

Lake Superior 2005 Chemical Milestones



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Purpose

- Zero Discharge Demonstration background
- What the milestones report inventory tells us
- Meeting the next set of milestones

The Zero Discharge Goal

- The 1991 Lake Superior binational agreement states:

“The goal is to achieve zero discharge and zero emission of certain designated persistent bioaccumulative chemicals that may degrade the ecosystem of the Lake Superior basin.”

The Nasty Nine

- Chlordane
- DDT
- Dieldrin
- PCBs
- Dioxin
- Hexachlorobenzene (HCB)
- Mercury
- Octachlorostyrene (OCS)
- Toxaphene

Stage 2 Reduction Schedules

Chemical	base line	2000	2005	2010	2015	2020 (Zero)
mercury	1990	60%	70%*	80%		100%
PCBs	1990	33%	60%	95%		100%
dioxin/ HCB/OCS	1990		80%	85%*	90%	100%
pesticides	NA	100%				

* extrapolated (i.e., halfway between the 2000 and 2010 milestones or halfway between 2005 and 2015)

Milestones Report in a Nutshell

- Mercury discharges and emissions have been reduced 71% from 1990 levels (70% milestone*)
- Dioxin has been reduced 78% since 1990 (80% milestone)
- PCBs are being decommissioned in Ontario and the states
- Waste pesticide collections are still bringing in banned pesticides (e.g., 12,700 kg** in MN and WI since 1992)

*extrapolated

**28,000 pounds or 14 tons

Figure 3-1. Reductions of Mercury Discharges and Emissions from Lake Superior Sectors Between 1990 and 2005, kg/yr.

