



WHAT WE SAY  
(and do)  
ABOUT THE  
ENVIRONMENT

THE PITTSBURGH REGIONAL  
ENVIRONMENT  
SURVEY

THE PITTSBURGH REGIONAL  
**ENVIRONMENT**  
**SURVEY**

3	FROM THE DIRECTORS
5	SUMMARY OF FINDINGS
8	INTRODUCTION
10	REGIONAL ENVIRONMENT OVERALL
12	AIR QUALITY
14	WATER QUALITY
16	BEHAVIORS & ACTIONS
18	POLICY
20	ECONOMY & ENVIRONMENT
22	ENERGY, MARCELLUS SHALE & ENVIRONMENT
24	PARKS & RECREATION
25	CONSERVATION
26	CLIMATE CHANGE
27	METHODOLOGY

## FROM THE DIRECTORS

As the Pittsburgh region continues its ascent, regularly ranking as one of the nation's most livable cities, maintaining and improving the region will require attention to a key long-term asset: the environment.

Across America and the globe, mobility between regions and nations has become commonplace, and people decide where they want to live and why. Along with jobs, family and a variety of amenities and attributes, environmental quality is emerging as a key factor in the calculus of which cities will attract the talented people whose energy and efforts will shape and build the future.

While the Pittsburgh region's environment has improved dramatically since its "Smoky City" era, we still face significant challenges including improving air quality, repairing an aged water and sewer system, and ensuring that industry—including the Marcellus Shale—maintains a healthy balance with the region's environment.

In order to better understand what's important to our region's residents about the environment—their behaviors and attitudes—we present the 2013 Pittsburgh Regional Environment Survey.

In this random and representative telephone survey—using land lines and cell phones—we have posed more than 80 questions to regional residents, gauging their views and habits on a number of environment-related topics, including air quality, water quality, conservation, the role of individuals, business and the government in the

stewardship of the environment, and the balance between the economy and the environment.

We surveyed more than 400 residents of Allegheny County and more than 400 residents of the six surrounding counties of the metropolitan statistical area: Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland counties. By this method, we are able to compare views and behaviors between the region's core—Allegheny County—and its surrounding counties.

This is the most in-depth and methodologically sound environmental survey to have been undertaken to date in Greater Pittsburgh. And aside from lending greater knowledge of our residents' actions, understanding, and views regarding the environment, we hope that the information in this survey contributes to more-informed dialogue and decision-making regarding the region's future.

Survey questions involve a blend of questions created by a team of local environmental experts and questions from other local and national surveys, which allows Pittsburgh responses to be compared with responses across the country. The survey was funded by PittsburghTODAY through its philanthropic supporters and by the University of Pittsburgh's University Center for Social and Urban Research.

In the pages to come, in narrative journalism and in graphics, we highlight the survey results. For more detailed information, please visit [pittsburghtoday.org](http://pittsburghtoday.org).

Douglas Heuck, Director of PittsburghTODAY

Richard Schulz, Director, University Center for Social and Urban Research

October 2013



WHAT WE SAY  
(and do)  
ABOUT THE  
ENVIRONMENT

## SUMMARY OF FINDINGS

The following is a summary of key findings from the **Pittsburgh Regional Environment Survey**. More details, findings and issues are found in the pages that follow. The complete survey data sets, including findings by geography and demographic characteristics, are available in the special reports section of our website, [pittsburghtoday.org](http://pittsburghtoday.org).



### REGIONAL ENVIRONMENTAL PERSPECTIVES

- Some 45% of residents in the seven-county Pittsburgh Metropolitan Statistical Area rate the quality of the local environment as “good.” Only 4% of residents rate it as excellent; 5% describe it as poor.
- More residents see the local environment as improving (51%) than see it as getting worse (14%).
- Nearly 79% of residents in the region believe there is little or nothing they can do to solve environmental problems.



### AIR QUALITY

- Nearly 65% of residents across the Pittsburgh MSA describe air quality as either a minor problem or not a problem at all.
- Several possible ways to improve the region’s air quality problems drew support from a majority of residents throughout the region, including tightening controls on local factory and industrial emissions (72%), stricter controls on coal-fired power plant emissions (69%), and spending more on public transportation (65%).



### WATER QUALITY

- More than two-thirds of residents across the Pittsburgh MSA view the quality of the region’s rivers and streams as a severe or moderate problem.
- About one-third of residents describe sewage runoff as a severe or moderate problem. Only 7% feel it is not a problem at all.
- Nearly two-thirds of residents across the region report only minor problems with the quality of their drinking water or no problems at all. Fewer than 13% report having a severe problem with their drinking water.



### BEHAVIORS & ACTIONS

- Nearly 60% of Pittsburgh MSA residents believe they are doing an excellent or good job protecting the environment.
- Some 95% report that they turn off lights and electronics in unoccupied rooms.
- Nearly 63% of Pittsburgh MSA residents turn down the thermostat when they are asleep or away from home. About the same percentage turn down the air conditioning in the summer when sleeping or not at home.
- About 74% report making an effort to take shorter showers and limit watering the lawn to reduce their water consumption.
- About 42% of Pittsburgh MSA residents say they reduced the number of car trips in the past 12 months by carpooling, walking or taking public transportation. But 58% did not.



## SUMMARY OF FINDINGS



- Across the region, 74% of residents report they regularly recycle newspaper, glass and plastic. Far fewer residents recycle electronic devices.
- Residents also report a willingness to make energy-conscious purchases. For example, 75% say they upgraded to energy-saving appliances in the past five years.
- But only about half of homeowners report making energy-saving home improvements.



### PARKS & RECREATION

- Nearly 3 in 4 residents throughout the Pittsburgh MSA give the quality of the region's parks and trails high marks. About 12% rate them as excellent. Another 63% grade them as "very good" or "good."
- The survey suggests most residents base their assessment of parks and trails on firsthand knowledge. Some 64% of residents report using them at least six times a year.
- However, only 37% of residents overall say they use the region's rivers and streams for recreation more than five times a year. And more than one-third say they never do.



### CONSERVATION

- More than 37% of Pittsburgh MSA residents identify river and stream restoration as the conservation issue they are most concerned about. Another 37% report protection of wildlife habitat as their top concern.

- More than 3 in 4 residents favor providing tax deductions to encourage Americans to place land into conservation.



### POLICY

- More than 78% of Pittsburgh MSA residents agree that government should be responsible for solving Pennsylvania's environmental problems.
- And two thirds of the region's residents believe state government oversight of the environment should increase, with 21% saying it should be significantly increased.
- The region is more divided over whether more stringent air quality regulations are needed. More than 48% of Pittsburgh MSA residents believe air quality regulations as they stand today are strong enough, while 43% feel they are not sufficient.
- The survey suggests residents are willing to support a range of policies that have the potential to reduce stress on the environment. The least popular option—raising auto emissions standards—is supported by 62% of Pittsburgh MSA residents.
- More popular policies include offering homeowners tax deductions to improve the energy efficiency of their houses (85%), raising motor vehicle fuel efficiency standards (82%), mandatory controls to curb carbon dioxide and other greenhouse gas emissions (73%) and spending more to develop solar and wind as energy sources (70%).



## ECONOMY & ENVIRONMENT

- Pittsburgh MSA residents overwhelmingly believe the environment is important to the region's economic outlook (96%), with 65% saying it is "very important."
- More than 31% believe environmental regulations strengthen industry and job growth; 40% say regulations have a minimal effect; and 28% believe environmental regulations weaken industry and job growth.
- Only 17% of residents overall believe environmental regulations threaten their job.
- Nearly 57% of residents believe that protecting the environment should be a higher priority than economic growth, even if it means slowing economic growth.



