



**KENTUCKY ENVIRONMENTAL
EDUCATION COUNCIL**

The 2019 Survey of Kentuckians' Environmental Knowledge, Attitudes & Behaviors

December 2019

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Introduction



Introduction



In 1995, the Kentucky Environmental Education Council (KEEC), a state agency, was established to improve environmental education in the Commonwealth. The General Assembly charged the agency with a number of tasks, one of which was to “monitor and report periodically on environmental literacy in Kentucky.”

KEEC, working with the University of Kentucky Survey Research Center, completed the first survey of environmental knowledge, attitudes and behaviors in 1999, the second in 2004 and the third in 2009. In 2014, the survey was conducted by an outside firm. In 2019, the project was granted to Kentucky Center for Statistics (KYSTATS).

As indicated in previous reports, this study does not measure the full environmental literacy of Kentuckians. The survey questions address a limited set of subjects pertaining to air, land, and water quality. It also gauges Kentuckians' attitudes toward particular environmental issues, such as how well we are protecting our natural resources. Finally, it measures self-reported behaviors that might positively impact the environment.

This report summarizes the findings of the 2019 survey. Where appropriate, survey results from earlier surveys are presented as a comparison. Key differences by demographic segment are highlighted where significant or otherwise notable results are observed.

The report is presented in sections, with focus on environmental knowledge, attitudes, and behavior. A fourth section provides a compilation of these topics by attitudinal segment.

Finally, the three appendices include useful background information for the reader.

Cross-tabulation reports showing all responses for each survey question have been developed and are delivered under separate cover.



Survey Methodology

Survey Methodology



From October 14 – November 8, 2019, 650 interviews were conducted with adult Kentucky residents. A dual sampling frame was utilized to include individuals using landlines and those relying on cell phones. In total, 318 interviews (49%) were conducted via cell phone and 332 (51%) via landline. Note the increase in cell phone surveys versus the 2014 iteration (35% cell phones). This reflects the increased proportion of people relying on cell phones and abandoning landline technology.

Potential respondents were contacted through random digit dialing (RDD), and interviews averaged around 12 minutes. The sample was pulled proportionately by county with quotas based on Kentucky Educational Cooperatives. The goal of this approach was to obtain a representative number of interviews across the Commonwealth, without the need for post-fielding manipulations (such as data weighting). As in the past, all data in this report, both current and historical, are presented unweighted.

The table below displays the geographic quota breakdown. A full breakdown of the sample by region and county is included in *Appendix B: Sample Profile*.

REGION	POPULATION	DISTRIBUTION	SAMPLE SIZE	DISTRIBUTION
CENTRAL KENTUCKY	785,977	17.6%	126	19.4%
EASTERN KENTUCKY	252,886	5.7%	50	7.7%
GREENE RIVER	789,043	17.7%	106	16.3%
KENTUCKY VALLEY	237,686	5.3%	51	7.8%
LOUISVILLE AREA	770,517	17.2%	98	15.1%
NORTHERN KENTUCKY	430,654	9.6%	59	9.1%
OHIO VALLEY	295,042	6.6%	41	6.3%
SOUTH CENTRAL KENTUCKY	435,996	9.8%	55	8.5%
WESTERN KENTUCKY	470,601	10.5%	64	9.8%

Survey Methodology – cont'd.



The survey data were cleaned to check for any irregularities, and, subsequently, cross-tabulated by geographic region, demographics, and socioeconomic factors. This information was used to aid in the analysis.

Significance testing (t and z tests) at the 95 percent confidence level was conducted to detect differences among respondent segments of varying ages, genders, education, and income levels, as well as community types. When applicable, statistically significant findings are noted. The margin of error is approximately ± 3.8 percentage points (worse case scenario). See *Appendix A: Explanation of Statistical Significance Testing* for further explanation.

Please note that percentages have been rounded to the nearest whole number and in some charts, they may not add to 100 percent.



Executive Summary

Executive Summary



Current State of Knowledge on Environmental Topics

In 2014, a General Knowledge Score was developed. This measure provides a summary of the average level of environmental knowledge in the Commonwealth and is calculated as the percentage of correct responses to a series of basic questions about the natural environment.

The score in 2014 was 55%. It was believed that the score represented a steadily improving level of knowledge among residents. However, in 2019, the score declined to 45%. There is a substantial proportion of the population that cannot correctly answer these basic questions. The problematic areas include:

- The most common source of water pollution in Kentucky
 - 29% correctly identified run-off from lawns and farms
- The number one method of generating electricity in the U.S.
 - 19% correctly identified natural gas plants
- The best definition of Biodiversity
 - 35% correctly answered the many types of plants and animals
- Consider sources of litter to be plastic bottles, banana peels/apple cores, and cigarette butts
 - 13% correctly identified all three
 - 85% of those surveyed did not identify banana peels and apple cores to be litter

The respondent groups with the highest General Knowledge Scores were those who graduated from college (or higher), at 53% and those living in suburbs/cities, at 49%.

The respondent groups with the lowest General Knowledge Scores include:

- Live in small town (42%)
- High school (or less) education (42%)
- Earn \$20k or less (42%)
- Live in the Kentucky Valley region (37%)

As in 2014, this year's survey shows that those who live in rural Kentucky were likely to score slightly higher (45%) than their small-town counterparts.

Kentuckians obtain environmental information from a variety of sources. Radio/TV and newspapers are decreasing as sources, while internet sites are gaining traction.

Executive Summary – cont'd.



Attitudes Toward Environmental Issues

The survey respondents were asked in open-end fashion to identify *the most important environmental problem facing Kentucky*. A total of 41% couldn't do so.

Nearly one in three respondents mentioned issues pertaining to water quality, including water pollution and inadequate water systems. Air pollution (16%) and other forms of pollution (12%) were also mentioned by Kentuckians as pressing issues.

Kentuckians have consistently viewed local water and air quality more positively than they do for the U.S. in total and this continued in the 2019 survey. Even though water-related issues were volunteered by respondents as problems, 64% rated their local water quality as excellent or very good. Ratings for local water quality have increased in each study wave since the inaugural 1999 survey.

The data indicate that Kentuckians are increasingly less likely to believe that their daily actions have an impact on the environment. In this year's survey, 82% agreed strongly or somewhat with this premise vs 87% in 2014 and 91% in 2009.

Kentuckians are also less likely to agree that human activity is causing climate change. A total of 68% of the sample in 2019 agreed with this. This is a decline in agreement levels from 2014 and 2009, at 72% and 75%, respectively.

More than nine in ten of this year's survey respondents agreed that it is possible to protect the environment and maintain a healthy economy. This has been a consistent finding over the course of the study.

When asked about the best strategies to employ to address Kentucky's energy future, 45% of this year's respondents selected alternative energy while 30% selected technological improvements allowing for clean mining and burning of coal. Those in the Eastern Kentucky and Kentucky Valley regions were more likely to choose the coal technology option.

As in previous years, Kentuckians are highly supportive of including environmental education curriculum in schools. A total of 93% agree strongly or somewhat with this idea.

More than six in ten of this year's survey respondents (63%) agreed that landowners should be able to use their land as they see fit. This is up slightly from 2014, where 55% agreed. This is a somewhat polarizing issues and tends to be split along urban/rural lines.

Executive Summary – cont'd.



Environmentally Responsible Behaviors

The survey included a series of questions pertaining to behaviors associated with promoting a healthy environment. The results of the 2019 survey are somewhat mixed.

Kentuckians today are less likely to donate time or money to support environmental causes than in the past. A total of 52% of respondents in the 2019 survey said they did so frequently (13%) or sometimes (39%). This is the lowest percentage recorded since the survey began and is down 14 points from the high of 66% in 2009.

The vast majority of Kentuckians say they make an effort to reduce the amount of household waste produced. In 2019, 93% said they frequently (57%) or sometimes (36%) do so. In all five waves of the survey, at least 90% reported that they take such action.

When asked about separating household waste for recycling, 74% of the 2019 survey respondents said they did so. This has been a consistent finding over the course of the study. This behavior varies by region and may be a function of infrastructure and government services. Those in Central Kentucky and Northern Kentucky were more likely to say they frequently separate household waste for recycling.

In 1999, 69% of survey respondents said they frequently or sometimes volunteered for environmental projects. This was followed in 2004 by 70%. Since that time, a decline has been observed with roughly four in ten respondents reporting this behavior, including 42% in the 2019 survey.

Kentuckians' willingness to pay more for energy and services to protect the environment has steadily declined over the course of this study. In 1999, 75% of Kentuckians were willing to do so, while in 2019, just 42% responded affirmatively. This is a significantly lower response than in 2014 and the lowest to date.

Respondents are more likely to say they conserve energy to save money (93% in 2019) and reduce environmental impact (77%). These are significantly higher results than observed in the 2014 survey.



Conclusions



Conclusions



The 2019 Survey of Kentuckians' Environmental Knowledge, Attitudes & Behaviors reveals a mixed state of affairs.

Kentuckians continue to indicate that concern for the environment is high, as 95% agree that knowing about environmental problems is important and 93% agree that environmental education should be included in school curriculum.

However, despite the professed importance of being in the know about the environment, the 2019 survey responses point to gaps in understanding some rudimentary environmental concepts. The general knowledge score declined to 45% versus the 2014 score of 55%. Those with lower levels of education tend to be less knowledgeable about environmental concepts than those with a college degree, but these are concepts that are taught in middle and high school (and in some cases, elementary school), not in college. Those in the 18-34 age group have had a better chance to be exposed to environmental education in school than older citizens, yet the average General Knowledge Score for this age group is statistically equal to that of older residents. There is a segment of people for whom environmental concepts are simply not front and center. More than four in ten could not name an important environmental issue facing Kentucky at the present time.

Awareness and concern should theoretically translate to action. In the area of behavior, there are again mixed results. The donation of time and/or money to environmental causes remains much lower than 15-20 years ago, and the willingness to pay more for energy and services has declined precipitously over the past 20 years. On the positive side, Kentuckians continue to try to reduce household waste and to participate in recycling.

Not addressed in this survey are the presence of incentives designed to encourage environmentally supportive behaviors. For example, the decline in volunteering for environmental projects may be tied to shifting sentiment or to a real or perceived lack of opportunity. Recycling opportunities vary by local and government support.



Detailed Findings: Knowledge

General Knowledge Score



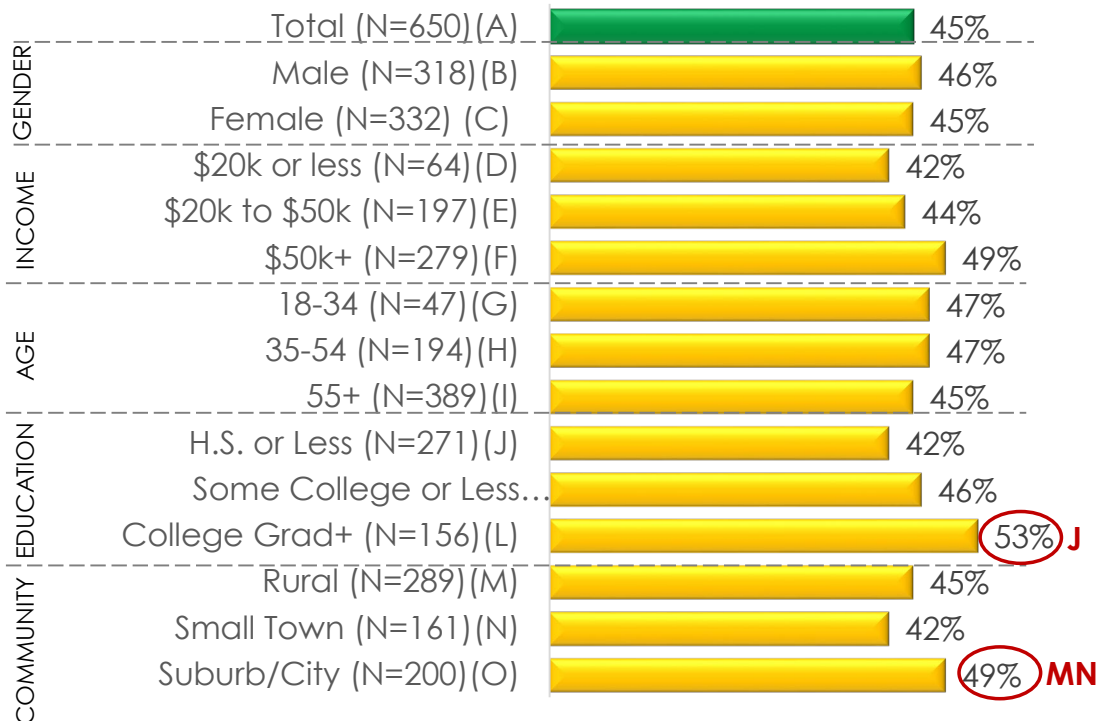
As in previous iterations of the survey, the first section of the survey measured Kentuckians' knowledge levels of eight current environmental topics. The questions were designed at the middle school student level. A majority of respondents gave the correct responses to just four of the eight topics. On only two topics (Solar energy and trees being renewable and the primary reason for extinction of plants and animals) was the majority greater than 67%.

As in 2014, a General Knowledge Score was calculated. This score reflects the average level of environmental knowledge in the Commonwealth. In 2014, the score for the total sample was at 55% and this year it dropped to 45%.

The 2019 score suggests that the average Kentuckian is not readily able to correctly answer these basic questions about the environment.

A summary of the General Knowledge Scores by demographic group and region are shown below and on the next page. On the pages that follow, results are presented for each of the eight measures. Key differences by demographic group and region are highlighted where appropriate.

General Knowledge Score Among Key Analysis Groups

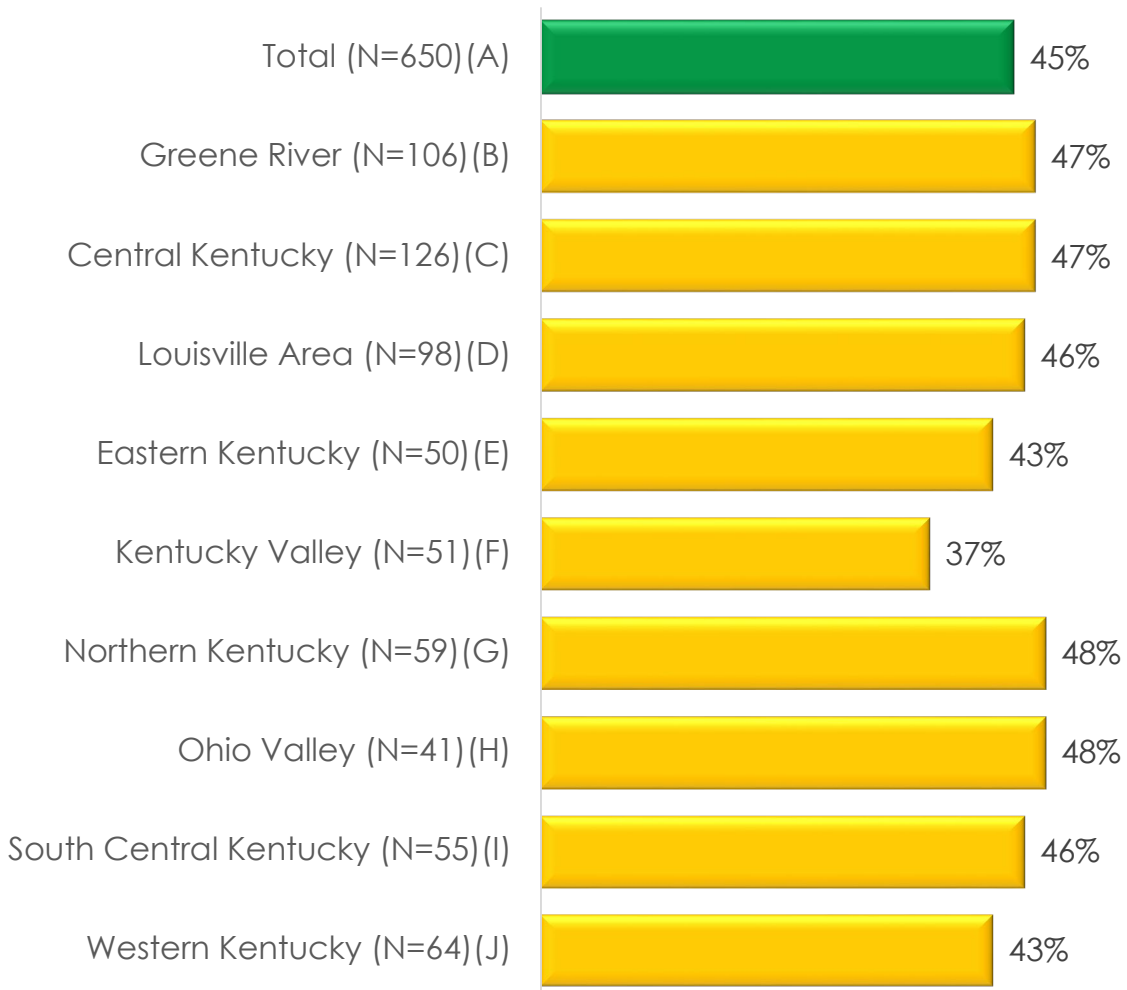


Letters in **Red** denote significant differences among respondent segments

General Knowledge Score



General Knowledge Score by Region



Letters in **Red** denote significant differences among respondent segments

The Most Common Source of Water Pollution



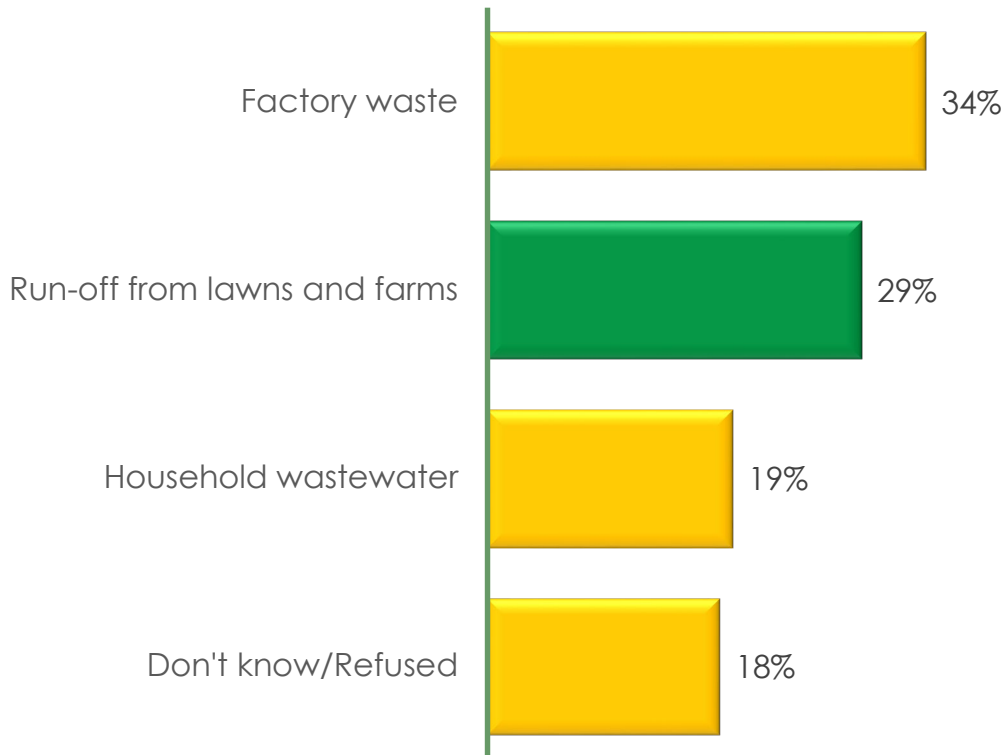
A total of 29% of Kentuckians correctly identified run-off from lawns and farms as the most common source of water pollution in the state. This is slightly higher than in 2014 (26%) and has increased since the inception of the study when the total was 20%.

