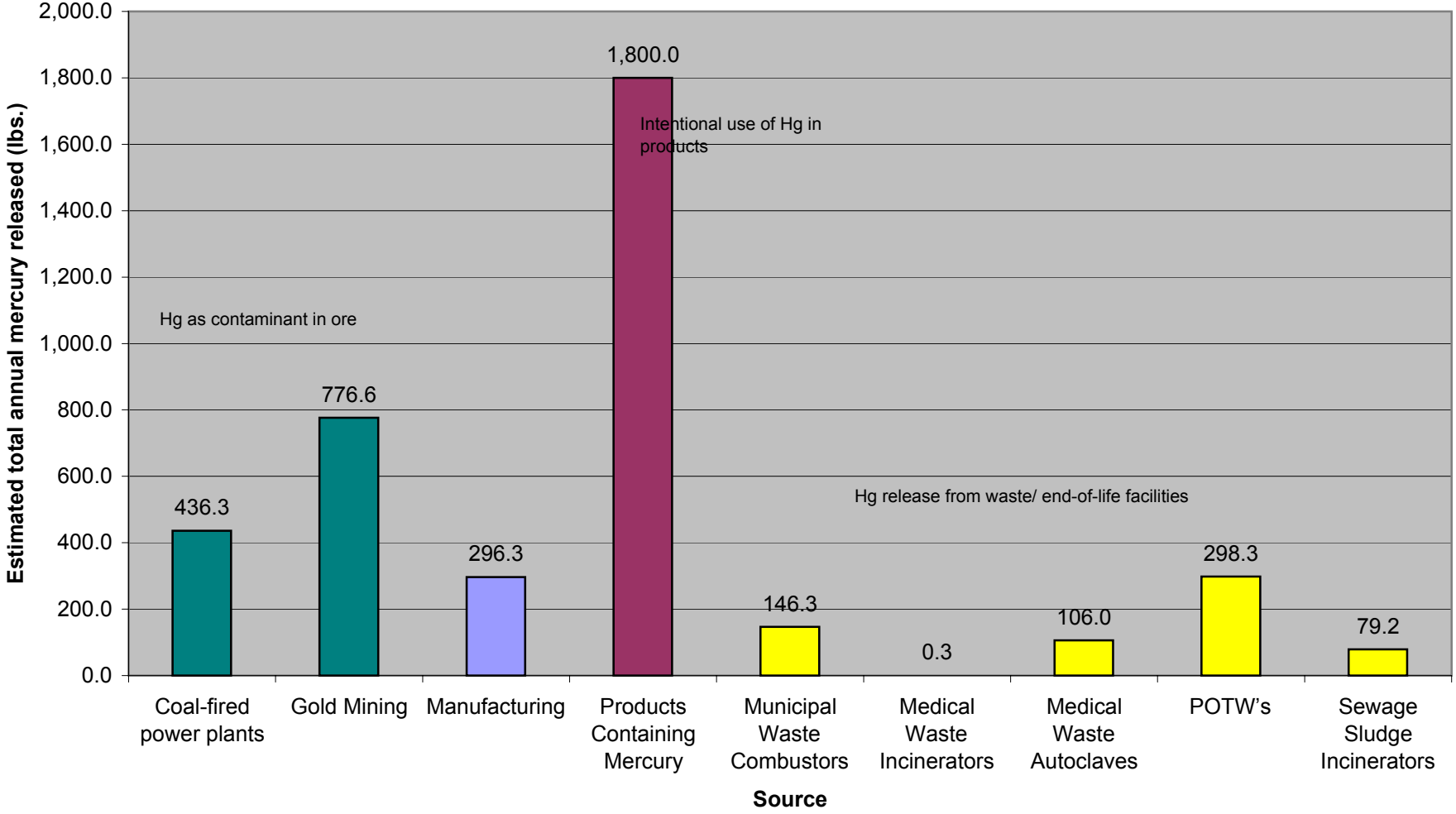
Handout #1: Mercury Advisory Committee Meeting

Preliminary Estimated Annual Mercury Releases by Source in Washington State

note: Some releases presented in the "Products" figure are shown twice, once as a product and once as a release from a waste facility.
Does not include secondary steel smelters.

