



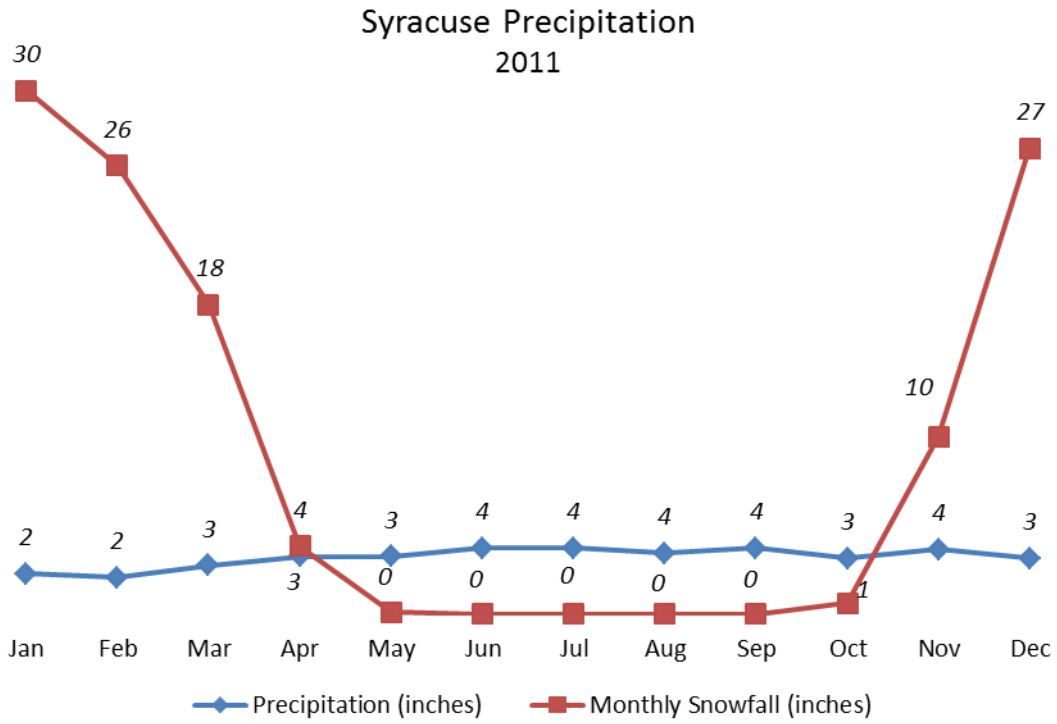
Introduction: Environment

(Part of the Environment, Transportation and Planning Series)

This section of the report highlights the increasing improvement of Onondaga County's environmental awareness and overall environmental atmosphere.

Community resident volunteer and organizations like the Onondaga County Resource Recovery Agency (OCRRA) have taken the necessary steps to promote an environmentally-friendly community as evidenced by the 2011 60% recycling rate. Syracuse has become an environmentally conscious, sustainable city through efforts from Syracuse University, like Greening the Library and Green UniverseCity, SUNY Environmental Science and Forestry, and area environmental firms (OCRRA) LEED certified buildings, avoidance of virgin materials, and recycling in the workplace have reduced greenhouse gases over the past three years to the equivalent of 223,000 cars taken off the road and the good air quality has improved by 29 days because of these efforts (OCRRA) Additionally, there have been major efforts by the community to move forward with the cleanup and development of Onondaga Lake. Phosphorus and ammonia concentrations have been reduced, dissolved oxygen levels continue to rise, and water clarity has improved with the decline in algal abundance.

