

McHenry County 2005 Solid Waste Stream Analysis

Introduction

Every year, McHenry County gathers data on solid waste and recycling for the purpose of analyzing trends in the solid waste stream. Data for 2005 were collected primarily in conjunction with the licensing of McHenry County waste haulers. Other data came from township road districts and a not-for-profit recycling group. The following is a summary of that data as well as other solid waste stream developments over the last year.

Plans and Ordinance Updates

The *Municipal Waste Hauler Licensing Ordinance* was revised by the County Board in June 2005. At that time, the procedure for appeals by waste haulers in Section 603 on "Hearings" was modified.

Economic and Environmental Updates

An application for a transfer station in Crystal Lake was submitted by Waste Management. The proposed facility would be located on Virginia Road near Illinois Route 31. Under the proposal, up to 1,000 tons of waste materials per day would be transferred within an enclosed building on the site. The waste brought in by garbage trucks would be placed in transfer trailers, which can be transported more efficiently over long distances. Because there are no active landfills in McHenry County, waste generated here is typically hauled greater distances than waste generated in counties with landfills.

The 2005 Data

The majority of data in this report is based on numbers submitted by waste haulers that operate in McHenry County as a part of their annual licensing. Waste haulers are required to provide figures on quantities of discarded materials hauled in McHenry County and to where they are taken. Many haulers do not keep strict records on the specifics of hauled materials. It is not uncommon for reported data to be estimated by a hauler.

The remaining data was submitted by the McHenry County Defenders' Recycling Center and township road districts, which collect trash from road sides. Some road districts, most notably Algonquin Township Road District, sponsor special collections for items such as paint, tires and Christmas trees.

In 2005, there was one major special event collection. McHenry County Department of Planning and Development worked with the IEPA and the McHenry County Farm Bureau to sponsor a tire collection event. An estimated 305 tons of tires were taken in over two days. The IEPA does not provide exact figures on what is done with the tires other than to say that most will be burned as fuel. Because the end use was not reported, the tire collection figures were not included in the 2005 data.

Annual waste stream analysis reports are prepared by the McHenry County Solid Waste Coordinator, a position within the Department of Planning and Development. This position has been held by three people in the last four years. Although every attempt has been made to make data collection and analysis consistent, there is a possibility that small changes in methodology between coordinators produced inconsistencies in annual totals over that time.

Overview of the Solid Waste Stream

The quantities of materials reported are called "discarded materials" and are comprised of municipal waste, recyclables and compostable materials. In 2005, the reported amount of discarded materials generated in McHenry County was 320,972 tons.

Solid Waste Stream Overview 1998 – 2005

	1998	1999	2000	2001	2002	2003	2004	2005
Discarded Materials Total -in tons	276,587	297,488	293,802	305,708	320,981	312,375	335,444	320,972
Recyclables -in tons	85,189	105,933	105,013	86,685	108,373	89,881*	129,112*	81,318*
Recycling Rate	30.8%	35.6%	35.7%	28.4%	33.8%	28.8%	38.5%	25.3%
Population**	240,945	259,153	260,077	268,208	281,165	286,091	296,389	303,990
Discarded Materials -pounds/person/day	6.29	6.29	6.27	6.25	6.26	6.07	6.20	5.79

* includes landscape waste that was recycled at composting sites

** Estimates from Northeastern Illinois Planning Commission

Solid Waste Generation, Disposal, and Recycling

Solid waste amounts are reported by source. The diagram on the left shows quantities generated by the residential, commercial/institutional and construction/demolition sectors. Discarded materials are collected and transported to one of three possible destinations: 1) landfills (or transfer stations en route to landfills), 2) recycling centers or 3) composting sites. The destination of discarded materials in McHenry County is shown in the diagram on the right.

