

Assessing Participation in Maine's Mercury Auto Switch Recovery Program: Results of Survey of Auto Recyclers



**Survey Conducted and Report Prepared by:
The Natural Resources Council of Maine
December, 2004**

Survey of Maine Auto Recyclers

Summary of Results

- Between September 13 and October 11, 2004, the Natural Resources Council of Maine (NRCM) conducted a phone survey of 115 facilities that said they have conducted business that is regulated under Maine's Mercury Auto Switch Law.
- Of 100 facilities that reported dismantling or "parting-out" autos, 80% said that they are currently collecting mercury switches and have switches on site.
- These facilities reported that they had 14,479 mercury-containing switches on hand. In addition, 2,417 pellets had already been turned in to consolidation centers; therefore, we have now positively identified 16,896 switches collected under Maine's auto switch program.
- Because a substantial number of end-of-life vehicle (ELV) facilities were not reached or did not appear on the state list, it is reasonable to assume that the actual numbers of switches collected could substantially exceed the total discovered through the survey.
- 52% of survey respondents said that recording the Vehicle Identification Number (VIN) is overly burdensome. Burdensomeness of recording the VIN was the single most frequently volunteered response to the initial, unprompted request for opinions on how to improve the program.
- 70% of survey respondents felt that the bounty should be increased.

Background

In 2002, Maine enacted the nation's first law to give automakers responsibility to recover and properly manage mercury-added switches from end-of-life vehicles. This report provides results of a survey done to assess participation in the program and to gather additional data on the recovery of mercury switches.

Mercury is a dangerous neurotoxin. Even at low levels it can impair infant and child development and may harm adults' cardiovascular and immune systems. In the environment, mercury pollution threatens wildlife populations and builds up in game fish that people consume. Maine has some of the highest mercury pollution levels in the nation and, as a result, the State's Bureau of Health has been forced to advise people to strictly limit consumption of fish caught in our inland waters.

Most American-made vehicles manufactured before 2003, and some older European models, have capsules of mercury installed as part of gravity-controlled light switches in trunks and hoods as well as in some anti-lock brake systems. Typically, there is about 1 gram of mercury per light switch and up to 3 grams per anti-lock brake system. This

mercury is released during the smelting process as part of vehicle recycling. It is estimated that some 18,000 pounds of mercury was released last year into the air over the United States from ELV smelting. Much of this mercury settles into the nation's waterways.

The Maine auto switch law, 38 MRSA § 1665-A, is designed to reduce this source of mercury pollution. The law requires that automakers pay a bounty of at least \$1 for each mercury switch brought to a consolidation center by the scrap yard owners that dismantle junked vehicles. The automakers are also required to set up the centers and provide for shipping of the switches to recycling centers.

The Alliance of Automobile Manufacturers (AAM), a trade association of nine car and light truck manufacturers (including BMW Group, DaimlerChrysler, Ford Motor Co., General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen) has set up a program to comply with the law.¹ Under the program, which has been in effect since January 1, 2003:

- Wesco Distribution (Wesco) collects mercury switches at locations in Portland and Bangor.
- Wesco processes the switches for recycling and provide the person delivering the switches with a voucher.
- All the mercury auto switches delivered to Wesco must be accompanied by a log sheet showing the Vehicle Identification Number (VIN) for each vehicle from which switches were removed.
- The party delivering switches certifies that the switches were taken from vehicles dismantled in-state.
- Wesco forwards the signed log sheets to the participating automakers who apportion costs among themselves.
- Once this is done, Wesco is cleared to issue a check to the auto scrapper in the amount of one dollar for each mercury switch from a vehicle made by a participating manufacturer.

Other states, including New Jersey, Pennsylvania and Minnesota, are considering adopting statutes modeled after the Maine law. Opponents and skeptics claim that the program in Maine has not demonstrably produced impressive switch collection rates. Initial figures reported to Maine's Department of Environmental Protection (DEP) as of November 2003 indicated that Wesco had received a total of 1,613 mercury switches from four facilities in the first nine months of the program. However, under the law, an auto recycler is able to store the recovered switches for up to three years or until they accumulate 4,000 switches. When this survey project began, it was not known the extent

¹ AAM also filed a lawsuit to overturn the law. In February 2004, a federal district court dismissed the case and entered a judgment for the state on all counts.

to which Maine auto recyclers were accumulating the switches on site as opposed to failing to pull switches.