A plurality of respondents has consistently identified factory waste as the main source of water pollution over the course of this study and in 2019, 34% selected this response. However, this measure continues to decline with time. In 2004, 57% incorrectly identified factory waste as the main source of water pollution.

Respondents most likely to identify factory waste as the main source of water pollution include:

- Central Kentucky (37%)
- Louisville Area (45%)
- Ohio Valley (46%)

The Most Common Source of KY Water Pollution



Base: Total respondents, n=650

Main Method of Generating Electricity



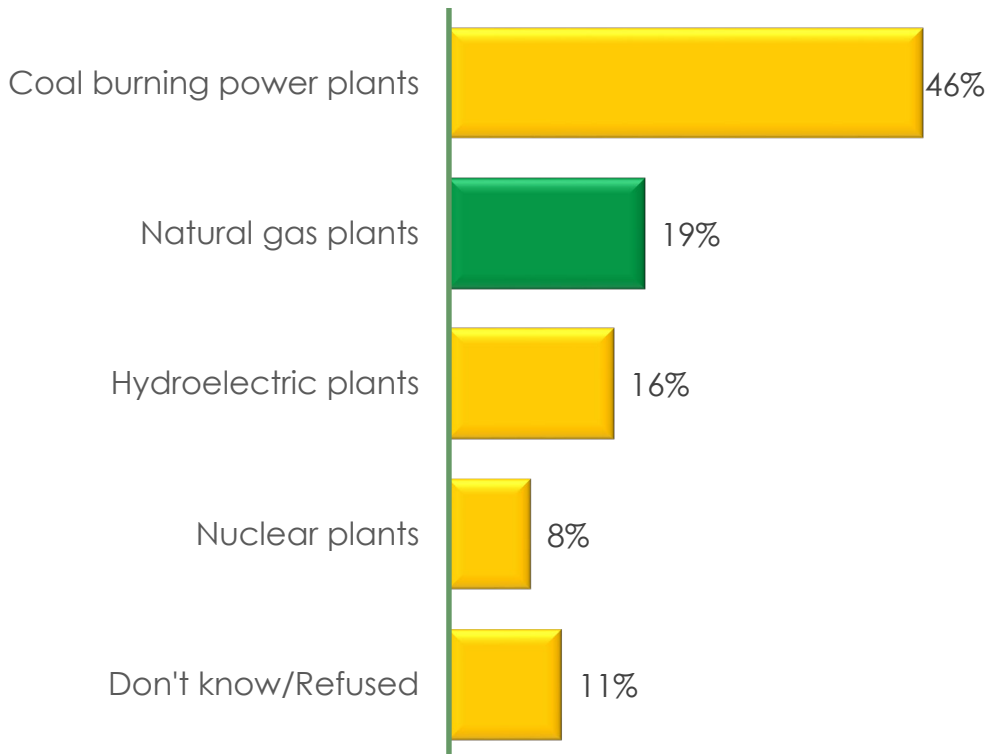
The energy production landscape is evolving. Natural gas and renewable sources continue to gain momentum. In the U.S., natural gas plants account for about 35% of electricity generation (2018, <https://www.eia.gov>), while coal accounts for just under 28%.

On the other hand, coal-fired plants generate about three-fourths of electric power in Kentucky.

This question asked respondents to identify the number one method for generating electricity *in the U.S.* In 2019, a total of 46% of Kentuckians incorrectly identified coal burning power plants as the major source of electricity generation in the U.S. and just 19% selected the natural gas response.

Those in the Eastern Kentucky and Kentucky Valley regions were most likely to name coal burning plants as the main method for electricity generation.

Main Method of Generating Electricity in the US



Base: Total respondents, n=650

Definition of Biodiversity



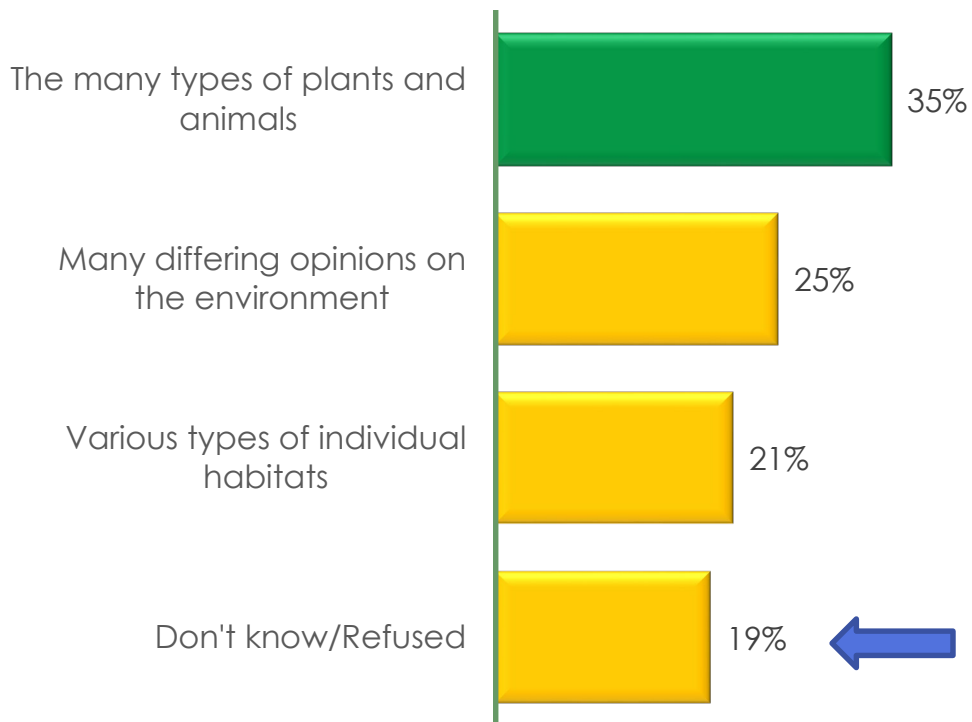
When asked to choose the best definition of biodiversity, 35% of Kentuckians correctly identified "the many types of plants and animals." This is a notable increase from 2014 (28%), yet still well below levels observed in previous surveys, which ranged from 43% to 53%.

One in four people think that biodiversity is defined as "many differing opinions on the environment." This was the most popular response in 2014 at 39%.

There were no significant differences in correct responses by region. Those most likely to give the correct response were more likely to be in these groups:

- College graduate (49%)
- Male (41%)
- Earn \$50k+ (40%)
- Live in the suburbs (39%)

The Definition of Biodiversity



Base: Total respondents, n=650

The Most Common Reason for Extinction of Plants & Animals



As in previous surveys, the results reaffirm that Kentuckians are likely to understand that habitat loss is the most common reason for the extinction of animals and plants. A total of 69% correctly selected this response, which is slightly higher than the 2014 response of 67%.

This is one measure that has been improving over time on a fairly consistent basis, from a 1999 response of 58% to 2019's high score.

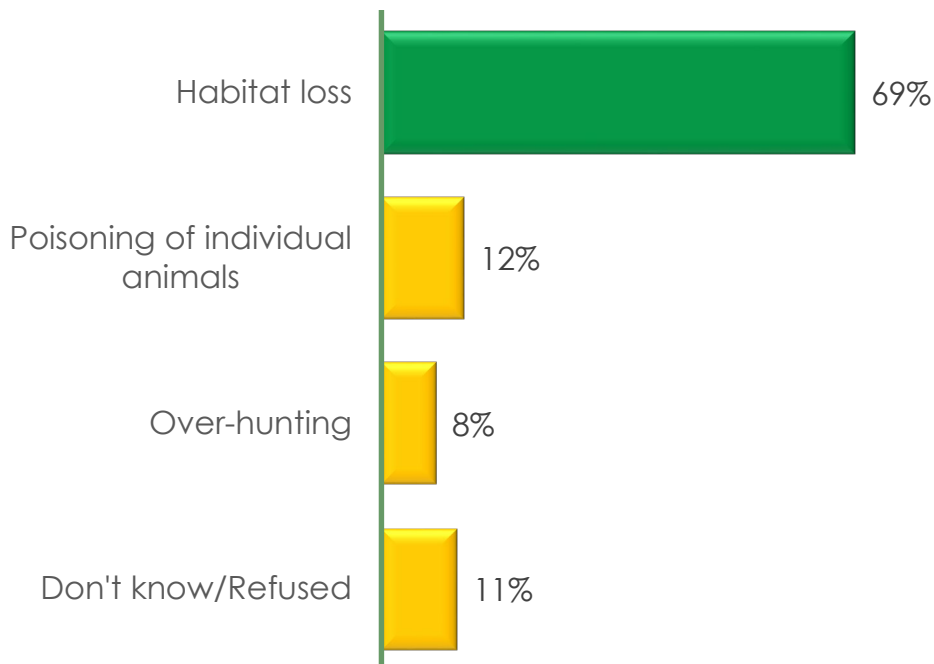
This year, 12% incorrectly identified poisoning of individual animals as the most common reason for their extinction. This is lower than in years past.

Opportunities for education in this area are strongest for these groups:

- Earn less than \$20k (53% correct response)
- Age 55+ (66%)
- High school education or less (61%)
- Live in a small town (57%)

No significant differences by region were observed.

The Most Common Reason for the Extinction of Plants and Animals



Base: Total respondents, n=650

Benefits of Wetlands



In a dramatic decline from 2014, just over half of Kentuckians correctly stated that the primary benefits of wetlands are to help in cleaning water systems. This is far below the 65% recorded in 2014 and 68% in 2009.

Like 2014, nearly one in five said they didn't know the answer to this question.

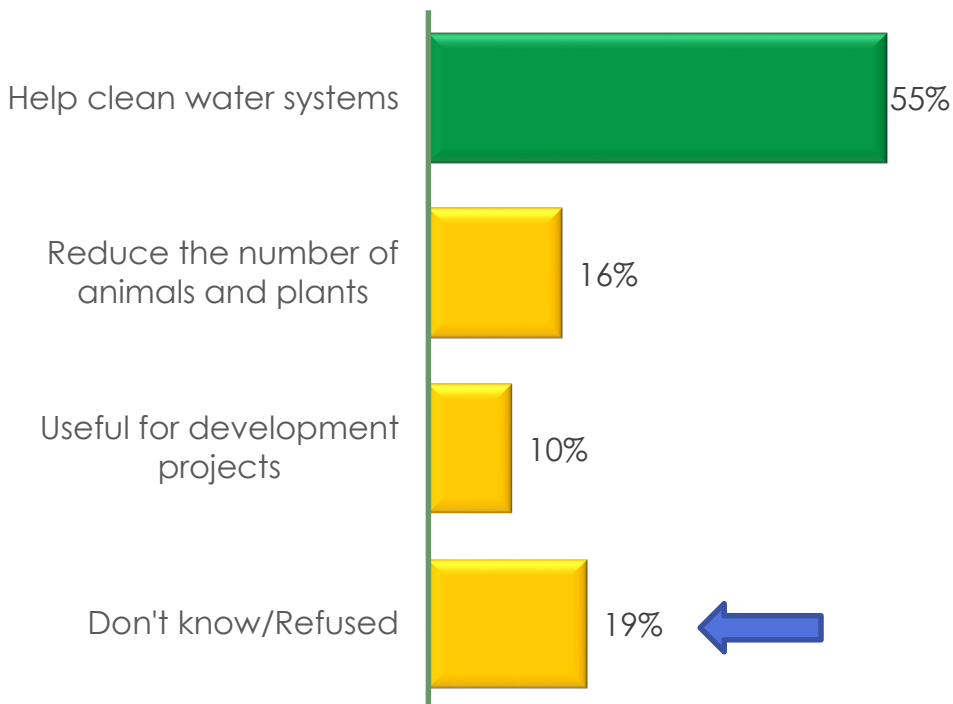
Those living in these regions were *least likely* to respond correctly:

- Kentucky Valley (37%) and Green River (47%)

These groups were also least likely to answer correctly:

- Earn less than \$20k (41%)
- Age 18-34 (47%)
- High school education or less (48%)

The Primary Benefits of Wetlands



Base: Total respondents, n=650

Renewable Resources



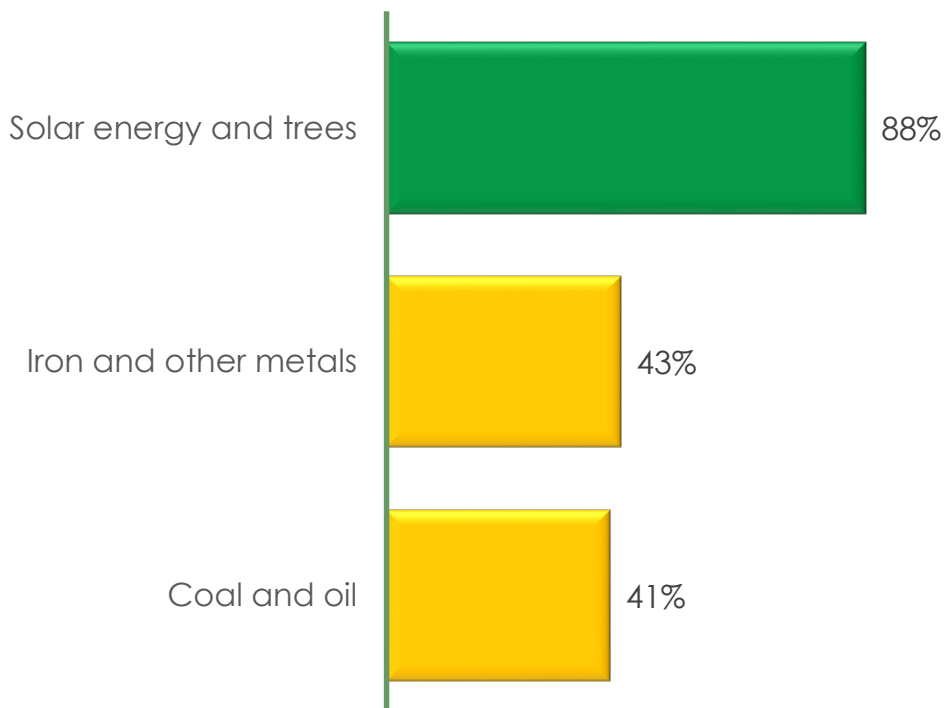
In 2019, nearly nine in 10 Kentuckians recognize that solar energy and trees are renewable resources. This is significantly higher than what was recorded in 2014 (63%) and 2009 (67%).

This question was asked in a slightly different manner in this year's survey. Respondents were asked to provide a yes, no, or don't know to each of the three categories. More than four in 10 respondents indicated that they thought coal/oil and iron/other metals were renewable resources.