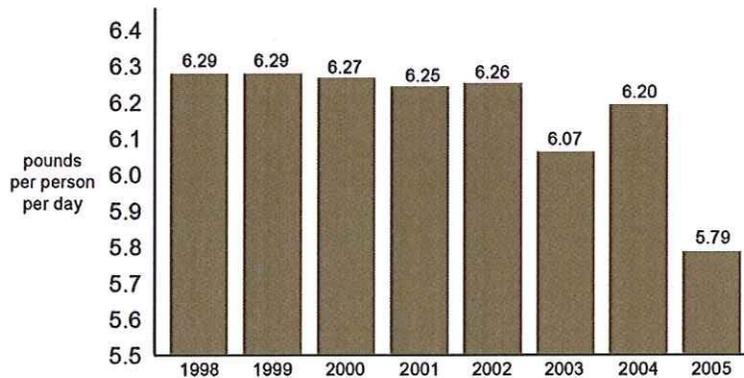


Discarded Materials (in tons) 2005 by Destination and by Where They Are Generated

	From Residential	From Commercial/ Institutional	From Construction & Demolition	Total
Landfill	113,477	98,130	28,047	239,654
Recycling Center / Site	43,551	18,505	2,812	64,869
Composting Site	16,359	10	80	16,449
Total	173,387	116,645	30,939	320,972

Discarded Materials in Pounds per Person per Day

Amount of waste generated on average by every person in McHenry County each day



Recycling and Recycling Rates

Recycling rates were down in 2005. The overall average of 25.3% showed a significant drop from the 2004 average of 38.5%. However, that number from 2004 was a significant jump over the previous year's average of 28.8%.

2005 Recycling and Recycling Rate by Generation Source

Generation Source	Discarded Materials in tons	Recyclables in tons*	Recycling Rate
Residential	173,387	59,910	34.6%
Commercial/ Institutional	116,645	18,515	15.9%
Construction & Demolition	30,939	2,892	9.3%
Total / Overall Average	320,972	81,317	25.3%

* includes landscape waste that was recycled at composting sites

Trend of Recycling Rates 2003-2005 by Generation Source

Source of Discarded Materials	Percent of Total Discarded Materials Recycled		
	2003	2004	2005
Residential	35.7%	45.8%	34.6%
Commercial / Institutional	22.2%	21.3%	15.9%
Construction / Demolition	6.3%	47.6%	9.3%
Overall Average	28.8%	38.5%	25.3%

Total Discarded Materials by Generation Source 2001-2005

Source of Discarded Materials	Total Discarded Materials by Source				
	2001	2002	2003	2004	2005
Residential	188,805	210,224	182,870	146,714	173,387
Commercial / Institutional	95,856	88,735	103,901	106,335	116,645
Construction / Demolition	21,047	22,022	25,604	82,395	30,939
Totals	305,708	320,981	312,375	335,444	320,971

Observations and Analysis

In 2005, the overall recycling rate of 25.3% was significantly lower than the 2004 rate of 38.5%. However, the 2004 data included the recycling of materials from two large demolition projects in Woodstock —the old Morton Salt building and the Guardian Electric building. Although the 2005 rate is on par with the 2003 rate of 28.8% and still exceeds the minimum rate of 25% called for in the Illinois Solid Waste Planning and Recycling Act, it is still the lowest rate for McHenry County in several years.

Simultaneously, the annual totals of discarded materials have not risen as quickly as the population has increased. In 2005, the rate (measured in pounds per person per day) was down four-tenths of a pound, or 6.6%, from 2004.

Conclusions

The overall amount of discarded materials has hovered in the same range (between 312K and 335K tons) for the last four years despite an estimated population increase of more than 20,000 residents. As such, the amount of discarded materials per county resident per day has dropped to its lowest level in years. If this was a sign that, on average, residents were discarding less, then this would be good news. However, it is more likely that not all solid waste is being reported and the data are incomplete.

Over the last five years, the amount of discarded material has steadily risen in both the commercial/institutional and construction/ demolition sectors (excepting 2004). However the totals from the residential sector have fluctuated greatly with 2005 showing a downturn. Because this is a total representing both recycled and unrecycled material, changes in recycling habits cannot explain this reduction. It is possible that the totals, which vary by 30K tons every year, represent a classification problem. The waste generated by roll-off containers at residences is typically considered residential waste. However, that material could contain entirely demolition waste, if the residence is under repair or renovation.

The more likely explanation, though, is a lack of complete data. This report is tied very closely to data provided by waste haulers operating in the county. As such, the data are only as accurate as the numbers received by licensed waste haulers. If any unlicensed waste hauling occurs, it is not reported. Also, the information received from haulers typically has a degree of estimation and could cause fluctuations in the data. Steps must be taken to ensure quality data. A meeting of haulers could produce more standardized estimating and reporting methods. Also, unlicensed hauling must be minimized. In the event that some waste is being hauled by unlicensed businesses, notices should be sent to all waste haulers who may be potentially operating within the county.