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An Economic Evaluation of Nitrate in Groundwater: A contingent Valuation Survey in Northwest Florida

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Abstract:

A double-bounded dichotomous choice contingent valuation survey was administered to 2,000 residents of Franklin and Gulf Counties, Florida, with the objective of documenting any bias as a result of the institutional basis in the hypothetical payment vehicle. The mean willingness to pay (WTP) estimates for state and private payment vehicles are \$4.39 and \$5.08 per month respectively, significantly different at the 0.15 level. This is evidence of the importance in choosing the institutional foundation for the payment vehicle. The major determinants of WTP appear to be education, perception of existing water quality and the attitudes of respondents towards the environment. However, WTP responses may vary temporally and spatially with differences in demographics and goods and services valued. This may have implication for contingent valuation practitioners.

Impact Statement:

Public concerns regarding the potential nitrate pollution of groundwater, and the subsequent health and environmental risks have created a demand for public policies to more closely examine and monitor water quality. Best management practices are recommended as control measures but more rigorous controls may need to be implemented. In either case, policies to improve groundwater will benefit from a rational approach that includes an economic assessment (Taylor and Froberg, 1977). Assigning costs to environmental disamenities (e.g. nitrate polluted water) or benefits to environmental amenities (nitrate reduced water) becomes important in determining the health risks of nitrate in groundwater.

One approach is to elicit people's willingness to pay (WTP) to avoid nitrate polluted water. This research involved obtaining a person's WTP for nitrate-reduced drinking water through assigning personal value on the amenity. From this, estimate the cost of nitrate pollution to consumers of groundwater. The study also examined the influence of institutional affiliation of a payment mechanism on the WTP response.

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