## ENERGY, MARCELLUS SHALE & ENVIRONMENT

- Nearly 58% of Pittsburgh MSA residents believe protecting the environment should be a priority over energy production, even at the risk of limiting the nation's supply of oil, natural gas or coal.
- Less than 7% believe natural gas as an energy source is worse for the environment than coal and oil, 47% believe it is better for the environment and 46% see it as neither better or worse than coal and oil.
- More than 79% of Pittsburgh MSA residents believe drilling for natural gas in the Marcellus Shale represents a significant or moderate economic opportunity for the region.

- At the same time, 59% believe drilling poses a significant or moderate threat to public health and the environment.
- Despite such concerns, more Pittsburgh MSA residents support drilling (48%) than are opposed to it (29%).
- Their support, however, appears to come with conditions. For example, more than 95 percent of residents across the region believe drilling operators should be legally required to publicly disclose all of the chemicals used in the fracking process.



## CLIMATE CHANGE

- More than 64% of Pittsburgh MSA residents describe climate change as a severe or moderate problem. Only 18.5% don't think it's a problem.
- And more than 56% of the region's residents believe human activities are largely to blame for climate change. The rest are of the opinion it is the result of natural changes in the environment. ■

## INTRODUCTION

**L**ORI RIEGER HAD TAKEN THE DAY off from her job to spend it in Point State Park. It was a hot, humid July afternoon, the kind that invites ozone pollution to accumulate at levels that violate federal air quality standards, which is something Pittsburgh and the surrounding region do on an annual basis. But if that was a problem, Rieger didn't notice.

"I don't know anything about breathing difficulties or asthma," the Ross Township resident said. "We don't see it in our circle—that anyone has breathing difficulties or problems. I don't think we have a lot of industry anymore that would lend itself to bad air. The humidity is always an issue, but I don't think that's air quality. It's more weather-related."

Her perception belies the fact that long after the smoky steel industry became a shadow of its former self, the ozone pollution in the air she breathes remains at levels considered unhealthy by Environmental Protection Agency standards.

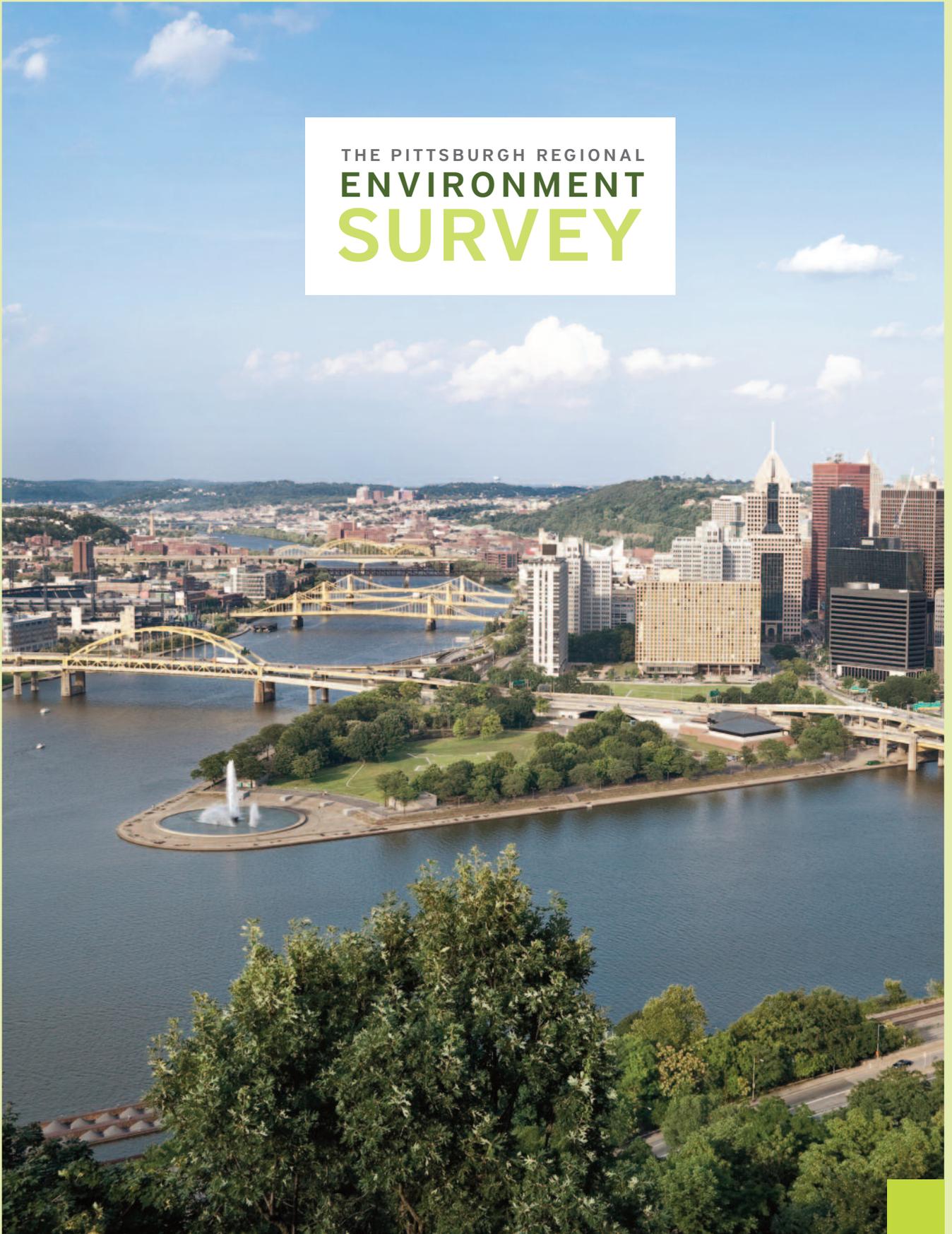
But she is not alone. Hers is a view that nearly two-thirds of southwestern Pennsylvania residents share, according to the findings of the Pittsburgh Regional Environment Survey.

In May 2013, 805 men and women living in the seven-county Pittsburgh Metropolitan Statistical Area were interviewed for the telephone survey, which is a product of PittsburghTODAY and the University of Pittsburgh University Center for Social and Urban Research.

The results provide the most comprehensive profile to date of the environment-related behaviors of residents of the seven-county Pittsburgh Metropolitan Statistical Area and their perspectives on issues ranging from air and water quality to government regulation, Marcellus Shale drilling and climate change.

What emerges is a regional population that generally acknowledges climate change as a problem, but is divided on whether human activity or a natural warming cycle is mostly to blame. They're less concerned about the quality of the air than they are about the conditions of the region's rivers and streams. Most take steps to curb their energy use, but are less likely to park the car in favor of walking, biking or taking the bus. More support drilling for natural gas in the Marcellus Shale than oppose it, but are against drilling in state parks, game lands and wildlife reserves. And most believe they share responsibility in solving environmental problems, but have little chance of making a difference. ■

THE PITTSBURGH REGIONAL  
**ENVIRONMENT**  
**SURVEY**





FINDINGS

# REGIONAL ENVIRONMENT OVERALL



**W**HILE THEY MAY NOT BE experts, few southwestern Pennsylvania residents are in the dark when it comes to environmental issues, the Pittsburgh Regional Environment Survey suggests.

