



Changes in electronics disposal at Wisconsin solid waste facilities

Results from E-Cycle Wisconsin survey of landfill and transfer station operators
November 2012

On Sept. 1, 2010, landfill and incinerator disposal bans for many electronics took effect in Wisconsin. These bans apply to everyone in the state. The banned items include TVs, computers, printers, computer accessories, DVD players, VCRs, fax machines and cell phones. The purpose of the bans is to prevent disposal of devices containing toxic substances—such as lead, mercury and other heavy metals—and to promote recovery of valuable materials in electronics for further use.

To complement these bans, the law created a new program to make electronics recycling cheaper and more convenient for Wisconsin residents. This program, called E-Cycle Wisconsin, sets up a network of registered collectors and recyclers and is funded in part by manufacturers selling certain electronics in Wisconsin.

As part of an evaluation of Wisconsin's electronics recycling law, the DNR conducted a short, online survey in October and November 2012 to learn about banned electronics arriving at transfer and disposal facilities since September 2010. Of the 94 landfill/transfer station operators we sent the survey to, 51 completed the entire survey and three partially completed it. The answers could be completely anonymous, but 37 respondents chose to provide contact information at the end of the survey.

The results reported in the sections titled “background information,” “abandoned electronics” and “electronics arriving in loads” are based on 54 respondents, while the “outreach efforts” results are calculated with 51 respondents. This reflects a 57 percent response rate for most of the survey, and a 54 percent response rate for the last portion of the survey.

General background information

Of the 54 respondents who started the survey, 34 were answering for transfer stations (63 percent), 18 for landfills (33 percent) and two for both landfills and transfer stations (4 percent). These proportions closely match the proportions of each category on the contact list used to distribute the survey (67 percent, 29 percent and 4 percent, respectively). At the time of the survey, there were 32 active, licensed municipal solid waste landfills and 101 licensed solid waste transfer stations in Wisconsin.

Fifty of the respondents who answered this survey had worked at their facilities for more than one year, meaning they have had the opportunity to see changes as a result of the September 2010 electronics disposal ban, if there have been any. As expected, the remaining four respondents answered “Don't know” for questions related to changes in electronics dumping following the law. Before receiving the survey, all but one of the respondents were aware of the disposal bans on electronics. All respondents were aware that many electronics contain potentially harmful materials.

Sixty-one percent of respondents reported that their facilities collect electronics from the public for recycling. The majority of these (73 percent) were registered E-Cycle Wisconsin collectors. Of the nearly 40 percent of respondents whose facilities did not collect electronics, all said they knew where to take electronics for responsible recycling.

Abandoned electronics

Half of respondents reported finding TVs, computers or printers illegally abandoned at their facilities (Figure 1). Proportionately, more landfills reported seeing abandoned items than transfer stations, with 60 percent of landfills and 44 percent of transfer stations saying they had found abandoned items. Most

respondents said this is “about the same” (56 percent) or an increased (30 percent) level of abandoned materials compared with pre-disposal ban levels (Figure 2).

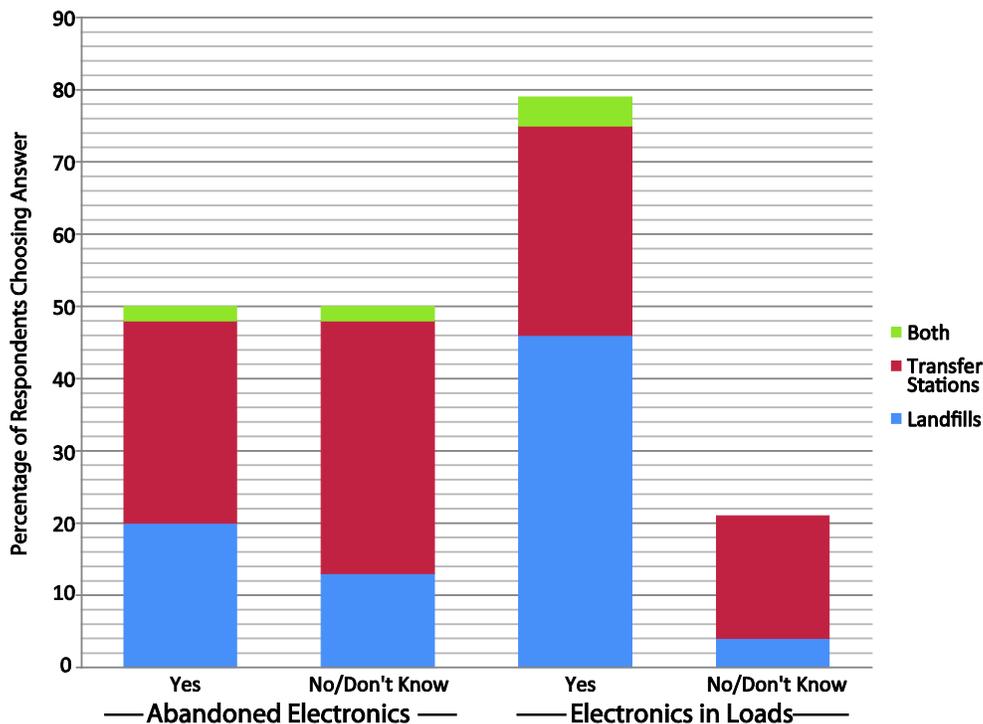


Figure 1: Have you seen banned electronics at your facility?

