Carol B. Griffin
- 9-10 Administering Watershed Management to Varied Constituent Groups on a Rural Municipal Watershed – Lee Neville Macbeth
- 11-13 Watershed Management: It's Not Just a Job, It's a Way of Life – Janet L. Bowers
- 14-15 Effective Watershed Management at the Community Level: What It Takes to Make It Happen – L. Robert Neville

### **March 1999, Vol. 1, No. 2 – Best Management Practices – Richard H. McCuen, Associate Editor**

- 2 Best Management Practice: Action That Controls Optimally – Richard H. McCuen
- 3-5 Current Trends in and Future Needs for the Application of Best Management Practices – Earl Shaver
- 6-7 Low Impact Development: A Site Design Approach to Meet Diverse Water Resources Objectives – Larry S. Coffman
- 8-9 Stormwater Best Management Practices (BMPs) in Southern California – G. Struble and T. V. Hromadka II
- 10-14 New Approaches to Implementing Soil Erosion and Water Quality Controls on Construction Sites – A New Jersey Perspective – John E. Showler
- 15-18 Maintenance Restoration of the South Platte River – Bryan W. Kohlenberg and Ben R. Urbonas

### **May 1999, Vol. 1, No. 3 – Water Quality Monitoring Councils: Monitoring Coordination in the 21st Century – Robert C. Ward, Associate Editor**

- 2 Water Quality Monitoring Councils: Monitoring Coordination in the 21st Century: Foreword – Robert C. Ward
- 3-6 The Growing Push to Coordinate Water Quality Monitoring Efforts – Robert C. Ward and Lindsay Martin
- 7-8 National Water Quality Monitoring Council – Charles Spooner and John M. Klein
- 9-10 Maryland Water Monitoring Council – Emery T. Cleaves
- 11-13 Development of a Water Monitoring Council in Texas – Harry McWreath, Cindy Loeffler, and David Thorkildsen
- 14-17 Experience With Establishing a Regional Monitoring Council: How An Elegant Concept is Defeated by Ugly Realities – Rodney S. DeHan
- 18-22 Design of a Cooperatively Implemented Monitoring System: The Big Thompson Watershed Forum – Adrienne Greve, Jim Loftis, Ben Alexander, Rob Buirgy

### **July 1999, Vol. 1, No. 4 – Certifying Watershed Professionals – Erich P. Ditschman, Associate Editor**

- 2-3 Should Watershed Management Professionals Be Certified? – Erich P. Ditschman
- 4-6 The Professional Hydrologists Certification Program – Gerald E. Seaburn
- 7-9 Meeting the Educational Challenge of Watershed Professionals – Kerry L. Wedel
- 10-13 Certificates or Certification? – Janet Pawlukiewicz and Douglas J. Norton
- 14-16 A Personal Trip on the Certification Trail – Richard C. Albert
- 17-19 A Need to Certify Watershed Managers – Scott G. Witter, Stephen R. Pennington, and Ruth Kline-Robach

### **September 1999, Vol. 1, No. 5 – Watershed Management Tactics in the New York City Watershed – John H. Herring, Associate Editor**

- 2-4 The New York City Watershed Agreement – Rick Hoffman, Esq.
- 5-8 The New York City Watershed Agricultural Program (WAP): A Model for Comprehensive Planning for Water Quality and Agricultural Economic Viability – M. Todd Walter and Michael F. Walter
- 9-15 Protection of New York City's Water Supply Through Land Acquisition and Stewardship – Dave Tobias
- 16-18 Wastewater Control in the NYC Watersheds – Ted Simroe

### **November 1999, Vol. 1, No. 6 – TMDLs and Non-Point Source Problems in Rural Watersheds – Charles W. Slaughter, Associate Editor**

- 2 TMDLs and Non-Point Source Problems in Rural Watersheds: Introduction – Charles W. Slaughter
- 3-10 EPA Proposes Significant Changes to the TMDL Program and NPDES Regulations – Linda B. Jones, Esq.
- 12-18 Socio-Economic and Biophysical Challenges to Achieving Clean Water Through TMDLs: Two Texas Examples – Keith O. Keplinger and Ron Jones
- 19-21 Water Chemistry in a Nutrient and Sediment Control System Near Owaso, New York – Stephen C. Komor
- 22-26 Making TMDLs and Watershed Assessments Work for Forestry – George Ice and Jami Nettles
- 27-29 Water Quality Monitoring Requirements for TMDL Development in the Western U.S. – David K. Stevens, Upmanu Lall, John D. Stednick, Robert Ward, Alan McKay, and John Tracy
- 30-32 TMDLs, Agriculture, and EPA's Flawed Science – Jefferson G. Edgens
- 33-35 Taking TMDLs Out of the Ivory Tower – John Barrett

**January 2000, Vol. 2, No. 1 – Measuring Progress in Watershed Protection/Restoration – John H. Herring, Associate Editor**

- 2-3 Who Is the Driver? – Jo-Ellen Darcy
- 4-7 Project Evaluation – Thomas E. Davenport
- 8-10 Measuring Success of the SWAP Program – Laurel Elena Phoenix
- 11-15 Measuring Success in Watershed Management: Applications to Central Europe – John Powell

**March 2000, Vol. 2, No. 2 – Planning for the Unpredicted – Peter E. Black, Associate Editor**

- 2-3 Watershed Planning for Uncertainty and Change: An Overview – Peter E. Black
- 4-8 Report of the First *ad hoc* Session on “Current Water Resource Issues in the News” – Peter E. Black
- 9-11 The Role of Consultants in Planning for Uncertainty and Change in Urban Stormwater Management – Heather C. Wilson
- 12-18 Nitrogen Loading to Coastal Embayments: Implications for Land Use Planning in the Delaware Inland Bays Watersheds – Samantha Woods, Mark Nelson, and Peter Thibodeau
- 19-22 Managing Stormwater Through Citizen Involvement Restoration Practices: Watershed Level Planning in Lexington, Kentucky – David W. Swenk and H. David Gabbard
- 23-26 The Barataria-Terrebonne National Estuary Program: Confronting Land Loss – Peter E. Black

**May 2000, Vol. 2, No. 3 – Agricultural Water Policy in the New Millennium: Working Outside the Fence – Jefferson G. Edgens, Associate Editor**

- 2-3 Agricultural Water Policy in the New Millennium: Working Outside the Fence – Jefferson G. Edgens
- 4-6 Pervasive Permitting: the EPA’s Proposed TMDL Rules – Ebere Akobundu and David W. Riggs
- 7-9 Implications for the Future: A Strategic Look at Policies for Pollution Runoff – Ron Jones, Jan McNitt, and Gary Keith
- 10-12 Agriculture Water Act: Kentucky’s Model for Controlling Pollution From Agriculture and Forestry Operations – Jeffrey Stringer
- 13-15 Agriculture and Water Markets in the New Millennium – Clay J. Landry
- 16-17 Landowner Innovations and Market Opportunities Are the Best Avenues for Water Conservation: The Lundberg Family Farms – Elizabeth Fowler

**July 2000, Vol. 2, No. 4 – Long-Term Data Sets – Where? Why? – Charles W. Slaughter, Associate Editor**

- 2-6 Long-Term Water Data . . . Wanted? Needed? Available? – Charles W. Slaughter
- 7-10 Climate Monitoring: Taking the Long View – Kelly T. Redmond
- 11-14 The Value of Long-Term Streamflow Records – J. Michael Norris
- 15-19 Changing Climate and Sea Level: How to Evaluate? – Robert J. Nicholls
- 20-24 Long-Term Data Needs for River Corridor Restoration – Christine Perala and John L. Gardiner
- 25-27 Extending Hydrologic Records With Tree Rings – Connie Woodhouse
- 28-31 Long-Term Watershed Research in USDA-Agricultural Research Service – Charles W. Slaughter and Clarence W. Richardson
- 33-36 The National Atmospheric Deposition Program: A Long-Term Monitoring Program in Support of Research on Effects of Atmospheric Chemical Deposition – Van C. Bowersox
- 37-40 Datasets From Long-Term Ecological Research (LTER): Sites and Their Use in Ecological Hydrology – David A. Post, Julia A. Jones, and Gordon E. Grant

**September 2000, Vol. 2, No. 5 – The Impact of Technology on Water Resources – Richard H. McCuen, Associate Editor**

- 2-4 A Historical Perspective on the Growth of Water Resources Technology – Richard H. McCuen
- 5-8 Water Resources Planning and Management in the Internet Era – Faye Anderson
- 9-11 The Future of GIS and Water Resources – Kenneth J. Lanfear
- 13-14 Role of Technology in the Future of Water Resources: Remote Sensing Developments – Carolyn J. Merry
- 15-16 Global Soil Moisture Monitoring With Satellite Microwave Remote Sensing – Thomas J. Jackson

**November 2000, Vol. 2, No. 6 – Directions in the Development of the Watershed Toolkit – Jefferson G. Edgens, Associate Editor**

