

MARCH 15, 2016



ERCC CONSUMER AWARENESS SURVEY

*A Look At How Electronics Recycling Programs Have Impacted E-Cycling
Activities And Awareness*

ELECTRONICS RECYCLING COORDINATION CLEARINGHOUSE
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EXECUTIVE SUMMARY

As of late 2015, there are 25 states with laws on electronics recycling, and most have had multiple years of implementation. As the programs mature, many stakeholders are wanting a better understanding of measures of performance that goes beyond the current knowledge of “pounds collected” or “number of collection sites”. One desired measure of performance is the level of awareness of electronics recycling programs among consumers for whom the services are available. Prior to this study, a handful of states and one national organization measured awareness rates, but none had done so to compare rates among different states. The goal of the consumer awareness surveys featured in this report was to do just that.

The Electronics Recycling Coordination Clearinghouse (ERCC) conducted surveys of consumers in states where the state agency expressed an interest and was able to fund a survey. In addition, ERCC received contributions and surveyed an additional number of states (both with laws and without). The goal was to increase the number of state-level results and to gauge any difference in awareness and attitudes between states with and without laws, and also to get a general understanding overall awareness and other factors in increasing electronics recycling.

Survey results indicate that there does not appear to be a significant difference in awareness of recycling options when comparing states that have laws versus those that don't. 40.7% of those surveyed across LAW STATES and NON-LAW STATES are CERTAIN they know where to recycle their electronics. Adding in those who “THINK THEY KNOW” where to take their used electronics, the national result is just over 70% awareness. The state with the highest combined response of “Yes, I know where” to recycle and “I think I know where” to recycle was Oregon at 79.7%. The lowest was Wyoming at 62.4%.

It is important to note the limitations to this survey - approximately 83% of the responses were from individuals in states that have laws. All of the non-law states were conducted at lower levels of confidence due to funding limitations, but they do give insights that were previously unavailable. Taken as a whole, the surveys conducted give us a baseline for comparing future awareness level results as programs become more widespread (or potentially contract), and key pieces of data on how consumers seek out and participate in electronics recycling programs across the country. One other limitation worth mentioning is that awareness and convenience have very distinct differences. A person may know they can recycle a computer 150 miles away, but that may not be a convenient location for them. Convenience (or accessibility) is key in determining whether a resident will recycle

their electronics. In some states, the law specifically spells out how many recycling drop-off locations there must be for electronics in various counties. In other states, this is not something that is spelled out in the law at all. Furthermore, when looking at states without laws, there are no laws of convenience for electronics recycling. It is up to the consumer to source out a location in order to recycle. That location may or may not be convenient. Does this have an impact on recycling rates across the states? This may be something worth looking at in a future survey – whether or not convenience (distance from the closest collection site) effects recycling rates.

PROJECT BACKGROUND

In March of 2014, the Electronics Recycling Coordination Clearinghouse (ERCC) contracted with Service 800, a company with 20 years of experience in the design and execution of customer satisfaction measurement surveys, in order to carry out a series of consumer surveys focused on key electronics recycling issues. The purpose of the surveys was to establish an additional measure of performance for electronics recycling programs, and to compare rates of awareness of recycling options among states as well as ask other important questions. The surveys were conducted via web and phone at various periods between September 2014 and July 2015.

After developing a survey script with 10 standard questions, ERCC directed Service 800 to initially survey member states who stepped forward to fund their survey costs, and later on a wider groups of other states based on member contributions. In all, ERCC surveyed 6 states WITHOUT electronics recycling laws and 6 states WITH electronics recycling laws in an attempt to go beyond the current knowledge of pounds collected as a benchmark of success. The results give an overall picture of a national rate and the ability to compare specific state results, as well as compare those state with laws to those without.

Specifically, these surveys accumulated information on the following key topic areas:

- Consumers' knowledge of electronics recycling opportunities
- How consumers handle electronics at end of life
- Barriers to recycling used, unwanted electronics
- Consumers' knowledge of landfill bans

A list of the states participating in the survey are included below:

Law States

- Connecticut
- Hawaii
- Michigan
- New York
- Oregon
- Texas

Non-Law States

- Arizona
- Florida
- Massachusetts
- Ohio
- Tennessee
- Wyoming

To fund this project, ERCC compiled resources from multiple states, manufacturers, recyclers, and other parties interested in the survey results. The goal was to be more cost efficient than for each individual entity/state to pursue an awareness survey separately.

WHAT IS ERCC?

The Electronics Recycling Coordination Clearinghouse coordinates activities for members from state governments and other stakeholders who are implementing and complying with state electronics recycling laws. It was launched in 2010 by two leading non-profit organizations advancing recycling efforts across the country - the [National Center for Electronics Recycling](#) (NCER) and the [Northeast Recycling Council](#) (NERC).

The ERCC is divided into two basic types of membership. The first are the voting members, who are states and local governments that are implementing electronics recycling laws. The ERCC also includes an affiliate, non-voting membership consisting of industry and other organizations. The ERCC is modeled on the successful organization currently managed by NERC known as the Toxics in Packaging Clearinghouse (TPCH).

The ERCC is administered by NERC, based in Brattleboro, Vermont, and managed by the NCER, based in Parkersburg, WV.

SURVEY CAVEATS

Some caveats worth noting in the final results are that a few of the states came up with their own survey questions that, in some cases, did not match the format of the standard 10 questions developed by ERCC. This may cause the results to be somewhat skewed when looking at the overall results. For example, Hawaii did not ask where residents go to find information about recycling, but they did ask how many computers, monitors and televisions

that residents had to recycle. Connecticut, Michigan and New York also asked a few questions that were specific to their respective states. Those results are highlighted in the state-specific sections of this report. Please note these exceptions when viewing the pie charts, as there may be some questions/pie charts that do not include an even representation amongst states with laws versus states without. Another caveat has to do with number of respondents surveyed in LAW STATES versus NON LAW STATES. A total number of 12 states were surveyed. Six of those states have electronics recycling laws in place and six do not. However, due to the fact that varying confidence levels were used across states who participated in this survey, 83% of the respondents in the total data set were from LAW STATES. Because of this, when looking at the overall data across LAW STATES and NON LAW STATES, there is a much higher number of respondents who are from states that have laws (3,042 versus 606). Only 17% of the respondents to the survey were from states that did not have an electronics recycling law. This must be taken into consideration when viewing survey results across all states. Confidence levels for each state survey could vary, and are shown in the table below. Also, as mentioned in the Executive Summary above, awareness and convenience have very distinct differences. A person may know they can recycle a computer 150 miles away, but that may not be a convenient location for them. Convenience (or accessibility) is key in determining whether a resident will recycle their electronics. We would like to dig deeper into this issue in a future survey, but for now, it is worth noting that just because someone might be “aware” does not mean that there is a recycling location convenient to them, which could very well affect recycling rates.

State	Confidence Level*	Total Number of Responses Required	Number of Responses in Final Results**
Law States			
Connecticut	90%	270	531
Hawaii	95%	382	467
Michigan	95%	382	543
New York	95%	382	386
Oregon	95%	382	422
Texas	80%	68	96
Non-Law States			
Arizona	80%	68	77
Florida	80%	68	76

Massachusetts	80%	68	81
Ohio	80%	68	89
Tennessee	80%	68	75
Wyoming	80%	68	70

*

**This number is indicative of the number of responses in the final results. Please note that not all questions had this response rate, as some questions were not answered by every respondent.

Consumer Awareness Survey Results

Question 1: How Important Do You Think It Is To Recycle Devices That You No Longer Need Or Use?

RATING SCALE

- Very Important (equals rating of 5)
- Somewhat Important (equals rating of 4)
- Don't know/neutral (equals rating of 3)
- Not very Important (equals rating of 2)
- Not at all Important (equals rating of 1)

STATES WITH LAWS

- Those polled think it is "somewhat important" to recycle the devices they no longer need or use.
 - **4.4/5 on the scale**

STATES WITHOUT LAWS

- Those polled think it is "somewhat important" to recycle the devices they no longer need or use.
 - **4.3/5 on the scale**

ALL STATES (WITH AND WITHOUT LAWS)

- Those polled think it is “somewhat important” to recycle the devices they no longer need or use.
 - **4.4/5 on the scale**

Question 2: How likely is it that you will recycle electronics in the future?

RATING SCALE

- Very likely (equals rating of 5)
- Likely (equals rating of 4)
- Not sure (equals rating of 3)
- Unlikely (equals rating of 2)
- Very unlikely (equals rating of 1)

STATES WITH LAWS

- Those polled think it is “likely” they will recycle electronics in the future
 - **4.3/5 on the scale**

STATES WITHOUT LAWS

- Those polled think it is “likely” they will recycle electronics in the future
 - **4.2/5 on the scale**

ALL STATES (WITH AND WITHOUT LAWS)

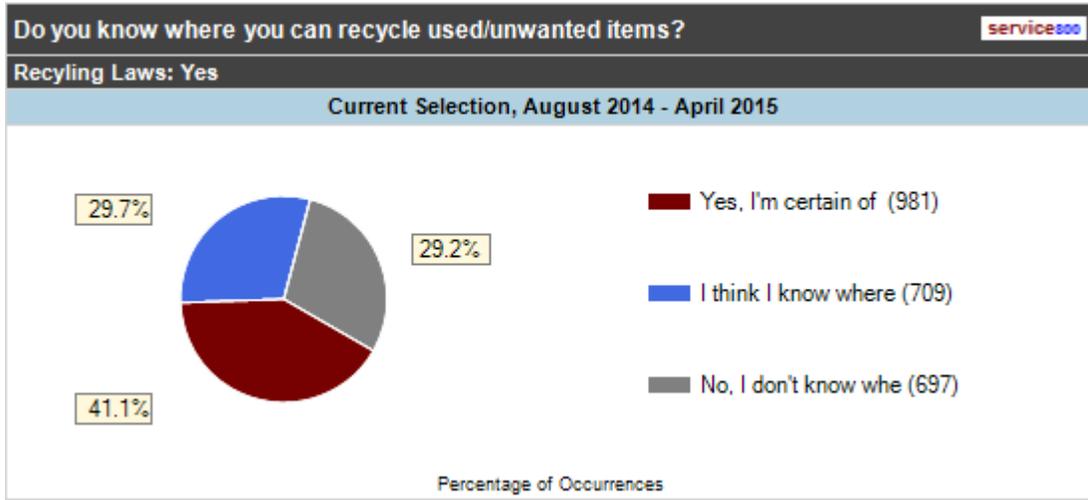
- Those polled think it is “likely” they will recycle electronics in the future.
 - **4.3/5 on the scale**

Question 3: Do You Know Where You Can Recycle Unused/Unwanted Electronics?