This survey of in-state auto scrappers was implemented to:

- (1) determine the degree of participation in the program;
- (2) estimate the number of switches that have been pulled from vehicles but not redeemed at Wesco;
- (3) encourage car scrappers who pull significant numbers of switches to redeem them more frequently; and
- (4) encourage full program participation among car scrappers.

Data Collection Methodology

The Objective: To locate and call as many Maine car recyclers as possible and ask them a uniform set of questions about the auto switch recovery program.

Procedures: A single phone surveyor placed all of the calls. The surveyor relied primarily on a list of auto junkyards and recyclers compiled by the Maine DEP from calls to municipal code enforcement officers. This list was supplemented with new information when discovered. The surveyor initiated each call using the same script (see below). In many instances, those contacted would volunteer information and opinions on the switch recovery and the State's program without waiting for the next question. In some instances, volunteering of information started right after the contact learned of the purpose of the call. The surveyor did not discourage a free flow of suggestions and comments on the subject of the auto switch program, but would return to the script to cover unanswered questions.

Several factors affected the survey and data collection and some auto recyclers were not reached. The DEP list of 760 facilities proved to be both over-inclusive and incomplete. As discussed below, many of the facilities listed reported that their businesses do not dismantle or "part out" vehicles. In addition, insufficient contact information was available for 244 of the listed facilities. Of the facilities for which phone numbers were provided on the list, 18 were either wrong numbers or not in service. There are also 26 entries on the DEP list that are for municipalities that are identified on the list as having "no licensed junkyard."

The surveyor attempted to contact 478 names listed as licensed ELV recyclers for which there was useful contact information. Of those, 222 facilities identified on the list could not be reached despite repeated attempts. Some contact was made with 256 facilities. Of the 256 facilities contacted, only 115 said that they conduct the kind of business that is regulated under Maine's Mercury Auto Switch Law. Those that said that the law did not pertain to their business offered various explanations. For example, 32 of the businesses said that they are only body shops; 17 are auto repair shops; 6 work on farm equipment; and 10 stated that they deal in parts for antique cars and other vehicles that were manufactured before the advent of mercury switches. Seventeen facilities stated that they

are out of business or going out of the business. Five of the listed facilities simply refused to participate in the survey.

On the other hand, there are reasons to expect that there are more auto dismantlers removing switches than were identified through the survey. Though contact information was in many instances unavailable, a number of sources affirmed that the businesses listed continue to operate. Not only did DEP have records, albeit incomplete records, of more recyclers, but many of those that were contacted mentioned local competitors for whom contact information was lacking. It would be difficult to estimate the total number of operating auto recyclers that were not reached, or the number of mercury auto switches these businesses may have pulled and have on hand, but it is likely that both are significant numbers. It is conceivable that the number of unidentified switches “in the pipeline” may exceed the total discovered through this survey.

The survey’s first question generated some contradictory responses. When asked: “Do you dismantle vehicles at your shop?” the initial response was often negative. On further discussion, however, 100 facilities acknowledged that they dismantle or “part-out” ELVs. Of these 100 facilities, 93 reported that they are currently removing mercury switches but only 80 said that they currently had switches on site. In response to the second part of question: “How many cars per month does your facility dismantle?” some respondents gave annual estimates while others stated that they simply could not answer the question. According to some in the latter group, there are too many variables within the industry such as the price of scrap metals and the supply and demand for second-hand auto parts that create extreme fluctuations in their business. In the end, the number of ELVs that are being dismantled in Maine each month could not be determined through this survey.

The Phone Survey Script

1. Do you dismantle [or “part-out”] vehicles at your shop? If “yes,” approximately how many vehicles per month?
2. Are you currently pulling the mercury switches from vehicles that come to your yard for dismantling?
3. [If the Answer to Question #2 is “No”] We would like to find out what it might take to get your participation. Please tell me, if you will, why you do not pull the mercury switches and what changes should be made to the program.
4. [If the Answer to Question #2 is “Yes”] Have you turned in any switches to either one of the Wesco locations in Bangor or Portland? How many do you currently have on hand?
5. Can you please give me your opinion on how to make this program better if you think that changes are needed?