- 2 New Directions in the Development of the Watershed Toolkit: Better Science Makes Better Policy – Jefferson G. Edgens
- 3-4 MTBE: The Water-Polluting Genie EPA Knowingly Let Out of the Bottle – Tom Randall
- 5-6 Army Corps of Engineers – Gretchen Randall
- 7-8 EPA Program to Clean Water Moves Pathogens to Land: Agency Forced to Reevaluate Rule – Tom Randall
- 9-10 TMDL: EPA Muddles the Nation's Waters – Bonner R. Cohen
- 11-13 Blue Baby Syndrome and Nitrates: New Research Casts Doubts on an Old Regulation – Alex Avery
- 15-16 Point – Water Marketing: The Other Side of the Coin – S. Ansley Samson and Sydney T. Bacchus
- 17-18 Counterpoint – Agriculture and Water Markets in the New Millennium – Clay Landry
- 19-22 MSU-WATER (Watershed Action Through Education and Research) – Scott G. Witter, Ruth Kline-Robach, Fred Posten, and Michael J. Lang
- 23-26 The New Watershed Tools: Genuine Steel or Chrome-Plated Plastic? – Richard A. Helpner

**January 2001, Vol. 3, No. 1 – Stormwater Regulation and Nonpoint Source Policy – Complimentary or Contradictory? – Erich P. Ditschman, Associate Editor**

- 3-4 Stormwater Regulation and Nonpoint Source Policy – Complimentary or Contradictory: Introduction – Erich P. Ditschman
- 5-6 Pure As Rain: The Regulation of Storm Water in Michigan – Fred E. Cowles
- 7-9 Pollutant Removal Efficiency of an Urban Stormwater Wetland in Lansing Township, Michigan – Elyn J. Campbell, Karen Wayland, Kathleen Pelikan, Erich P. Ditschman, and Patrick E. Lindemann
- 10-14 Stormwater Strategies: Community Responses to Urban Runoff Pollution – George Aponte Clarke

**March 2001, Vol. 3, No. 2 – International Water Resources Activities – Faye Anderson and David M. Moody, Guest Editors**

- 2 International Water Resources Activities: Introduction – Faye Anderson and David W. Moody
- 3-8 The Internationalizing World of Water Management – Faye Anderson
- 9-11 International Water Resources Activities for the New Millennium: Envisioning a Greater Global Role for AWRA – David W. Moody
- 12-15 The International Joint Commission: A Model of Cooperation in Dealing With Boundary Water and Transboundary Environmental Issues – Gerald E. Galloway, Jr. and Murray Clamen
- 16-19 A Water Resources Management Decision Support System for the Great Lakes: International Water Issues on the U.S.-Canadian Border – Michael J. Donahue, Thomas R. Crane, and Christine L. Manninen
- 20-24 Forging a Global Community to Address International Waters Crises: The IW:LEARN Project – Dann M. Sklarew, Sheldon Annis, Janot R. Mendler, and Mishal Hamid
- 26-28 The United Nations Environmental Programme Global Environment Monitoring System/Water Programme – Andrew S. Fraser, Richard D. Robarts, and Kelly M. Hodgson
- 29-32 Water Resources Programs at the Organization of American States – Natalia Windler Rossi

**May 2001, Vol. 3, No. 3 – Forest Roads – Jefferson G. Edgens, Associate Editor**

- 2 Forest Roads: Introduction – Jefferson G. Edgens
- 3-4 Incentives for National Forest Roads – Randal O'Toole
- 5-7 Forest Roads: Benefits for Wildlife Management, Fire Suppression, and Water Quality – H. Sterling Burnett
- 8-14 Incorporating Aquatic Ecology Into Decisions on Prioritization of Road Decommissioning – Bruce E. Rieman, Jason B. Dunham, James L. Clayton, John G. King, and Thomas A. Black
- 15-18 Revisiting Forest Road Retirement – Randy Kolka and Mathew Smidt

**July 2001, Vol. 3, No. 4 – International Water Resources Activities – David W. Moody and Faye Anderson, Guest Editors**

- 2 International Water Resources Activities and AWRA – David W. Moody and Faye Anderson  
3-8 International Transfer of U.S. National Weather Service River and Flood Forecasting Technology – Curtis B. Barrett and A. Sezin Tokar  
9-11 International Activities of the U.S. Bureau of Reclamation – Richard H. Ives  
12-19 Towards a Water Secure Future: The Role of USAID in Water Resources Management – Meg Findley, Morris Israel, and Christopher Scott  
20-24 A Global Initiative for Hydro-Socio-Ecological Watershed Research – Theodore A. Endreny  
26-31 International Water Law From Helsinki Rules to the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses – Khaled Abu-Zeid  
32-38 Understanding the International Water Management Arena: A Newcomer's Guide to the Major Players – Faye Anderson

**September 2001, Vol. 3, No. 5 – Historical Aspects of Water Resources – Richard H. McCuen, Associate Editor**

- 2 Historical Aspects of Water Resources: Introduction – Richard H. McCuen  
3-7 A Pharaoh's Plan for Water Management – Gregory B. Baecher  
8-13 Assessing Nature: William Dibdin and Biological Wastewater Treatment – P. Aarne Vesilind  
14-18 Developments in Water Supply and Wastewater Management in the United States During the Nineteenth Century – Steven J. Burian  
19-24 Milestones in Water Resources Reclamation – Brit A. Storey  
26-30 History of the Clean Water Act – Charles A. Foster and Marty D. Matlock

**November 2001, Vol. 3, No. 6 – BMP Performance and Receiving Water Impacts – Jonathan E. Jones, Associate Editor**

- 2 BMP Performance and Receiving Water Impacts: Overview – Jonathan E. Jones  
3-6 Protecting Our Receiving Waters With BMPs – Ben R. Urbonas  
7-9 Low Impact Development Creating a Storm of Controversy – Larry S. Coffman  
10-15 Low Impact Development (LID): How Low Impact Is It? – Eric W. Strecker  
16-19 Channel Protection – Ted Brown and Deb Caraco  
20-23 Long-Term Experimental Watersheds and Urban Stormwater Management – James P. Heaney  
24-26 Through the Pipe: Down the Creek! – Edwin E. Herricks  
28-31 Retrofit of an Extended Detention Basin in Denver, Colorado – Matthew J. Gavin and John T. Doerfer  
32-34 BMPs and Receiving Waters: What is the Connection? – Michael L. Clar

**January 2002, Vol. 4, No. 1 – The New Economy of Water – Clay J. Landry, Associate Editor**

- 2-3 The New Economy of Water: Overview – Clay J. Landry  
4-5 Water: From a Public Resource to a Market Commodity – Terry L. Anderson  
6-8 The Politics and Economics of Water Pricing in Developing Countries – Mark W. Rosegrant and Sarah Cline  
9-13 Mobilizing the Private Sector to Serve the Urban Poor – Penelope J. Brook  
14-18 Looking at Water: A View From Wall Street – Debra G. Coy  
19-21 Global Private Finance in the Water Industry – Peter Allison  
23-25 Water Markets: The Global Perspective – K. William Easter and Sandra Archibald  
26-29 The Rising Tide of Water Markets – Clay J. Landry

**March 2002, Vol. 4, No. 2 – Small Municipalities and Water Supply – Laurel E. Phoenix, Associate Editor**

- 2-3 Small Municipalities and Water Supply: Introduction – Laurel E. Phoenix  
4-8 When the Well Runs Dry: Examining the Water Supply Issues in Brown County, Wisconsin – Kendra A. Axness, John Potokar, and Thomas Van Drasek  
10-16 Potential Impacts of COMM 83 on Rural Ground Water – Jeanette M. Jaskula and Warren A. Hohn  
17-19 Source Water Assessment Implementation Obstacles: Are Transient Noncommunity Wells Not As Important? – Jay Y. Hodgson  
20-26 Rural Municipal Water Supply Problems: How Do Rural Governments Cope? – Laurel E. Phoenix  
27-32 Agriculture and Water Decision-Making by County Boards in the Western United States – Kate A. Berry and Nancy L. Markee

**May 2002, Vol. 4, No. 3 – Historical Aspects of Water Resources – Part II – Richard H. McCuen, Associate Editor**

- 2 Historical Aspects of Water Resources – Part II: Introduction – Richard H. McCuen
- 4-6 The Legacy of Lewis and Clark – Lt. General Robert B. Flowers
- 7-15 Probability Analysis and the Search for Hydrologic Order in the United States, 1885-1945 – Martin A. Reuss
- 16-22 What If ... The United States of America Were Based on Watersheds? – Gerald J. Kauffman
- 23-26 River Basin Planning: Title II River Basin Commissions – Millard W. Hall
- 27-30 Archimedes and Bernoulli: Water Scientists for the Ages – Richard H. McCuen