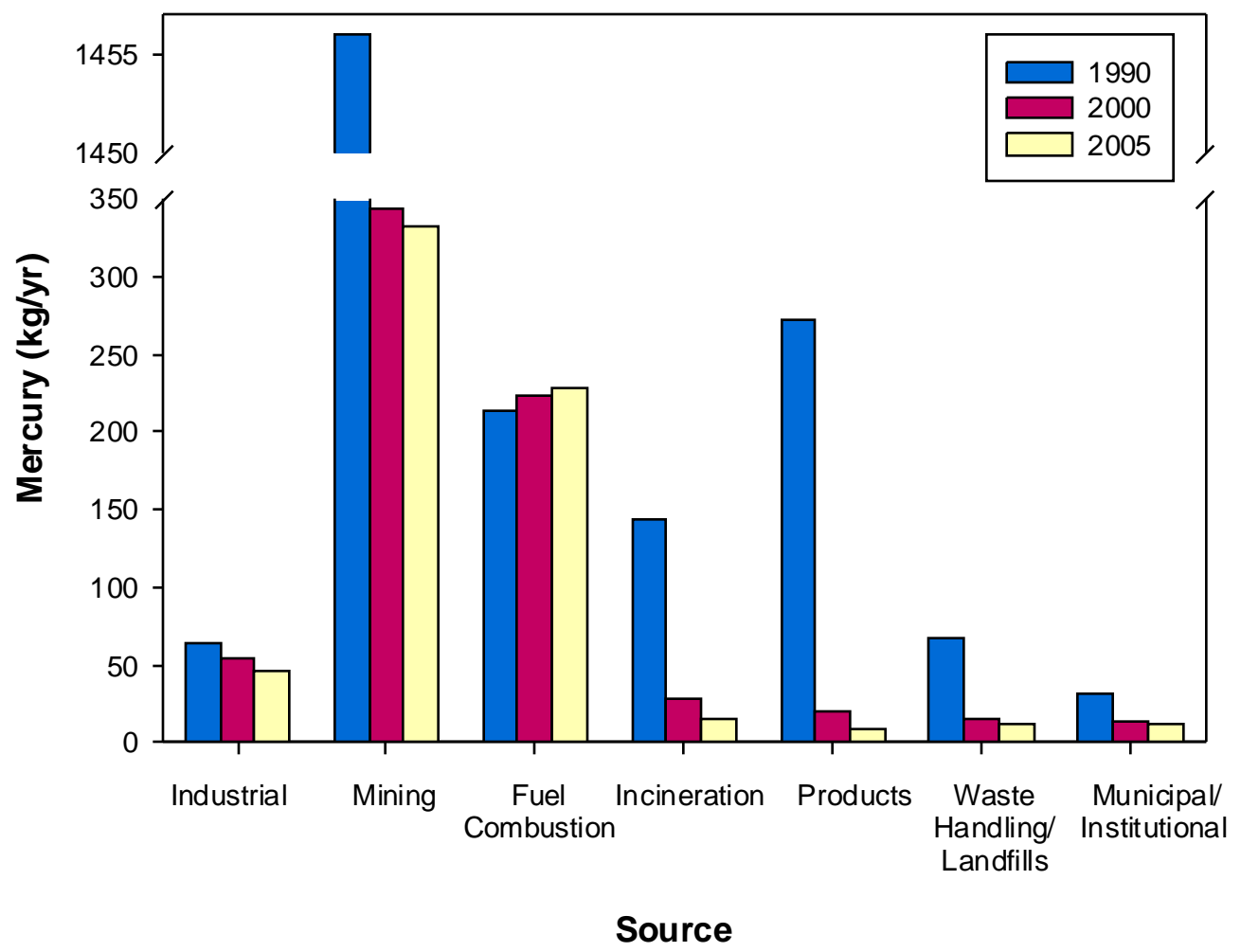
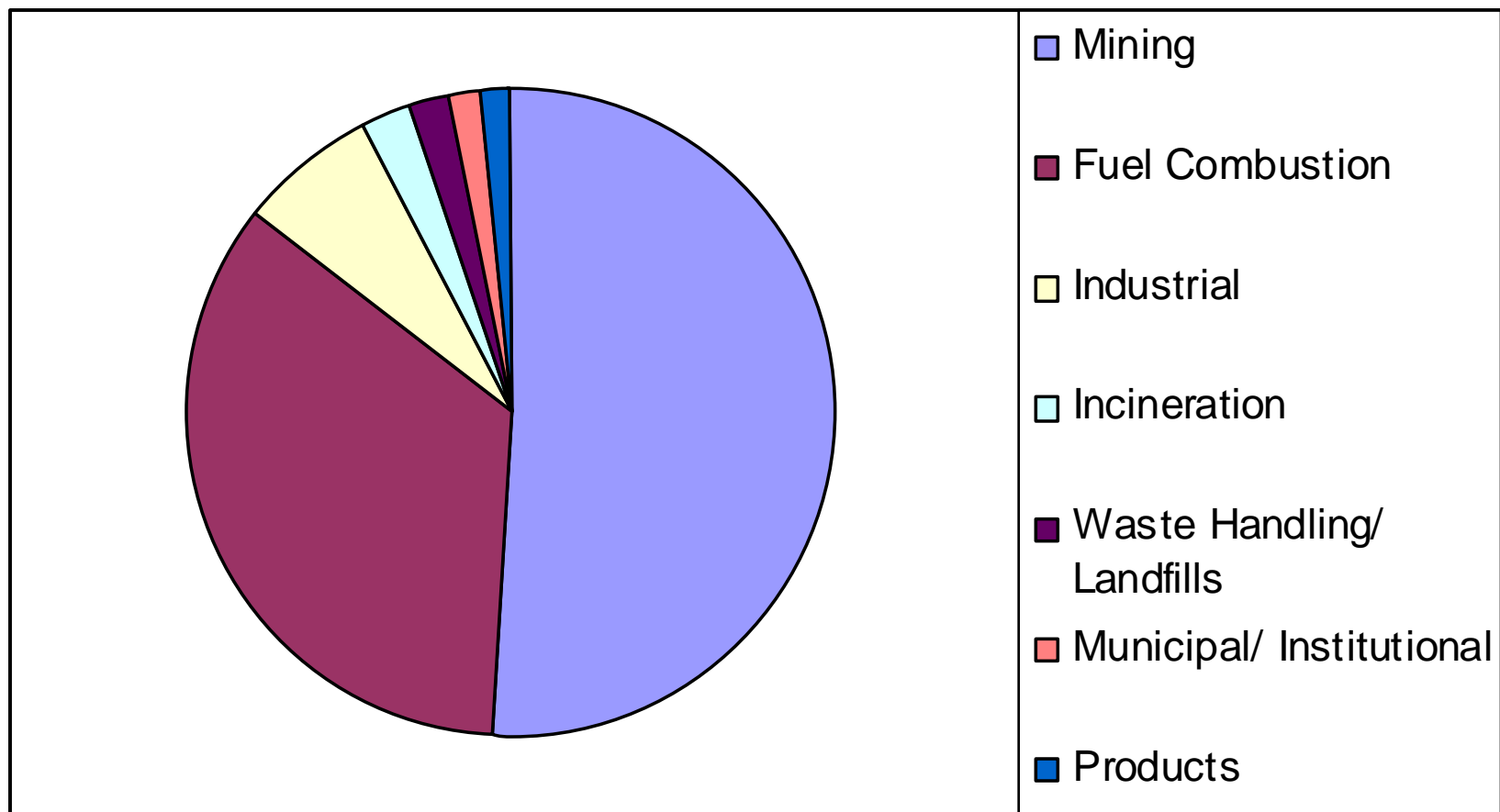
