











LIFE in Our Natural Environment



Highlighted Indicators

Current	Trend	
		Environmental health determinants
		Percent of good air quality days
		Miles of surface water impairment
		Community and leader perceptions of the quality of the environment

Good	
Fair	
Poor	
Not rated	

Excellence” for the Fox Cities is defined as:

Community leaders and community members:

- Value conservation, stewardship, and protection of the natural environment
- Have the opportunity to enjoy the outdoors
- Experience clean air and water
- Preserve green space and implement well-managed land development

LIFE in our Natural Environment

The pages listed below contain data from published sources presented in this section. Results from the Community and Leader surveys, sector expert groups, and community focus groups are also presented on most pages.

<u>Page</u>	<u>Data Shown</u>
Environmental Quality	<i>Environmental health determinants*</i>
Air Quality	<i>Percent of good air quality days*</i> Major pollutants over past year Number of facilities releasing pollutants Incidence/severity of asthma in county population
Water Quality	<i>Miles of surface waterway impairment*</i> Average feet of water clarity Municipal water utility violations
Land Quality	Park acreage per 1,000 residents Number and size of farms
Resource Use and Conservation	Percent energy from renewable sources (regional) Percent that drove alone to work Vehicle miles traveled Pounds recycled per capita Water use per capita

** Highlighted Indicator*

For more information on the environment:

Agricultural Census Publications <http://www.agcensus.usda.gov/Publications/2007/>
 County Environmental Health Profile <http://www.dhs.wisconsin.gov/epht/Profile.htm>
 Current air quality conditions <http://airnow.gov/index.cfm?action=airnow.currentconditions>
 East Central Wisconsin Regional Planning Commission, <http://www.eastcentralrpc.org>
 EPA Safe Drinking Water database http://www.epa-echo.gov/echo/compliance_report_sdwa.html
 Information about watersheds <http://cfpub.epa.gov/surf/locate/index.cfm> <http://basineducation.uwex.edu/>
 Natural Resource Conservation Services, US Department of Agriculture <http://www.wi.nrcs.usda.gov>
 Searchable database on all aspects of environmental quality <http://www.epa.gov/enviro/>
 UW-Extension Wisconsin Lakes information <http://www.uwsp.edu/cnr/uwexlakes/understandingLakeData.pdf>
 WI DNR 2010 Wisconsin Water Quality Report http://dnr.wi.gov/org/water/condition/2010_ir/

Environmental Quality

Data Highlights

- Figure 1** In 2011, Fox Cities area counties ranked in the bottom half of Wisconsin counties in terms of the impact of the environmental determinants on health (with rankings between 34 and 56 out of 72). The University of Wisconsin Population Health Institute collaborates with the Robert Wood Johnson Foundation to analyze health outcomes and factors that influence health, including air pollution (particulate and ozone days), access to healthy foods, and access to recreational facilities.
- Figure 2** Trend lines for Winnebago and Calumet Counties show improving environmental determinant rankings since 2006. Outagamie County has worsened in its ranking from 43rd to 46th over a four year period. Winnebago County's ranking improved from 50 to 34 and Calumet County went from 69th to 56th. Note: rankings from 2008 and earlier were based a different set of factors with less emphasis on air quality.
- Figure 3** Community members rated aspects of the Fox Cities environment the same or higher than they did in 2010 than they did in 2005. On a scale of 1 (Poor) to 5 (Excellent), environmental measures scored from 3.7 (air quality) to 3.3 (lakes and rivers). A higher number of leaders rated these aspects as better than in 2005.
- 87% of leaders gave the area Good or Excellent scores on the quality of the natural environment in 2010, compared to 82% in 2005. Similarly, 89% of community members did so compared to 80% in 2005.
- In our expert panel, participants agreed that the area benefits by having strong environmental non-profit organizations and nature centers, which create good opportunities to educate the community, and especially children about the environment.
- Our expert panel was concerned by the challenges to environmental planning posed by policy changes in state government (for example, recycling and urban sprawl). As a result, communities are taking reactionary approaches.