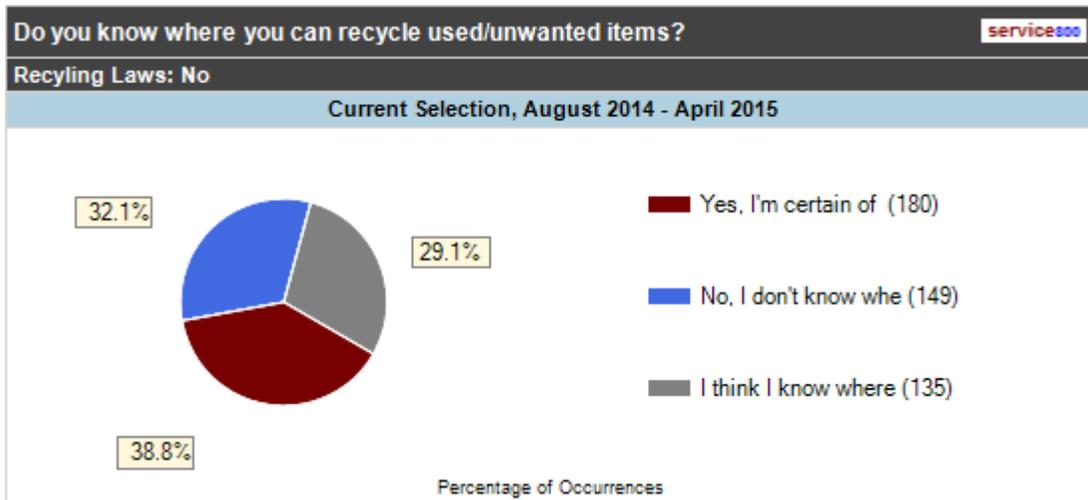
The legend below is truncated in some cases. Please use the following key to decipher the responses shown in the pie charts:

- a. Yes, I’m certain of where to take them
- b. I think I know where to take them
- c. No, I don’t know where to take them

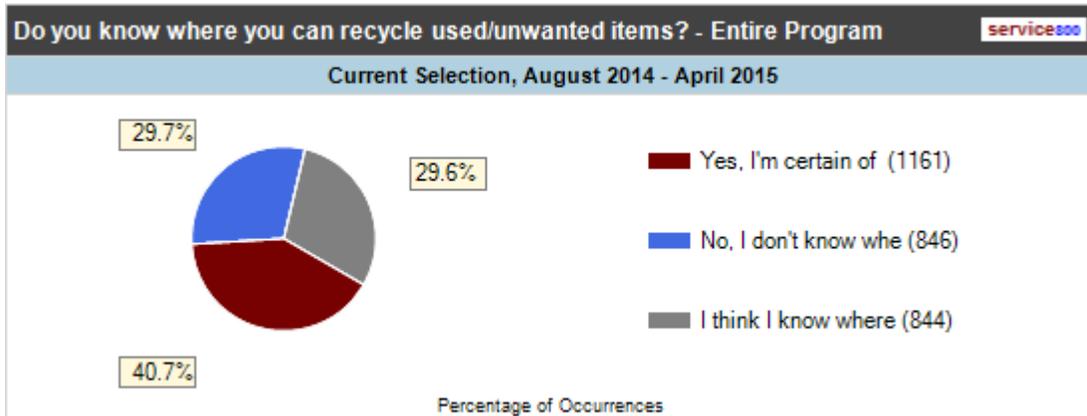
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)



A LOOK AT ALL STATE RESPONSES

Do You Know Where You Can Recycle Used/Unwanted Items?			
STATE	YES	NO	I THINK I KNOW WHERE
CT	35.70%	33.80%	30.40%
HI	50.00%	24.60%	25.40%
MI	33.60%	36.70%	29.70%
NY	42.40%	25.50%	32.00%
AZ	31.20%	36.40%	32.50%
FL	45.30%	29.30%	25.30%
MA	42.00%	23.50%	34.60%
OH	43.70%	29.90%	26.40%
OR	47.90%	20.40%	31.80%
TN	34.70%	37.30%	28.00%
TX	39.60%	34.40%	26.00%
WY	34.80%	37.70%	27.50%
With Laws	41.10%	29.20%	29.70%
Without Laws	38.80%	32.10%	29.10%
All States	40.70%	29.70%	29.60%

BIG TAKEAWAYS HERE

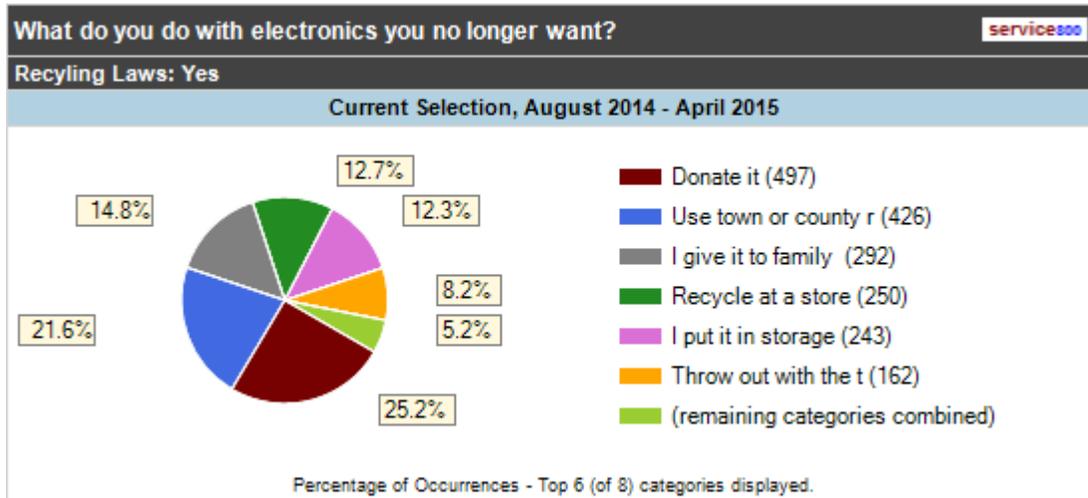
40.7% of those surveyed are certain they know where to recycle their electronics. If we add in those who “think they know” where to take their used electronics, the national result is just over 70%. The state with the highest combined response of Yes and “I think I know where” was Oregon at 79.7%, the lowest was Wyoming at 62.3%. However, when looking at awareness by state, it doesn’t seem to matter whether the state has an electronics recycling law in place or not. The top 5 states who know where to recycle their electronics are HI, OR, FL, OH, and NY (two NON LAW STATES and three LAW STATES).

Question 4: What Do You Typically Do with Electronics, Such As TVs, Computers, Monitors and Printers That You No Longer Want?

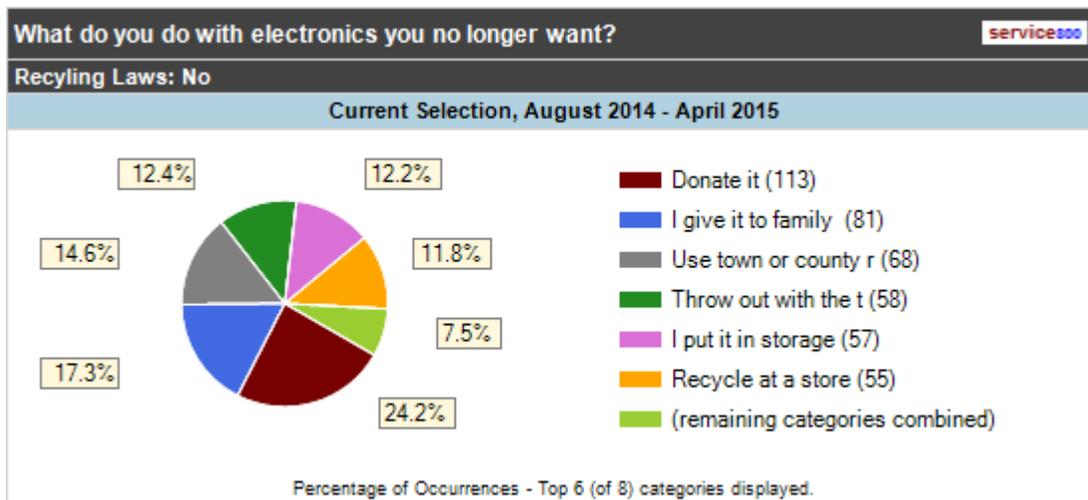
The legend below is truncated in some cases. Please use the following key:

- a. I don’t have any electronics
- b. I put it in storage
- c. I give it to family or friends
- d. Donate it
- e. Throw out with the trash
- f. Recycle at a store
- g. Use town or county recycling program or household hazardous waste collection
- h. Other _____

