

Residential Recycling in Wisconsin, 1990–2006

Results from the 2006 Household Recycling Survey

**Report prepared by Ed Nelson
For the Wisconsin Department of Natural Resources
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Introduction

Since 1990, the Wisconsin Department of Natural Resources (DNR) has sponsored nine telephone surveys to track the progress of residential recycling in Wisconsin. This report presents the results of the most recent (2006) survey of the state's residents and their recycling practices. It also includes selected data from prior surveys. Residents' responses to these surveys show the progress the program has made in the 16 years since its inception. Community recycling programs have been established and state residents have responded with enthusiasm. The recycling of household wastes is likely one of the most popular and visible environmental programs in the state.

Data Collection

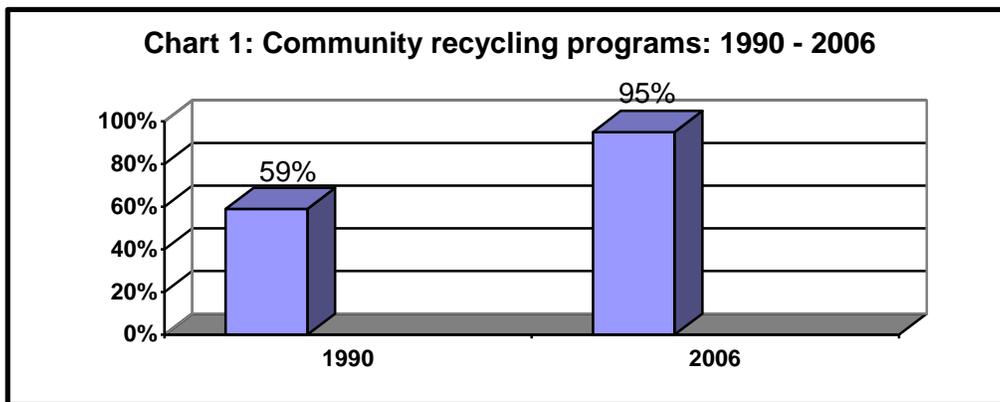
This report draws its data from statewide telephone surveys. The 2006 survey of household recycling relies on the responses of 555 state residents. The University of Wisconsin Survey Center created the sample, conducted the interviews and performed the data entry. The results are accurate to plus or minus 5 percent.

SECTION I: Residents' recycling options

Growth of community programs

Under Wisconsin law, all communities are required to have a recycling program and to make provisions that allow residents of single-family and two- through four-unit dwellings to recycle. Chart 1 presents the proportion of the state's residents who report that their community provides such a program.

In 2006, 95 percent of the state's residents believed that their community had such a program in place. In 1990, about three-fifths (59 percent) of the state's residents reported the presence of a community recycling program.



Question: Does your community have a recycling program?

Household participation in recycling

There has been a significant increase in the depth of the state's recycling programs. Residents not only have greater access to recycling programs, they report that they are recycling more items.

Table 1: Items households recycle, 1990-2006

Item	1990	2006
Newspapers	56%	80%
Other paper	15	58
Magazines	--	75
Cardboard	19	79
Aluminum cans	80	89
Other metal cans	27	92
Glass	46	89
Plastic	39	88

Observations: There has been a significant increase in the items that households report recycling. In 1990, not a single household reported recycling magazines. In 2006, 75 percent report that they recycle magazines. Significant increases are noted in the categories of other paper, cardboard, other metal cans, glass and plastics.

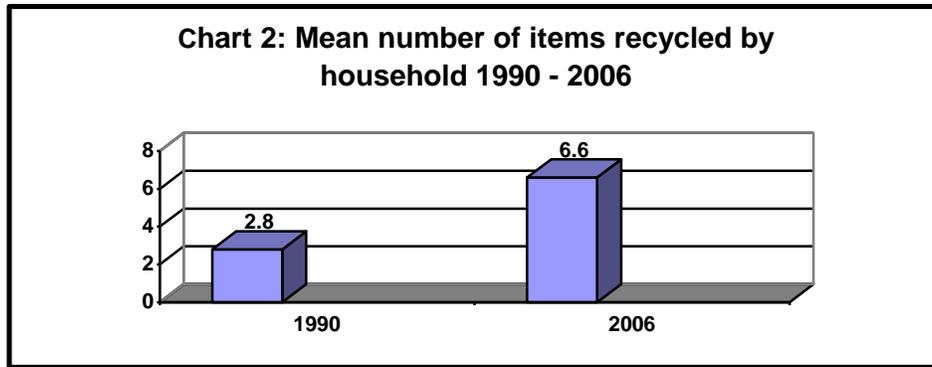
Seventeen percent of households report that they pay to have their recyclables collected.

Thirty-one percent report that they receive cash for some of the items (typically aluminum) that they recycle.

Changes in recycling

There has been a substantial increase in the number of items each household recycles.

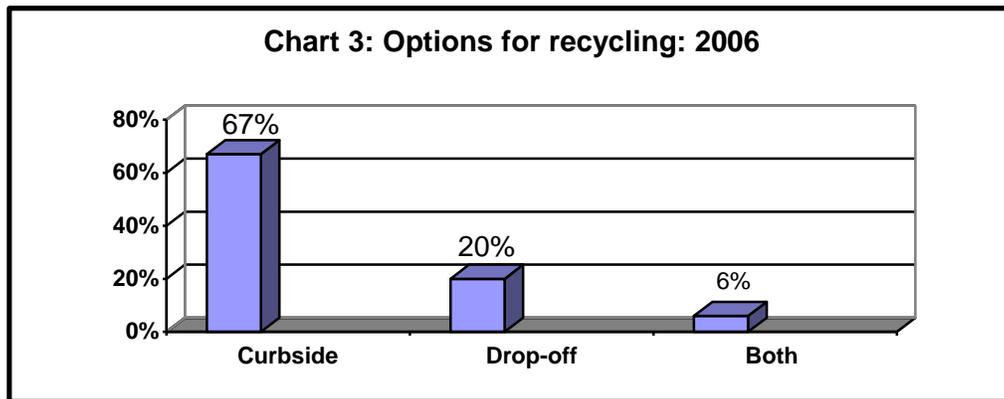
Chart 2 shows how the number of items recycled by each household has changed over the past 16 years. The number of items recycled by the typical household has more than doubled since 1990.



Observations: In 1990, the typical Wisconsin household recycled two things: newspapers and aluminum cans. A few of the more ardent recyclers also recycled glass. By 2006, these households had added glass, plastics, metals, mixed paper and magazines.

Options for household recycling

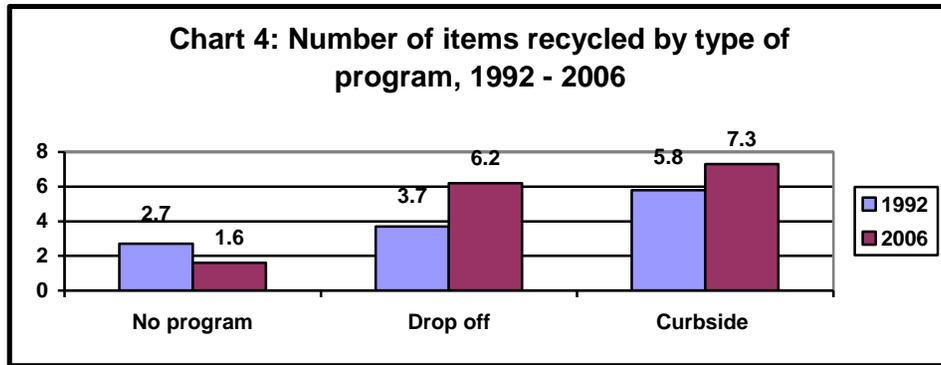
Chart 3 shows that in 2006, a large majority of the state's households had the option to take their recyclables to the curb.