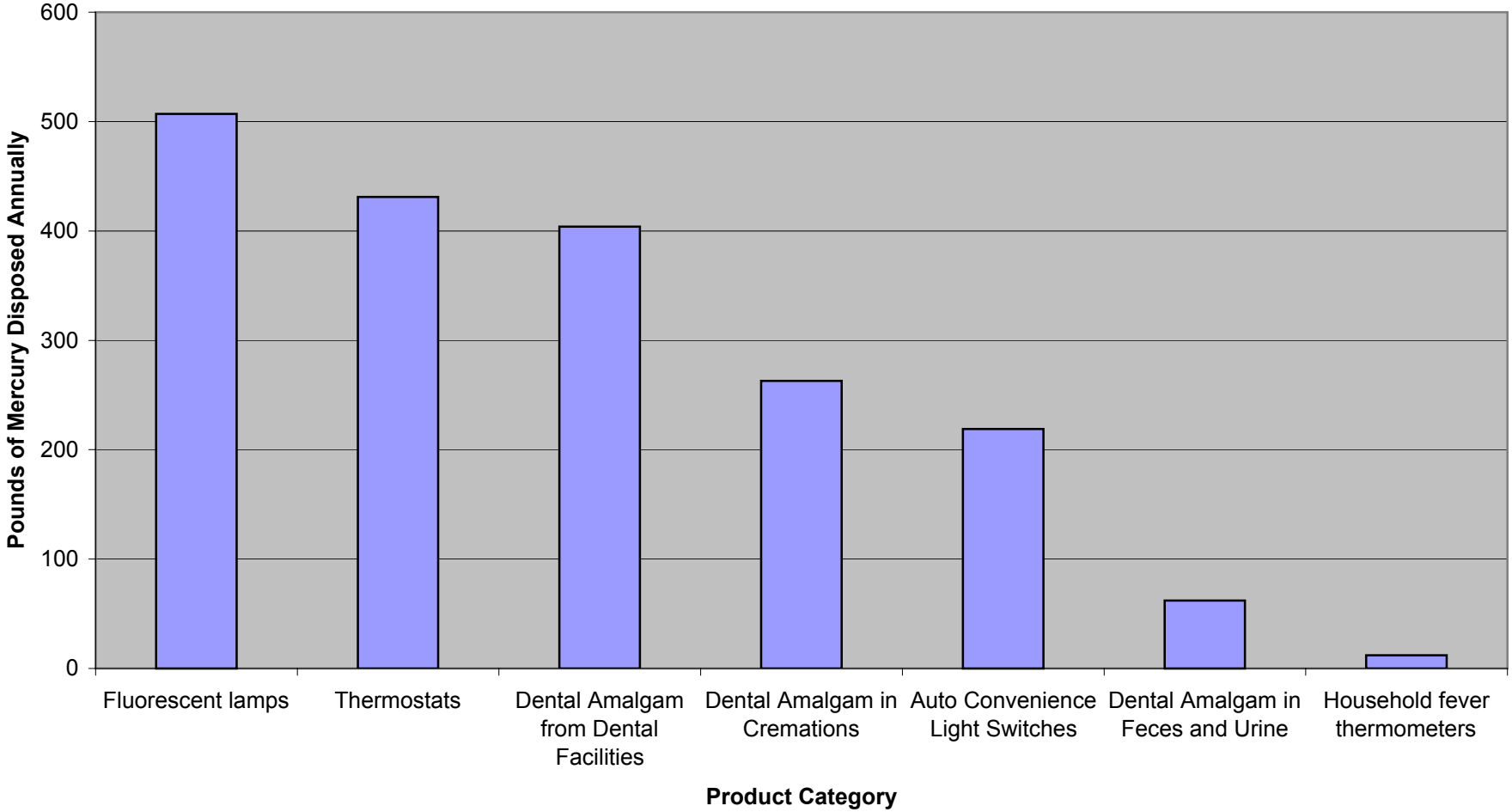


06/10/02

Handout #2

Mercury Advisory Committee Meeting; June 10, 2002

Estimated Pounds of Mercury Disposed from Product Categories in Washington State Annually



Handout #3
Mercury Advisory Committee Meeting
June 10, 2002

Information Gaps- Initial Research Questions

Ongoing Research:
What are the levels of mercury in freshwater and saltwater fish in Washington?

