

**APPLICATIONS OF OPERATIONS RESEARCH THEORY TO
GROUNDWATER MANAGEMENT PROBLEMS**

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ABSTRACT

Optimization techniques can be used in the decision making process inherent in groundwater quantity and quality management problems. These techniques are used to determine a least-cost engineering design that satisfies several technical, economical and social criteria. In the present work, groundwater simulation models have been combined with Operations Research techniques to determine optimal groundwater management designs. Illustrated applications include two pump-and-treat field cases in the United States.