

Lake Economics

A Literature Search Prepared by the Lake Ripley Management District

A growing body of research demonstrates a significant and positive correlation between lake health and regional property values and economic activity.

“Property owners around a lake can respond in two ways when the quality of that lake begins to break down. They can take action collectively, such as by forming lake associations that govern lake use, or they can take action privately by moving off the lake.” -Bill Provencher, UW-Madison Environmental Economist

Property Values and Tax Base

- Although the Lake Ripley Management District accounts for about 7% of the total land area in the Town of Oakland, it contains most of its population and represents 67% of the town’s total assessed valuation.¹
- A 2005 UW-Whitewater study evaluated and quantified the importance of Delavan Lake (WI) to the local economy. The study showed that the lake contributed to \$77 million annually to the economy and generated 812 jobs. The rehabilitation of water quality raised average lakeshore property values by about \$177,000 between 1987 and 2003. Increased lakeshore property values reduced real estate tax bills for non-lake property owners by \$178 per year. Improving Eurasian watermilfoil management would increase economic activity by \$6-8.5 million annually. Finally, degradation of water quality to pre-restoration levels would reduce economic activity by \$5-6 million annually.²
- The value of shoreline frontage in Vilas and Oneida Counties (WI) increased an average of 7-12% when town zoning required a minimum 200 feet of water frontage for lots. This was the finding of a University of Wisconsin study that evaluated data collected on 892 vacant lakefront properties from 1986-1995. The study concluded that the zoning requirement—by preserving clean water, natural scenic beauty and peace and quiet—generated an economic gain that more than offset the economic loss resulting from the constraints of development.³
- A 2004 University of Wisconsin-Madison study of more than 1,100 Vilas County (WI) lakefront property sales from 1997-2001 showed that more restrictive shoreland zoning regulation generally had a positive influence on property values. The researchers concluded that lakefront homeowners value environmental preservation by showing a willingness to exchange rights and money to live on a healthier lake.⁴
- The loss of property value due to lake water clarity declining below the regional average was estimated to be \$256 to \$512 million for 191 Maine lakes. This was the finding of a 2001 study by the University of Maine. Property value declines ranged from \$3,000 to \$9,000 per lot. The same study was used to determine potential future tax losses in one Maine township where 60% of the 211 million property tax valuation is from lakefront property. A 3-ft. decline in average minimum water clarity would cause a loss of \$10.5 million, roughly 5% in total property value.⁵

¹ Town of Oakland. 2003 property tax records.

² Eiswerth, Mark, R. Kashian and M. Skidmore. 2005. *What is the Value of a Clean and Healthy Lake to a Local Economy?* Prepared for the Delavan Lake Improvement Association by the Fiscal and Economic Research Center at the University of Wisconsin-Whitewater.

³ Spalatro, F. and B. Provencher. 2000. *Analysis of Minimum Frontage Zoning to Preserve Lakefront Amenities.*

⁴ Papenfus, Michael and B. Provencher. 2005. *A Hedonic Analysis of Environmental Zoning: Lake Classification in Vilas County, Wisconsin.* University of Wisconsin-Madison.

⁵ Maine Department of Environmental Protection, Lake Assessment Program. 2000. *More on Dollars and Sense: The Economic Impact of Lake Use and Water Quality.*

