

Water Quality Policy Implications and Funding Opportunities

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Background

The Red Cedar River Water Quality Partnership established an EPA approved TMDL (total maximum daily load) plan to reduce phosphorous pollution and increase water quality in the watershed. The TMDL plan outlines a goal of "overall reduction from all nonpoint sources of 40% or 186,000 lbs/yr above Tainter Lake over the next ten years." Reaching this goal would mean an additional 2.62 feet of water clarity in Tainter Lake and 2.3 additional feet in Lake Menomin as measured by Secchi depth.

We explored various policy possibilities and the monetary impact they would have on the watershed. We also examined how changes in water quality would affect local business activity and housing/property tax values. The TMDL plan includes the cost and result of various best management practices (shown in the table below) which the money received from policy initiatives could help fund.

Best Management Practice	Phosphorus Reduced (lbs/year)	Cost	Cost per pound
Conservation Tillage	63,000	\$1,800,000	\$28.57
Manure Storage	33,600	\$5,000,000	\$148.81
Nutrient Management	31,500	\$2,373,300	\$75.34
Cover Crops	18,000	\$3,210,000	\$178.33
Traditional Soil Erosion Control	10,800	\$300,000	\$27.78
Milk House Waste	6,600	\$500,000	\$75.76
Barneyard Runoff Management Systems	4,200	\$2,924,168	\$696.23
Wetland Restoration	200	\$300,000	\$1,500
Stream Buffers	4,600	\$21,000,000 to \$29,000,000	\$4,565 to \$6,304
Total:	167,900	\$37,407,468 to \$45,407,468	-----

Research Questions

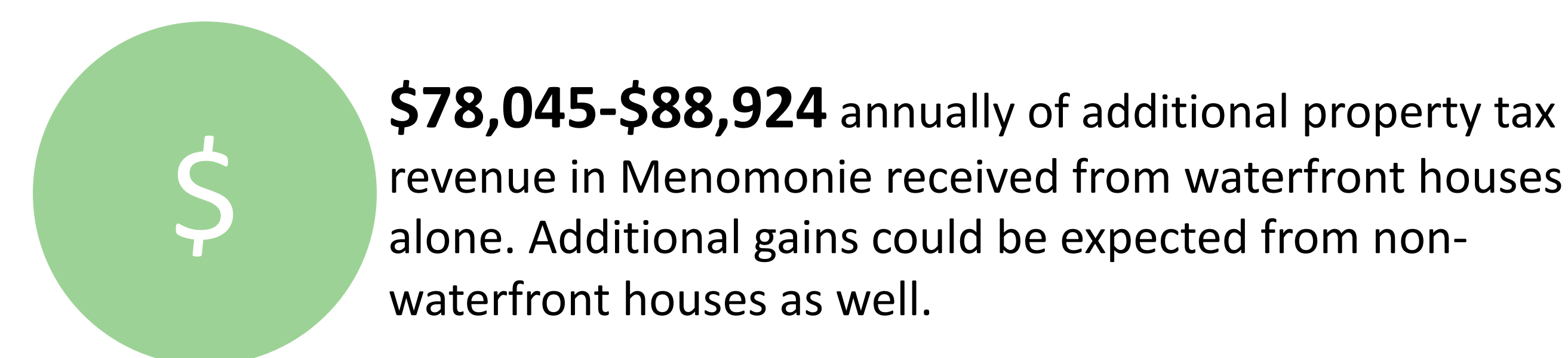
- How can water quality improvements be funded?
- Are people willing to invest tax dollars, and if so, how much additional tax revenue will be received?
- How does water quality affect local businesses?

Methods

We designed three different surveys: one for Menomonie households, one for Chetek households, and one for Chetek businesses. The household surveys asked if residents would be willing to pay sales and property taxes to increase water quality, along with other questions. Surveys were sent to residents and businesses by mail. We received responses from 21% of 852 Menomonie and Chetek households, and 11% of 381 Chetek businesses.