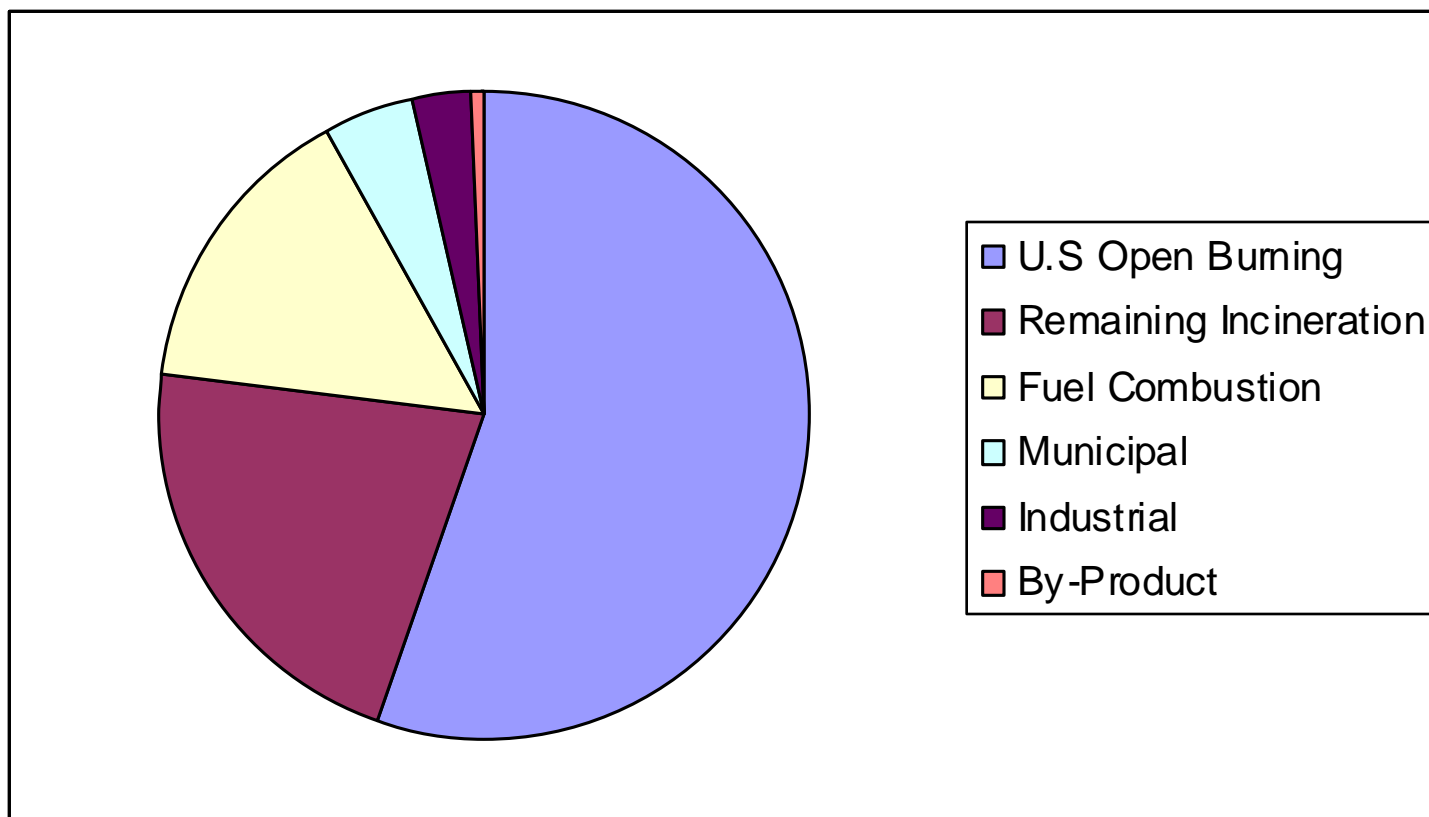