What are the levels of mercury in freshwater streams in Washington?

What are long-term management options for mercury?

Where are potential toxic cleanup sites contaminated with mercury, e.g., historic placer gold mines? (Assessments of abandoned mines are underway, but without current focus on mercury.)

What volume of mercury is escaping with landfill gas? (ongoing in other states)

What is the atmospheric deposition of mercury in Washington? (ongoing as part of the National Atmospheric Deposition Program Mercury Deposition Network)

Planned Research:
What other research efforts on mercury in Washington are underway, outside the Departments of Ecology and Health?

What is the impact of fish consumption advisories on consumer behavior? (DOH research effort)

Potential Research:
How accurate is reporting for mercury on the Toxics Release Inventory?

What is the fate of mercury released in lode gold mining?

What is the fate of mercury at crematoria?

What is the impact of mercury on Washington wildlife (e.g., orcas, eagles)?

How many fluorescent lamps are being disposed of in landfills?

What is the fate of mercury in biosolids?

How much mercury is in effluent versus biosolids?

Handout #4
Mercury Advisory Committee Meeting
June 10, 2002

Criteria for Initial Screening of Mercury Reduction Sources and Strategies

- What is the potential reduction possible from this source?
- Can the strategy be accomplished through an existing reduction option or regulation?
- Does the strategy focus on pollution prevention?
- Will the strategy result in retirement or cross-media transfer that reduces or eliminates exposure?
- Will the strategy increase public education about mercury?
- Is the strategy technically feasible?
- Has the strategy has worked in other locations and/or is the strategy consistent with EPA?

Additional Criteria for Prioritizing Mercury Reduction Strategies

- What is the cost to implement the strategy relative to mercury reduced?
- What is the cost to the Department of Ecology to implement the strategy?

POTENTIAL STRATEGIC DIRECTIONS FOR NEAR-TERM ACTION

(All strategies listed subject to further evaluation.)

Handout #5

June 10, 2002

MERCURY PRODUCTS—GENERAL		
Item	**Possible Strategies**	**Reasons**
• *Estimated annual release in Washington:* >1,800 pounds	• Support development and passage of legislation to require labeling, manufacturer collection and phase-out of mercury products	• Products are the largest source of mercury in Washington State. • Nearly all mercury-added products have readily available cost-effective alternatives. • Focus on pollution prevention. • Product legislation of varying degrees has been passed in 10 other states.

POTENTIAL STRATEGIC DIRECTIONS FOR NEAR-TERM ACTION

(All strategies listed subject to further evaluation.)

