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Artificial Recharge of Groundwater

Takashi Asano, California State Water Resources Control Board, Sacramento, and Department of Civil Engineering, University of California at Davis

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Groundwater contamination and depletion has become a major environmental concern. Depletion of groundwater reserves is occurring at a faster rate than natural replenishment can offset. Contamination of existing supplies is also of great concern. Groundwater aquifers are subject to contamination in many ways: through salt water seepage, acid rain runoff, contamination from chemicals like PCBs, and bacteria from sewage.

This authoritative new book is the first of leading importance in environmental and water resources engineering. It focuses on artificial recharge of groundwater, with particular emphasis on recharge with reclaimed municipal wastewater. Before recharge through this method can be seriously considered as a groundwater management alternative, significant public health issues must be addressed and carefully evaluated. Therefore the important legal, institutional, and economic aspects of

the use of reclaimed water in groundwater management are discussed.

Expert contributors from around the world draw on their own experiences with projects involving artificial recharge from reclaimed water. Chapters address such topics as available treatment processes for making wastewater suitable for recharge, the effect of infiltration-percolation on the overall treatment system's performance and reliability, and the fate of pathogens, heavy metals, and inorganic and stable organic substances in the reclaimed systems.

This book will be a practical guide for civil and sanitary engineers, and an essential reference for public works officials and consulting engineers. It is sure to become the standard work on the subject.

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