Progress and Concerns

Since 2005, community members seemed to perceive improvement in various environmental aspects of the Fox Cities area. However, 2010 responses indicate community members are only moderately satisfied, between 3-4 on the 5 point scale. People's views on efforts to protect the environment held steady since 2005. The impact of the environment on the health of community members is in the lower half of all counties in the state, with a recent decline in Outagamie County.

Figure 1

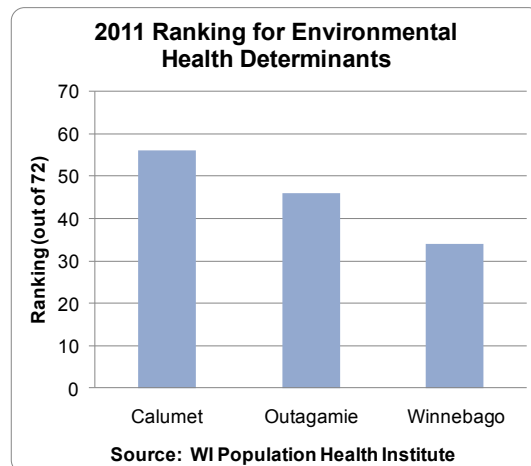


Figure 2

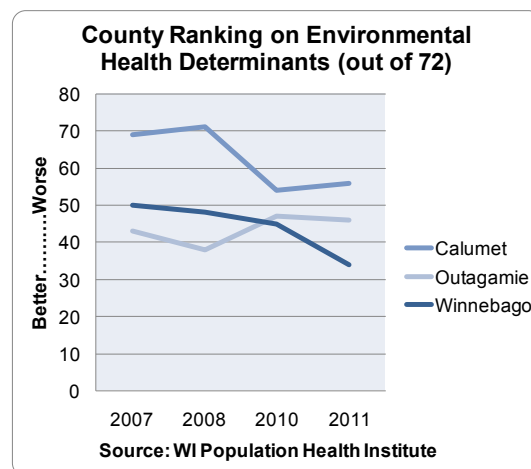
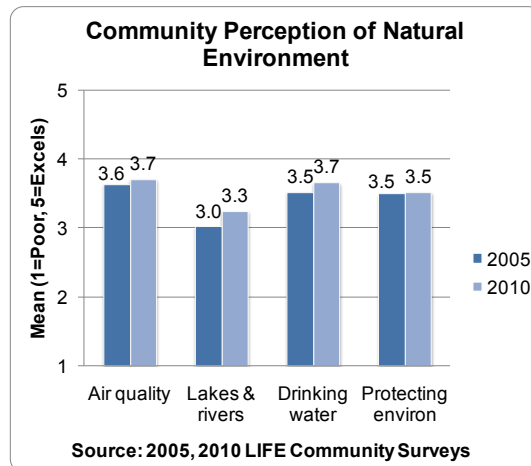


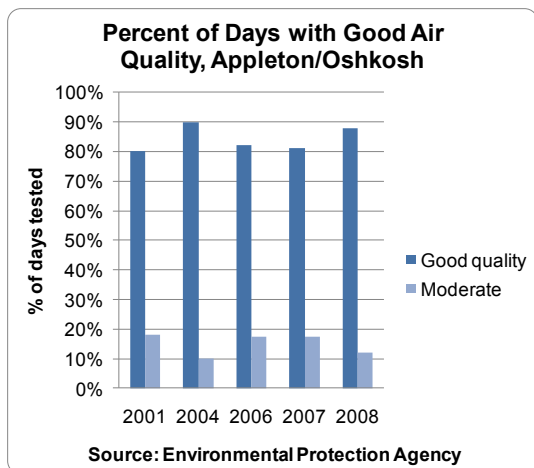
Figure 3



88% of community members and 87% of leaders rated the quality of the natural environment in the Fox Cities good or excellent