Respondents in these regions were more likely to believe that coal and oil are renewable resources:

- Kentucky Valley (57%)
- South Central Kentucky (47%)

Materials Identified as Renewable Resources



Base: Total respondents, n=650

The Largest Source of Carbon Dioxide



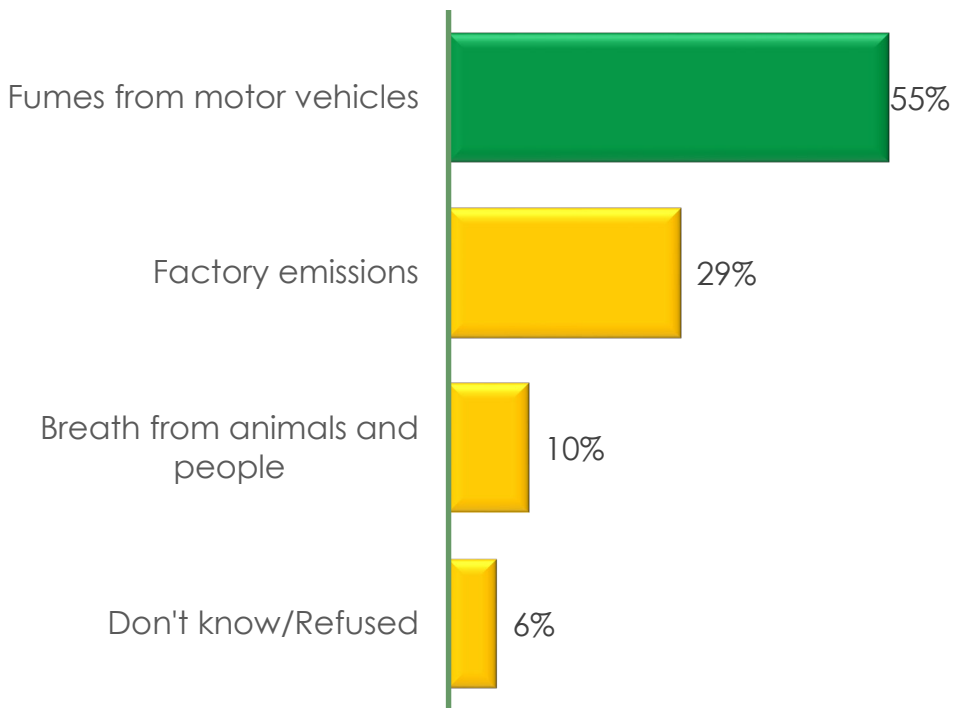
Respondents were asked to identify the main source of carbon dioxide in the atmosphere. Their choices were motor vehicles, factories, and the breath from people and animals. A total of 55% correctly identified emissions from motor vehicles as the largest source. This is slightly lower than the 58% observed in 2014.

In 1999, a total of 72% of Kentuckians correctly identified the leading source of carbon dioxide, with varying results in other years ranging from 57% to 61%. The 2019 figure is the lowest to date.

Respondents from two analysis groups were significantly more likely to believe that factory emissions are the leading source of carbon dioxide:

- Females (34%)
- Live in rural area (36%)

The Largest Source of Carbon Dioxide



Base: Total respondents, n=650

Items Considered to Be Litter



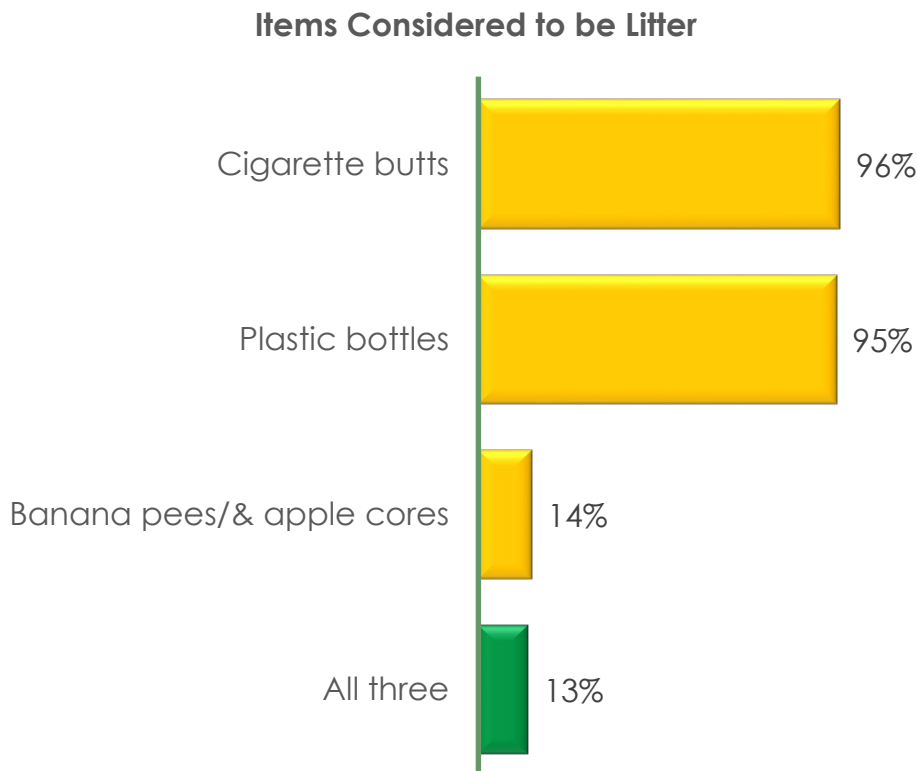
Kentuckians were asked to select items which they considered to qualify as litter, with the choices being plastic bottles, cigarette butts, and banana peels and apple cores. The correct response is all three items, and 13% of the total sample responded as such.

This is an improvement over the 9% recorded in 2014 and equal to the 13% from 2009. As observed in the past, Kentuckians are not likely to perceive banana peels and apple cores as litter when asked using the wording employed in this survey.

Interestingly, the perception of banana peels and apple cores as litter appears to be somewhat negatively correlated with income:

- Earn \$20k or less (22%)
- Earn \$20k to \$50k (17%)
- Earn \$50k+ (9%)

Those in South Central Kentucky were the least likely to answer this question correctly, at 6%.



Base: Total respondents, n=650

Sources of Information About Environment

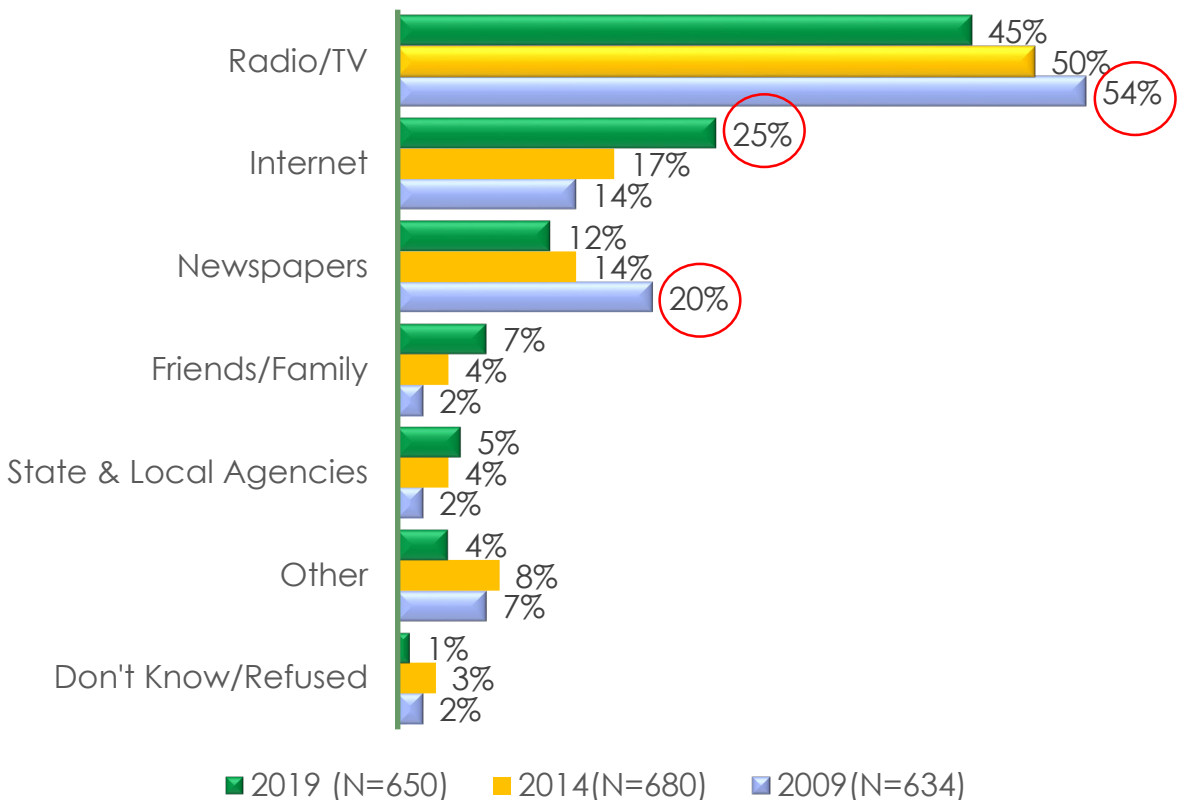


Introduced in the 2009 survey was a question about the sources from which Kentuckians get most of their environmental information. As shown in the chart below, the percentage by which information is delivered have been changing along with societal trends:

- Radio/TV has declined by nine percentage points since 2009 to 45%
- The internet is now identified by one in four Kentuckians as a source
- Newspapers, an industry with declining subscription rates, is now mentioned by just 12% of respondents

Those in the Central Kentucky (37%) and Louisville Area (33%) regions are most likely to identify the internet as a source, as are those in the 18-34 (47%) and 35-54 (39%) age brackets.

Sources of Information About the Environment



denotes significant differences among response options



Detailed Findings: Attitudes

The Most Important Environmental Problem in Kentucky



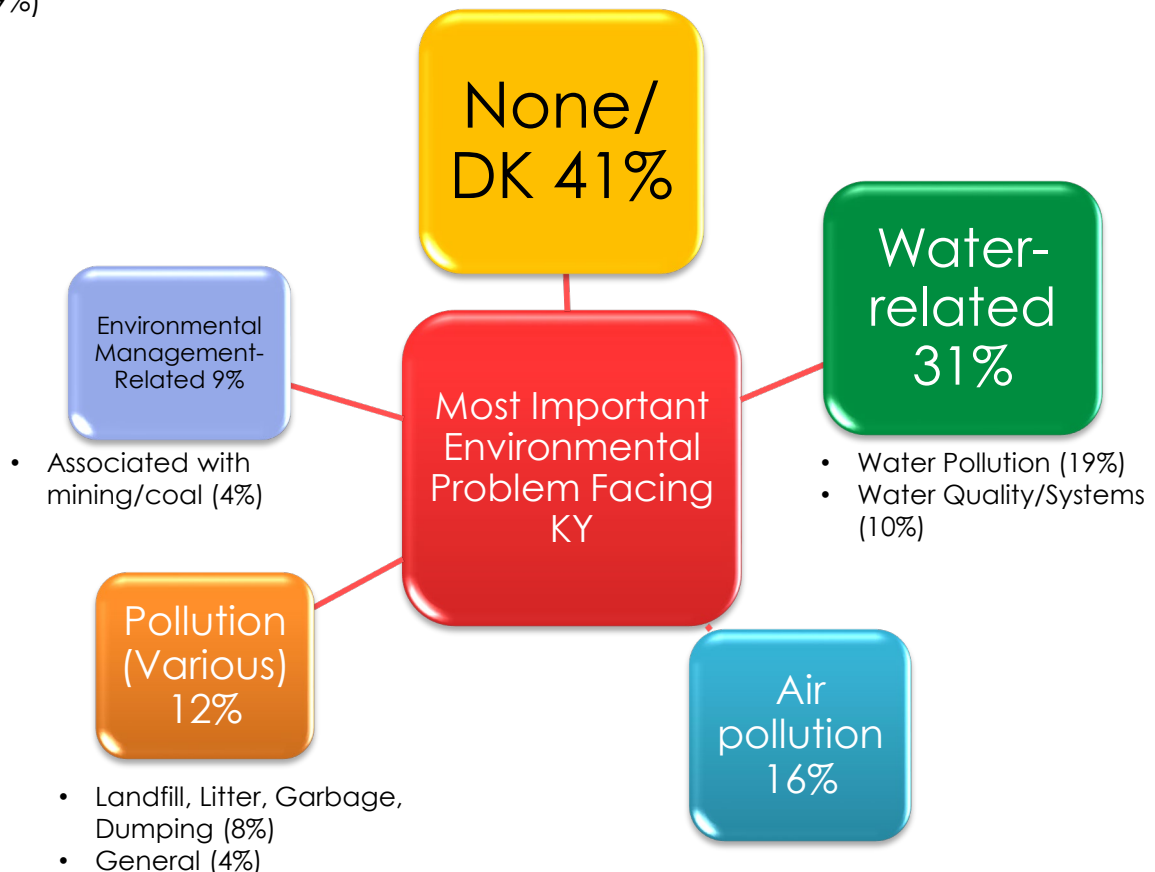
Respondents were asked “What do you feel is the most important environmental problem facing Kentucky?” In 2014, water pollution and related issues were mentioned by 22% of the sample. This increased to 31% in this year’s study. This represents over half of those who identified at least one issue. Water-related problems can be classified as such:

- Water pollution (19%)
- Poor water quality and/or systems that produce low-quality drinking water (10%)

Four in ten respondents could not identify an issue or perceive that there are no issues worthy of mention. Air pollution (16%), general pollution (12%) and perceived problems with environmental management (9%) round out the responses.

Responses vary by region:

- Residents in South Central Kentucky (42%) and Kentucky Valley (45%) were more likely to mention water-related issues
- Those in the Louisville Area and Eastern Kentucky were more likely to identify air pollution as a concern (28% and 26%, respectively)
- Northern Kentuckians were the most likely to mention environmental management (19%)



Base: Total respondents, n=650

Knowing About Environmental Problems



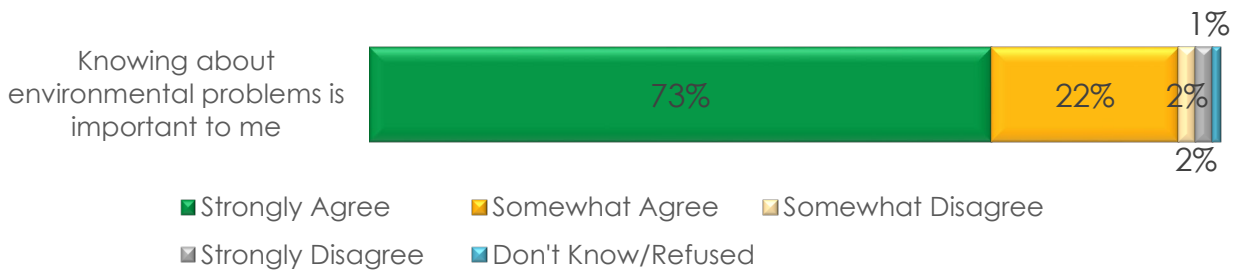
In this section of the survey, respondents were asked for their opinions on various environmental topics.

Results are shown for the total sample, and where appropriate, highlights are provided for the key analysis groups.

As a gauge of general interest in environmental topics, respondents were asked about their interest in knowing about environmental problems. A total of 95% said that they strongly or somewhat agree that knowing about environmental problems is important.

This has been a consistent result over the course of the past decade. The proportion of people agreeing strongly has increased materially since the inception of the survey, when the total was 61%.

There were no significant differences observed by region. Those earning \$20k to \$50k were slightly less likely to agree with this statement than their lower-earning counterparts (64% strongly agree vs 78%).



Base: Total respondents, n=650

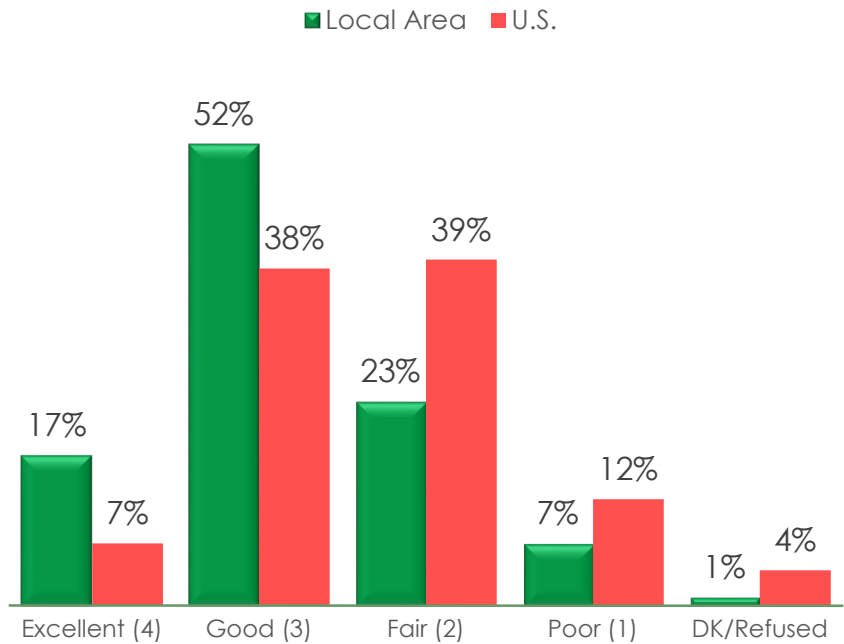
Overall Air Quality



As in 2014, Kentuckians are likely to perceive that local air quality is better than that in the U.S. as a whole. In 2019, more than two-thirds of respondents rated the local air quality as being excellent or good, compared to a 44% score for the U.S. air quality.

Consistent with the open-end responses, those in the Louisville area were significantly more likely to rate local air quality as poor (16% vs 7% for the total sample).

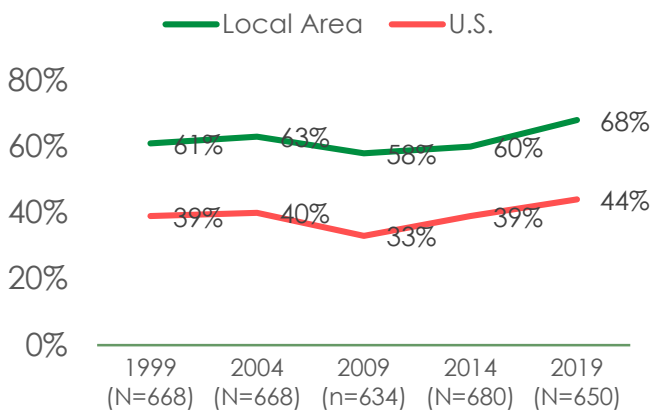
Overall Air Quality Locally vs the U.S.