Illegally abandoned materials show up about once every few months for most respondents, and the majority of items are whole, intact devices (63 percent) or an equal mix of whole and broken devices (33 percent). Only one respondent reported seeing mostly broken devices. There does not appear to be much change in the types of electronics abandoned at facilities pre- and post-ban, though one respondent reported seeing more TVs and monitors arrive disassembled.

Nearly three-quarters of respondents said that, related to electronics abandoned at their facilities, they had not taken any actions to enforce or ensure compliance with electronics disposal bans in the past 12 months. In comments related to this question, respondents said they are just absorbing the drop-offs or trying to track down the people who abandoned the electronics to let them know it is an illegal action. Only one respondent had called local law enforcement, one had called a local government recycling coordinator and three had called DNR waste program staff to report issues. One respondent asked DNR electronics recycling staff for the numbers of local and state recycling officials.

Eighty percent of responding landfill and transfer station operators said they take abandoned electronics to a mix of local and statewide recyclers for proper disposal. The facilities that collect electronics seem to be putting abandoned electronics in with their legally collected electronics, which is allowed under DNR guidance on the disposal bans.¹ No respondents reported having a problem finding places to recycle abandoned electronics.

¹ See <http://dnr.wi.gov/files/PDF/pubs/wa/WA1494.pdf>.

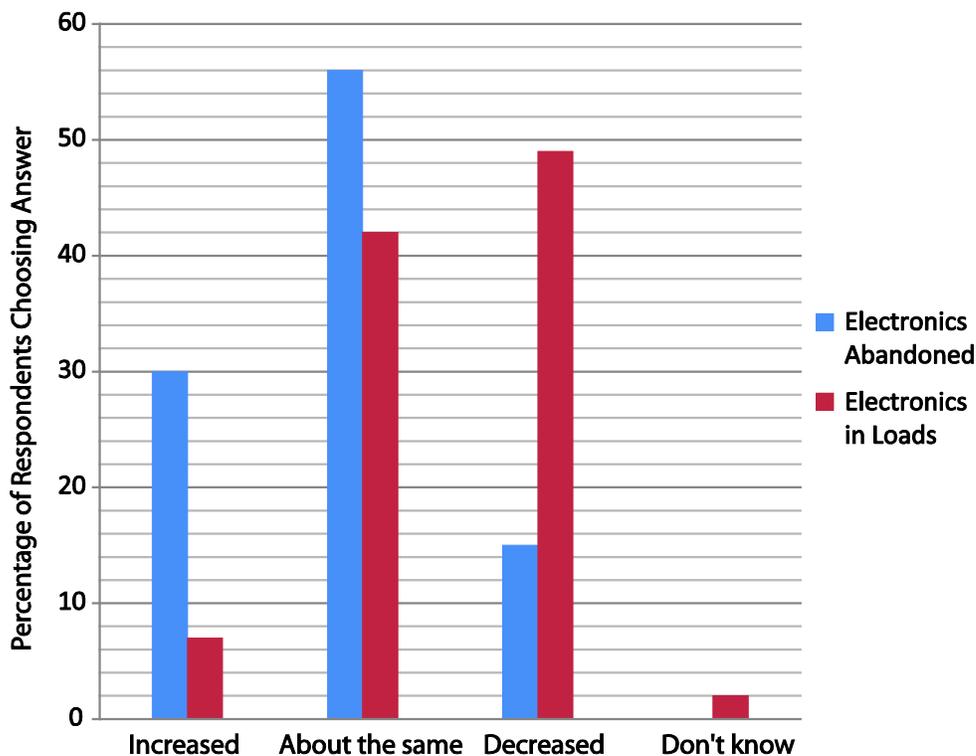


Figure 2: How has the number of electronics arriving at your facility changed since September 2010?

Of the half of respondents who had **not** seen abandoned electronics (or who did not know if there have been electronics abandoned at their facilities), most said if they discover abandoned electronics in the future, they would make a report to law enforcement and/or recycle the electronics anyway.

Electronics arriving in loads

Nearly all respondents reported inspecting or monitoring loads entering their facilities to look for loads that contain electronics banned from disposal (only one respondent chose “no” and one chose “don’t know”). Eighty percent have found electronics such as TVs, computers or printers in loads (Figure 1). As with abandoned electronics, more landfills have seen electronics in loads than transfer stations (90 percent of landfills to 75 percent of transfer stations). Most respondents said the number of electronics arriving in loads had decreased (49 percent) or was about the same (42 percent) compared to before the disposal bans went into effect. Only three respondents had seen an increase (Figure 2).

