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**Title:** Exploring the Hedonic Value of Ambient Water Quality: A Local Watershed-based Study

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**Abstract:**

This article studies the value of ambient water quality based on measurements from 22 monitoring stations in the St. Mary's River Watershed, a small local watershed in Southern Maryland that feeds into Chesapeake Bay. The water quality variables are associated with increased run-off, due mainly to impervious surfaces used in human development. These variables are total suspended solids and dissolved inorganic nitrogen (DIN). These values are compared with residential housing prices using the hedonic property valuation model to determine the marginal values of ambient water quality, or how one "unit" of water quality changes the value of property. This study hopes to quantify the value of benefits of preserving this local watershed in order to justify financing continued monitoring costs.

This study finds that a one unit (milligrams per liter, or mg/L) increase in total suspended solids has a negative impact on average housing prices within the watershed by \$1086. A one unit (mg/L) change in the dissolved inorganic nitrogen (commonly associated with contributing to eutrophication) also has a negative impact on average housing prices within the watershed by \$17,642. These results confirm public opinion polls in the area that local residents are concerned with local water quality surrounding Chesapeake Bay. This study is unique because it uses the hedonic property valuation model for an entire local watershed, which includes non-waterfront properties not typically included. It is successful in establishing that water quality does affect the entire watershed property values, not just the waterfront properties.