

# Land, Legacy & Learning V

A Master Plan for Environmental Education in Kentucky  
and the 2019 Survey of Kentuckians' Environmental  
Knowledge, Attitudes and Behaviors

2020-2025 Environmental Education Master Plan  
Kentucky Environmental Education Council

**2020 Edition**





An agency of the Education and Workforce Development Cabinet

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**Published November 2020**



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# Land, Legacy, & Learning V

## A Master Plan for Environmental Education in Kentucky

In the 20 years since the Kentucky Environmental Education Council (KEEC) created the first Land, Legacy and Learning report, the Commonwealth of Kentucky has maintained a national reputation as a leader in the field of environmental education (EE).

The report, published every five years, is the EE master plan for Kentucky and provides guideposts for an exemplary system. In this fifth iteration of the master plan, the council has continued to track changes in environmental knowledge, attitudes, and behaviors of Kentuckians through a survey.

Since its inception, the master plan has been developed through a collaborative process. In 2019, Kentucky environmental education providers participated in four regional town hall forums held across the Commonwealth, and/or added their input through an online survey. These valuable forums would not have been possible without the support of the Kentucky Association

for Environmental Education (KAEE), the Kentucky College and University Partnership for Environmental Education (KCUPEE) network, and the Kentucky Department of Education (KDE).

KEEC thanks the Education and Workforce Development Cabinet for its support. This master plan, and all other functions of the council, would not be possible without the leadership--and the fiscal, legal, communications, HR, and other services--of the cabinet.

Recommendations in previous master plans directed KEEC to conduct a survey of environmental knowledge, attitudes, and behaviors every five years and to compare data from those surveys to keep track of how and what Kentuckians think about their environment. The results of the 2019 survey, administered by the Kentucky Center for Statistics, are included in the second half of this document.

# Key Master Plan Partners

## **Kentucky Association for Environmental Education (KAEE)**

The Kentucky Association for Environmental Education (KAEE) is a professional, membership-based nonprofit whose primary role is to serve as the conduit that connects environmental educators throughout Kentucky. KAEE has served as a leader in environmental education for 40 years, promoting and influencing environmental education on national and statewide levels each day. The mission of KAEE is to increase environmental knowledge and community engagement in Kentucky through the power of environmental education. KAEE's goals for the next several years include: advancing environmental literacy by driving excellence in environmental education by promoting professional development and best practices; building its audience by increasing public support for and investment in the field of environmental education; and finally, cultivating collective impact by bringing people together to create a stronger and more inclusive movement. KAEE serves as the state coordinator for multiple EE curricula projects (Project Learning Tree, Project WET, Project WILD, Project Underground, NAAEE Guidelines for Excellence, and the Leopold Education Project). In addition, KAEE is working to build capacity across the region and the continent through its role as a leader in the Southeastern Environmental Education Alliance and the NAAEE Affiliate Network. KAEE hosts an annual statewide professional development conference and ongoing online professional development through its eeCredential program. KAEE also serves as the fiscal agent for the Environmental Education Leadership Corps. All of this work and programs are done with KAEE's vision in mind of a sustainable world where environmental and social responsibility drive individual and institutional choices.

## **Kentucky College and University Partnership for Environmental Education (KCUPEE)**

As of 2020, Largely due to faculty retirements and budget cuts at all public colleges and universities, the Kentucky College and University Partnership for Environmental Education has been reduced to four active centers for EE, housed at the following institutions: Eastern Kentucky University, Northern Kentucky University and Western Kentucky University, and the Kentucky Community and Technical College System. These centers for EE continue to increase student, faculty and staff environmental literacy on their campuses through a combination of course offerings, student life programs, and grant-funded projects. KEEC and the KCUPEE network are engaged in efforts to reactivate and reorganize centers for EE at the other public universities.

## **Kentucky Department of Education (KDE)**

KDE is a partner in the implementation of the KELP and the KGHS program. They are also a key partner in the development and implementation of the Outdoor School for Everyone pilot program set to begin during the next five years. KDE is also responsible for implementing the provisions of KRS 157.450-455.