More than 72 percent of residents across the Pittsburgh Metropolitan Statistical Area consider themselves “somewhat knowledgeable” of environmental issues with another 9 percent going further by describing themselves as “extremely knowledgeable.” Only about 18 percent admit having no knowledge of environmental issues, such as air and water quality.

Few of them are at the extremes in their assessments of the overall quality of the environment in the region. Fewer than 4 percent of residents in the Pittsburgh MSA rate the quality of the local environment as excellent and only 5 percent describe it as poor. The most common rating is “good,” which is how 45 percent describe the overall quality of the local environment.

And more residents see the local environment as improving than see it as getting worse by a margin of 51 percent to 14 percent. The survey suggests the residents most likely to rate the quality of the environment highly and believe it is improving live outside of Allegheny County, the urban center of the region.

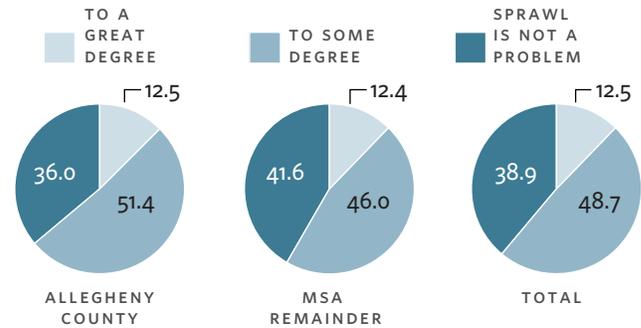
### BURDEN OF RESPONSIBILITY

Residents throughout the region do not exclude citizens like themselves from sharing the burden of solving environmental problems in Pennsylvania. More than 86 percent agree that individual citizens should be responsible for doing so.

Their dilemma is that most of them generally feel powerless. Nearly 79 percent of residents in the region believe there is little or nothing they can do to solve environmental problems. The survey suggests the level of pessimism transcends geographic boundaries and that senior citizens and young adults are the least likely to believe they can personally bring about solutions. ■

### SPRAWL

**?** To what degree, if at all, do you believe that sprawl is a problem in Greater Pittsburgh?\*



\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

### ENVIRONMENTAL QUALITY

**?** How would you rate the overall quality of the environment in our region?\*



Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# AIR QUALITY



**P**UBLIC PERCEPTIONS OF AIR quality are largely at odds with recent data on major pollutant levels in southwestern Pennsylvania reported by the Allegheny County Health Department and the U.S. Environmental Protection Agency.

Nearly 65 percent of residents across the seven-county Pittsburgh Metropolitan Statistical Area see air quality as either a minor problem or not a problem at all. Of the residents surveyed, those most likely to describe air quality in those terms were men, young adults and seniors aged 65 or older.

On the extremes, slightly more than 5 percent of residents overall describe air quality as a severe problem, while 30 percent feel it's not a problem at all.

Ground-level ozone pollution, or smog, remains a stubborn problem in the region. Although the ozone levels have gradually improved, the EPA still

identifies the Pittsburgh MSA counties as a region that fails to attain federal eight-hour standards. In 2011, the region managed to fall within the annual limits for fine particulate pollution for the first time in more than a decade. However, county Health Department models suggest the region will fail to meet the new, more stringent EPA fine particulate standards now in place.

The findings of the Pittsburgh Regional Environment Survey suggest a lingering gap between perceptions of air quality and local air quality data, which was first reported in the Pittsburgh Regional Quality of Life Survey conducted in 2011 by UCSUR and PittsburghTODAY.

The most recent survey, however, finds the gap to be narrower. The 2011 Quality of Life Survey found that 81 percent of Pittsburgh MSA residents felt air quality was either a minor problem or not a problem at all compared with 65 percent who described it in

those terms in the Pittsburgh Regional Environment Survey.

The reasons for the difference are unclear. One possibility is the survey sample. People who agree to participate in surveys focused on a single issue, such as the environment, are more likely to have an awareness of and interest in that issue compared to those who take a survey on a range of disparate issues, such as the 2011 Quality of Life Survey. Another possibility is an increased awareness of the region's air quality issues, which have received wide media coverage and are the topic of a public awareness campaign conducted by the nonprofit Breathe Project.

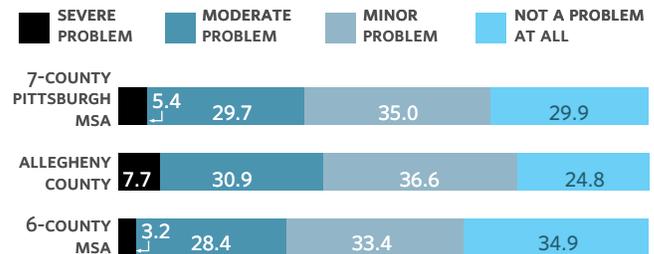
### IMPROVING AIR QUALITY

Several possible ways to improve the region's air quality problems drew the support from a majority of residents throughout the Pittsburgh MSA, but placing greater restrictions on wood burning wasn't one of them.

Spending more on public transportation, and tightening controls on local factory and industrial emissions and on coal-burning power plants emissions are favored by 65 percent, 72 percent and 69 percent of residents, respectively. Only 42 percent favor greater limits on wood burning. ■

### AIR QUALITY IN YOUR COMMUNITY

**?** Would you say that air quality in your community is a... \*



Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

### AIR QUALITY

**?** In order to improve regional air quality... \*



Responses shown as percentages of residents in the 7-county Pittsburgh MSA

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# WATER QUALITY



**T**HE QUALITY OF LOCAL STREAMS and rivers is a concern of the majority of residents in the Pittsburgh Metropolitan Statistical Area, which is part of the 15-county region that Pennsylvania Department of Environmental Protection data show contains 6,561 miles of impaired waterways.

The Pittsburgh Regional Environment Survey finds that more than two-thirds of residents across the Pittsburgh MSA view the quality of the region's rivers and streams as a severe or moderate problem. The survey indicates that where residents live has little affect on the level of concern.

Streams and rivers in the region long have been threatened by sources of contamination ranging from overburdened municipal sewage systems to agricultural runoff to high levels of acidity as a result of abandoned mine drainage.

The region's most complex and expensive water problem is found in Allegheny County, where even a modest rain causes raw sewage to routinely overflow into rivers and streams from aged and overtaxed city and suburban sewer systems. Addressing the sewage overflow problem is estimated to cost at least \$2.8 billion, which would double the current consumer sewage rate.

Sewage runoff was described as a severe or moderate problem by 48 percent of the Allegheny County residents surveyed. Nearly 18 percent believe it is not a problem at all. It is important to note that such survey results from a specific location in the sample area have a higher margin of error than those from the overall regional sample of residents.

The survey finds that across the Pittsburgh MSA about one-third of all residents describe sewage runoff as a severe or moderate problem and 7 percent feel it is not a problem at all.

A majority of them also believe that oversight of streams and rivers is less than adequate. More than 60 percent say the state does not do a good job monitoring streams and rivers for possible contaminants.

## DRINKING WATER

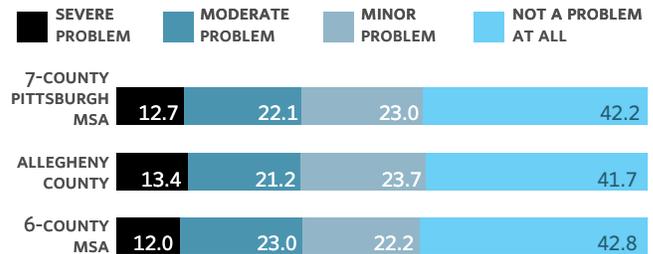
Drinking water is much less of a concern. Nearly two-thirds of residents across the region report only minor problems with the quality of their drinking water or no problems at all. Fewer than 13 percent report having a severe problem with their drinking water.

