



LIFE in Our Natural Environment

“Excellence” for the Fox Cities is defined as:

Community leaders and citizens:

- 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

Air Quality	Air quality index percent of good quality days Citizen perceptions of air quality Number of facilities releasing pollutants
Environmental Preservation	Citizen and leader perceptions of environment Leader perceptions of efforts to protect environment Environmental health determinants
Land Use	Land use in Fox Cities area Residential land use trend Vehicle-deer crashes
Resource Use and Conservation	Percent that drove alone to work Per capita energy consumption Vehicle miles traveled Gallons of water pumped per capita Leader perceptions of conservation efforts
Water Quality	Citizen perceptions of quality of drinking water Municipal water utility violations Citizen perceptions of quality of lake and river water Impairments of lakes and rivers and source of impairment

For more information on the environment:

Wisconsin Pollution Prevention Partnership (DNR, UW-Extension, Commerce Department), <http://wip2.uwex.edu/>
Current air quality conditions, <http://airnow.gov/index.cfm?action=airnow.currentconditions>
Searchable database on all aspects of environmental quality, <http://www.epa.gov/enviro/>
Superfund sites and cleanup progress, <http://www.epa.gov/superfund/index.htm>
East Central Wisconsin Regional Planning Commission, <http://www.eastcentralrpc.org>
Natural Resource Conservation site, US Department of Agriculture, Wisconsin info, <http://www.wi.nrcs.usda.gov>
Wisconsin Department of Administration, Energy, http://www.doa.state.wi.us/section_detail.asp?linkcatid=109
Ground water information, <http://www.uwsp.edu/cnr/gndwater/index.htm>
Lake Winnebago Status Report, <http://www.uwsp.edu/cnr/uwexlakes/ecology/WaterQualLakeWinnebago.pdf>
Information about watersheds, <http://www.epa.gov/surf/> <http://basineducation.uwex.edu/>

Selected additional information for each section of the 2006 LIFE Report can be found in Appendices at our website: <http://www.foxcitieslifestudy.org>

Air Quality

Data Highlights

- Figure 1** The Air Quality Index is calculated by the Environmental Protection Agency through monitors that collect air samples and record the concentrations of six “criteria” pollutants on a daily basis. In the Fox Cities area, overall air quality has improved since 2001, with the number of days where air quality fell in the “Good” category for 90% of days in 2004 (from 80% in 2001). No days were measured in the “Poor” range. When air quality reaches the “moderate” range, a small number of people are likely to experience respiratory distress.

The number of days where ozone is the major pollutant (due to vehicle exhaust, factory emissions, and sunlight) rose to 70% in 2004 (from 67% in 2001). On the remaining days, small particulates (from factories, exhaust, dust, soot, and the like) were the highest measured pollutant in the Fox Cities.

- Figure 2** Citizens perceive that air quality has improved between 2000 and 2005, with over 50% of residents rating local air quality as above average.
- Figure 3** According to the WI Department of Administration, 2005, Wisconsin’s carbon dioxide emissions have reached an all time high due to increased vehicle travel and an expanding economy (that relies heavily on fossil fuel). (See “Resource Use and Conservation” for information on vehicle miles and energy consumption).
- As of April, 2005, there were 188 facilities that released emissions into the air in the three county area (new baseline measure for future LIFE Studies) (EPA).

Progress and Concerns

On about 9 out of 10 days, the air in the Fox Cities area qualifies as good. Citizens report good or excellent air quality to an increased extent than they did in 2000.

Focus group participants pointed to the high rate of travel by car as cause for concern, and ozone has increased as the major pollutant present in the air. In several focus groups, residents and experts voiced interest in having convenient alternatives to automobile travel available.