Base: Total respondents, n=650

As shown below, Kentuckians have consistently rated their local air quality higher than the rest of the country over the course of this study.

% Rating Air Quality Excellent/Good



Overall Water Quality

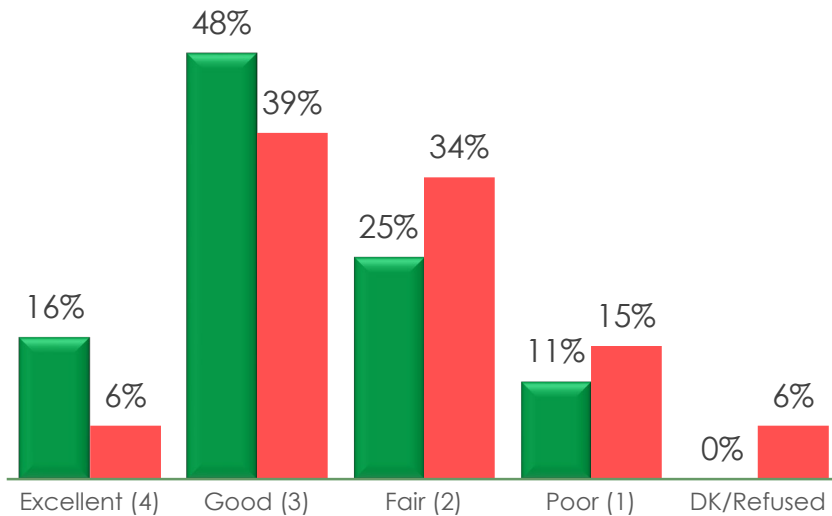


Similar to the ratings provided for air quality, respondents are much more likely to rate their local water as excellent or good (64%) than they are to do so for the U.S. overall (45%). These findings somewhat mirror those from 2014 (59% local vs 47% U.S.).

Respondents in the Kentucky Valley region are significantly less likely to rate local water quality positively. A total of 24% rated local water quality as poor vs 11% for the total sample.

Overall Water Quality Locally vs the U.S.

Local Area U.S.

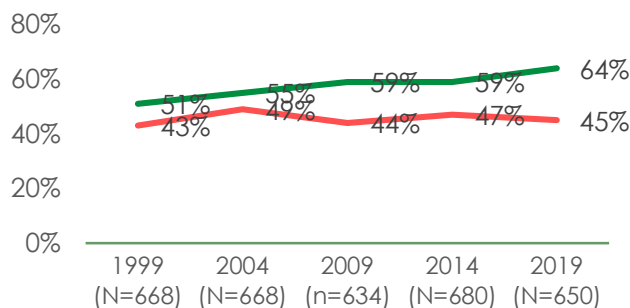


Base: Total respondents, n=650

It appears as though Kentuckians' perceptions of water quality have been gradually improving, with a rise of 13 points in the excellent/good rating since the 1999 survey.

% Rating Air Quality Excellent/Very Good

Local Area U.S.

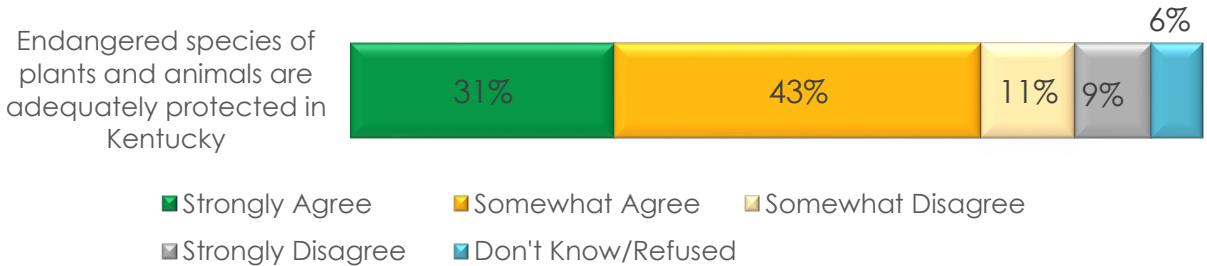


Protection of Endangered Species & Wetlands



A total of 74% of respondents agree that endangered plants and animals are adequately protected in the Commonwealth. The results are somewhat higher over the 2014 result, when 67% agreed, and is the highest level of agreement to date. Respondents in Eastern Kentucky are significantly more likely to agree with this statement. In fact, 46% of these people recorded a strongly agree response.

Protection of Endangered Species



Base: Total respondents, n=650

When asked if they thought that wetlands in Kentucky were adequately protected, nearly 65% of respondents answered in the affirmative. This reflects an increase over 2014's total of 55%. Again, this total represents an all-time high for this measure. As pointed out in 2014, the degree to which Kentuckians agree is stronger than in the first ten years of the survey, with nearly one in four saying they strongly agree with this statement in both 2014 and 2019.

Louisville Area respondents, were the most likely to say that they did not know enough to answer the question (20%). A total of 17% of Northern Kentucky respondents also said they did not know. These are two of the more urban/suburban areas and residents are more likely to be removed from what they perceive to be wetlands.

Protection of Wetlands



Base: Total respondents, n=650

Protection of Wild & Natural Areas

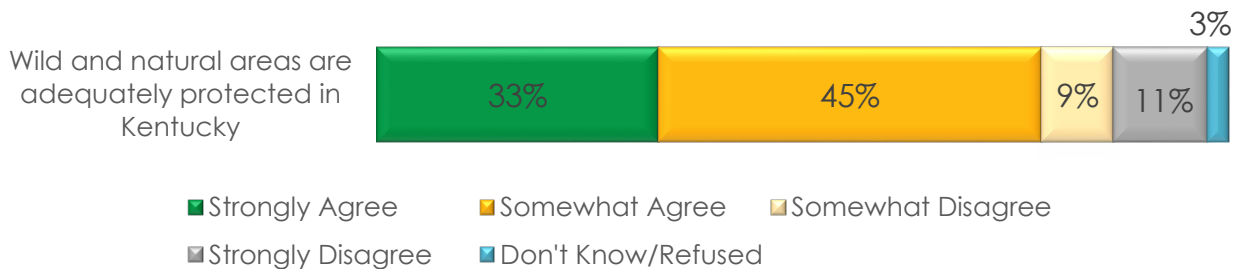


More than three in four (77%) respondents agree that Kentucky is adequately protecting wild and natural areas in the state. This too is a significant increase over 2014, when 66% agreed with this statement. In 2004, a total of 70% agreed, which marks the second highest level of agreement in this series of surveys.

There were no significant differences overall between regions on this measure, although Louisville Area residents were significantly less likely to strongly agree (20%). Those in the Ohio Valley area were most likely to disagree, at 29%.

Respondents living in rural areas were significantly more likely to strongly agree (38%) than were those living in cities/suburbs (25%).

Protection of Wild and Natural Areas



Base: Total respondents, n=650

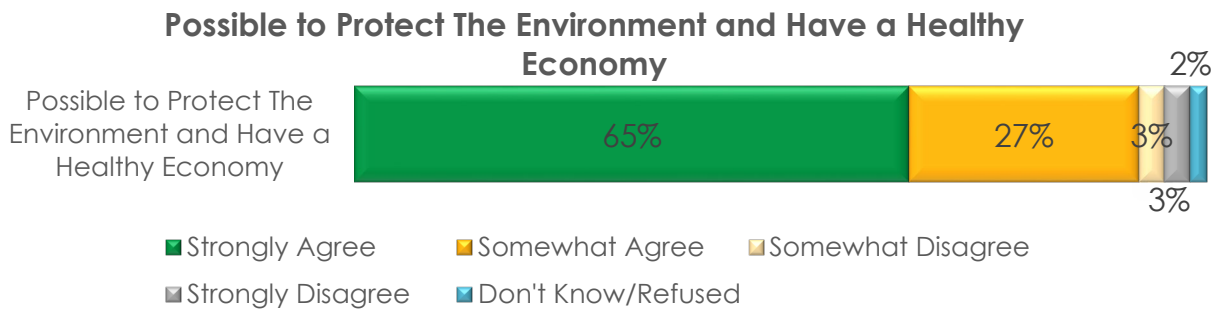
Environment Protection & Healthy Economy



As in 2014, nearly all Kentuckians believe it to be possible that the environment can be protected while having a healthy economy. Nearly two of every three respondents strongly agreed with this statement in this year's survey.

This has been a consistent finding over the course of this study.

The differences by region are negligible and responses were also fairly consistent across demographic groups.



Base: Total respondents, n=650

Impact of Daily Actions on Environment



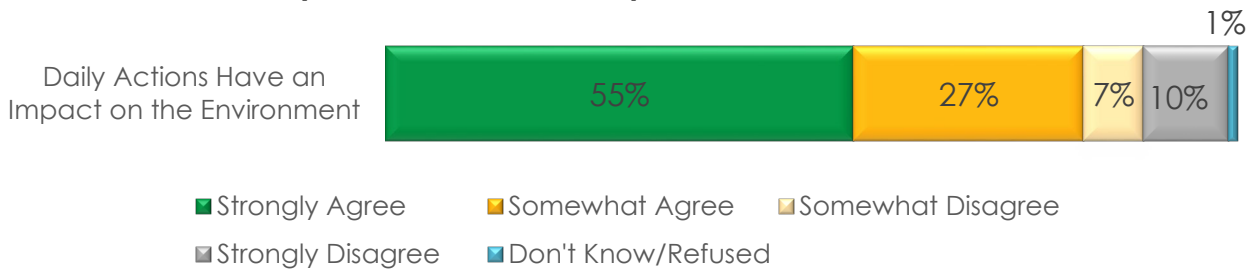
In a question that was first included on the 2009 survey, Kentuckians were asked whether or not they agreed that their daily actions impacted the environment.

A total of 82% agreed with this premise in this year's survey, with 55% recording a strongly agree response.

These groups of respondents were more likely to **disagree** that daily actions impact the environment.

- Louisville Area (24%)
- Age 55+ (21%)
- Education High School or Less (23%)

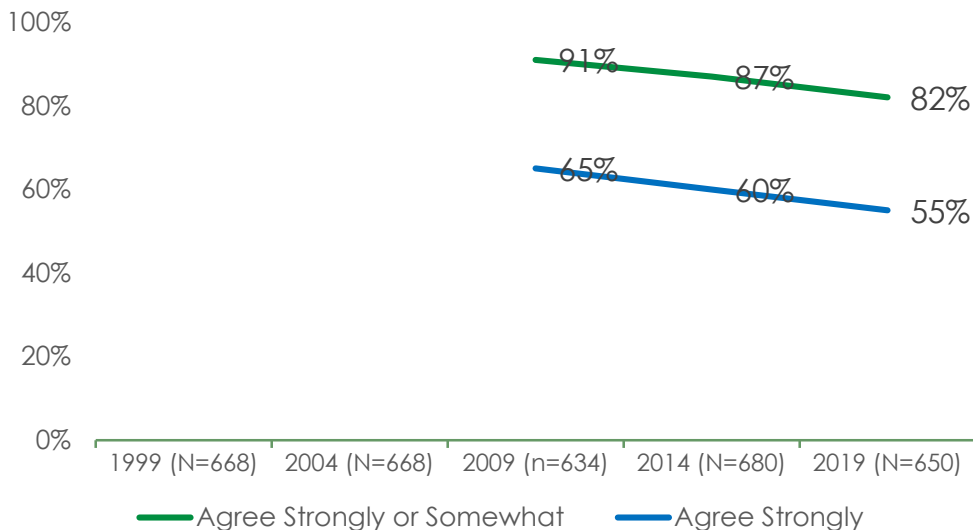
Daily Actions Have an Impact on the Environment



Base: Total respondents, n=650

While having eight in ten Kentuckians perceive that they can impact the environment on a daily basis is a desirable result, the trend is less positive. As shown below, overall agreement and strongly agree responses have been declining since 2009.

Daily Actions Have an Impact on the Environment



Human Activity & Global Climate Change



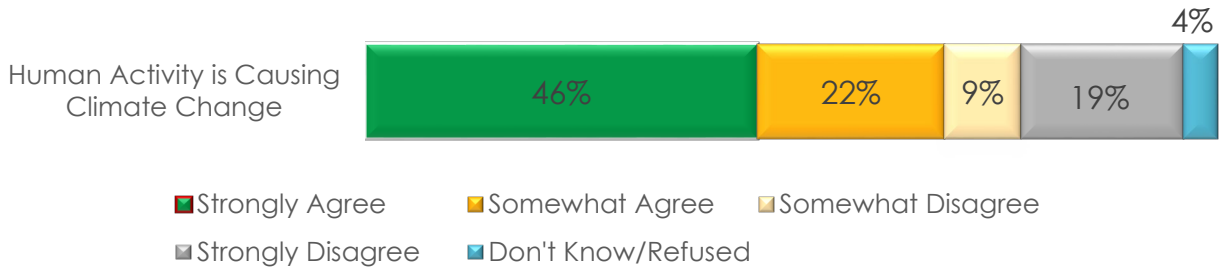
In 2009, respondents were asked for the first time whether or not they agreed that human activity was causing climate change. In 2019, a total of 68% agreed that this is the case, with 46% strongly agreeing.

Most Kentuckians have an opinion on this topic. Only 4% said they did not know if the premise were true.

Respondents from these groups are more likely to agree that human activity is causing climate change:

- Education college grad+ (74%)
- Age 35-54 (81%)
- Live in small town (76%) or Suburb/City (73%)

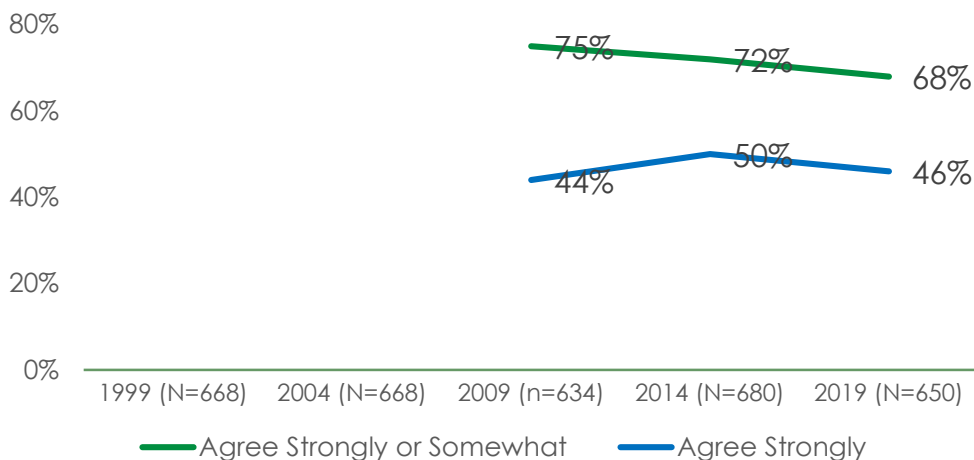
Human Activity is Causing Climate Change



Base: Total respondents, n=650

The total agreement for 2019 represents a slight decline over 2014, when 72% strongly or somewhat agreed. It is also seven percentage points lower than the 2009 total.

Human Activity Is Causing Climate Change



Strategies for Addressing Energy Future



In another question added to the survey in 2009, respondents were asked to choose one of three selected strategies for addressing the energy future. Each year, Kentuckians have been somewhat split on the best strategy.

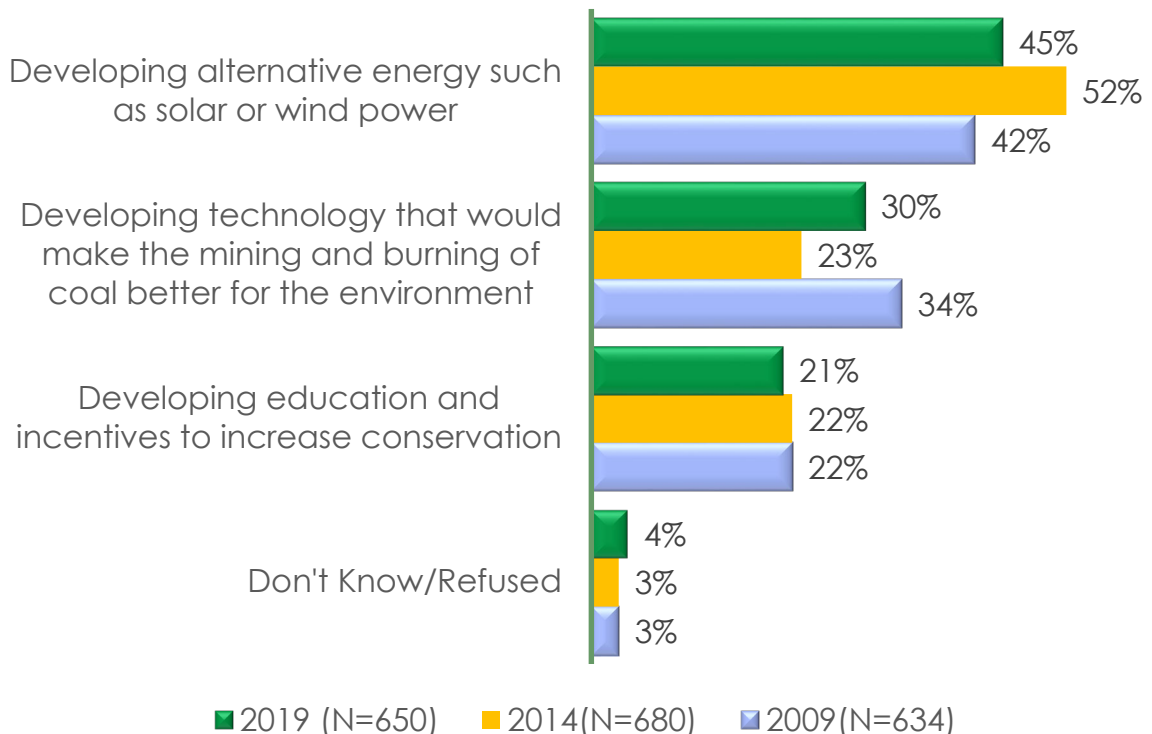
This year, a plurality of 45% selected the development of alternative energy response over the other two options. A total of 30% selected the developing better coal technology option, and 21% prefer conservation.