The survey, however, suggests a wide gap in perceptions of drinking water quality among low and higher levels of reported household income, although such demographic comparisons may not be representative of the region due to sample size and other factors.

Nearly 25 percent of residents surveyed who earn \$25,000 or less a year describe the quality of their drinking water as a severe problem compared to only 3 percent of those whose annual income ranges from \$75,000 to just under \$100,000. And residents with a high school diploma or less are much more likely to report severe problems with their drinking water than those with a college degree. ■

## WATER QUALITY

**?** How about the quality of your drinking water? Would you say it's a... \*

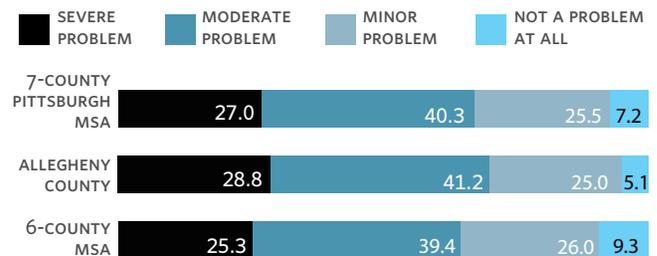


Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

## STREAMS & RIVERS

**?** How about pollution in streams and rivers? Would you say it is a... \*



Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# BEHAVIORS & ACTIONS



**T**HE MAJORITY OF RESIDENTS IN the seven-county Pittsburgh Metropolitan Statistical Area think highly of their own efforts to protect the environment. Nearly 60 percent believe they are doing an excellent or good job in that regard.

Various self-reported behaviors lend support to those assessments, for the most part.

## ENERGY SAVINGS AT HOME

The Pittsburgh Regional Environment Survey suggests residents are willing to take basic steps to save energy and save money at home. For example, 95 percent report that they turn off lights and electronics in unoccupied rooms.

When it comes to their heating and cooling bills, most residents attempt to keep costs low by keeping an eye on the thermostat. Nearly 63 percent of Pittsburgh MSA residents turn down the thermostat when they are asleep or away from home. About the same percentage turn down the air conditioning in the summer when sleeping or not at home.

In most cases, such adjustments are done manually. Only about one-third of residents own a thermostat that automatically adjusts heating or air conditioning during certain times of the day.

## WATER CONSCIOUS

Residents also report behaviors that suggest they are conscious of their water use. About 74 percent make an effort to take shorter showers and limit watering the lawn to reduce their water consumption. Those are just some of the steps a majority of residents say they take at home to keep the water bills low and minimize their use of water.

However, the survey suggests most Pittsburgh MSA residents either dramatically underestimate their daily household water usage or are exceptionally frugal when it comes to bathing, washing their car and watering their lawn.

More than 78 percent estimate that their household uses 50 or fewer gallons a day with 38 percent saying they consume 25 gallons or less. By comparison, the Pennsylvania Department of Environmental Protection estimates individuals, on average, use 62 gallons of water a day. That suggests a family of four consumes 248 gallons a day on average.

## OUT AND ABOUT

Energy savings efforts do not necessarily extend to residents forgoing their cars to get around. Some 42 percent of Pittsburgh MSA residents say they reduced

the number of car trips in the past 12 months by car-pooling, walking or taking public transportation. But 58 percent did not.

To get to work, 82 percent of residents drive, 6 percent use public transportation and 8 percent bike or walk. They rely on their cars outside of work even more. Only 5 percent use public transportation and 3 percent bike or walk as their primary means of non-work transportation.

The survey suggests non-whites are more likely to report having reduced the number of car trips in the past year than whites. Such demographic comparisons, however, may not be representative of the region due to sample size and other factors.

### RECYCLING, WITH LIMITS

The survey suggests recycling has become routine in the majority of southwestern Pennsylvania households. Across the Pittsburgh MSA, 74 percent of residents report they regularly recycle newspaper, glass and plastic.

Fewer of them extend the practice to electronics. A little more than half of residents overall say they recycle electronic items, such as computers and mobile phones, in the past year.

Several factors appear to influence recycling rates. The study suggests geographic differences, for example. Of residents surveyed, 79 percent living in Allegheny County say they regularly recycle newspaper, glass or plastic compared to 70 percent in the six other MSA counties. Also, non-white residents and residents with a high school diploma or less are less likely to recycle than white residents and those with a college degree.

### SPENDING ON EFFICIENCY

Whether they're in the market for light bulbs or clothes washers and dryers, southwestern Pennsylvanians report a willingness to make energy-conscious purchases.

About 81 percent of residents in the Pittsburgh MSA report buying energy-saving light bulbs during the previous 12 months. And 75 percent say they have upgraded to energy-saving appliances in their homes in the past five years.

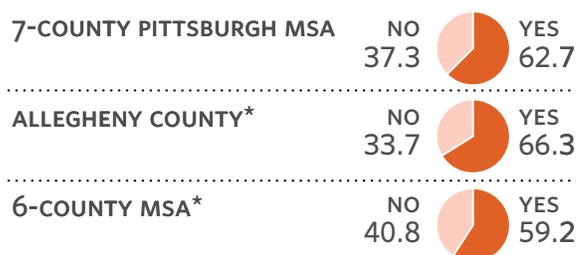
A much smaller proportion reported making energy-saving home improvements. About half of all residents surveyed say they have recently taken steps to make their homes more energy efficient, such as by in-

stalling new windows, insulation or investing in solar panels. The survey suggests that Allegheny County residents are less likely to make such improvements than those who live in the surrounding MSA counties.

The survey also suggests the idea of conducting an energy audit is still relatively unknown to residents in the region, where 90 percent say they have never had one done on their home. ■

### ENERGY SAVINGS

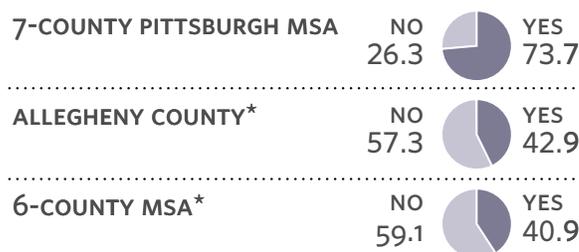
**?** During winter months, do you turn down your heat or set your thermostat at a lower temperature down during hours when you're asleep or not at home? \*



Responses shown as percentages of residents

### WATER CONSERVATION

**?** Do you currently take steps to minimize your use of water, for example, taking shorter showers, not watering the lawn, etc.?? \*



Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



**S**OLVING ENVIRONMENTAL problems is widely seen as a government responsibility in southwestern Pennsylvania. And to help government do so, a majority of residents are willing to support greater oversight of environmental issues and policies ranging from higher motor vehicle fuel efficiency standards to spending more public dollars to develop renewable energy sources.

More than 78 percent of residents across the seven-county Pittsburgh Metropolitan Statistical Area agree that government should be responsible for solving Pennsylvania's environmental problems.

And two thirds of the region's residents believe state government oversight of the environment should increase, with 21 percent saying it should be significantly increased. Only about 4 percent of resi-

dents believe there should be less government oversight of environment-related issues.

Residents also favor stronger enforcement of federal environmental regulations by a margin of 70 percent to 30 percent.

#### AIR QUALITY REGULATIONS

The region is more divided over the question of whether more stringent air quality regulations are needed. More than 48 percent of residents throughout the Pittsburgh MSA believe air quality regulations as they stand today are strong enough, while 43 percent feel they are not sufficient.