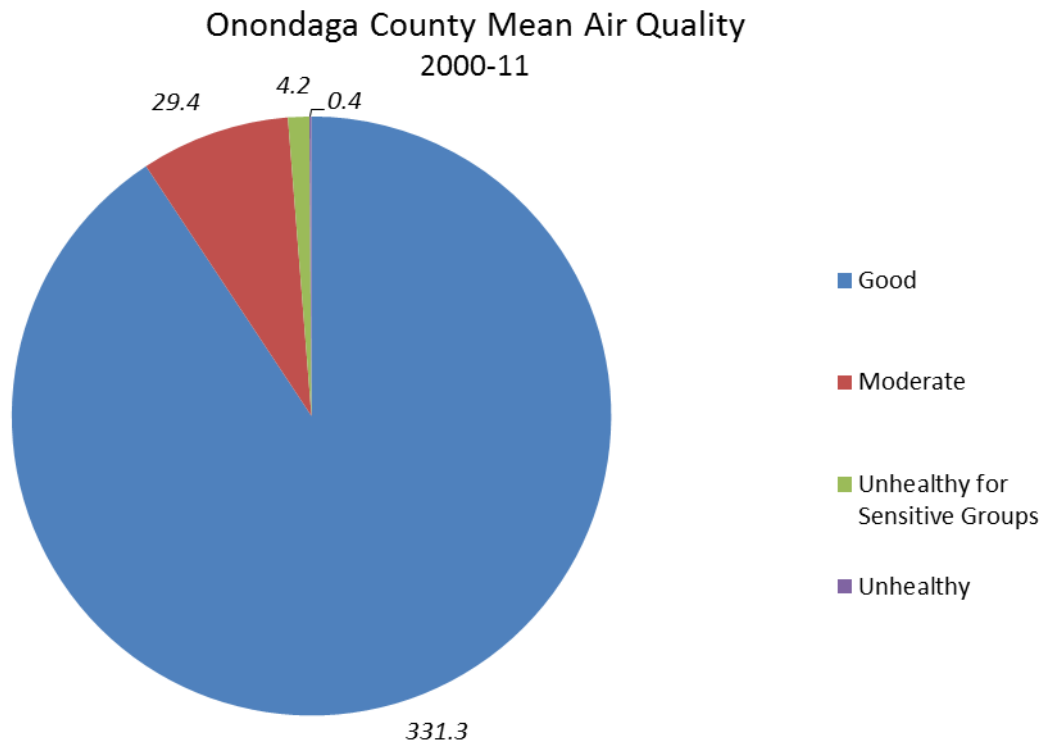
1. 115 inches was the annual snowfall in Syracuse in 2011.



Source: CIA World Fact Book, Climate Zone <http://www.climate-zone.com/climate/united-states/new-york/syracuse/>

Syracuse Precipitation 2011													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Precipitation (inches)	2	2	3	3	3	4	4	4	4	3	4	3	39
Monthly Snowfall (inches)	30	26	18	4	0	0	0	0	0	1	10	27	115

2. There is an 8% increase in the number of days in Onondaga County when the air quality index was rated as 'Good' between 2000-11.



Source: EPA AQI Report 2000-2011 http://www.epa.gov/airdata/ad_rep_aqi.html

Air Quality Index Onondaga County				
	Type of Day			
Year	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy
2000	317	48	0	1
2001	312	43	9	1
2002	308	38	18	1
2003	335	26	2	2
2004	346	20	0	0
2005	313	45	7	0
2006	338	25	2	0
2007	320	40	5	0
2008	340	24	2	0
2009	357	7	1	0
2010	343	19	3	0
2011	346	18	1	0
Mean	331.3	29.4	4.2	0.4
Median	336.5	25.5	2.0	0.0
standard deviation	16.4	13.0	5.2	0.7

Air Quality Index Onondaga County				
	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy
Mean	331.3	29.4	4.2	0.4
Median	336.5	25.5	2.0	0.0

Air Quality Index		
Classification	AQI Level	Meaning
Good	0-50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51-100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people.
Unhealthy for Sensitive Groups	101-150	Although general public is not likely to be affected at this AQI range, people with lung disease, older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults and children are at greater risk from the presence of particles in the air.
Unhealthy	151-200	Everyone may begin to experience some adverse health effects, and members of the sensitive groups may experience more serious effects.