Loads containing electronics arrive “weekly or several times per month” or “once or twice a month” for most respondents. One respondent clarified this by saying that loads from commercial establishments arrive with electronics daily, while loads coming from residential routes rarely contain electronics. Most site operators said the types of electronics arriving at their facilities had not changed since September 2010. For those who had seen changes, all were related to TVs. Some operators reported seeing more TVs, more disassembled TVs and more TVs with the copper stripped out of them.

Only eight respondents had not taken any enforcement actions related to loads with banned electronics arriving at their facilities. Respondents were most likely to “notify a hauler or individual that their load contained banned electronics.” Respondents also reported rejecting loads from haulers or individuals as well as having haulers or individuals pull the banned electronics out of their loads.

Nearly 80 percent of respondents had taken electronics pulled from hauled loads to electronics recyclers. As with the abandoned electronics, many facilities that served as electronics collectors put the pulled electronics in with their other electronics to give to their recyclers. Others used local or statewide recyclers. Only one respondent had difficulty recycling electronic items pulled from hauled loads.

Of the 11 respondents that had not seen electronics arrive in loads, all said that if they discovered banned electronics in loads, they would take action to ensure compliance with the law, including rejecting the load and/or notifying the hauler that its load contained banned electronics. One respondent noted that the reason he/she had not seen banned electronics in loads was that the facility's haulers had already been told not to pick up banned materials.

Outreach efforts

Respondents reported taking a variety of measures to inform their customers and employees about the electronics disposal ban, most popularly through posting signs and verbally explaining the ban (Figure 3). More than half had trained their haulers to reject electronics left for pickup and have mailed or distributed information to their customers. One respondent aired radio ads to inform their customers of the ban

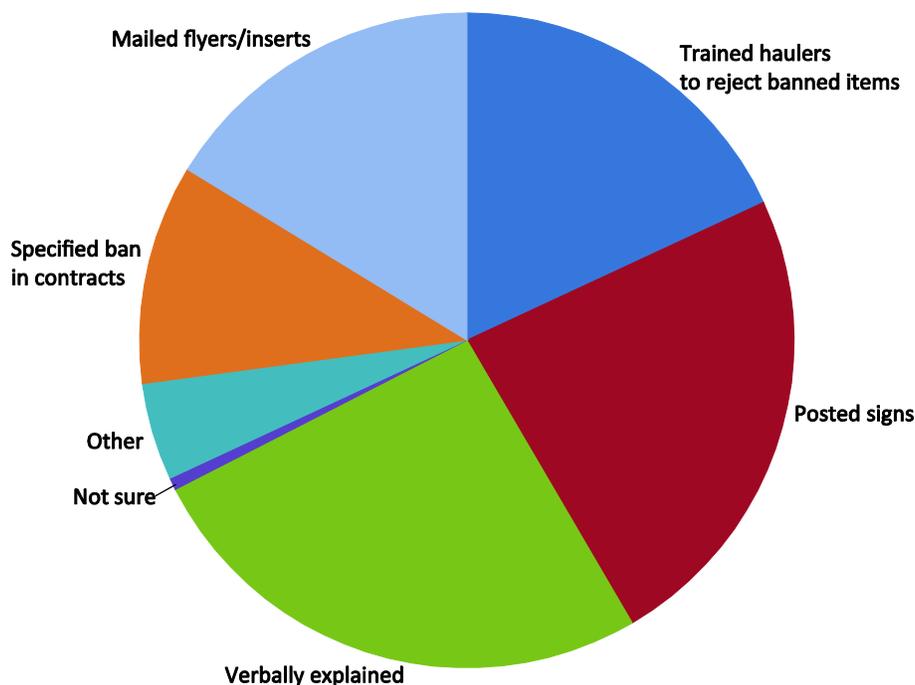


Figure 3: How do you inform customers of the disposal ban on electronics?

Fifty-five percent of respondents did not feel they needed more information about the electronics disposal ban or the importance of recycling electronics. However, if the DNR were to provide more information, the most popular methods would be through printed publications, information on the DNR website and emails. Two respondents requested that the DNR pay for more media ads to educate the public on the bans.

Seven respondents wrote comments in the survey's final open-ended box that requested "any other information that you would like us to know regarding electronics disposal and recycling." Those comments are listed below:

- Many TVs still end up in ditches. More businesses that sell them need to take responsibility for the items they sell and act as collectors.
- Our jobs were made easier by the pre-ban notification. Thanks!
- You need to educate the public more. They know about the ban but not where to take stuff, so they bury them in loads.
- Good program. Dynamic Recycling is good to work with.
- PSAs on local TV stations would be nice.
- I would like information on who to call when we receive abandoned electronics.
- We'd like updates on the ban.

Summary

The most promising information gleaned from this survey is that the number of electronics arriving at facilities in loads appears to be decreasing. However, the results show there is still a lot of work to do to prevent electronics from arriving at landfills and transfer stations. Fifty percent of landfills and transfer station operators who took this survey are still seeing electronics abandoned at their facilities, and 80 percent are seeing electronics arrive in loads. While it appears that, when found, most of these electronics are being recycled, the electronics recycling law's goal is for no landfill or transfer station operators to see these materials abandoned on their property or arriving in loads.



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