EDITORIAL

For offices and advertisers, see page 202

Please send *research* manuscripts to Manuscript Reviewing, *feature* manuscripts to Managing Editor.

For author's guide and editorial policy, see June 1975 issue, page 547, or write Katherine I. Biggs. Manuscript Reviewing Office *ES&T*

Cleaning the water

A recent EPA report estimated that the annual benefits deriving from water quality improvement in the U.S. will be around $11 billion. Approximately half of this sum will accrue to the recreational sector, and human health and "psychic" improvements will amount to around $2 billion.

On the other hand, the total capital construction costs for publicly owned treatment works to meet the requirements of P.L. 92-500 have been estimated at $375 billion, with an additional $134 billion to be borne by industry, not including costs for the operation and maintenance of new and expanded facilities. Benefit/Cost comparisons are speculative but the total, which doesn't yet include water supply expenses, already exceeds that of our national space effort. At this level of social expense it is not unreasonable to ask for a sharp definition of the product. Will our rivers and lakes be merely more clear for this sum or will they be more safe for humans as well as for aquatic life?

Important questions bear on this expensive social policy that the U.S. taxpayer is being asked to support. First, the best solution to any water problem, whether a water supply or waste treatment for an industry or municipality, can be unique to the individual situation. Mandatory and uniform national requirements are not likely to use material or financial resources optimally. Rigidly uniform regulations optimize only administrative simplicity and are borne at high social cost.

Secondly, although the classical health benefits of water supply purification are well known, there is little reason to believe that similar health benefits extend to waste treatment. EPA's benefit analysis reinforces the notion that the benefit will be principally aesthetic. Therefore, both the strategy being employed and the target it is aimed at are in urgent need of more careful evaluation.

This is a strong argument for a research strategy, and an indictment of directionless public spending for programs that have been designed primarily on the bases of administrative ease and technical uncertainty. A more rational approach would be to put expanded sums into an organized research program to identify the nature, sources, and mechanisms of the most serious threats to human health and the technical alternatives to control them.

R F Christman