**July 2002, Vol. 4, No. 4 – Assessing the Quality of the Nation’s Water Resources – Pixie A. Hamilton, Guest Associate Editor**

- 3-4 Assessing the Quality of the Nation’s Water Resources: Introduction – Timothy L. Miller
- 5-11 Water-Quality Patterns in Some of the Nation’s Major River Basins and Aquifers – Pixie A. Hamilton
- 12-16 A National Look at Water Quality – Robert J. Gilliom, David K. Mueller, John S. Zogorski, and Sarah J. Ryker
- 17-21 Assessing Five National Priorities in Water Resources – William G. Wilber and Carol A. Couch
- 22-25 Changes in Water Quality Over Time – David K. Mueller, Wayne W. Lapham, Martin E. Gurtz, and Peter C. VanMetre
- 26-31 Estimating Water-Quality Conditions in Unmonitored Water Resources – David M. Wolock and Leon J. Kauffman

**September 2002, Vol. 4, No. 5 – Distance Learning and E-Learning in Water Resources Education – Faye Anderson, Associate Editor**

- 3-5 Distance Learning and E-Learning in the Water Resources Community: Key Issues and Future Challenges: Introduction – Faye Anderson
- 6-9 Making a Science Connection: Bringing Smithsonian Science and Environmental Education to Schools Nationwide – Dottie Klugel and Anna van der Heijden
- 10-13 Not “Distant” But Connected: Experiences With International Environmental Distance Learning – Jane Dougan
- 14-19 Watershed Academy Web: Five Lessons Learned About Online Training – Douglas J. Norton
- 20-23 Launching Waterlearn: AWRA’s Journal Into E-Learning – Lisa Koerig and Richard A. Engberg
- 24-27 Distance Education in Watershed Management: Linking Graduate Students With Professionals – Hans Schreier, Kenneth Hall, Sandra Brown, and Regina Bestbier
- 28-31 Bringing Water to the Students: Utilizing Streaming Media to Teach Coastal Policy – Steffen W. Schmidt

**November 2002, Vol. 4, No. 6 – Harnessing Markets for Water Quality – Clay Landry, Associate Editor**

- 3-4 Harnessing Markets for Water Quality: Overview – Clay Landry
- 5-7 Environmental Benefits and Challenges of Trading Water Quality – Suzie Greenhalgh and Amanda Sauer
- 8-11 Taking Water Quality to the Market – Rachel Cardone
- 12-14 EPA’s Proposed Water Quality Trading Policy – Edited by *IMPACT*
- 15-16 Have Markets for Water Quality Control Really Emerged From the Policy Basement? – Bruce Yandle
- 17-21 Is the Fairness Principle Fair? – Marty D. Matlock, Indrajeet Chaubey, Brian E. Haggard, and Kati White

**January 2003, Vol. 5, No. 1 – Failures in Water Management: Lessons Learned – John Herring, Associate Editor**

- 3-4 Failures in Water Management: Lessons Learned: Overview – John Herring
- 5-8 Success Through Failure: Army Science in Harbor Construction – 1820-1860 – Todd Shallat
- 9-11 Integration of Water Quality Monitoring and Modeling for TMDL Development – Bethany T. Neilson and Steven C. Chapra
- 12-14 A Few Lessons in the System – Douglas J. Nelson
- 15-18 The Coastal Nonpoint Program: Evolution of an Effort to Address Polluted Runoff – Marcella R. Jansen
- 19-21 Water Quality Strategies: The Land Use Regulation Option – Bruce E. Schmelz
- 22-24 The 2002 Farm Bill as a Water Resources Management Failure – Christopher L. Lant

**March 2003, Vol. 5, No. 2 – Forging New Rights to Water – Clay J. Landry and Laurel E. Phoenix, Associate Editors**

- 3-4 Forging New Rights to Water: Overview – Clay J. Landry and Laurel E. Phoenix
- 5-8 East Meets West: The Tale of Two Water Doctrines – George William Sherk
- 9-12 Water Rights in the Commons – Elinor Ostrom, Paul C. Stern, and Thomas Dietz
- 13-15 The Environmental Consequences of Ground Water Pumping – Robert Glennon
- 16-18 Native American Water Rights – Tod J. Smith
- 19-21 Water Rights, Conflicts, and Culture – Jeffrey Rothfeder
- 22-24 Negotiating Transitions in Water Rights – Ruth S. Meinzen-Dick and Bryan Randolph Bruns

**May 2003, Vol. 5, No. 3 – Water Resources Hydrology at the Extremes – Charles W. Slaughter, Associate Editor**

- 3 Water Resources Hydrology at the Extremes: Overview – Charles W. Slaughter
- 4-9 Community Planning for Floods in Arid Regions – John Cobourn and Steven R. Lewis
- 10-15 Post-Eruption Hydrology and Sediment Transport in Volcanic River Systems – Jon J. Major
- 16-18 Water Resources Management: A Challenging Issue for Tropical Islands in the Western Pacific – Shahram Khosrowpanah and Leroy Heitz
- 19-20 Intense Precipitation in Cuba – Eduardo O. Planos and Frederick N. Scatena
- 21-26 Extreme Flow Events in the Arctic Islands of North America – Ming-ko Woo

**July 2003, Vol. 5, No. 4 – Water Governance – Faye Anderson, Associate Editor**

- 3-4 Why Water Governance: Overview – Faye Anderson
- 5-8 What Role for Water Law in the “Good Governance” Debate – Andrew A. Allan and Patricia K. Wouters
- 9-12 Dialogues on Water Governance – Alan W. Hall
- 13-16 Implementing Good Governance: Toward a Water Resources Management Decision Support System for the Great Lakes-St. Lawrence River Basin (Attn: Tom Crane) – Great Lakes Commission
- 17-19 Financing Water for All: Excerpts From the Executive Summary Report of the World Panel on Financing Water Infrastructure – Michel Camdessus

**September 2003, Vol. 5, No. 5 – Seeking a Common Framework for Water Quality Monitoring – Robert C. Ward, Associate Editor, and Charles A. Peters, Guest Associate Editor**

- 3-7 A Framework for “Constructing” Water Quality Monitoring Programs: Overview/Introduction – Charles A. Peters and Robert C. Ward
- 8-10 The 3 C’s: Communicate, Coordinate, Collaborate – Doing Together What We Can’t Do Alone – Abby Markowitz, Linda T. Green, and James Laine
- 11-13 Identify Monitoring Objectives – Charles S. Spooner and Gail E. Mallard
- 14-16 Monitoring Design – Anthony R. Olsen and Dale M. Robertson
- 17-21 Data Collection: Field and Laboratory Methods – Franceska Wilde, Herbert J. Brass, and Jerry Diamond
- 22-24 Water Quality Data Management – Karen S. Klima, Kenneth J. Lanfear, and Ellen McCarron
- 25-29 Assess and Interpret Data – Dennis R. Helsel and Lindsay M. Griffith
- 30-32 Conveying Results and Findings – Mary Ambrose, Abby Markowitz, and Charles Job

**November 2003, Vol. 5, No. 6 – Social Foundations of Water Management – Eric J. Fitch, Associate Editor**

- 3-4 Social Foundations of Water Management: Introduction – Eric Fitch
- 5-7 Competing for Water: The Uncivil War – Honey Rand
- 8-10 Stakeholder Participation in Watershed Management – Part I – Linda P. Wagenet and Max J. Pfeffer
- 11-13 Stakeholder Participation in Watershed Management – Part II – Linda P. Wagenet and Max J. Pfeffer
- 14-17 Social Mental Models in Water Resources Management – Jason Levy, Keith W. Hipel, and Chennat Gopalakrishan
- 18-20 Social Resilience and the Tokai (Nagoya, Japan) Flood of September 11-12, 2000 – Michinoro Hatayama, Jason K. Levy, Yoshio Kajitani, Jens Hartmann, Hirokazu Tatano, and Norio Okada

**January 2004, Vol. 6, No. 1 – Water Resources/Hydrology at the Extremes-II – Charles W. Slaughter, Associate Editor**

- 3 Water Resources/Hydrology at the Extremes-II: Introduction – Charles W. Slaughter
- 4-6 Conflicting Water Needs in the Klamath Basin – Congressman Greg Walden
- 7-10 A Lake Diagnostic System for Managing Lakes and Reservoirs – Jörg Imberger
- 12-18 Snow Avalanches –Jürg Schweizer
- 19-22 Stormwater Management Challenges in Anchorage – William Rice and Brett Jokela
- 24-27 Monitoring Extreme Environments: Arctic Hydrology in Transition – Douglas L. Kane and Larry Hinzman
- 28-31 Water Management Challenges in the Rio Villalabos and Lake Amatitlan Watershed, Guatemala – Charles W. Slaughter, Amy Haak, Yenory Morales, L. Roy Mink, and Luis Merida