Figure 3-3. Percentage of Mercury Releases from Different Sectors in the Lake Superior Basin, 2005.



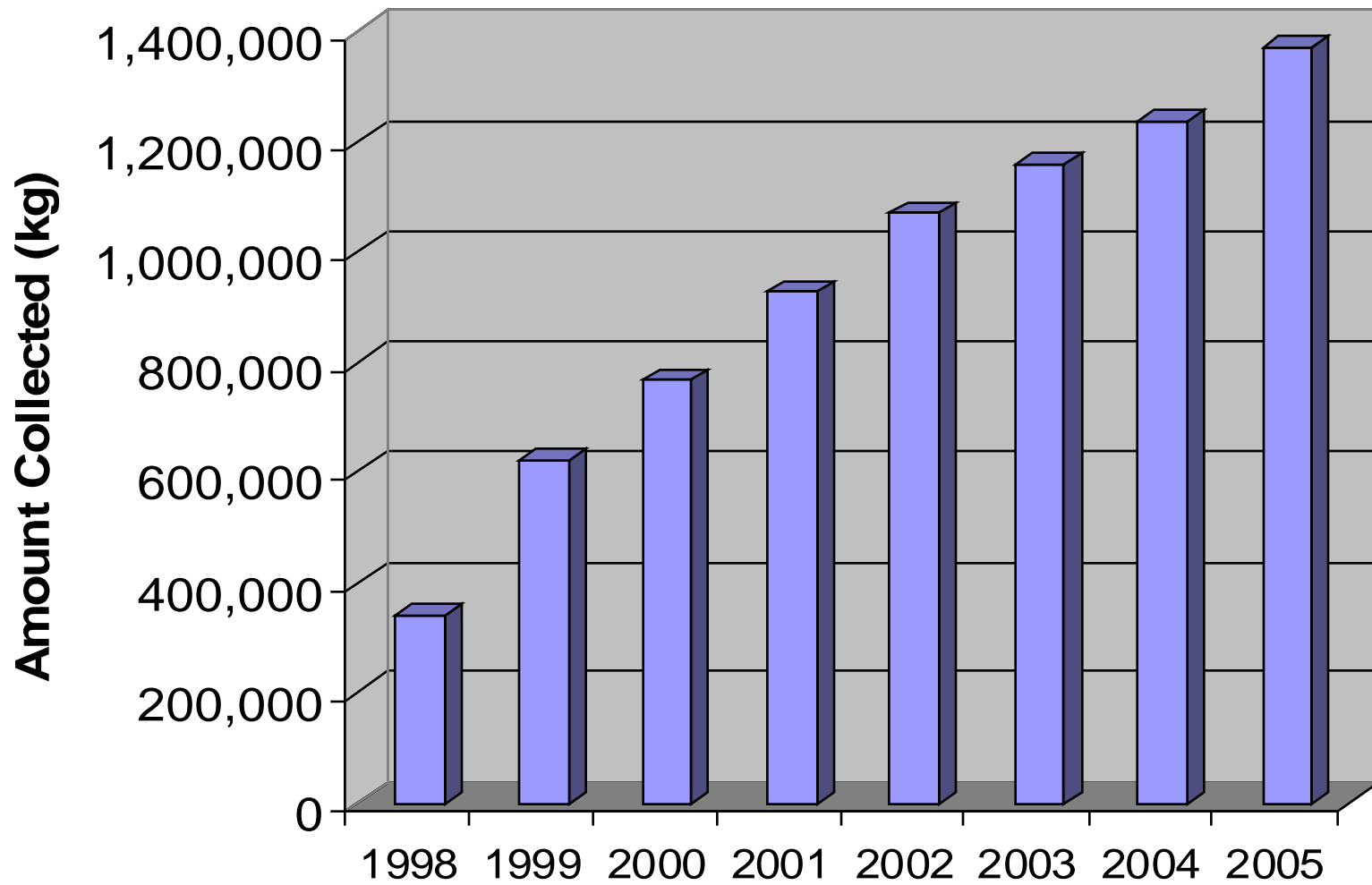
Note: the whole pie represents 650 kg/yr. A reduction of 200 kg/yr is needed to meet the milestone. Proposed permits would allow an additional 90 kg/yr.