# Kentucky Environmental Education Council Programs

## The Environmental Education Leadership Corps (EELCorps)

In 2017 the KEEC received federal funding from the Corporation for National and Community Service (CNCS) through the Kentucky service commission known as Serve Kentucky in the form of a planning grant to develop an AmeriCorps program called the Environmental Education Leadership Corps (EELCorps). The KEEC partnered with KAEE as our fiscal agent to make the EELCorps program possible.

The EELCorps program works with sites across the Commonwealth to provide, or increase the delivery of, environmental education in the communities being served by the sites. The sites are typically environmental education providers in local, state, or federal government agencies or other nonprofit EE organizations across the Commonwealth, although, at some sites, the AmeriCorps member placed there will be the only person providing EE for the organization during their year of service. The members are tasked with providing direct environmental education instruction to the clients of the organizations where they serve. This instruction must be aligned with the mission of the Council and the service site and must meet the federal guidelines for the grant, including a non-biased, non-exclusive approach. In order to assist members in developing the skills necessary to provide quality EE instruction to the community they serve in, all full-time members participate in the Professional Environmental Educator Certification during their service year. EELCorps members can serve in full-time or part-time capacities as determined by the service site's needs. Members receive a living stipend bi-weekly and a Segal Education Award to be used once their service is complete.

After the planning grant and two active years of AmeriCorps members serving across the state, the EELCorps program continues to thrive. In the 2018-2019 service year, the first active year of the program, EELCorps placed 17 members at sites across Kentucky where they developed and implemented over 400 new

environmental education-based programs, lessons, and activities. These programs, led by members, reached nearly 51,000 Kentuckians. In the second service year, even in the midst of the global pandemic, members created over 300 new lessons, programs, and activities for their sites, and provided EE instruction to nearly 23,000 Kentuckians.

After successful implementation of the EELCorps program, there are several avenues for growth that the program staff has identified including:

- Partnership with the proposed Outdoor School wherein a portion of the AmeriCorps members allotted to the EELCorps program would be delegated to implement Outdoor School programming and lesson implementation;
- Expand the program to more sites such as possible partnerships with the Ohio River Recreation Trail or KCUPEE Centers across the state;
- Further development of program documents to be more user friendly, inclusive, and efficient;
- Creation and implementation of a completely online, streamlined enrollment, training, and reporting system for simplified communication and multiple accountability points for members, site supervisors, and program staff.
- Presentation to and consultation with other states to implement similar AmeriCorps programs to increase EE in their states. This endeavor has already proven successful as interest has grown through presentations at both the KAEE Conference and the NAAEE conference. KEEC has consulted with the Colorado Alliance for Environmental Education on establishing its new EE AmeriCorps program and has been approached by other states in developing similar programs.

## Kentucky Green and Healthy Schools Program

The Kentucky Green and Healthy Schools program has engaged in student-led, STEM-focused, and project-based learning with over 300 schools and thousands of students since it began in 2007. The program introduces students to new career fields and assists in generating a career-ready workforce for industry and other critical Kentucky business sectors. The hands-on, experiential nature of environmental education is shown to improve students' test scores in all subject areas, problem-solving, collaboration and cooperation, learning comprehension, and behavior in school. Schools receive awards for their projects at the annual Youth Summit and Awards Luncheon co-hosted by KGHS and the KY NEED Project. KGHS received the "Excellence in Environmental Education" award from KAEE in 2010. Improvements to the KGHS program will include the utilization of marketing to expand outreach across the entire state through websites and social media, the growth of teacher recruitment, and participation by actively supporting their needs through classroom adaptations and educator-trainings, and the creative application of EE in the classrooms.

## Kentucky Green Ribbon Schools Program

Since its inaugural year in 2011, Kentucky has participated in the U.S. Department of Education's Green Ribbon Schools program, and 100 percent of Kentucky's nominees (14 schools, one school district, and one university) have been recognized as U.S. Green Ribbon Schools.

In 2018, KEEC succeeded KDE as Kentucky's nominating authority for both K-12 and higher education institutions. KEEC accepts applications to the US Department of Education.

