

City of Superior
Environmental Services
Division of Public Works

Hi-Ho Silver –
Heave-Ho Quicksilver!





Pollution Prevention Team

- Diane Thompson
- Amber Westerbur
- Jane Edwards





Federal Legislation

Clean Air Act

-  Enacted 1970

Clean Water Act

-  Enacted 1972

Stormwater Utility Act

-  Expansion of Clean Water Act (1980)

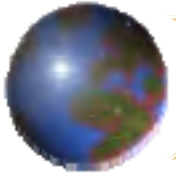




Binational Agreement Goal

To achieve zero discharge and emission of persistent, bioaccumulative toxic substances in the Lake Superior basin.

(1991)



Why Lake Superior?

- *Best opportunity among the Great Lakes to achieve zero discharge*
 - smallest population
 - least polluted
 - symbol of hope
 - largest lake





Superior's Pollution Prevention Programs

- Supported with Grants (1996)
- Goals:
 - Reduce (eliminate) hazardous wastes in effluent water
 - Meet standards set by EPA/DNR/State





Funding Sources

Grant Name	Grantor	Amount
• Toxic Reduction Plan	WLSSD	\$30,000
• Toxic Reduction Committee	WDNR	\$20,000
• PCB/Contractors Workshop	US EPA	\$30,000
• Toxic Reduction Work/Dioxin	US EPA Coastal	\$36,000
• Mercury/Schools CleanSweep	US EPA Coastal	\$30,000
• Mercury reduction activities	WDNR	\$82,000
• Murphy Oil Refinery Project	US EPA	\$36,000
• Rain garden demonstration	Great Lakes Commission	\$39,375
• Fluorescent bulb grant	WDNR	\$12,500
• E-waste recycling grant	WDNR	\$6,250
• Guidance Manual	WDNR	\$21,250
• Rain Barrel Grant	Dul Sup Comm Foundation	\$3,000
• Pollution Prevention	WDNR	\$12,000
• Shipping	US EPA	\$30,000
• Ewaste Collection	Dul Sup Comm Foundation	\$7,500
• Outdoor Classroom	WDNR	\$17,000



Superior's Focus on Mercury

- Products
- Education
- Ewaste

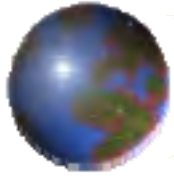




Mercury Reduction Programs

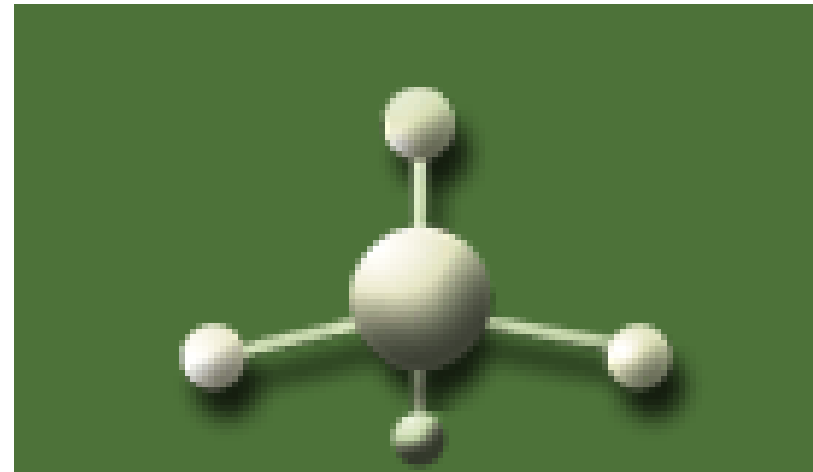
- Thermometers exchange/collection
 - Boy scouts, school groups, businesses
- Thermostats recycling centers
 - Honeywell Ind.
- Car Switches
 - Clean Car Campaign
 - Superior new car dealerships





Mercury Reduction Programs

- Fluorescent Bulb Recycling
 - SWL&P
 - Murphy Oil (2002)
- Dental Office Workshops
- Schools/Camps
 - 10 Northern Counties





Mercury Reduction Programs

- Ewaste Collection
- Seminars
 - Construction
 - Medical/dental
- Hospitals
 - Become mercury free

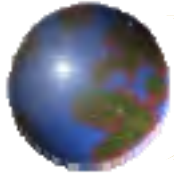




Mercury Reduction Programs Goals

- ❶ **Remove mercury from our schools**
 - ❑ Provide a safe learning center
- ❷ **Create a safe home & work environment**
- ❸ **Lower the need for fish advisories - awareness**
- ❹ **Lower risks (insurance)**
 - ❑ Green Bay School (\$300,000)
- ❺ **Meet EPA effluent requirements**

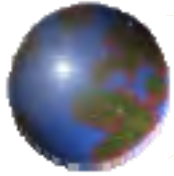




Mercury Program Results

- ④ **~ 8,000 thermometers exchanged for digital**
 - ❏ (Northern 10 counties)
- ④ **8 thermostats recycling centers established**
 - ❏ (Duluth & Superior)
- ④ **5 new car dealerships replacing car switches**
 - ❏ Hundreds of switches replaced
 - ❏ Dealerships with garages
 - ❏ Last factory installed in 2002