3. Onondaga County had the highest mean number of Good air quality days with 331.3 between 2000-11.

County Mean "Good" Air Quality Days
2000-11

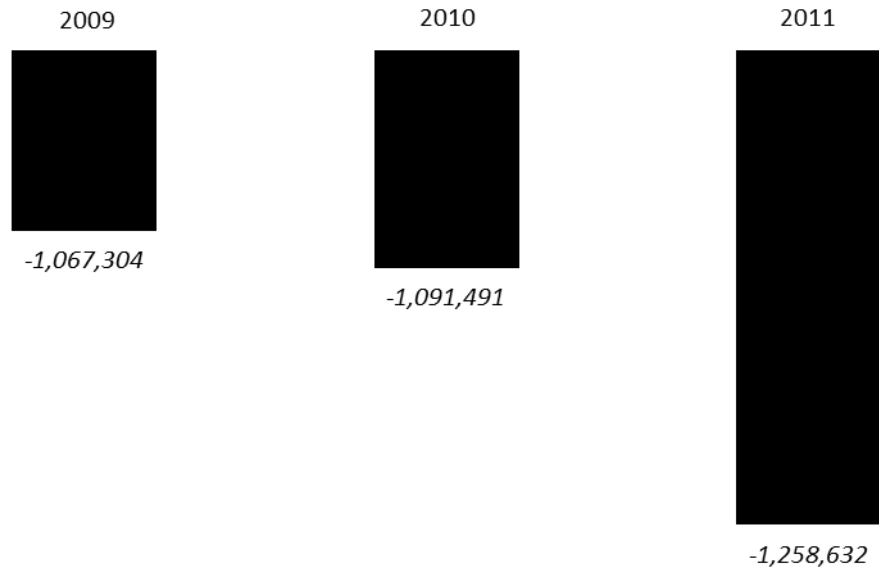


Source: EPA AQI Report 2000-2011 http://www.epa.gov/airdata/ad_rep_aqi.html

Mean County Air Quality Index, 2000-11				
	Type of Day			
	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy
Erie	223.1	53.3	5.3	0.6
Monroe	299.3	99.8	37.4	4.9
Albany	305.9	56.8	6.5	0.8
Onondaga	331.3	29.4	4.2	0.4

4. Through recycling, Onondaga County reduced the emission of Greenhouse Gases (GHGs) through the mitigation of over 1.2 million MTCO₂E, the equivalent to taking 223,000 passenger cars off the road.

Onondaga County Total GHG Mitigated (MTCO₂E)
2009-11



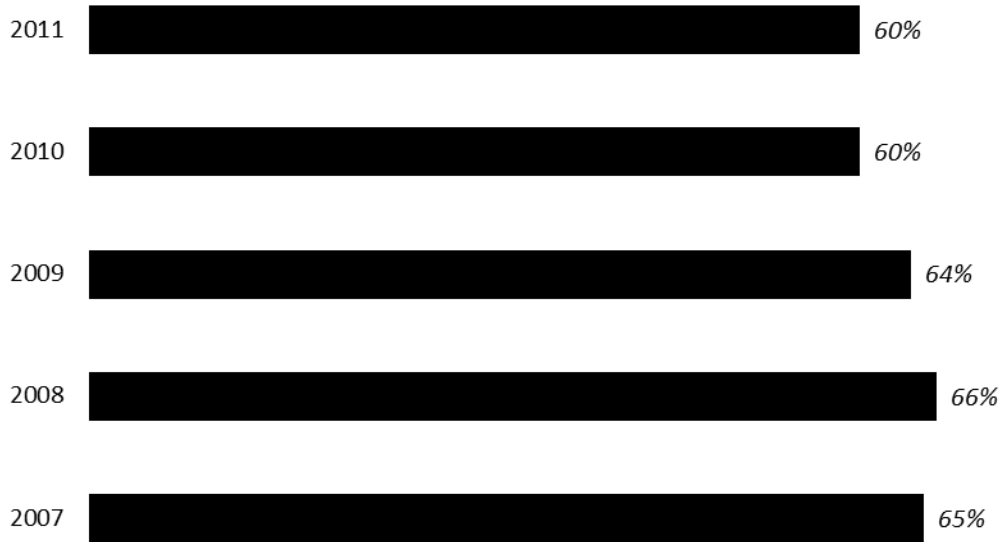
Source: Onondaga County Resource Recovery Agency, *Recycling Reports 2009-11*
http://ocrra.org/app/webroot/img/gallery/File/downloads/Reports/Recycling/Recycling_2011.pdf

Comment: Recycling has many environmental benefits, including resource and energy savings due to avoidance of using virgin materials. The USEPA provides its WARM Model to allow users to determine the amount of greenhouse gases (GHGs) saved due to recycling or composting.

