

Shoreland property owners enjoy many benefits from higher water quality, including improved fishing and wildlife viewing, opportunities to recreate in clear water, and increased enjoyment of natural beauty. The value of these benefits should be capitalized into the price of the property in a well-functioning real estate market. Therefore, we can look at the difference in property values for homes next to high-quality lakes and low-quality lakes to estimate the value of water quality to homeowners.

We found shadow prices from a number of different studies that estimated the effects of increased Secchi depth on property values. These studies used hedonic pricing models to examine the change in property values occurring over time. Provencher and Spalatro (2001) and Papenfus and Provencher (2006) studied lakes in Vilas County, WI and found a change of \$7,894 to \$17,892 in property value for an increase in Secchi depth of one meter. We felt that Vilas County properties were generally representative of shoreland properties in Wisconsin. Because of this, we did not attempt to find the prices of property in Vilas County to calculate an elasticity of price with respect to water quality change. Properties less valuable than those in Vilas County would probably experience less of a change in value than our model predicts. Additionally, we had to assume that Vilas County lakes were comparable to the average Wisconsin lake. The study found an average Secchi depth of 3.3 meters in Vilas County, much greater than our "state lake" average of 1.4 meters. It is likely that lakes with lower Secchi depth would experience greater benefits from a 1-meter improvement, so our values are likely an underestimate in this regard. To check the accuracy of these values, we also reviewed studies from other areas and found that their shadow prices for Secchi depth were generally consistent with this estimate (Michael et al., 1996; Boyle et al., 1999; Maine, 2001; Krysel et al., 2003; Eiswerth et al., 2005). Results from those studies ranged from a low of \$3,059 to \$16,766 per meter Secchi depth. We used the full range of estimates, from \$3,059 to \$17,892, as values in our Monte Carlo analysis.