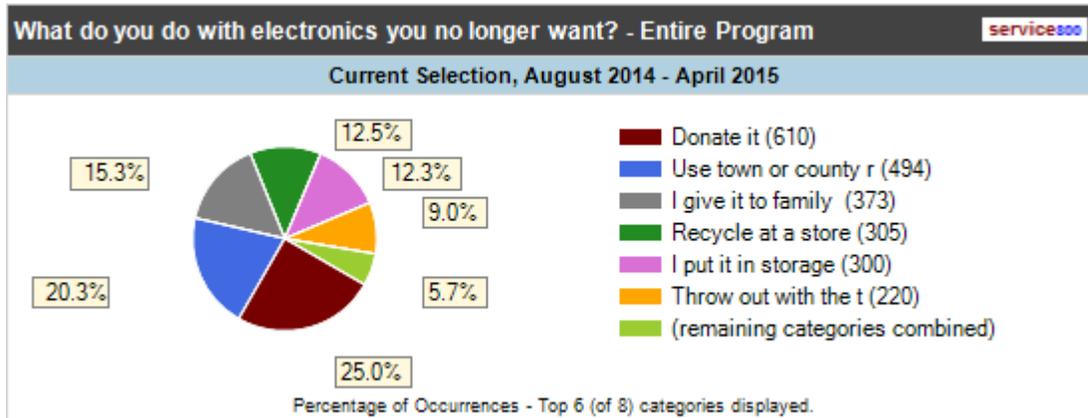
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)



BIG TAKEAWAYS HERE

When looking at the overall picture across all states (those with and without laws), it is apparent that most people are either donating their old electronics (25%) or using a town/county recycling program or household hazardous waste collection (20.3%). When isolating just the “States Without Laws” category, the figures change just slightly and you can see that more people are giving the items to family (17.3%) than recycling at a town/county recycling program or household hazardous waste collection (14.6%). This makes sense, since the states without laws may possibly have less recycling opportunities at their fingertips. Of those who donate their electronics, only 34.1% are certain of where they can recycle their electronics. All others are either unsure or do not know at all. Of those who take their electronics to a town/county recycling program or household hazardous waste collection, 63.6% are certain of where to go to recycle. What this may indicate is that with more recycling opportunities and more outreach, we may see donation figures go down and town/county recycling programs/household hazardous waste collections go up.

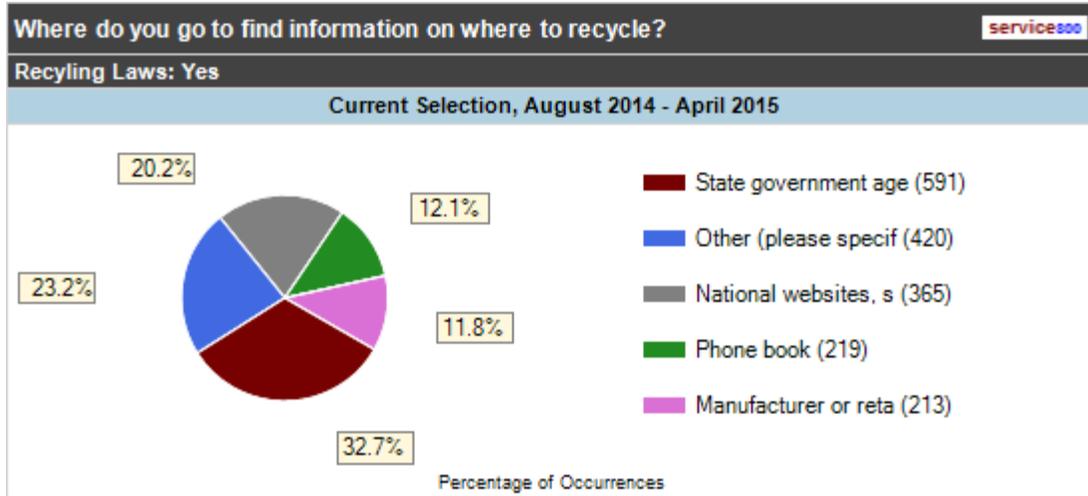
Question 5: Where Do You Go to Find Information on Where to Recycle Your Used Electronics?

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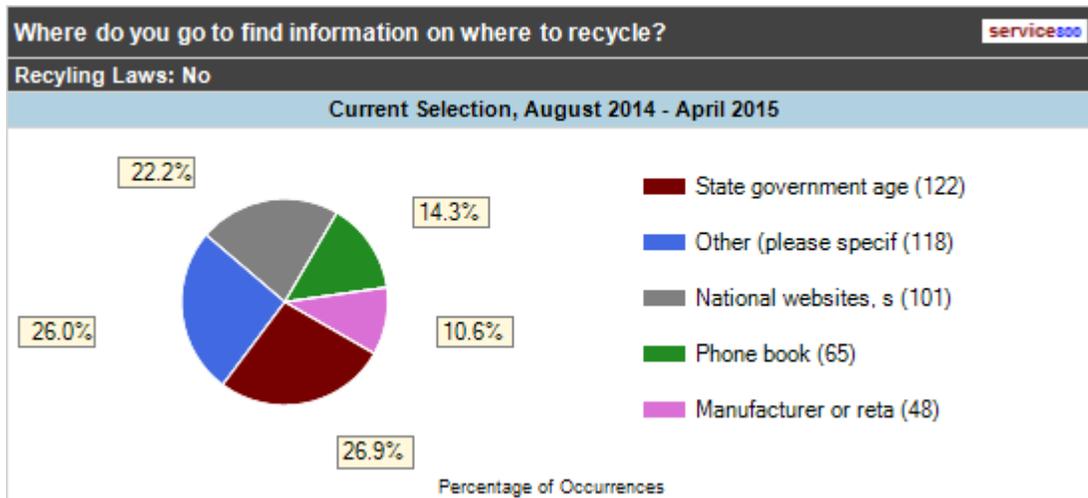
- a. State government agency website
- b. National websites, such as greenergadgets.org, earth911.org
- c. Manufacturer or retailer websites

- d. Phone book
- e. Other _____

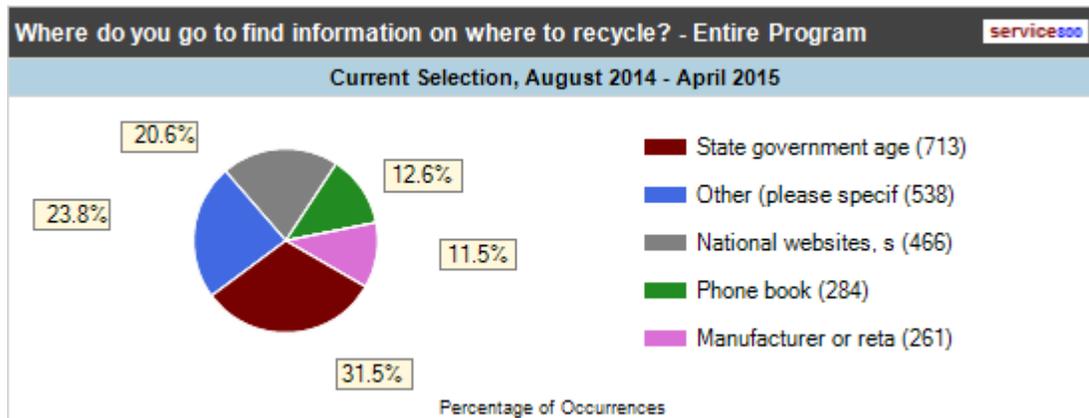
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)



BIG TAKEAWAYS HERE

When looking at the overall picture across all states (those with and without laws), the largest response category (31.5%) utilized their state government agency's website to find out more information on where to recycle their electronics. The next highest category chosen was "Other". Under some of the comments received as elaborations for this question, many indicate that people are still, in fact, getting answers from the state government agencies, but sometimes in the form of emails, direct phone calls and newspaper ads instead of websites. Others are getting information from their garbage hauler, or local city or county agency – sometimes via ads that have been run or as a result of a phone call that has been made. Many are just "googling it" and landing on a page with the appropriate information. Phone books, as suspected, are less frequently used as resources (only a 12.6% response rate). Interestingly, 40.8% of those who indicated they used a phone book to get information were in the 56 and above age category and 61.2% were in the 46 and above age category. Only 31.4% were age 45 and younger. The opposite is true for those using state government agency websites for their information. 47.5% are age 18-35. Only 22.5% of those older than age 56 choose to utilize this method. Finally, for those indicating that they use manufacturer or retailer websites, which was only 11.5% of those who surveyed, 52.5% were in the 18-36 year old age range, while just 18.8% in the 56 and older age group actually used this method. Only a small number of people indicate they are utilizing manufacturer mailback sites for researching recycling options. In a future survey, it may be worth adding "garbage hauler" and "city or county agency" to the list of options provided to those surveyed. In addition, some restructuring of the wording in the questions may assist us in coming up with more useful end results. For example, it might be helpful to know what method of communication each individual finds most helpful to learn about recycling options. Some answers here might include newspaper, television, word of mouth, social media, email, phone, mailing, and websites. Another question might ask which entity they would contact to learn about recycling options in their area, and answers could include: state agency, local city or county agency, garbage hauler, local recycler, retailer, local non-profit, and equipment manufacturer. Fine-tuning any

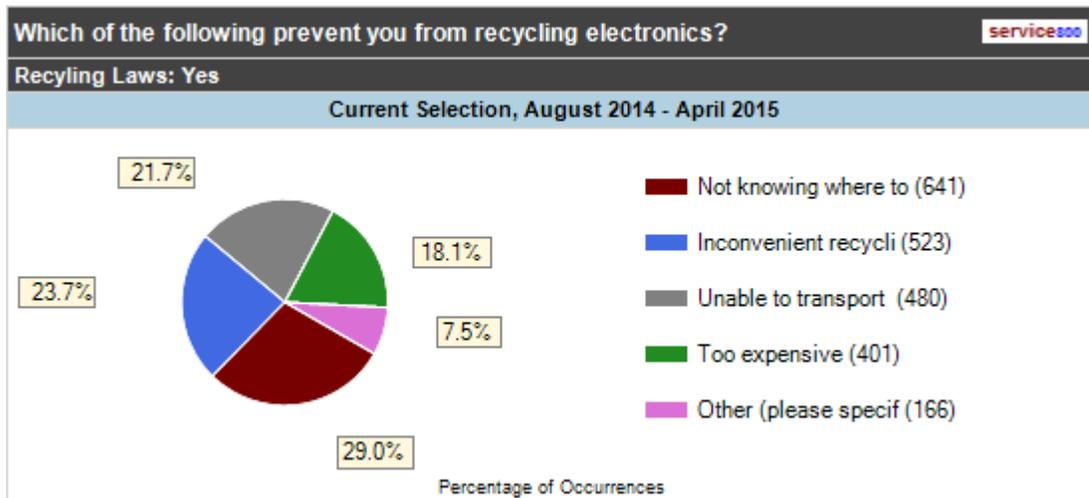
future surveys may help determine what can be done to further increase consumer awareness.