Figure 3-4. Percentage of Dioxin Releases from Different Sectors in the Lake Superior Basin, 2005.



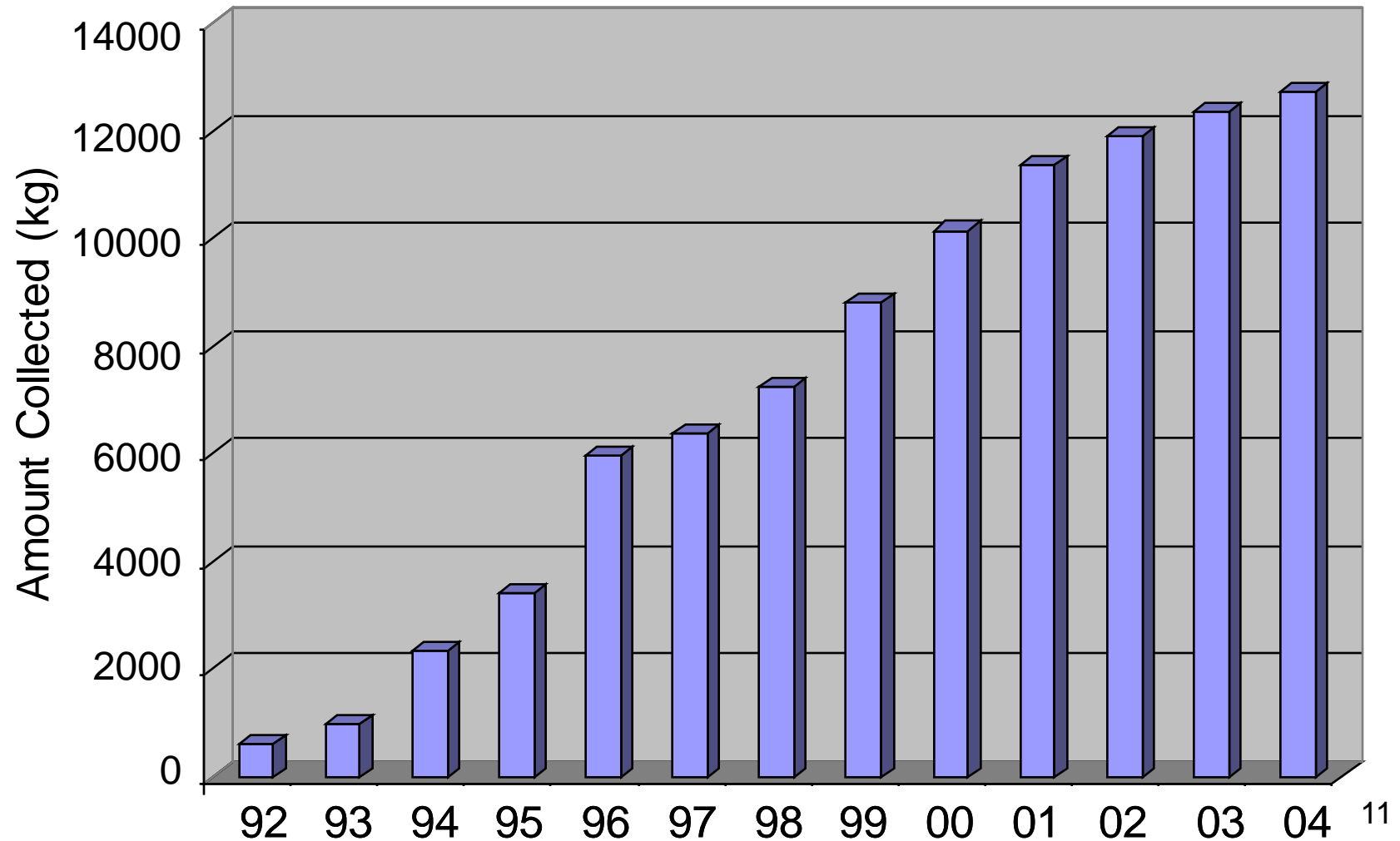
Note: the whole pie represents 6.4 g ITEQ/yr. A reduction of 2 g/yr is needed to meet the 2010 milestone. U.S. Open Burning + Remaining Incineration = 4.8 g/yr. 9