**March 2004, Vol. 6, No. 2 – Historical Aspects of Water Resources – Part III – Richard H. McCuen, Associate Editor**

- 3-5 History of the Stanford Watershed Model – Norman H. Crawford and Stephen J. Burges
- 7-9 Water Resource Conservation Lessons From the Twentieth Century: How Can We Use Them? – Peter E. Black
- 10-13 Water Development in the West – Zachary A. Smith
- 15-17 A Historical Review of Waterway Area Determination – Ven Te Chow
- 18-20 Social Forces Affecting Hydrologic Research: 1870-1938 – Richard H. McCuen

**May 2004, Vol. 6, No. 3 – Basin Management Case Studies: Tools, Techniques, and Methods for Managing River Basins – Gerald Sehlke, Guest Associate Editor**

- 3-4 Basin Management Case Studies: Tools, Techniques, and Methods for Managing River Basins: Overview – Gerald Sehlke
- 5-9 Technical Tools to Aid in Conjunctive Management of Surface and Ground Water in the Snake River Basin – Donna M. Cosgrove and Gary S. Johnson
- 10-13 The Glen Canyon Dam Adaptive Management Program – Michael J. Liszewski
- 14-17 The Rio Grande/Rio Bravo – A River of Change – Vincent C. Tidwell, Ari M. Michelsen, Javier Aparicio, and Howard D. Passell
- 18-21 Impacts of Managing Water in a Closed Basin: The Walker River Basin Case Study – John C. Tracy
- 22-25 A New Approach to Integrating a Superfund 'Megasite' Cleanup Into Management of the Coeur d'Alene River Basin – Kathryn Johnson, Roger Mayes, and Paul Wichlacz

**July 2004, Vol. 6, No. 4 – Responses to Climate Prediction – J. Rolf Olsen, Guest Associate Editor**

- 3 Responses to Climate Prediction: Overview – J. Rolf Olsen
- 4-6 NOAA Climate Forecast Products for Water Resources Application – Mel Gelman, Fiona Horsfall, Huug van den Dool, and Pedro Restrepo
- 7-10 Water Resource Management Under Changing Climate: Role of Seasonal Forecasts – Upmanu Lall and F. Assis De Souza Filho
- 11-13 Drought Assessment in Montana During a Multiple-Year Drought – Jesse Aber
- 14-17 Arizona's Drought Planning: Focusing on Adaptation – Katharine Jacobs and Gregg Garfin
- 18-21 Climate Forecasts in Flood Emergency Management – J. Rolf Olsen

**September 2004, Vol. 6, No. 5 – Multipurpose Water Resource Planning and Design – Jonathan E. Jones, Associate Editor**

- 4 Multipurpose Water Resource Planning and Design: Introduction – Jonathan E. Jones
- 5-8 Recharging Southwestern Water Supplies and Habitat – Aimée Conroy and Tom Poulson
- 9-12 Restorative Urban Design – Bruce K. Ferguson
- 13-16 Multipurpose Facilities Are Improved Through Multidisciplinary Input – Melissa J. Figurski, Larry A. Roesner, and T. Andrew Earles
- 17-18 Multiobjective Planning – Ronald D. Flanagan
- 19-21 Green Infrastructure: Combining Function, Design, and Natural Processes to Enhance Urban Drainageways – Paul Thomas
- 22-24 Economic Valuation of Multibenefit Projects – Richard D. Pinkham and Lisa A. McDonald

**November 2004, Vol. 6, No. 6 – Coastal Zone Management – Eric J. Fitch, Associate Editor**

- 4-6 The Coastal Zone Management Act at 30+ – Eric J. Fitch
- 7-9 Coastal Zone Management in the U.S.: An Update – Ralph D. Cantral
- 10-12 State of the Great Lakes Coast: Fragmented Government Equals Fragmented Protection – Dave Dempsey
- 13-16 Conservation Across the Water's Edge and Beyond – Lynne Zeitlin Hale
- 17-20 Cleaner Coastal Waters With Science and Education – James C. Cato

**January 2005, Vol. 7, No. 1 – Second National Water Resources Policy Dialogue – Richard A. Engberg, Guest Editor**

- 4-6 In Search of a National Water Policy – The AWRA Dialogues – Gerald R. Galloway and Richard A. Engberg
- 7-10 Key Issue 1: Water Resources Supply and Demand – Dennis B. Underwood
- 11-12 Key Issue 2: Infrastructure Management – Drinking Water and Wastewater – Jack W. Hoffbuhr
- 13-15 Key Issue 2: Infrastructure Management – Transportation and Flood Control – Worth Hager
- 16-20 Key Issue 3: Environmental Quality and Water Resources Policy – Robert C. Ward
- 21-22 H.R. 135: The 21st Century Water Commission Act of 2003 – The Honorable John Linder
- 23-24 The Role of the Federal Government in the 21st Century: Time for a Clearly Defined and Constructive National Role: Opinion-Editorial – Denise D. Fort

**March 2005, Vol. 7, No. 2 – Sustainable Water Resources Management in Hawaii – Jason K. Levy, Associate Editor**

- 3 Sustainable Water Resources Management in Hawaii: Introduction – Jason K. Levy
- 6-9 Institutions, Policies, and Technologies for Sustainable Watershed Management in the Asia-Pacific – Clark C.K. Liu, Charley F. Ice, Jason K. Levy, and James Moncur
- 10-12 Recent Discoveries and New Interpretations of Hawaiian Ground Water Systems – Jené Michaud
- 13-15 The Hawaii Commission on Water Resource Management and the Water Code: Protecting the Public Trust – Charley F. Ice, Jason K. Levy, and Clark C.K. Liu
- 16-19 Optimal Water Allocation in Hawaii: Towards a Revised Water Code and a Revamped Water Commission – Chennat Gopalakrishnan and Jason K. Levy
- 20-22 Understanding the Ahupua a Model – Part I: Introduction and Overview – Jason K. Levy and Joseph Chernisky
- 23-26 Understanding the Ahupua a Model – Part II: Application to Community Based Education and Resource Management in Hawaii – Jason K. Levy and Joseph Chernisky

**May 2005, Vol. 7, No. 3 – Paleohydrology – Kenneth R. Wright, Guest Associate Editor**

- 3 Paleohydrology: Introduction – Kenneth R. Wright
- 4-8 Ancient Roman Water Development in France – Wayne F. Lorenz
- 9-15 Mesa Verde Reservoirs: Ten Years of Paleohydrology – T. Andrew Earles
- 16-21 Ancient Olympia Floods and Sedimentation – Kenneth R. Wright
- 22-25 Prehistoric Inca Highway Drainage Engineering – David W. Foss

**July 2005, Vol. 7, No. 4 – Measuring Performance – Faye Anderson, Associate Editor**

- 3 Measuring Performance: Overview – Faye Anderson
- 4-7 Four Trends Transforming Government – Mark A. Abramson, Jonathan D. Breul, and John M. Kamensky
- 8-12 Performance Management at the Local Level: The Case of the Charles River – Shelly H. Metzenbaum
- 13-16 Overcoming Technical Barriers to Measuring the Performance of Watershed Programs – Clayton W. Ogg
- 17-20 Developing Voluntary International Water Management Standards: A Case Study of ISO Technical Committee 224 – Mari Morikawa and Jason Morrison

**September 2005, Vol. 7, No. 5 – Aging Infrastructure: Coming Soon to a City Near You – Laurel E. Phoenix, Associate Editor**

- 3 Aging Infrastructure: Coming Soon to a City Near You: Introduction – Laurel E. Phoenix
- 4-6 The Cost of Doing Nothing – Patricia A. Terry
- 7-9 Tapping the Public Spirit: Time for a National Recommitment to Safe, Clean Water – Wenonah Hauter
- 10-12 Green Bay Metropolitan Sewerage District Takes Steps to Avoid the Infrastructure Crisis – Peter C. McCarthy
- 13-15 Sewer Overflows in Milwaukee: What is the Real Problem and How Do We Solve It? – Kevin L. Shafer
- 16-17 Going Trenchless? Today's Choices Are Better, More Affordable Than Ever – Mary Bufe
- 18-21 Maintaining Optimum Well Performance – Jim Bailey

**November 2005, Vol. 7, No. 6 – Water as a Growth Tool – Michelle Henrie, Associate Editor**

- 4 Water As a Growth Tool: Introduction – Michelle Henrie
- 5-8 The Evolution of Wet Growth Regulations: City of Santa Fe – Kyle Harwood
- 9-11 Why Some Water Districts Decided to Dam It – Tarrah Henrie
- 12-14 Oregon's Municipalities Can Take the Time They Need to Grow – Michelle Henrie
- 16-18 Building Moratoria: Strategies and Tools for Governing Bodies – Diane Albert
- 19-21 Comprehensive Planning in Wisconsin: Are Communities Planning to Protect Their Ground Water? – Lynn Markham, Bobbie Webster, Chin-Chun Tang, and Charles Dunning