Observations: In 2006, more than two-thirds of Wisconsin's residents (67 percent) report that they recycle by taking their items to the curb. Only one household in five takes their recyclables to a drop-off location only.

Curbside programs still gather more recyclables than drop-off programs

Chart 4 shows the significance of the type of program for households' participation in recycling. Those with curbside recycling report recycling slightly more items than those who have to take their recyclables to a drop-off site. Those with curbside collection report recycling 7.3 items; those who rely on drop-off sites report recycling 6.2 items.



Observations: In 1992, the disparity between the type of collection and the number of items recycled was greater. At that time, those who took their items to a drop-off location recycled just 3.7 items while those with curbside collection reported recycling 5.8 items. Those with no program recycled just 1.6 items.

Other changes in household recycling

Participants in these surveys were asked whether they were recycling more or less than they did in the two years preceding the survey. In 1991, nearly two-thirds of those surveyed replied that they were recycling “more.” By 2006, only 28 percent gave the same response (see Table 2).

Table 2: Perceptions of changes in the volume of household recycling: 1991–2006.

Response	1991	2006
More	64%	28%
Same	19	60
Less	4	12
Not recycling	14	--

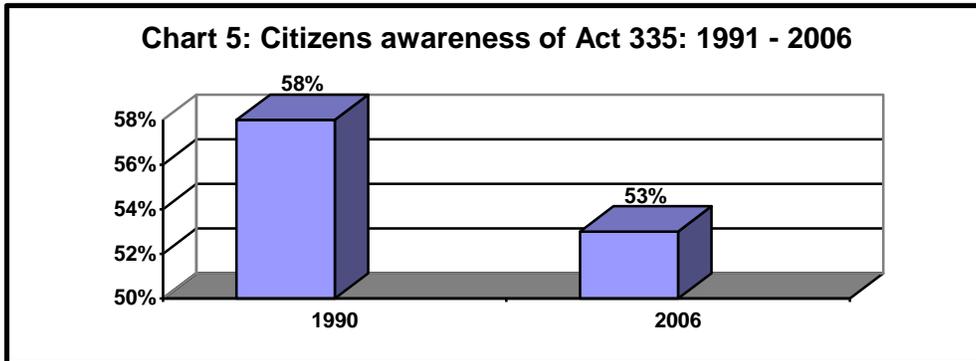
Question: Are you recycling more, less or the same as two years ago?

Observation: Responses to this question reflect the maturation of the state’s recycling program. In 1991, the program was just beginning and people were just starting to have the opportunity to recycle. By 2006, the program had matured and many households are recycling most or all of the items banned from landfill disposal.

SECTION II: Support for, and commitment to, Wisconsin's recycling program

Awareness of Act 335: Wisconsin's recycling law

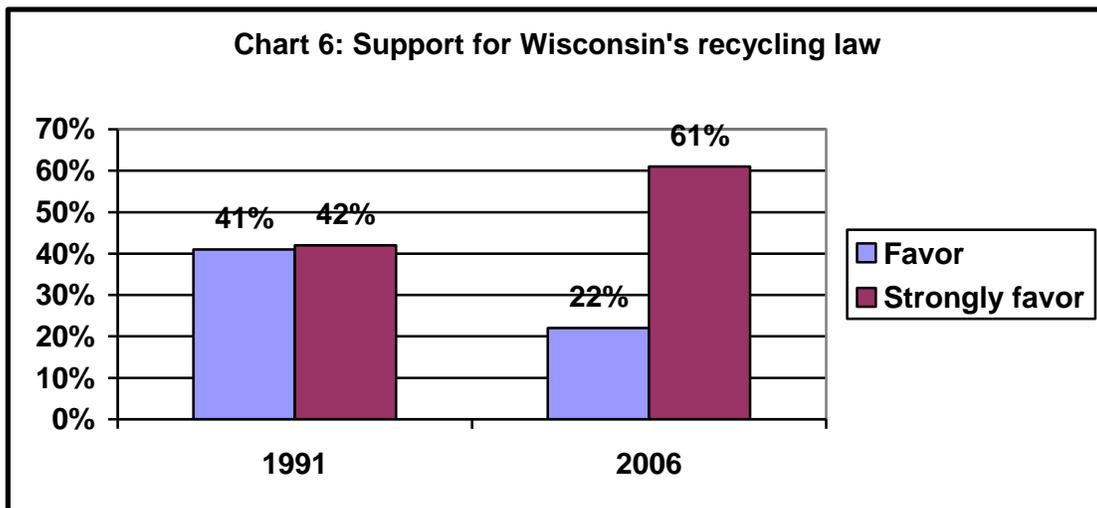
Awareness of the Act has declined slightly since the law's inception. In 2006, 53 percent of respondents had heard of Act 335, down from 58 percent in 1990.



Question: In 1990, Wisconsin passed a law that required local communities to make provisions for recycling such trash as glass bottles, aluminum cans and newspapers by 1995. Were you aware of the passage of this law?

Support for Wisconsin's recycling law

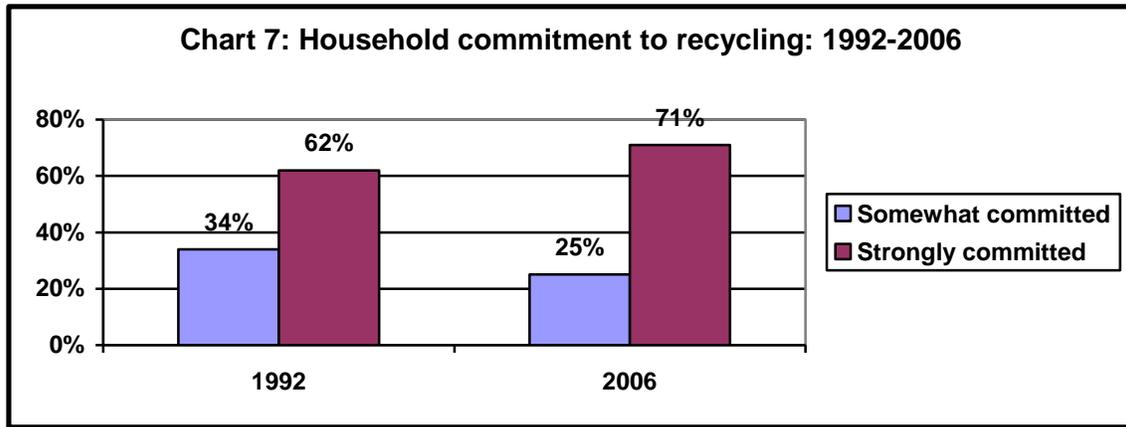
Wisconsin's residents continue to overwhelmingly and strongly support the state's household recycling law, as shown in Chart 6. In both 1991 and 2006, eight out of 10 state residents said that they supported the state's recycling law. Note, however, that in 2006 the proportion of residents who said that they "strongly favored" the law had increased by nearly 20 percent. Only 4 percent report that they are opposed to the law that mandates recycling, down from 9 percent in 1991.