## Professional Environmental Educator Certification Course

Since 2004, KEEC has administered the Professional Environmental Educator Certification course, which was designed and implemented as a result of past master plans. Initiated in 2004, the course has more than 250 graduates to date. In 2015, KEEC received accreditation of the course through the North American Association for Environmental Education (NAAEE), making it one of only three accredited programs in the nation. The course



helps to ensure that environmental educators at state agencies, schools, universities, nonprofit organizations and other educational institutions are teaching about the environment according to state and national guidelines, and maintaining a separation between environmental education and environmental advocacy.

## Kentucky Environmental Literacy Plan (KELP)

The Kentucky Board of Education approved the implementation of the Kentucky Environmental Literacy Plan by the Kentucky Department of Education in December of 2011. The Kentucky Environmental Literacy Plan is the culmination of a collaborative, stakeholder process that spanned two years. During this time, experts in the fields of education, administration, and environmental education convened to draft a plan that is both exemplary and achievable. This plan was revised in 2018 in an effort to transform the plan into a living document that can be updated and revised to reflect the changing world of environmental education.

The Plan outlines seven major goals that will provide Kentucky with high school graduates who are environmentally literate. Students will come to appreciate the natural world as they are given opportunities to explore and learn outdoors during and after their school day. Research has shown that environmentally based education helps students in many different aspects including increased academic scores, better attendance, and reduced discipline issues.





## Outdoor School for Everyone

KEEC is working with the Education and Workforce Development Cabinet and Kentucky Department of Education to develop an outdoor school program that would involve a 3-5 consecutive day immersive outdoor experience, off school grounds, for all Kentucky students. The program would take place at existing camps and outdoor sites using the existing curriculum, with a common rubric for evaluation. KEEC is planning a pilot for the 2021-22 school year.

## Interagency Subcommittee on Environmental Education

KEEC continues to achieve its statutory mandates. In 2011, the Interagency Subcommittee on Environmental Education (ISEE) was reconvened and meets quarterly to advise the council on EE in the Commonwealth. The Interagency Subcommittee on Environmental Education is composed of a number of state institutions and programs, including representatives of:

- Department of Education
- Department of Fish and Wildlife Resources
- Department of Parks
- Division for Air Quality
- Division of Compliance Assistance
- Division of Conservation
- Division of Forestry
- Division of Waste Management
- Division of Water
- Energy and Environment Cabinet
- Office of Energy Policy
- Office of Kentucky Nature Preserves



KRS 157.915 lists the functions of the KEEC, which are to:

- (1) Create and update annually a five (5) year management and operational plan to make as effective as possible the coordination, delivery, and marketing of all state environmental education programs;
- (2) Establish an interagency subcommittee to advise the council on environmental education matters;
- (3) Establish and help coordinate the activities of regional environmental education centers and advisory committees at all state universities and at the central office of the Kentucky Community and Technical College System to serve as networks for the dissemination of environmental education programs, materials, and information across the state;
- (4) Establish a competitive system for awarding grants for the establishment and maintenance of regional environmental education centers;
- (5) Seek and receive private support to fund state and regional environmental education initiatives;
- (6) Assist in the integration and evaluation of environmental education in existing school curricula;
- (7) Monitor and report periodically on environmental literacy in Kentucky and continually assess trends and needs in environmental education on a local, state, national, and global basis; and
- (8) Make recommendations and seek changes through regulations, legislation, and other means to promote environmental literacy in Kentucky.

# Best Practices in EE: Resources

NAAEE, through the National Project for Excellence in Environmental Education, has created and continually updated a set of guidelines for best practices in EE. The guidelines are the most important reference document for EE practitioners, and they cover the following areas:

[Community Engagement: Guidelines for Excellence](#)

[Early Childhood Environmental Education Programs: Guidelines for Excellence](#)

[Nonformal Environmental Education Programs: Guidelines for Excellence](#)

[Environmental Education Materials: Guidelines for Excellence](#)

[K-12 Environmental Education: Guidelines for Excellence](#)

The Kentucky Environmental Education Council was established per KRS 157.910, and the statutes pertaining to the council are found in KRS 157.900-915. KRS 157.900, the Statement of Legislative Purpose, states:

“The General Assembly hereby declares that maintaining a clean and healthy environment is a state priority and is the individual and collective responsibility of all citizens of Kentucky. It is therefore in the public interest that a comprehensive environmental education initiative be undertaken to promote an informed and knowledgeable citizenry with the skills and attributes necessary to effectively and constructively solve existing environmental problems, prevent new ones, and maintain a balanced and economically healthy environment for future generations.”