Onondaga County Greenhouse Gas Emissions Avoidance 2009-11		
Year	Total GHG Mitigated (MTCO ₂ E)	Equivalent to passenger cars off the road
2009	-1,067,304	185,000
2010	-1,091,491	189,300
2011	-1,258,632	223,000

5. Recycling has dropped 5% between 2007-11 in Onondaga County.

Onondaga County Recycling Rates 2007-11

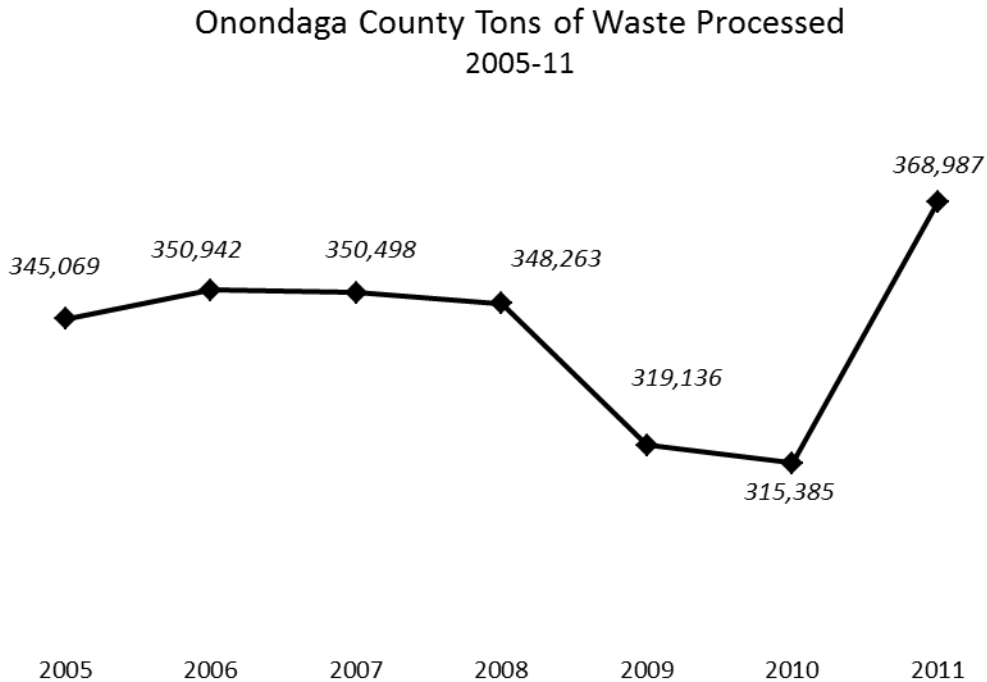


Source: Onondaga County Resource Recovery Agency, Recycling Reports 2007-11
<https://ocrra.org/about-ocrra/reports-and-policies/reports>

Comment: This is Curbside Recycling (Primarily Residential) and Commercial Recycling (Primarily Business).

Onondaga County Recycling and Solid Waste in Tons 2007-11				
	Recycling	Solid Waste	Total Recycling and Solid Waste	Percent Recycled
2007	664,700	356,500	1,021,200	65%
2008	681,000	353,400	1,034,400	66%
2009	581,480	325,071	906,551	64%
2010	536,876	357,775	894,651	60%
2011	547,922	368,937	916,859	60%

6. There was a 15% increase in the number of tons of waste processed between 2010-11.



*Source: Onondaga County Resource Recovery Agency Annual Reports 2005-11
http://ocra.org/app/webroot/img/gallery/File/downloads/Reports/Recycling/Recycling_2011.pdf*