As shown below, the ranking of these three options have been consistent each year, with some shift in allocation of responses.

Understandably, those in the Eastern Kentucky and Kentucky Valley regions were significantly more likely to select developing better coal technology, at 44% and 43%, respectively. Respondents in the Ohio Valley region were significantly more likely to choose the development of alternative energy (61%).

Those who believe that human activity causes climate change are significantly more likely to choose the development of alternative energy (52%) vs their counterparts (29%).

Strategies for Addressing Kentucky's Energy Future



Use of Private Land



Respondents were asked to agree or disagree whether landowners should be able to do whatever they wished with their land. More than six in ten (63%) agree with this concept in 2019. This is in contrast with previous waves of this survey, where no more than 55% of Kentuckians agreed that landowners should be able to do whatever they wished with their property and represents a significant increase over the 2014 response.

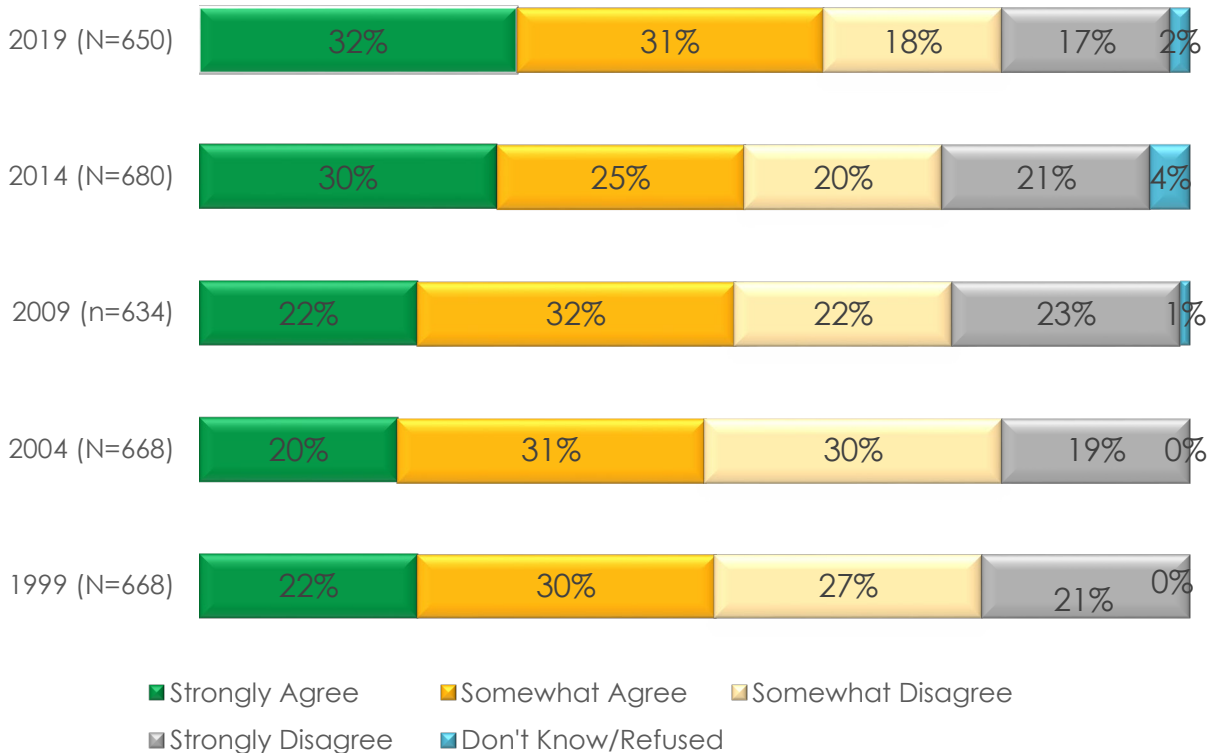
Those in the Louisville Area were most likely to **disagree**, at 48%. Significantly higher levels of agreement in 2019 were observed for residents of these regions:

- South Central Kentucky (82% Agree)
- Eastern Kentucky (76%)
- Kentucky Valley (71%)

Among demographic groups, respondents in these categories were most likely to be at odds with one another:

- Live in rural area (72% agree) vs live in suburb/city (52% agree)
- College graduate+ (60% disagree) vs some college or high school/less (33% and 25% disagree, respectively)

Landowners Should Be Able to Use Their Land as They See Fit



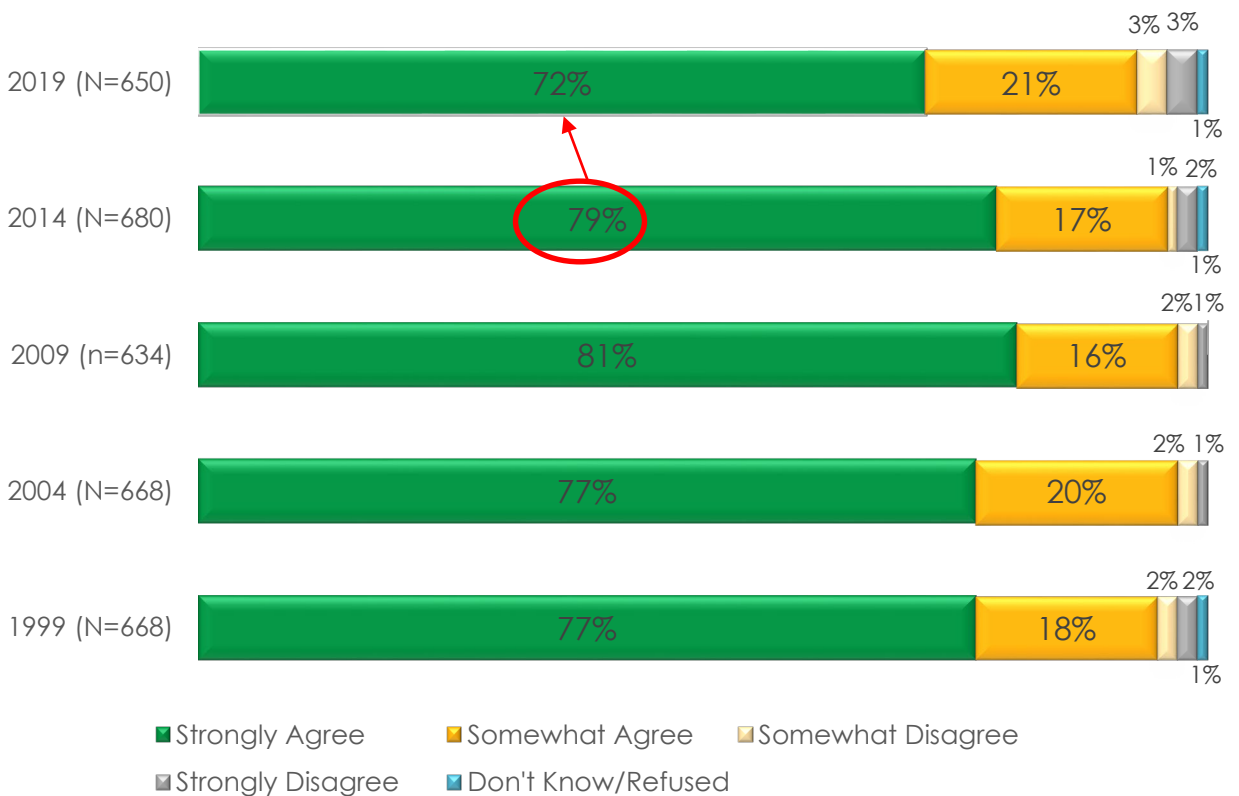
Environmental Education in Schools



One area in which Kentuckians have long been in agreement is that environmental education should be taught in schools. The 2019 survey shows that nearly 94% agree that this is the case.

While overall agreement remains high, the 2019 results differ notably from past waves of the survey. A total of 72% of this year's respondents said they strongly agree. This is significantly lower than the 79% observed in 2014 and represent the lowest score to date.

Environmental Education Should Be Taught in Schools





Detailed Findings: Behaviors

Donation of Time or Money to Support Environmental Causes

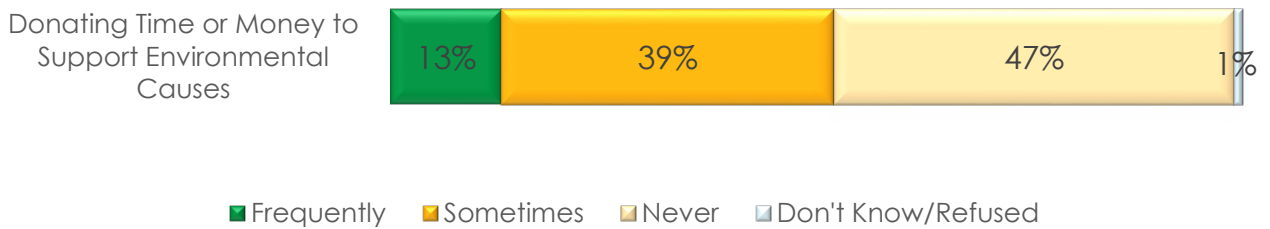


The survey included a series of questions pertaining to self-reported behaviors relating to the protection of the environment. The results are summarized on the following slides.

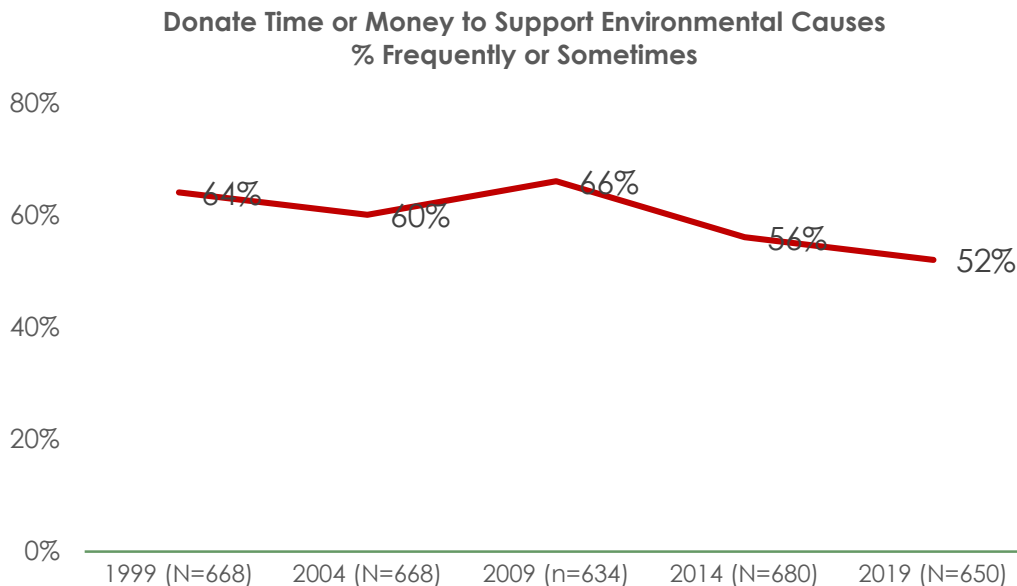
In this year's survey, 52% of the sample said they donate money or time to support environmental causes either frequently (13%) or sometimes (39%). This represents a decline from 2014 (56%) and is the lowest to date.

College graduates (63%) and those earning \$50k+ (58%) are more likely to take such action.

Donating Time or Money to Support Environmental Causes



Base: Total respondents, n=650



Household Waste Reduction

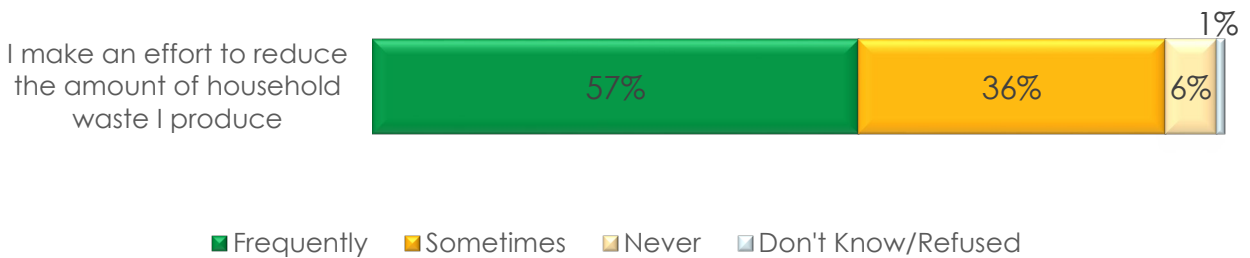


Kentuckians are likely to say that they take environmental action by reducing household waste. In 2019, more than nine of ten respondents said that they frequently (57%) or sometimes (36%) make an effort to reduce household waste.

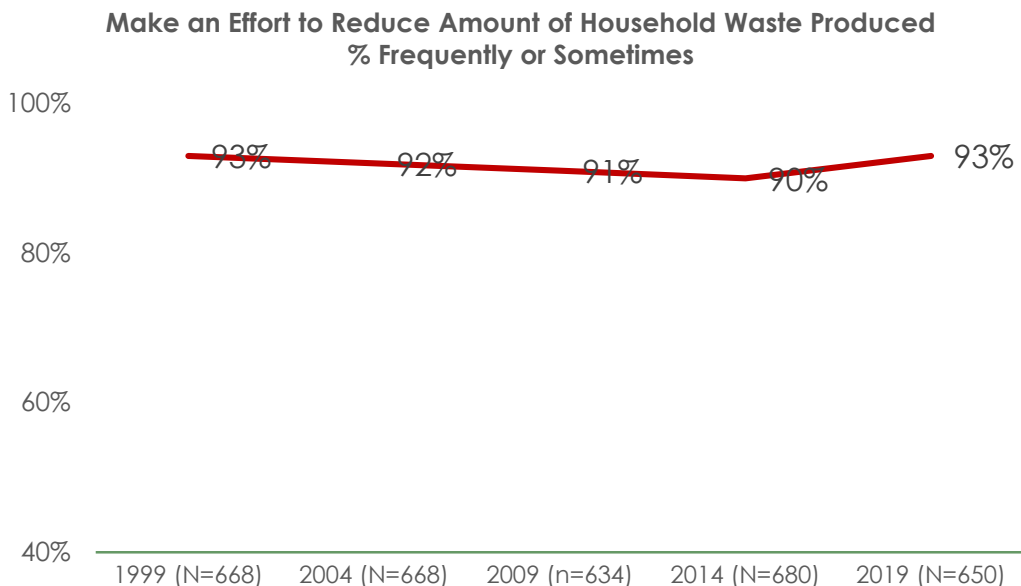
Over the course of the study, respondents have consistently claimed that they try to reduce household waste, as shown in the line chart below.

More than 92% of residents of every region other than the Louisville Area said they take action to reduce household waste. In Louisville, the total was 88%.

Make an Effort to Reduce Amount of Household Waste Produced



Base: Total respondents, n=650



Separate Household Waste for Recycling



Respondents were asked how frequently they separated household waste for recycling. In 2019, nearly three quarters (74%) of Kentucky residents said they did so at least some of the time.

With an exception observed in the 2004 survey, the rate of waste separation for recycling has been extremely consistent.

As expected, this behavior varies by region. Residents in these regions are most likely to frequently take this action:

- Central Kentucky (55%)
- Northern Kentucky (68%)

Separating Household Waste for Recycling

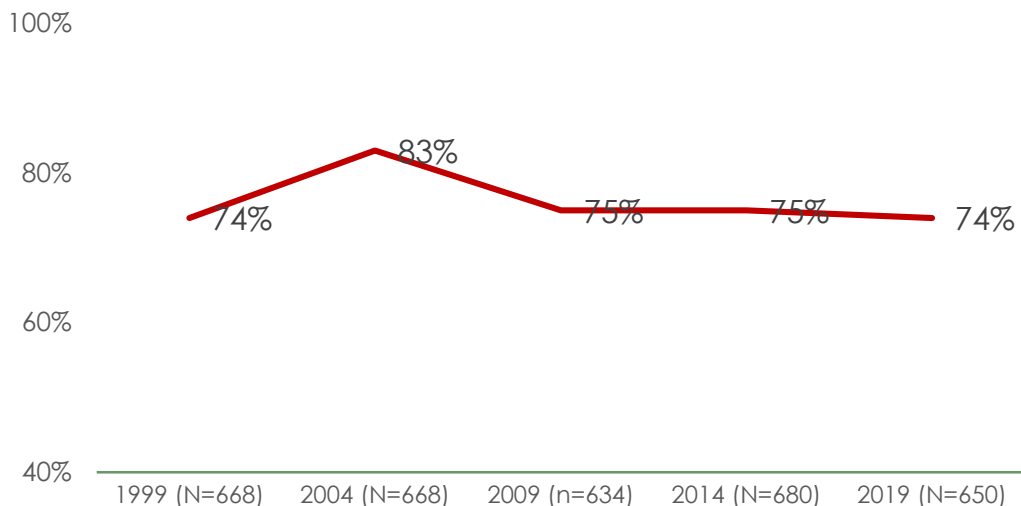
I make an effort to reduce the amount of household waste I produce



Base: Total respondents, n=650

■ Frequently ■ Sometimes ■ Never ■ Don't Know/Refused

Separating Household Waste for Recycling % Frequently or Sometimes



Volunteering for Environmental Projects

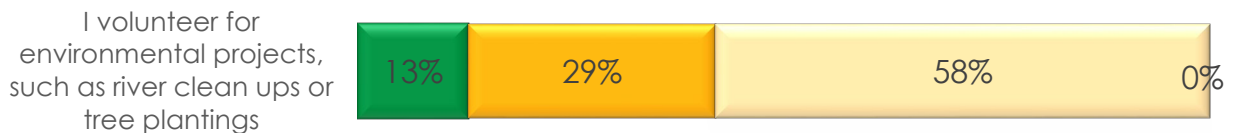


Volunteering for environmental projects such as river cleanups or tree plantings is an area in which a minority of Kentuckians participate. In 2019, a total of 13% said they frequently do so, while 29% sometimes participate in these activities.