## Acronyms

**EE:** environmental education

**EELCorps:** Environmental Education Leadership Corps

**ISEE:** Interagency Subcommittee on Environmental Education

**KAEE:** Kentucky Association of Environmental Education

**KCAS:** Kentucky Core Academic Standards

**KDE:** Kentucky Department of Education

**KEEC:** Kentucky Environmental Education Council

**KELP:** Kentucky Environmental Literacy Plan

**KGHS:** Kentucky Green and Healthy Schools

**KRS:** Kentucky Revised Statutes

**KCUPEE:** Kentucky College and University Partnership for Environmental Education

**NAAEE:** North American Association of Environmental Education

# Goals of the 2020 - 2025 Master Plan

## Goal 1: Integrate EE into the lifelong learning of Kentuckians

### Formal Education

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- Implement the Kentucky Environmental Literacy Plan to enhance EE in public and private PreK-12 schools.
- Model EE teaching methods and assessments for teacher candidates and practicing teachers through Professional Development.
- Provide ongoing training and resources that encourage all PreK-12 educators to follow the NAAEE Guidelines for Excellence in Environmental Education that are appropriate for that level.
- Continue to provide professional development training for formal environmental educators in supplemental curriculum programs such as Project NEED, Project WET, Project Learning Tree, Project WILD, etc.
- Expand the development of pre-K programs that follow the NAAEE Early Childhood Environmental Education Programs: Guidelines for Excellence.
- Continue to support EE professional development for formal educators through the Professional Environmental Educator Certification course.
- Broaden the audience for EE to include all PreK-16 educators.
- Research and work towards reinstatement of EE as a component of preservice teacher education.
- Encourage incorporation of EE competencies found in the NAAEE Professional Development of Environmental Educators in higher education degree programs.
- Promote the use of EE skills and competencies in college and career readiness programs.



### Nonformal Education

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- Support and/or develop programs that encourage lifelong EE for all Kentuckians.
- Provide ongoing training and resources that encourage EE practitioners to provide EE programs for all ages.
- Provide ongoing professional development opportunities both in-person and online that allow for continuous learning and improvement in the field aligned with the NAAEE Guidelines for Excellence in Environmental Education.
- Partner with Kentucky Department of Education to develop Kentucky Academic Standards training for nonformal environmental educators.
- Continue to support EE certification through the PEEC course.

## Goal 2: Expand Kentucky's cohesive and diverse network of EE providers

- Create a statewide EE landscape analysis that identifies gaps (both geographic and audience-focused) in EE resources and highlights the potential expansion of EE into those areas.
- Provide training, resources, and ongoing support to foster an equitable and inclusive EE network that welcomes and engages with all Kentuckians.
- Implement a collective impact model that creates a common agenda, shared measurement, mutually reinforcing activities, continuous communication, and backbone support.
- Work with partners around KY to provide training for community leaders to establish communities of practice for EE.
- Strengthen our network of entry-level professionals that have a common understanding of, and training in the basic principles of EE.

## Goal 3: Increase Kentuckians' awareness and support for EE

- Maintain legislative support for EE in Kentucky.
- Create a campaign to market EE using an understandable and engaging narrative.
- Broaden our audience to groups that might not always identify as part of the EE community.
- Capture and share success stories about EE in Kentucky.
- Continue to assess Kentuckians' environmental knowledge, attitudes and behaviors through a survey or other instrument, and analyze results to share with Kentuckians and identify priorities for the field of EE.