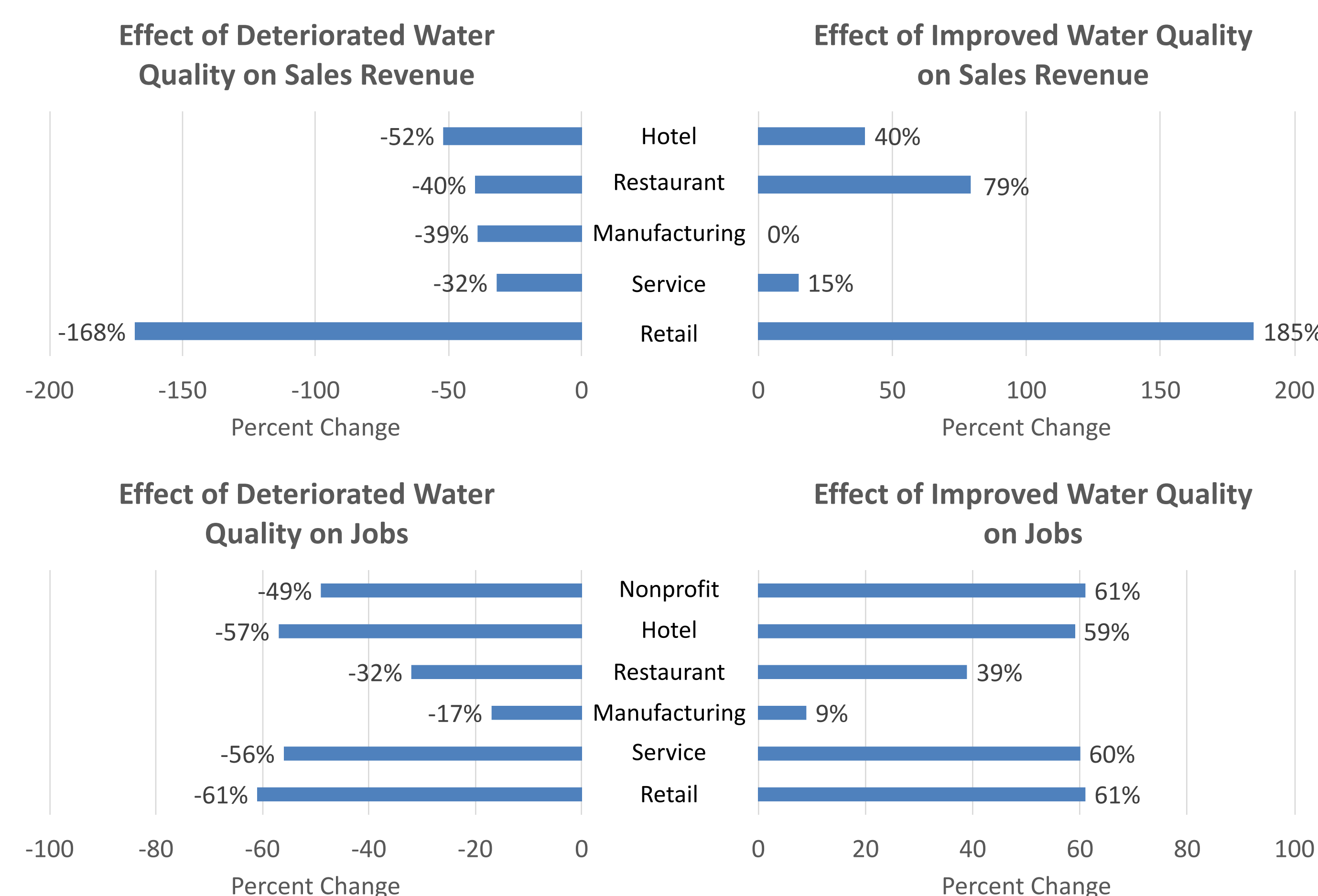
The Effect of Water Clarity on Property Values

With a foot increase of Secchi depth (water clarity), the value of an average waterfront house would increase by **\$3,650**. If the TMDL goal Secchi depth was met, it would result in an average increase of **\$8,396-\$9,564** property value per waterfront house. The increased property value would generate additional property tax revenue from lakefront houses.