Question: How do you feel about the state law governing recycling?

Household commitment to recycling

Wisconsin residents say that they are strongly committed to recycling, with 96 percent reporting they were “strongly” or “somewhat” committed in both 1992 and 2006, as shown in Chart 7.

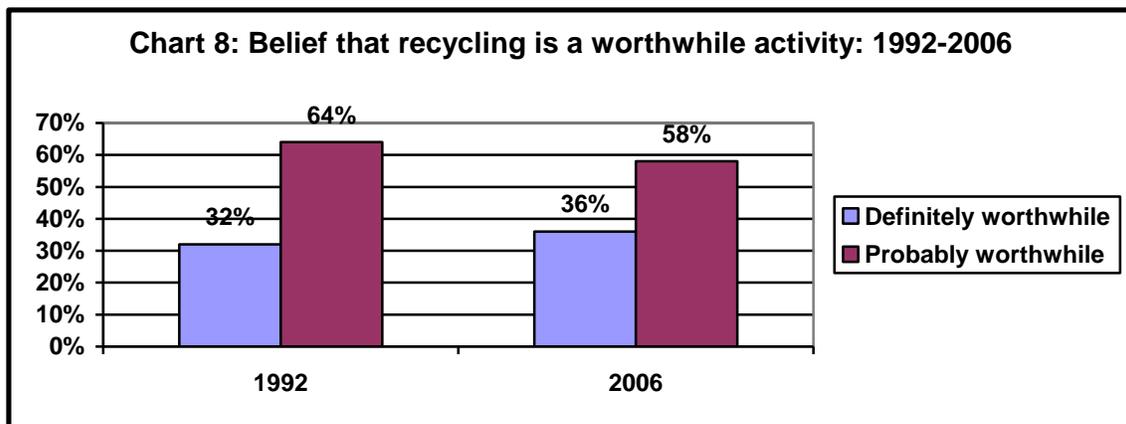


Question: Which if the following best describes your household’s commitment to recycling its waste?

Observations: The strength of commitment to recycling among residents increased between 1992 and 2006. In 1992, when this question was first asked, three-fifths of the state’s households described themselves as “strongly committed” to recycling. By 2006, the percentage of the state’s residents having that level of commitment increased to 71 percent. Only 3 percent of Wisconsin’s residents say that they have no commitment to recycling.

Belief that recycling is a worthwhile activity

A strong majority of the state’s residents believe that recycling is worth the effort that they put into it, as shown in Chart 8.



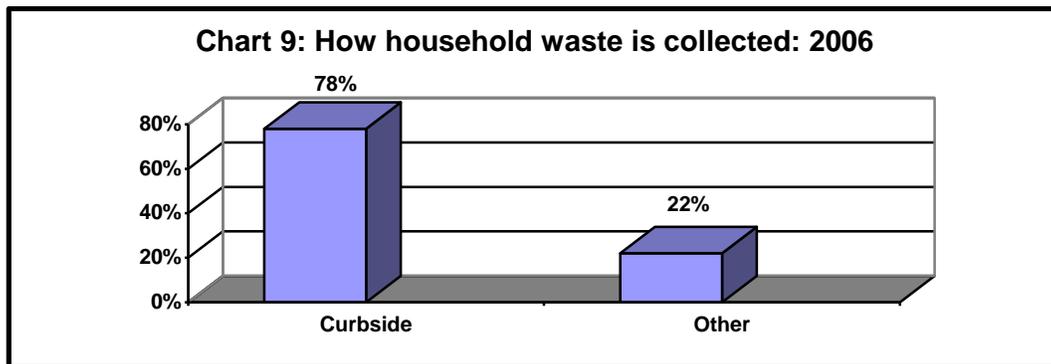
Question: Relative to the amount of effort you put into recycling, do you feel your effort is definitely worthwhile, probably worthwhile, probably not worthwhile, or definitely not worthwhile?

Observations: Nine out of 10 residents both surveys agreed that recycling was worth the effort, but the percentage of residents who thought recycling was “definitely” worth the cost declined from 64 to 58 percent.

SECTION III: Household trash disposal

This section of the report examines how household dispose of their household waste.

A majority of the state’s household now have access to curbside recycling programs, as shown in Chart 9.

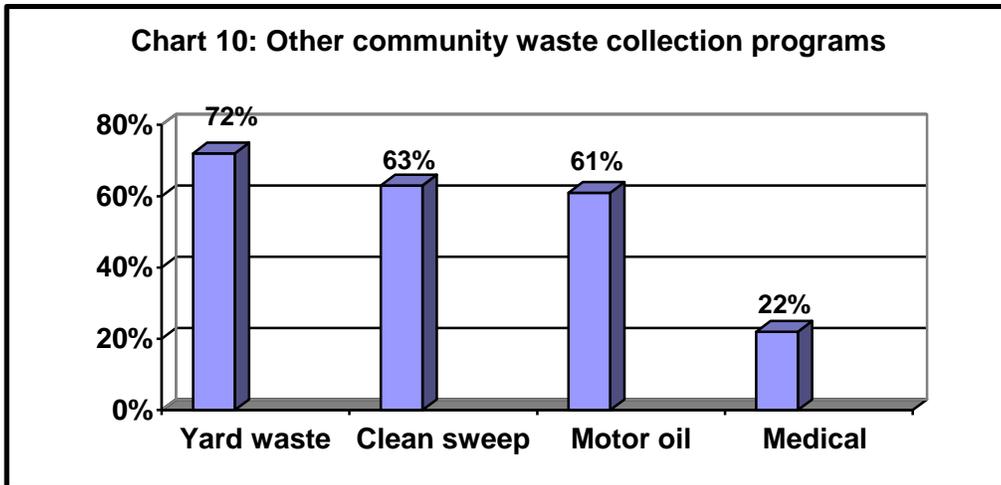


Question: Do you take your trash to the curbside for pickup or not?

Observations: Once recyclables are at the curb, they are most often collected by a local municipality. Two-thirds of those with curbside collection say that the municipality hauls their trash away; the remaining third rely on a private hauler. A majority of those who rely on a private hauler (63 percent) pay a fee for that service. In most cases (70 percent) they pay a flat fee for the collection of trash. Only one-third report that the amount they pay varies according to the quantity of trash they set out on the curb.