Figure 1

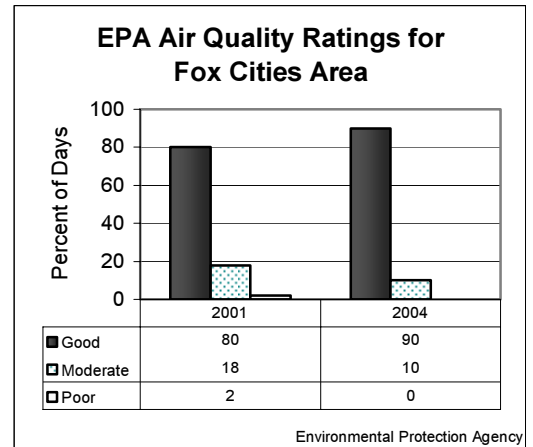


Figure 2

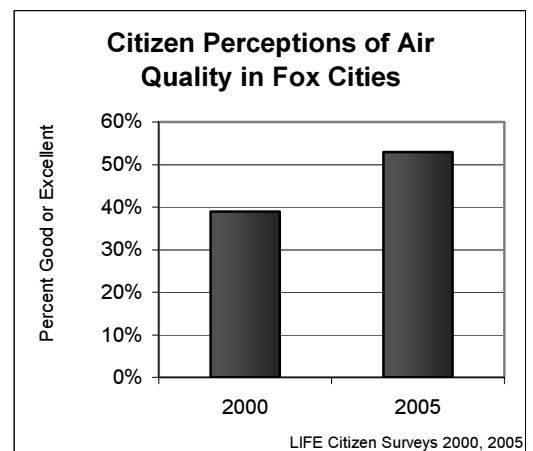
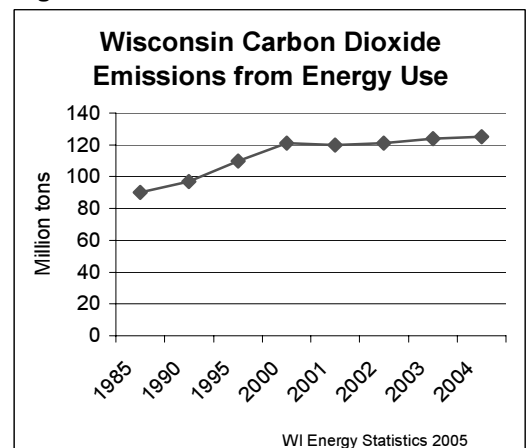


Figure 3



The Fox Cities area had 0 days of poor air quality in 2004 (in 2001 there were 2).

Environmental Preservation

Figure 1

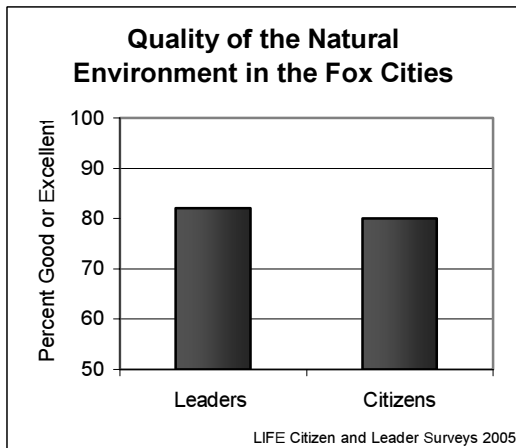


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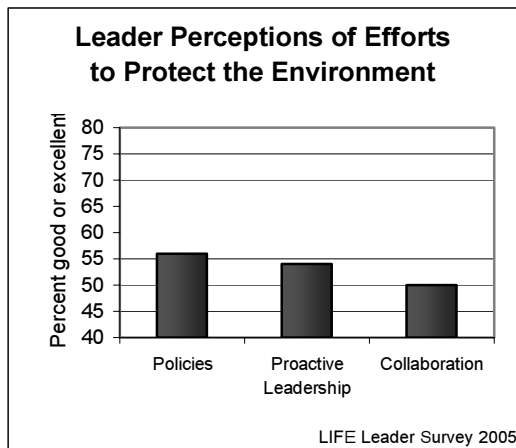


