



# Top Ten Water Quality Issues in New York State

## Atmospheric Deposition of Mercury

### The Problem...

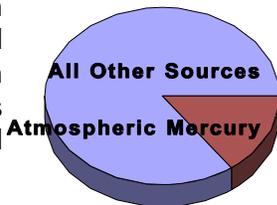
Mercury is a toxic metal that poses risks to human health when released to the environment. The most common exposure pathway is when gaseous and particulate mercury is released to the atmosphere and is then deposited onto the land and water during precipitation. Once in the water, mercury can be converted to its most toxic form, methylmercury, which accumulates in fish and aquatic organisms. Humans are exposed to methylmercury and subjected to its associated health effects when they consume contaminated fish.

In New York State as well as throughout the Northeast, wide-ranging health advisories limiting the consumption of fish are in place due to elevated levels of mercury in certain fish species. The vast majority of mercury contamination can be attributed to atmospheric deposition. However while these states have achieved regional reductions in mercury emissions and discharges of approximately 70 percent over the past decade, the lack of available options to control out-of-state sources of atmospheric mercury remains a challenge for the region.

### The Significance...

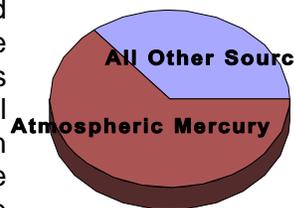
Atmospheric deposition of mercury is identified as a major source in 15% of all waterbodies assessed as impaired in New York State.

**NYS Impaired Waters**



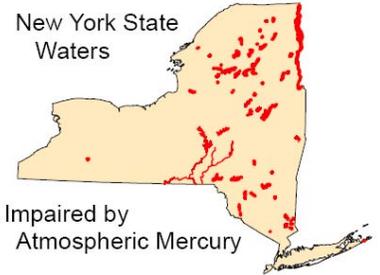
However, because these impaired waterbodies include some of the larger lakes in the state, 64% of all impaired lake acres in New York State are impaired by the atmospheric deposition of mercury.

**Impaired Lake Acres**



### Specific Waters...

The majority of waters listed as impaired by the atmospheric deposition of mercury are located in the Adirondack and Catskill mountains. In fact, New York State has issued a regional advisory for women of child-bearing age and children limiting their consumption of fish from all Adirondack and Catskill waters for species of fish that typically have higher levels of contamination. There is also a general advisory for all freshwaters limiting fish consumption to no more than one meal per week. This advisory is issued as a precaution because some contaminants (including mercury) are more commonly found in fish and fish from many waters have not been tested.



### What is Being Done...

New York State has moved aggressively to reduce the release of mercury into the environment. It has imposed mercury emission limitations on coal-fired power facilities based upon maximum achievable control technology (MACT). Under these regulations, facilities are not permitted to generate and trade mercury reductions with other facilities or states, which would be allowed under federal rules. Starting in 2015, the state will establish a facility-wide emission limit for each applicable facility. But as noted previously, much of the mercury in the atmosphere originates outside New York State. In 2007, New York, along with other northeastern states, established a pollutant reduction strategy known as a Total Maximum Daily Load (TMDL). The TMDL documented that over 97% of the mercury causing fish consumption impairment was due to atmospheric sources. Northeastern states have reduced mercury loads within their borders by 74%. However, it is not possible to meet TMDL targets without a comparable reduction in out-of-region sources. Clearly the ultimate solution to atmospheric deposition of mercury will require national or international approaches.

### More Information

NYSDEC Mercury Management

<http://www.dec.ny.gov/chemical/285.html>

Northeast Regional Mercury TMDL

<http://www.dec.ny.gov/chemical/31304.html>