## Goal 4: Evaluate the effectiveness of EE in Kentucky through research and assessment of statewide EE efforts

- Identify and address research priorities focusing on the importance of EE as well as the effectiveness of current EE efforts.
- Develop an inventory of EE effective programming offered by public and private entities that meet the NAAEE Guidelines for Excellence in Environmental Education.
- Share assessment and evaluation tools to encourage measurement of all environmental literacy: awareness, knowledge, attitudes, skills, and participation.
- Institute an annual EE effectiveness forum to identify current environmental education efficacy, future evaluation plans, and opportunities to leverage findings.
- Continue to survey graduates of the Professional Environmental Educator Certification course to determine the impact of the program for individuals, as required for programs accredited through NAAEE.

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

## Introduction

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In 1990, 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 is 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, the third in 2009, and the fourth in 2014.

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.

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. The sample was pulled proportionately by county with quotas based on Kentucky Educational Cooperatives.

Included in our Master Plan are the highlights from the 2019 survey. The full survey can be found online at [keec.ky.gov](http://keec.ky.gov).

## Highlighted 2019 Survey Results

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- 93% of Kentuckians are highly supportive of including environmental education curriculum in schools.
- 95% of Kentuckians strongly or somewhat agree that knowing about environmental problems is important.
- General environmental knowledge among Kentuckians has dropped 10% since the 2014 survey.

## Environmental Knowledge

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The first section of the survey measured Kentuckians' knowledge levels of current environmental topics. The questions were designed at the middle school student level. A General Environmental Knowledge Score summarizing the average level of environmental knowledge in the Commonwealth was at 45%. This score indicates that the average Kentuckian is able to answer correctly slightly less than half of the environmental knowledge questions included on the survey.

The 2019 score of 45% is a decline from the 2014 survey score of 55%. The survey shows that there is a substantial proportion of the population that cannot correctly answer these basic questions. The problematic areas include:

1. The most common source of water pollution in Kentucky: 29% correctly identified run-off from lawns and farms
2. The number one method of generating electricity in the U.S.: 19% correctly identified natural gas plants
3. The best definition of Biodiversity: 35% correctly answered the many types of plants and animals
4. 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

## Environmentally Responsible Behaviors

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.

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.

## Attitudes Towards Environmental 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. (Graphs 1 and 2)

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.

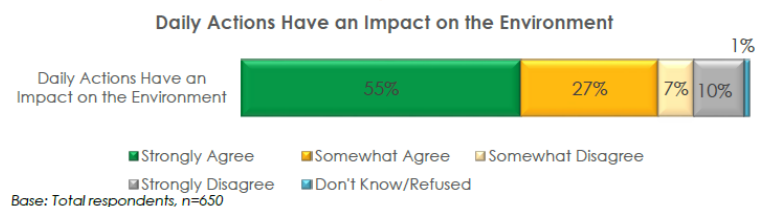
More than nine in ten of this year's survey respondents agreed that it is possible to protect the environment and maintain a healthy economy. This has been a consistent finding over the course of the study.

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.

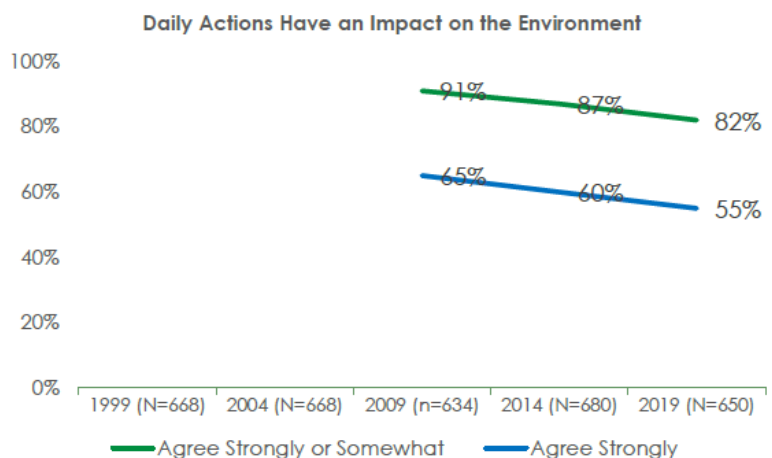
As in previous years, Kentuckians are highly supportive of including environmental education curriculum in schools. A total of 93% agree strongly or somewhat with this idea.

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.