Mercury Program Results

🔌 Bulb Recycling

- ❑ 3 drop off sites established
- ❑ Superior Ordinance
- ❑ > 15,000 recycled

🔌 Dental Offices

- ❑ 100% w/Separators
- ❑ Ashland/Bayfield/Douglas Counties

🔌 10 Northern County Schools

- ❑ Over 100 schools signed agreements to eliminate mercury





Mercury Program Results

✚ Ewaste

✚ 2004 CleanSweep

- Reduced cost
- Hundreds collected

✚ 2004 America Recycles Day

- Free to all
- Overwhelmed:
70,000 lbs. in 4 hours

✚ 2007 CleanSweep

- 347 TVs & Computers (Coupon)





Mercury Program Results

🌐 Presentations to groups

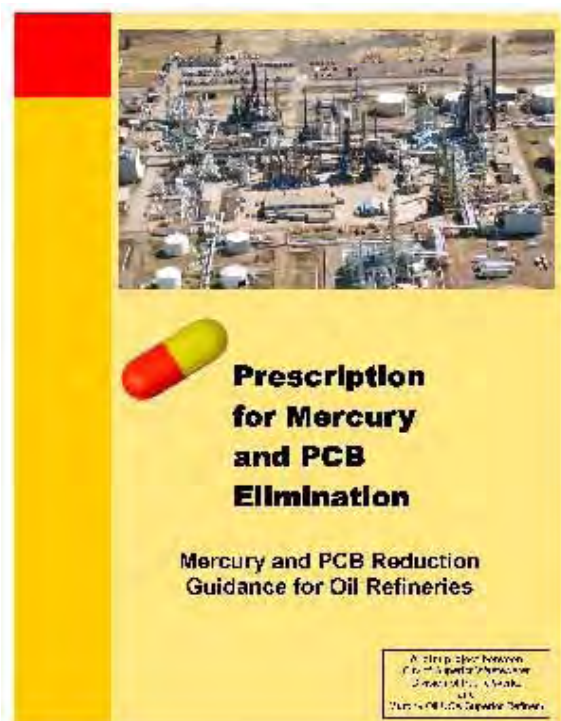
- 🏠 Elementary School
- 🏠 Middle School
- 🏠 High School
- 🏠 Boy Scout Troops
- 🏠 4-H Groups
- 🏠 Summer School

🌐 Will take message with them for a lifetime





Mercury Publications



- ❶ **Murphy Oil Project Manual**
- ❷ **Mercury Manual for Municipal Wastewater Facilities**
- ❸ **Mercury Reduction for Lake Superior Brochure**
- ❹ **Brochures & hand-outs**



Current Mercury Program

- Work with Great Lakes Fleets
- Inventory industries
- Provide additional mercury collections
 - Ironwood
 - Silver Bay





Current Ewaste Project

- ❁ **Largest growing source of hazardous waste today**
- ❁ **Environmental contaminants**
 - ❁ Mercury
 - ❁ Cadmium
 - ❁ Lead
 - ❁ Plastics
- ❁ **High School Education**





Total Mercury Collected

485 lbs. collected
and recycled (est.)

- 1 gram of mercury
per year may
cause fish
advisories in a 20
acre lake

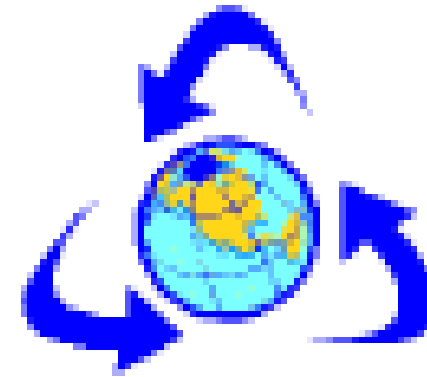


**Mercury in ewaste unknown*



What individuals can do!

- Recycle
- Reuse
- Donate
- Buy smart
- Turn off the lights
- Turn down the heat
- Carpool, walk, use public transport





What individuals can do!

- Recycle mercury products
- Recycle Ewaste
- Purchase mercury free alternatives
- Use fluorescent bulbs
- Use rechargeable batteries
 - (Saves money, resources, hauling costs and landfill space too)





What communities can do!

♻️ Collect Ewaste

- ❑ Lap tops
- ❑ Cell phones
- ❑ Rechargeable batteries
- ❑ Button batteries
- ❑ Printer cartridges
- ❑ Palm pilots

♻️ Recycle for \$\$\$\$!

- ❑ Refunds kept or donated to charity or to schools





What communities can do!

- Hold a thermometer exchange
- Set up thermostats recycling sites
 - Honeywell, MPLS





What communities can do!

- **Enlist help from local companies**
- **Pool programs with neighboring communities**
 - WLSSD
- **Set up booths at fairs and expos**
 - Provide information





What communities can do!

- Pass Ordinances
 - **Illegal to sell mercury products**
 - **Illegal to landfill mercury products**
 - Fluorescent bulbs
 - Ewaste





Reduce pollution!




- 75% of all materials that go into landfills today could be recycled (paper, aluminum, card board, plastics)
- 1,500 lbs/person yearly





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*City of Superior
Mercury/Pollution
Prevention Web-Site*

[http://www.ci.superior.wi.us/publicwks/
wastewater/Mercury.htm](http://www.ci.superior.wi.us/publicwks/wastewater/Mercury.htm)