Air Quality

Figure 1



Data Highlights

- Figure 1** Since 2001, the Fox Valley area has experienced a higher number of days with good air quality (defined by the Environmental Protection Agency (EPA) as having an Air Quality Index below 50), with 88% of days tested in the Good range in 2008 and 12% of days found to be Moderate. In 2001, 82% of days were Good quality, 16% had Moderate air quality, and 2% had Poor quality.
- Figure 2** Between 2006 and 2008, there have been no days with poor air quality. As it has been for many years, on most days measured, the major pollutant was ozone and to a lesser extent, small particulates.
- Figure 3** In 2001, 39% of residents scored the air quality in the Fox Cities as above average. That had risen to 53% in 2005, and in 2010, 67% gave air quality above average ratings.

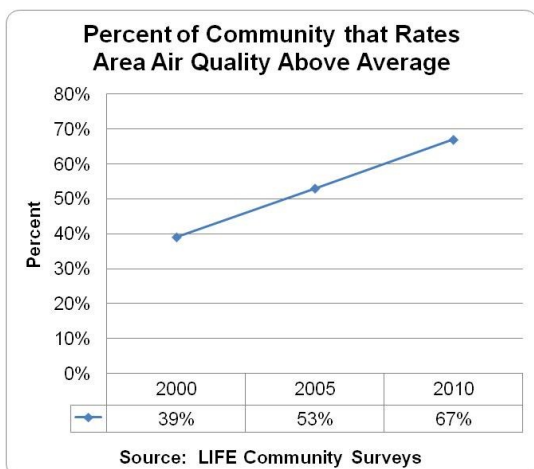
Figure 2

Percent of days with:	2006	2007	2008
Good quality	81.6%	81.1%	87.6%
Moderate quality	17.6%	17.3%	12.0%
Unhealthy-sensitive	0.8%	1.6%	0.4%
Unhealthy	0.0%	0.0%	0.0%
Major pollutant Ozone	69.8%	73.2%	79.7%
Major pollutant S02	0.0%	0.0%	0.0%
Major pollutant pm2.5	30.2%	26.8%	20.3%

Source: Environmental Protection Agency

- Compared to 188 in 2004, in 2011 there were 194 facilities releasing pollutants in the three county area: 79 released minor pollutants, 59 major, and 56 synthetic minor pollutants. Further information available at www.epa.gov/enviro/index.html.
- The American Lung Association's "State of the Air" report shows an increase in the percent of county adults diagnosed with asthma from 6.3% in 2006 to 7.0% in 2010.

Figure 3



Progress and Concerns

Although air quality is largely influenced by factors outside of the local area, local conditions show positive trends that is recognized by the community.

It is important to note that several businesses have made concerted efforts to conserve energy and reduce emissions. On the last page of this section, LIFE in the Natural Environment, we list a number of businesses certified with the Department of Natural Resources' Green Tier program. Many of the initiatives being undertaken by these organizations will lead to reduced emissions and better local air quality in the long run.

67% of community members rated the quality of the air in the Fox Cities area above average