Graph 1

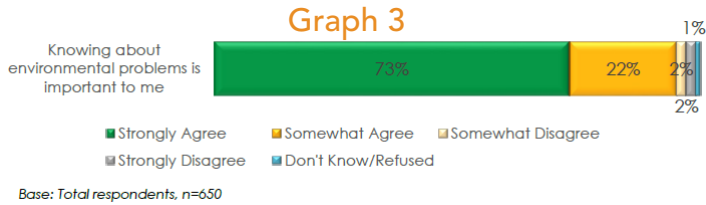


Graph 2



## Environmental Knowledge Interest

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. (Graph 3) 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%.



## Protection of Endangered Species, Wetlands, & Natural Areas

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 Eastern Kentuckians recorded a strongly agree response.

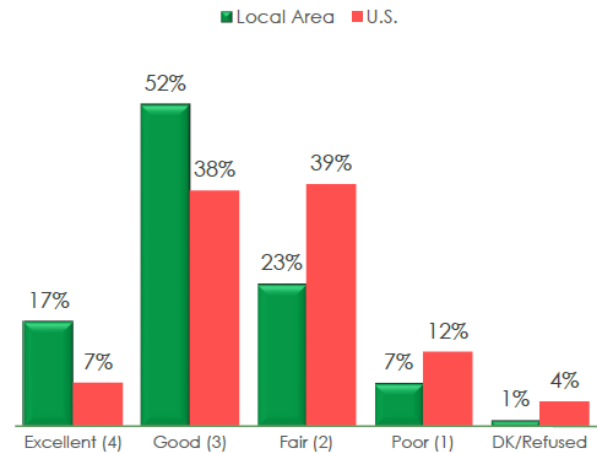
When asked if they thought that wetlands in Kentucky were adequately protected, nearly 65% of respondents answered in the affirmative. This reflects an increase over 2014's total of 55%. Again, this total represents an all-time high for this measure. As pointed out in 2014, the degree to which Kentuckians 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.

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.

## 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. (Graph 4) 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).

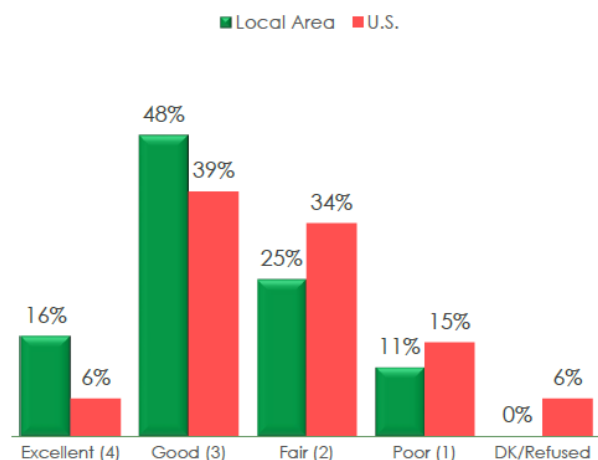
**Graph 4**  
Overall Air Quality Locally vs the U.S.



## 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.). (Graph 5) 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.

**Graph 5**  
Overall Water Quality Locally vs the U.S.



## Environmental 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, and 92% either strongly agreed or somewhat agreed. This has been a consistent finding over the course of this study.

## Human Activity & 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. 19% of Kentuckians strongly disagreed that human activity impacted climate change. Most Kentuckians have an opinion on this topic. Only 4% said they did not know if the premise were true. Respondents most likely to agree that human activity causes climate change were college educated, aged 35-54, and lived in a small town, suburb, or city.