MERCURY PRODUCTS—SPECIFIC PRODUCTS AND SECTORS		
Item	**Possible Strategies**	**Reasons**
General Education Campaign/ Thermometer Exchanges • *Estimated annual release in Washington*: 12 pounds • *Estimated total amount of mercury that could be collected*: 1,152 pounds	• Grants to counties to conduct thermometer exchanges (ongoing) • Joint thermometer exchange and education campaign with Washington State Pharmacy Association	• Public education is necessary to reduce releases of mercury from consumer products. • Thermometer exchanges have been extremely successful public education tools in other states. • The volume of mercury that can potentially be collected through a statewide thermometer exchange is very large.
Fluorescent Lamps • *Estimated annual release in Washington:* 507 pounds	• Increase grant funding to counties for fluorescent collection • Application of Universal Waste Rule • Outreach and education to building managers on Universal Waste Rule	• Large single source of mercury. • Regulatory structure and collection infrastructure to prevent releases already in place.
Thermostats • *Estimated annual release in Washington*: 430 pounds	• Support expansion of Thermostat Recycling Corporation • Work with Building Code Council to change state building code to prohibit use of new mercury gauges and switches • Require that HVAC systems be checked for mercury gauges and switches before demolition • Outreach and education to contractors	• Relatively large single source of mercury • Partial collection infrastructure (wholesalers) could be put into place at no cost to consumer • Focus on pollution prevention- precedent for ban on installation of mercury thermostats exists in Oregon and Rhode Island.
Dental Facilities • *Estimated annual release in Washington*: 400 pounds	• Require use of amalgam separators and best management practices by dentists • Outreach and education for dental staff • Approach the Insurance Commissioner on equal coverage for amalgam and non-mercury restoratives	• Relatively large single source of mercury • Amalgam separators are available that will remove 95 percent of mercury particles in dental effluent • Fifty percent of Washington dentists, those who practice in King County, are required to follow best management practices and will be required to install amalgam separators by June 2003. • Insurance Commissioner- focus on pollution prevention

MERCURY PRODUCTS—SPECIFIC PRODUCTS AND SECTORS		
Item	**Possible Strategies**	**Reasons**
Medical Facilities • *Estimated annual release in Washington*: Unknown. In other areas of the country, however, medical facilities have consistently been one of the largest sources of mercury to POTW's. The Washington State Hospital Association is currently conducting a survey to determine the use of mercury products in hospitals.	• Voluntary mercury reduction program by medical facilities • Mandatory mercury reduction by medical facilities • Outreach and education for medical staff	• Potentially large point source of mercury • Strategies focusing on purchasing practices, disposal methods, and general outreach and education to medical staff have been very effective in other areas of the country
Auto Switches • *Estimated annual release in Washington*: 253 pounds	• Replace switches at state inspections • Place bounty on switches funded by car manufacturers • Require auto dismantlers to make reasonable effort to remove switches • Support legislation to ban use of mercury in vehicles • Voluntary exchange programs and incentives	• Relatively large single source of mercury • Currently, large percent of mercury from auto switches is released to the air at secondary steel smelters, which are not regulated for mercury emissions • A number of states are focusing on this issue in a coordinated fashion
K – 12 Schools • *Estimated annual release in Washington*: Unknown.	• Finish Rehab the Lab project • Work with Healthy Schools Task Force	• Children are particularly vulnerable to the effects of mercury, including breathing mercury vapors released following a spill. • Mercury spills have proven extremely costly for schools in other parts of the country. • The Rehab the Lab project has already removed mercury, among other unnecessary chemicals, from approximately 50 percent of middle and high schools in the state. • The Healthy Schools Task Force is an ongoing, multi-agency effort, which has expressed interest in removing mercury from K – 12 schools.

POTENTIAL STRATEGIC DIRECTIONS FOR NEAR-TERM ACTION

(All strategies listed subject to further evaluation.)

MINING		
Item	**Possible Strategies**	**Reasons**
Lode Gold Mining • *Estimated annual release in Washington*: 777 pounds	• Work with EPA and gold mines to improve characterization of mercury emissions. • Work with EPA and gold mines to improve characterization of control technologies. • Work with EPA and gold mines to investigate voluntary reduction initiatives.	• Very large single source of mercury in Washington State. • Little is currently known about the fate and potential reduction opportunities for mercury emissions. • Consistent with EPA PBT National Action Plan for Mercury (Working Draft)
Abandoned Mine Cleanup • *Estimated annual release in Washington:* Unknown	• Work with federal government agencies and the Washington Department of Natural Resources to focus specifically on potential mercury releases in their assessments of abandoned mines for clean up.	• Runoff from abandoned placer gold mines has been identified as one of the sources of mercury to Lake Roosevelt. • Estimates are there may be as many as 3500 abandoned metals mines in the 68 mining districts in Washington. Of these, it is estimated that approximately 500-600 are considered significant (more than 200 pounds of product produced during the life of the mine). • Assessment and clean up of abandoned mines is ongoing, but presently there is no focus on mercury as a criterion for clean up.