The incidence of volunteering for environmental projects has been stable over the last three measurements, but is significantly lower than in 1999 and 2004, when more than two-thirds of respondents reportedly participated.

Response varied moderately by region. In this years' survey, Eastern Kentucky (50%) and Kentucky Valley (59%) residents were more likely to volunteer.

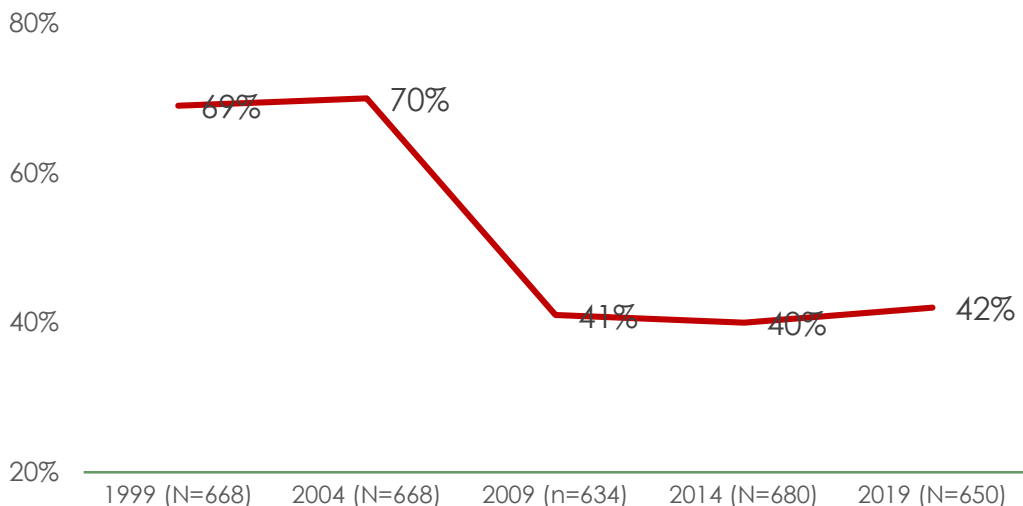
Volunteering for Environmental Projects



Base: Total respondents, n=650

■ Frequently ■ Sometimes ■ Never ■ Don't Know/Refused

Volunteering for Environmental Projects % Frequently or Sometimes



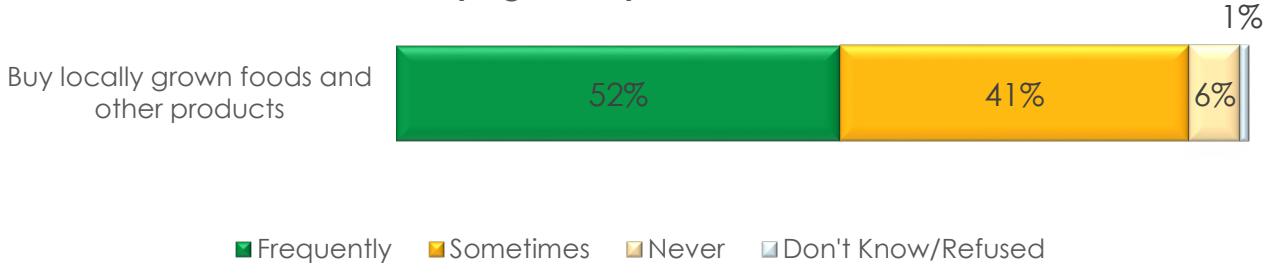
Buying Locally Grown Foods



The vast majority of Kentuckians stated that they frequently or sometimes buy locally grown foods and other products. This result is consistent with the findings of the 2009 survey (95 percent).

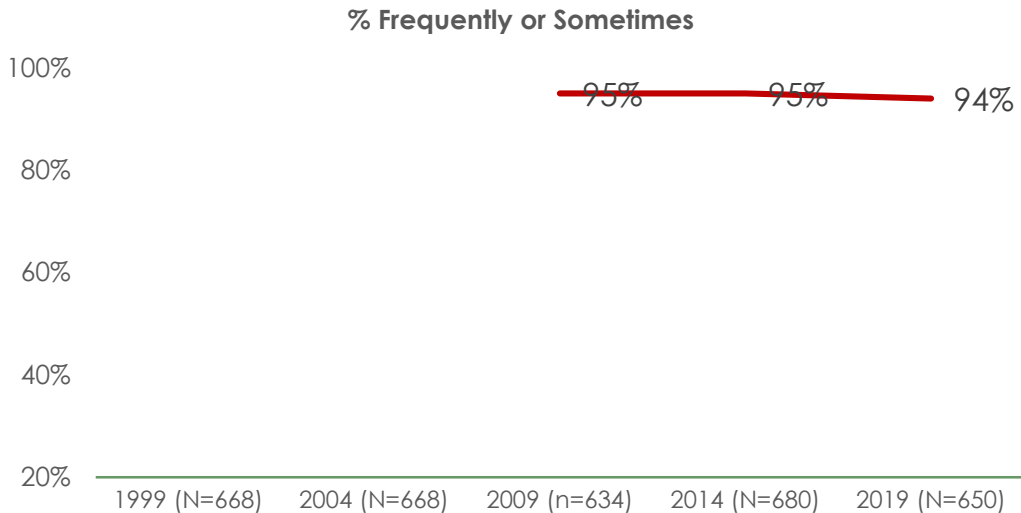
Differences by region are negligible, as are those among various demographic groups. One notable exception is that those under age 35 are less likely to say they buy locally grown food, at 83%.

Buying Locally Grown Foods



Base: Total respondents, n=650

Buying Locally Grown Foods

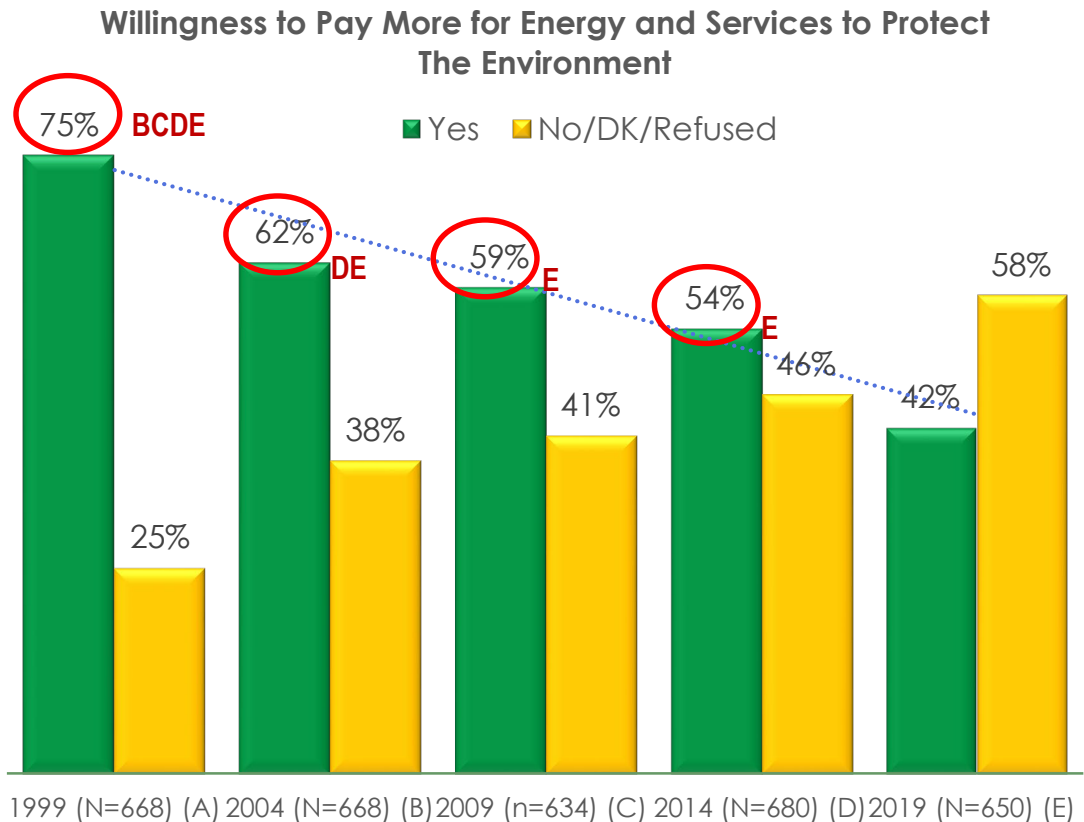


Willingness to Pay More for Energy/Services in Order to Protect the Environment



The degree to which Kentuckians are willing to pay more for energy and services in order to protect the environment has declined over the years. In 1999, 75% of survey respondents indicated that they would do so.

As shown here, this position has been weakening steadily over the past 20 years. In 2019, a total of 42% said they were willing to pay more for energy and services to protect the environment. This is 33 percentage points lower than the 1999 total and the lowest affirmative response to date.



Reasons for Conserving Energy

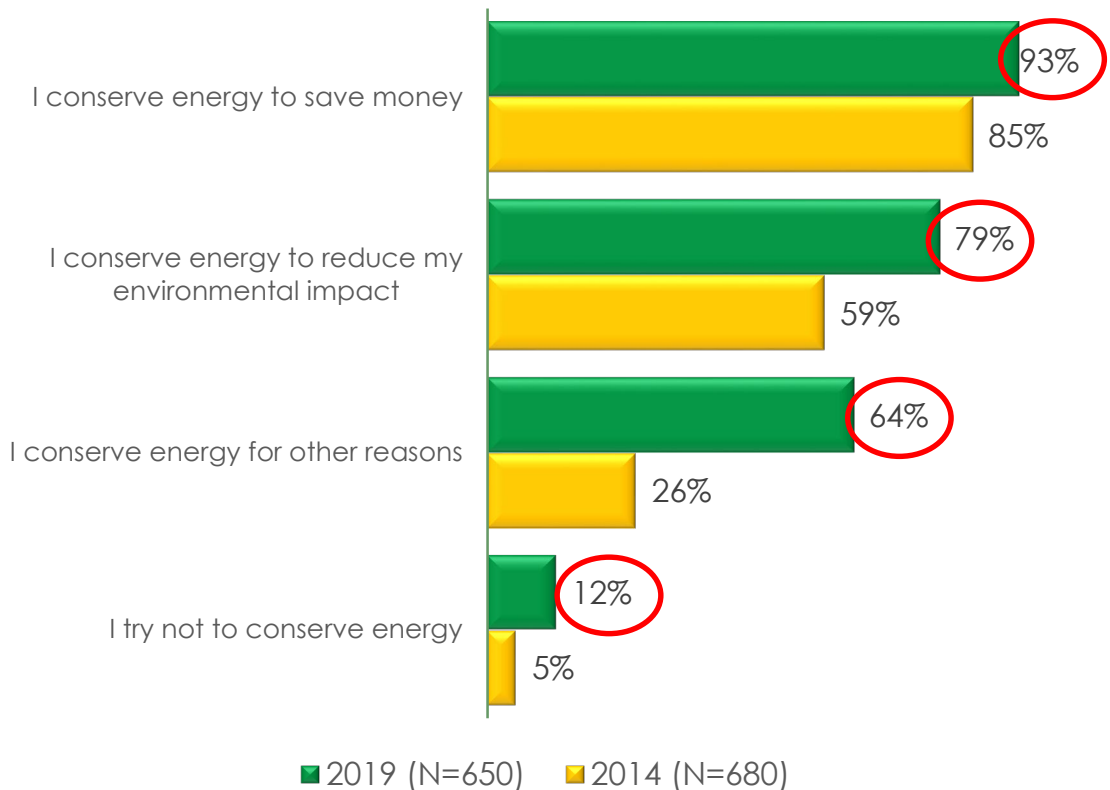


A new question was added in 2014 in which respondents were asked about their reasons for energy conservation efforts. Multiple responses to this question are accepted.

More than nine in ten Kentuckians said they conserve energy as a way of saving money, and 79% said they do so to reduce environmental impact. A total of 64% said they conserve energy for other reasons. Each of these responses are significantly higher than the associated 2014 response, as indicated below.

A total of 12% agree with the statement, "I try not to conserve energy." However, the majority of these respondents also agreed with one or more other reasons for conserving energy. A total of 1.5% said they did not try to conserve energy and were also consistent in their responses across these response options.

Reasons for Conserving Energy





Detailed Findings:
Environmental
Knowledge, Attitudes & Behaviors
For Selected Attitudinal Segments

Knowledge, Attitudes & Behaviors Summary By Respondent Segment



Three important segments were identified in this year's study as a way of furthering the understanding of the state of environmental education in Kentucky:

- Those who identified a "most important environmental problem facing KY" vs those who could not do so (Q3).
- Respondents who agree that daily actions impact the environment vs those who do not agree with this premise (Q33).
- Those who agree that human activity is causing climate change vs those who do not agree.

On the next three slides key results are summarized by each of these segments. Those measures where the differences between each group are pronounced or significant are displayed in the charts. The cross-tabulation report, provided separately, includes all responses by these respondent groups.

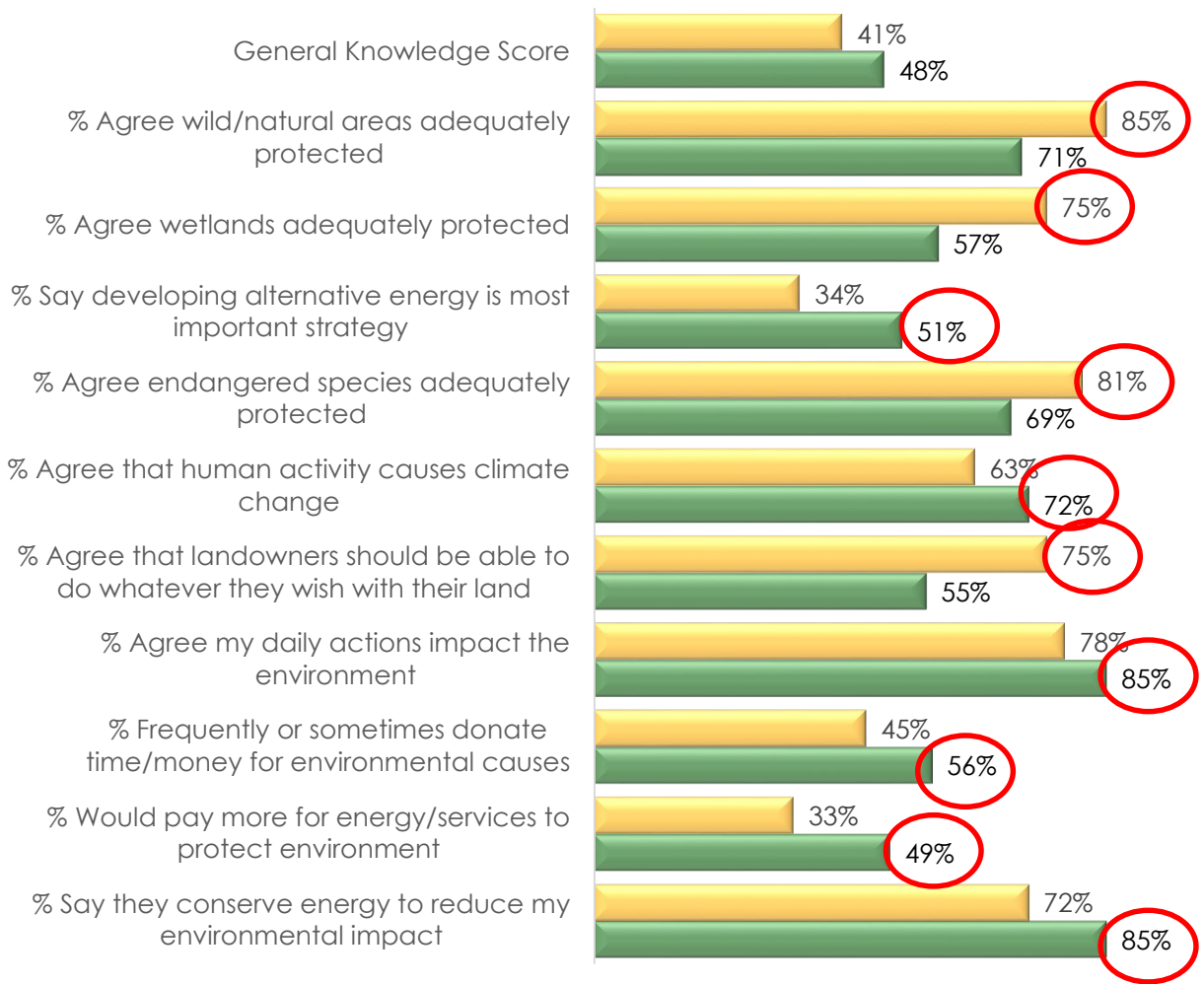
Knowledge, Attitudes & Behaviors Summary By Respondent Segment



Those who could not identify an important environmental problem facing Kentucky are more likely to agree that wildlife and habitat are adequately protected, compared to those who are more knowledgeable about environmental problems.