Question 6: Which of the Following Prevents You from Recycling Electronics?

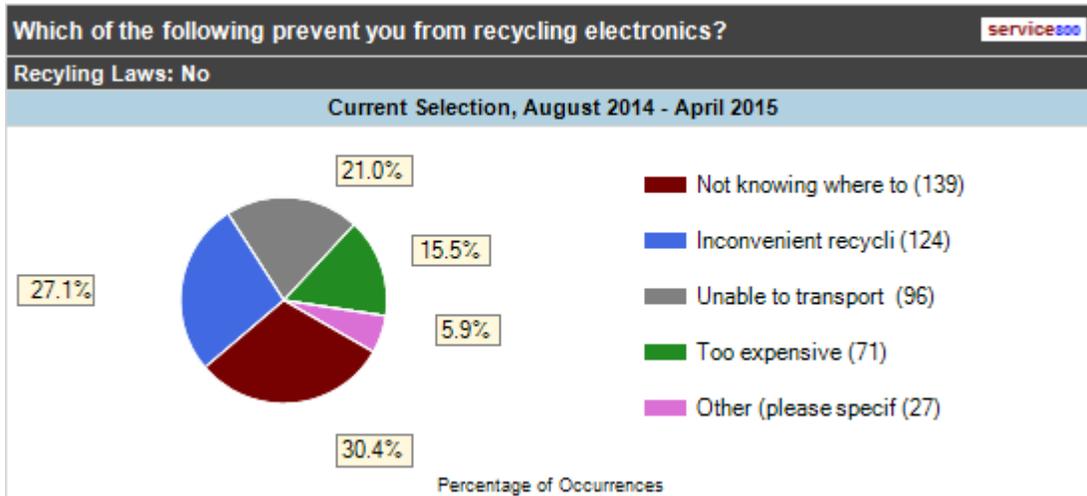
The legend below is truncated in some cases. Please use the following key to decipher for the pie charts:

- a. Too expensive
- b. Inconvenient recycling location
- c. Unable to transport items to a recycling location
- d. Not knowing where to recycle items
- e. Other _____

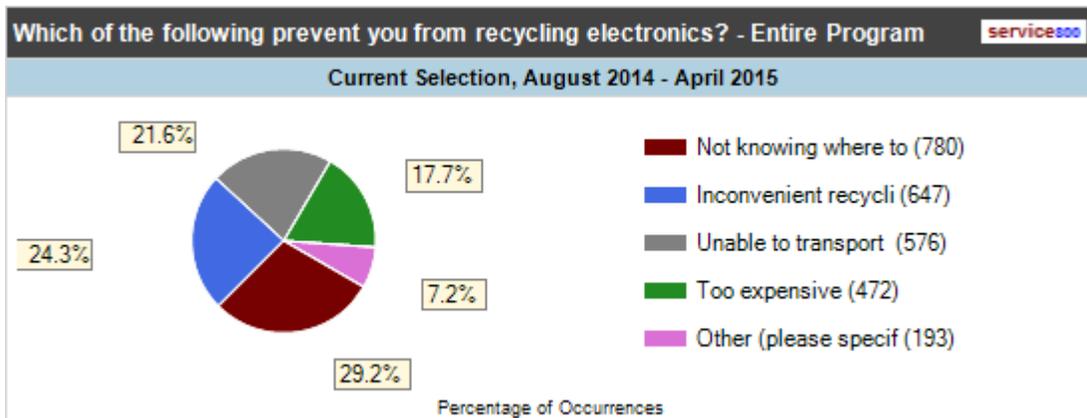
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)

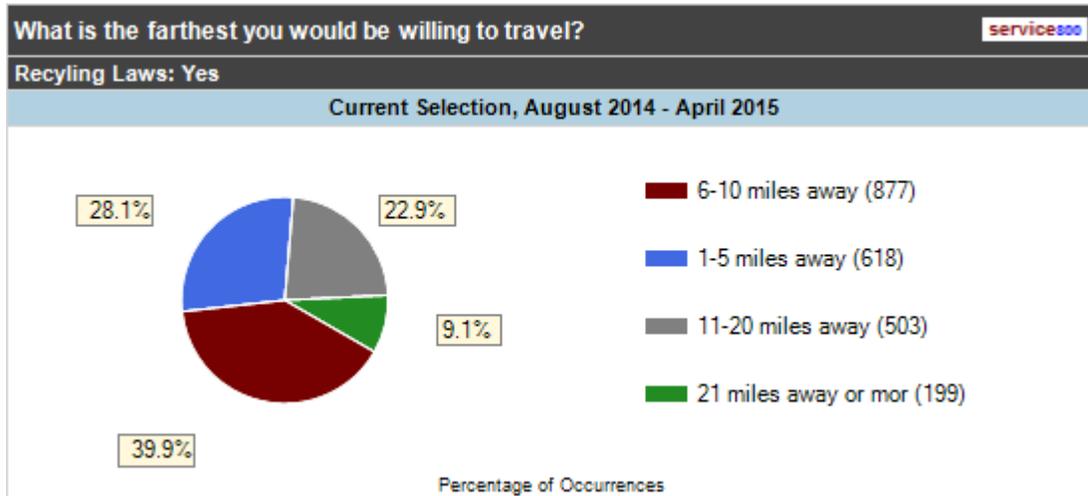


BIG TAKEAWAYS HERE

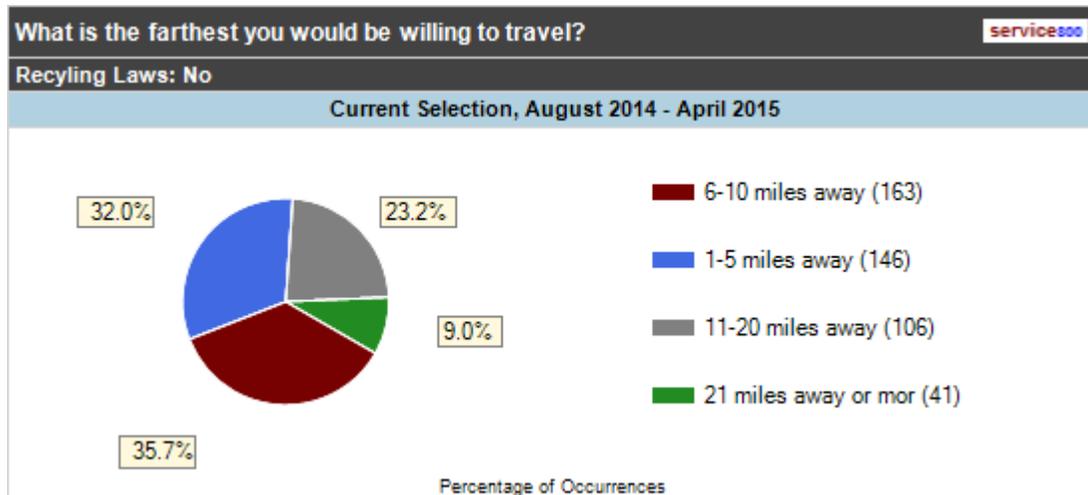
When looking at all states as a whole, 29.2% of those surveyed do not recycle because they don't know where to take their electronics. The responses to this question are fairly consistent across the board. Not knowing where to recycle and an inconvenient recycling location are the top two answers no matter how you break it down.

Question 7: What Is the Farthest You'd Be Willing to Travel To Recycle Electronics?