**January 2006, Vol. 8, No. 1 – Homeland Security – Eric J. Fitch, Associate Editor**

- 5 Water Resources and Homeland Security: An Introduction – Eric J. Fitch
- 6-10 Hurricane Katrina: Implications for Building and Living in Harm's Way – Stephen P. Leatherman
- 11-14 Securing Our Maritime Transportation System for the Future – Malcolm Williams
- 15-17 The Role of the U.S. Environmental Protection Agency in Protecting America's Drinking Water Supply – Regan Murray and Steve Allgeier
- 18-21 Water Utilities and Emergency Preparedness Planning – Rebecca Head
- 22-24 New Technologies for Securing Water Safety: Research at Sandia National Laboratories – Ray Finley, Sean McKenna, Howard Passel, and Jeffrey J. Danneels

**March 2006, Vol. 8, No. 2 – The National Hydrography Dataset – Jeff Simley, Guest Associate Editor**

- 4 The National Hydrography Dataset: Introduction – Jeff Simley
- 5-7 Applications of the NHD at the U.S. Environmental Protection Agency – Thomas G. Dewald
- 8-11 Using the NHD as a Tool for Fisheries GIS Data Evaluation and Management – Lidia Szabo Kraft and Christine A. Geddes
- 12-14 Utilization of the NHD in the U.S. Forest Service – Brian Sanborn and Greg Enstrom
- 15-18 NHD, RiverSpill, and the Development of the Incident Command Tool for Drinking Water Protection – William B. Samuels, Rakesh Bahadur, Michael C. Monteith, David E. Amstutz, Jonathan M. Pickus, Katherine Parker, and Douglas Ryan
- 19-24 The Upper Neuse Watershed Evaluation Tool: Putting the Power of the NHD to Work in Local Watersheds – Silvia E. Terziotti, Mary J. Giorgino, and Christopher L. Dreps
- 25-30 Using the NHD to Create an Arc Hydro Network for the St. Johns River Water Management District – Sandra Fox, David Clapp, and Alsa Ceric

**May 2006, Vol. 8, No. 3 – Adaptive Management of Water Resources – Gerald Sehlke, Guest Associate Editor**

- 3-4 Adaptive Management: What Is It and Where Is It Going? – Gerald Sehlke
- 5-7 Adaptive Management: What's It All About? – Jack Ward Thomas
- 8-10 Adaptive Management: Roots of the Reform – Steve S. Light
- 11-13 Genesis and Anatomy of Water Resources Adaptive Management: Components, Approaches, Benefits – John C. Tracy
- 14-17 Adaptive Management and the Regulatory Permitting Process for Water Resource Projects – Thomas St. Clair, Elmar G. Kurzbach, Jeff Trulick, Greg Knecht, and James E. Boone
- 18-20 Use of Environmental Management Systems to Operate Sustainable Water Resource Adaptive Management – Matthew McMillen and Mark F. Colosimo
- 21-23 The Future of Water Resources Adaptive Management: Challenges and Overcoming Them – Donald F. Boesch, Patricia N. Manley, and Theodore S. Melis
- 24-26 Use of Water Markets to Operate Sustainable Water Resources: Benefits and Challenges – Marc O. Ribaudo and Mark F. Colosimo

**July 2006, Vol. 8, No. 4 – Report on the Progress of the Sustainable Water Resources Roundtable – Ethan T. Smith and Harry X. Zhang, Guest Associate Editors**

- 3-6 Developing Indicators for the Sustainable Water Resources Roundtable: Overview/Introduction – Ethan T. Smith and Harry X. Zhang
- 7-10 Conceptual Foundations for the Sustainable Water Resources Roundtable – H. Theodore Heintz, Jr.
- 11-14 Selecting Sustainability Indicators – John R. Wells
- 15-16 Gross Water Availability – Ethan T. Smith
- 17-18 Environmental Conditions – Alan D. Steinman
- 19-21 Resources and Conditions – R. Warran Flint
- 22-24 Indicating Water Related Human Conditions: Infrastructure and Drinking Water – Stephen P. Gasteyer
- 25-27 Research Needs for Sustainable Water Resources Management – Paul Freedman, Peter Adriaens, and

Robert A. Goldstein

**September 2006, Vol. 8, No. 5 – Decision Support for Adapting to Climate Change – John Furlow and Thomas Johnson, Guest Associate Editors**

- 4 Decision Support for Adapting to Climate Change: Introduction – Thomas Johnson and John Furlow  
5-7 “The Future Ain’t What It Used To Be:” Climate Change and Water Resources Management – John Furlow  
8-10 Elements of Effective Decision Support for Water Resource Management Under a Changing Climate – Christopher R. Pyke and Roger S. Pulwarty  
11-14 Converting Research Into Action: A Framework for Identifying Opportunities to Provide Practical Decision Support for Climate Change Adaptation – J. Randall Freed and Frances Sussman  
15-17 Sensitivity Analysis as a Guide for Assessing and Managing the Impacts of Climate Change on Water Resources – Thomas Johnson and John Kittle, Jr.  
18-21 Implications of Climate Warming on Local Water Management in the South Fork of the American River, California – David Yates, David Purkey, Melissa Gunter, and Elizabeth Mansfield  
22-24 A New Approach to Reducing the Vulnerability of Water Supplies to Climate Change in the U.S.-Mexico Border Area – William A. Nitz

**November 2006, Vol. 8, No. 6 – Water Policy: Present and Future – Faye Anderson, Associate Editor, and Richard A. Engberg, Guest Associate Editor**

- 4 Water Policy: Present and Future: Introduction – Faye Anderson and Richard A. Engberg  
5-7 Reconciling National Water Resources Policy Through Dialogue – Richard A. Engberg  
8-9 Setting a Direction in a Changed Environment: Water Policy Must Be Focused on Sustainability – Denise D. Fort  
10-11 Working Together Holistically: A Symphonic Approach to Watershed Management – G. Tracy Mehan III  
12-14 Working Together Holistically: Integrating Multidisciplinary Approaches to Water Resources Issues Using Collaboration – Carol Ann Wehle  
15-16 The Challenge of Delivering Good Science to Decision Makers – Debra S. Knopman  
17-18 Building on Science: The Need for Science to Support Sound Policy Directions – Roger K. Patterson and David Cookson  
19-22 A Flood of Institutions? Sustaining Global Water Initiatives – Robert G. Varady and Katharine Meehan  
23-26 Is the Water World Dialoguing Effectively on Global Water Policy? – Faye Anderson

**January 2007, Vol. 9, No. 1 – Energy and Water – Eric J. Fitch and Laurel E. Phoenix, Associate Editors**

- 3 Energy and Water: Introduction – Laurel E. Phoenix  
4-5 Exploring the Relationship Between Energy and Water – Eric J. Fitch  
8-11 Emerging Energy Demands on Water Resources – Mike Hightower, Chris Cameron, Ron Pate, and Wayne Einfeld  
12-13 Will Water Cause the Next Electricity Crisis? – Lon W. House  
14-15 U.S. Bureau of Reclamation Is a World Leader in Hydropower – Michael Roluti

**March 2007, Vol. 9, No. 2 – Water Rights and Wrongs – Michelle Henrie, Associate Editor**

- 3 Water Rights and Wrongs: Introduction – Michelle Henrie  
4-7 Pestering Plants in the Everglades: Insects and Control of Invasive Species – Shauna Ray Ellen, Charles Padera, and John Miller  
8-11 Water Law in Vermont: Challenges of a Riparian Surface Water System and Unregulated Ground Water – Julia Horrocks and Justin Park  
12-14 A Reasonable Use Approach to Allocating Water for Consumptive Use in the Southeast – Barbara H. Gallo  
15-17 Exchange or Extinction: Lawful Rights Face Contemporary Criticisms – John Winchester  
18-20 Indian Reserved Water Rights – Samantha Ruscavage-Barz and Diane Albert

**May 2007, Vol. 9, No. 3 – Contaminants of Emerging Concern – Jonathan E. Jones, Associate Editor and William A. Battaglin, Guest Associate Editor**

- 3-4 Contaminants of Emerging Concern in the Environment – William Battaglin, Jörg Drewes, Bret Bruce, and Mike McHugh  
5-7 The Cycle of Emerging Contaminants – Susan T. Glassmeyer  
8-10 A Balancing Act: Dealing With Infrastructure Needs – Stephan D. Frank  
11-14 Pathogens in Natural and Engineered Water Systems: Emerging Issues – Tamim Younos, Valerie J. Harwood, Joseph O. Falkinham III, and Hua Shen  
15-16 Endocrine Active Chemicals (EACs) in Wastewater: Effects on Health of Wildlife and Humans – David O. Norris and Alan M. Vajda  
17 Is Your Body a Hazardous Waste Site? – Laurie Peterson-Wright  
18-21 Conflicting Public Policies: Why Is It So Difficult to Keep Pharmaceuticals Out of the Water? – Brenda Ortigoza Bateman, Ralph thonstad, and Daniel Danicic  
22-24 Striving for Collaborative Science and Communication Through the Consortium for Research and Education on Emerging Contaminants (CREEC) – Juliane B. Brown and William A. Battaglin