Kentuckians who could name an important environmental issue are more likely to take action with regard to protecting the environment vs. their counterparts.

Selected Survey Results by Respondent Segment: Those Who Identified an Environmental Problem vs Those Who Did Not



■ Q3 Could Not Name Important Environmental Problem (N=265)

■ Q3 Named an Important Environmental Problem (N=385)

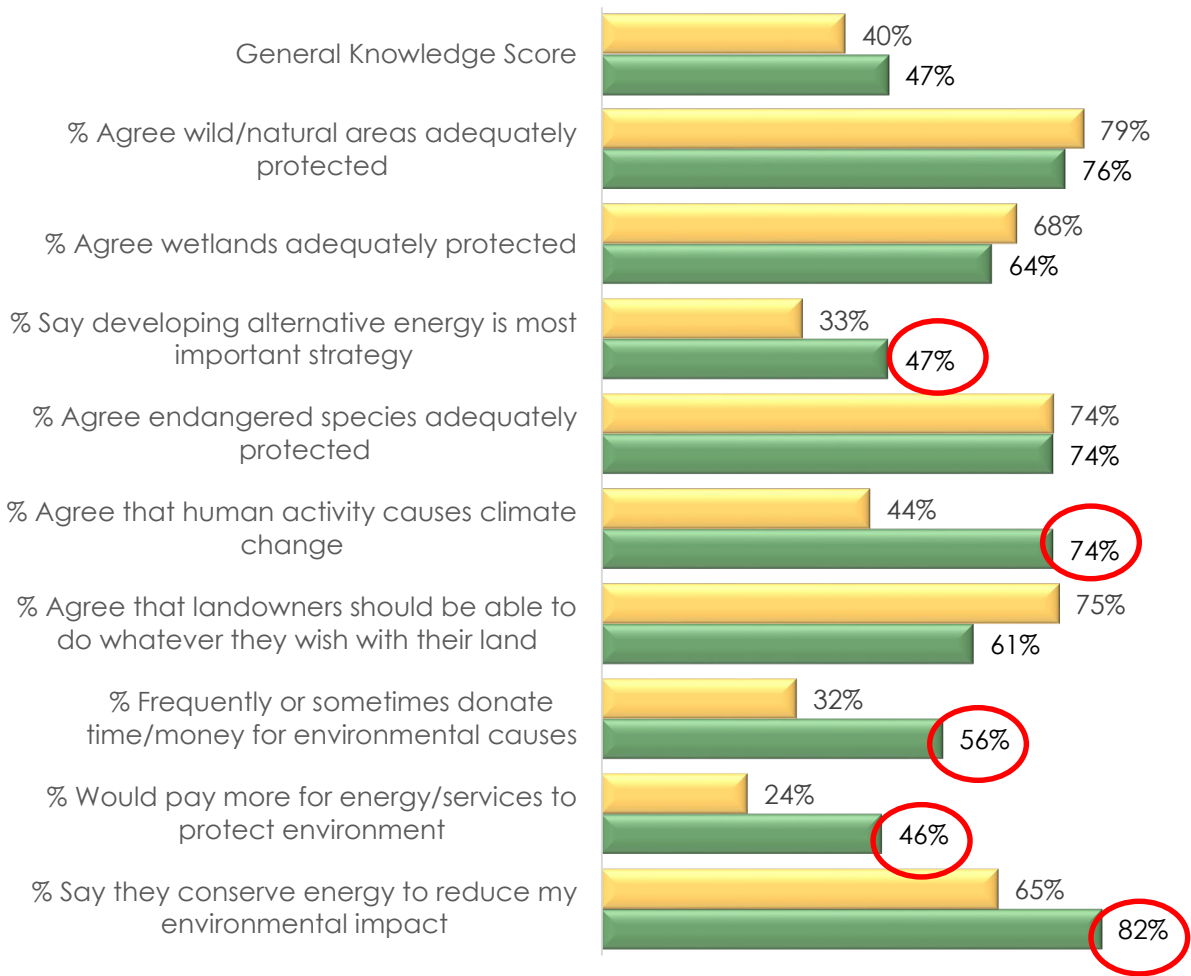
Knowledge, Attitudes & Behaviors Summary By Respondent Segment



Kentuckians who agree that their daily actions impact the environment are more likely to express themselves via personal behavior such as conserving energy or donating time/money to protect the environment than are those who do not agree with this concept.

Those in the former group are also significantly more likely to believe that human activity is causing climate change.

Selected Survey Results by Respondent Segment: Those Who Agree Daily Actions Impact the Environment vs Those Who Do Not Agree



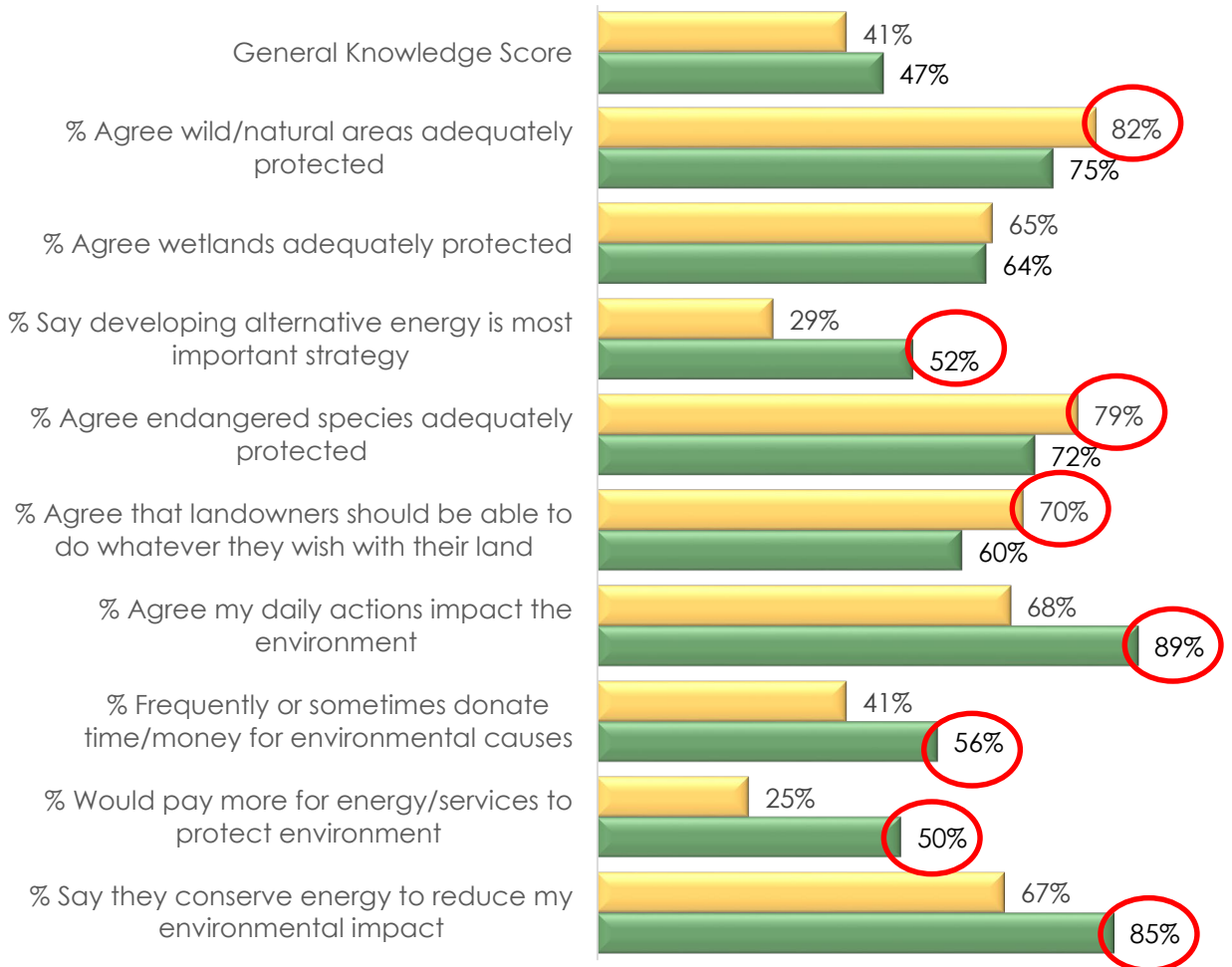
- Q33 Do Not Agree Daily Actions Impact the Environment (N=115)
- Q33 Agree Daily Actions Impact the Environment (N=535)

Knowledge, Attitudes & Behaviors Summary By Respondent Segment



Compared to their counterparts, those who do not agree that human activity causes climate change are significantly less likely to take action to protect the environment and are more likely to agree that wildlife and habitat are adequately protected.

Selected Survey Results by Respondent Segment: Those Who Agree Human Activity Causes Climate Change vs Those Who Do Not Agree



- Q26 Do Not Agree Human Activity is Causing Climate Change (N=206)
- Q26 Agree Human Activity is Causing Climate Change (n=444)



Appendix A: Explanation of Significance Testing

Explanation of Significance Testing



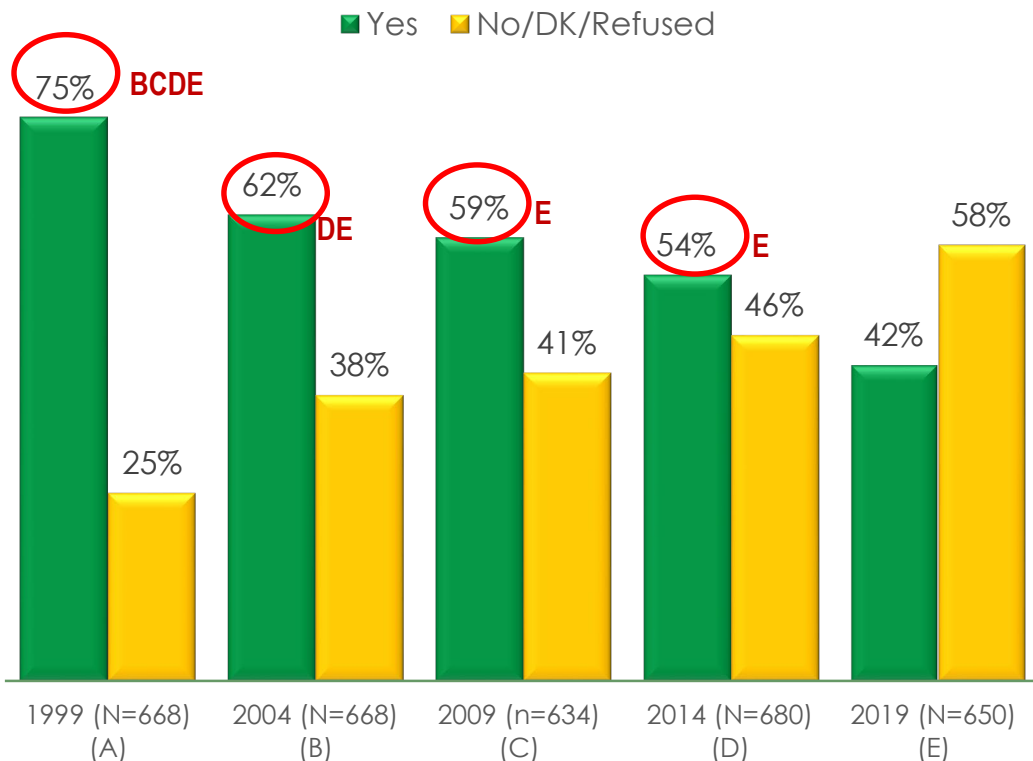
Statistical significance testing was conducted on all data collected. This testing shows whether or not the difference found between two figures is likely due to more than random chance.

For the purposes of this report, a 95 percent significance level was used for all testing. This means that the difference between two figures has a 95 percent chance of being true. In other words, if this survey were conducted 100 more times with a different random sample each time, we would expect the range of difference to be present in at least 95 out of the 100 times.

Where significance is not noted, the differences between figures could be explained by random error.

Statistically significant differences are denoted using red letters and ovals as shown in the example below. In this example, the 75 percent who answered yes in 1999 is significantly greater than the number who answered yes in each of the following years.

Willingness to Pay More for Energy and Services to Protect The Environment





Appendix B: 2019 Sample Profile

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
CENTRAL KENTUCKY	785,977	126	19.4%
Anderson County	22,663	6	0.9%
Bourbon County	20,184	2	0.3%
Boyle County	30,100	2	0.3%
Clark County	36,249	5	0.8%
Fayette County	323,780	43	6.6%
Franklin County	50,815	11	1.7%
Harrison County	18,778	4	0.6%
Jessamine County	53,920	11	1.7%
Marion County	19,404	2	0.3%
Mercer County	21,774	4	0.6%
Montgomery County	28,203	3	0.5%
Nelson County	45,851	6	0.9%
Nicholas County	7,166	4	0.6%
Powell County	12,442	5	0.8%
Scott County	56,031	13	2.0%
Washington County	12,084	1	0.2%
Woodford County	26,533	4	0.6%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
EASTERN KENTUCKY	252,886	50	7.7%
Bath County	12,383	2	0.3%
Boyd County	47,240	5	0.8%
Carter County	27,004	5	0.8%
Elliott County	7,508	4	0.6%
Fleming County	14,432	0	0.0%
Greenup County	35,268	7	1.1%
Johnson County	22,386	7	1.1%
Lawrence County	15,571	4	0.6%
Lewis County	13,257	0	0.0%
Martin County	11,323	1	0.2%
Menifee County	6,451	2	0.3%
Morgan County	13,345	4	0.6%
Robertson County	2,135	0	0.0%
Rowan County	24,583	9	1.4%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
GREENE RIVER	789,043	106	16.3%
Adair County	19,215	4	0.6%
Allen County	21,122	4	0.6%
Barren County	44,176	9	1.4%
Breckinridge County	20,388	2	0.3%
Butler County	12,772	3	0.5%
Clinton County	10,206	1	0.2%
Cumberland County	6,659	1	0.2%
Daviess County	101,104	10	1.5%
Edmonson County	12,274	2	0.3%
Grayson County	26,321	6	0.9%
Green County	11,049	4	0.6%
Hancock County	8,758	1	0.2%
Hardin County	110,356	12	1.8%
Hart County	18,906	2	0.3%
Larue County	14,307	6	0.9%
Logan County	26,989	4	0.6%
Meade County	28,715	5	0.8%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
GREENE RIVER, Continued	789,043	106	16.3%
Metcalfe County	10,030	1	0.2%
Monroe County	10,718	0	0.0%
Muhlenberg County	30,774	3	0.5%
Ohio County	24,087	2	0.3%
Russell County	17,821	0	0.0%
Simpson County	18,529	3	0.5%
Taylor County	25,549	1	0.2%
Todd County	12,311	2	0.3%
Trigg County	14,643	3	0.5%
Warren County	131,264	15	2.3%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
KENTUCKY VALLEY	237,686	51	7.8%
Breathitt County	12,726	4	0.6%
Floyd County	35,845	12	1.8%
Harlan County	26,409	1	0.2%
Knott County	15,126	4	0.6%
Lee County	7,033	0	0.0%
Leslie County	10,143	3	0.5%
Letcher County	21,899	4	0.6%
Magoffin County	12,362	2	0.3%
Owsley County	4,472	0	0.0%
Perry County	26,092	3	0.5%
Pike County	58,402	16	2.5%
Wolfe County	7,177	2	0.3%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
LOUISVILLE AREA	770,517	98	15.1%
Jefferson County	770,517	98	15.1%

Country/Region	Population	Sample Size	Proportion of Sample
NORTHERN KENTUCKY	430,654	59	9.1%
Boone County	131,533	19	2.9%
Bracken County	8,239	3	0.5%
Campbell County	93,152	11	1.7%
Kenton County	166,051	20	3.1%
Mason County	17,150	2	0.3%
Pendleton County	14,529	4	0.6%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
OHIO VALLEY	295,042	41	6.3%
Bullitt County	81,069	15	2.3%
Carroll County	10,737	0	0.0%
Gallatin County	8,832	1	0.2%
Grant County	25,121	5	0.8%
Henry County	16,106	0	0.0%
Oldham County	66,470	10	1.5%
Owen County	10,880	1	0.2%
Shelby County	48,518	8	1.2%
Spencer County	18,794	1	0.2%
Trimble County	8,515	0	0.0%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
SOUTH CENTRAL KENTUCKY	435,996	55	8.5%
Bell County	26,569	1	0.2%
Casey County	15,888	3	0.5%
Clay County	20,105	0	0.0%
Estill County	14,198	4	0.6%
Garrard County	17,560	3	0.5%
Jackson County	13,442	1	0.2%
Knox County	31,304	5	0.8%
Laurel County	60,669	10	1.5%
Lincoln County	24,644	6	0.9%
Madison County	92,368	8	1.2%
McCreary County	17,408	3	0.5%
Pulaski County	64,623	8	1.2%
Rockcastle County	16,750	1	0.2%
Wayne County	20,468	2	0.3%

Sample Breakdown by County



Country/Region	Population	Sample Size	Proportion of Sample
WESTERN KENTUCKY	470,601	64	9.8%
Ballard County	7,979	3	0.5%
Caldwell County	12,715	1	0.2%
Calloway County	39,135	4	0.6%
Carlisle County	4,771	2	0.3%
Christian County	71,671	16	2.5%
Crittenden County	8,915	1	0.2%
Fulton County	6,120	0	0.0%
Graves County	37,317	9	1.4%
Henderson County	45,591	4	0.6%
Hickman County	4,421	0	0.0%
Hopkins County	45,068	4	0.6%
Livingston County	9,242	3	0.5%
Lyon County	8,009	1	0.2%
Marshall County	31,191	3	0.5%
McCracken County	65,346	3	0.5%
McLean County	9,252	2	0.3%
Union County	14,505	3	0.5%
Webster County	13,111	2	0.3%
Whitley County	36,242	3	0.5%