Figure 3

Environmental Health Determinants	Calumet Outagamie Winnebago		
	Calumet	Outagamie	Winnebago
Air quality cancer risk	below average	below average	below average
Air quality hazard index	average	below average	below average
Fine particulates, ozone	below average	below average	below average
Nitrate levels in water	below average	above average	average
Lead poisoned children	above average	average	below average
Overall county ranking (of 72)	36	37	58

Wisconsin County Health Rankings; UW Pop. Health Institute, 2005

Data Highlights

- **Figure 1** Leaders and citizens held similar views about the quality of the environment in the Fox Cities area: 82% of leaders and 80% of citizens rated it good or excellent.
- **Figure 2** Just over half of leaders we surveyed rated the Fox Cities area good or excellent for implementing policies, behaving proactively, and collaborating to protect the environment.
- **Figure 3** Where 1 is the best ranking, Calumet and Outagamie Counties ranked 36th and 37th (respectively) of Wisconsin's 72 counties on environmental conditions that impact residents' health. Winnebago County was ranked 58th (see last row of table). This ranking is developed by analyzing several environmental factors that impact residents' health, including air and water quality, exposure to lead and other environmental hazards, and deaths due to certain kinds of cancers (County Health Rankings, University of Wisconsin Population Health Institute, 2005).

Progress and Concerns

A very high number of residents perceive the overall quality of the natural environment as good or excellent. In our focus groups, experts familiar with environmental conditions and concerns report new state regulations that will be helpful to protecting the environment.

In an analysis of county environmental health factors, the Fox Cities area counties fared either average or below average on the extent that residents are exposed to health risks due to the environment.

Focus group participants pointed to a lack of regionalized land use planning. This poses a challenge to protecting the environment on a broader scale. They urged efforts to broaden the base of support for the environment by engaging business, education, health care, and the public to understand and address common concerns and to look at the community as an "ecosystem" in which the environment plays a vital role in quality of life.

48% of citizens believe the Fox Cities area is above average at protecting the natural environment (not asked in 2001).

Land Use

Data Highlights

- **Figure 1** The Fox Cities metropolitan area covers approximately 242 square miles. The largest amount of land is used for agriculture (39%) followed by woodlands and open lands (20%) and residential (17%).
- **Figure 2** In the three county area, use of land for residential purposes grew by 50% between 1990-2000, with Outagamie County alone having a 71% gain.
- **Figure 3** Vehicle-deer crashes are a sign of urban sprawl, as habitats are consumed by development. Between 2002 and 2003 the area experienced a 17% increase in reported car-deer crashes, with 1,055 total incidents in 2003.
- The Fox Cities experiences a trend toward larger agribusiness farms: in 2002 there were 3,126 farms in the Fox Cities area, an 8% decline from 1997. The acreage of these remaining farms has increased in all three counties, including 11% in Calumet County.
- 50% of area leaders believe that the Fox Cities area is below average on land development policies.
- The Fox Cities area has two Superfund Sites on the National Priorities List; both completed cleanup actions (removing soil and treating water) and have complied with all required follow-up testing. Another four locations in the area are monitored by the state of Wisconsin.
- There were 79.5 acres of public land per 1,000 residents in the three county area in 2003 (historical data not comparable) (East Central WI Regional Planning, 2003).