**July 2007, Vol. 9, No. 4 – Environmental Flows – Clay J. Landry, Associate Editor; and Nicole Silk and Andrew T. Warner, Guest Associate Editors**

- 3 The Sustainable Waters Program – Nicole Silk  
3 Collaboration and Environmental Flows – Clay J. Landry  
4-5 Water: One Resource, Many Uses – Lisa T. Morales and Larry J. Prather  
6-9 Incorporating Environmental Flows Into Water Management – Andrew T. Warner  
10-14 Models and Software for Supporting Ecologically Sustainable Water Management – John T. Hickey  
15-17 Green River, Kentucky, Conservation Project – W. Michael Turner  
18-20 Bill Williams River, Arizona: Restoring Natural Variability in an Arid Lands River – Andrew Hautzinger  
21-24 Savannah River, Georgia: Science to Support Adaptive Implementation of Environmental Flows to a Large Coastal River, Floodplain, and Estuary – Amanda Wrona Meadows, Darold Batzer, Meryll Alber, and Rebecca R. Sharitz  
25-28 Willamette River, Oregon: Moving Toward Basin-Wide Flow and Floodplain Restoration Contaminants (CREEC) – Leslie B. Bach, Matthew Rea, Mary karen Scullion, Karl Kambergs, and Jeff J. Opperman

**September 2007, Vol. 9, No. 5 – Measuring Monitoring Performance by Local Watershed Groups – Laurel E. Phoenix, Associate Editor, and Winfield G. Wright, Guest Associate Editor**

- 4-5 Who is Monitoring the Lifeline? – Winfield G. Wright  
6-8 The Social Context of Volunteer Environmental Monitoring – Linda P. Wagenet and Max J. Pfeffer  
9-13 Effects of Mine Remediation on Water Quality and Benthic Macroinvertebrates in the Upper Animas River Watershed, Southwestern Colorado – J. Robert Owen, Chester Anderson, and William Simon  
14-15 Potential Liability for Good Samaritans Cleaning Up Abandoned Hardrock Mines – Peter Butler  
16-20 Validity and Applications of Citizen Volunteer Water-Quality Data: A Case From Alabama – William Deutsch, Eric Reutebuch, and Sergio Ruiz-Cordova  
21-24 Effectiveness Monitoring by California Community Watershed Groups – Fraser Shilling and Richard Harris  
25-26 Importance of Quality Assurance Planning for Long-Term Monitoring Programs – Jo A. Latimore and Rick Lawson

**November 2007, Vol. 9, No. 4 – Water Resources Disaster Recovery – Eric J. Fitch, Associate Editor**

- 4 After the Disaster – Erick J. Fitch  
5-7 Lake Okeechobee, Florida: The Next Hurricane Disaster? – Stephen P. Leatherman, Keqi Zhang, and Chengyou Xiao  
8-11 1993 Upper Mississippi Flood: A Person Look Back and a Look Forward at Preparations for the Next Major Flood – Robert R. Holmes, Jr.  
12-13 Disaster Recovery Following the 1997 Spring Floods in Minnesota – Kent Lokkesmoe  
14-16 Impacts of Hurricane Rita Along the Southwest Louisiana Coast, U.S.A. – Gregory W. Stone, Felix Jose, and Walter S. Guidroz  
17-20 Coping With Multiple Hazards in the Cascadia Corridor: A Transdisciplinary Disaster Management Approach – Jason K. Levy

**January 2008, Vol. 10, No. 1 – GIS and Water Resources - Lorri Peltz-Lewis, Guest Associate Editor**

- 4 Overview – Lorri Peltz-Lewis  
5-8 Applying the National Hydrography Dataset – Jeff Simley  
10-12 National Hydrography Dataset-Based Modeling of Stream Habitat Fragmentation and Steelhead Distribution in California Adromous Watersheds – Martina Koller, Connie Shannon, Tom Christy, Robin Carlson, Eric Haney, and Stan Allen  
14-16 Network-Based Analysis of Freshwater Ecosystems Using the FloWS Tools – David M. Theobald and John B. Norman  
17-19 The Arc Hydro MODFLOW Data Model – N.L. Jones and G. Strassberg  
20-22 Salmon Habitat Conservation in the Columbia River Basin: Using GIS to Predict River Floodplain and Lateral Channel Migration – Jason E. Hall, Damon M. Holzer, and Timothy J. Beechie  
23-26 GIS Applications for Hazard Estimation in the California Delta and Suisan Marsh – Douglas Wright, Jeannie A. Stamberger, Joel Dudas, Amy Keeley, Segaran Logeswaran, and Christian G. Raumann  
27-30 Development of a Model to Assess Ground-Water Availability in California's Central Valley – Claudia C. Faunt, Randall T. Hanson, and Kenneth Belitz  
31-35 Integration of Regional Hydrologic Modeling Using FORTRAN and ArcGIS – Alan L. Flint and Lorraine E. Flint  
36-39 Terrain Characteristics as a Function of ArcGIS Terrain Dataset Generalization – Dean Djokic, Thomas A. Evans, and Amit Sinha

**March 2008, Vol. 10, No. 2 – Supporting Water Supply and Distribution Into the 21st Century – Michelle Henrie, Associate Editor**

- 4 Introduction – Water Infrastructure: Coming Home to Roost – Michelle Henrie  
5-7 Support for Indian Rural Water Systems Runs Dry – Christina Steinhoff  
8-10 Science Drives Albuquerque's Shift to Sustainable Supplies – John M. Stomp III and Michael J. Bitner  
11-13 Envisioning Leadership: Articulating a Vision for the Water Industry – John (Woody) Wodraska  
14-16 Supporting Water Supply and Distribution: Closing the "Needs Gap" – The Honorable Martin J. Chávez  
17-19 The Green Infrastructure Action Strategy – Michelle Henrie

**May 2008, Vol. 10, No. 3 – Riparian Ecosystems and Buffers – Albert Todd, Guest Associate Editor, and Laurel Phoenix, Associate Editor**

- 3-5 Riparian Ecosystems and Buffers: Working at the Water's Edge – Albert H. Todd  
6-8 Riparian Zones: They Aren't Just for Buffers Any More – Mark P. Smith, Roy Schiff, and Jeff Opperman  
9-11 Living Shorelines: Restoring Multi-Function Buffers on Coastal Shorelines – William G. Reay and Scott Lerberg  
12-14 Generalizing Riparian Zone Function at the Landscape Scale – Philippe Vidon, Craig Allan, and Richard Lowrance  
15-17 A Synopsis of Riparian Forest Buffer Restoration Efforts – Judith A. Okay and David Wise  
18-21 Riparian Ecosystem Consequences of Water Redistribution Along the Colorado Front Range – John D. Wiener, Kathleen A. Dwire, Susan K. Skagen, Robert R. Crifasi, and David Yates  
22-25 Building Bigger Better Buffers for Bioenergy – Michele M. Schoeneberger, Gary Bentrup, Dean Current, Bruce Wight, and Tom Simpson

**July 2008, Vol. 10, No. 4 – Land Use and Water Shortfalls – Eric J. Fitch, Associate Editor**

- 4 Drier and Drier (Overview) – Eric J. Fitch  
5-9 Climate Change Risks New Mexico's Waterways: Its Byways and Its Flyways – Brian H. Hurt and Julie Coonrod  
10-13 Climate Adaptation and Water Resource Management in Phoenix – Patricia Gober  
14-17 Planning for Climate Change in the Inland Empire: Southern California – David G. Groves, Martha Davis, Robert Wilkinson, and Robert Lempert  
18-21 Adaptation to Water Stress in the Great Plains – Cody L. Knutson  
22-26 The Water Resource Implications of Large-Scale Bioethanol Production – Matthew J. Cohen and Jason M. Evans  
27-29 Impact of Urbanization on Water Quantity and Quality: The Need for an Integrative Watershed Modeling Approach – Yusuf M. Mohamoud

**September 2008, Vol. 10, No. 5 – Wetland Restoration, Mitigation, and Permitting - Jefferson G. Edgens, Associate Editor**

- 4-6 Wetland Mitigation: Which Function – Kelly Chinnners Reiss  
7-8 The Importance of an Interdisciplinary Approach to Restoration in Wetlands and Natural Communities - Jane O. Rowan  
9-10 Balancing Demands for Wetland Hydraulic Residence Time - Richard H. McCuen and Kristin L. Gilroy  
12-14 Wetlands Protection Through Buffer Maintenance on Private Property - Mary Theresa Flynn  
15-18 The Coastal Dune Lakes of Florida: Trends in Water Quality and Changing Land-Use Practices - Jehangir H. Bhadha and James W. Jawitz  
19-21 Rapanos, State Assumption and Wetland Policy - Jefferson G. Edgens