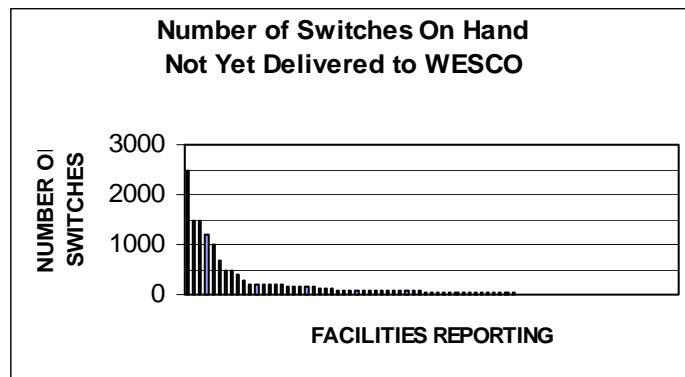
6. Do you think the \$1 bounty is a good idea? Is \$1.00 adequate? Is recording the VIN numbers of the cars reasonable or burdensome? Are the drop-off locations at Wesco in Bangor and Portland convenient enough? Have you run into problems pulling switches from certain vehicles? Do you have other issues to raise, or suggestions?

7. Do I have your approval to release your information to Maine DEP or other agencies?

Survey Findings

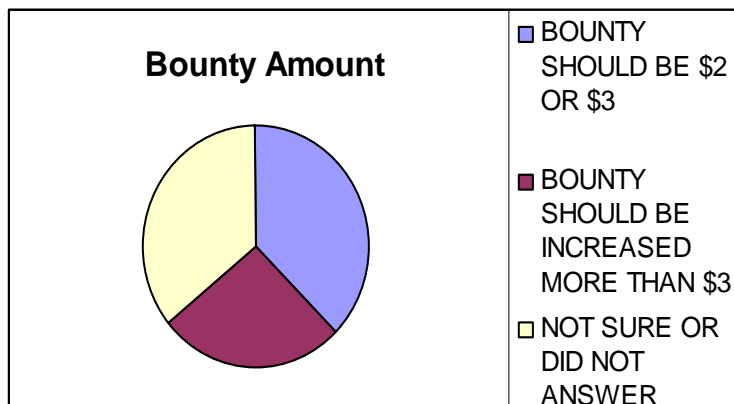
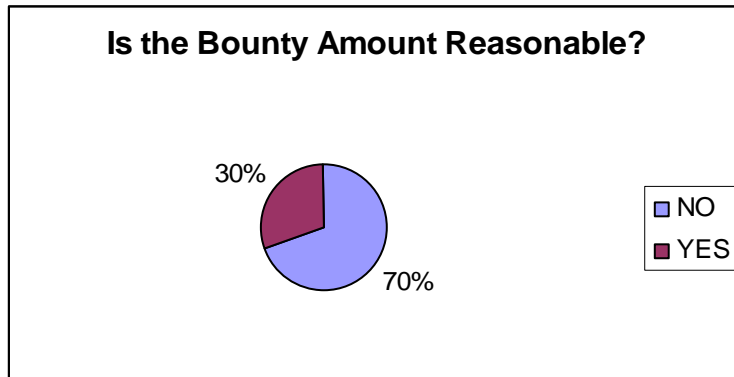
Key Findings

- Of the 100 facilities that reported dismantling or “parting-out” autos, 80% said that they are collecting mercury switches.
- The self-reported count of mercury-containing switches on hand totaled 14,479. This is in addition to the 2,417 pellets that were reported to have been turned in to the two Wesco locations before August 2004. Therefore, the total number of switches now reported to have been collected under Maine’s auto switch program is 16,896.



- Based on information gathered in connection with this survey, it is reasonable to assume that a substantial number of participating ELV facilities were not reached. Therefore actual numbers of switches collected could be much higher.

- 70% of survey respondents said that the bounty should be increased.