Figure 1

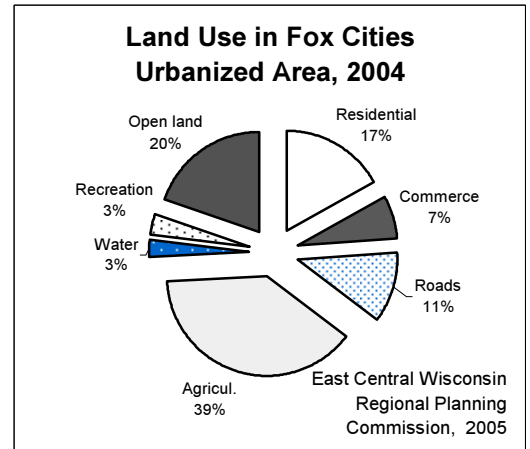
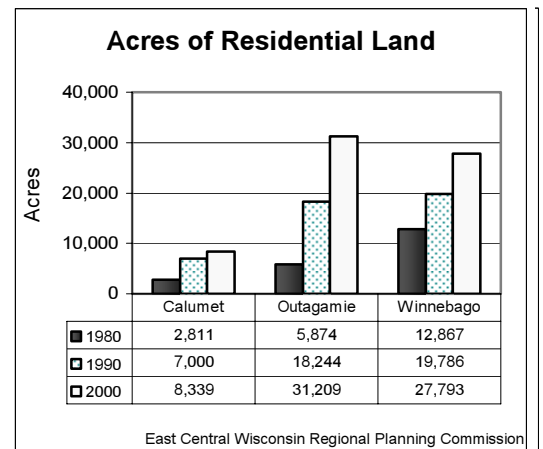


Figure 2

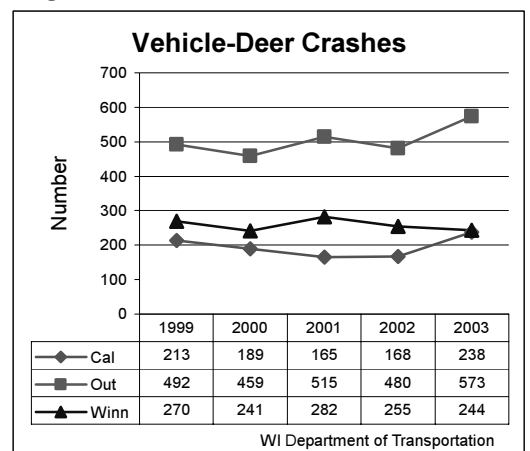


Progress and Concerns

State and local governments implement many programs to protect the environment and deal with emerging concerns. Comprehensive planning takes place periodically at the county and municipal level, and many have participated in the Wisconsin Smart Growth planning program. The public appears to have a growing interest in enjoying the outdoors: access to biking/hiking trails has expanded since the last LIFE study and the area enjoys outstanding nature preserves.

Both experts and citizens in our focus groups expressed concern about sprawling development leading to fragmentation of habitat and conflict between farming versus residential use. "Leap frog" clusters of housing developments requiring well water and septic systems break apart habitats and harm groundwater supplies, described on the next page. Several focus group discussions pointed to the desire for better public access to natural woodlands, such as High Cliff State Park.

Figure 3



When asked, "What one thing would you change about this area?" the #2 concern of citizens related to land development/growth.