Other waste collection programs

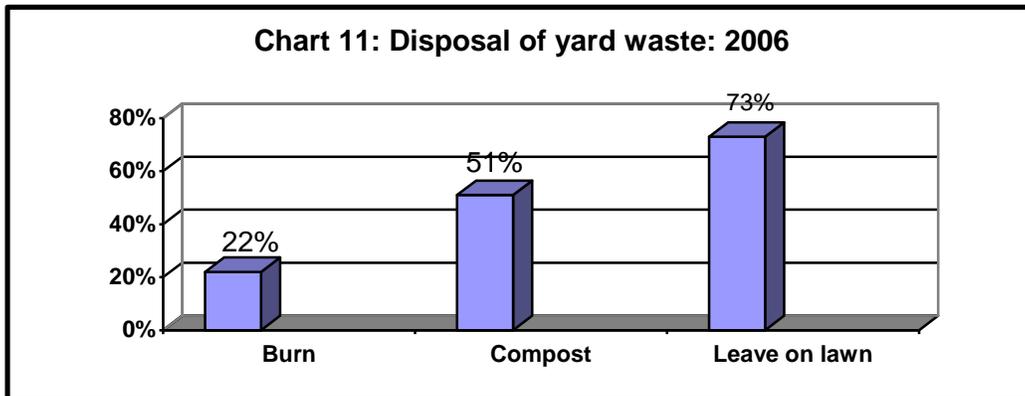
In addition to collecting regular recycling materials, many communities make provisions to collect other types of waste as well. These include yard waste, household hazardous waste, motor oil and medical waste.



Observations: A majority of respondents report that their communities collect yard materials (72 percent), household hazardous wastes (63 percent), and motor oil (61 percent). Some also provide for the collection of medical wastes (22 percent).

Yard waste

The vast majority of those surveyed (88 percent) have yards and generate a quantity of yard waste. Their strategies for disposing of that yard waste vary, as shown in Chart 11.



Observation: Households have multiple strategies for managing their yard waste. Only a minority of households with yards (22 percent) report burning any yard waste. This is a higher percentage than found in previous surveys in 2002 (18 percent), 1998 (12 percent), 1995 (17 percent), 1994 (13 percent) and 1993 (14 percent).

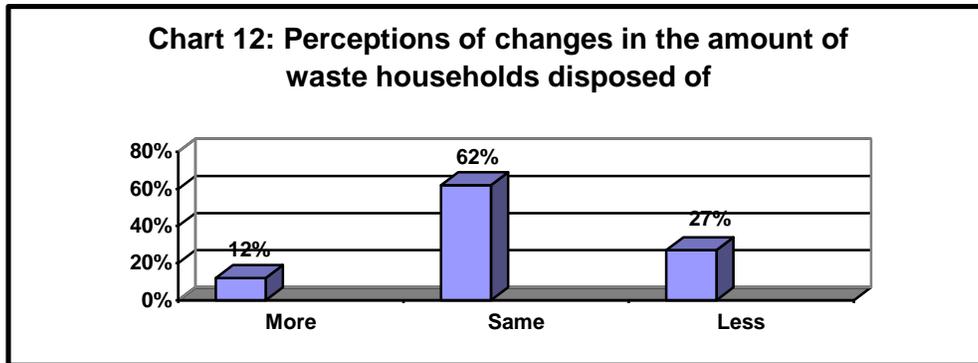
Residents also report composting their yard materials (51 percent) or leaving materials on the lawn (73 percent). As noted earlier in the report, a majority of respondents (81 percent) report that their community either collects or provides drop-off sites for yard waste.

Burning trash

Only a handful of households in this study reported that they burned their trash (other than yard materials). Three percent of those surveyed (17 cases) said that they burned their trash. All but two of these respondents said that they were unconcerned about any threats to their health from burning trash. However, it is difficult to draw any firm conclusions from such a small sample.

Perceptions of changes in volume of trash

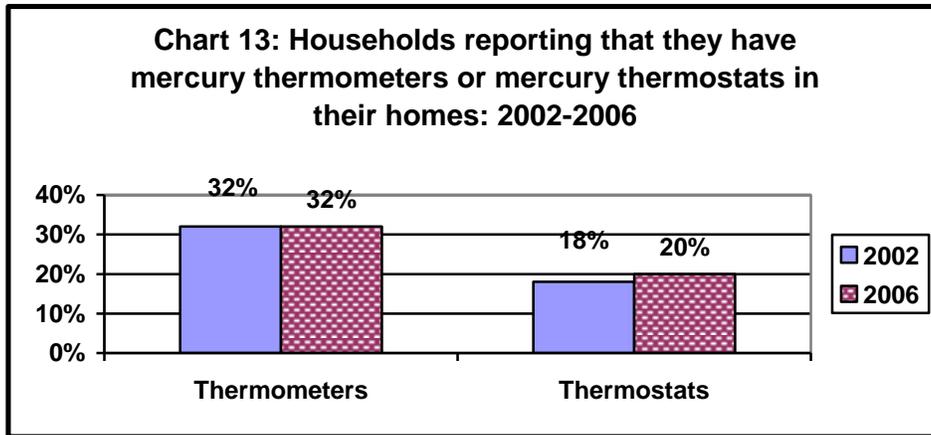
Reducing the volume of household waste has been a long-running goal of the state's recycling program. As shown in Chart 12, about a quarter of the households surveyed (27 percent) say that they are putting less waste out on the curb than they did two years ago.



Observations: Most households (62 percent) say that they're disposing of the same amount of waste as they did two years ago. One-quarter (27 percent) say that they're throwing away less and one household in 10 reports throwing away more.

Issues related to mercury

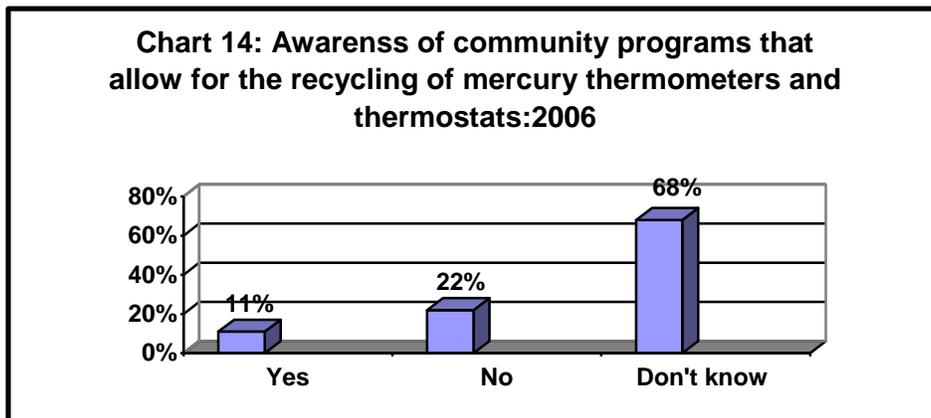
A majority of respondents report that they have neither mercury thermometers nor furnace thermostats that contain mercury in their homes. As shown in Chart 13, about one-third (32 percent) report that they still have one or more thermometers; one-fifth report the presence of mercury thermostats.



Questions: Do you have any mercury thermometers in your home that contain mercury? Do you have any furnace thermostats in your home that contain mercury?

