

## Environmental Integrity Indicator: Particulate Matter 2.5

**Why:** Particulate matter (PM) is a measure of air quality, and includes particles less than 2.5 micrometers. This is the upper limit criteria used by the U.S. Environmental Protection Agency (EPA) determined necessary to protect human health.

**What:** PM 2.5 is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens. This type of particulate matter can lodge deep in the lungs and cause serious health effects.

**Where:** U.S. Environmental Protection Agency.  
<http://www.epa.gov/air/data/repsus.html?us~usa~United%20States>

Geography	Particulate Matter 2.5*							
	2000		2005		2006		2007	
	µg/m <sup>3</sup>	Index Score	µg/m <sup>3</sup>	Index Score	µg/m <sup>3</sup>	Index Score	µg/m <sup>3</sup>	Index Score
<b>Muskegon County</b>	11.45	3.5	13.10	3.3	11.30	3.5	10.50	3.6
Kent County	13.80	3.2	14.55	3.1	12.80	3.3	13.25	3.2
Ottawa County	13.20	3.2	14.00	3.1	12.00	3.4	11.68	3.4
<b>West MI Average</b>	12.82	3.3	13.55	3.1	12.03	3.4	11.81	3.4
Bay County	10.10	3.7	12.40	3.3	10.20	3.6	10.17	3.6
Genesee County	13.00	3.3	12.90	3.3	10.90	3.5	11.07	3.5
Saginaw County	10.15	3.6	11.70	3.4	N/A	N/A	N/A	N/A
<b>East MI Average</b>	11.08	3.5	12.33	3.4	10.55	3.6	10.62	3.6
Michigan	13.60	3.2	13.39	3.2	11.59	3.5	12.65	3.3
U.S.	13.53	3.2	12.45	3.3	11.42	3.5	11.75	2.4

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

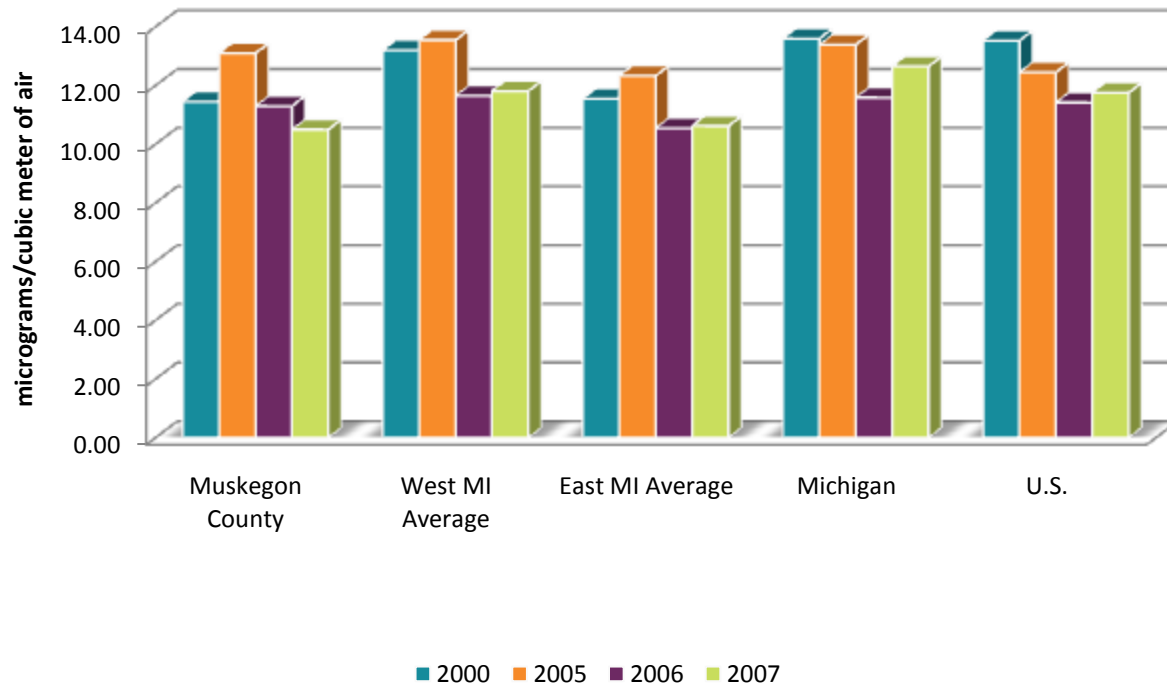
### Index Scores

**Rubric:** The EPA has set a current annual PM 2.5 standard at 15µg/m<sup>3</sup>. This score was used as the “sustainable” score.

**Scale:** Simple scale of 7.5 micrograms between levels. Index scores are lower for higher levels of particulate matter.

Rubric: Particulate Matter 2.5		
Level	Index	µg/m <sup>3</sup>
Thriving	5	0.00
Advancing	4	7.50
Sustainable	3	15.00
Needs Improvement	2	22.50
Failing	1	30.00

## Particulate Matter 2.5



- *Between 2000 and 2007 levels of Particulate Matter in Muskegon County have stayed above sustainable levels .*
- *The average index score for the selected West Michigan counties has stayed slightly below scores for the East Michigan counties, but above the state and national levels.*
- *Ottawa County has showed the most improvement in Particulate Matter levels since 2000.*