Resource Use and Conservation

Figure 1

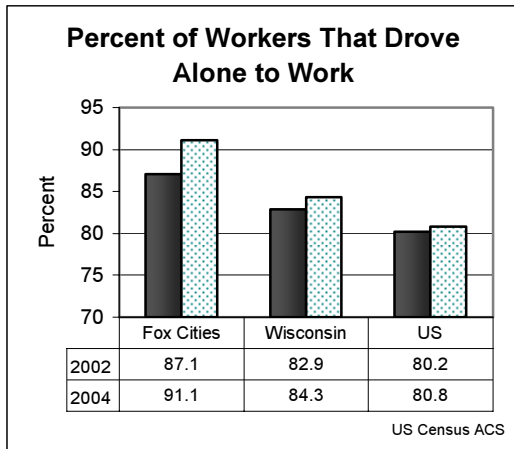


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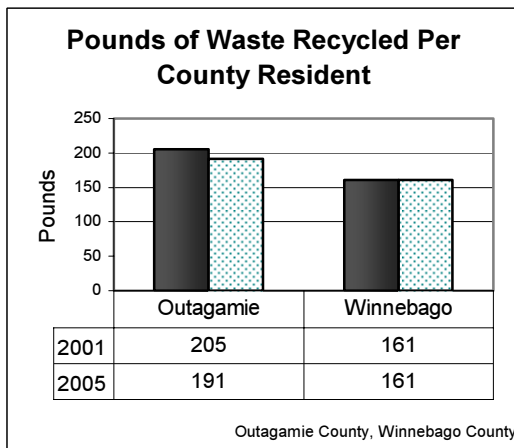
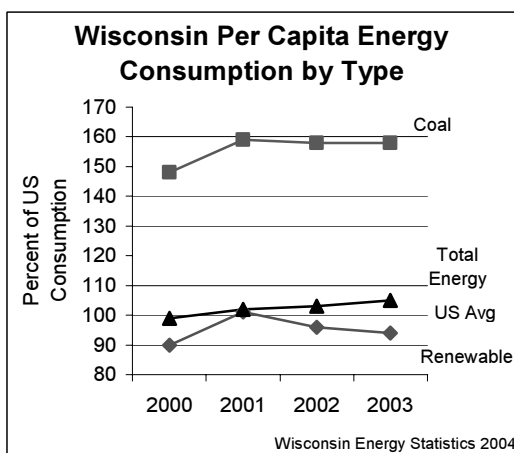


Figure 3



Data Highlights

- Figure 1** Workers in the Fox Cities area drive alone to work at a much higher rate (91%) than Wisconsin and the US, and the number that do so has increased in the past two years. Valley Transit ridership increased by 5% between 2002 and 2005. East Central Wisconsin Regional Planning Commission (ECWRPC) estimated that in 2005, 338,780 gallons of gas were used daily in the Fox Cities area (1.2 gallons per capita). Finally, another estimate showed that each resident averaged 2.95 automobile trips each day in 2005 (for work, shopping, etc.; not including truck trips).
- Figure 2** Both Outagamie and Winnebago Counties saw declines in the pounds recycled per resident between 2001 and 2005. While part of this decline may be due to changes in what is recycled—plastics weigh less than glass—some experts familiar with recycling believe that there are fewer participating in recycling (county-level data are not available for Calumet County, since each municipality contracts with a private vendor to handle recyclables).
- Figure 3** Per capita, a Wisconsin resident used 105% of the US average amount of total energy in 2003. Per capita, a Wisconsin resident used 94% of the US average amount of renewable energy and 158% of coal.
- About 91% of the power produced in the East Central Wisconsin Region (includes the Fox Cities) was from fossil fuel, with 9% generated by hydroelectric, wind, and biomass sources (ECWRPC). (See Air Quality section for information on emissions of CO₂ from fossil fuel use and vehicle travel.)
- In 2005, ECWRPC estimated that 7.6 million vehicle miles were traveled each day in the Fox Cities area (including Oshkosh).
- The total gallons of water used in the three county area dropped by 3% between 2000 and 2004 to about 35 gallons per capita pumped each day (ECWRPC).

Progress and Concerns

Federal and state legislation have attempted to encourage use of renewable energy. Locally, use of wind tower farms continues to expand. Cooperative regional agreements for waste disposal will reduce recycling costs locally.

In Wisconsin, coal use exceeds the national rate. Nine out of ten Fox Cities area residents drive alone to work on a regular basis in 2004, more than in 2002.

51% of leaders rated the Fox Cities below average at encouraging conservation.