Opportunities for recycling thermometers and thermostats

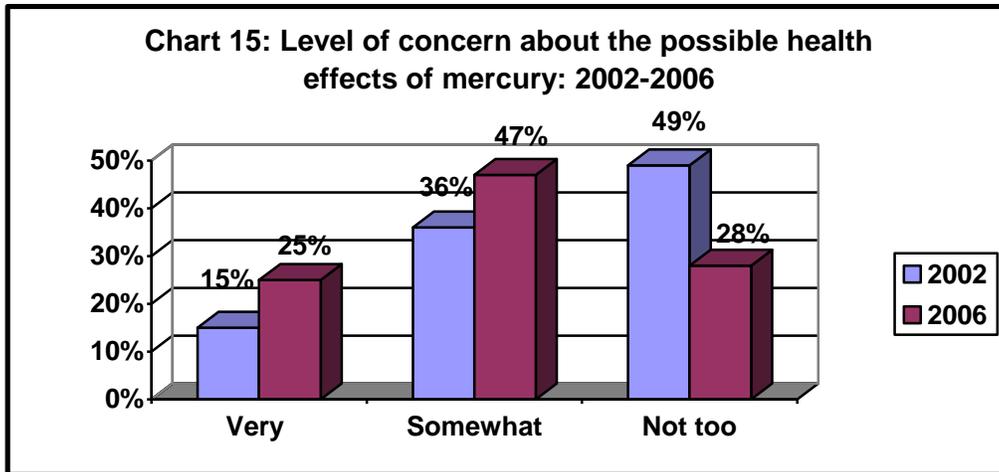
About two-thirds of residents in the survey (68 percent) did not know whether their community provides for the recycling of thermometers and thermostats, as shown in Chart 14. Only about one person in nine (11 percent) reported that their community did have such a program.



Question: Does your community have a program to recycle mercury products at the end of their useful life?

Concerns about the health effects of mercury

As shown in Chart 15, one-quarter of those surveyed in 2006 said they were “very concerned” about the health effects of mercury, compared to 15 percent in 2002. The percentage that said they were somewhat concerned rose to 47 percent from 36 percent. Overall, the message about the dangers of mercury seems to be taking effect. The percentage of respondents who reported some level of concern increased from 51 percent in 2002 to 72 percent in 2006.



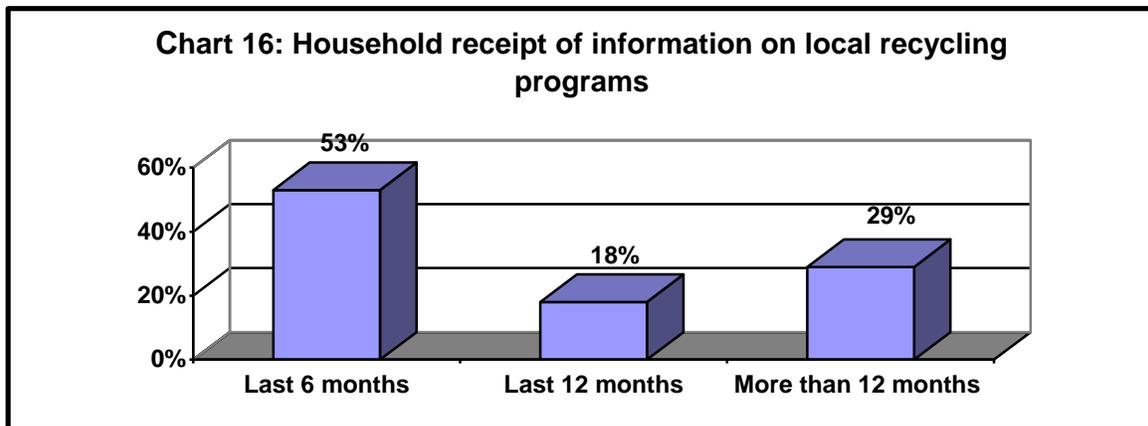
Question: Some people are concerned about the effects of mercury on the environment and on health. Please tell me how concerned you are about mercury.

SECTION IV: Information on recycling

Households should receive information from the local entities responsible for household recycling.

Receiving information on recycling

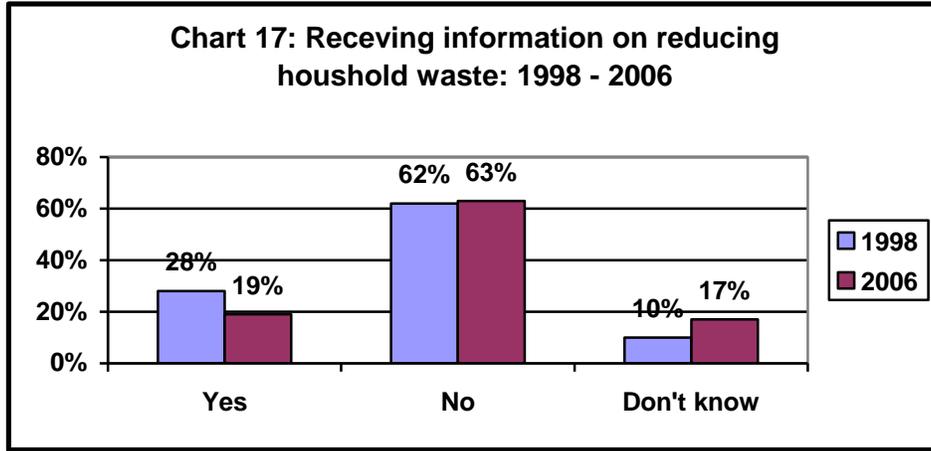
About half of the households in the survey report that they received at least some information on recycling in the six months preceding the survey, as shown in Chart 16. Nearly a third (29 percent) say that it has been more than a year since they have received such information.



Question: When would you say you last received information on your local recycling program?

Information on waste reduction

Wisconsin's residents receive little information on how to reduce household waste, as illustrated in Chart 17.

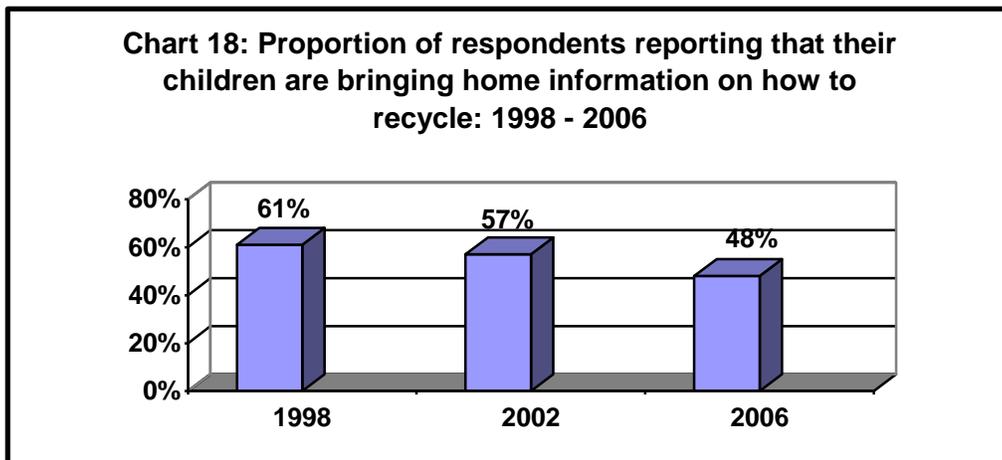


Question: Does your community provide information on how you might reduce the amount of garbage you produce?

Observation: Most programs focus on recycling, not waste reduction, and their education efforts reflect that fact.

Children and the provision of recycling information

One strategy for reaching parents has been to educate children about recycling and to provide them with information that they can then take home to their parents. The proportion of parents reporting that their children bring home such information has declined since 1998, as shown in Chart 18.