- 52% of survey respondents said that recording the VIN number is overly burdensome. Moreover, the burdensomeness of recording the VIN number was the single most frequently volunteered unprompted response for opinions on how to improve the program.

Survey Results

This section tallies responses to the survey questions from the 115 facilities contacted that said that they do work that is regulated under the Mercury Auto Switch Law (38 MRSA section 1665-A).

1. Do you dismantle vehicles at your shop?

Yes 100 No 15

2. Are you currently pulling the mercury switches from vehicles that come to your yard for dismantling?

Yes 93 No 22

3. Have you turned in any switches to either one of the Wesco locations in Bangor or Portland?

Yes 3 No 112

4. How many do you currently have on hand?
(note: see graph for switch count breakdown)

80 facilities had switches on hand (totaling 14,479)
(note: data available outside of survey included for one yard)

36 facilities reported none

5. Can you please give me your opinion on how to make this program better if you think that changes are needed?

(note: see comments for a sample of actual responses)

82 respondents gave comments

33 respondents gave no comments

6. Do you think the \$1 bounty is a good idea?

Yes 85 No or not sure 30

7. Is \$1.00 adequate?

Yes 35 No 80

8. Is recording the vehicle identification number of the cars reasonable or burdensome?

Reasonable 37

Burdensome 60

Not Sure 18

9. Are the drop-off locations at Wesco in Bangor and Portland convenient enough?

Yes 66 No or not sure 49

10. Do I have your approval to release your information to Maine DEP or other agencies?

Yes 102 No 13

Comments from Respondents

Variations in the way that each respondent answered questions or volunteered information made it difficult to gather unprompted assessments and suggestions from each on how to improve the program. Below are representative examples of responses and comments offered by respondents during the survey.

Sample of Unprompted Comments

- ▶ Recording the vehicle identification number is the worst part of the procedure. At most, auto scrappers should merely be required to record the make.

- ▶ Elaborations on the VIN number issue:
 - ▶ Difficult keeping paperwork on hand in the yard;
 - ▶ Difficult writing with hands that are always greasy, often cold;
 - ▶ VIN numbers are often hard to read;
 - ▶ VIN numbers missing in fire-damaged cars.

- ▶ Automakers should be required to provide more accurate information on the exact location of switches in each make and model of automobile.

- ▶ There is a problem with cars being shipped to Canada where environmental requirements are more lax and there is no requirement to remove switches.

- ▶ Maine DEP offices should be drop-off sites.

- ▶ Glass mercury switches were found in dome roof lights.

- ▶ Bounty should be \$3-5, but it would help if it was even just \$2. (When he went to hire someone to pull switches he had to pay \$400 to collect 200 switches.)

- ▶ DEP should require that switches be turned in once a year.

- ▶ Recording the vehicle identification number is the worst part of the procedure. At most, they should merely be required to record the make.

- ▶ Unaware of the law, but requested information.

- ▶ Refused to answer survey questions.

- ▶ Worried that other scrappers are slipping through the cracks.

- ▶ Motivated by bounty and asked for information to begin program.

- ▶ “There are going to be no changes around here.” (Not participating)

Sample of Comments in Response to Questions

- ▶ Program designed with little input from small yards but the State passed responsibility onto the little guy.
 - ▶ Some of the larger yards could act as collection agents. Small yard owners are fearful of the program. Do away with the paperwork. Let the State fight with manufacturers to get reimbursed.
 - ▶ Has asked for bucket and information but has yet to receive them.
 - ▶ Do away with recording vehicle identification number requirement and bounty should be \$2.50.
 - ▶ I am turning in my license.
 - ▶ Good program.
 - ▶ There is a lack of enforcement against the little guys.
 - ▶ Had cars crushed, crusher pulled switches.
 - ▶ Dismantlers guide needs to be improved.
 - ▶ Do away with the vehicle identification number requirement.
 - ▶ Observed that, as a rule, vehicles with power windows most likely had switches.
 - ▶ Not collecting switches, opposes government regulations.
 - ▶ DEP offices should be drop off location.
 - ▶ DEP should have program to pick up on site.
 - ▶ Had cars crushed. Crusher popped hoods, and looked under car for switches.
-