Water Quality

Data Highlights

- Figure 1** 51% of area residents rated the quality of their drinking water above average, compared to 38% in 2000. The largest public water utilities in the Fox Cities area served approximately 160,000 residents in 2004 and had zero contaminant level violations. Nationally, about 5% of water utilities report violations in a given year. There are a number of other public sources of water for smaller municipalities which undergo regular monitoring for contaminants.
- Figure 2** In 2005, more citizens perceived the quality of water in lakes and rivers to be good or excellent (29%) than in 2001, when 19% did so.
- Figure 3** Four major watersheds flow in the Fox Cities area: Wolf River, Lake Winnebago, and the Upper and Lower Fox River. These watersheds provide drinking water and recreational use for Fox Cities residents. While all watersheds were found to have impairments, the Lower Fox River extending north to DePere and Green Bay is identified as one of 32 areas of concern in the US.
- 1995 data (most recent we could locate) showed the major groundwater aquifer serving Fox Cities wells declining two feet per year. As the level declines, so does the quality of the water. In 2004-05, health officials and groundwater monitoring sites report that the following contaminants exceed standards in a percentage of Fox Cities area wells: arsenic (5%-20%), bacteria (10%-42%, compared to state average of 19%), nitrates (5%-15%), and fluoride (percent of wells not known) (Outagamie County). About 800 private wells in Calumet County were tested between 2002 and 2005: 35% of these wells had excessive levels of coliform bacteria, 25% nitrates and 5% E.coli bacteria (Calumet County).

Progress and Concerns

Public water systems provide exceptional drinking water quality to Fox Cities residents. Lake Winnebago is an area attraction for boating and fishing, while area rivers offer recreational use and attractive waterfront locations. Numerous statewide water quality and watershed monitoring programs have been implemented in the Fox Cities area and around the state, including recent regulations to better handle storm water runoff.

Well testing has increased since high levels of certain contaminants have been found in local groundwater. Cleanup of the Lower Fox River progresses, recognized worldwide as a model of a cooperative, non-mandated public-private partnership. The \$400 million river cleanup is the largest in the nation and is expected to take 10 years (Appleton Post-Crescent, 2006).

Figure 1

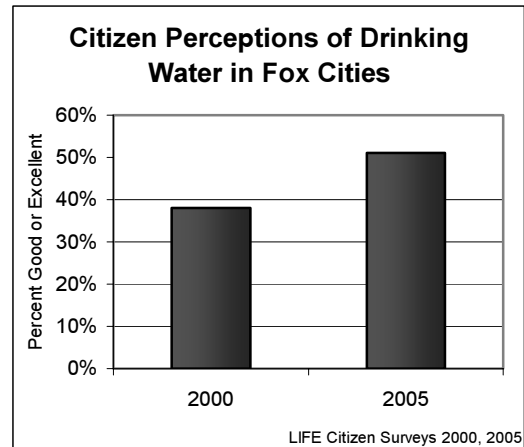


Figure 2

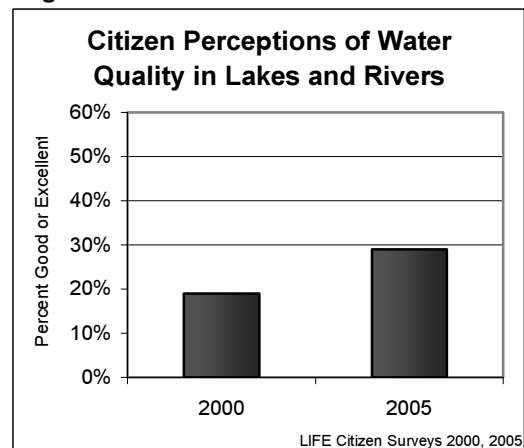


Figure 3

Surface Water Quality			
Watershed	Water bodies	Impairments	Primary Issue
Lake Winnebago	10	31	Sediment
			Degraded habitat
			Turbidity
Wolf River	16	22	Mercury
Upper Fox River	8	16	Degraded habitat
			Sediment
Lower Fox River	14	64	Dissolved oxygen
			Phosphorus
			Sediment
			Degraded Habitat
			Nutrients

Environmental Protection Agency, 2002 data

In 2005, more citizens perceived the quality of their drinking water to be good or excellent (51%) than in 2001 (38%).