Sample Breakdown by Gender, Age & Household Size



GENDER	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
Male	318	49%
Female	332	51%

AGE	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
18-34 years old	47	7%
35-44 years old	76	12%
45-54 years old	118	18%
55-64 years old	165	25%
65+ years old	224	35%
Don't know / Refused	20	3%
Average age (mean): 58 years old		

HOUSEHOLD SIZE	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
1 person	95	14%
2 people	284	44%
3 people	104	16%
4 people	78	12%
5 people	44	7%
6+ people	20	3%
Don't know / Refused	25	4%
Average size of household (mean): 2.6 people		

Sample Breakdown by Education



EDUCATION	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
HIGH SCHOOL GRAD OR LESS	271	42%
Grade school only	17	3%
Some high school	32	5%
High school graduate	211	32%
GED	11	2%
SOME COLLEGE / TECHNICAL EDUCATION	194	30%
1-2 years of college	25	4%
Community or Jr. college graduate	106	16%
Vocational or technical school	34	5%
3-4 years of college	29	4%
COLLEGE DEGREE OR HIGHER	156	24%
Bachelor's degree	89	14%
Some graduate school	17	3%
Attained graduate degree	50	8%
Don't know / Refused	29	4%

Sample Breakdown by Household Income



HOUSEHOLD INCOME	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
\$20,000 OR LESS	64	10%
Under \$5,000	3	0%
\$5,001-\$7,500	8	1%
\$7,501-\$10,000	1	<1%
\$10,001-\$12,500	2	<1%
\$12,501-\$15,000	6	1%
\$15,001-\$20,000	44	7%
\$20,001-\$50,000	197	30%
\$20,001-\$25,000	39	6%
\$25,001-\$30,000	35	5%
\$30,001-\$40,000	52	8%
\$40,001-\$50,000	56	9%
Under \$50,000, Refused Specific	15	2%
\$50,000+	279	43%
Over \$50,000, Refused Specific	22	3%
\$50,001-\$70,000	93	14%
\$70,001-\$90,000	68	10%
\$90,001-\$120,00	56	9%
\$120,000+	40	6%
Don't know / Refused	9	17%
<u>Average household income: \$59,900</u>		

Sample Breakdown by Length of Residence & Type of Community



LENGTH OF RESIDENCE	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
20 YEARS OR LESS	67	10%
5 years or less	19	3%
6-10 years	7	1%
11-15 years	22	3%
16-20 years	19	3%
21-40 YEARS	152	23%
21-25 years	36	6%
26-30 years	33	5%
31-35 years	34	5%
36-40 Years	49	7%
41-60 YEARS	220	34%
41-45 years	37	6%
46-50 years	66	10%
51-55 years	60	9%
56-60 years	57	9%
61+ YEARS	202	31%
ALL MY LIFE	6	<1%
Don't know / Refused	3	<1%
Average length of residence: 48 years		

TYPE OF COMMUNITY	ACTUAL SAMPLE SIZE	PROPORTION OF SAMPLE
RURAL AREA	289	44%
Rural Area / Farm	213	33%
Rural Area / Non-Farm	76	11%
SMALL TOWN	161	25%
SUBURB/CITY	200	31%
Suburb	91	14%
City of 50,000+	109	17%
Don't know / Refused	--	--



Appendix C: Final Survey Instrument



Final Survey Instrument



Kentucky Environmental Survey #272 Revised October 2019

[CELL SCREENER] Can I confirm that you are a resident of the state of Kentucky and are at least 18 years of age?

- 1 Yes
- 2 No **[Thank and End Call]**
- 9 Refused **[Thank and End Call]**

Screener A: What county do you live in?

- | | | | |
|-------------------|--------------|---------------|----------------|
| -001 Adair | 31 Edmonson | 61Knox | 091 Nicholas |
| -002 Allen | 32 Elliott | 62 Larue | 092 Ohio |
| -003 Anderson | 33 Estill | 63 Laurel | 093 Oldham |
| -004 Ballard | 34 Fayette | 64 Lawrence | 094 Owen |
| -005 Barren | 35 Fleming | 65 Lee | 095 Owsley |
| -006 Bath | 36 Floyd | 66 Leslie | 096 Pendleton |
| -007 Bell | 37 Franklin | 67 Letcher | 097 Perry |
| -008 Boone | 38 Fulton | 68 Lewis | 098 Pike |
| -009 Bourbon | 39 Gallatin | 69 Lincoln | 099 Powell |
| -010 Boyd | 40 Garrard | 70 Livingston | 100 Pulaski |
| -011 Boyle | 41 Grant | 71 Logan | 101 Robertson |
| -012 Bracken | 42 Graves | 72 Lyon | 102 Rockcastle |
| -013 Breathitt | 43 Grayson | 73 Madison | 103 Rowan |
| -014 Breckinridge | 44 Green | 74 Magoffin | 104 Russell |
| -015 Bullitt | 45 Greenup | 75 Marion | 105 Scott |
| -016 Butler | 46 Hancock | 76 Marshall | 106 Shelby |
| -017 Caldwell | 47 Hardin | 77 Martin | 107 Simpson |
| -018 Calloway | 48 Harlan | 78 Mason | 108 Spencer |
| -019 Campbell | 49 Harrison | 79 McCracken | 109 Taylor |
| -020 Carlisle | 50 Hart | 80 McCreary | 110 Todd |
| -021 Carroll | 51 Henderson | 81 McLean | 111 Trigg |
| -022 Carter | 52 Henry | 82 Meade | 112 Trimble |
| -023 Casey | 53 Hickman | 83 Menifee | 113 Union |
| -024 Christian | 54 Hopkins | 84 Mercer | 114 Warren |
| -025 Clark | 55 Jackson | 85 Metcalfe | 115 Washington |
| -026 Clay | 56 Jefferson | 86 Monroe | 116 Wayne |
| -027 Clinton | 57 Jessamine | 87 Montgomery | 117 Webster |
| -028 Crittenden | 58 Johnson | 88 Morgan | 118 Whitley |
| -029 Cumberland | 59 Kenton | 89 Muhlenberg | 119 Wolfe |
| -030 Daviess | 60 Knott | 90 Nelson | 120 Woodford |
-
- 999 Refused **[Ask A1]**
 - 998 Don't Know **[Ask A1]**

[ASK IF A=998 or 999, Otherwise, Skip to Screener B]

Screener A1: Would you say you live in (read list):

01. The Greene River region
02. Central Kentucky
03. The Louisville area
04. Eastern Kentucky
05. The Kentucky Valley
06. Northern Kentucky
07. The Ohio Valley
08. Southeastern or South Central Kentucky
09. Western Kentucky
99. Refused (do not read) **[THANK AND TERMINATE]**
98. Don't know (do not read) **[THANK AND TERMINATE]**

Screener B: Record Gender [If Not Sure . . . "And may I also have your gender?"]

- 1 Male
- 2 Female

Q1. How many years have you been a Kentucky resident? _____

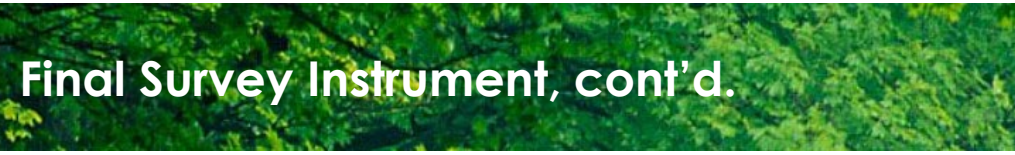
- 0 = Less than 1 year (do not read)
- 99 = Refused (do not read)
- 97 = All my life (do not read)
- 98 = Don't know (do not read)

2. What type of community do you live in? Would you say it's in a (read list)

1. Rural farm area
2. Rural non-farm area
3. Small town
4. Suburb
5. City of 50,000 or more
9. Refused (do not read)
8. Don't know (do not read)

3. What do you feel is the most important environmental problem facing Kentucky?

(record verbatim, probe) **[RECORD UP TO THREE RESPONSES]**



Final Survey Instrument, cont'd.



Q4. What do you think is the most common source of water pollution in Kentucky?
Is it...(read list) (rotate)

- 1. Factory waste
- 2. Run-off from lawns and farms
- 3. Household wastewater
- 9. Refused (do not read)
- 8.. Don't know (do not read)

[QUESTION #5 WAS REMOVED]

Q6. What do you think is the number one method of generating electricity in the U.S.?
Is it...(read 4 choices) (rotate)

- 1. Hydroelectric Plants
- 2. Nuclear Plants
- 3. Coal Burning Plants
- 4. Natural Gas Plants
- 9. Refused (do not read)
- 8. Don't know (do not read)

Q7. In your opinion, what is the best definition of Biodiversity?
Is it...(read 3 choices) (rotate)

- 1. The many types of plants and animals
- 2. Various types of individual habitats
- 3. Many differing opinions on the environment
- 9. Refused (do not read)
- 8. Don't know (do not read)

Q8. What do you think are the primary benefits of wetlands?
Are they/do they...(read 3 choices) (rotate)

- 1. Useful for development projects
- 2. Reduce the number of animals and plants
- 3. Help clean water systems
- 9. Refused (do not read)
- 8. Don't know (do not read)

Q9. Which of the following do you believe are renewable resources? (rotate a-c)

- a) Do you believe iron and other metals are renewable resources?
 - 1 Yes
 - 2 No
 - 9 Refused (do not read) -8 Don't know (do not read)

Q9b) Do you believe solar energy and trees are renewable resources?

- 1 Yes
- 2 No
- 9 Refused (do not read)
- 8 Don't know (do not read)

Q9c) Do you believe coal and oil are renewable resources?

- 1 Yes
- 2 No
- 9 Refused (do not read)
- 8 Don't know (do not read)

[QUESTION #10 WAS REMOVED]

Q11. Which of the following do you believe is the largest source of carbon dioxide?
(read 3 choices) (rotate)

1. Breath from animals and people
2. Fumes from motor vehicles
3. Factory emissions
9. Refused (do not read)
8. Don't know (do not read)

Q12. In your opinion, what is the most common reason for the extinction of plants and animals?
(read 3 choices) (rotate)

1. Over hunting
2. Habitat loss
3. Poisoning of individual animals
9. Refused (do not read)
8. Don't know (do not read)

[QUESTION #13 WAS REMOVED]

Q14. Which of the following do you consider to be litter? (rotate a-c)

a) Do you consider plastic bottles to be litter?

- 1 Yes
- 2 No
- 9 Refused (do not read)
- 8 Don't know (do not read)

b) Do you consider banana peels and apple cores to be litter?

- 1 Yes
- 2 No
- 9 Refused (do not read)
- 8 Don't know (do not read)

c) Do you consider cigarette butts to be litter?

- 1 Yes
- 2 No
- 9 Refused (do not read)
- 8 Don't know (do not read)

[QUESTION #15 WAS REMOVED]

[QUESTION #16 WAS REMOVED]

Q17. Where do you get **most** of your information about the environment? (read list)
(rotate) (only select one)

1. Media such as radio and television
2. Newspapers
3. Internet
4. Friends and family
5. State and local agencies
6. Other (specify) _____
7. Books
8. Technical journals
9. Personal experiences/Living life
10. At work
98. Don't know (do not read)
99. Refused (do not read)

Thank you, the next set of questions I have are about your attitudes about environmental problems and/or issues.

Final Survey Instrument, cont'd.



Q18. How would you rate the overall quality of **air** in the U.S.? Would you say it's
(read list)

1. Excellent
2. Good
3. Fair
4. Poor
9. Refused (do not read)
8. Don't know (do not read)

Q19. How would you rate the overall quality of **air** in your area? Would you say
it's...(read list)

1. Excellent
2. Good
3. Fair
4. Poor
9. Refused (do not read)
8. Don't know (do not read)

Q20. How would you rate the overall **water** quality in the U.S.? Would you say
it's...(read list)

1. Excellent
2. Good
3. Fair
4. Poor
9. Refused (do not read)
8. Don't know (do not read)

Q21. How would you rate the overall **water** quality in your area? Would you say
it's...(read list)

1. Excellent
2. Good
3. Fair
4. Poor
9. Refused (do not read)
8. Don't know (do not read)

Final Survey Instrument, cont'd.



Tell me if you agree or disagree with the following statements. [Rotate Q22 and Q23]

Q22. Wild and natural areas are adequately protected in Kentucky. Do you agree or disagree? (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

Q23. Wetlands are adequately protected in Kentucky. Do you agree or disagree? (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

(For Interviewing we moved Q24 after Q33 so all the agree questions are together)

Q24. In your opinion, which of these 3 strategies is the MOST important for addressing our energy future? (read list) (rotate)

1. Developing alternative energy such as solar or wind power
2. Developing technology that would make the mining and burning of coal better for the environment
3. Developing education and incentives to increase conservation
9. Refused (do not read)
8. Don't know (do not read)

Tell me again if you agree or disagree with these statements I read . . .

[RANDOMIZE ORDER FOR QUESTIONS 25-33]

Q25. Endangered species of plants and animals are adequately protected in Kentucky. Do you agree or disagree? (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

Final Survey Instrument, cont'd.



Q26. Human activity is causing global climate change. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

Q27. Private landowners should be able to do whatever they wish with their own land. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

Q28. Environmental education should be taught in schools. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

Q29. It is possible to protect the environment and have a healthy economy. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

[QUESTION #30 WAS REMOVED]

Final Survey Instrument, cont'd.



Q31. Knowing about environmental problems is important to me. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

[QUESTION # 32 WAS REMOVED]

Q33. My daily actions have an impact on the environment. (If necessary: Do you agree or disagree?) (strongly or somewhat)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
9. Refused (do not read)
8. Don't know (do not read)

We are nearly finished. For these last questions, tell me how often you do the following activities . . .

[RANDOMIZE ORDER FOR QUESTIONS 34-38]

34. I donate time and/or money to support environmental causes. Do you do this frequently, sometimes or never?

1. Frequently
2. Sometimes
3. Never
9. Refused (do not read)
8. Don't know (do not read)

[QUESTION #35 WAS REMOVED]

36. I make an effort to reduce the amount of household waste I produce. Do you do this frequently, sometimes or never?

1. Frequently
2. Sometimes
3. Never
9. Refused (do not read)
8. Don't know (do not read)

Final Survey Instrument, cont'd.



37. I separate household waste for recycling. Do you do this frequently, sometimes or never?

1. Frequently
2. Sometimes
3. Never
9. Refused (do not read)
8. Don't know (do not read)

38. I volunteer for environmental projects, such as river clean ups or tree plantings. Do you do this frequently, sometimes or never?

1. Frequently
2. Sometimes
3. Never
9. Refused (do not read)
8. Don't know (do not read)

39. Would you be willing to pay more than you currently do for energy and services in order to protect the environment, yes or no?

1. Yes
2. No
9. Refused (do not read)
8. Don't know (do not read)

40. How often do you buy locally grown foods and other products? Do you buy them frequently, sometimes, or never buy them?

1. Frequently
2. Sometimes
3. Never
9. Refused (do not read)
8. Don't know (do not read)

41. Tell me if you agree or disagree with the following statements?

a) I conserve energy to save money.

- 1 Agree / Yes I do
- 2 Disagree / No I do not
- 9 Refused (do not read)
- 8 Don't know (do not read)

Final Survey Instrument, cont'd.



a) I conserve energy to reduce my environmental impact.

- 1 Agree / Yes I do
- 2 Disagree / No I do not
- 9 Refused (do not read)
- 8 Don't know (do not read)

b) I conserve energy for other reasons.

- 1 Agree / Yes I do
- 2 Disagree / No I do not
- 9 Refused (do not read)
- 8 Don't know (do not read)

d). I do not try to conserve energy.

- 1 Agree / Yes I do
- 2 Disagree / No I do not
- 9 Refused (do not read)
- 8 Don't know (do not read)

The these last few questions are for classification purposes only and nothing will be used or published in association with your name or other personal information. All the results will be aggregated together in total.

Q42. In what year were you born? _____ [RECORD 4 DIGIT YEAR]
(9999 = Refused /DK)

Q43. Including yourself, how many people live in your household, including adults and children? _____
99 = Refused (do not read)
98 = Don't Know (do not read)

Q44. What is the last grade of school you completed? (Read list if necessary)

- 1 Grade school only
- 2 Some high school
- 3 High school graduate
- 4 GED
- 5 Vocational / Technical / Trade School
- 6 1-2 years of college (no degree)
- 7 Community / Junior College 2-yr Degree
- 8 3-4 years of college (no degree)

Final Survey Instrument, cont'd.



- 9 Bachelor's Degree / 4-yr Degree
- 10 Some Grad School (no degree)
- 11 Graduate Degree or PhD
- 99 Refused (do not read)
- 98 Don't Know (do not read)

Q45. What is your total household income? (read list if necessary)

- 1. Under \$5,000
- 2. \$5,001 to \$7,500
- 3. \$7,501 to \$10,000
- 4. \$10,001 to \$12,500
- 5. \$12,501 to \$15,000
- 6. \$15,001 to \$20,000
- 7. \$20,001 to \$25,000
- 8. \$25,001 to \$30,000
- 9. \$30,001 to \$40,000
- 10. \$40,001 to \$50,000
- 11. \$50,001 to \$70,000
- 12. \$70,001 to \$90,000
- 13. \$90,001 to \$120,000
- 14. over \$120,000
- 96. under \$50K – refused specific amount
- 97. over \$50K – refused specific amount
- 99. Refused all info (do not read)
- 98. Don't Know (do not read)

Q46. On behalf of the Kentucky Environmental Education Council, I would like to thank you for taking the time to complete this survey.

1= completed interview

Phone Type

- 1. Cell
- 2. Land