Water Quality

Data Highlights

- Figure 1** The “Impaired Waters List” compiled by the Wisconsin Department of Natural Resources (DNR) identifies surface waters (lakes, rivers, and streams) that are not meeting their intended usage (swimming, fishing) due to pollution. In 2011, Calumet and Outagamie counties had 17 and 24 impaired waterways, respectively. Winnebago County had 30 locations with impaired water (17 designated high priority), totaling 92 miles. Most impairments were sediments and phosphorus. (No historical data.)
- Figure 2** Community surveys show that residents perceive improving water quality in lakes and rivers.
- Figure 3 Confusing line:** Water clarity is one measure of the health of a lake (although some lakes have lower clarity as an optimal state, while invasive species can affect water quality too). According to the Wisconsin DNR, depths of 5 feet and less are called “poor.” Of 10 Fox Cities area locations with longitudinal data, all sites showed poor clarity in 2010, five showed declining clarity, and three testing sites had improved. A new DNR program engages citizens to test water at these and other sites.
- For the past three years, none of the public water systems serving the three-county area has reported a health-related violation. In 2001, 38% of community members scored their drinking water Good or Excellent, rising to 51% in 2005, and again to 60% in 2010.
- Groundwater drawdown in the Lower Fox and Lake Winnebago watersheds is one of the most severe in Wisconsin, according to a report by UW Water Resources Institute. A major report to the WI Legislature by the Ground Water Coordinating Council will be made in late 2011.
- In the three counties (2009), none of the eleven community water systems (serving over 123,000 area residents) exceeded acceptable limits for Nitrate levels (although 4 systems serving 84,000 persons had “missing” data). In 2009 none of the water systems exceeded arsenic levels. Three systems did not report data in 2009.
- Members of our expert panel on the environment emphasized a continuing concern about ecosystem destruction and non-point source water pollution.

Progress and Concerns

Water recreation is one of the vital assets of Northeast Wisconsin. Public perceptions of water quality (drinking as well as surface water quality) have risen steadily for the past 10 years in our community surveys, although the public is less pleased with surface water quality. According to experts and data, impairments, reduced clarity, pollution due to runoff, and threats to groundwater show reason for concern.

Figure 1

Impaired Surface Waters by County		
	Number	Miles
Calumet	17	89
Outagamie	24	170
Winnebago	30	92

Source: WI Department of Natural Resources

Figure 2

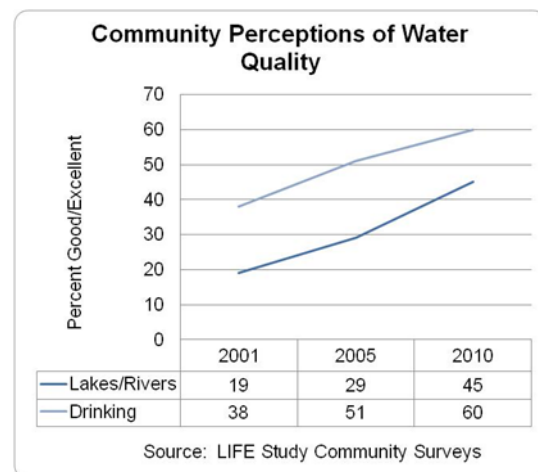


Figure 3

Average Feet of Water Clarity, Selected Lake Locations (July-Aug)			
	2008	2009	2010
Calumet			
Lake Winnebago 2 miles from Neenah	2.4	2.7	2.3
Outagamie			
Black Otter Lake Hortonville	4.1	5.4	5.8
Winnebago			
Lake Butte Des Morts Bu3	2	1.7	1.7
Lake Poygan P03	2	2.4	2.2
Lake Poygan F3	2.8	3.1	2.7
Lake Winnebago 3 Mi Oshkosh	2.6	2.9	2.8
Lake Winnebago G20	4.5	3.9	3.6
Lake Winnebago G21	3.7	3.8	2.4
Lake Winnebago L17a	3.1	3.8	3.4
Lake Winneconne K18a	2	2.4	2

Source: WI Department of Natural Resources

45% of community members scored the quality of water in lakes and streams of the Fox Cities area above average