Figure 3-5. Cumulative Total of PCB Wastes Disposed from Minnesota Lake Superior Facilities*, 1998-2005



* Does not include Bayside Recycling 2004 shredder incident.

Figure 3-8. Cumulative Amount of Pesticides Collected in Minnesota and Wisconsin Counties in the Lake Superior Basin, 1992-2004 (kg).



Examples of Reduction Projects

- Beyond the Basin: federal, provincewide and statewide actions such as the national Thermostat Recover Corporation in the U.S., Ontario's requirement for dentists to install amalgam separators, or Minnesota's Mercury Free Zone (including the nation's only mercury detecting dog)
- Within the Basin: local programs at organizations such as EcoSuperior, Earth Keepers, WLSSD or City of Superior that inform residents and provide collections
- LaMP Dependent: projects that would not have happened without the LaMP, such as Minnesota's PCB transformer project or the basinwide mercury reduction initiative

Clancy – MN's mercury dog



Grand Marais linemen – PCB transformer project



EcoSuperior's Jim Bailey with a pallet of packaged fluorescent lamps

Acknowledgements

POSTERS!!!

- Mercury
- Open burning
- Emerging substances
- Milestones
- Use trees

Members of the Lake Superior Chemical Committee:

- Jim Bailey, EcoSuperior
- Lynn Hall, Bad River Band of Lake Superior Chippewa
- Matt Hudson, Great Lakes Indian Fish and Wildlife Commission
- John Jereczek, Wisconsin Department of Natural Resources
- Liz LaPlante, USEPA Great Lakes National Program Office
- Carri Lohse-Hanson, Minnesota Pollution Control Agency
- Patrick Morash, Ontario Ministry of Environment
- Julie Sims, Michigan Department of Environmental Quality
- Kate Taillon, Environment Canada

- The Chemical Committee also appreciates contributions to the Milestones report from staff at Bad River Band, Environment Canada, Fond du Lac Band, GLNPO, Grand Portage Band, Keweenaw Bay Indian Community, MDEQ, MOE, Red Cliff Band and WDNR.

- Contact Carri Lohse-Hanson at 651-296-9134 or Kate Taillon at 416-739-5989 for a copy of the milestones report or find it at <http://www.epa.gov/glnpo/lakesuperior/2006/lchemmiles.pdf>