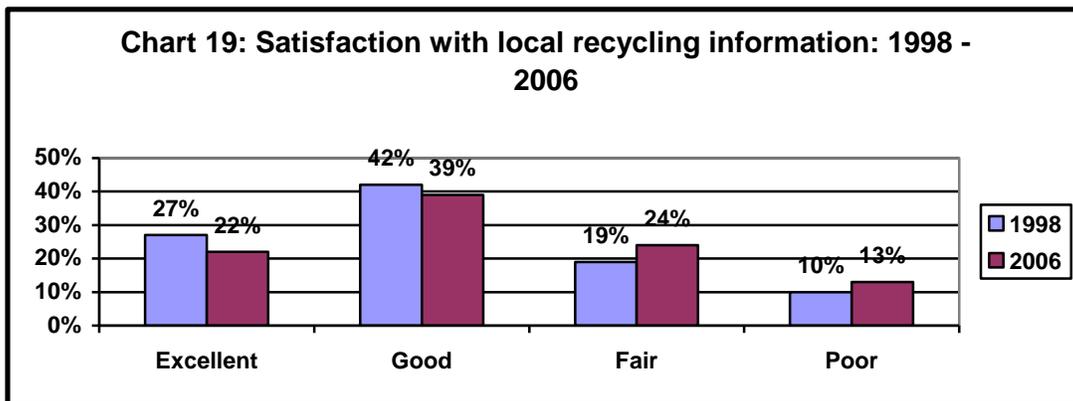


Question: Does your school age child bring home information from school about recycling?

Observations: In 1998, three-fifths of parents reported that their child brought home information from school on how to recycle. Between 1998 and 2002, there was a modest decline in the proportion of children bringing information home. By 2006, less than half (48 percent) reported that their children were bringing recycling information home. This could mean that the strong emphasis on education in the early '90s has paid off. Recycling is now ingrained in Wisconsin and is part of the daily routine for families and reinforced by other organizations, from non-profit groups to businesses. The DNR has also, through education programs such as Green and Healthy Schools, broadened the learning opportunities in schools to go beyond recycling into environmental quality improvements that benefit health as well as save money and energy.

Satisfaction with recycling information

Citizens' satisfaction with the information they received on local recycling has declined since 1998, as shown in Chart 19.

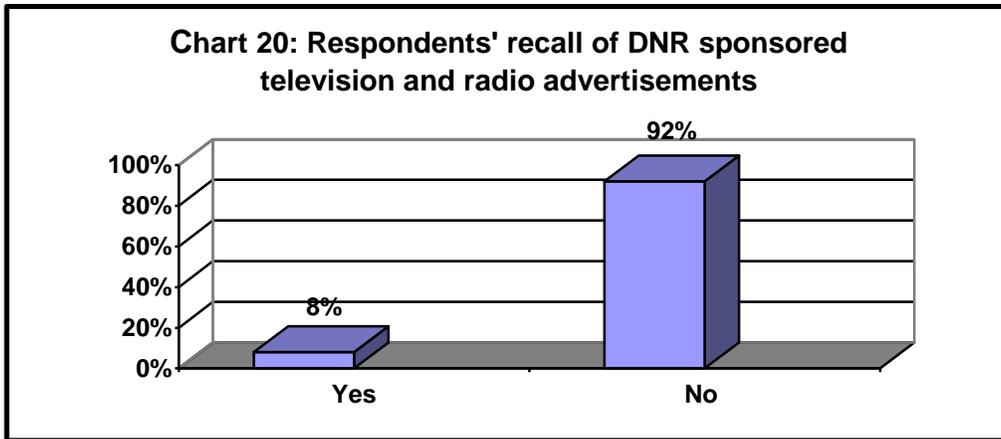


Question: How good a job would you say your local recycling program has done in the last year in telling you how to recycle in your area?

Observations: In 1998, nearly 70 percent of those surveyed rated the information they received on recycling from their local programs as "excellent" or "good." In 2006, however, only 61 percent gave that same rating.

Awareness of DNR information campaigns

Respondents have little recollection of informational campaigns sponsored by the DNR, as shown in Chart 20.



Question: This past summer the DNR sponsored radio and television ads featuring a recycling hunter. The ads explained how to recycle while away from home and ended with the tag line "recycle away." Do you recall seeing or hearing such ads?

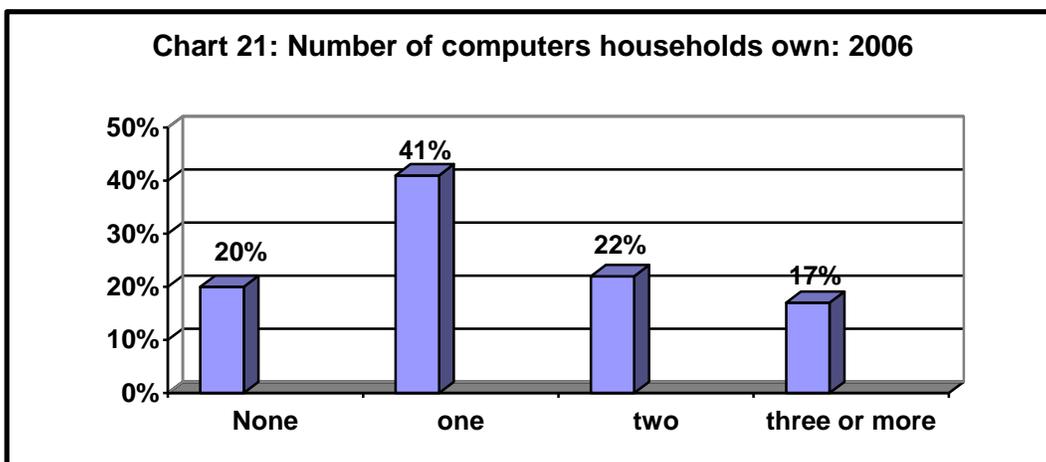
Observations: Taken as a whole, it's clear that stand-alone messages have not been repeated often enough nor have they reached a wide enough audience to be effective. The DNR should consider a comprehensive multi-media campaign working in conjunction with local municipalities and non-profit groups.

SECTION V: Electronic waste

Electronic waste includes old computers, televisions, cell phones and other electronic devices that households throw away. This section examines the inventory of such items that households have and how they say they dispose of them.

Computers

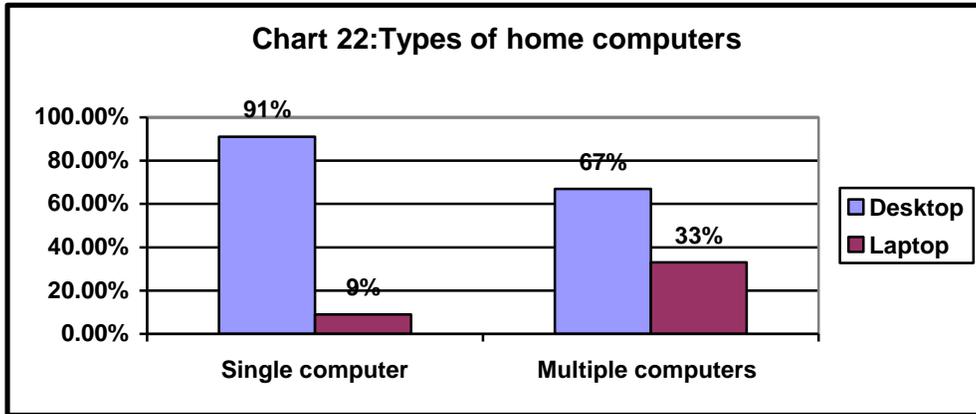
The vast majority of the state's households contain one or more personal computers, as shown in Chart 21.



