

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

# IMPACT

November 2011 | Volume 13 | Number 6

**HISTORICAL ASPECTS  
OF WATER RESOURCES**

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AMERICAN WATER RESOURCES ASSOCIATION

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## HISTORICAL ASPECTS OF WATER RESOURCES

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Is history a teacher? The saying goes something like: A failure to understand history leads to failure. As specialists in water resource disciplines, knowing the historical roots of water resources should enable us to provide more educated solutions to the multitude of global water resource problems that we will face in the near future. The articles presented herein spotlight issues from our past that can provide insight relevant to the future, thus keeping us from repeating the mistakes of the past. History is a teacher!

### FEATURE ARTICLES

#### **3 Ancient Water Systems and Hydraulic Devices ... Robert M. Hordon**

Thousands of years ago, nomads settled in Egypt along the Nile River and similar areas, attracted by naturally fertile lands and plentiful water supplies. The abundant water supplies were beneficial for agriculture. Since the establishment of these ancient communities, agricultural demands and local terrain challenges have significantly shaped water systems.

#### **6 Building Experience at the Bureau of Reclamation ... Brit A. Storey**

Responding to pressure from the American West for Federal investment in irrigation projects, Congress established the Bureau of Reclamation in 1902. Reclamation has built over 600 dams and reservoirs, including Hoover and Grand Coulee Dams. Dam building evolved significantly as a result of changes in construction materials and machinery, as well as expansion of knowledge.

#### **9 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**

The Dust Bowl in the 1930s led to a national awareness of the importance of soil conservation. Groups such as the present-day Natural Resources Conservation Service were created, with the primary focus on developing and supporting agricultural land use methods that minimized soil erosion. Today, the rural U.S. is still impacted by the infrastructure developed as a result of legislation such as the Flood Control Act of 1944.

#### **12 Tillage Methods for Conserving Soil Water: Then and Now ... Paul W. Unger**

Throughout history, tillage has been a primary constituent of agricultural water capture since the beginning of mechanization in the early 1700s. However, plowing left the soil surface bare and vulnerable to soil erosion. Since then, various tillage methods that mitigate this problem have been used, such as conservation tillage. Herbicidal weed control became prevalent in 1942 and has played an enormous role in crop production.

#### **15 Origins of Quantitative Hydrology: Pierre Perrault, Edme Mariotte, and Edmond Halley ... Jason A. Hubbart**

Historically, water management was governed by qualitative hydrologic understandings developed by the Greeks and Romans until the empirically based discoveries of Perrault, Mariotte, and Halley in the late 1600s who developed the fundamental mechanics of the hydrologic cycle. Their work provided significant contribution to the rising field of quantitative hydrology.

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**A Bi-Monthly Publication of the  
AMERICAN WATER RESOURCES ASSOCIATION**

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*Water Resources IMPACT* is owned and published bi-monthly by the American Water Resources Association, 4 West Federal St., P.O. Box 1626, Middleburg, Virginia 20118-1626, USA. The yearly subscription rate is \$80.00 domestic and \$95.00 for international subscribers. For the International Priority Shipping Option, add \$50.00 to the international subscription rate. Single copies of *IMPACT* are available for \$15.00/each (domestic) and \$20.00/each (international). For bulk purchases, contact the AWRA Headquarters office.

*IMPACT* is a magazine of ideas. Authors, Associate Editors, and the Editor-In-Chief work together to create a publication that will inform and will provoke conversation. The views and conclusions expressed by individual authors and published in *Water Resources IMPACT* should not be interpreted as necessarily representing the official policies, either expressed or implied, of the American Water Resources Association.

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**POSTMASTER:** Send address changes to *Water Resources IMPACT*, American Water Resources Association, 4 West Federal St., P.O. Box 1626, Middleburg, VA 20118-1626. Copyright © 2011 by the American Water Resources Association.

• VOL. 13 • NO. 6 • NOVEMBER 2011 •  
 ISSN 1522-3175

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