Land quality

Figure 1

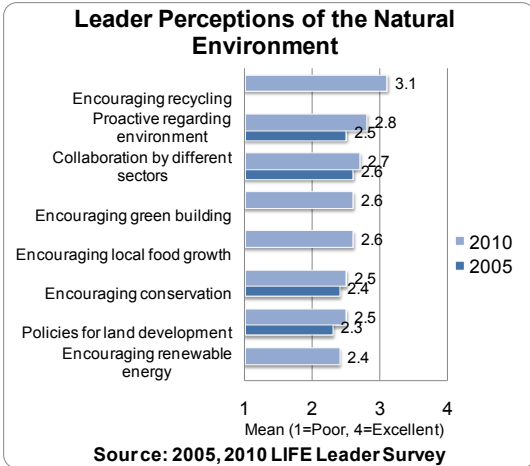
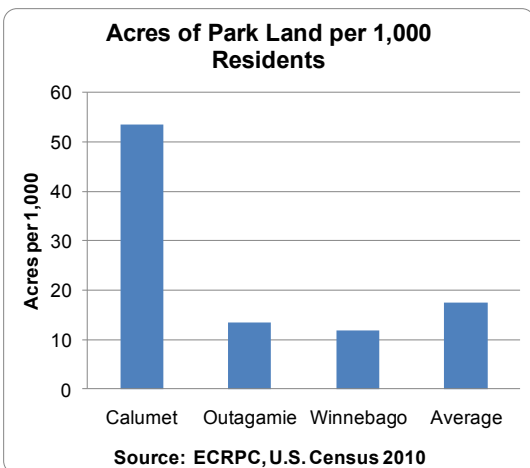


Figure 2



Data Highlights

- Figure 1** Since 2005, Leaders give the community better scores on certain aspects of environmental quality of life: being proactive regarding the environment, collaboration by different sectors, encouraging conservation, and policies for land development. However the mean scores show fairly moderate overall opinions (between Fair and Good in most cases) about environment-related items.
- Figure 2** In 2010, there were 12 acres of park land per 1,000 residents in Outagamie County and 12 in Winnebago County. Calumet County, home to High Cliff State Park, has just over 54 acres of park land per 1,000. Previous LIFE study data is not comparable.
- In 2002, there were 3,126 farms in the three county area compared to 3,095 in 2007 when the most recent agricultural census was completed. Between 2002 and 2007, the average size of farms dropped from 184 to 182 acres in Outagamie County and from 177 to 164 acres in Winnebago County. In Calumet County, the average acreage rose from 205 to 207, where there were 25 farms of 1,000 acres or more, compared to 21 in 2002.
- Leaders and community members were asked to rank a set of possible actions needed as priorities in the community, including the priority of expanding efforts to preserve the natural environment. While 32% of leaders felt this should be one of the highest priorities, a more emphatic 44% of the community residents wanted this as a high priority.
- Our sector experts on the environment pointed out that many storm water runoff concerns were caused in part by how land was being developed. They agreed that regional planning to protect the environment, including comprehensive planning for land use, was a challenge due to the fact that state policies changed frequently and that it is difficult for local governments to make the investments needed to protect the environment when funds are scarce.

Progress and Concerns

Community members were very clear in their recommendation that protection of the environment should be one of the area's major priorities. Experts in our sector panel on the environment panel focused a great deal on what they saw as negative impacts of ecosystem destruction and inadequate land use policies that have contributed to water pollution in this area. Unfortunately, at this time local governments face significant spending cutbacks. The ability to invest in needed environmental initiatives is further hampered by fairly rapid changes in state policies and lack of public awareness.

48% of leaders rated the area good or excellent at implementing wise policies for land use and development

Resource Use & Conservation

Data Highlights

- Figure 1** The percent of residents that drive alone to work has declined steadily yet still exceeds the U.S. average. In 2007-09, 83-84% of area residents drove alone to work compared to 80% in Wisconsin and 76% in the U.S. In 2005-07, the rate was 84-85% and in 2002, 87%. Valley Transit ridership declined 10% between 2008 and 2010. According to the East Central Wisconsin Regional Planning Commission, residents of the three county area drove an average of 25.2 miles each day in 2009. This will form a baseline for future tracking.
- Figure 2** In 2001, Outagamie County residents recycled 205 pounds per capita compared to 166 in 2009, while Winnebago County residents held steady, recycling just over 160 pounds per person between 2001 and 2009. In 2009, nearby counties collaborated to open a single stream recycling facility (no Wisconsin data).
- Figure 3** Water use per capita has declined from 35 gallons per capita in 2004 to 31 in 2010 (no Wisconsin data).
- Figure 4** Area businesses participate in the Department of Natural Resources Green Tier program by developing modes to conserve energy and use renewable sources.
- According to the Public Service Commission of Wisconsin, the number of residential customers participating in the Focus on Energy conservation program declined by 51% between 2005 and 2009 (to only 161,474 households in WI), while business participants increased 25% to almost 26,000 businesses participating (local data not available).