- An improvement of 3 feet in water clarity depth translated into an increase of \$11 to \$200 more per foot of shoreline property value. Likewise, declining water clarity accounted for a 10-20% drop in selling price. This was the finding of a 5-year Maine study that looked at 900 lakefront properties on 34 lakes.⁶ The study methods were repeated in the Mississippi headwaters region of Minnesota where strong links between lake clarity and land value were further documented. 1,205 residential property sales were examined from 1996-2001, with lake property values on one lake with improved clarity rising \$423 for each foot of frontage. For a 40-ft. lakefront lot, nearly \$17,000 was gained in increased property value. The opposite was true in situations where water clarity had declined.⁷
- A study of 1,200 home sales from 1988-1990 on two lakes near Austin, Texas showed that both lakes exert a significant economic impact on surrounding residential properties. Sale prices for lakefront homes ranged from \$80,000 to \$100,000 more than the sale prices for comparable non-lakefront properties. The study also showed that the economic impact of lake proximity on property values extended landward by approximately 2,000 feet from the lakeshore.⁸
- California homes near stream restoration projects had a 3-13% higher property value than similar homes along unrestored streams. Most of the perceived value of the restored stream was due to the enhanced buffer, habitat, and recreation afforded by the restoration.⁹
- A 1998 study examined land values before and after the Maryland Critical Area and New Jersey Pinelands land-use regulations were imposed. The regulations were found to have no impact on the volume of construction activity, and had slightly improved the local tax base with land values appreciating 5-25%. The researchers noted that residents benefited from the knowledge that public actions were taken to protect the environmental amenity in which they had already invested.¹⁰
- A report by the Center for Watershed Protection (VA) documented significant economic benefits associated with nonpoint source pollution control and other environmental protection and land conservation programs.¹¹

Desired Lake Amenities

- A 2005 survey of LRMD and Lake Ripley Watershed landowners revealed that the top lake amenities that contributed to their property-purchase decision were natural scenic beauty, water-sport opportunities, quiet recreation and water clarity, respectively. Respondents indicated that clear water and natural scenic areas were lake qualities of greatest importance to them. 60% of the respondents owned property off the water and at least 1/4-mile from the lake.¹²

⁶ Schueler, T.R. and H.K. Holland, editors. 2000. *The Practice of Watershed Protection*. The Center for Watershed Protection, Ellicott City, MD.

⁷ Krysal, Charles, E. Marsh Boyer, C. Parson and P. Welle. 2003. *Lakeshore Property Values and Water Quality: Evidence from Property Sales in the Mississippi Headwaters Region*. Submitted to the Legislative Commission on Minnesota Resources by the Mississippi Headwaters Board and Bemidji State University.

⁸ Lansford, Notie H. and L. Jones. 1995. *Recreational and Aesthetic Value of Water Using Hedonic Price Analysis*. Journal of Agricultural and Resource Economics 20 (2): 341-255.

⁹ Streiner, C. and J. Loomis. 1996. *Estimating the Benefits of Urban Stream Restoration Using the Hedonic Price Method*. Department of Agriculture and Resource Economics. Colorado State University.

¹⁰ Beaton, W.P. 1988. *The Cost of Government Regulations. Volume 2. A Baseline Study for the Chesapeake Bay Critical Area*. Chesapeake Bay Critical Area Commission, Annapolis, MD.

¹¹ Virginia Department of Conservation and Recreation, Center for Watershed Protection. 2001. *Economic Benefits of Protecting Virginia's Streams, Lakes and Wetlands*.

¹² Lake Ripley Management District. 2005 opinion survey.

Tourism and Economic Activity

- 400 Wisconsin business executives surveyed in 2000 gave Wisconsin its highest rankings relative to other states for its quality of life, government services, and loyalty to area. Availability and quality of water were the highest ranked quality of life topics.¹³
- Scenic beauty and relaxation were the top reasons tourists gave for visiting Wisconsin and spending \$11.4 billion in the state in 2001. Tourism supported 380,000 full-time jobs and generated nearly \$1.8 billion in revenues for state and local governments. Without state and local revenues yielded from travel expenditures, each household would have to pay an additional \$932 in taxes to maintain existing services.¹⁴
- Each year more than 1.5 million anglers spend 17 million fishing days fishing in Wisconsin. They spend \$1.1 billion directly on fishing related expenses which generates more than \$2.1 billion in economic activity. Sportfishing supports 30,000 jobs and generates more than \$75 million in tax revenues for the state.¹⁵

¹³ Udell, J.G. and N. Navarro. 2000. *Wisconsin's Quality of Life as Seen by Manufacturers and Business Service Providers: A Study of the Quality of Business and Personal Life in Wisconsin*.

¹⁴ Davidson-Peterson Associates. 2001. *Economic Impact of Traveler Expenditures on Wisconsin*. Department of Tourism.

¹⁵ U.S. Fish & Wildlife Service. 1998. *1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, State Overview*.