Mercury Chemical Action Plan

Mercury Advisory Committee

Meeting #2

June 10, 2002

Welcome and Introductions

- Ecology
- Health
- Meeting Facilitator (Ross & Associates)
- Mercury Advisory Committee members
- *New Mercury Advisory Committee members*
- Others in attendance

Purpose of Today's Meeting

- Ecology providing updated summary of mercury releases in Washington
- Presentation and discussion of potential research directions and action areas
- Review timeline of where we are at

Overview of Elements of Mercury Chemical Action Plan

- Summary of mercury releases in WA
- Ongoing, planned, proposed research directions
- Potential mercury reduction action areas
- Pollution prevention approach
- Phased implementation
- Continued stakeholder involvement with implementation

Recap of April 29 Mercury Advisory Meeting

- **Goals of the Mercury Chemical Action Plan**
  - **Identify current uses of mercury in WA**
  - **Analyze laws, regulations, rules & voluntary measures that can be used to reduce or eliminate mercury**
  - **Identify mercury reduction and elimination options**
  - **Implement actions to reduce or eliminate mercury uses and releases**

Recap of April 29 Mercury Advisory Meeting

- **Common Interests**
  - Mercury is an element
  - Goal is to reduce the amounts of anthropogenic (human generated) mercury being released into the environment
  - Mercury in environment and in food chain is a global problem
  - No-one is particularly at fault
  - No-one is a scapegoat
  - No-one is totally responsible
  - Some solutions will be easier than other solutions
  - Everyone needs to be involved and has a role in this issue
  - Other states are involved in this effort
  - Washington State needs to do it part as well

Recap of April 29 Mercury Advisory Meeting

- **Examples of Advisory Committee Comments:**
  - ***Overall goal of MCAP:***
    - **Better management vs. zero tolerance**
  - ***MCAP Development Process:***
    - **Some important interests missing from Advisory Committee**
    - **Use solid science, consider economic and technical feasibility**
    - **We know effects of mercury, don't need to study more**
    - **Verify assumptions in background document**
    - **Explain relevant regulations and programs better**

Recap of April 29 Mercury Advisory Meeting

- **Examples of Advisory Committee Comments:**
  - ***MCAP Content:***
    - **Ensure that MCAP compliments EPA Mercury Strategy**
    - **Timeline is too short and the "action plan" should be geared accordingly**
    - **Many products have cost-effective alternatives**
    - **Base strategies on what has worked elsewhere**
    - **Focus on pollution prevention**
    - **Expensive to deal with at end of pipe**
    - **Be practical – know real-world impacts of possible actions**

Recap of April 29 Mercury Advisory Meeting

- **Examples of Advisory Committee Comments:**
  - ***Examples of Source-specific Comments:***
    - **Not much information on agricultural uses of mercury**
    - **Small business unaware of mercury issue**
    - **Need to look more at Hg levels in fossil fuel emissions**
    - **Dental community wants to be part of the solution**
    - **Medical use of mercury varies depending upon facility**
    - **Fluorescent light tube recycling rate needs to increase**

Activities Update

- **Developments since the April 29 Mercury Advisory Committee meeting:**
  - **Added new members to the Mercury Advisory Committee**
  - **Ecology conducted multi-program review of background document**
  - **Developed/applied initial screening criteria for sectors and strategies**
  - **Developed an initial list of research questions**
  - **Developed an initial list of potential action areas**
  - **Continued work on DRAFT MCAP document**

Next Steps

- **Mercury Advisory Committee review mid-June to mid-July**
- **Internal Ecology and Health review mid-July to early August**
- **Draft MCAP by August 31, 2002**
- **60-days public comment/general stakeholder forum**
- **Mercury Advisory Committee meeting in late October**
- **Final MCAP by December 31, 2002**
- **Implementation by February 1, 2003**