

## Environmental Integrity Indicator: Solid Waste

**Why:** Sustainability principles promote limiting solid waste through the “three Rs” of reduce, recycle and reuse. Environmentally sound waste management promotes conservation of resources and raw materials. Solid waste requires disposal in landfills or through incineration which can deplete land resources and may increase risk of exposure to harmful substances.

**What:** More commonly known as trash or garbage, municipal solid waste includes durable goods, non-durable goods, containers and packaging, food wastes and yard trimmings, and miscellaneous inorganic wastes. Per capita cubic yards were calculated using U.S. Census Bureau population totals or estimates for the indicated year and geography. U.S. total tons of solid waste were converted to cubic yards using a formula developed by the U.S. Environmental Protection Agency.

**Where:** U.S. Environmental Protection Agency, *Municipal Solid Waste Generation, Recycling, and Disposal in the United States*, <http://www.epa.gov/garbage/msw99.htm>;

State of Michigan Department of Environmental Quality – Waste and Hazardous Materials Division, *Annual Reports of Solid Waste Landfilled in Michigan*, [http://www.michigan.gov/deq/0,1607,7-135-3312\\_4123-47581--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3312_4123-47581--,00.html)

Solid Waste <i>cubic yards per capita</i>								
Geography	2000		2005		2006		2007	
	Cubic Yds	Index Score	Cubic Yds	Index Score	Cubic Yds	Index Score	Cubic Yds	Index Score
<b>Muskegon County</b>	7.40	1.3	3.72	3.1	4.11	2.9	3.15	3.4
Kent County	4.29	2.9	2.65	3.7	2.78	3.6	2.65	3.7
Ottawa County	5.37	2.3	2.92	3.5	3.16	3.4	2.99	3.5
<b>West MI Average</b>	5.09	2.5	2.90	3.6	3.10	3.5	2.82	3.6
Bay County	3.55	3.2	3.13	3.4	2.65	3.7	2.27	3.7
Genesee County	4.19	2.9	3.47	3.3	3.41	3.3	3.88	3.1
Saginaw County	3.69	3.2	2.74	3.6	2.84	3.6	2.49	3.8
<b>East MI Average</b>	3.96	3.0	3.22	3.4	3.15	3.4	2.27	3.4
Michigan	4.12	2.9	3.32	3.3	2.82	3.6	2.88	3.6
U.S.	3.17	3.4	3.28	3.4	3.36	3.3	3.27	3.4

\* When a geographic area has more than one monitor, data reported is the average of all monitor stations.

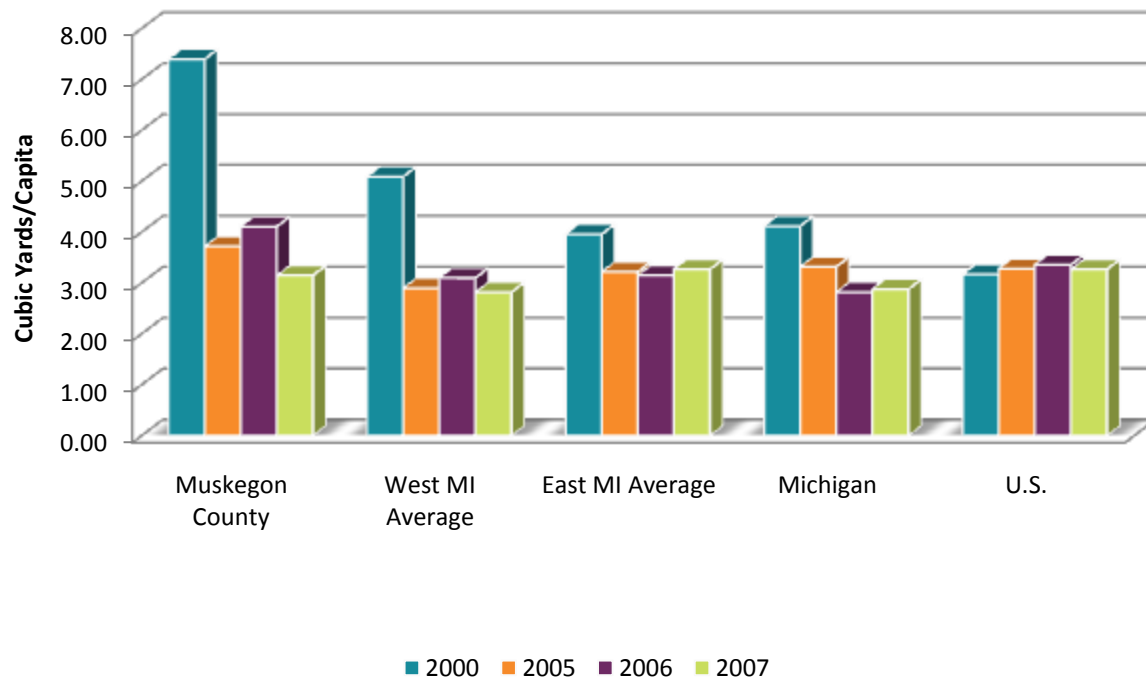
### Index Scores

**Rubric:** There is no sustainability standard for levels of solid waste disposal. The sustainability level was set at 4.0 cubic yards per capita – about the level reported for all of Michigan in 2000.

**Scale:** Simple scale of 2.0 cubic yards between levels. Index scores are lower for higher levels of solid waste per capita.

Rubric: Solid Waste		
Level	Index	yds <sup>3</sup> /capita
Thriving	5	0.0
Advancing	4	2.0
Sustainable	3	4.0
Needs Improvement	2	6.0
Failing	1	8.0

## Solid Waste Disposal



- *Solid waste disposal per capita has declined overall in the reported West Michigan geographies.*
- *While the per capita amount of solid waste disposal has improved significantly in Muskegon County since 2000, the amount is still highest among all geographies studied beside the U.S.*
- *Between 2000 and 2007, all geographies, except Genesee County, reported increases in index scores for solid waste disposal.*