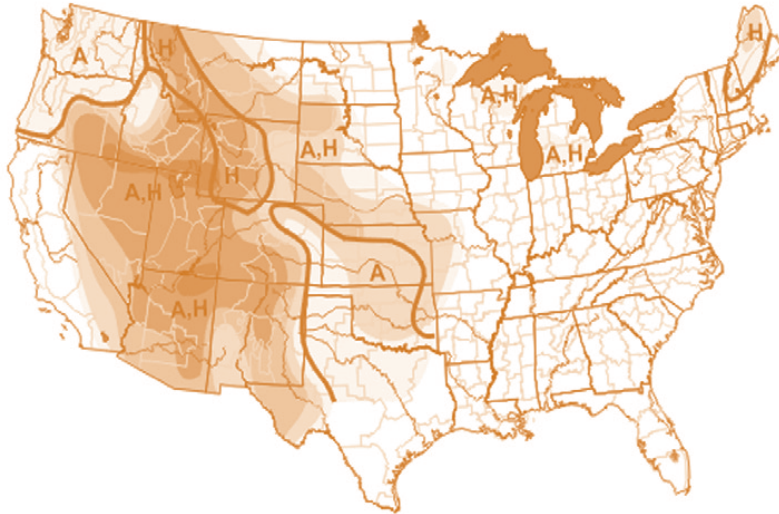


Water[©]

The supply of water is a major public policy concern in the United States and even Canada. The Figure shows U.S. drought conditions in 2003. Environmental authorities in both countries have promoted pricing as a means to stimulate conservation of water.



Source: Environmental Protection Agency

Water is used by households as well as businesses. The price elasticity of the demand for water has been estimated to range from -0.20 to -0.40 among households, and from -0.50 to -0.80 among business users.¹

However, not all water users are subject to metering. Even among households subject to metering, the price structure might conflict with conservation. The U.S. Environmental Protection Agency's Community Water System Survey for the year 2000 reported that 23% of water utilities levy a "flat fee" under which the user pays a fixed charge regardless of usage.

Environment Canada reported that, in the year 1999, 43% of residential users were charged a flat fee, while another 12% were subject to a *declining* rate structure within which the unit price decreased with usage. Average consumption was 70% higher among users subject to flat fees as compared with those subject to volume-based rates.

© 2007, Ivan Png. This case is based, in part, on Holly Stallworth, "Water and Wastewater Pricing", Office of Wastewater Management, U.S. Environmental Protection Agency EPA 832-F-03-027, and

¹ Beecher, J.A. et. al. Revenue Effects of Water Conservation and Conservation Pricing: Issues and Practices. National Regulatory Research Institute, Columbus, Ohio (1994).

Discussion Questions

- (a) How do you expect the price-elasticity of the residential demand for water to vary with the total annual consumption of the household?
- (b) Who benefit relatively more from a flat fee? Poor or rich households?
- (c) Considering that a large proportion of residential users face a flat charge or even decreasing unit prices, do you think that the price-elasticity of residential demand is under or over-estimated?
- (d) What are the implications of your answer in (c) for raising prices as a conservation policy?