

4. Conclusion

The air regulatory agencies from the states of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania and New York, along with the province of Ontario, continued the collaborative effort to successfully develop an annual inventory of airborne toxic pollutant emissions for the Great Lakes region.

The 1999 toxic emissions inventory for point and area sources in the Great Lakes region includes emissions from 699 distinct source categories and 2023 distinct source classification codes. This inventory includes improved mercury emissions estimates through the addition of area sources associated with mercury emissions. It also identifies source categories where no mercury emission factors were available. Further enhancements will take place in future inventories as a result of the Toxics Release Inventory (TRI) reporting threshold for mercury being lowered to 10 pounds in the year 2000, and changes in the states' emissions reporting requirements. Addition of mercury emission factors to the FIRE database for processes currently lacking information, and comprehensive federal emissions reporting rules that consolidate all emission inventory requirements could assist in improving the inventory.

The 1999 toxic emissions inventory for mobile sources includes both on-road and non-road sources. On-road mobile sources emitted 46 out of the 213 target compounds, while non-road mobile sources emitted 50 out of the 213 target compounds. On-road and non-road mobile sources together emitted 45 percent of total emissions in the region, and more than 70 percent of the regional total emissions for ten compounds, including benzene, formaldehyde and m-xylene. Light Duty Gasoline Vehicles are the most significant sources of toluene, xylenes and benzene.

The 1999 toxic emissions inventory is intended to assist in the successful implementation of key provisions of the Great Lakes Toxic Substances Control Agreement, signed by the Great Lakes governors and premiers in 1986. In addition, this work is consistent with the state activities for the implementation of the Urban Area Source Program required under sections 112(c) and 112(k) under the Clean Air Act Amendments of 1990 and the assessment of atmospheric deposition to the Great Lakes under the efforts of the U.S. EPA's Great Waters Program.

The emphasis of this project was to prepare an accurate inventory of emissions for 213 target compounds in the Great Lakes region and to develop an enhanced mercury emissions inventory. As a regional effort, a high level of coordination was necessary to ensure consistency. The project team utilized Quality Assurance/Quality Control (QA/QC) criteria to develop an accurate regional summary of toxic air emissions. Having a quality controlled and quality assured emissions inventory allows scientists, researchers and policy makers to define and regulate sources; evaluate control technology; establish guidelines for siting new facilities; and reduce airborne deposition of persistent toxic chemicals to the Great Lakes.

The ultimate benefit of developing a regional annual inventory of air toxic emissions belongs to organizations that use the data. The 1999 inventory, along with previous regional inventories, will be available to researchers and interested parties from the U.S. EPA's GLNPO server.

The project will offer online access to the compiled inventory of toxic emissions from point, area and mobile sources via the Great Lakes Information Network and enhanced data access from the Regional Air Pollutant Inventory Development System (RAPIDS). Future enhancements to RAPIDS will enable raw emissions data to be exported in formats compatible to a variety of analytical programs. With these access tools, decision makers and the general public will be able to make better informed decisions that help reduce toxic pollution, protect and restore habitats and support intergovernmental partnerships. Timely access to a comprehensive inventory provides the foundation for sound public policy decisions.