Only 8 percent of residents believe current air quality regulations are too strict.

## ENERGY & ENVIRONMENT

Balancing energy production and environment protection raises policy questions that in recent years have been hotly debated. The findings of the Pittsburgh Regional Environment Survey suggest that, while there is no definitive consensus on a preferred course among southwestern Pennsylvania residents, they are more likely to favor an environment-first approach.

More than 57 percent of residents throughout the Pittsburgh MSA believe the government's priority should be on protecting the environment with the rest in support of giving priority to domestic energy production.

Among residents surveyed, those most likely to favor putting the environment first include 18-29-year-olds and those earning between \$75,000 and just under \$100,000 a year. Seniors 65 years old or older and residents with annual incomes of \$150,000 and up are the most likely to believe energy production deserves top priority.

## POLICY OPTIONS

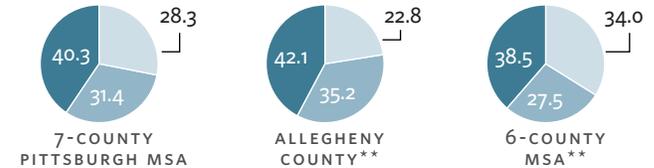
The survey suggests southwestern Pennsylvanians are willing to support a range of policies that have the potential to reduce stress on the environment. In fact, the least popular option—increasing emissions standards on motor vehicles—is supported by 62 percent of those living within the Pittsburgh MSA.

Offering homeowners tax deductions to improve the energy efficiency of their houses is favored by 85 percent of residents, ranking it as the most popular of the policy options that respondents had to choose from. Raising fuel efficiency standards for motor vehicles is supported by nearly 82 percent of residents. More than 73 percent support mandatory controls to curb carbon dioxide and other greenhouse gas emissions. And 70 percent of residents across the Pittsburgh MSA support spending more tax dollars on developing solar and wind as viable energy sources. ■

## ENVIRONMENTAL REGULATIONS

### ? Do you believe that environmental regulations... \*

- ... WEAKEN THE ECONOMY BY DECREASING JOBS AND INDUSTRY.
- ... STRENGTHEN THE ECONOMY BY INCREASING JOBS AND INDUSTRY.
- ... HAVE MINIMAL EFFECT ON THE ECONOMY, JOBS AND INDUSTRY.

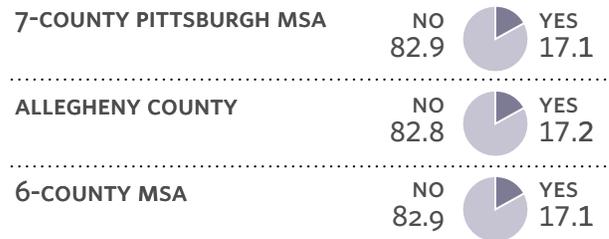


Figures shown are percentages of respondents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

## REGULATIONS & JOBS

### ? Do you believe that increased environmental regulations would threaten your job? \*



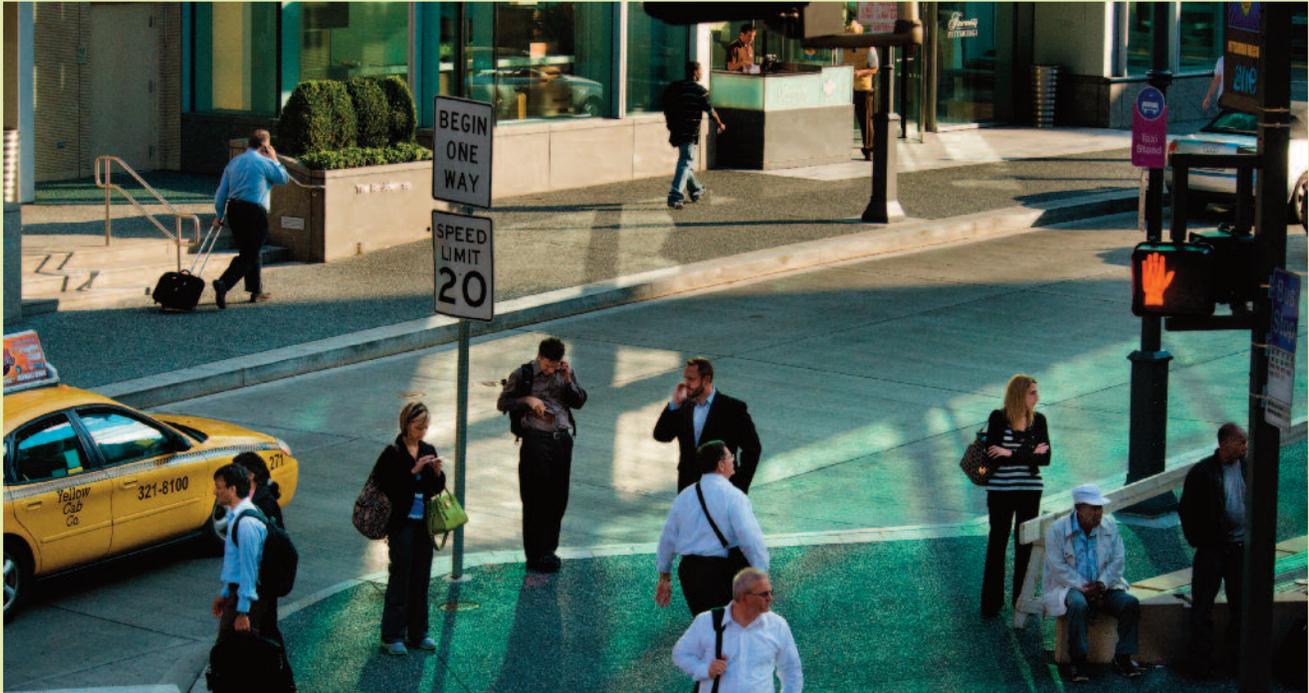
Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



FINDINGS

# ECONOMY & ENVIRONMENT



**F** THERE IS ANYTHING that Southwestern Pennsylvanians agree on it's that the environment has an important role in the economic future of the region.

Fewer than 4 percent of residents in the seven-county Pittsburgh Metropolitan Statistical Area hold the view that the environment is not important when it comes to the region's economic outlook. The rest believe it is, and 65 percent think it is "very important" to the economy.

There is also wide agreement that business and industry have a key role to play in the search for solutions to Pennsylvania's environmental problems. More than 87 percent of residents across the Pittsburgh MSA say business and industry should be responsible for solving environmental problems in the state, while fewer than 13 percent disagree with that view.

## REGULATIONS VS. JOBS

The impact of environmental regulations on jobs and industry continues to be an issue of debate across the region, state and nation. The Pittsburgh Regional Environment Survey reports mixed options, although only 28 percent of those who live in the Pittsburgh MSA believe environmental regulations weakens industry and job growth.

More than 31 percent believe environmental regulations tend to strengthen the job growth and industry while 40 percent say such regulations have a minimal effect.

The survey suggests that residents most likely to believe regulations weaken the job market and industry are those who live outside Allegheny County and those with annual income between \$100,000 and

\$150,000. Residents earning \$25,000 a year or less were among the most likely income group to believe environmental regulations strengthen the economy.

Most Pittsburgh MSA residents, however, don't feel environmental regulations jeopardize their livelihood. Only 17 percent of residents overall believe such regulations threaten their job. The survey does, however, suggest that level of education may influence those views. Of residents surveyed, nearly 24 percent of those with a high school diploma or less believe environmental regulations are a threat to their job. By comparison, less than 11 percent of residents who have earned a bachelor's degree or higher academic degree feel their job is at risk.