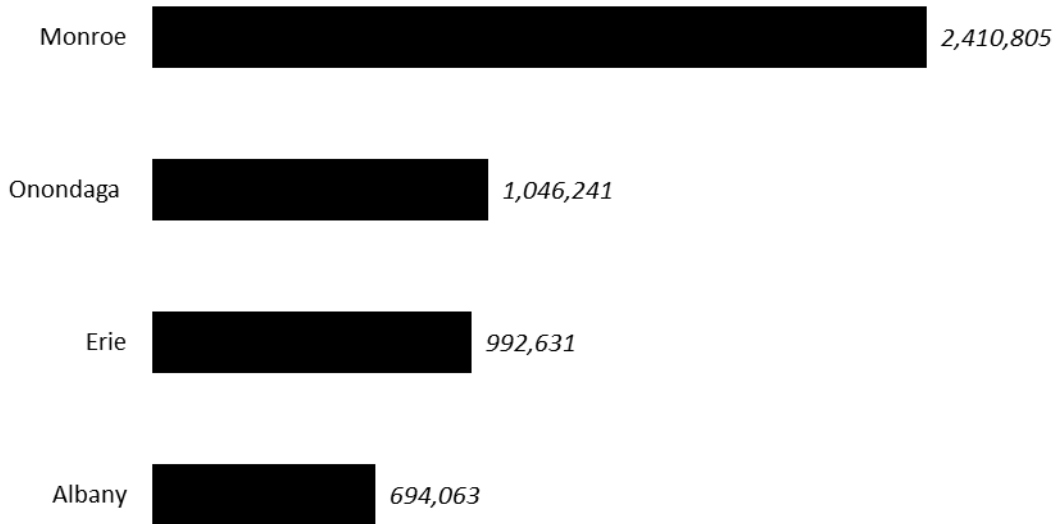
Comment: This indicator is important because it shows how much waste and debris is being properly disposed of at the OCRA service area. The amount of tons processed at the facility has been reduced in recent years due to the economic recession and the lack of construction material waste

Onondaga County Waste Processed, 2005-11	
Year	Tons Processed
2005	345,069
2006	350,942
2007	350,498
2008	348,263
2009	319,136
2010	315,385
2011	368,987

Mean	Median
342,611	348,263

7. Onondaga County has reported the disposal of over one million pounds of on-site toxic waste.

**County On-Site Disposal of Toxic Waste Reported in Pounds
2011**



*Source: Environmental Protection Agency (EPA), Toxic Release Inventory (TRI) Report 2011
http://iaspub.epa.gov/triexplorer/tri_broker_statefs.broker?p_view=STCO&trilib=TRIQ1&state=NY&SFS=YES&year=2011*

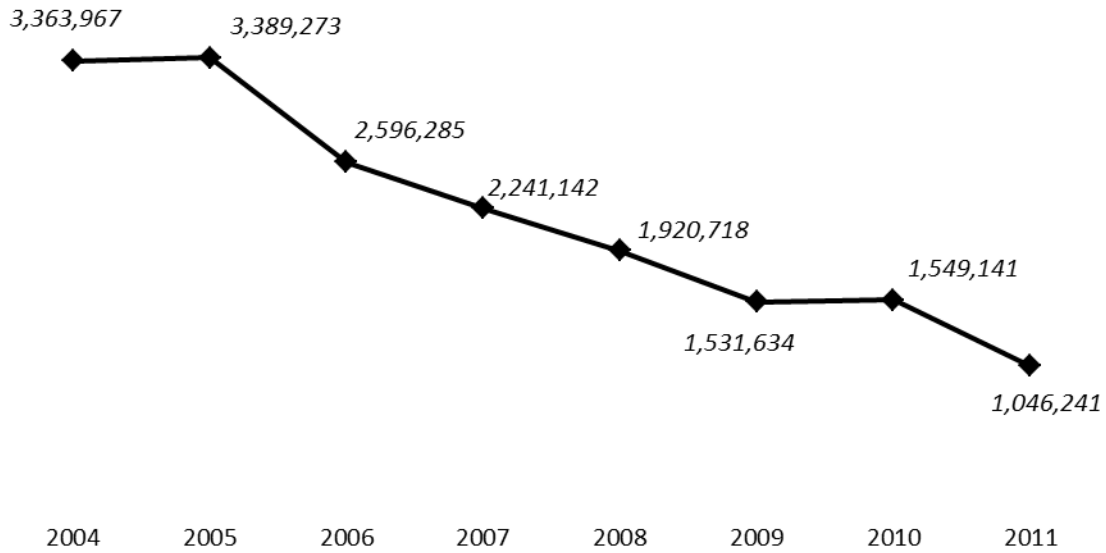
Comment: Combustion or gasification with energy recovery, or waste-to-energy (WTE), is the environmentally preferable route for mixed solid wastes that are neither recyclable nor compostable. From an environmental standpoint, landfilling MSW is the least preferred option.