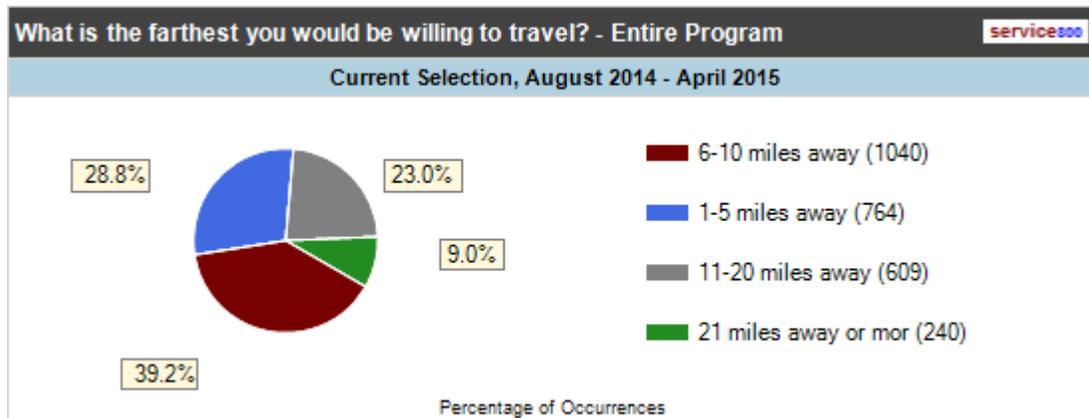
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)



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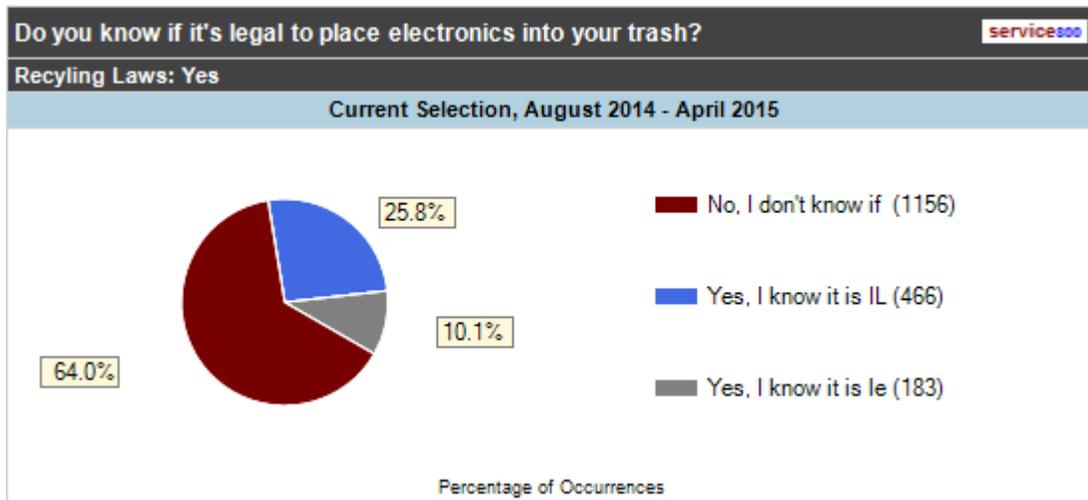
The vast majority of respondents (almost 70%) are willing to travel between 1 to 10 miles to recycle their electronics. As one might suspect, a smaller number (about 9%) are willing to drive more than 21 miles. There is not much difference in LAW STATES versus NON LAW STATES across the different mileage categories.

Question 8: Do You Know If It is Legal to Place Electronics in Your Trash?

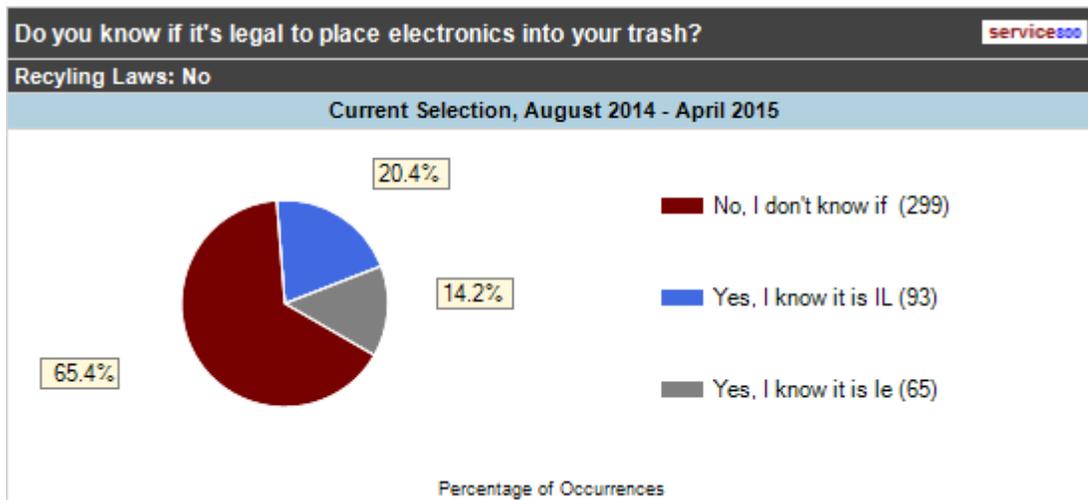
The legend below is truncated in some cases. Please use the following key to decipher the responses shown in the pie charts:

- a. No, I don't know if it is legal
- b. Yes, I know it is illegal
- c. Yes, I know it is legal

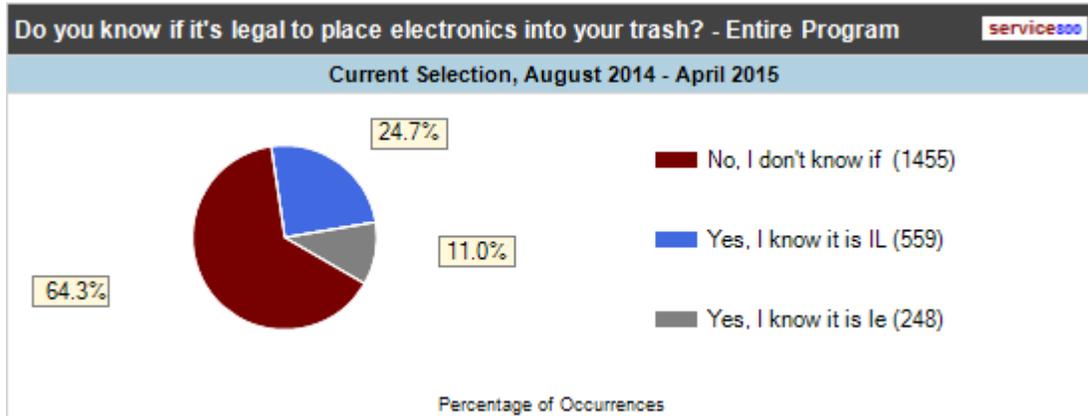
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)



BIG TAKEAWAYS HERE

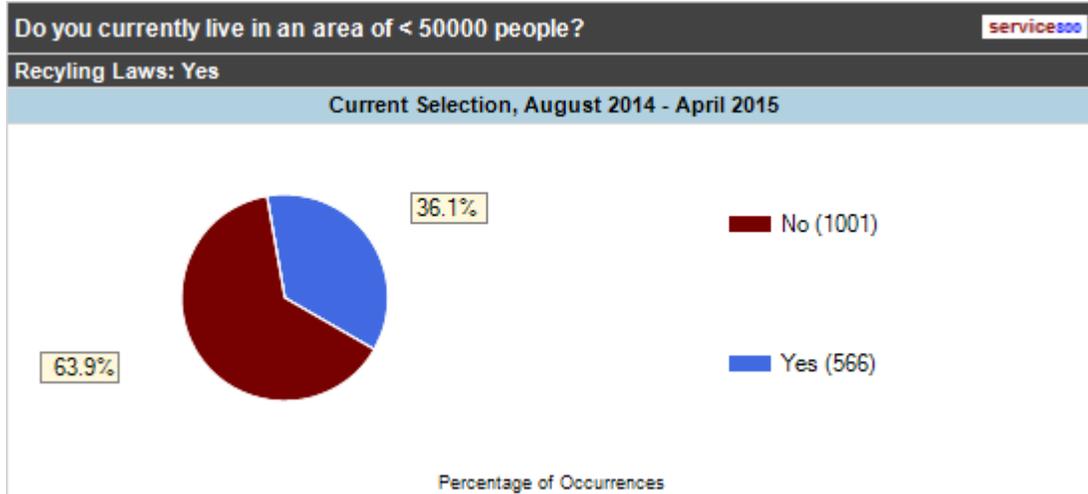
There is not a vast difference in the responses to this question when looking at LAW STATES versus NON LAW STATES, even though respondents in non-law states are much less likely to have a state landfill ban in place for household electronics. Overall, 64% of those surveyed across all states do not know if it is legal to place their electronics in the trash. Michigan (no landfill ban in place) and Ohio (no landfill ban in place) seemed to have the largest percentage of people who did not know whether there was a landfill ban in place. See below for a breakdown of these figures by state. The formatting of this particular question may have led to some confusion. In future surveys, this question could be restructured to ask: Is there a landfill ban on electronics in your state? Answers: Yes, No, Unsure.

The following are the percentages of respondents by state who did NOT know if it was illegal to dispose of electronics in the trash.

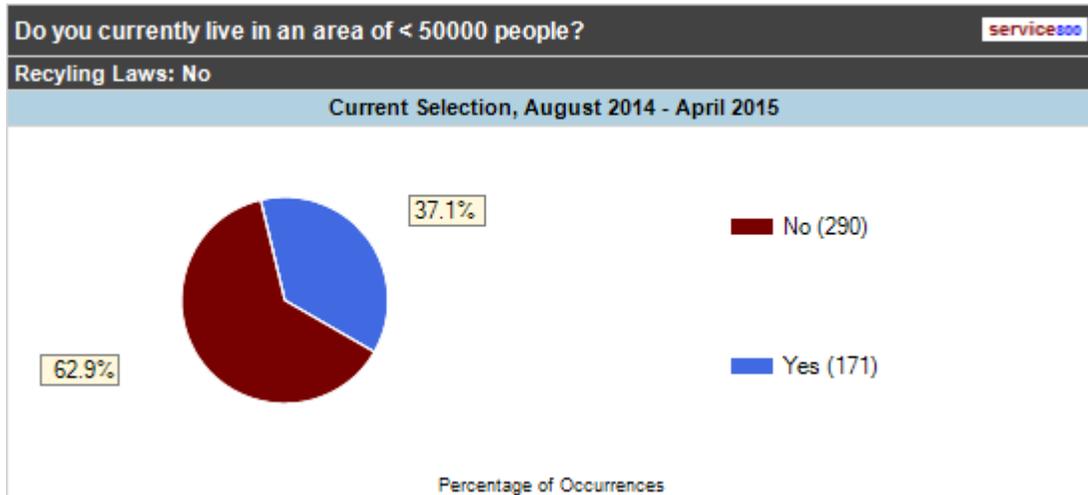
76.3% – MI (no landfill ban)	64% - OR (landfill ban)
74.7% – OH (no landfill ban)	62% - TX (no landfill ban)
72% - AZ (no landfill ban)	56.8% – FL (no landfill ban)
70.7% – TN (no landfill ban)	45.8% – NY (landfill ban)
69.1% - WY (no landfill ban)	48.7% - MA (landfill ban)
68.3% – CT (landfill ban)	HI – did not ask the question

Question 9: Do You Live in An Area of <50,000 People?