Observations: Only one household in five reports that it does not own a computer. The majority of households (41 percent) report that they own a single computer. Nearly two-fifths of the Wisconsin's households (39 percent) have two or more computers in their homes.¹

Computers in the home

The majority of households in the survey have desktop, rather than laptop, computers, as shown in Chart 22.

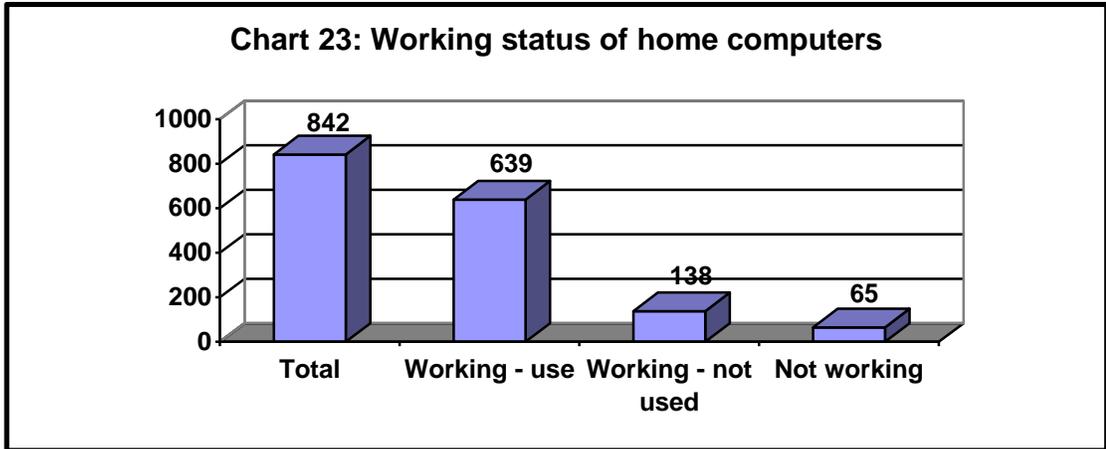


Observations: Ninety-one percent of single computer households report that their lone computer is a desktop. The vast majority of these computers are reported as “working” computers. Multiple-computer households are more likely to report that they have both a desktop and a laptop.

Working status of home computers

The 555 respondents who participated in this survey reported that they had a total of 842 computers in their homes. Of these, the vast majority (639) are working and in use. Another 138 are in working condition but are unused and the remaining computers (65) are not in use (see Chart 23).

¹ Note: There are no differences in computer ownership by residence: those who live in rural areas are just as likely as urban dwellers to report owning a computer. Those who live in rural areas report an average of 1.54 computers in the home compared with 1.51 for those who report living in a more urban setting. Computer ownership does, however, vary according to age, income, education and employment. Those who are employed, better educated, younger, with higher incomes are more likely to report owning one or more computers. This set of attributes also aligns with positive attitudes and behavior as they relate to the environment and recycling. People with these attributes are generally more concerned about the environment and disposed to engage in environmentally responsible behaviors. In particular, they should be predisposed to make environmentally responsible decisions when the time comes to dispose of a computer, television or cell phone.¹



Plans for the disposition of unused and broken computers

The following table shows households' plans for their unused and broken computers. Respondents appear to have a variety of options for these unused or broken computers: recycling them, storing them, giving them away and, finally, some "other" plan.

Table 3: Households' plans for unused and broken computers²

Action	Un-used, computers (103)	Broken computers (49)	Totals (152)
Store	27%	18%	14%
Donate	15	4	11
Give away	18	8	14
Recycle	13	35	20
Trash	2	4	3
Salvage	8	18	11
Other	18	12	16

Observation: Though only 3 percent went out in the trash, 16% were disposed of by 'other' means and 14% are being stored. As more and more computers reach their industry average three year life span, recycling computers could be a significant challenge.

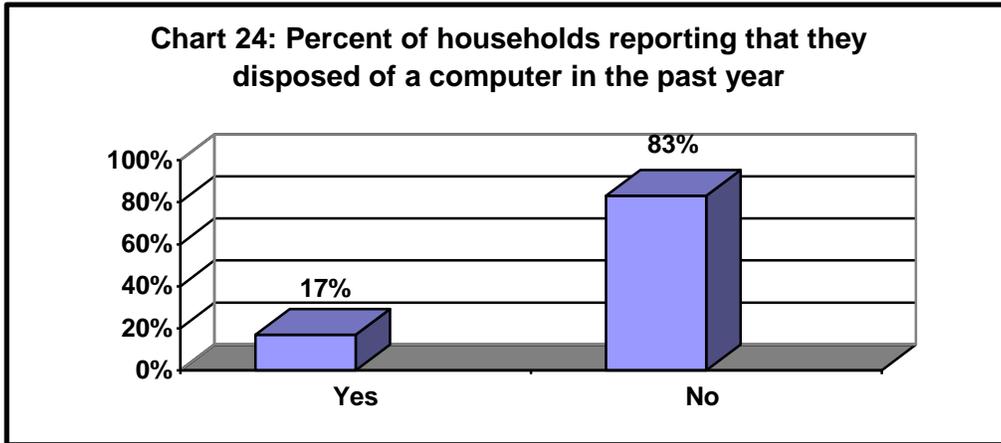
Disposing of home computers

Seventeen percent of the households surveyed report that they disposed of a computer in the twelve months preceding the survey.

² Numbers for each column refer to the number of households, not to the number of computers within each household.

Of those who disposed of a computer:

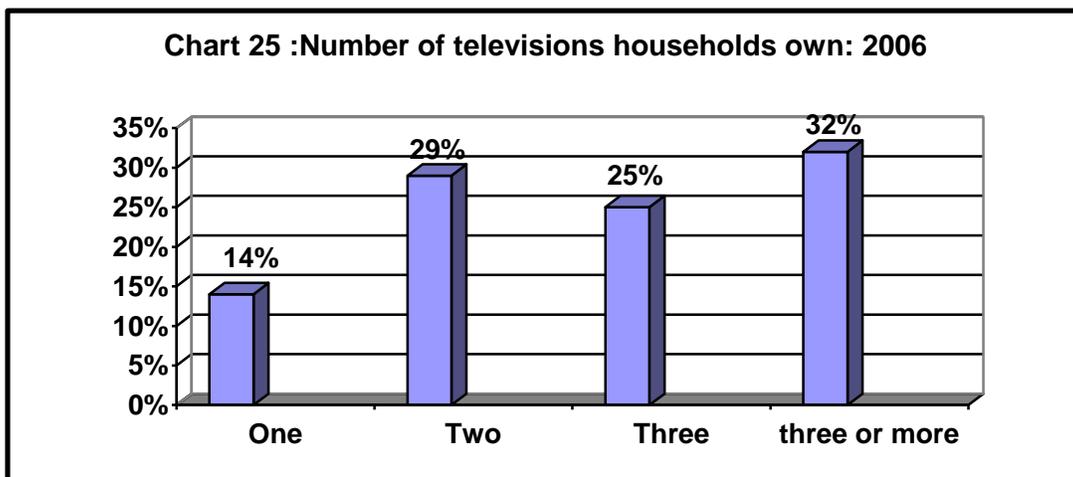
- Sixty-six percent gave it to friends, to charity or sold it.
- Seventeen percent recycled it.
- Six percent put it in the trash.
- Eleven percent did something other than those three options.