**November 2008, Vol. 10, No. 6 – Data Management in Water Resources - Trevor Campbell, Guest Associate Editor; Jonathan E. Jones, Associate Editor**

- 4 Introduction: Data Management Practices - Trevor Campbell  
5-8 Developing Scientific Data Management Policy and Procedures - Brian Turcotte  
10-13 An Integrated Approach to Managing Water Resources Data at the Southwest Florida Water Management District - Steven Dicks  
14-17 Management of a Large-Scale Environmental Database at a Department of Energy Site - John Boylan, Mark Wood, and Ian Paton  
18-20 Developing and Implementing Water Quality Information Management Systems in Montana for Improve Data Quality, Efficiency, and Public Outreach - Staci Stolp  
22-24 Managing the International BMP Database - Renee Fitsik, Marcus Quigley, Eric Strecker, Jon Jones, Jane Clary, and John O'Brien  
25-27 Presenting Urban Stormwater BMP Performance Data to a Broad Audience - John Kosco and Nikos Singelis

**January 2009, Vol. 11, No. 1 – Sea Level Rise and Coastal Zone Management - Eric J. Fitch, Associate Editor**

- 4-5 Sea Level Rise: Concerns for Coastal Management of Land and Freshwater Resources – An Overview – Eric J. Fitch  
6-9 Sea Level Rise: An Increasing Risk to California Water Projects – Maurice Roos  
10-14 Severe Storms and Sea Level Rise in New York City – Vivien Gornitz and Cynthia Rosenzweig  
15-17 Scenario Based Assessment of Sea Level Rise Impacts: A Method for Planning Under Uncertain Conditions – Kris Esterson  
18-22 Managing the Catastrophic Impacts of Sea Level Rise in Hawaii – Jason R. Levy

**March 2009, Vol. 11, No. 2 – Managing Water Resources Development in a Changing Climate - Michael R. Lilly, Guest Associate Editor**

- 4-5 Understanding Climate Change and Water Resources: How Far Have We Come in the Last 10 Years? Where Do We Go From Here? – Michael R. Lilly  
6-7 Warmer Winters and Warmer Nights: A Mixed Blessing – Ed Berg  
8-10 Integrated Watershed Scale Response to Climate Change for Selected Basins Across the United States – Steven K. Markstrom and Lauren E. Hay  
11-13 Climate Change and Transboundary Water Resources – Chundun Prakash Khedon, Rosario Sanchez, and John H. Giardino  
14-15 Adapting to Climate Change Through Sustainable Design and Reduced Water Demand – Jack Hébert and Michael R. Lilly

**May 2009, Vol. 11, No. 3 - Application of Adaptive Management in Water Resources - John C. Tracy, Guest Associate Editor**

- 3 Introduction: Case Studies in Adaptive Management - Tom St. Clair  
4-7 Evolution of Everglades Restoration Plan's Adaptive Management Program - Elmar G. von Kurzbach, Andrew J. LoSchiavo, and Tom St. Clair  
8-10 Active Adaptive Management on the Platte River - Chad Smith  
11-14 The Glen Canyon Dam Adaptive Management Program - Dennis Kubly  
15-17 A Report From Lake Tahoe: Observation From an Ideal Platform for Adaptive Management - Dennis D. Murphy and Patricia N. Manley

**July 2009, Vol. 11, No. 4 - Landfill and Landspreading Hazards - Laurel E. Phoenix and Eric J. Fitch, Associate Editors**

- 3-6 Landfills, Ground Water Quality, and the Future of Waste Management in America - Eric J. Fitch
- 7-10 Landspreading Hazardous Wastes in the United States - Laurel E. Phoenix
- 11-13 Pharmaceuticals and Personal Care Products in Biosolids - Sara C. Monteiro and Alistair B.A. Boxall
- 14-17 Livestock Manure Management in the American Pacific Islands - Carl I. Evensen
- 18-19 Effects of Animal Waste Spreading on Ground Water and Challenges for Water Resources Education - Kevin Masarik

**September 2009, Vol. 11, No. 5 - A New Paradigm for Water Resources Management - Joe Berg, Guest Associate Editor**

- 3-4 The South River, Legacy Sediments, and the Future of the Resource - Erik Michelsen
- 5-7 Implementing Regenerative Storm Conveyance Restoration Techniques in Anne Arundel County: An Innovative Approach to Stormwater Management - Hala Flores, Janis Markusic, Christopher Victoria, Ronald Bowen, and Ginger Ellis
- 8-10 Sand Seepage Wetlands: A Key to Improving Water Quality and Species Recovery - Keith Underwood
- 11-13 Preliminary Reconstruction of a Pre-European Settlement Valley Bottom Wetland, Southeastern Pennsylvania - Mark Voli, Dorothy Merritts, Robert Walter, Erik Ohlson, Katherine Datin, Michael Rahnis, Laura Kratz, Wanlin Deng, William Hilgartner, and Jeffery Hartranft
- 14-16 Baseflow Stream Channel Design: An Approach to Restoration That Optimizes Resource Values and Ecosystem Services - Joe Berg
- 17-18 Stream Restoration Can Improve Water Quality But Is Far From Being The Silver Bullet Solution - Solange Filoso and Margaret Palmer
- 19-21 Application of Regenerative Stormwater Conveyance With Other LID Elements in Approach Zero Discharge Systems - Ted Brown

**November 2009, Vol. 11, No. 6 - Spirituality and Water Management - Eric J. Fitch, Associate Editor**

- 3-4 Water and Spirituality - Eric J. Fitch
- 5-6 Drops of Faith: Water in Islam - Francesca de Châtel
- 7-8 Living Waters: A Jewish Reflection - David Patterson
- 9-10 Water and Eco-Spirituality - Albert J. Fritsch
- 11-12 Water, The Giver of Life: A Wiccan Perspective - Susan Baker
- 13-14 The Waters of Tao - Gary Chamberlain

**January 2010, Vol. 12, No. 1 - The Value of GIS for Water Resources - Sandra Fox and Ari M. Michelsen, Guest Editors; Laurel E. Phoenix, Associate Editor**

- 3-4 Valuation of GIS for Water Resources (Introduction) - Sandra Fox and Ari M. Michelsen
- 5-8 GIS: Economic Common Sense for El Paso Water Utilities - Jose A. Granillo, Jr.
- 9-10 The Enterprise Value of Geographic Information Systems Technology at the St. Johns River Water Management District - Kevin A. Brown
- 11-12 Save Money, Save Lives: How GIS Has Made the Identification of Flood Risks Easier, Faster, More Accurate, and Cheaper - John S. Grounds and Brandon T. Grimm
- 13-15 Return on Investment From New GIS Technologies for Water Resources Engineering, Science, and Planning - Jack Hampson, Stephen Bourne, and Thomas Singleton
- 16-17 Critical Success Factors for Enterprise GIS: Beyond ROI - Ross Smith and Craig Rintoul

**March 2010, Vol. 12, No. 2 - Zero Impact Development - Jonathan E. Jones, Associate Editor**

- 3-4 Sensitivity of BMP System Designs to the Sustainability Objectives Defined by Predevelopment Conditions - Richard H. McCuen and Allen P. Davis
- 5-8 Can Volume-Based Stormwater Criteria Make a Difference to Receiving Stream Health? - Ted Brown
- 9-12 The Feasibility and Desirability of Stormwater Retention on Site in California and on the West Coast - Eric Strecker and Aaron Poresky
- 13-16 Runoff Volume Reduction: A Perspective From Springfield and Greene County, Missouri - Tim Smith and Todd Wagner
- 17-19 Challenges in Attaining Recreational Water Quality: Can the Standards Be Met? - Jane Clary and Jonathan Jones

**May 2010, Vol. 12, No. 3 - 5th World Water Forum in Review - Michelle Henrie, Associate Editor**

- 3 5th World Water Forum in Review - Michelle Henrie  
4-7 Navigating Water Infrastructure Finance: From Sleepy Backwater to Raging Current - Douglas A. Praw and Julie Hoffman  
8-11 Water Technology: A Critical Component to Clean Water Needs for the 21st Century - Diane E. Albert  
12-14 Water/Energy/Food Nexus: Sustaining Agricultural Production - Jay Lazarus

**July 2010, Vol. 12, No. 4 - Tropical Hydrology and Sustainable Water Resources in a Changing Climate  
Rafael E. Frias III, Guest Associate Editor**

- 3-5 Sustainable Water Resources Technologies for a Changing Climate - Rafael E. Frias III and Peter D. Binney  
6-8 Sustainability and How Water Providers Can Achieve It - Peter D. Binney  
9-10 Potable Water for Isolated Communities: An Environmental Justice Imperative for Puerto Rico -  
Carl-Axel P. Soderberg  
11-14 Adapting Stormwater BMPs for Tropical Watersheds and Coral Reef Protection - David Hirschman and  
Kelly Collins  
15-16 Developing a Conceptual Framework for Linking Soil Erosion to Sediment Deposition: Patterns in Coastal  
Ecosystems in the Caribbean - Nekesha B. Williams, Barnall Dixon, and Ashanti Johnson  
17-20 Panama Canal Watershed Experiment: Agua Salud Project - Robert F. Stallard, Fred L. Ogden,  
Helmut Elsenbeer, and Jefferson Hall

