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Title: Valuation of Lake Resources Through Hedonic Pricing

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Abstract:

This report uses hedonic price models to test three hypotheses:

- Land value of lakefront property is greater than nonlakefront property.
- The effect of lake characteristics (size and water quality) is realized in land values.
- Water resource related impact on land value will diminish with distance from the water sources.

The literature review section points out that difficulty finding quality data was a significant obstacle in many studies and hedonic pricing is largely ignored. These two areas are also addressed in this study. The study uses data from a variety of different lakes in the United States to provide diverse data to add validity to their models.

The following results were found in relation to the above hypotheses:

- Nonlakefront property is 59% of the value of lakefront property.
- Eutrophication, as measured by the trophic state index (TSI) in this study, is a measure of water quality. This is negatively correlated with property value. On the other hand, lake size is positively correlated with property value. In other words, the most valuable land surrounds large lakes that are healthy and capable of sustaining a wide range of biodiversity.
- A model called the land rent surface shows the changing values with increasing distance from the lake with value lines that look very similar to a topographic map. The greater the distance from the lake, the lower the impact lake attributes have on the lake. This is shown in several examples of this model.

The results of this hedonic pricing model indicates that economic valuation of lake resources is implied by the premium paid for lakefront property and how property values vary depending on the size and water quality of the lake.