Question: In the past twelve months, have you thrown away, sold or otherwise removed one or more computers from your household?

Televisions in the home

The average household in Wisconsin has three television sets. Televisions are ubiquitous; only one person in this survey reported that they did NOT own one. Respondents report that the vast majority of these television sets are in use. Nearly four-fifths of the respondents (79 percent) report that all of their television sets are used.



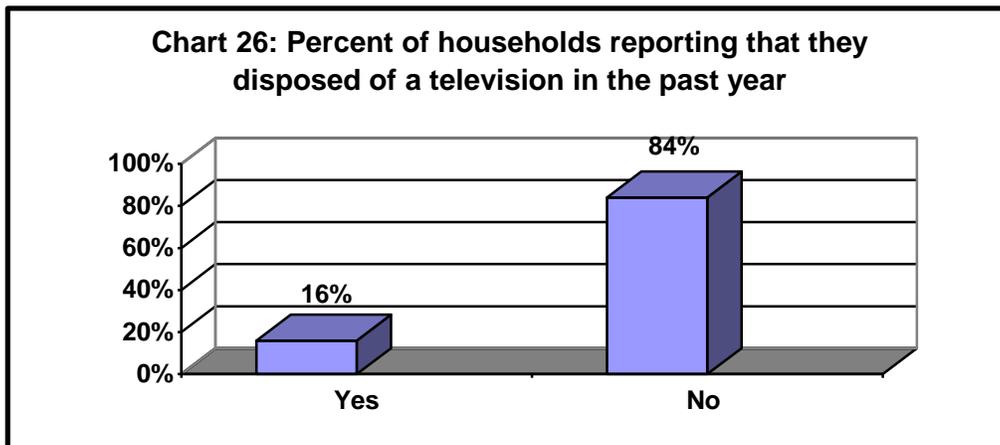
Question: How many televisions do you have in your home?

Disposing of televisions

Sixteen percent of the households surveyed report that they disposed of a television in the twelve months preceding the survey, as shown in Chart 26.

Of those who disposed of a television:

- Thirty percent gave it to friends or to charity.
- Twelve percent recycled it.
- Twenty-eight percent put it in the trash.
- Eleven percent sold it.
- Nineteen percent did 'something else' or didn't know.

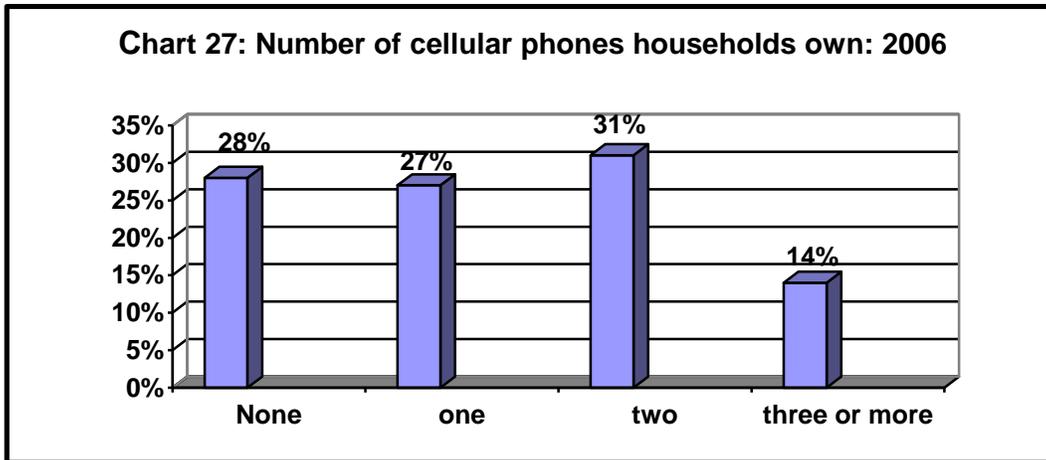


Question: How did you dispose of this television set?

Observations: With the Federal Communications Commission-mandated switch to digital TV in the near future, the number of TVs that will need to be recycled could be significant. This will be a challenge for the current recycling infrastructure.

Cellular phones in the home

Nearly three-fourths of the households in the survey report that they have one or more such phones, as shown in Chart 27.

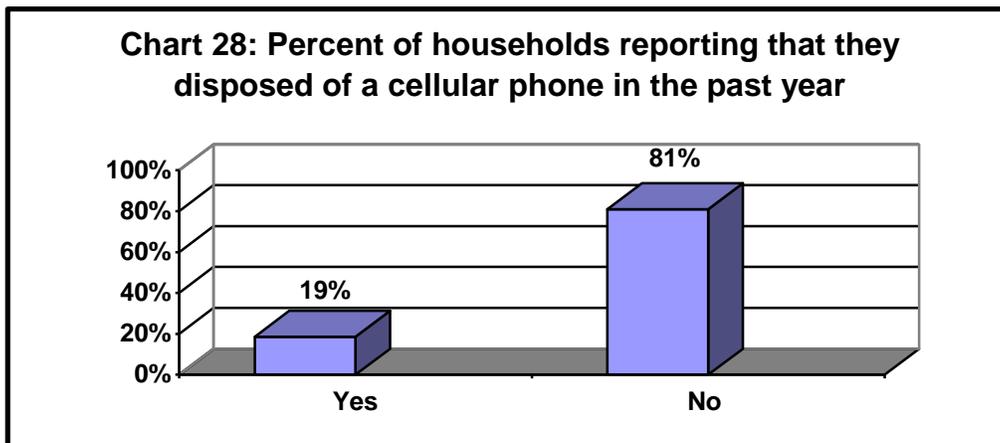


Disposing of cellular phones

Nearly one-fifth of all households (19 percent) reported disposing of one or more cell phones in the twelve months preceding the survey, as shown in Chart 28.

Of those who actually disposed of a cellular phone:

- Twenty-nine percent traded it in to a cell phone provider.
- Fourteen percent recycled it.
- Twenty-seven percent donated it to charity.
- Nine percent put it in the trash.
- Twenty-one percent sold it, gave it away or don't know.



Question: How did you dispose of this cellular phone?

Observations: Though a good recycling infrastructure exists for cell phones, nearly 30 percent were thrown away or discarded by other means. That translates to 200,000 cell phones in Wisconsin each year. Given the continued consumer acceptance of cell phones, that number will only increase.

Appendix 1

Respondent attribute	Percent owning a computer
Age	
18-30	90%
31-50	91
51-62	84
63 or older	54
Income	
Less than \$19,999	40%
\$20,000-\$34,999	65
\$35,000-\$49,999	85
\$50,000-\$74,999	95
\$75,000-\$99,999	96
\$100,000 or more	97
Gender	
Male	84%
Female	78
Education	
Grades 1-8	23%
Some high school	56
High school or GED	68
Vocational or technical school	88
Some college	89
College graduate or more	92
Employment	
Employed	89%
Retired	59
Home maker	88