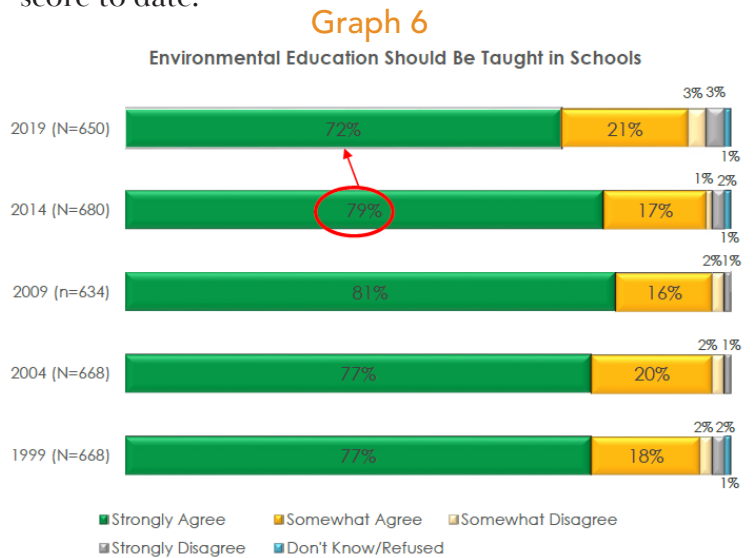
## Strategies for Addressing Energy in the Future

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.

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%).

## 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. (Graph 6) 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.



## Donations to Environmental Causes

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.

## 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. 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%.



## 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.

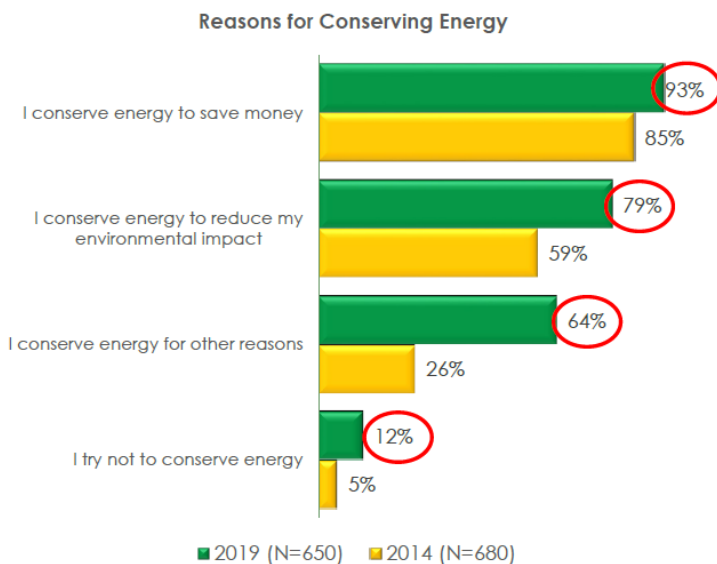
Response varied moderately by region. In this year's survey, Eastern Kentucky (50%) and Kentucky Valley (59%) residents were more likely to volunteer.

## Reasons to Conserve Energy

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. (Graph 7)

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.

Graph 7

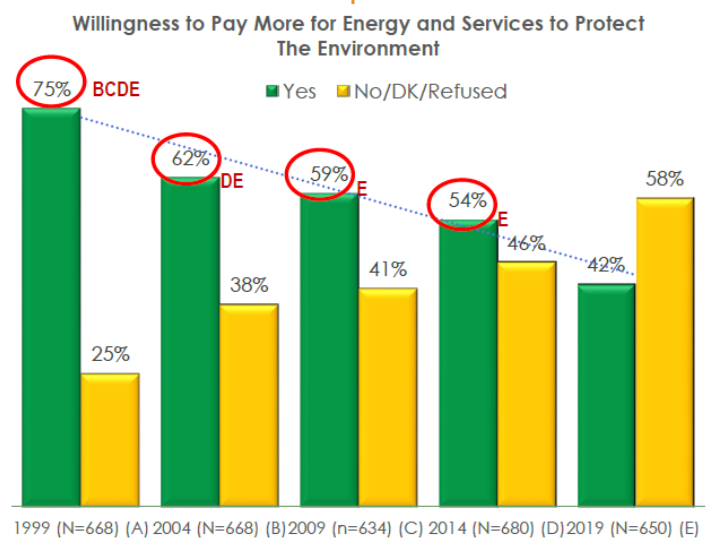


## Willingness to Pay More for Environmental Protection

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.

This position has been weakening steadily over the past 20 years. (Graph 8) 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.

Graph 8



## Separating Household Waste

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. Residents in Central Kentucky and Northern Kentucky were most likely to separate their household waste.

## Buying Local 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). Those under age 35 are less likely to say they buy locally grown food, at 83%.

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