**September 2010, Vol. 12, No. 5 - Hydrophilanthropy - Michael E. Campana, Guest Associate Editor**

- 3-5 The Meaning of Hydrophilanthropy - David K. Kraemer  
6-8 Hydrophilanthropy and Experiential Learning in Honduras - Michael E. Campana  
9-10 Drinking Water Access in the Developing World: The Case for Escuela Tecnica de Agua Potable -  
A Special Technical School - Gilles Corcos  
11-13 Student Action to Bring Water to People - Katie Mann and Arica Crootof  
14-16 Creating the Future in Nicaragua - Rob Bell and Anna Segur  
17-19 Why Do You Care? - Stephanie J. Moore  
20-22 Hydrophilanthropy: A Volunteer's Perspective - Christine Casey Matute  
23-24 Cosas Estan Cambiando (Things Are Changing) - Stan Patyrak

**November 2010, Vol. 12, No. 6 - Perspectives on Water Resources Education - Richard H. McCuen,  
Associate Editor**

- 3-4 Body of Knowledge for Water Resources Education - Carolyn J. Merry  
5-7 Education to Build Capacity for Total Water Management - Neil S. Grigg  
8-9 Water Resources Education - Robert M. Hordon  
10-12 One Educator's Experience With Distance Instruction in Hydrology and Water Resources - Glenn E. Moglen  
13-15 Water Resources Education: Preparing the Next Generation of Water Resource Professionals - Jason A. Hubbard  
16-18 Conducting a Professional Development Self-Assessment: An Activity for Graduate Students  
- Richard H. McCuen

**January 2011, Vol. 13, No. 1 - Managing Climate Change Impacts on Water Resources - C. Mark Dunning  
(Guest Editor) Michelle Henrie (Associate Editor)**

- 3-4 Introduction: Managing Climate Change Impacts on Water Resources - C. Mark Dunning, J. Rolf Olsen, and  
Gerald Sehlke  
5-7 Denver Water's Approach to Planning for Climate Change - Lurna Kaatz and Marc Waage  
8-9 Great Lakes Outflow Regulation and the Consideration of Uncertain Hydrologic Futures - Anthony J. Eberhardt  
10-12 Addressing Climate Change Related Infrastructure Impacts - Paul Kirshen  
13-15 Climate Adaptation in the Western States - Tom Iseman and Tony Willardson  
16-18 Climate Change: One More Reason to Change the Way We Manage Water - Carol R. Collier

**March 2011, Vol. 13, No. 2 - Disaster Management - Eric J. Fitch and Jonathan E. Jones (Associate Editors)**

- 3-5 California's Central Valley Flood Control System: Challenges and Opportunities - Mike Inamine  
6-8 The Dam Safety Imperative - Kenneth R. Wright and Bruce A. Tschantz  
9-12 If the Creeks Don't Rise: The May 2010 Flood in Nashville - Rodney R. Knight, William J. Wolfe, and David E. Ladd  
13-16 Slow Motion Disaster: The Big Picture of Converging Effects of Climate Change, Sea Level Rise, and Fossil Fuel Depletion on the Viability of Human Habitat of Oceania and the Coastal Margin of the Pacific Rim - Eric J. Fitch  
17-18 Katrina Revisited - Again: Personal Observation From a Long Term Resident of the Crescent City - Kenneth R. "Budd" Goodwin

**May 2011, Vol. 13, No. 3 - Integrated Water Resources Management: The Emperor's New Clothes or Indispensable Process? - Michael E. Campana (Guest Editor) and Eric J. Fitch (Associate Editor)**

- 3-8 Integrated Water Resources Management: Bringing It All Together - Kenneth F. Najjar and Carol R. Collier  
9-13 California's IRWM Program: A Regional Framework for Integrated Water Resources Management - Alyson Watson, Rosalyn Prickett, Ali Taghavi, and Thomas West  
14-16 Integrated Water Resources Management and Impact at the Community Level in Rwanda - Stephanie Ogden  
17-20 The Use of Collaborative Modeling in Decision Making for IWRM - Guillermo F. Mendoza and Hal E. Cardwell  
21=24 The International Center for Integrated Water Resources Management (ICIWaRM): New Opportunities for Scientists, Engineers, Managers, and Planners to Engage With UNESCO - Robert Pietrowsky, Eugene Z. Stakiv, and William S. Logan  
25-27 Managing One Water - Benjamin H. Grumbles

**July 2011, Vol. 13, No. 4 - Hydraulic Fracturing: The Concerns and Consequences of Resource Development - N. Earl Spangenberg (Editor-in-Chief)**

- 3-5 Hydrofracturing, Water, and Melange: An IMPACT Op-Ed - Richard A. Engberg  
6-7 HYDROFRACKING: Uncertain Decision-Making in a Value-Laden Conflict - Richard H. McCuen  
8-9 Background: Hydraulic Fracturing and Water Resources - Tim Smith  
10-11 Hydraulic Fracturing in Wyoming - Thomas E. Doll  
12-13 Drill, Maybe, Drill - Benjamin H. Grumbles  
13-15 Wells or Woods: The Natural Gas Industry Meets the Pennsylvania Wilds - Kevin Heatley  
16-19 Wireless Sensor Networks (WSNs) for Real-Time Situational Awareness of Hydrofracking Operations - Sterling S. Rooke and Peter L. Fuhr

**September 2011, Vol. 13, No. 5 - The Global Market for Water Trading - Skye Root (Guest Associate Editor)**

- 3=5 Australian Water Markets: An Overview - R. Quentin Grafton  
6-8 Water Markets in the USA - Matthew T. Payne and Skye Root  
9-11 A New Well at Ruma: Water Management in Islam - Naser Faruqui  
12-14 Chile's Water Markets Continue to Evolve - Robert R. Hearne  
15-18 Water Markets in Europe - David Zetland

**November 2011, Vol. 13, No. 6 - Historical Aspects of Water Resources - Richard H. McCuen (Associate Editor) and Rebecca I. McAfoos (Guest Editor)**

- 3-5 Ancient Water Systems and Hydraulic Devices - Robert M. Hordon  
6-8 Building Experience at the Bureau of Reclamation - Brit A. Storey  
9-11 The Importance of the USDA Small Watershed Program to the Rural United States - Sherry L. Hunt, Gregory J. Hanson, Darrel M. Temple, and Larry Caldwell  
12-14 Tillage Methods for Conserving Soil Waters: Then and Now - Paul W. Unger  
15-17 Origins of Quantitative Hydrology: Pierre Perrault, Edme Mariotte, and Edmond Halley - Jason A. Hubbard

**January 2012, Vol. 14, No. 1 - Water, Energy, and New Developments on the Way Ahead - Laurel E. Phoenix (Associate Editor) and Michelle Henri (Associate Editor)**

- 3 Introduction: Water, Energy, and New Developments on the Way Ahead - Laurel E. Phoenix
- 4-8 The Need for Integrated Energy and Water Modeling - Vince Tidwell, Mike Hightower, and Geoff Klise
- 9-12 Water Dependency of Energy Production and Power Generation Systems - Tamim Younos
- 13-14 Energy Demands for the Urban Water Life-Cycle - Laurel E. Phoenix
- 15-16 Producing Algae-Based Biofuels From Wastewater - Paul Laur and Enid J. Sullivan

**March 2012, Vol. 14, No. 2 - Religion, Culture, and Water - Eric J. Fitch (Association Editor)**

- 3 Irrigating the Mind-Stream: Buddhism and Water - Michelle J. Sorensen
- 6 From Holy Water to Holy Waters - Gary Chamberlain
- 10 No One Eats the Fish Anymore: Tribel Reclamation of the Silver Valley, Idaho - Theodore N. Fortier
- 13 Foundations of Hawai'ian Culture and the Importance of Water - Eric J. Fitch

**May 2012, Vol. 14, No. 3 - Pipelines and Water Resources - Jonathan A. Jones (Associate Editor) and Laurel E. Phoenix (Associate Editor)**

- 3-5 Impacts of Buried Pipelines on Water Resources - Lori A. Lilly
- 6-7 What Drives Sewage Pipe Maintenance? An Environmental Advocate's Perspective - C. David Merryman
- 8-9 Water System Pipeline Design in Landfill Areas - Jon Fischer
- 10-11 Pipeline Design and Construction in Sensitive Settings - Tom Hopper
- 12-14 Streamlined Stormwater Permitting Strategies for Pipeline Construction - Andrew Earles, Jennifer Keyes, and Darren Mollendor