On-Site Disposal of Toxic Waste Reported, 2011	
County	Toxic Waste in Pounds
Albany	694,063
Erie	992,631
Onondaga	1,046,241
Monroe	2,410,805

Mean	Median
1,285,935	1,019,436

8. Onondaga County has reduced on-site disposal of toxic waste by 145.1% between 2004-11.

Onondaga County Reported On-Site Disposal of Toxic Waste
in Pounds
2004-11

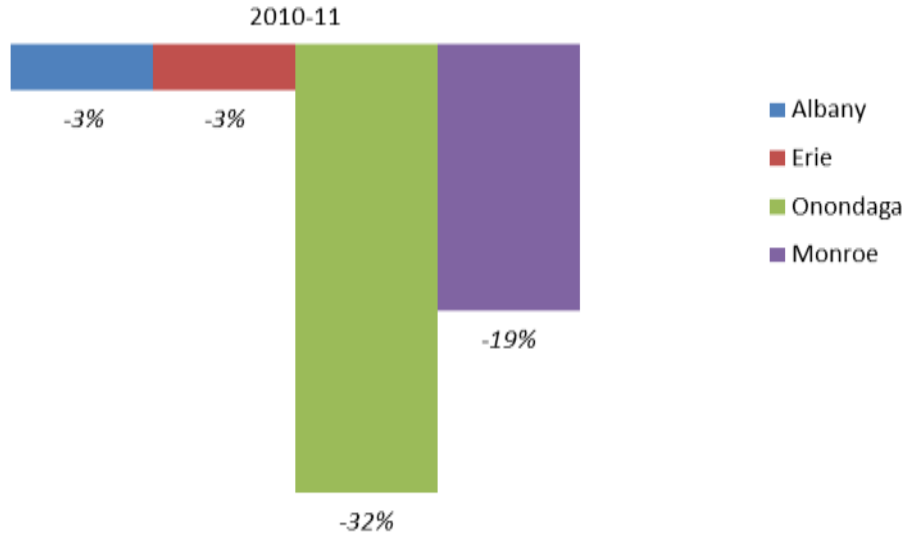


Source: Environmental Protection Agency (EPA), Toxic Release Inventory (TRI) Report 2004-11
http://iaspub.epa.gov/triexplorer/tri_broker_statefs.broker?p_view=STCO&trilib=TRIQ1&state=NY&SFS=YES&year=2011

County On-Site Disposal of Toxic Waste Reported in Pounds, 2004-11								
	2004	2005	2006	2007	2008	2009	2010	2011
Albany	799,355	712,026	752,999	752,477	614,178	855,666	717,812	694,063
Erie	2,606,190	2,032,330	1,713,763	1,467,466	1,212,309	972,304	1,026,741	992,631
Onondaga	3,363,967	3,389,273	2,596,285	2,241,142	1,920,718	1,531,634	1,549,141	1,046,241
Monroe	5,243,245	5,556,493	4,397,177	3,713,437	2,820,548	2,967,065	2,988,154	2,410,805

