



Minnesota
Pollution
Control
Agency

Developing a strategy for implementation of Minnesota's Statewide Mercury TMDL

Water quality/impaired waters 1-22 • March 2009

About two-thirds of the water impairments on Minnesota's 2006 Impaired Waters List were due to mercury. As required by the Clean Water Act, the Minnesota Pollution Control Agency (MPCA) prepared a Total Maximum Daily Load (TMDL) study that evaluated the sources of mercury and quantified the reductions needed to meet water-quality standards.

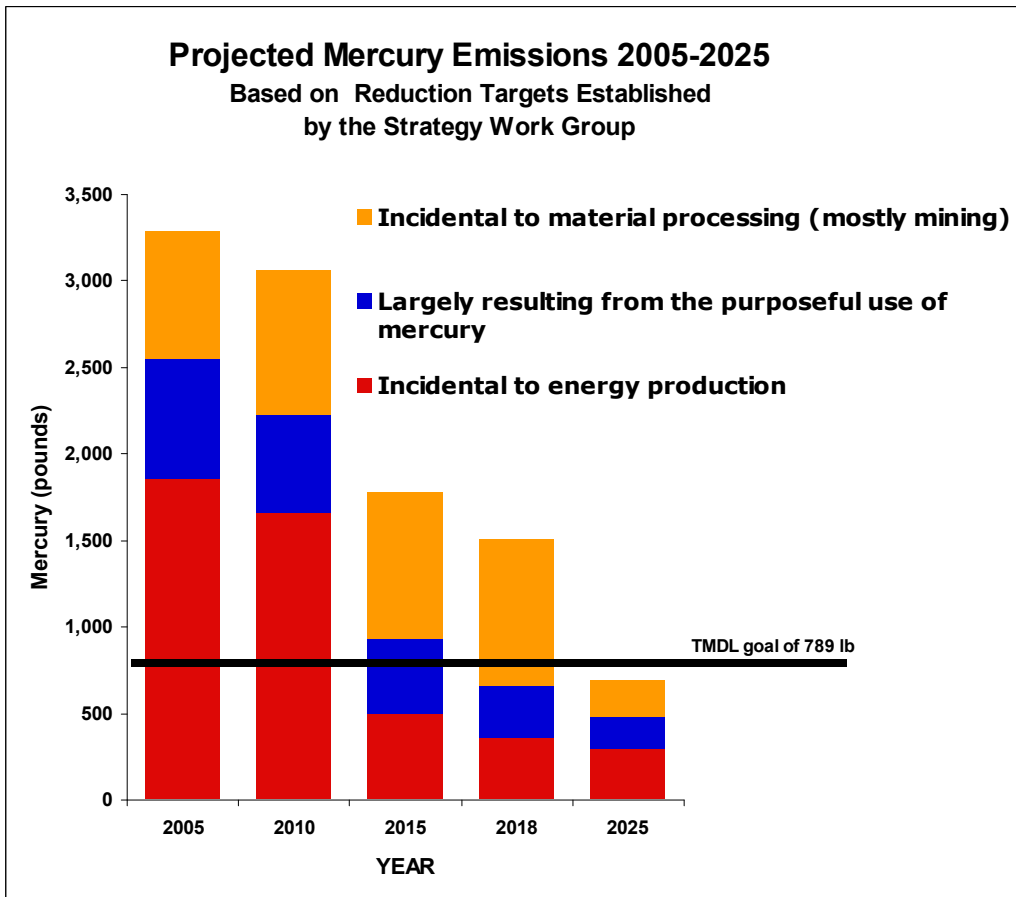
Since nearly all of the mercury polluting lakes and rivers in Minnesota comes from uniform statewide atmospheric deposition, the MPCA prepared one TMDL instead of many TMDLs for specific water bodies or

watersheds. This statewide TMDL was approved by the MPCA Board in December 2006 and by the U.S. Environmental Protection Agency in March 2007.

Minnesota's Mercury TMDL established an annual air emission target of 789 pounds (lb.) and a water discharge limit of 24 lb. per year for Minnesota sources. The air emission goal represents a 76 percent reduction from today's levels. The water limit is above current discharge levels by about 9 lb., allowing for some growth.

Stakeholders helped develop implementation plan

To develop strategies to meet these targets and to establish interim and final deadlines, the MPCA relied on significant stakeholder input. Over the course of a year a group of 17 stakeholders representing a broad range of views developed recommendations on the main elements of the Mercury TMDL Implementation Plan. The stakeholders identified sector-specific strategies to meet the TMDL targets by 2005.



Summary of Air Reductions for Statewide Mercury TMDL Implementation Plan

Based on 2008 Stakeholder Recommended Strategies*

Source	Estimated Annual Mercury Emissions (lb)			Sector Reduction 2005-2025
	2005	2018	2025	
Coal-fired electric generation	1,716	294	235	1,481 lb, 86%
Industrial, institutional, commercial boilers	71	33	33	38 lb, 54%
Petroleum refining	13	7	7	6 lb, 46%
Petroleum product utilization	27	15	15	12 lb, 44%
Wood combustion at industrial boilers	31	14	14	17 lb, 55%
Use and disposal of products with mercury	235	88	88	150 lb, 64%
Smelters and shredders that recycle cars and appliances	139	20	10	129 lb, 93%
Recycling mercury products in Minnesota	65	8	8	57 lb, 88%
Dental preparations	62	10	5	57 lb, 92%
Cremation	80	63	32	48 lb, 60%
Sewage sludge incineration	9	6	6	3 lb, 33%
Mercury product manufacturing in Minnesota	42	13	0.3	42 lb, 99%
Taconite processing/mining	735	841	210	525 lb, 71%
Emissions from other sources	89	68	71	18 lb, 20%
Total	3,314	1,464	734	2,580 lb, 78%

*Refer to *Strategy Framework for Implementation of Minnesota's Statewide Mercury TMDL* (www.pca.state.mn.us/publications/wq-iw1-19.pdf).

Their recommendations, completed in June 2008, are in the *Strategy Framework for Implementing Minnesota's Statewide Mercury TMDL*.

Highlights of the strategy framework include:

- strategies to reduce Minnesota mercury air emissions, from 2005 levels of 3,314 lb. to 734 lb. by 2025. This includes sector-specific interim and final goals. (See chart on first page of this fact sheet and the table above.)
- a framework to address new and expanding air and water releases.
- formation of an ongoing stakeholder group to monitor progress.
- recommendations for pursuing national and international reductions that also contribute to Minnesota's problems.

MPCA staff is now preparing an implementation plan that will include details of

how the MPCA and mercury sources in Minnesota will meet the targets established in the Mercury TMDL. This plan will incorporate all of the stakeholders' recommendations and describe the specific tools the MPCA will use to implement the recommendations. The implementation plan is expected to be in draft form by the end of 2008.

For more information

For more information on sources of mercury contamination in Minnesota see, the MPCA fact sheet, *Sources of mercury pollution and the methylmercury contamination of fish in Minnesota* at www.pca.state.mn.us/publications/p-p2s4-06.pdf.

For more information about planned reductions, see the MPCA Web site at www.pca.state.mn.us/air/mercury-reductionplan.html or contact Ned Brooks, MPCA mercury reduction coordinator (phone 651-296-7242, e-mail Ned.Brooks@pca.state.mn.us).