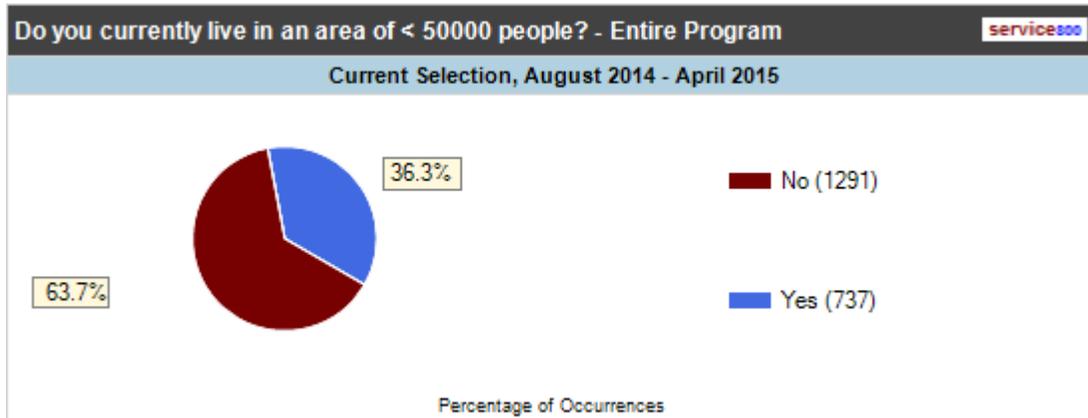
STATES WITH LAWS



STATES WITHOUT LAWS



ALL STATES (WITH AND WITHOUT LAWS)

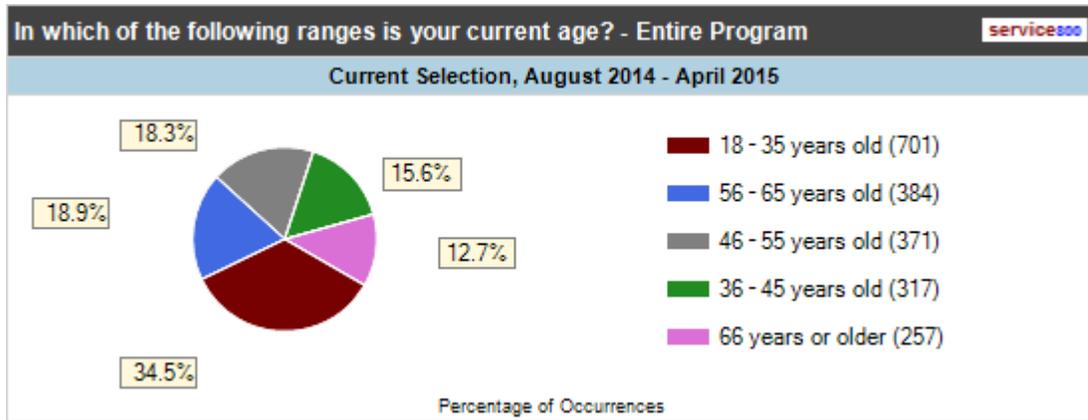


BIG TAKEAWAYS HERE

One key factor in some responses was assumed to be whether the respondent lived in a rural or urban area. In order to have data on this question, ERCC's survey included a question on whether the respondent lived in an area (i.e. town, city) of more than 50,000 people, which is a common distinction for urban communities. Only 36.3% of all responses came from those living in an area greater than 50,000 people. 11.3% of those people are willing to drive a greater distance of 21 miles or more to access a recycling location. 62.1% are willing to travel up to 10 miles away. 23.3% of people surveyed who live in the higher population areas use a town/county recycling center to recycle their electronics. Just slightly less - 22.4% - typically donate their items. Of the 63.7% of people who live in a smaller area (less than 50,000 people), only 5.9% are willing to drive more than 21 miles to access a recycling location. 71.4% of them are willing to travel up to 10 miles away to recycle. Of those who live in the smaller areas, 27.2% donate their electronics and 18% use a town/county recycling center. There does not appear to be a difference in awareness levels according to whether someone lives in a smaller area versus a larger area. In bigger cities, 38.1% are certain of where they can recycle and smaller cities are 42.2% certain.

Question 10: What Is Your Age?

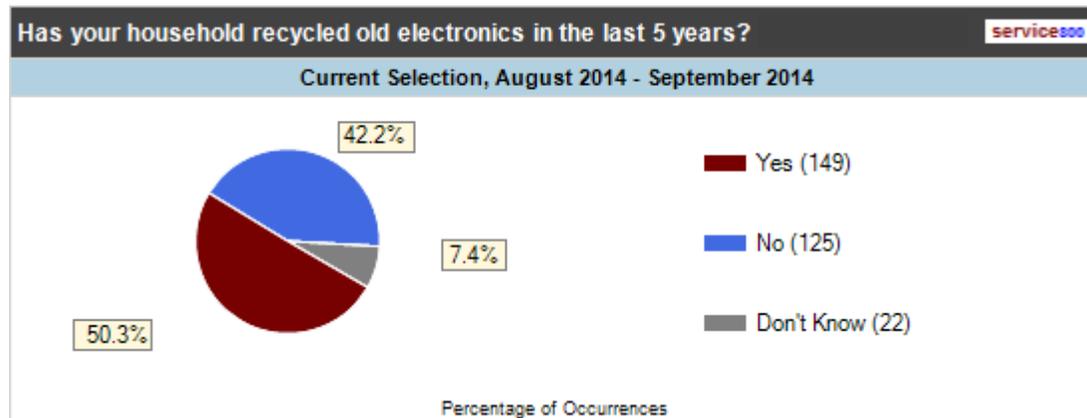
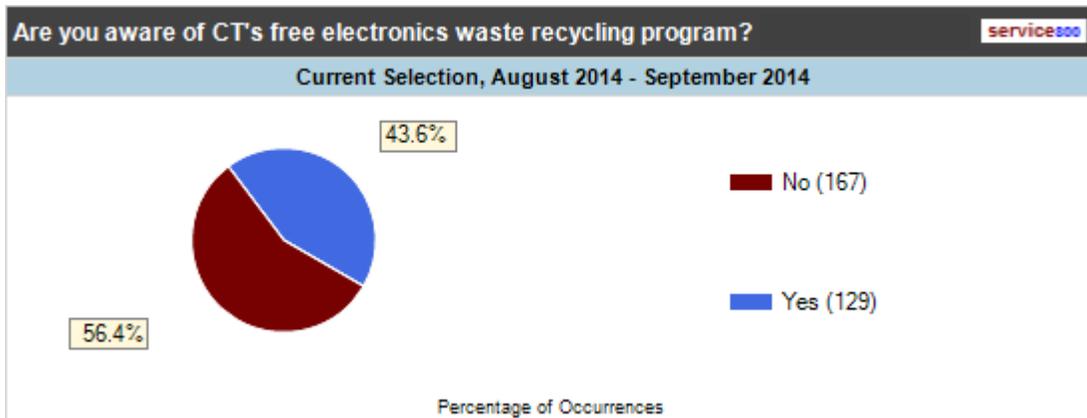
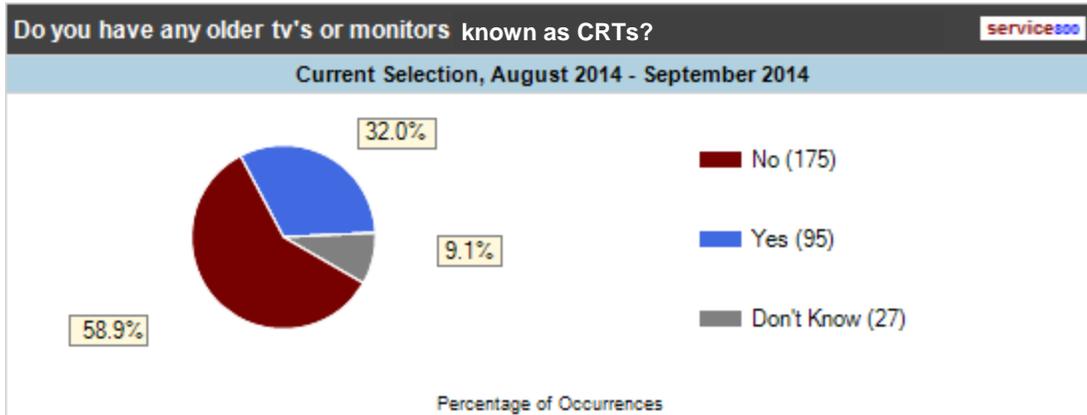
ALL STATES (WITH AND WITHOUT LAWS)



Results for Non-Common Questions

There were a few states that financed their own surveys and thus were able to ask a variety of other questions. We are providing the responses in pie chart format to these questions below.