### PRIORITIES

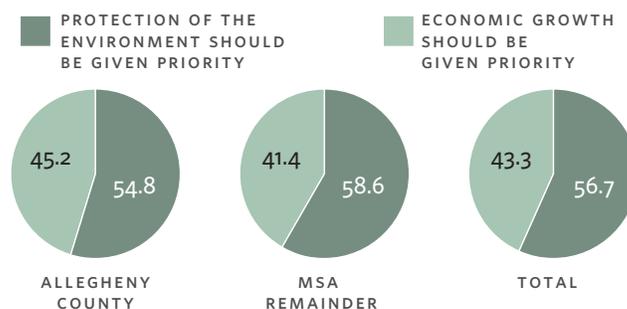
The majority of Pittsburgh MSA residents believe that protecting the environment should be a higher priority than economic growth. Nearly 57 percent of residents overall favor making protecting the environment a priority, even if it means slowing economic growth.

The survey suggests the residents most likely to think that way include young adults and those with annual incomes between \$50,000 and \$75,000. Such demographic comparisons are drawn from a small sample of residents and might not be representative of the region.

Residents more likely to favor making economic growth a priority even at the risk of doing some harm to the environment include senior citizens and residents earning \$150,000 a year or more. ■

### ENVIRONMENT & ECONOMY

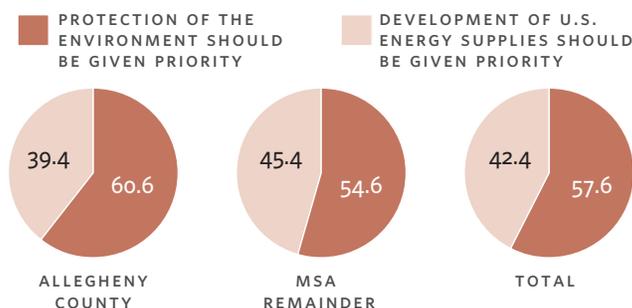
**?** With which one of these statements about the environment and the economy do you most agree?\*



\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

### ENVIRONMENT & ENERGY

**?** With which one of these statements about the environment and energy production do you most agree?\*



\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# ENERGY, MARCELLUS SHALE & ENVIRONMENT



**E**NERGY PRODUCTION AND ITS impact on the environment have emerged as high profile issues in southwestern Pennsylvania, where drilling for natural gas in the Marcellus Shale has rapidly expanded.

The Pittsburgh Regional Environment Survey suggests the majority of residents living in the seven-county Pittsburgh Metropolitan Statistical Area support an environment-first approach when it comes to developing domestic energy resources.

Nearly 58 percent of residents overall say protecting the environment should be given priority over energy production, even at the risk of limiting the nation's supply of oil, natural gas or coal. Among residents surveyed, those most likely to think that way include young adults and men and women who earn between \$75,000 and \$100,000 a year.

The most likely residents to make energy production a priority even at the risk of inflicting some harm to the environment include seniors aged 65 or older and residents with incomes of \$150,000 and up. Such demographic comparisons, however, are drawn from relatively small samples of residents and might not be representative of the region.

## MARCELLUS SHALE DRILLING

Is natural gas better for the environment as an energy source than coal and oil? On that question, southwestern Pennsylvanians appear divided.

Fewer than 7 percent of residents believe relying on natural gas as an energy source is worse for the environment than coal and oil. But the Pittsburgh Regional Environment Survey finds no consensus on whether it

is better: 47 percent of residents throughout the seven-county Pittsburgh Metropolitan Statistical Area believe it is, while 46 percent see it as neither better or worse than coal and oil.

It's become an important question in southwestern Pennsylvania, where drilling for natural gas in the Marcellus Shale formation that runs beneath the region has emerged as a major economic and environmental issue. The Pittsburgh MSA contains counties where drilling activity is sparse, such as in Allegheny County, and where it is robust, such as in Washington County.

On one hand, residents widely recognize natural gas drilling as a local economic opportunity. More than 79 percent across the Pittsburgh MSA describe the opportunity as significant or moderate. Only 7 percent feel drilling offers little or no economic opportunity for the region.

Yet, 59 percent of Pittsburgh MSA residents are wary of the implications for the environment and public health, seeing it as a significant or moderate threat. Those terms were also used to describe the threat to the environment and public health by 55 percent of residents in the six counties outside of Allegheny County where most of the drilling in the region is under way.

### CAUTIOUS SUPPORT

Despite such concerns, more Pittsburgh MSA residents support drilling than are opposed to it, by a margin of 48 percent to 29 percent. The rest neither support nor oppose drilling.

The rate of opposition is similar to that reported in the Pittsburgh Regional Quality of Life Survey, which asked the same question in 2011. In the more recent survey, however, the rate of support for drilling was higher than the 40 percent reported two years earlier.

The Pittsburgh Regional Environment Survey suggests that the percentage of residents who consider drilling to be a significant or moderate threat to the environment and public health hasn't changed significantly in the past two years.

It also suggests that support for drilling has limitations. No fewer than 7 in 10 residents in the Pittsburgh MSA say they are opposed to drilling in state parks, game lands, and wildlife and nature reserves.

They also overwhelmingly favor transparency in the gas industry that is enforceable by law. More than 95 percent of residents across the region believe drilling operators should be legally required to publicly disclose all of the chemicals used in the hydrofracturing process. ■

## MARCELLUS SHALE AS ECONOMIC OPPORTUNITY

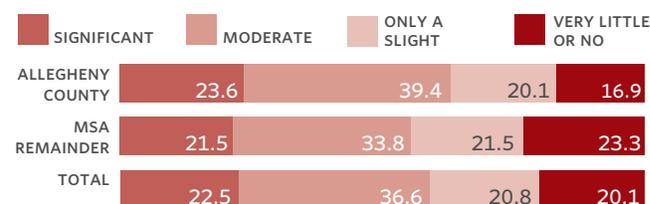
Marcellus Shale represents a \_\_\_\_\_ economic opportunity for this region. \*



Figures shown are percentages of respondents

## MARCELLUS SHALE AS A THREAT TO ENVIRONMENT, PUBLIC HEALTH

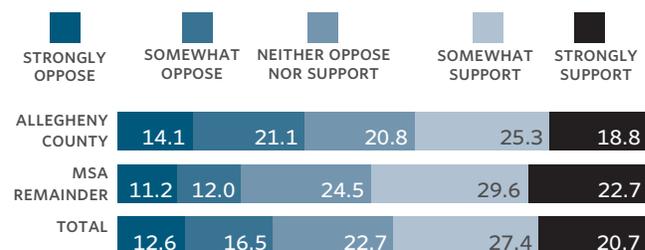
Marcellus Shale represents a \_\_\_\_\_ environmental and public health threat for this region. \*



Figures shown are percentages of respondents

## FEELINGS ABOUT MARCELLUS SHALE GAS EXTRACTION

Considering everything, how do you feel about natural gas extraction from the Marcellus Shale region? \*



Figures shown are percentages of respondents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# PARKS & RECREATION



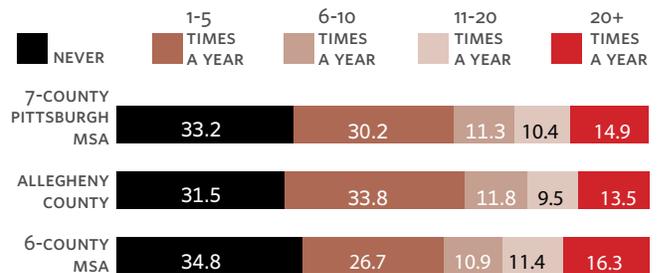
**F**ROM SCENIC BIKE TRAILS TO city greens with a riverfront fountain, the region’s parks impress, the Pittsburgh Regional Environment Survey suggests. Nearly 3 in 4 residents throughout the seven-county Pittsburgh Metropolitan Statistical Area give the quality of the region’s parks and trails high marks. About 12 percent rate them as excellent with another 63 percent grading them as “very good” or “good.”

