Water Encyclopedia: Domestic, Municipal, and Industrial Water Supply and Waste Disposal

One of the unique aspects of planet earth is the existence of water, which is not found on other planets in our universe. The treatment of this natural resource, delivery of this resource for a range of uses, and its subsequent safe disposal play a vital role in the survival of humankind. For example, one of the main reasons for the vanishing of many ancient civilizations was the insufficient supply and mismanagement of this vital resource. Supply and sharing of this natural resource is already becoming a major flash point for conflicts in many countries. Despite some recent advances in the understanding of the treatment and supply of water, there has been no comprehensive publication on this vital topic. In this volume an attempt has been made to cover every conceivable topic of interest to people in all walks of life and professions.

The book consists of 123 articles within four major sections that include Domestic Water Supply, Municipal Water Supply, Industrial Water, and Waste Water Treatment. A wide range of topics are covered under these four sections. The Domestic Water Supply Section covers topics such as bottled water, corrosion control, and health effects of nitrates. The Municipal Water Supply Section covers topics such as distribution, potable water treatment, fluoridation, water security, and drinking water standards. The Industrial Water Section covers topics such as microfiltration, effluent discharge, and water use in energy production. The Waste Water Treatment Section covers topics such as chemical and biological waste water technologies, ecological wastewater management, biosolids, and wetlands. The content and depth of articles vary widely; some of the authors have given a thorough and detailed account of the subject matter while others have used a succinct approach in covering the overall subject matter. It is interesting to find that some the articles give a comprehensive overview of the research undertaken on a particular aspect of water. For example, the article on Granular Activated Carbon gives an in-depth analysis of the types and sources, manufacture, characteristics, surface chemistry, and applications of activated carbon. Most of the articles are backed up by clear illustrations and a list of reading materials.

This book also provides some interesting facts and figures. For example, it is interesting to notice that in the past decade, while the population growth has increased slightly, the withdrawal of freshwater sources has increased by six fold, and if the present consumption patterns continue, by 2010 about two billion people will be living in areas where it will be difficult or impossible to meet all their needs for fresh water.

There has been some overlapping amongst the articles because the editors sought information presented by authors from various disciplines with different points of view. In a way this overlapping is not an irritant, simply because it enables the readers to get enough information about a topic without having to read the related topic in the Encyclopedia.

The book includes a comprehensive subject index, which provides references to figures and tables, and also provides cross references to related subject matter. It is a valuable resource material for practicing professional engineers, scientists, teachers, and students with an interest in water use and dynamics.

This is a timely reference on water, which, I believe, should join the other references in this field on the lowest shelf of everyone's book case, within their arm's reach. Although there are some shortcomings, these do not lessen the appeal of this comprehensive yet easily referable Encyclopedia, and, as the editors have pointed out, with future editions the chapters will be fine tuned and more areas will be covered.

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Published in J. Environ. Qual. 37:1299 (2008).
doi:10.2134/jeq2008.0002br
Received 16 June 2006.
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