Actions Taken in Response to Survey

Natural Resources Council of Maine

- ▶ NRCM intervened on behalf of an auto recycler who had been turned away at one of the Wesco locations because he had not recorded vehicle identification numbers. NRCM contacted DEP to request that DEP review and clarify the protocol with Wesco employees. After receiving the go-ahead, NRCM picked up and turned in the container of switches with a log recording 1,152 switches.
- ▶ NRCM also suggested and DEP agreed to send a memo to ELV facilities to clarify the requirement that the facilities maintain a running count of the removed switches regardless of whether they seek to qualify to collect the bounty.
- ▶ During the course of the survey requested information was faxed or mailed to eight ELV facilities.
- ▶ New contact information was found by NRCM for six ELV facilities.
- ▶ There were 28 requests for information or supplies by ELV facilities during the course of the survey that will be passed on to DEP for follow-up.
- ▶ On hearing of the preliminary results of the survey, DEP started planning to do a collection run to pick up switches being held at ELV facilities.

Maine Department of Environmental Protection

- ▶ DEP wrote letter to ELV facilities explaining that no VIN numbers were required to recycle mercury-containing switches provided that the ELV facilities did not expect to receive the \$1.00 bounty provided by the auto manufacturers.
- ▶ A new mercury switch log sheet was developed for use by those ELV facilities that choose not to track VIN numbers.
- ▶ DEP contacted the automakers and Wesco to clarify how the program should work when switches without VIN numbers are brought in.
- ▶ A meeting will be scheduled between NRCM and DEP to discuss the findings of the survey.

End-of-Life Vehicle Recycling Facilities

- ▶ ELV facilities will maintain a running count of removed switches.
- ▶ The surveyor contacted representatives at 21 facilities, which had not been collecting switches, who requested information to begin to participate in the program.
- ▶ All of the ELV facilities contacted now have a heightened awareness of the program.

Survey conducted by Neil Ward.

Report prepared by Neil Ward and Jon Hinck

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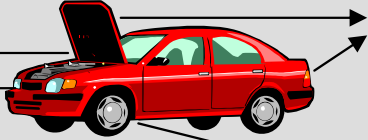
207-622-3101

www.maineenvironment.org

A Circle of Poison: Mercury Pollution from Cars

Where is the Mercury in Cars?

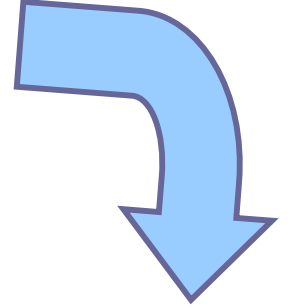
Mercury can also be found in HID headlights & some dashboard lights



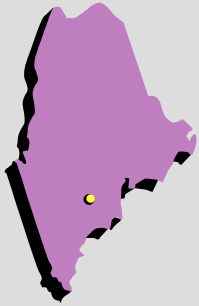
87% of the mercury in cars is found in convenience switches like those under the hood and trunk

12% is in ABS brake systems

Crushing



There are about **1,500 pounds of mercury** in Maine's cars

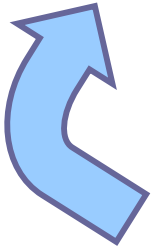


Air borne mercury travels back to Maine with prevailing winds, where mercury fallout enters the environment.



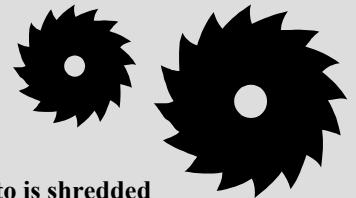
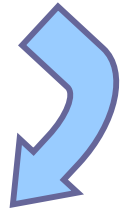
Cars are crushed at auto scrap facilities and sent to be shredded

Polluting



Smelters that recycle scrap metal from cars are the fourth largest source of mercury air emissions in the U.S.

Shredding



When an auto is shredded

*7% of the cars mercury is released directly to the air,

*53% is in the non-metal *fluff* waste sent to landfills where it escapes into the air,

*40% is in the baled scrap metal sent to smelters for steel recycling.

Smelting