The survey also suggests most residents base their assessment of the parks and trails on firsthand knowledge. Some 64 percent of residents report using them at least six times a year. And only 12 percent said they never do. The survey suggests residents most likely to get the most use out of the region’s parks and trails live in Allegheny County, where 40 percent of residents surveyed say they visit parks and trails at least 20 times a year.

In terms of recreation, southwestern Pennsylvanians are clearly land-lovers. Only 37 percent of residents overall say they use the region’s ample rivers and streams more than five times a year. More than one-third say they never use the region’s water resources for recreation at all. Among residents surveyed, more men than women report using the region’s rivers and streams for recreation. ■

## PARKS USE

**?** How frequently do you participate in recreational activities on regional streams, rivers and lakes? \*



Responses shown as percentages of residents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# CONSERVATION



**R**IVER AND STREAM RESTORATION and wildlife habitat are the clear conservation priorities of southwestern Pennsylvanians.

More than 37 percent of residents across the seven-county Pittsburgh Metropolitan Statistical Area identify river and stream restoration as the conservation issue they are most concerned about. Another 37 percent report protection of wildlife habitat as their top concern.

Those two issues are heavily favored over land acquisition and preservation of scenic views, which were the other options given residents who participated in the Pittsburgh Regional Environment Survey.

The survey suggests men are more likely to identify river and stream restoration as their biggest concern, while women are more likely to make preserving wildlife habitat a priority. And among those surveyed, concern over wildlife habitat tends to fade the older they are.

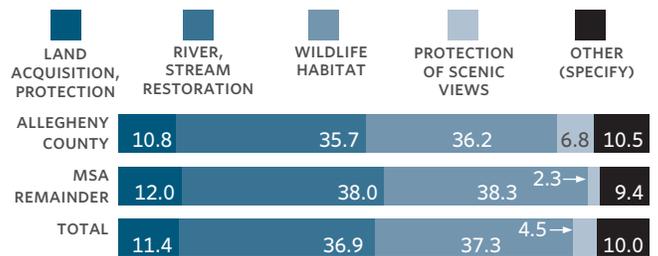
Residents over age 45, for example, are less likely to cite wildlife habitat as an issue of concern, while nearly half of those under age 30 identify it as their greatest conservation concern. Such demographic comparisons, however, may not be represen-

tative of the region due to sample size and other statistical issues.

Southwestern Pennsylvanians also strongly support the idea of encouraging conservation efforts through tax breaks. More than 3 in 4 Pittsburgh MSA residents favor providing tax deductions to Americans who place land into conservation. ■

## CONSERVATION ISSUES

? What conservation issue is of greatest concern to you? \*



Figures shown are percentages of respondents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)



# CLIMATE CHANGE



**W**HILE THEY MAY DISAGREE about its severity, the majority of southwestern Pennsylvanian residents see climate change as a problem. The Pittsburgh Regional Environment Survey suggests that the debate is less about whether the climate is changing than it is about what is causing it to do so.

More than 64 percent of residents across the Pittsburgh Metropolitan Statistical Area describe climate change as a severe or moderate problem. Only 18.5 percent don't think it's a problem.

The survey suggests differences in perspectives across age, income and other demographic categories. Of those surveyed, for example, residents earning more than \$75,000 a year are less likely to view climate change as a severe problem than residents in lower income brackets.

Also, far fewer non-white residents feel climate change is not a problem than whites. Women are more likely to describe climate change as a moderate or severe problem than men, who are more likely to believe it is not a problem at all. Such demographic comparisons, however, may not be representative of the region due to sample size and other statistical issues.

Residents are more closely divided on whether climate change is due more to human activities, such as car and industrial emissions, or more the result of natural changes in the environment.

More than 56 percent of Pittsburgh MSA residents believe human activities are more to blame, with Allegheny County residents and young adults aged 18–29 years being the most likely of the residents surveyed to hold such opinions. ■

## CLIMATE CHANGE

**?** To what extent, if any, is climate change a problem? Do you think it's a... \*



Figures shown are percentages of respondents

\* Statistical significance of these data is available in the Pittsburgh Regional Environment Survey data tables found online at: [www.pittsburghtoday.org/The\\_Pittsburgh\\_Regional\\_Environmental\\_Survey.html](http://www.pittsburghtoday.org/The_Pittsburgh_Regional_Environmental_Survey.html)

**TECHNICAL APPENDIX  
DETAILED SURVEY METHODS**

The University Center for Social and Urban Research (UCSUR) conducted the 2013 Pittsburgh Regional Environment Survey in collaboration with PittsburghTODAY, with funding provided by PittsburghTODAY and UCSUR. Questions covered a broad range of topics related to the environment, including general environmental attitudes and perceptions, air quality, water quality, environmental behaviors, and transportation. The majority of the survey items were existing questions from prior local and national surveys to allow for comparisons, although many new questions were written specifically for this survey. The target geography for the survey was the seven-county Pittsburgh Metropolitan Statistical Area (MSA) that includes Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland counties. The survey was conducted by telephone using random digit dialing (RDD) sampling of both landline and cellular telephones in May and June 2013. A total of 805 surveys (476 landline, 329 cell) were completed. Details on survey methodology are provided in this appendix.

**Sample design**

The target population was English-speaking adults (18 and older) living in private residences in the 7-county Pittsburgh MSA (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland counties). The total population age 18 and older in the MSA according to the 2010 Decennial Census was 1,881,314 (981,685

or 52% in Allegheny County; 899,629 or 48% in the 6-county remainder of the MSA). A stratified sample design was used with Allegheny County and the remaining six counties of the MSA defined as separate strata (along with landline and cell phones within the two geographies; see below). The goal was to conduct approximately equal numbers ( $n = 400$ ) of interviews in Allegheny County and the six-county remainder of the MSA (total  $n = 800$ ).

Random Digit Dialing (RDD) samples of landline and cellular telephones were drawn to conduct the survey. The sample was purchased from Survey Sampling International (SSI), one of the major survey sample providers in the U.S. Landline RDD sampling involves generation of random phone numbers in a defined geographic area—both listed and unlisted—and was the standard method for obtaining representative samples of households by telephone until the last few years. The dramatic increase in the use of cell phones over the past ten years—current estimates are that slightly more than 50% of all U.S. households receive all or most of their calls on cell phones—has made incorporation of cell phones into RDD designs standard practice to avoid coverage error. Research has shown that cell only households tend to be younger, minority, more mobile, more likely to be employed, and to rent rather than own their home. Cell phones are assigned unique area code/exchanges—which represent where the phone was purchased—which allows separate sampling of landline and cell phones. The landline

>>

and cell phone RDD samples were treated as additional strata within each of the two geographies in the current sample design. In sum, the sample design consisted of four strata:

- (1) Allegheny County landline**
- (2) Allegheny County cell phone**
- (3) six-county remainder MSA landline**
- (4) six-county remainder MSA cell phone**

The cell phone sample needs to be screened for geography, since the respondent may live in a different area than where the phone was purchased. Some households/individuals have both landline and cell phones, and are thus contactable using either sample frame. Cell phone respondents were interviewed regardless of whether or not they also had a landline phone. In other words, we used an overlapping dual frame design and did not screen for cell phone only respondents. While this makes statistical analysis somewhat more complicated, it is more efficient and less costly than the screening approach. Phone ownership was measured in the survey and adjusted for through the sampling weights, which are described below. To balance cost and survey precision, the goal was to complete 40% of the interviews by cell phone.

