

Title: Identification and Evaluation of Groundwater Wasteload Allocation Methods

P.I.: J. W. Male and R. R. Noss

Objective:

Obejectives of the research are to investigate available tools and approaches to groundwater wasteload allocations. Specifically the research will: (1) catalogue available techniques, including assumptions, constraints, information requirements, and prior experience, and (2) evaluate the utility of the techniques to the Massachusetts physical and regulatory situation.

Procedures:

We will begin by identifying tools and approaches used or developed by other states and proposed in the literature. Both comprehensive approaches (including the quantitative techniques) and partial approaches and numerical techniques alone will be identified.

A summary of each will be compiled, including other states' experiences, successes and problems, their implementability, and the level of regulation achieved. How each approach deals with basic issues such as dilution, assimilative capacity, nature of the pollutants, point sources vs. nonpoint sources, and assumptions about the geohydrology will be discussed. Their information requirements will be evaluated vis a vis the current state of knowledge on the physical/chemical/geological characteristics of Massachusetts groundwaters.

We do not intend to address the setting of groundwater quality levels (i.e. groundwater quality standards). We assume that such standards have been set and the issue at hand is how to manage existing and potential waste discharges so that such standards are met.

Expected Results:

A technical report will identify available tools for groundwater wasteload allocation and the evaluation of the utility of each to Massachusetts conditions.

Cost: \$28,000