The Effect of Water Clarity on Chetek Businesses

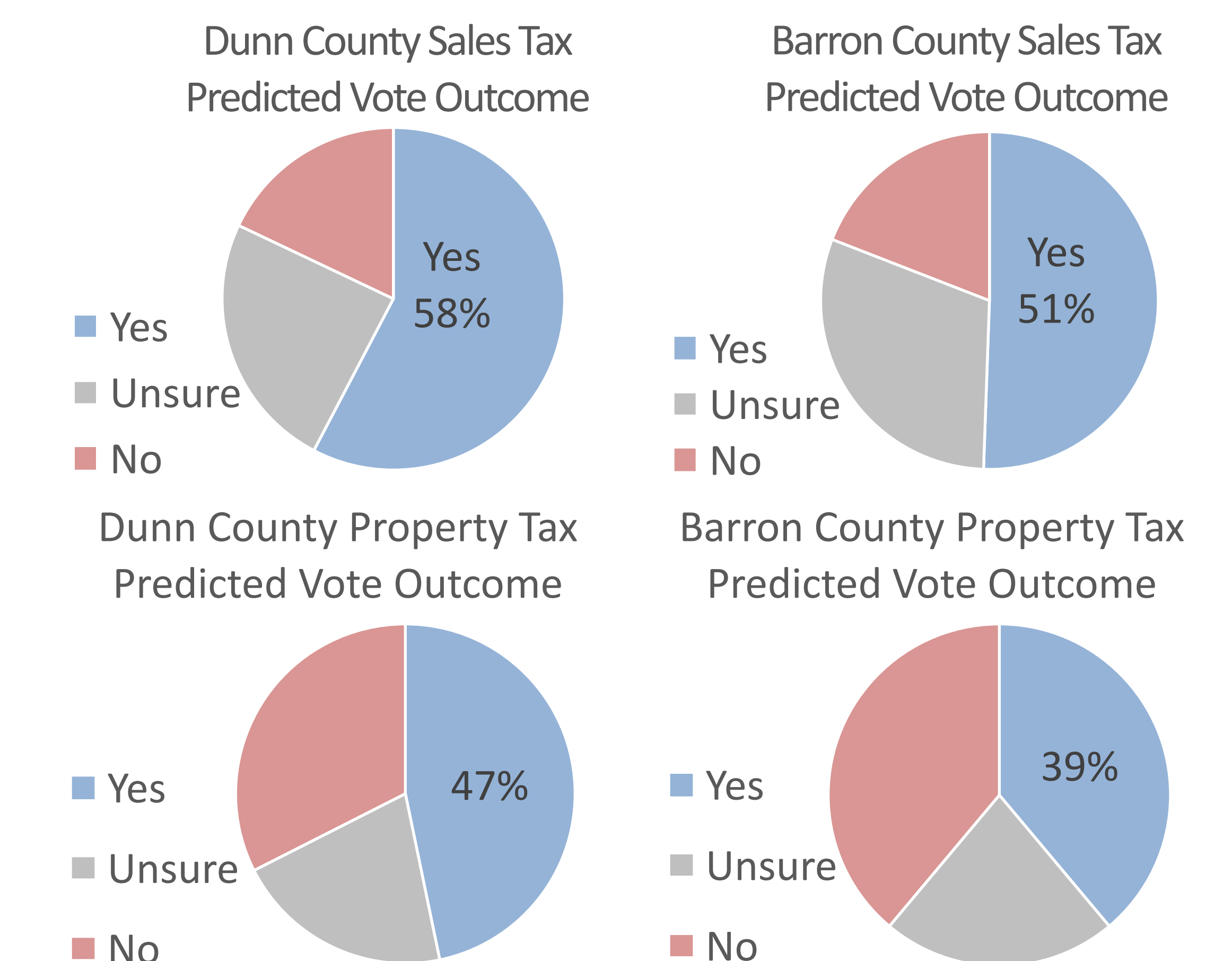
Chetek businesses were asked about the predicted increase in sales revenue and jobs during their peak season given a cleaner lake, along with the predicted decrease in sales revenue and jobs given a dirtier lake.



As shown above, a change in water quality, whether positive or negative, has a noticeable impact on local businesses and the local economy as a whole.