Figure 4

Department of Natural Resources "Green Tier" Participants
Affinity (27 locations)
Boldt
Casaloma Development Corporation
Kimberly-Clark Corporation Experimental Mill
Menasha Packaging Company, LLC
Miron Construction, Inc.
Ripon Printers
Source: WI Department of Natural Resources

Progress and Concerns

Most indicators of conservation and wise resource use are trending in the right direction locally. The Fox Cities area has a larger number of local businesses (including the City of Appleton) participating in sustainability initiatives compared to nearby peer communities; these businesses provide important leadership to broader efforts in the region.

Figure 1

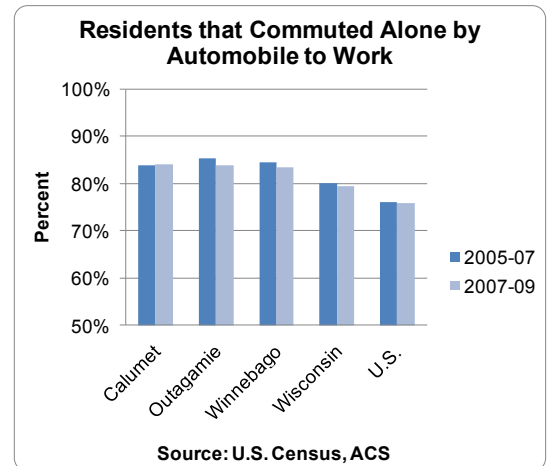


Figure 2

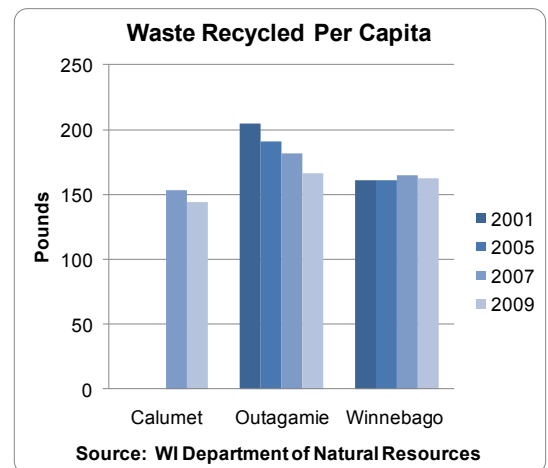
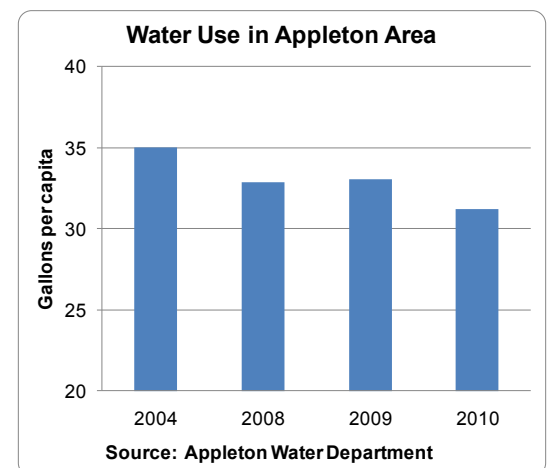


Figure 3



46% of leaders scored the Fox Cities area good or excellent at encouraging energy conservation by residents