Within the landline strata, a respondent was randomly selected from multiple adult households using the most recent birthday method. No within-household selection was done for the cell phone sample, which was considered an individual device. It should be noted that two potential sources of coverage error—population members having no chance of being included in the sample

—are present with this design:

- (1) Households with no telephone service** (estimated at approximately 2% of households in the U.S.), and
- (2) individuals who've recently moved to the region but purchased their cell phone outside the region** (no estimate available, but likely to be fairly small). Individuals who were reached who had purchased their cell phone in the region but have since moved out of the region were screened out of the survey.

#### **Data collection and response rates**

Data were collected in UCSUR's computer-assisted telephone interviewing (CATI) lab by trained interviewers between May 13 and June 12, 2013. CATI involves programming the survey instrument using standard software that displays the questions on the interviewer's computer screen in proper order with automated skip patterns. Data are entered into the system as answers are provided. UCSUR telephone interviewers receive rigorous training in survey interviewing techniques and are continuously monitored during data collection for quality control purposes. Each sampled telephone number was called up to six times on different days of the week at different times of the day with evenings and weekends emphasized to maximize probability of contact. Once an individual or household was contacted, as many calls as necessary were made to either complete the survey or obtain a refusal. The CATI system also automates call scheduling and callbacks. A total of 805 inter-

views were completed, including 400 in Allegheny County and 405 in the 6-county remainder of the Pittsburgh MSA. In terms of landline versus cell phone interviews, 476 of the interviews were conducted on landlines (59.1%) and 329 on cell phones (40.9%). Prior to conducting any cell phone interview, the respondent was asked to confirm that they were in a safe place (i.e., not driving) to answer the questions. However, the survey did not require that the cell phone respondents be at home while answering the questions. Interviews took an average of 15 minutes to complete.

Of the initial 10,426 phone numbers put into the system, 4,546 were determined (2,775) or estimated (1,771) to be non-households or not associated with eligible individuals (businesses, disconnected, non-working numbers, not an adult, not in target geography, etc.), and thus ineligible. Of the remaining 5,880 numbers, we were able to make contact and deliver the survey request to 2,681 households/individuals (45.6% contact rate), of whom 805 actually completed an interview (30.0% cooperation rate), for an overall response rate of 13.7%. The landline rates were 45.0% contact and 31.8% cooperation, for an overall response rate of 14.3%. The corresponding cell rates were 48.8% contact and 27.8% cooperation, for an overall response rate 13.6%. Note the slightly higher contact rate but lower cooperation rate for the cell phone sample, which resulted in a lower overall cell response rate. Although these may seem low, they are comparable to current response rates obtained by similar survey organizations using similar methods in other studies. The

rates are also higher than response rates obtained using standard 3–4 day political polling methodology, which process two to three times as many telephone numbers to complete the same number of surveys using limited callbacks. We also applied standard weighting techniques to the data in an attempt to partially adjust for non-response (see below).

### Statistical weighting

A two-step statistical weighting process was used in which each completed case was adjusted for (1) initial probability of selection, and (2) post-stratification on sex, age, education, and race using statistical raking. These steps are described in more detail here.

#### 1. Probability of selection weight.

This contained 3 components multiplied together: (a) initial probability of selection of the telephone number, which varied across strata; (b) # adults in the household (landline sample only; weight equal to number of adults, always 1 for cell phone respondents); and (c) telephone ownership status—those reachable by both cell and landline are given a weight of 0.5 at this stage given twice the probability of selection; those with cell only or landline only are given a weight of 1.

#### 2. Post-stratification raking adjustment.

To further adjust for survey non-response, sex, age (18–29, 30–44, 45–64, 65+), education (high school graduate or less, some college, bach-

>>

elor's degree or higher), and race (non-Hispanic White, other) were included in an iterative proportional fitting "raking" algorithm ("ipfweight") using the STATA statistical package. The algorithm performs a stepwise adjustment of survey sampling weights (starting with the probability of selection weight from step 1) to achieve known population distributions on the variables included. In this case, the 2010 American Community Survey (ACS) data for the 18 and older population of the 7-county Pittsburgh MSA was used to obtain the population totals. In other words, raking involves an attempt to adjust the weights in order to make the survey distributions on the included variables "mirror" the population to the greatest extent possible. This a way to statistically adjust the survey estimates in order to increase accuracy and reduce bias due to differential non-response across demographic sub-groups.

The probability of selection and post-stratification weights were combined to produce the final case weight, which is used for all of the estimates in this report. The weights ranged from a low of 0.15 to a high of 5.00. The median weight was 0.77. The 10th and 90th percentiles were 0.33 and 1.93 respectively. The 25th percentile of the weighting variable was 0.50 and the 75th percentile was 1.27.

### **Precision of the survey estimates**

Since the sample design was not a simple random sample - we used stratified samples of landline and cell phones and calculated sample

weights to adjust for selection probability and non-response - the complex sample design results in a loss of precision (i.e., "design effects"). The design effects in the survey (which are calculated separately for each survey estimate) ranged from 1.1 to 1.5, with the typical design effect being about 1.25. This is an estimate of the variance of our complex sample design parameter estimates to the variance we would have obtained from a simple random sample of the same size without using sample weights (i.e., our variance is 1.25 as large as an SRS of the same size). This typical design effect is taken into account for the following margin of error (MOE) estimates. For the total sample (n = 805) the (design-effect corrected) margin of error is +/- 4.3%. For the separate estimates for Allegheny County and the six-county remainder MSA (approximate n = 400), the MOE is +/- 6.1%. However, these MOE are "worst case" scenarios assuming that the parameter being estimated has a proportion of .50. For estimates closer to 0% or 100%, these MOE's are smaller.

However, it is important to note that surveys are subject to additional non-sampling errors, including those due to coverage error, non-response and measurement errors (i.e., question wording, interviewer effects, respondent fatigue or deception), which are not accounted for in the margin of error estimates. These should be taken into account when interpreting these and any other survey data. ■■

## CONTRIBUTORS

**Scott Beach**

PhD, Associate Director & Director of Survey Research, UCSUR

**Emily D. Craig**

Director of Communications and Business Development, PittsburghTODAY

**Milana Nick**

MPA, Director of Research, PittsburghTODAY

**Isabel T. Orozco**

MSW, Research Specialist, PittsburghTODAY

## WRITERS

**Jeffery Fraser**

Senior Editor, PittsburghTODAY

**Julia Fraser**

Staff Writer, PittsburghTODAY

*Report design by **Jennifer McNulty**; data charts by **James Hilston***

*Photographs by **Jim Judkis** on pages 10, 14, 18, 20, 24; all other photos by iStockphoto*

PittsburghToday  
3343 Forbes Avenue  
Pittsburgh, Pennsylvania 15260  
**pittsburghtoday.org**

**Pittsburgh** TODAY

UCSUR



University of Pittsburgh  
University Center for Social and Urban Research (UCSUR)  
3343 Forbes Avenue  
Pittsburgh, Pennsylvania 15260  
**ucsur.pitt.edu**