

Consequences of the Clean Water Act and the Demand for Water Quality

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Abstract

Since the 1972 U.S. Clean Water Act, government and industry have invested over \$1 trillion to abate water pollution, or \$100 per person-year. Over half of U.S. stream and river miles, however, still violate pollution standards. We use the most comprehensive set of files ever compiled on water pollution and its determinants, including 50 million pollution readings from 240,000 monitoring sites and a network model of all U.S. rivers, to study water pollution's trends, causes, and welfare consequences. We have three main findings. First, water pollution concentrations have fallen substantially. Between 1972 and 2001, for example, the share of waters safe for fishing grew by 12 percentage points. Second, the Clean Water Act's grants to municipal wastewater treatment plants, which account for \$650 billion in expenditure, caused some of these declines. Through these grants, it cost around \$1.5 million (2014 dollars) to make one river-mile fishable for a year. We find little displacement of municipal expenditure due to a federal grant. Third, the grants' estimated effects on housing values are smaller than the grants' costs; we carefully discuss welfare implications.

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