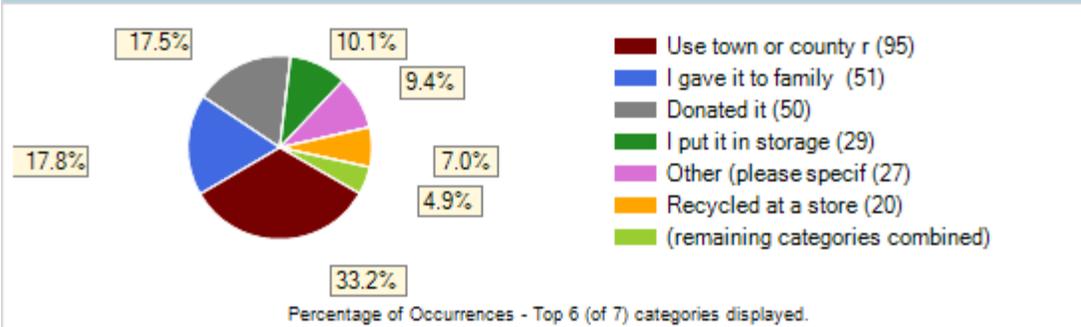
Connecticut



Where did you go to recycle unwanted electronics in last 5 years?

servicesoo

Current Selection, August 2014 - September 2014

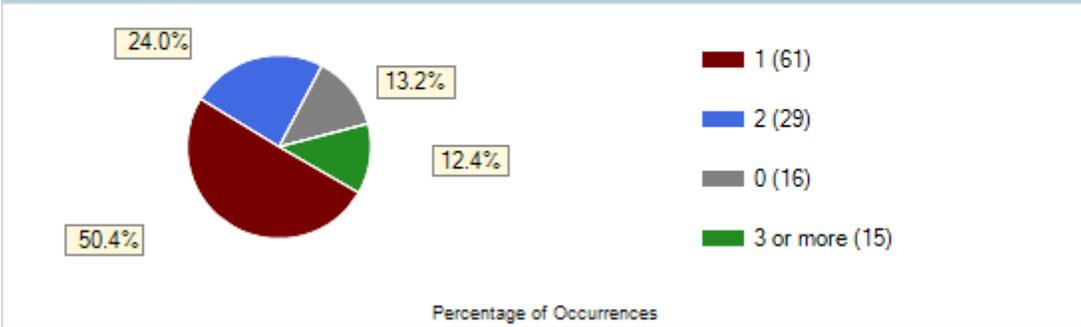


Hawaii

Computers - how many to recycle?

servicesoo

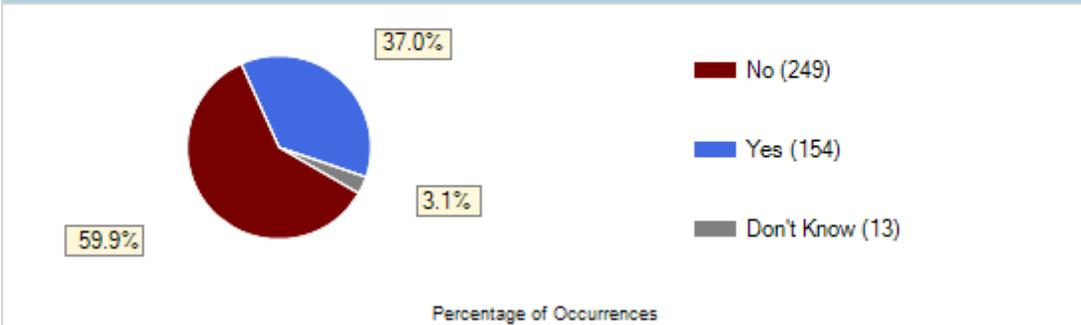
Current Selection, November 2014 - November 2014



Do you have electronics you want to dispose of or recycle?

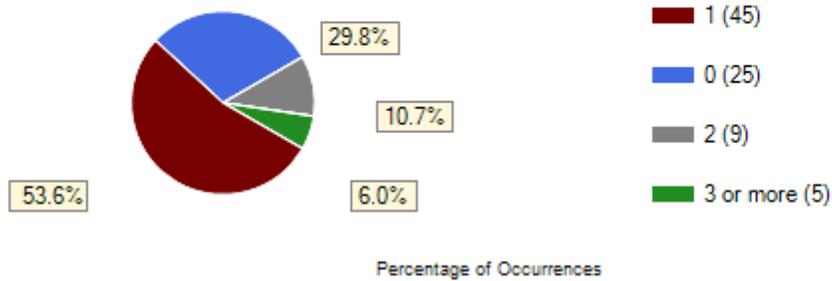
servicesoo

Current Selection, November 2014 - November 2014



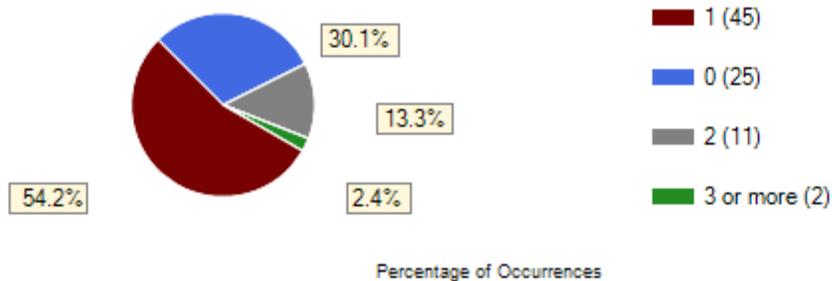
Computer monitors - how many to recycle? servicesoo

Current Selection, November 2014 - November 2014



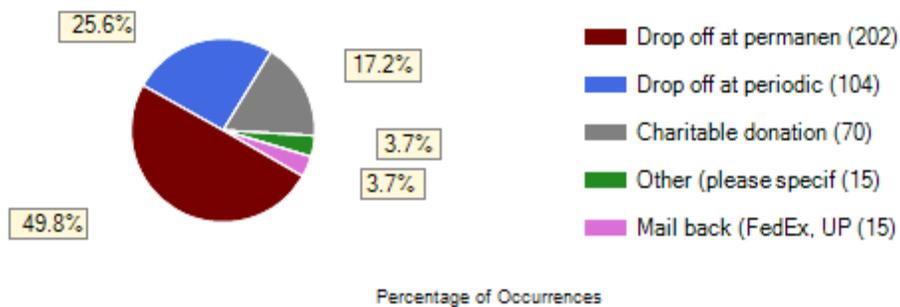
Televisions - how many to recycle? servicesoo

Current Selection, November 2014 - November 2014



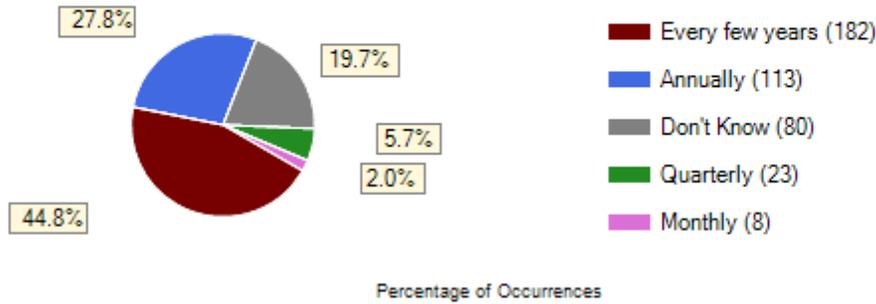
Which method of electronics recycling would you most prefer? servicesoo

Current Selection, November 2014 - November 2014



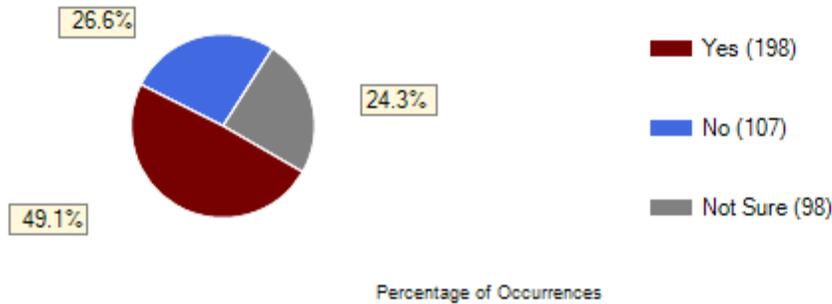
How often do you anticipate having unwanted electronics to recycle? servicesoo

Current Selection, November 2014 - November 2014



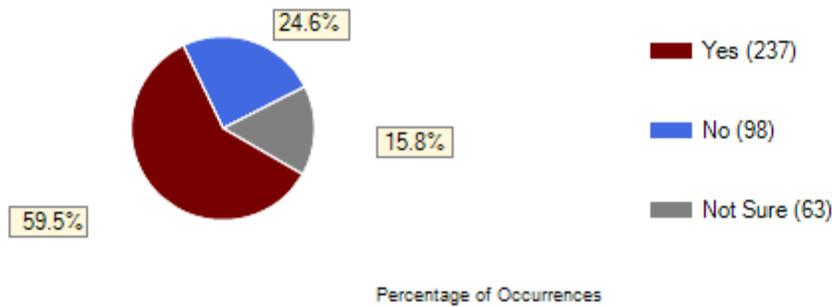
Do you believe there are adequate options available for recycling electronics servicesoo