9. Onondaga County had the biggest percent change on reported on-site disposal of toxic waste between 2010-11 at -32%.

Percent Change of Reported On-Site Disposal Of Toxic Waste in Pounds
2010-11

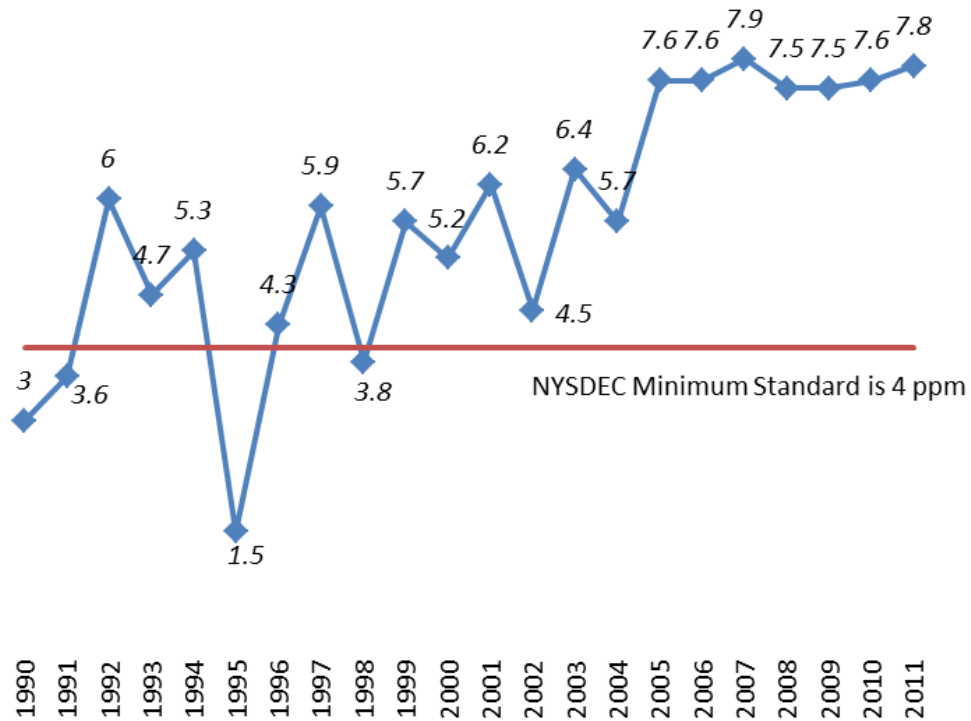


Source: Environmental Protection Agency (EPA), Toxic Release Inventory (TRI) Report 2004-11
http://iaspub.epa.gov/triexplorer/tri_broker_statefs.broker?p_view=STCO&trilib=TRIQ1&state=NY&SFS=YES&year=2011

Percent Change of On-Site Disposal of Toxic Waste Reported in Pounds, 2010-11							
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Albany	-11%	6%	0%	-18%	39%	-16%	-3%
Erie	-22%	-16%	-14%	-17%	-20%	6%	-3%
Onondaga	1%	-23%	-14%	-14%	-20%	1%	-32%
Monroe	6%	-21%	-16%	-24%	5%	1%	-19%

10. There has been a 243.5% increase in oxygen concentration in Onondaga Lake between 2000-11.

Oxygen Concentration (mg/L) in Onondaga Lake
1990-11



Source: Onondaga County Department of Water Environment Protection, Onondaga Lake Progress Report 2011

Personal Contact: Janaki Suryadevara, Sanitary Engineer II, Department of Water Environment Protection, Onondaga County

[http://static.ongov.net/WEP/wepdf/AMPPProgressReports/2011_Progress_Report_\(09-21-2012\).pdf](http://static.ongov.net/WEP/wepdf/AMPPProgressReports/2011_Progress_Report_(09-21-2012).pdf)

Dissolved Oxygen Concentration, 1990-2011		
Year	NYSDEC Minimum Standard	Onondaga Lake mg/L
1990	4	3
1991	4	3.6
1992	4	6
1993	4	4.7
1994	4	5.3
1995	4	1.5
1996	4	4.3
1997	4	5.9
1998	4	3.8
1999	4	5.7
2000	4	5.2
2001	4	6.2
2002	4	4.5
2003	4	6.4
2004	4	5.7
2005	4	7.6
2006	4	7.6
2007	4	7.9
2008	4	7.5
2009	4	7.5
2010	4	7.6
2011	4	7.8

Mean	Median
5.7	5.8

Comment: “Low dissolved oxygen (DO) in the upper waters during October was one of the lake’s most severe water quality impairments. The major improvement in DO has led to a better habitat for aquatic life. The NYSDEC minimum standard for DO is 4 ppm; DO in the upper waters has remained above this level since 1999.”