Sales and Property Taxes

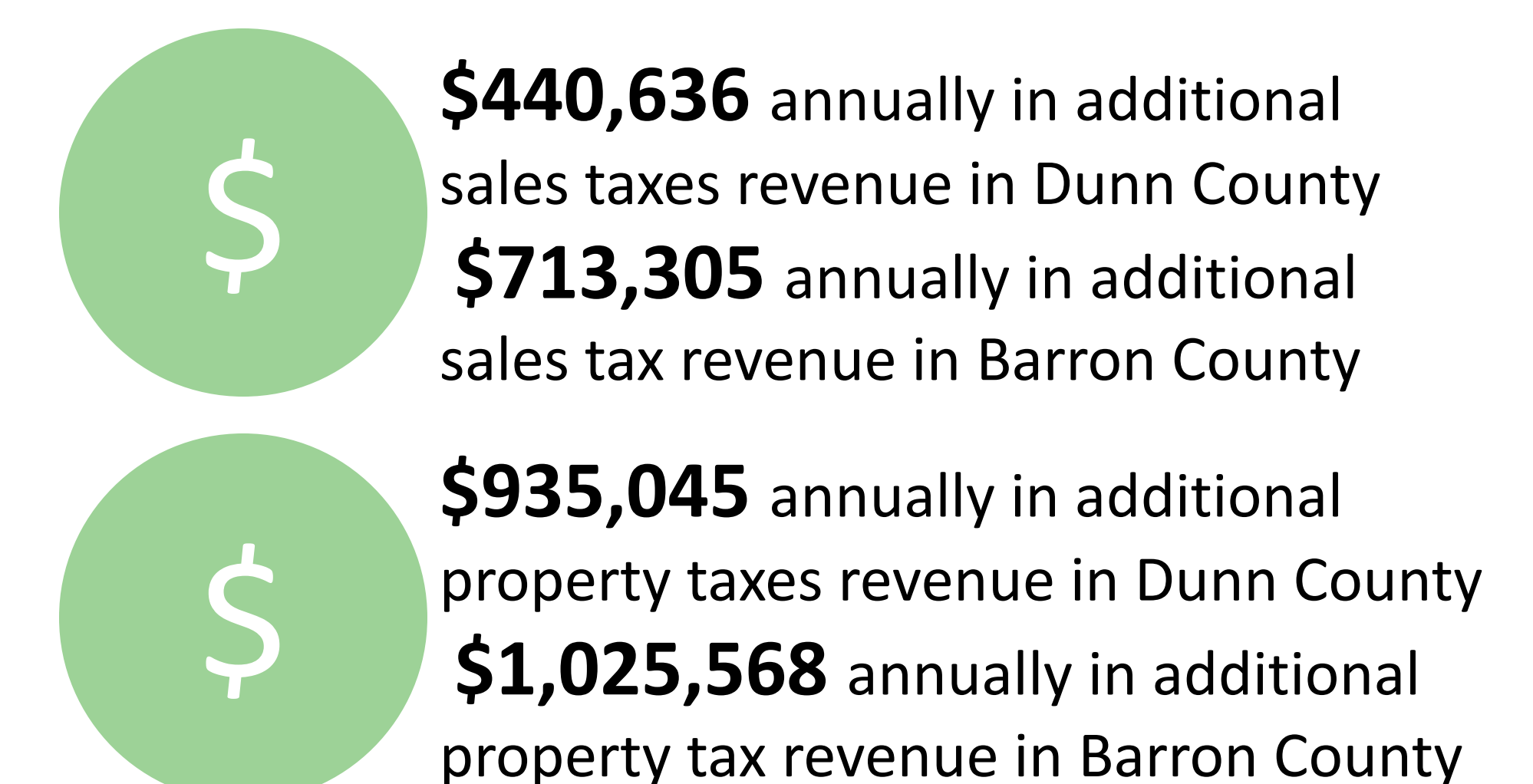
Would Menomonie or Chetek residents vote to pass legislation to increase the sales tax or property tax by 0.1% at the county level?



We also asked residents if they would support state/local sales and property tax increases. Residents had a more favorable view of local and county tax increases than state level increases.

If these taxes passed...
The average resident would pay an additional **\$10.00** in Dunn County and **\$15.60** in Barron County annually in sales taxes.
The average resident would pay an additional **\$154.90** in Dunn County and **\$135.60** in Barron County annually in property taxes.

These taxes would generate...



*sales tax revenue projected from 2012 census data, property tax revenue projected from 2014 county budget sheets