Current Selection, November 2014 - November 2014

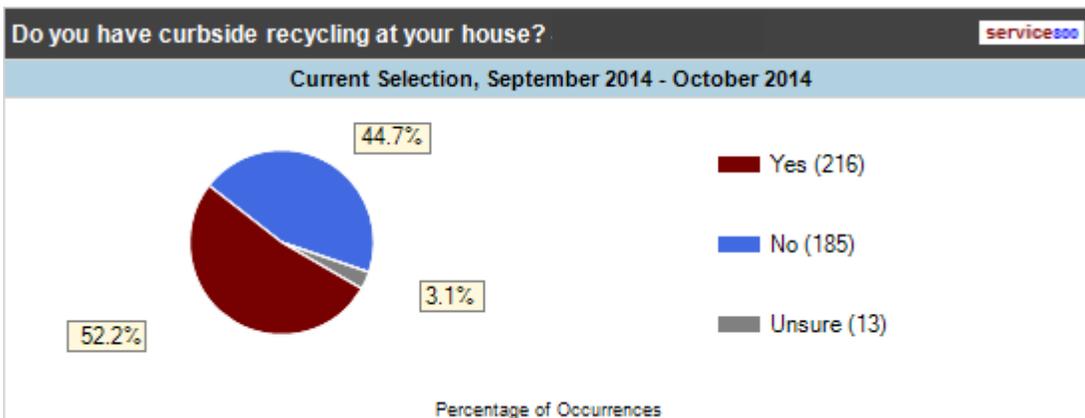
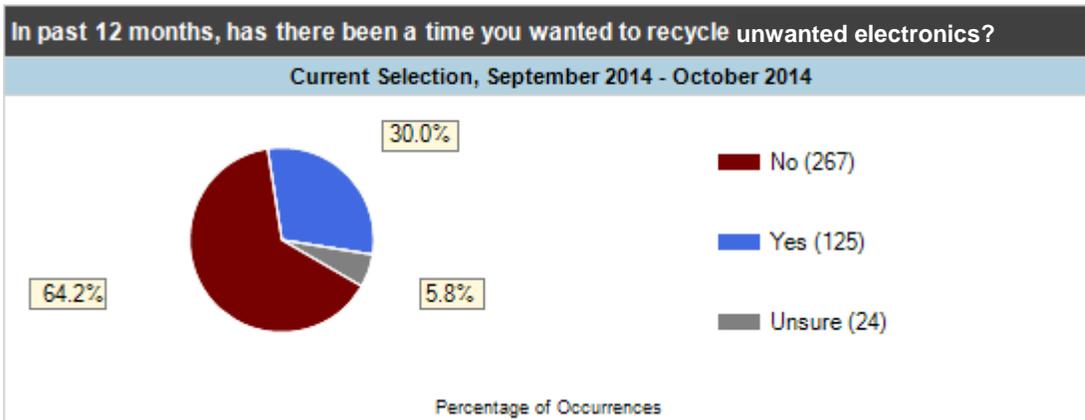
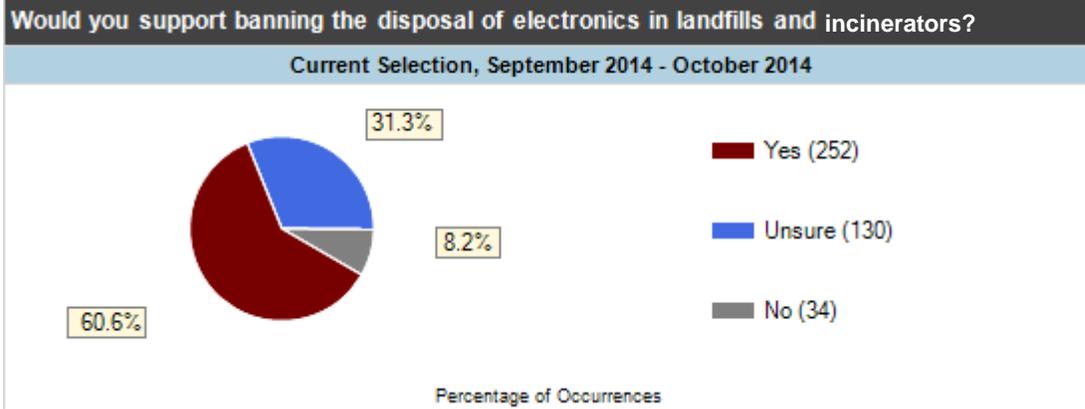


Did you know there is a electronics recycling program in Hawaii? servicesoo

Current Selection, November 2014 - November 2014

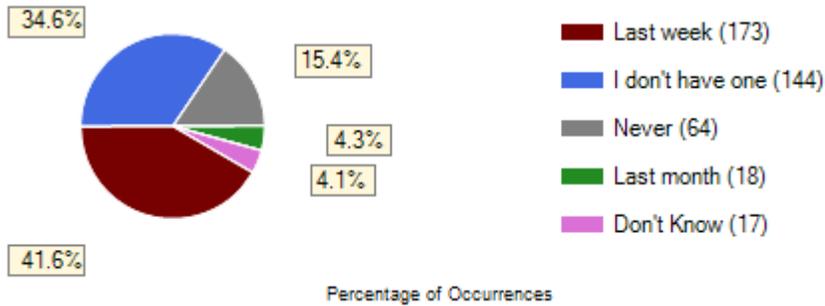


Michigan



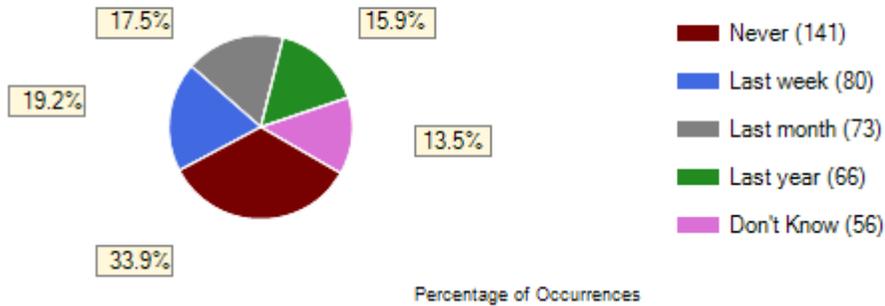
When was the last time you set out your curbside recycling bin? servicesoo

Current Selection, September 2014 - October 2014



Last time you used drop-off location to recycle servicesoo

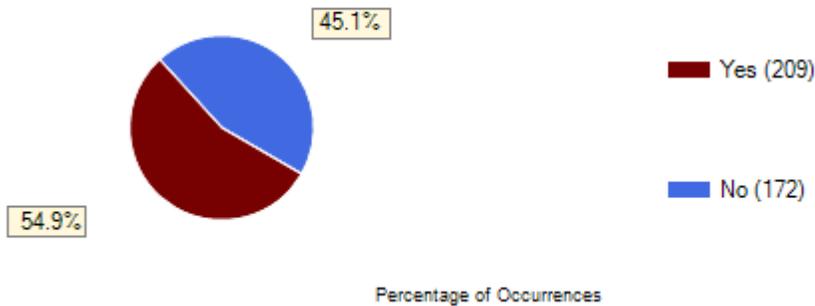
Current Selection, September 2014 - October 2014



New York

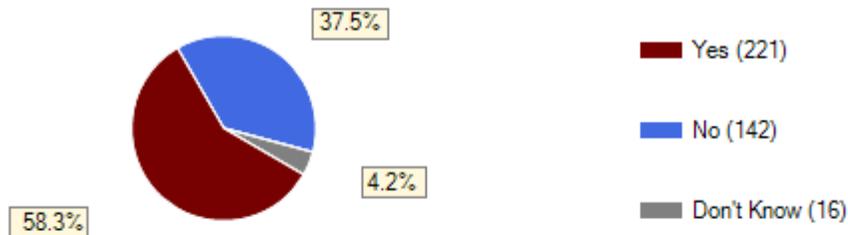
Are you aware of NY's free electronics waste recycling program? servicesoo

Current Selection, February 2015 - February 2015



Has your household recycled old electronics in the last 5 years? servicesoo

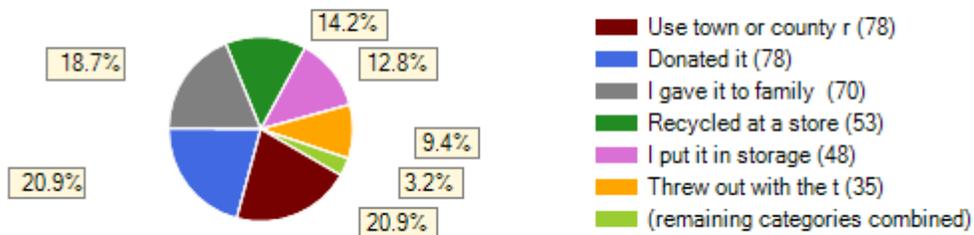
Current Selection, February 2015 - February 2015



Percentage of Occurrences

Where did you go to recycle unwanted electronics in last 5 years? servicesoo

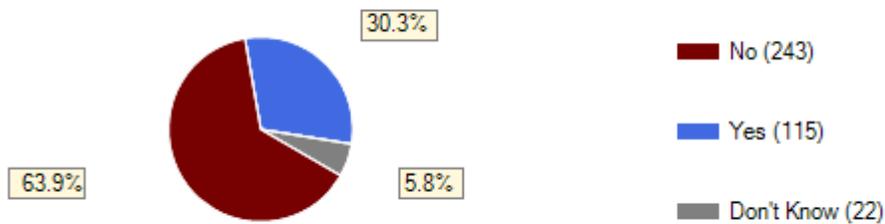
Current Selection, February 2015 - February 2015



Percentage of Occurrences - Top 6 (of 7) categories displayed.

Do you have any older tv's or monitors known as CRTs? servicesoo

Current Selection, February 2015 - February 2015



Percentage of Occurrences